

EXHIBIT 4 - OPERATING EXPENSES

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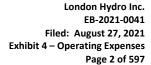
4.1 OVERVIEW

The operating costs in this Exhibit represent the expenditures that are required to maintain London Hydro's distribution assets at targeted performance levels to meet customer expectations, while providing quality service and ensuring safety for both the public and employees. These operating costs are necessary to comply with the Distribution System Code, environmental requirements and government direction and include the costs incurred to provide standard distribution related services to customers connected to London Hydro's distribution system and to meet the default service requirements of the OEB's Standard Supply Service Code and the Retail Settlement Code. London Hydro is proposing recovery through distribution rates of the 2022 Test Year total operating costs including amortization and PILs totaling \$67,330,236, as summarized in Table 4-1, below.

Table 4-1: Total OM&A, Cloud Services, Depreciation and Taxes

Total OM&A, Cloud Services, Depreciation and Taxes					
	Total Change				
		2022	2017 Budget		
	2017 OEB	Proposed	to		
Expenditures	Approved	Test Year	2022 Test	CAGR	
	\$	\$	\$	%	
OM&A	36,965,900	42,415,600	5,449,700	2.8%	
Cloud services	626,100	1,753,200	1,127,100	22.9%	
Depreciation	17,272,758	22,148,800	4,876,042	5.1%	
Income taxes	982,051	403,436	(578,615)	-16.3%	
Property taxes	505,000	609,200	104,200	3.8%	
Total \$	56,351,809	67,330,236	10,978,427	3.6%	

London Hydro delivers a safe and reliable supply of electricity to over 165,000 customers from the residential, institutional, commercial and industrial sectors. The Company, along with others in the electricity industry, faces many challenges. Aging infrastructure and more severe weather events are having an impact on the ability to deliver a reliable power supply, while repairs and restorations increase operating costs. Rapid changes in technology and heightened customer





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expectations are also impacting expenses as distributors pursue to contain costs on the

distribution side to mitigate the impact of electricity rates on customers.

3 Since London Hydro filed its last Cost of Service Rate Application for 2017, the Company has

been working under the guidance of the Ontario Energy Board's Renewed Regulatory

5 Framework. This initiative delivers a clear directive that ensures decisions are made and

prioritized to optimize investments and provide customers with value by focusing on customer

7 engagement and service standards for both consumers and industry.

8 As infrastructure nears the end of its life expectancy, London Hydro has been working carefully

9 to evaluate the most appropriate investments and efficient path into the future. This is important

as future investments must be resilient in the face of growing risks associated with the changing

climate and intensifying storm patterns. Investments must be cost effective and ensure a reliable

supply of electricity for customers.

Rapid changes in technology necessitate modernization of the grid while preparing for the future

introduction of carbon-free solutions such as distributed generation, storage devices and electric

vehicles. Distribution activities have increased in areas that provide customers with a broader

range of energy services by leveraging data-driven applications, allowing customers to monitor

consumption. By utilizing a two-way dialogue with customers, London Hydro has been able to

more effectively communicate the benefits of technology with customers and gather their service

preferences.

These new initiatives are introduced as the electricity industry is tasked with the replacement of

an aging workforce. The industry is facing an unusually high rate of retirements and London Hydro

has been working diligently to recruit and develop the next generation of employees.

Committing to all these objectives has resulted in increased cost pressures. However, London

Hydro continues to focus on increasing operational effectiveness and leveraging innovation to

help offset rising costs. Pacing expenditures, economic efficiency and cost effectiveness are

integral parts of London Hydro's planning, processes and operations.

London Hydro is one of the lowest cost utilities in the province with survey results indicating that

95% of customers find that London Hydro provides consistent and reliable electricity. Cost



- controls are achieved by counteracting the cost of new requirements and regulations with
- innovation, process improvements and fiscal restraint.
- Based on the latest information provided in the 2019 OEB Yearbook, London Hydro has one of
- the lowest annual distribution revenue per customer in comparison to many of its peers.

OM&A Cost and Distribution Revenue per Customer (per OEB Yearbook 2019)				
Distribution				
	Revenue	Cost per	Number of	
Utility	per Customer	Customer	Customers	
	\$	\$	#	
Elexicon Energy Inc.	344.21	187.19	167,653	
London Hydro Inc.	420.77	250.00	160,598	
Oshawa PUC Networks Inc.	425.29	220.36	59,183	
Kitchener-Wilmot Hydro Inc.	429.63	202.23	97,695	
Entegrus Powerlines Inc.	436.48	237.59	59,810	
Burlington Hydro Inc.	457.12	288.18	68,205	
Synergy North Corporation	457.46	302.64	56,700	
Energy+ Inc.	517.03	281.45	66,521	
Alectra Utilities Corporation	529.74	253.93	1,054,613	
Niagara Peninsula Energy Inc.	544.26	340.98	56,067	
Hydro Ottawa Limited	552.92	254.69	339,771	
Oakville Hydro Electricity Distribution Inc.	568.51	256.42	73,133	
ENWIN Utilities Ltd.	573.82	292.94	89,561	
Waterloo North Hydro Inc.	608.97	258.57	57,855	
Toronto Hydro-Electric System Limited	951.55	344.50	777,904	
Hydro One Networks Inc.	1,185.63	419.58	1,343,959	

- In fact, the 2019 OEB Yearbook data positions London Hydro as the 2nd lowest annual distribution
- revenue per customer, in comparison to each of the 16 peer LDCs in Ontario with a customer
- 8 base greater than 50,000.



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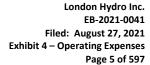
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- Maintaining an appropriate level of reliability and customer service is paramount for the Company
- 2 in providing customer value and is realized through,
- Competitive rates
 - High safety
- Enhanced reliability
- Secure and quality supply
- Network innovation
 - Efficiency of both operating and capital expenditures
 - Environmental performance
 - Delivery of energy solutions
 - Excellent customer service

4.1.1 Non-Distribution Activities

- This Exhibit excludes all activities that do not qualify for inclusion in the calculation of the revenue
- requirement for rate making. Specifically, expenditures associated with the following activities
- have been extracted from London Hydro's financial results for the purpose of determining costs
- to distribute electricity only as required for this Application:
- Conservation Demand Management ("CDM")
- Renewable Generation
 - Electric Vehicle Charging
- Charitable Donations
- Green Button Services section 71(4) relief





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As a condition of its licence, London Hydro was mandated to undertake CDM activities initiated

by the Minister of Energy for the purpose of reducing consumption in the province. However,

under Bill 87, Fixing the Hydro Mess Act, 2019, this activity has now been moved to the

Independent Electricity System Operation ("IESO") in order to centralize the delivery of programs.

5 As a result, CDM activities at London Hydro were wound down and ceased during the 2019 and

6 2020 fiscal years. Although CDM activities were an integral part of London Hydro, all costs

associated with this function until termination have been removed from this Exhibit and the Cost

8 of Service Application.

9 London Hydro invests in renewable generation and electric vehicle charging projects as permitted

by regulation and in order to take part in and promote methods that provide for sustainable energy

and lower carbon solutions. However, as this activity does not relate to the distribution of

electricity, all costs associated with these programs have been excluded in this Exhibit and the

13 Cost of Service Application.

As permitted under regulation, Operations, Maintenance & Administration ("OM&A") expenditures

include donations under the Low-Income Energy Assistance Program ("LEAP"). However, all

other charitable donations have been excluded as they are not a required cost associated with

the distribution of electricity to the residences of the City of London.

In its Decision and Order issued September 6, 2018 (EB-2018-0118) the OEB authorized London

Hydro to carry on business activities related to London Hydro's Green Button services through

the Company, rather than through an affiliate on a temporary basis up until its next Cost of Service

Rate Application. London Hydro's Green Button services are merely in the incubation period and

under investigation. The establishment of an affiliate for this particular business activity would be

inefficient.

Accordingly, the OEB granted section 71(4) relief on a temporary basis so that London Hydro

could explore the viability of extending its Green Button services. These services are designed to

provide consumers with the tools and information to make more informed energy choices and

focus on enhancing consumer choice and control through innovation. London Hydro already

provides Green Button services to its own distribution customers and to other customers.

including other electricity distributors in Ontario. The potential for extending these services to



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- other utilities such as natural gas and water and to other non-electricity customers benefits
- 2 London Hydro customers through cost sharing, in connection with new innovations and assists
- 3 the Government of Ontario in achieving its goals in electricity conservation.
- As instructed by the OEB in its Decision and Order these activities have been tracked on a ring-
- fenced basis. Accordingly, all non-distribution Green Button services have been excluded in this
- 6 Exhibit. Please see Exhibit 1 for full details regarding these activities, including a request to
- 7 continue tracking these activities on a ring-fenced basis up until London Hydro's next Cost of
- 8 Service Rate Application in 2027.

4.1.2 Business Environment Changes

The COVID-19 outbreak was declared a pandemic by the World Health Organization on March 11, 2020. This resulted in governments worldwide, including the Canadian and Ontario governments, enacting emergency measures to combat the spread of the virus. The Government of Ontario originally announced a state of emergency on March 17, 2020 which remained in effect until July 24, 2020 when the Reopening Ontario Act, 2020 was introduced providing for restrictive orders. A secondary state of emergency was declared effective January 14, 2021 until February 16, 2021 and a third state of emergency was declared effective April 8, 2021 with a three-step plan for reopening commencing June 11, 2021.

These measures, which include the implementation of travel bans, self-imposed quarantine periods and social distancing, caused a material disruption to businesses globally and in Ontario resulting in an economic slowdown.

As a result of the pandemic London Hydro found itself navigating through uncharted territory and uncertainty. Although the health and economic challenges for the community were truly overwhelming, London Hydro met the crisis head-on, taking all necessary steps to ensure the health and safety of employees, their families as well as customers.



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As an essential service provider, London Hydro continued to carry on with its capital and

operational plans without any stoppage throughout the COVID-19 lockdown. Further, despite

many disruptions due to the pandemic, and constant change throughout, London Hydro has

remained a financially viable corporation managing its cash flow in a reasonable manner.

5 Although London Hydro worked through the COVID-19 pandemic without any stoppage, the

pandemic and the ensuing lockdown did result in some cost reductions in fiscal 2020. Examples

of unspent areas include training, travel and conferences because of travel restrictions and safety

protocols. Third party professional services are another example of decreased spending due to

physical distancing and an abundance of caution to protect the health and safety of employees

and the public.

In view of the foregoing, London Hydro is reminding that the COVID-19 pandemic be taken into

consideration when reviewing historical actual results presented in this Exhibit for the 2020 fiscal

year; because it was an atypical year at best.

To help minimize the financial impact of the pandemic, the Ontario Energy Board ("OEB") issued

an Accounting Order dated March 25, 2020 for the establishment of deferral accounts. Sub-

accounts were established under the main Account 1509 – Impacts Arising from the COVID-19

17 Emergency to track COVID-19 related expenses which included a section for incremental

operating costs.

On March 19, 2020, the Ontario Energy Board announced that the provincial Winter

Disconnection Ban for residential customers, scheduled to end on April 30, 2020, was to be

extended by an additional three months to July 31, 2020 (EB-2020-0109). The OEB also extended

the disconnection ban to include all other low-volume customers, such as small business

customers for reasons of non-payment until July 31, 2020. Incremental bad debt expenses

incurred as a result of the extension of the Winter Disconnection Ban have been tracked under

the 1509 deferral account.



- Further, the OEB determined that allowing for additional LEAP funding may address the potential
- greater need for assistance as a result of the pandemic. This includes the possibility of increased
- numbers of low-income consumers who may not have needed to use the program in the past, but
- have been impacted by COVID-19 and have had difficulty paying their energy bills. London Hydro
- 5 provided additional contributions to help customers who face financial hardships get through the
- 6 crisis which have also been captured under the 1509 deferral account.
- 7 The incremental bad debt expenditures and additional LEAP contributions incurred during the
- 8 2020 fiscal years have been excluded from this Exhibit. Details regarding the 1509 Account -
- 9 Impacts Arising from the COVID-19 Emergency can be found with full detail under Exhibit 9:
- 10 Deferral and Variance Accounts.
- Projections for the 2021 Bridge Year and the 2022 proposed Test Year include no additional
- expenditures associated with COVID-19. Amounts projected assume the pandemic to be unique
- and have a one-time impact. Specifically, activities presented in this exhibit from 2021 onward are
- based on the premise that London Hydro's business environment will revert to normal.



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4.1.3 Trends

London Hydro provides a reliable supply of electricity to customers in a safe and efficient manner while accommodating and complying with many stakeholders, codes and regulations including,

4 Customers 5 Ontario Energy Board (OEB) 6 Electrical Safety Authority (ESA) 7 Independent Electricity System Operator (IESO) 8 Ministry of Energy 9 Ministry of the Environment and Climate Change 10 Ministry of Labour 11 Infrastructure Health and Safety Association (IHSA) 12 Measurement Canada 13 Quasar Management Systems (metering ISO 9001) 14 Ministry of Transportation 15 Technical Standards and Safety Authority 16 Ministry of Finance 17 18 Debt holders and investors

The ongoing trend to improve business standards and processes is resulting in an increase in the development of better techniques. London Hydro makes use of these improvements to ensure that the Company is taking advantage of "best practice" information shared throughout the industry.

Activities at London Hydro are fundamentally driven by the direction of the OEB and underpinning trends and revisions to its mandates and vision. The OEB continues to focus on increasing customer value and prudent system planning as laid out in the Renewed Regulatory Framework. The strategic direction has now been expanded to support and guide LDC's through the continuing evolution of the Ontario electricity sector, brought on by heightened customer



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expectations and rapid changes in technologies driven by the need for carbon-free solutions. The current focus includes,

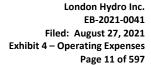
- > optimization of infrastructure investments
- building a smarter grid
 - promoting greener and sustainable energy
 - increasing customer value
- leveraging smart metering data
 - providing consumers greater choice and control
- 9 sustaining consumer confidence

London Hydro goes to great lengths to implement new initiatives and resulting regulation through the OEB and other governing bodies. Accommodating higher standards, best practices and ongoing change can lead to the requirement for additional resources, resulting in increased cost pressures. Where possible, London Hydro offsets these new costs by practising fiscal restraint, pacing expenditures and by utilizing technology and operational efficiencies.

4.1.4 OM&A Budget Development

Development and application of the OM&A budget is an important management process for London Hydro as it defines and implements the short-term and long-term goals and strategic direction of the Company, while keeping an appropriate pace while considering available resources. The budget is a mechanism for achieving future objectives by setting expectations and targets, while at the same time exploring efficiencies and finding an appropriate balance between costs and acceptable levels of customer service and reliability.

The budget process provides for discipline and commitment as it ensures that plans are well thought out, and it gives Managers a benchmark to gauge against future performance. London Hydro compares actual results to budget each month and reviews and explains variances, so that any required action can be taken, such as removing bottlenecks, cutting costs or changing the deployment of resources.





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At the outset of the budget process, the Finance Department provides Managers and Directors

with budget templates for the OM&A Program(s) for which they are responsible. Templates

include historical actual and budget amounts for each spending account. To ensure that decisions

are coordinated, Company objectives are addressed at a budget kickoff meeting. In addition,

Managers meet with each Supervisor individually to review their specific goals and objectives

6 while considering that of the Company as a whole.

7 The first step to budget development is to review labour resources on a position-by-position basis

for each of the cost centres in the Program. This gross labour review includes overtime and is

required to ensure that an appropriate level of resources is available to cover planned operations

and maintenance activities, billable services and future capital projects. Staffing levels are

analysed to provide for capital and operating requirements while considering and adjusting for

succession planning, apprenticeship levels, current bottlenecks, new requirements, gained

efficiencies and the mix between internal and external resources.

Once gross labour has been established, labour is allocated (deployed) to operations and

maintenance, capital projects and billable services leaving a balance in the cost centres for

general and administrative functions. Gross benefits are charged to each cost centre for employee

and employer costs such as OMERS, LTD, health benefits, CPP and El. As labour is deployed,

these benefits are attached and increased to append the cost of other variables including vacation

time and statutory holidays.

The next phase in the process is to develop budgets for contractor services, materials and

supplies, vehicles and equipment and all other associated expenditures required to meet

objectives. These budgets are developed by analysing historical activity and considering future

objectives and obligations.

Each cost centre is then reviewed on an account-by-account basis for potential price decreases

and to explore efficiencies with the goal of controlling and cutting costs. Individual cost centre

information is consolidated to provide Managers with an overview of the overall cost of operating

the Program. The Manager reviews the Program in its entirety and explains variances from prior

years while searching for areas to cut costs. After the Managers' review, forecasted costs are



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reported to the Vice President responsible for the Program(s), who also scrutinizes for cost

savings prior to approval before submitting the budget to the Finance Department.

The Finance Department then consolidates all Programs and cost information to present an

overview of the overall OM&A costs to operate the Company. This presentation is provided to the

5 Executive Committee, consisting of the Chief Executive Officer and Vice Presidents. The

6 Executive Committee conducts a thorough review of each Program while considering the

corporate strategy and involves a rigorous internal process with a goal of containing costs. Any

new products or services are examined before concluding whether the value to the customers

9 exceeds the cost of the service.

The budget development process at London Hydro requires that any year-to-year variances that

cannot be explained by price increases in connection with wage escalations or inflation must be

supported by thorough commentary and justification. Although the needs may be valid and

explanations and rationale for budget increases may be very convincing, the first draft of the

budget is inevitably returned to the Managers for costs to be reduced.

Managers then go 'back to the drawing board' and search for ways to cut costs even further. At

this phase in budget development, priorities are set and items with a lower rank are deferred or

removed from the agenda.

The final proposed corporate budget is then presented to the Audit Committee with a request for

approval. The Executive Committee and the Audit Committee review the budget and associated

presentation items in detail. Achieving short and long-term goals and balancing between costs,

reliability and customer service are discussed at length. Once an acceptable level has been

attained for each of these elements, the budget is then submitted for approval by the Board of

Directors.



4.1.5 Inflation Rates Used

- 2 London Hydro did not utilize an inflation factor in any significant way when developing the capital
- or operating budgets for the 2021 Bridge or proposed 2022 Test Year. When developing budget
- 4 amounts at the individual account level, price increases having an impact on non-labour
- 5 expenditures are implicit and considered, but not calculated into forecasts.
- Where inflation is cited in this Exhibit, statistical information references the Ontario Consumer
- Price Index ("CPI") and is provided for information purposes only. Schedules in this Exhibit
- 8 illustrate a Compound Annual Growth Rate ("CAGR") so that readers can compare to CPI
- 9 increases. This information is included solely to provide a gauge to help readers segregate true
- cost drivers from those resulting in increased pricing. This approach is taken to help identify
- business environment changes affecting London Hydro and all distribution companies in the
- 12 province.

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4.1.6 Types of Overhead Costs

- Capital projects, billable services and OM&A activities are charged with all direct expenditures such as labour, materials and contractor services, as well as the following three types of overhead costs that are allocated to recognize indirect expenditures associated with
 - Employee Benefits and Employer Costs: applied to direct labour costs to recognize employee benefits such as vacation time, OMERS, group health insurance, LTD insurance and employer costs such as Canada Pension, Employment Insurance, Employer Health Tax and Workers' Compensation.
 - ➤ Vehicles: charged to activities at an hourly rate based on usage during the construction of assets and operating activities to capture costs associated with acquiring and maintaining London Hydro's fleet of vehicles and major equipment.
 - Materials Management: attached to the value of materials issued from the Stores Department to recognize expenditures related to the procurement of stock kept on hand and available for the purpose of supplying materials used in the construction of assets and operating activities in an efficient and timely manner.



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Cost centres for employee benefits and employer costs and vehicles are allocated in full. The

Materials Management cost centre, however, is not fully allocated in accordance with IFRS

accounting standards. The remaining cost balance in the Materials Management cost centre

represents indirect costs associated with supplying capital projects. Under IFRS only costs that

5 can be directly attributable to a specific item can be charged to capital. Consequently, Materials

6 Management costs that are indirect in nature remain in the OM&A expenditures of the Company.

7 London Hydro does not charge capital projects for indirect expenses incurred in the Engineering

8 Departments (the Asset Management Program) as an overhead cost. Therefore, costs in

9 Engineering Departments that relate to indirect expenditures, such as broad (non-specific)

analytics and studies, remain in the OM&A expenditures of the Company as well.

Overhead costs are reviewed on a regular basis and revised as required. Labour rates are

updated depending on the different cost centres involved in activities, as each cost centre has its

own level of employer costs with burden rates developed globally. Vehicle rates are updated

annually to coincide with changes in budgeted amounts in the Fleet Services Department.

Material rates are also reviewed on a regular basis and adjusted when necessary, since rates are

dependent on the value and types of product being handled. Changes in overhead rates since

the 2017 Cost of Service Application are immaterial in amount.

4.1.7 Programs Structure

London Hydro tracks operating costs under individual cost centres to help identify the origin of

the activity resulting in the given expenditure. Cost centres include (for example) Overhead Line,

21 Engineering, System Operating Centre, Human Resources and Health and Safety. Transactions

charged to cost centres are captured under individual accounts to describe the nature of the

expenditure (cost element) such as labour, contractor services and materials and supplies.

For three cost centres, costs gathered are allocated out to other cost centres, as well as capital

and billable activities. These cost centres represent London Hydro indirect overhead costs

associated with employee benefits and employer costs, vehicles and materials management as

discussed above under Types of Overhead Costs above.



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Table 4-2: London Hydro Program Structure

London Hydro Program Structure		
Operational Services Support Services		
Operations and maintenance	Information technology	
Overhead lines	Program management office	
Forestry	Infrastructure	
Underground systems	Applications	
Substation maintenance		
Construction	Corporate services	
Operations administration	Executive offices	
System operating centre	Financial services	
Protection and control	Purchasing and procurement	
Asset management	Human resources, health and safety	
Engineering and design	Human resources	
Operations engineering	Health and safety	
GIS maintenance		
System planning	Facilities and environmental services	
Engineering logistics		
Metering and data management		
Electric metering	Indirect Overhead	
Meter data management	Cost Centres	
Customer services and collections	Employee benefits and employer costs	
Customer services	Fleet services	
Collections	rieet services	
Locate services	Materials Management	
Locate services		
Corporate communications		

4.1.8 Materiality Threshold

- London Hydro has established the materiality threshold for variance analyses at \$397,000. This
- threshold is used to identify areas where changes in cost require detailed explanation as per the
- 5 Filing Requirements. This threshold amount is applied throughout this document at the Program
- level and in connection with year over year changes in expenditures. The detailed calculation
- 7 related to the establishment of this threshold is provided in Exhibit 1 representing London Hydro's
- 8 distribution base revenue requirement at 0.5%.



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4.2 OM&A EXPENSES

4.2.1 2017 OEB Approved to 2022 Test Year Comparison

- 3 OM&A expenditures in the amount of \$42,415,600 are proposed for the 2022 Test Year. These
- are the costs required to deliver safe and reliable energy to customers of London, Ontario. The
- 5 forecast for 2022 provides a proposed increase of \$5,449,700 in comparison to 2017 OEB
- 6 Approved amounts, resulting in a Cumulative Annual Growth Rate ("CAGR") of 2.8%.

Table 4-3: Program Delivery Costs - 2017 Budget to 2022 Budget

Program Delivery Costs				
	Total Char	nge		
			2017 Budg	get
	2017 OEB	2022 Test	to	
Program	Approved	Year	2022 Tes	st
	\$	\$	\$	CAGR
Asset management	4,108,100	4,209,300	101,200	0.5%
Operations and maintenance	9,960,700	11,765,600	1,804,900	3.4%
Metering and data management	3,322,800	3,894,100	571,300	3.2%
Information technology	4,945,200	5,243,600	298,400	1.2%
Customer service and collections	2,331,300	3,663,000	1,331,700	9.5%
Corporate communications	968,600	1,387,900	419,300	7.5%
Human resources, health and safety	1,702,600	1,815,500	112,900	1.3%
Facilities and environmental services	3,100,800	3,127,700	26,900	0.2%
Corporate services	5,152,100	5,676,700	524,600	2.0%
Locate services	917,700	1,125,700	208,000	4.2%
Capital materials supply management	456,000	506,500	50,500	2.1%
Total \$	36,965,900	42,415,600	5,449,700	2.8%



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4.2.2 2017 OEB Approved Budget Restatement

- The 2017 OEB Approved Budget has been restated from \$37,880,700 to \$36,965,900 to provide
- better comparative information, and to segregate other amounts into new line items. The original
- 4 budget has been restated in the amount of \$914,800 to include the subsequent approval of
- 5 OP&EB's on accrual basis and to segregate property taxes and cloud costs for presentation
- 6 purposes only as discussed below.

Table 4-4: 2017 OEB Approved Budget Restated

2017 OEB APPROVED Updated for OP&EB's and Segregation	
	Amount \$
2017 OEB Approved (Original)	37,880,700
Subsequent approved for OPEB's (accrual vs cash) Property taxes segregation for presentation purposes Cloud costs segregation for presentation purposes	216,300 (505,000) (626,100) (914,800)
2017 OEB Approved (Updated)	36,965,900

Restatement to Include Accrued OP&EB's

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. According to the Decision and Rate Order (EB-2016-0091) dated March 23, 2017:

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 1
- 2 basis.
- On September 14, 2017, the OEB finalized its decision regarding the treatment of OPEB costs 3
- (EB-2015-0040). The Report established the use of the accrual accounting method as the default 4
- method on which to set rates in cost-based rate applications. 5
- In view of the foregoing, 2017 OEB Approved OM&A expenditures have restated to include 6
- OPEBs on an accrual basis in the amount of \$216,300 to provide a better comparative to amounts 7
- presented in 2017 to 2020 actuals, as well as the 2021 Bridge Year and 2022 Proposed Test 8
- Year. 9

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- The impact of this subsequent change on the 2017 revenue requirement has been tracked 10
- through Account 1508 Sub Account OPEB Forecast Cash versus Forecast Accrual Differential 11
- Deferral Account as directed by the OEB in its Report of the Ontario Energy Board entitled 12
- "Regulatory Treatment of Pension and Other Post-employment Benefits (OPEBs) Costs": 13
- For some utilities, the OEB approved the recovery of their pension and OPEB costs on a cash 14
- basis as an interim measure pending the outcome of this consultation, and directed them to 15
- establish a variance account(s) to capture the difference between the cash and accrual methods 16
- in order to keep the period open for final adjustments once the outcome of the consultation is 17

known. These utilities are required to continue to record amounts into this account(s) until the

- effective date of the utility's next cost based rate order. Utilities will be expected to dispose of this
- 19
- account(s) at their next cost-based rate application (unless otherwise approved by the OEB) 20
- through a separate rate rider, provided that the OEB approves rates using the accrual method. 21

Restatement to Segregate Property Taxes

- To confirm with the definition of account 6105 Taxes Other Than Income Taxes as defined in the 23
- OEB Accounting Procedures Handbook ("APH"), property taxes for London Hydro's head offices 24
- located at 111 Horton Street have been segregated to a new line item. As instructed in the APH, 25
- property taxes for substation locations do however, remain in the OM&A expenditures of the 26
- Company. 27



Restatement to Segregate Cloud Costs

London Hydro has been continuing its journey to become a technology-driven utility – a "digital utility". Following the strategic plan, the primary outcome of the Company's innovation strategy has been the development of technological tools for both customer facing solutions and operational effectiveness. Many of these tools have been deployed through cloud-based solutions

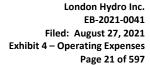
to leverage the benefits offered by these platforms in comparison to on-premise environments.

Cloud computing services such as Amazon and Google offer subscription services that can be accessed by end users over the internet. As technologies develop, service offerings increase and allow subscribers the opportunity to take advantage of new features in a more cost-effective manner.

Cloud systems provide for enhanced cybersecurity and performance to help the Company cope with growing volumes of data. They are also more resilient which ensures that application uptime is maximized for customers. Most on-premise applications demonstrate poorer resiliency because equipment is so expensive that redundancy is not available to handle downtimes. Accordingly, 100% of London Hydro's customer engagement applications are in the cloud, which enhances reliability, scalability, security and performance for customers.

Enhanced cyber security protocols provided through cloud services is crucial to ensure that systems and customer and business data are adequately protected, especially with the increase in Smart Grids, Smart Meters and the Internet of Things ("IoT"). Mobile devices and applications are also on the rise as London Hydro offers additional services to customers through the digital means that they are requesting.

Technologies are advancing rapidly and without the utilization of cloud-based solutions, London Hydro would struggle to keep up with the pace of change. Complexities in technology are also escalating, further driving the need to leverage cloud services. These internet-based subscriptions help reduce costs, enhance cyber security and keep the Company agile. Third-party service providers are able to achieve economies of scale that are passed to their customers and ensure that systems are up to date and flexible, without investing in, and maintaining, physical assets owned by the Company.





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Although cloud computing is the best option for customers in most cases, choosing cloud-based

solutions has the outcome of driving up OM&A costs since this is where cloud costs are captured

for ratemaking. This can unfortunately distort the Company's performance when comparing

current to historical costs during periods where the Company has transitioned from on premise to

cloud solutions. Performance indicators can also be skewed when comparing to other distributors

that have chosen to go with on-premise capital investment solutions.

7 On-premise solutions require an investment in physical assets that are owned by the Company.

While the current ratemaking model does allow for a return on these investments for stakeholders,

on premise solutions can provide disadvantages associated with keeping pace with technology,

cyber security, implementation timeframes as well as quality and value for customers. Further,

the requirement for ongoing maintenance, upgrades and infrastructure refresh programs can

translate into increased costs.

London Hydro has chosen to take the path that benefits the customer and hopes that one day the

rate-making model will find a way to equalize performance indicators when comparing activities

of those choosing between traditional capital solutions and cloud service solutions that reduce

capital investment needs.

London Hydro has been working hard to counteract cost pressures associated with the rapid

change in technologies and customer demand for new tools and mobility. Segregation of cloud

costs in this Exhibit is for presentation purposes only to help provide the reader of this Exhibit with

a clear distinction between changes in costs associated with the transition to cloud services, from

regular ongoing OM&A expenditures.



4.2.3 OM&A Cost per Customer and FTE

- OEB prescribed Appendix item 2-L OM&A Cost per Customer and FTE illustrated below
- summarizes London Hydro's historical, Bridge and Test year OM&A expenditures (including
- 4 Cloud Services) expressed on a per customer and per full-time equivalent employees ("FTE")
- 5 basis.

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Table 4-5: OM&A Cost per Customer and FTE (OEB Appendix 2-L)

OM&A Cost per Customer and FTE (OEB Appendix 2-L)									
# of customers (average)	156,245	156,386	158,175	159,865	161,411	163,116	164,835		
OM&A Costs									
0&M	17,551,447	17,979,761	19,229,588	19,145,421	19,705,431	20,065,026	20,802,538		
Admin Expenses	20,545,553	19,272,760	19,688,400	20,458,020	20,349,443	22,151,814	23,366,262		
Total Recoverable OM&A	38,097,000	37,252,521	38,917,988	39,603,441	40,054,874	42,216,840	44,168,800		
OM&A cost per customer									
O&M cost per customer	112	115	122	120	122	123	126		
Admin per customer	131	123	124	128	126	136	142		
Total OM&A per customer	244	238	246	248	248	259	268		
Number of FTEs	312	300	297	294	295	316	320		
Customers per FTEs	501	521	532	543	548	516	516		
OM&A cost per FTE									
O&M per FTE	56,309	59,893	64,659	65,032	66,843	63,497	65,069		
Admin per FTE	65,915	64,200	66,202	69,491	69,028	70,101	73,088		
Total OM&A per FTE	122,224	124,093	130,861	134,523	135,871	133,598	138,157		

- Total OM&A per customer is trending with a CAGR of 2.2% per year resulting from current trends as addressed above, cloud services, price increases and cost drivers discussed below. Before the impact of cloud services, total OM&A per customer is trending with a CAGR of 1.9%.
- The number of gross FTE's available for deployment to capital, billable and OM&A activities has increased by 20. FTEs deployed to OM&A activities has increased by 2 between 2017 Actual Amounts and projections for the proposed 2022 Test Year. Overall, this increase in FTEs is



- attributed to 3 additional staff being added in the Customer Services department, net of a
- reduction of 1 FTE as a result of efficiencies gained through the use of technologies. Resources
- in the Customer Service department have been increased due to the repositioning of 3 former
- 4 CDM employees from the CDM department, which has now been closed as instructed by the
- 5 Ontario government.

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- 6 These knowledgeable CDM employees have been added to London Hydro's staff complement to
- 7 continue providing expert advice on energy matters within the community. Retaining these
 - employees helps to maintain consumer confidence as more customers are finding the need for
- 9 expert advice on energy related matters; especially as they move towards new industry
- technologies such as distributed generation, solar panels, storage devices and electric vehicles.

4.2.4 2017 OEB Approved to 2017 Actuals Comparison

The 2017 Cost of Service Rate Application as originally submitted was for \$38,797,000. The OEB Decision included a total reduction of \$916,300 (including OP&EB's \$216,300), leaving a reduced 2017 OEB Approved Budget amount of \$37,880,700. After the restatements for OP&EB's, property taxes and cloud services segregation discussed above, the 2017 OEB Approved budget amount is \$36,965,900 as listed in the schedule below. London Hydro operated within 1% of this budget while experiencing favorable and unfavorable variances in the following spending categories.



Table 4-6: 2017 Actual to Budget Variances

2017 Actual to Budget Variances								
			Variance					
			2017 Actual to 2017 OEB Approved					
	2017	2017 OEB						
Nature of expenditure	Actual	Approved						
	\$	\$	\$	%				
Customer collection charges (EB-2017-0318/0183)	(443,498)	(714,000)	(270,502)	38%				
Bad debts	840,200	700,000	(140,200)	-20%				
Asset management	3,961,637	4,108,100	146,463	4%				
Metering and data management	3,131,459	3,322,800	191,341	6%				
Information technology support	4,579,277	4,945,200	365,923	7%				
Postage and courier	1,267,232	1,023,100	(244,132)	-24%				
Facilities and environmental services	2,851,019	3,100,800	249,781	8%				
Other	20,545,598	20,479,900	(65,698)	0%				
	36,732,923	36,965,900	232,977	1%				

- Line-item variances between budgets developed in the spring of 2015 in comparison to actual results for 2017 include unanticipated changes and deviations from budgets such as:
 - ↑ Customer service collection fees were lower than budget because of the Winter Disconnection Ban first implemented in 2017. During the Winter Disconnection Ban, LDC's were directed to halt collection activities on residential customers resulting in no levies for disconnection notices or disconnection of services from February 12 to April 30, 2017 and November 15 to December 31, 2017. These fees were later eliminated in full pursuant to EB-2017-0183 issued March 2019 as the OEB now considers these charges to be normal business activities.
 - ♠ Bad debt expenditures were higher than anticipated as 2017 was the first year for The Winter Disconnection Ban (EB-2017-0318) which is now an annual event from November 15th to April 30th. During this moratorium, distributors are prohibited from disconnecting residential customers for non-payment. During the disconnection moratorium, the number of accounts in arrears increases as some customer's incentive to pay on time is reduced. Further, three fairly large customers closed their door for business in 2017 leaving unpaid balances.



- Asset Management expenses were lower than projected due to absences associated with maternity, paternity and illness as well as hiring delays related to Engineering positions and their associated employee development costs. Delays in replacing employees occur because of the lengthy recruitment effort needed to find suitable replacements in this area.
- ◆ Metering services revenues from external parties were favorable due to higher than
 anticipated meter sealing services for third parties, as well as accelerated support for the
 City of London's transition to drive-by meter reading. Further, contractor services were
 lower than planned due to efficiencies gained using drive-by wireless meter reading
 technologies.
- ◆ Costs in the Information Technology Departments were lower than anticipated due to negotiated price reductions received for additional internet bandwidth and telephone connectivity. London Hydro had increased its budget to accommodate new technologies associated with cloud services, mobility, customer communication options and new processes for Disaster Recovery. Actual costs negotiated were significantly lower resulting in cost savings. In addition, service revenues from external parties were favorable as London Hydro continues to find ways to share costs with third parties.
- ↑ Postage costs were higher than planned due to imprecise estimates used when developing the 2017 Test Year budget. Assumptions made regarding postage rate increases were understated and estimates regarding the uptake and impact of customers moving to paperless billing were overstated. Actual results indicate that the impact of paperless billing is helping to offset cost increases associated with postage rates and customer growth keeping overall costs relatively stable.
- ➡ Facilities repairs and maintenance spending was favorable in 2017 due to the delay in minor renovation operating projects budgeted for that year. Minor renovations scheduled for 2017 were placed on hold as focus was redirected to more significant renovations which were capitalized for accounting purposes. Projects capitalized relate to office renovations required for better use of workspace because office areas had become congested.



4.2.5 2017 Actual to 2022 Test Year Comparison

- 2 OM&A expenditures for the 2022 proposed Test Year as displayed in Table 4-7: Total OM&A
- 3 Expenditures by Program below have increased \$5,682,677 in comparison to 2017 Actual results
- 4 providing for a CAGR of 2.9%.

Table 4-7: Program Delivery Costs - 2017 Actual Comparison to 2022 Test

Program Delivery Costs								
			Total Change					
		2022	2017 Actual to 2022 Test					
		Proposed						
Program	2017 Actual	Test Year						
	\$	\$	\$	CAGR				
Asset management	3,961,637	4,209,300	247,663	1.2%				
Operations and maintenance	10,199,175	11,765,600	1,566,425	2.9%				
Metering and data management	3,131,459	3,894,100	762,641	4.5%				
Information technology	4,579,277	5,243,600	664,323	2.7%				
Customer service and collections	2,958,165	3,663,000	704,835	4.4%				
Corporate communications	862,180	1,387,900	525,720	10.0%				
Human resources, health and safety	1,612,429	1,815,500	203,071	2.4%				
Facilities and environmental services	2,851,019	3,127,700	276,681	1.9%				
Corporate services	5,077,383	5,676,700	599,317	2.3%				
Locate services	1,006,200	1,125,700	119,500	2.3%				
Capital materials supply management	493,999	506,500	12,501	0.5%				
Total \$	36,732,923	42,415,600	5,682,677	2.9%				



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Table 4-8: Program Delivery Costs - 2017 Actual to 2022 Test Annual Change

	Prog	gram Deliver	y Costs					
		Α	nnual Change			Total Change		
	2017 Actual	2018 Actual	2019 Actual	2020 Actual	2021 Bridge	2017 Ac	tual	
	to	to	to	to	to	to		
Program	2018 Actual	2019 Actual	2020 Actual	2021 Bridge	2022 Test	2022 To	est	
	\$	\$	\$	\$	\$	\$	CAGR	
Asset management	176,325	(410,110)	(95,951)	416,899	160,500	247,663	1.2%	
Operations and maintenance	841,575	716	543,107	(212,873)	393,900	1,566,425	2.9%	
Metering and data management	149,039	254,703	(7,317)	213,116	153,100	762,641	4.5%	
Information technology	92,312	165,478	(544,204)	593,036	357,700	664,323	2.7%	
Customer service and collections	(303,048)	294,726	(128,838)	524,694	317,300	704,835	4.4%	
Corporate communications	164,902	222,330	(142,127)	183,015	97,600	525,720	10.0%	
Human resources, health and safety	(63,566)	120,675	(9,992)	30,854	125,100	203,071	2.4%	
Facilities and environmental services	(84,728)	83,351	73,078	133,280	71,700	276,681	1.9%	
Corporate services	180,688	29,612	418,687	(118,330)	88,660	599,317	2.3%	
Locate services	55,579	(23,138)	79,116	(21,356)	29,300	119,500	2.3%	
Capital materials supply management	(169,393)	124,116	43,990	488	13,300	12,501	0.5%	
Total \$	1,039,685	862,459	229,549	1,742,823	1,808,160	5,682,677	2.9%	

- 2 Cost increases resulting in the CAGR of 2.9% are the result of two factors:
 - Price increases (including customer growth)
 - Cost drivers
 - Price increases result from inflation and changes in the cost of labour resources. Customer growth also results in increased costs at the estimated rate of .44% per 1% as discussed below. Cost drivers are new costs resulting from elements and influences such as changes in trends, standards, regulation, capital investments and an increased focus on customer preferences, among others.
- Price increases, including customer growth have been estimated in the amount of \$4,914,185 between the 2017 fiscal year and the 2022 Test Year while cost drivers for this same period have accumulated to \$768,492 as follows,

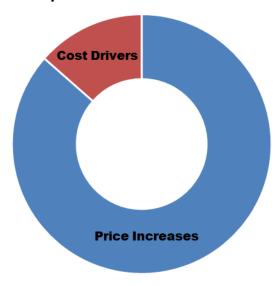


Table 4-9: Components of Cost Increases - 2017 Actuals to 2022 Test Year

Cost Increases 2017 Actuals to 2022 Test Year								
	_	Amount	%					
2017 Actuals	\$_	36,732,923						
Price increases		4,914,185	13.4%					
Cost drivers		768,492	2.1%					
	-	5,682,677	15.5%					
	\$ =	42,415,600						

- 2 Cost pressures associated with inflation, wage escalations and customer growth are the larger
- majority representing 13.4% of the overall 15.5% increase in costs, with the remaining portion of
- 4 2.1% resulting from cost drivers.

Components of Cost Increases





4.2.5.1 Price Increases

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- Salaries and wages have increased between 2.0% and 2.5% or a CAGR of 2.2%. The shortage
- of skilled resources, high demand for the same resources throughout the industry, along with
- 5 union settlements, which are within the industry norm, have resulted in higher costs. The
- 6 cumulative increase for salaries and wages is forecasted to be 11.6% over the 2017 Actuals.

Table 4-10: Summary of Wage Increases by Year

Summai	Summary of Wage Increases by Year								
Year	<u>Amount</u>	<u>%</u>							
2017	\$ 100.00								
2018	\$ 102.00	2.00%							
2019	\$ 104.45	2.40%							
2020	\$ 106.64	2.10%							
2021	\$ 108.88	2.10%							
2022	\$ 111.60	2.50%							
CAGR		2.2%							
Overall ch	ange 2017-2022	11.6%							

Labour and benefits account for the most significant component of London Hydro's OM&A expenditures, accounting for roughly 60% of overall costs. The majority of London Hydro employees are unionized with the Power Workers' Union, CUPE Local 1000 and hold positions related to trades, technical, operations support, clerical and administration. London Hydro continues to negotiate hard with the Union to provide fair increases while considering those which were agreed by other utilities. Inflationary and market pressures generate wage adjustments that seek to maintain external equity. Market pressures within an industry are exacerbated when there is a scarcity of trades, technical and management expertise.



Non Labour

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The Consumer Price Index for Ontario ("CPI") has been increasing between 0.6% and 2.5% per year or a CAGR of 1.9%. Increasing prices in Ontario have an impact on London Hydro's costs related to non-labour items such as contractor and professional services, technology and communications, and materials and supplies. The cumulative CPI increase in connection with non-labour expenditures is calculated to be 9.9% when compared to 2017. Estimated CPI increases for the 2021 Bridge Year and proposed 2022 Test Year in Table 4-11 below are based on the Royal Bank of Canada Provincial Outlook for Ontario issued in June 2021.

Table 4-11: Consumer Price Index for Ontario

Consumer Price Index for Ontario								
<u>Year</u>	Year Amount 9							
2017	\$	100.00						
2018	\$	102.40	2.40%					
2019	\$	104.35	1.90%					
2020 (COVID 19)	\$	104.97	0.60%					
2021 (estimate)	\$	107.60	2.50%					
2022 (estimate)	\$	109.86	2.10%					
CAGR	CAGR 1.9%							
Overall change 2	017-2022	2	9.9%					

Weighting Labour and Non-Labour Price Increases

The majority of London Hydro's costs are labour-related expenditures required to operate and maintain the distribution system in the City of London, which accounts for approximately 60% of overall OM&A costs. Non-labour expenditures range around 40%. When this split between spending is applied against increasing labour costs and non-labour expenditures, costs would be calculated to have a cumulative increase of 10.9% in comparison to 2017 or a 2.1% CAGR.



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Table 4-12: Inflationary Pressures

	Cumulative Inflation /			Weighted Inflation /	Weighted
	Wage esc.	CAGR	Weight	Wage esc.	CAGR
Labour	11.6%	2.2%	60.0%	7.0%	1.3%
Non labour	9.9%	1.9%	40.0%	3.9%	0.8%
				10.9%	2.1%

2 Customer Growth

- The proposed 2022 Test Year is estimating customer levels to be 8,449 higher than actual levels
- in 2017 providing for a growth rate of 1% per year and 4% in aggregate. Customer growth has
- the effect of increasing OM&A costs that are variable in nature, while at the same time benefiting
 - existing customers by spreading fixed costs over a larger customer base.
- 7 Although difficult to put a specific dollar value to, customer growth has a significant impact on
 - OM&A costs, which is estimated to be over \$800,000. This is based on the Empirical Research
- 9 in Support of Incentive Rate-Setting: 2019 Benchmarking Update Report to the Ontario Energy
- Board provided by Pacific Economics Group Research, LLC ("PEG") in August 2020, which
- estimates that for the average company, "For each 1% change in number of customers, cost was
- estimated to change by 0.44%."



Table 4-13: Impact of Inflation, Labour and Benefits and Customer Growth

Impact of Inflation + Custon	ner Growth Factor
	CAGR
Inflationary pressures	2.10%
Customer growth	0.44%
	2.54%

- 2 Throughout this Exhibit, the CAGR is provided in Program Delivery Cost schedules to reflect the
- average annual percentage increase in costs for the years from 2017 to the 2022 proposed Test
- Year. Table 4-13 above is for illustration purposes only to provide the reader with a gauge to help
- 5 distinguish between changes in costs due to price increases from true cost drivers.
- 6 For instance, where a given CAGR result is 2.5%, one could consider this increase to be
- 7 fundamentally because of increasing cost pressures stemming from wage negotiations, inflation
- and customer growth. A CAGR greater than 2.5% would then be considered to include cost
- 9 increases resulting from business changes and other forces.
- From an overall Company view and as mentioned above under schedule 2-L OM&A Cost per
- 11 Customer and FTE, total OM&A cost per customer is providing for a CAGR of 2.2% between 2017
- actuals and budgeted for the proposed 2022 Test Year. Further, where the impact of cloud
- services is removed, London Hydro's CAGR growth rate per customer is 1.9%. This growth rate
- is a clear indication of the Company's ongoing commitment to counter increased costs through
- 15 fiscal restraint, pacing expenditures, focusing on operational efficiencies and leveraging
- 16 technology.



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4.2.5.2 Cost Drivers

- 2 Cost drivers are defined as specific events or circumstances that have an impact on operating
- costs. They are the reasons "why" costs have changed and are critical in the understanding of
- 4 London Hydro's future operating requirements. The major cost drivers affecting London Hydro's
- 5 operating expense include,
 - Regulatory and standards compliance
- 7 Aging infrastructure
- Climate change / infrastructure resilience
- Infrastructure upgrades to accommodate growth
- Rapid change in technologies
- Customers' increased use of technology
- Cyber security
- Heightened customer expectations
- Increased need for communications
- Smart Meter data reporting and enhancements
- Succession planning
- Skilled resources demand and supply
- Environmental commitments
- Health and safety commitments
- Economic impacts
- Service contract negotiations
- Commodity price increases



- London Hydro continues to focus on increasing customer value and system planning while
- remaining flexible in this time of rapid change. Customers in London, like those across Canada,
- 3 have consistently expressed their two top priorities with respect to the supply of electricity –
- reliability and low cost.
- 5 Targeted investments in London Hydro's infrastructure have resulted in improved reliability from
- an average of 3 interruptions per year for the typical customer in the mid 1990's to approximately
- 7 1.1 per year. Further, London Hydro's costs have remained competitive and are within the bottom
- quartile of all Ontario LDCs. This result has been achieved by investing in our people, which
- 9 includes the safety of our employees and the public while fostering a culture of continuous
- improvement and innovation.

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As infrastructure nears the end of its life expectancy, London Hydro needs to carefully evaluate

the most efficient path into the future to ensure that decisions regarding maintenance and

replacement plans are optimized. The increase in severity and frequency of weather events

impacts reliability and requires prudent investments for increased resiliency of the network.

15 Customers' use of new technologies means that London Hydro is being asked to provide a

broader range of energy services. The evolution of new services such as electric vehicles and

storage devices will require even more commitment to help ensure that costs are maintained for

customers. Platforms such as "MyLondonHydro" and applications such Green Button equip

customers with the tools that they need to monitor their consumption and make informed

decisions to help control their electricity costs.



Table 4-14: Summary of Cost Drivers

Summary of Cost Drive	rs	
	Amount	CAGR
2017 Actuals	36,732,923	
Inflation, wage escalations and customer growth	4,914,185	
	41,647,108	2.5%
Cost Drivers		
Customer collection charges (EB-2017-0318/0183)	363,291	
Metering and meter data management	298,285	
Tree trimming services	127,993	
Corporate communications	365,750	
Asset management	(260,013)	
Other	(126,815)	
	768,492	
	42,415,600	2.9%

2 Customer Collection Charges

- 3 Collection and reconnection charges recovered directly from London Hydro's customers (i.e. OEB
- 5330, Collection Charges) are netted against collection costs under the Customer Service and
- 5 Collections Program for the Rate Application presentation as required to be consistent with the
- 6 OEB Uniform System of Accounts ("USoA").
- 7 Collection and reconnection charges recovered have decreased as a result of OEB EB-2017-
- 8 0183 and EB-2017-0318.
- 9 Pursuant to EB-2017-0183 issued March 2019, London Hydro no longer applies specific service
- charges for the collection of account charges or the installation/removal of load control devices.
- 11 These charges have now been eliminated as the OEB considers these charges to be normal
- business activities. The remaining charges in this account relate to reconnection fees only.



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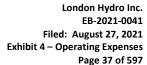
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- During the Winter Disconnection Ban (EB-2017-0318) which was first implemented in 2017,
- 2 distributors are prohibited from disconnecting residential customers for non-payment. During the
- moratorium, recoveries are reduced because activities are halted with respect to collection on
- 4 residential customers resulting in no levies for disconnection notices (\$10.00 fee) and no
- 5 reconnection of services (\$35.00).
- 6 For example, Collection of Account Charges in the last year of normal activity, being 2016, was
- ⁷ \$485,890 (48,589 units) compared to amounts for 2020 which were \$12,180 (1,218 units).
- 8 Similarly, Disconnection Connection charges in 2016 were \$144,515 (4,129 units) where
- 9 reconnection amounts for 2020 are \$17,570 (502 units).

Metering and Meter Data Management

Labour costs in the Metering and Meter Data Management Program have increased due to increasing complexities in this area, which has led to the need for additional resources and a change in the resource mix to bring in more technically skilled staff. For example, a Systems Analyst has been brought into the metering area to provide support in the numerous ongoing system upgrades for the Regional Network Interface ("RNI"), Operational Data Store ("ODS), MV90 database and Transceiver Gateway Base Stations ("TGB"). System upgrades mitigate any risks that arise from versions that are not supported (including security patches), offer upgraded analytics and reporting capabilities, support newer versions of smart meters and resolve a number of bug fixes in older versions.

Increased skill levels are also necessary for 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. Providing this data to consumers on a timely basis allows them to analyze and understand their energy consumption and make better energy management decisions.





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Increased technical skills are also needed for the growth in the number of interval meters which

has increased the overall daily tasks associated with meter data management and validations

and has highlighted the need for automation to achieve efficiencies. The increase in remote

meters impacts the number of reads, which in turn impacts system capacity and requires more

5 technical labour support.

6 Labour cost allocations to capital projects have increased due to streamlining of metering

7 inventories and their associated attributes for better controls and reliability, and the ongoing

development of meter data databases and applications. For example, London Hydro has been

running RNI in the cloud for several years. To support application growth, a second landscape is

being deployed for testing of new versions before promoting them into production. Additionally,

enhancements to other applications such as MyIDC and EventAssist are ongoing to help

commercial and industrial customers view and analyze energy usage data.

13 Increased staffing levels have also helped to accommodate the conversion of GS>50 meters, the

increase in meter reverifications and the rise in meter exchanges.

A major project since 2014 has been the conversion of customers with greater than 50 kW

demand to an interval meter pursuant to the OEB amendment to the Distribution System Code

(EB-2013-0311). As of August 2020, London Hydro had completed the replacement of all demand

to MIST (Metering Inside the Settlement Timeframe) interval meters. These MIST meters now

have cellular or internet modem connections and are remotely read by the MV90 meter reading

system. On an ongoing basis, while these new remote meters will no longer be read manually,

equipment failures and software upgrades are an increasing operational activity.

Metering reverifications increased dramatically over the past few years to successfully accomplish

the Measurement Canada Compliance Sample program. The increase in meter reverifications is

due to the mass installation of smart meters in 2009 to 2011 which have become due for their 10-

year meter seal refresh between 2019 and 2021. London Hydro has been investing in meter

sealing capability and capacity enhancements to prepare for this surge. Preparing for this work

was a multi-year effort and included building a strong internal team to execute on the program.



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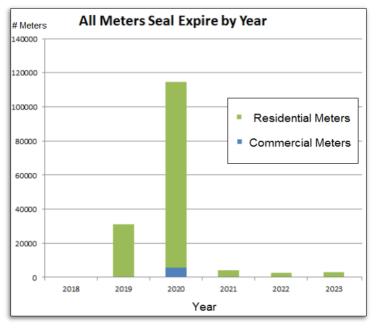
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Meter Compliance Sample Workload Volume

- The Electric Meter Department supports over 154,000 meters within its licenced service territory.
- 3 This area supports new and existing customers with the installation, removal and exchange of
- 4 meters. City growth has increased the volume of meter installations and meter exchanges are on
- 5 the rise which are initiated due to a variety of reasons including,
 - customers being reclassified to a different rate class that requires different metering and data (i.e. smart metered GS<50 to interval metered GS>50)
 - electronic Smart Meter technology failures (i.e. the meter stops communicating and needs to be replaced)
 - exchanges initiated by customer activity (i.e. need for ESA, electricity theft or tampering, or disconnection for non-payment or lack of a continuous service agreement following a rental tenant move out)
 - meter testing and inspection to support Measurement Canada compliance sample requirements
- The functional areas and related staff skill set required for the department are provided below.



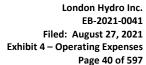
Category	<u>Core Skills</u>	Evolving Needs
Electric Meter Technicians	 Electrical Medium and Low voltage field work Electrical Installations Test and Measurement expertise Meter Communications Installation and Troubleshooting Field worker safety 	 Mobile Fieldwork Tools In field metrology testing Stray Voltage Testing Responding to Meter Hot Socket Alarms Supporting DER Projects (Renewables and Batteries) Communications Encryption and Security
Metrology Quality Assurance Technicians and Administration	 Measurement Canada Regulatory Compliance Inventory Handling Policy and Procedures including reporting 	 Changing regulatory and technology landscape
Power Quality and Account Services	 Liaison with customers Installation of test equipment Data collection and analysis 	 Supporting DER Projects (Renewables and Batteries) Power quality (i.e. harmonics) and metrology accuracy of customer renewables and Inverter based technologies

Metering Functional Staffing Skill Sets

Since the deployment of smart meters, 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. As new standards, regulation and technology emerge, this Program aims to keep pace

with advances where appropriate.

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London Hydro's Electric Meter Department is certified to the ISO 9001:2015 Standard and the

principles are embedded in the department's quality management system. This management

system ensures high quality accurate billing for utility customers. Accurate metering and billing

underpin ratepayer trust and confidence in the entire electricity system and supports London

5 Hydro's brand image as a credible utility. For example, London Hydro was one of the first utilities

to use voltage monitoring to detect and fix metering and distribution issues before customers

7 became aware or raised complaints.

8 London Hydro has developed and continues to enhance data presentation and analytic solutions

9 for both internal and external applications. Internal analytics using meter data readings

materialized using Amazon Redshift data warehousing services and Tableau business

intelligence software technologies. 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.

Tree Trimming

Reliability statistics indicate that tree-related outages are one of the leading causes of power

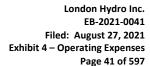
outages. London Hydro's tree trimming program is a key component in the Company's goal of

providing reliable power and protecting the public. Trees and other plants growing near power

lines and ground-level transformers must be maintained so that they do not interfere with the

distribution system. Otherwise outages and safety hazards can occur such as:

- Power interruptions
- Direct contact
- Energized objects
- Downed power lines
- Injuries and fires





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The City of London has been known as 'the Forest City' since 1855 as it was described literally

as the city built in the middle of a forest. For over 100 years, overhead distribution lines have been

installed side by side with the trees. The ongoing challenge is to plant the trees and install the

lines in a manner that promotes a healthy urban forest and safe and reliable distribution network.

5 The average annual rainfall for the London area is higher than the majority of Ontario and the

abundance of rainfall contributes towards healthy tree growth. Other factors that contribute

towards tree growth include soil nutrients, temperature, and atmospheric carbon dioxide levels.

Damage to the trees can occur during significant severe weather events such as storms involving

ice, snow, wind and lightning. London Ontario is surrounded by water on three sides so many

parts of the region get a large part of their winter snow from lake-effect snow. Lake-effect snow is

produced during cooler atmospheric conditions when a cold air mass moves across warmer lakes.

The lower layer of air, heated up by the lake water, picks up water vapor from the lake and rises

up through the colder air above. It then freezes and is deposited on the downwind shores as

snow. This is a major factor contributing to London's relative heavy snowfall which presents a risk

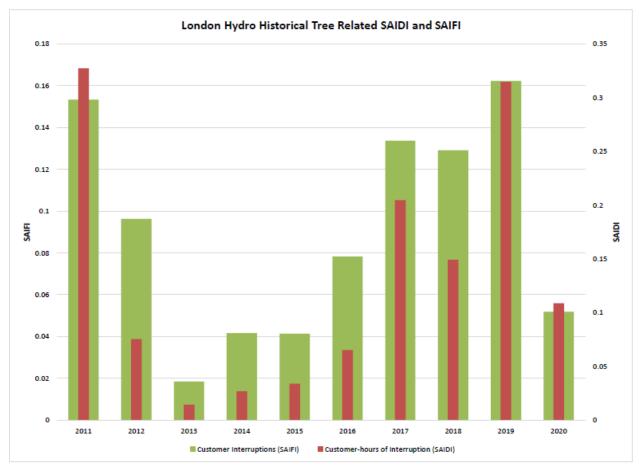
to damage of tree branches.

The graph below shows the increasing number of outages caused by trees. It also shows that

severe weather events in years like 2011 (a severe thunderstorm) can greatly influence the

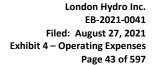
number of tree related outages.





Outages Caused by Trees

- The impact of damaged trees on the overhead high voltage distribution circuits is one of the most significant operational risks. The most efficient ways to reduce this risk is through an effective vegetation management program.
- In 2017, London Hydro conducted a review of its vegetation management practices. The results of that review are captured in a report that was issued in September 2017. The report identified the increasing number of severe weather events that are impacting southwestern Ontario. The report also identified areas within London Hydro's service territory that present a higher risk of tree related outages due to circuit and tree density.





- This analysis resulted in revising the previous 5-year trimming cycle to the recommended
- trimming cycle to be 3 years for high risk areas and 4 years for lower risk areas. Initiatives as a
- 3 result of the 2017 report also include working more closely with the City of London Trees and
- 4 Forestry Advisory Committee to ensure adequate clearances are considered when planting new
- 5 trees and the implementation of a new GIS based mobile inspection tool.

Corporate Communications

The Corporate Communications department is responsible for external and internal communications. This department develops communication plans and strategies to inform and educate customers on changes or new developments that may affect the services that they receive from London Hydro. Similarly, internal communications and programs are communicated to the employees to ensure they have the most recent information regarding changes in the industry, safety issues and programs to provide a safe and healthy work environment.

The electricity industry environment has undergone rapid change in the last few years which has resulted in an increased role for the Corporate Communications Program. Many industry changes have occurred since 2017 including the Fair Hydro Act that came into effect in 2017, a change in provincial government in 2018, followed by Bill 97, Fixing the Hydro Mess Act and on-going changes to customer service rules. In addition, there has been growing project support requests and increasing developments in connection with self-service features brought about by the Green Button platform.

In light of new initiatives to increase energy literacy and keep customers informed and engaged, this department was previously understaffed. To meet the growing needs, two additional staff have been hired including a Program Manager and Corporate Communications Assistant. These new resources have allowed for an increase in external communications. This allows the Corporate Communications department to keep customers informed of changes to rules and regulations and make them aware of tools and resources available to help them monitor and reduce their electricity usage. These new resources also help to increase internal communications that support London Hydro's corporate culture and keep employees connected and informed.



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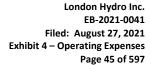
In today's culture, people want to be informed quickly and through many channels. Resource requirements in the Corporate Communications area have increased to better manage and orchestrate communications with both customers and employees with many objectives and outlets including

- ✓ Community engagement
- ✓ Websites
- ✓ Social media
- ✓ Media relations
- ✓ Strategic communications
- ✓ Advertising
 - ✓ Corporate identity/brand
 - ✓ Promotional materials
- ✓ Public relations
- ✓ Emergency communications

Effective communication practices help to keep the community and employees informed about London Hydro's vision and values. It also ensures that stakeholders are kept apprised on the Company's corporate strategies, capital development plans and technological advances. Keeping the community informed has many benefits by letting customers know that London Hydro is a good neighbor. This promotes the Company's reputation which helps to retain and recruit talented employees.

London Hydro continues to pursue and develop a new generation of employees to offset the unusually large demographic wave of employee retirements in the electricity industry. Transferring and developing new knowledge is imperative to ensuring knowledge and skills are not lost as a result of retirements, and that new skills are developed to design and operate new system infrastructure and functions to sustain reliability for customers.

Advertising and consulting fees have also increased in the Corporate Communications Program to assist with the development and promotion of content related to the large increase in the number of initiatives flowing through the department so that customers are kept informed. For example, TOU, RPP options, new support programs, Outage Management notifications, paperless billing, method of payment options, the Aeroplan program, MyLondonHydro, MyIDC, Trickl, Builder's Portal and the Property Managers Portal.



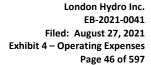


Further, the Green Button platform has contributed to the expansion and further development of self-service features that help customers monitor and reduce their energy usage. To increase customer recognition and use, London Hydro has recently established a Green Button Marketing Strategy that brings all Green Button features under one unified creative and user-experience approach. For example, in 2021, London Hydro is launching an enhanced version of the mobile app Trickl, which will provide customers with easily accessible, self-service options. The Trickl app empowers customers by giving them the ability to monitor and control their energy consumption through their smartphones. Trickl provides energy efficiency tips and helps customers better understand their energy data. The Trickl mobile app provides additional support and a customer engagement channel for MyLondonHydro functions.

London Hydro has been a leading Ontario utility in adopting and developing Green Button systems and applications. In 2018, London Hydro also became the first utility in the world to receive Green Button Connect My Data ("CMD") certification from Underwriters' Laboratories. This certification affirms the security and accuracy of London Hydro Green Button data and platform.

The Green Button platform delivers a secure and scalable data structure that simplifies data integration for London Hydro applications and self-service offerings. Green Button unifies customer and consumption data under one platform and serves as a data hub, making development of data driven functions simplified and reusable. This data helps to leverage smart meters and TOU pricing options while developing a system that provides end-to-end interoperability and is robust and flexible for changes that lie ahead (for example, electric vehicles, DER, batteries, smart home integration) so that customers can make sound decisions regarding the choices available to them.

Consulting services help with activities including the development of media content, creating videos and focus groups and surveys necessary to solicit customer perspectives. This is imperative during this era of rapid technological developments so that customers have a say in new products and services that may become available. London Hydro evaluates customer input carefully to plan for the most appropriate path forward and provide long-term value for customers. Communication strategies used for advertising programs include, but are not limited to, radio





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- spots, billing inserts, posters and billboards, community events, home shows and even meeting
- with customers one on one.
- 3 This new funding contributes to the development, coordination and continuous improvement of
- 4 the content and delivery of customer communication, outreach and engagement while ensuring
- that customer feedback is collected, which is necessary for more effective communication with
- 6 customers to ensure that they are informed and empowered.

Asset Management Program

8 Labour costs in the Asset Management department have decreased because of the increased

9 volume in capital projects. Pursuant to International Financial Reporting Standards ("IFRS") 16

Property, Plant and Equipment, costs that are *directly attributable* to bringing the asset to the

location and condition necessary for it to be capable of operating in the manner intended by

management are capitalized.

Resources deployed and charged to OM&A expenditures are more high level in nature and

dependent on varying requirements. Engineering costs allocated to OM&A are not 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 as required under IFRS 16. For example,

reliability analysis, system planning, aging infrastructure research, service implementations and

responding to renewable generation connection enquiries. Studies such as system and material

fault analysis and assessment of asset conditions are operating expenses. Similarly, analysis of

system performance from a risk perspective are an operating expense under IFRS since the work

is done prior to construction of a specific project officially commenced.

22 Although gross available labour in this area has increased due to additional full-time employees

being brought on staff, directly attributable engineering services allocated to capital projects have

increased as well. This increase in capital project work is resulting in a CAGR of 0.4% which is

lower than the expected CAGR of 2.2% per year in connection with wage escalations.

Increased volume in capital activities is being experienced in infrastructure and demand projects,

combined with significant projects like the City of London's Bus Rapid Transit ("BRT") and

London's revitalization of its downtown core. London's bus rapid transit adds curbside bus-only



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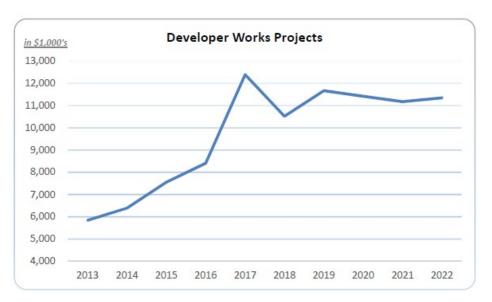
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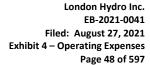
- lanes throughout the city and transportation improvements to ease congestion and improve safety
- and efficiency. London's revitalization of the downtown core helps to make roads safer, increase
- capacity for development and improve the health of the Thames River.
- The population within the City of London continues to grow and is resulting in a surge of new
- 5 homes and subdivisions, as well as new streets and road widenings to accommodate increased
- traffic. In fact, London is among the fastest-growing communities in Canada. Between 2001 and
- 7 2017, growth in the London region averaged just under 1%. Between 2018 and 2019, the
 - population in London grew by 2.3% (2017 to 2018 2.4%) which is a significant increase and
- 9 resulting in record levels of new construction.



Increase in Developer Works Projects

Although the London region has seen an increase in population growth, it is important to note that customer growth has remained constant in the range of 1% per annum. While the population in London has been increasing, so too has the increase in multi-residential connections. For example, the population of London's downtown core has increased 75% over 20 years. This is primarily as a result of new high-rise residential towers which are reshaping London's skyline with some buildings including as many as 40 storeys.

New resources have been added to London Hydro's staff complement to address the increased volume of projects including those driven by infrastructure renewal, City of London and customer





requirements and system capacity. These additional resources assist with the increased need to analyze data properly to determine which capital projects are required, which material or equipment to install, or if spending can be deferred.

London Hydro's permanent staff complement is determined using a systematic, thorough and skill-based needs assessment and validation of current and forecasted requirements in support of the fulfillment of strategic business objectives, including safe and excellent customer service delivery. A long-term and strategic focus on the number of full-time equivalents determines the overall structure of the Asset Management Plan and the complement of resources available to execute the Asset Sustainment Plan in the near and long term.

The decrease in labour costs has been partially offset by new costs associated with upgrades and additional user licensing for London Hydro's Geographic Information System ("GIS"). Since 2017 London Hydro has continually expanded the use of GIS for online real time data capture in the field of Underground, Overhead and Substation civil structures and electrical equipment. This electronic capture allows for rapid response time when unsafe or environmental hazards are discovered, by providing the information necessary for quicker decision making regarding the appropriate actions required to rectify the situation. The online capture of inspection data also reduces the manual errors commonly associated with paper-based processes, and enables more points and volume of data capture for trend analysis used in determining future failure trends or capital project needs.

London Hydro's GIS system tracks the location of each distribution system asset, as well the asset's attributes such as the age of the asset, type, size, easements, equipment inspections, testing and connectivity. This data is queried and extracted on a regular basis as many departments rely on this information for both operating and capital design requirements. The GIS system tracks inspections and upcoming due dates and is the internal data source of information for asset condition assessments and the development of the Asset Management Plan.



- The GIS digital solution enables distributed generation, distribution system planning, engineering
- design, International Financial Reporting Standards, asset management including vegetation
- management, mobile audits and inspections, as well as the management of third-party telecom
- 4 joint-use attachments. Further, critical information can be shared with external professionals,
- 5 consultants, the City of London, regulators and customers.

4.2.6 Recoverable OM&A Cost Driver Table - OEB Table 2-JB

- 7 OEB prescribed Table 2-JB Recoverable Operations Maintenance & Administration ("OM&A")
- 8 Cost Driver Table is provided below listing year over year changes in connection with Cost Drivers
- 9 addressed above.

Table 4-15: Recoverable OM&A Cost Driver Table (OEB Appendix 2-JB)

Recove	erable OM&	A Cost Driver	Table (OEB	Appendix 2-	JB)		
	2017 Budget	2017 Actual		2019 Actual		2021 Bridge	2017 Actuals
	to Actual	to 2018 Actual					to 2022 Test
	\$	\$	\$	\$	\$	\$	\$
Opening Balance	36,965,900	36,732,923	37,772,608	38,635,068	38,864,618	40,607,440	
Price Increases							
Inflation, wage escalations and customer growth		961,226	985,264	704,724	1,109,963	1,153,008	4,914,185
Cost Drivers							
Customer collection charges (EB-2017-0318/0183)	270,502	106,389	211,701	86,814	(43,891)	2,279	363,291
Metering and meter data management	(191,341)	67,037	158,028	(76,976)	108,567	41,629	298,285
Tree trimming services	62,954	105,484	64,147	(616)	(40,914)	(107)	127,993
Corporate communications	(106,420)	138,117	186,312	(153,833)	139,741	55,414	365,750
Asset management	(146,463)	75,529	(498,076)	(169,184)	292,555	39,162	(260,013)
Other							895,307
Operations and maintenance	175,521	459,203	(343,781)	296,031	(430,703)	65,993	46,743
Capital materials supply management	37,999	(177,594)	109,658	32,215	(11,280)	52,557	5,557
Customer services and collections	356,364	(482,005)	8,175	(242,846)	445,189	199,445	(72,041)
Information technology support	(365,923)	(25,244)	39,016	(597,282)	434,916	195,104	46,510
Human resources, health and safety	(90,171)	(102,319)	75,153	(43,131)	(10,227)	67,792	(12,732)
Corporate services	(74,717)	47,361	(103,563)	293,409	(245,628)	(58,665)	(67,087)
Facilities and environmental services	(249,781)	(159,864)	16,151	36,339	44,108	(6,579)	(69,845)
Locate services	88,500	26,366	(45,728)	63,886	(49,572)	1,127	(3,921)
							(126,815)
	36,732,923	37,772,608	38,635,068	38,864,618	40,607,440	42,415,600	5,682,677



8

- Year over year variances result from numerous factors including fluctuations in,
 - allocations between OM&A and capital and billable projects
- weather patterns resulting in higher maintenance costs in the Operations and
 Maintenance Program
- increased maintenance due to aging infrastructure (i.e., underground cable faults)
- delays in finding resources to rehire for retirements and employee resignations
- sick leaves, maternity leaves, paternity leaves
 - changes in bad debt expenses
- focus on special projects (such as the OEB RPP)
- 10 facilities repair and maintenance
 - varying requirements for external contractors and consulting services
- third-party one-time service cost recoveries
- COVID 19 (2020)
- Narratives provided under London Hydro Programs, Section 4.3 of this Exhibit, explain the impacts of these types of factors for each individual Program. Each narrative includes an overview for the Program to help the reader understand ongoing activities and changes in the area, including both accomplishments achieved in terms of efficiencies and customer value, as well as challenges at hand. In addition, Program Delivery Costs are addressed to assist in depicting the outcomes of accomplishments, together with the ramifications stemming from challenges being faced.
- As mentioned, more significant changes between the 2017 fiscal year and the proposed 2022
- Test Year which tally \$895,307 in Table 4-15 above have been highlighted under Cost Drivers in
- 23 section 4.2.5.2.



4.2.7 OM&A Programs Table - OEB Appendix 2-JC

- 2 Pursuant to the Renewed Regulatory Framework for Electricity ("RRFE"), the OEB has moved
- towards an output focused review which highlights Program outcomes. This new approach helps
- to ensure that outputs are meaningful to customers and that customers are receiving value for
- 5 their money.
- 6 London Hydro has defined its Program structure by assembling its pre-existing 30+ individual cost
- 7 centers into different groups or categories. For instance, engineering departments have been
- 8 captured under the Program "Asset Management" and operations and maintenance cost centres
- such as the Overhead Line Department and the Forestry Department have been grouped together
- under the Program "Operations and Maintenance". Grouping of cost centres into Programs have
- been assembled with the objective of consolidating similar activities. For further details regarding
- cost centres contained under a given Program, please refer to Table 4-2 London Hydro Program
- 13 Structure on page 15.
- As requested in Chapter 2 Filing Requirements appendix 2-JC: OM&A Programs Table is
- provided below:



Table 4-16: OM&A Programs Table (OEB Appendix 2-JC)

		0	M&A Progran	ns Table (OEB	Appendix 2-	JC)					
								Chang	ge	Total Cha	inge
								2020 Actual		2017 0	EB
	2017	2017	2018	2019	2020	2021	2022	to		Approve	d to
	Budget	Actual	Actual	Actual	Actual	Bridge	Test	2022 T	est	2022 Te	est
	\$	\$	\$	\$	\$	\$	\$	\$	CAGR	\$	CAGR
Asset Management											
Labour and benefits	3,497,000	3,411,618	3,549,323	3,160,359	3,098,589	3,369,900	3,483,200	384,611	6%	(13,800)	0%
Employee expenses	167,000	142,726	146,648	152,443	106,063	164,200	168,200	62,137	26%	1,200	0%
Contractor services	142,000	134,435	138,503	93,523	73,686	107,400	140,500	66,814	38%	(1,500)	0%
Materials and supplies	29,400	18,580	28,067	28,361	12,852	33,900	34,500	21,648	64%	5,100	3%
Vehicles and major equipment	29,900	21,363	21,191	13,922	34,790	28,200	28,900	(5,890)	-9%	(1,000)	-1%
Software and hardware	145,000	138,962	171,653	193,377	209,090	234,000	239,900	30,810	7%	94,900	11%
Corporate membership dues	67,000	72,874	71,763	70,413	84,041	94,900	97,300	13,259	8%	30,300	8%
Other	30,800	21,079	10,812	15,455	12,790	16,300	16,800	4,010	15%	(14,000)	-11%
Total \$	4,108,100	3,961,637	4,137,962	3,727,852	3,631,901	4,048,800	4,209,300	577,399	8%	101,200	0%
Operations and Maintenance											
Labour and benefits	6,895,900	7,027,057	7,389,233	7,375,244	7,798,594	7,481,700	7,780,200	(18,394)	0%	884,300	2%
Employee expenses	434,200	473,528	437,403	436,036	428,983	526,500	539,800	110,817	12%	105,600	4%
Materials and supplies	778,600	798,446	737,015	743,445	710,304	787,000	806,700	96,396	7%	28,100	1%
Underground cable services	211,400	267,546	517,155	484,890	534,077	431,700	442,500	(91,577)	-9%	231,100	16%
Overhead line services	101,000	108,185	243,171	135,940	115,486	139,000	142,600	27,114	11%	41,600	7%
Tree trimming services	83,000	145,954	258,579	332,142	334,941	300,000	307,500	(27,441)	-4%	224,500	30%
Substation maintenance services	72,500	46,379	31,651	37,752	44,680	55,000	56,400	11,720	12%	(16,100)	-5%
Contractor services	74,700	70,644	78,391	73,431	65,905	87,700	89,200	23,295	16%	14,500	4%
Pole and property leasing	80,000	75,488	77,341	161,903	122,602	139,100	141,100	18,498	7%	61,100	12%
Vehicles and major equipment	825,600	791,796	855,340	842,624	988,187	947,500	971,300	(16,887)	-1%	145,700	3%
Software and hardware	239,300	242,485	266,131	275,576	312,176	326,300	334,400	22,224	3%	95,100	7%
Other	164,500	151,666	149,341	142,485	128,639	150,200	153,900	25,261	9%	(10,600)	-1%
Total \$	9,960,700	10,199,175	11,040,750	11,041,466	11,584,573	11,371,700	11,765,600	181,027	1%	1,804,900	3%



		ON	Л&A Program	s Table (OEB	Appendix 2-J	C)					
								Chang	e	Total Cha	inge
								2020 Act	tual	2017 O	EB
	2017	2017	2018	2019	2020	2021	2022	to		Approve	d to
	Budget	Actual	Actual	Actual	Actual	Bridge	Test	2022 Te	est	2022 Te	est
	\$	\$	\$	\$	\$	\$	\$	\$	CAGR	\$	CAGR
Metering and Data Management											
Labour and benefits	2,277,900	2,289,691	2,532,023	2,825,101	2,753,076	2,877,600	2,984,900	231,824	4%	707,000	6%
Contractor services	120,200	96,418	171,530	54,571	82,809	106,600	107,700	24,891	14%	(12,500)	-2%
Meter reading services	510,000	467,718	298,397	244,014	242,223	220,000	220,000	(22,223)	-5%	(290,000)	-15%
Technology and radio licensing	220,000	216,299	222,611	228,632	235,414	252,000	259,000	23,586	5%	39,000	3%
Software and hardware	206,000	166,631	135,619	139,883	146,501	170,300	181,600	35,099	11%	(24,400)	-2%
Vehicles and major equipment	55,000	61,166	63,705	68,711	79,691	77,200	101,200	21,509	13%	46,200	13%
Materials and supplies	55,800	41,148	37,117	43,055	33,446	49,500	49,600	16,154	22%	(6,200)	-2%
Other	154,200	167,923	178,928	177,034	171,328	179,700	182,000	10,672	3%	27,800	3%
Cost recoveries	(276,300)	(375,534)	(359,431)	(245,799)	(216,604)	(191,900)	(191,900)	24,704	-6%	84,400	-7%
Total \$	3,322,800	3,131,459	3,280,499	3,535,201	3,527,884	3,741,000	3,894,100	366,216	5%	571,300	3%
Information Technology											
Labour and benefits	2,969,800	3,222,479	3,474,850	3,551,920	3,257,408	3,476,400	3,721,100	463,692	7%	751,300	5%
Contractor services	951,000	658,546	439,976	544,290	446,730	546,900	565,400	118,670	13%	(385,600)	-10%
Employee expenses	182,000	126,302	176,777	150,387	40,046	153,100	158,300	118,254	99%	(23,700)	-3%
Software and hardware	802,500	686,593	733,079	719,422	741,757	787,400	881,500	139,743	9%	79,000	2%
Business communications	383,600	223,731	237,004	211,624	195,256	240,500	235,500	40,244	10%	(148,100)	-9%
Materials and supplies	24,100	26,523	19,144	19,647	8,280	32,200	30,500	22,220	92%	6,400	5%
Other	98,800	134,431	130,824	127,303	119,889	134,100	135,000	15,111	6%	36,200	6%
Cost recoveries	(466,600)	(499,329)	(540,063)	(487,525)	(516,501)	(484,700)	(483,700)	32,801	-3%	(17,100)	1%
Total \$	4,945,200	4,579,277	4,671,589	4,837,068	4,292,864	4,885,900	5,243,600	950,736	11%	298,400	1%



		10	M&A Program	ns Table (OEB	Appendix 2-J	C)					
								Chang	ge	Total Cha	ange
								2020 Actual		2017 0	EB
	2017	2017	2018	2019	2020	2021	2022	to		Approve	d to
	Budget	Actual	Actual	Actual	Actual	Bridge	Test	2022 T	est	2022 T	est
	\$	\$	\$	\$	\$	\$	\$	\$	CAGR	\$	CAGR
Customer Services and Collections											
Labour and benefits	3,712,700	3,774,548	3,588,217	3,612,490	3,599,120	4,000,100	4,167,600	568,480	8%	454,900	2%
Contractor services	491,200	446,069	415,873	414,737	448,114	489,500	620,500	172,386	18%	129,300	5%
Postage and courier	1,023,100	1,267,232	1,270,549	1,265,865	1,097,937	1,202,500	1,188,000	90,063	4%	164,900	3%
Printing and mailing services	142,000	114,221	86,516	84,719	76,093	92,000	96,000	19,907	12%	(46,000)	-8%
Collection services and fees	330,000	271,955	268,783	245,448	179,304	58,000	49,000	(130,304)	-48%	(281,000)	-32%
Bad debts	700,000	840,200	702,530	737,263	800,011	900,000	900,000	99,989	6%	200,000	5%
Other	145,400	169,305	161,302	190,220	143,140	169,800	170,400	27,260	9%	25,000	3%
Cost recoveries	(4,213,100)	(3,925,365)	(3,838,654)	(3,600,899)	(3,522,713)	(3,566,200)	(3,528,500)	(5,787)	0%	684,600	-3%
Total \$	2,331,300	2,958,165	2,655,117	2,949,843	2,821,006	3,345,700	3,663,000	841,994	14%	1,331,700	9%
Corporate Communications											
Labour and benefits	344,900	339,184	415,774	562,096	578,620	576,700	614,100	35,480	3%	269,200	12%
Employee expenses	10,400	5,125	10,735	10,381	6,571	15,200	19,600	13,029	73%	9,200	14%
Consulting services	80,000	62,725	92,767	153,559	28,302	142,000	170,000	141,698	145%	90,000	16%
Advertising and promotion	260,500	210,583	249,040	258,264	241,406	290,000	305,000	63,594	12%	44,500	3%
Donation (LEAP)	200,000	200,000	200,000	200,000	200,000	200,000	200,000	-	0%	-	0%
Materials and supplies	34,200	17,918	26,757	27,608	23,995	34,200	34,700	10,705	20%	500	0%
School safety program	30,800	18,944	23,040	28,589	15,124	20,300	33,100	17,976	48%	2,300	1%
Other	7,800	7,700	8,970	8,915	13,267	11,900	11,400	(1,867)	-7%	3,600	8%
Total \$	968,600	862,180	1,027,082	1,249,412	1,107,285	1,290,300	1,387,900	280,615	12%	419,300	7%



		10	M&A Program	ns Table (OEB	Appendix 2-J	IC)					
		2017 Actual	2018 Actual	2019 Actual	2020 Actual	2021 Bridge	2022 Test	Change 2020 Actual to 2022 Test		Total Change 2017 OEB Approved to 2022 Test	
	2017										
	Budget										
	\$	\$	\$	\$	\$	\$	\$	\$	CAGR	\$	CAGR
Human Resources. Health and Safety											
Labour and benefits	969,700	1,073,283	1,058,716	1,131,294	1,258,863	1,145,700	1,274,700	15,837	1%	305,000	6%
Training programs	127,000	63,945	32,003	62,923	25,384	60,500	61,500	36,116	56%	(65,500)	-14%
Consulting and contractor services	185,700	115,453	86,864	117,115	45,030	103,000	103,600	58,570	52%	(82,100)	-11%
Software and hardware	39,600	13,543	23,294	8,863	7,790	9,500	500	(7,290)	-75%	(39,100)	-58%
Materials and supplies	27,600	20,249	14,843	24,164	19,652	34,800	35,400	15,748	34%	7,800	5%
Other	353,000	325,955	333,143	325,180	302,826	336,900	339,800	36,974	6%	(13,200)	-1%
Total \$	1,702,600	1,612,429	1,548,863	1,669,538	1,659,546	1,690,400	1,815,500	155,954	5%	112,900	1%
Facilities and Environmental Services											
Labour and benefits	365,500	333,084	331,266	305,108	327,139	367,500	377,800	50,661	7%	12,300	1%
Insurance	77,200	65,633	66,076	73,316	90,870	76,300	78,200	(12,670)	-7%	1,000	0%
Utilities	465,000	494,915	480,215	512,884	481,220	533,600	546,900	65,680	7%	81,900	3%
Contractor services	491,400	474,805	533,519	508,550	579,068	588,000	602,700	23,632	2%	111,300	4%
Landscaping and snow removal	173,500	202,212	205,245	214,595	158,551	205,000	210,100	51,549	15%	36,600	4%
Other	1,528,200	1,280,371	1,149,970	1,235,190	1,285,872	1,285,600	1,312,000	26,128	1%	(216,200)	-3%
Total \$	3,100,800	2,851,019	2,766,291	2,849,642	2,922,720	3,056,000	3,127,700	204,980	3%	26,900	0%



		O	M&A Program	ns Table (OFR	Appendix 2-	IC)					
		UI	VIXA FIUGIAII	is Table (UED	Appendix 2-	ic j		Change 2020 Actual to 2022 Test		Total Change 2017 OEB Approved to 2022 Test	
	2017	2017	2018	2019	2020	2021	2022				
	Budget	Actual	Actual	Actual	Actual	Bridge	Test				
	\$	\$	\$	\$	\$	\$	\$	\$	CAGR	\$	CAGR
Corporate Services											
Labour and benefits	3,078,200	3,047,477	3,128,356	3,143,754	3,513,878	3,334,200	3,383,300	(130,578)	-2%	305,100	2%
Employee expenses	77,300	78,298	81,249	70,821	48,998	106,500	102,000	53,002	44%	24,700	6%
OEB cost assessment fees	710,000	716,115	666,403	684,824	687,743	705,600	719,800	32,057	2%	9,800	0%
Regulatory application costs	65,000	54,940	54,940	54,940	54,940	54,940	60,000	5,060	5%	(5,000)	-2%
Insurance	373,300	376,419	369,917	354,940	371,594	413,000	420,300	48,706	6%	47,000	2%
Contractor services and consulting	212,900	215,474	252,290	231,088	281,168	290,400	297,100	15,932	3%	84,200	7%
Legal services	120,000	151,664	257,276	312,156	317,901	200,000	200,000	(117,901)	-21%	80,000	11%
Software and hardware	100,000	89,292	95,028	87,374	102,623	114,200	116,200	13,577	6%	16,200	3%
Corporate membership dues	120,000	106,635	108,750	110,133	113,167	128,000	130,000	16,833	7%	10,000	2%
Other	295,400	241,070	243,861	237,652	214,359	241,200	248,000	33,641	8%	(47,400)	-3%
Total \$	5,152,100	5,077,383	5,258,071	5,287,683	5,706,371	5,588,040	5,676,700	(29,671)	0%	524,600	2%
Locate Services											
Labour and benefits	53,400	44,984	28,652	29,221	25,987	39,500	42,500	16,513	28%	(10,900)	-4%
Contractor services	853,000	952,580	1,027,897	1,004,015	1,087,939	1,050,000	1,076,300	(11,639)	-1%	223,300	5%
Other	11,300	8,636	5,229	5,404	3,830	6,900	6,900	3,070	34%	(4,400)	-9%
Total \$	917,700	1,006,200	1,061,779	1,038,641	1,117,756	1,096,400	1,125,700	7,944	0%	208,000	4%
Capital Materials Supply Management											
Labour and benefits	717,400	730,475	519,621	613,147	687,926	762,100	781,200	93,274	7%	63,800	2%
Contractor services	5,000	3,077	6,863	10,256	10,949	15,000	15,400	4,451	19%	10,400	25%
Materials and supplies	37,700	34,761	26,983	28,219	20,663	38,200	39,200	18,537	38%	1,500	1%
Software and hardware	-	-	8,000	24,000	42,105	42,900	44,000	1,895	2%	44,000	
Other	91,000	109,129	117,211	107,117	111,870	114,100	116,700	4,830	2%	25,700	5%
Cost allocations	(395,100)	(383,444)	(354,073)	(334,017)	(380,802)	(479,100)	(490,000)	(109,198)	13%	(94,900)	4%
Total \$	456,000	493,999	324,606	448,722	492,712	493,200	506,500	13,788	1%	50,500	2%
Grand Total	36,965,900	36,732,923	37,772,608	38,635,067	38,864,617	40,607,440	42,415,600	3,550,983	4%	5,449,700	3%



4.3 LONDON HYDRO PROGRAMS

4.3.1 ASSET MANAGEMENT

3 Overview

2

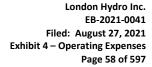
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- 4 London Hydro is responsible for the management of \$370 million of assets that provide customers
- with a cost effective, reliable and safe electrical distribution system, both now and in the future.
- To carry out this responsibility, London Hydro has a dedicated Asset Management team which
- 7 continuously monitors and assesses the condition of distribution assets to make informed
- decisions. The Asset Management Program is constantly monitoring and studying the distribution
- system to determine when and how an asset should be maintained, repaired, refurbished, or
- replaced to optimize the total cost of ownership for customers while providing the performance
- that customers expect.
- Asset management is to the distribution system as electricity is to customers a raw input, and
- as such, asset management is London Hydro's banner Program. All other projects carried out by
- Operations are initiated and supported by the Asset Management Program. Guiding focus for the
- Asset Management team includes providing for
 - > Quality service to city residents maintaining a safe and reliable system
 - City growth working with customers, developers and the City of London
 - > Revitalize antiquated systems renewing/upgrading the 4kV, 13.8kV and 27.6kV supplies
 - Designing a Smarter Grid investigating, designing and implementing customer benefiting Smart Grid solutions
- The essence of Asset Management is engineering. More specifically it is the application of sound
- 22 engineering principles plus good utility practices to plan asset replacements, enhancements or
- expansions. Asset Management must keep the lights on (reliability) and ensure the safety of
- London Hydro workers and the public while controlling costs for customers.

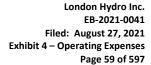




The utility industry is required to maintain or slightly improve system reliability albeit at a reduced cost. That is, utilities need to do more with less. This approach is possible when utilities optimize capital spending by anticipating needs rather than by being reactive. This ultimately results in more linear spending rather than year to year fluctuations from 'catching up' or fixing problems. By taking a longer term, levelized approach, the Company can pace spending to keep rates level while maintaining reliability and safety. London Hydro outperforms most of its peers in reliability and is among the lowest in cost of service. By investing in appropriate maintenance levels, the Company can defer or even avoid some capital costs while continuing to maintain or slightly improve reliability and safety.

The general approach used throughout the Distribution System Plan ("DSP") is to use Asset Management to consider each asset (e.g., poles, transformers, switchgear, cables, insulators) and all the alternatives available to avoid replacing them until necessary. The Asset Management Program outsources applicable studies when internal resources are not available or do not have the necessary expertise. Experts are hired to help extend the life of assets – thus doing more with less. For example,

From 2010 to 2018 London Hydro used silicone injection to extend the life of the cable by up to several decades. However, in 2019 London Hydro engineers began to notice an increasing failure rate in silicone injected primary cables. While there can be numerous reasons for premature cable failures in injected cables, the Engineering Department decided to review the program and update the previous cost/benefit analysis of primary cable injection versus primary cable replacement. At the same time the Company was evaluating and awarding annual pre-authorized contractor agreements, during which London Hydro received a very favorable price on directional boring. When compared to silicone injection prices which had increased, while providing for reduced warranty, it was determined that the cost/benefit of injecting cables versus replacement of cables was almost equal. Accordingly, London Hydro switched to replacing primary cables as the preferred option. This is because new cables have the latest technology such as strand block and jacket encapsulation preventing water egress; the major cause of cable failure.





Another benefit of cable replacement is that reconfiguration of the system can be done to improve reliability, speed up restoration times and increase capacity, which future proofs the supply as customer demand grows. There still may be instances where silicone injection will need to be used. For example, where underground bore equipment cannot get safe or proper access, or there are too many conflicts with other utilities and/or trees preventing boring. Annual upgrade projects are now evaluated with the preference to install new primary cable and only inject cable if no other options are available.

- In addition to testing wood poles to determine their residual strength, London Hydro adds a risk-based component to its testing process that adjusts the recommended retest interval. Poles that pass the test and are considered low risk (due to location or other physical factors) will have a retest interval based on age, while poles at a higher risk will be retested sooner. London Hydro has found that this process has extended the typical useful life of wood poles.
- When lower voltage (4kV, 8kV or 13.8kV) infrastructure approaches end of life or needs to be relocated to accommodate other work, London Hydro often takes the opportunity to convert the infrastructure to a higher voltage (27.6kV). The higher voltage reduces losses associated with lines and transformers and may eliminate the need for a step-down transformer substation. Voltage conversions also increase the capacity of feeder cables, which results in fewer circuits being needed to supply the same amount of load. Converting the feeders to 27.6kV can more than triple the amount of load that can be supplied by each cable, which means fewer ducts and less space in vaults and chambers.
- To the extent that there are proven benefits, London Hydro increases the level of automation in the distribution system. Automation includes upgrades to protection and control devices (relays, RTUs, batteries), communication systems, metering and automated/remote switching (reclosers). These investments limit the size of an outage and reduce the need to dispatch workers to complete various tasks which has a positive impact on operating and maintenance costs.



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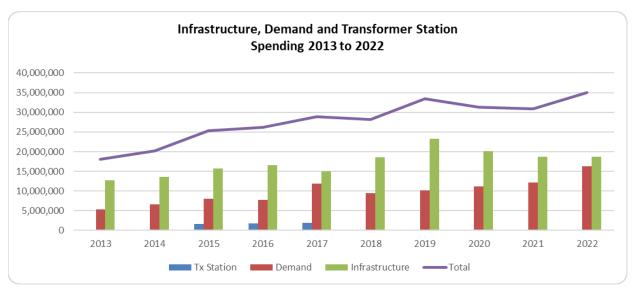
- Since 2011 London Hydro has been installing an alternative to PILC cable, called Ethylene Propylene Rubber ("EPR") cable, in an attempt to not only eliminate the use of lead covered cable, but also the need for hot lead work associated with splicing and terminating of the PILC cables. Engineering studies have shown that switching to an EPR Insulated cable permits the use of polymer splicing and elbow termination kits without jeopardizing the electrical characteristics required to maintain the reliability London Hydro customers in the downtown core have come to expect. When individual conductors within the PILC cable require testing, the process of tearing down a lead splice is more time consuming than using an elbow termination test point on EPR cable. Also, EPR cable is rated at 28kV versus the 15kV rating of PILC cable enabling quicker conversion from the 13.8kV supply to 27.6kV supply as part of the downtown upgrade and Nelson TS rebuild. By the end of 2021, all PILC 13.8kV primary feeder cables will be de-energized and removed from and downtown core.
- By installing fault indicators on pad-mount transformers on systems where cables are approaching end of life, London Hydro has been able to decrease outage restoration times for customers since crews are able to locate and isolate faulted sections guickly.
- In 2020 the Substation Maintenance department purchased Tan/Delta cable testing equipment. Tan/Delta testing provides a more accurate condition assessment and thus better information on the remaining life expectancy of primary cables. This enables more targeted cable replacement projects to reduce customer outages and improve overall system reliability.



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Capital Spending Trend

- 2 The volume of capital projects has been steadily increasing since 2013, as customer demand
- projects increase and more assets approach (and often exceed) their expected useful lives.



Increase in Capital Spending

- 5 The overall capital spending illustrated above includes investments in infrastructure, developer
- and city demand projects and the transformer station ("TS") upgrade discussed below.

7 Infrastructure

- 8 Replacement of aging infrastructure, system voltage conversions and projects, like the
- 9 revitalization of the downtown core, have resulted in increased capital investments and associated
- engineering activities.
- London Hydro is in a significant renewal phase of its asset life cycle as many distribution system
- assets are coming to the end of their life span on the 4kV, 13.8kV and 27.6kV systems. This
- increases the need for capital expenditures to refurbish and replace aging assets, as well as
- accommodating new network operation requirements, including smarter grids. This involves



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- identifying new innovations and integration of current systems with older technologies. Practices
- during this asset renewal phase need to balance
- Customer costs
 - Reliability
 - Performance
 - Security
 - Capacity
 - Regional planning
 - Safety
 - Regulation
 - Environmental
 - Flexibility
 - Lifecycle optimization
 - Future changes and strategies
 - Sustainability

London Hydro utilizes robust practices to help optimize asset replacement strategies while considering future operating costs. Engineers keep the system malleable where possible as the future is full of uncertainty. This is important to ensure that investments are long term and that network integrity is maintained into future years.

Infrastructure spending has also been impacted by the City of London's revitalization of two downtown areas to make roads safer (Downtown Core and Dundas East Village) and increase capacity for development, as well as improving the health of the Thames River. The downtown areas were unique in that they were supplied by a mix of different voltages and distribution systems. Much of the infrastructure was over 60 years old and City Planners and Developers implemented a plan that further intensified the load in the downtown core areas. Accordingly, infrastructure spending increased to supply the downtown areas. Long-term capacity requirements and elimination of a significant reliability risk (single supply point) were also addressed.



- 1 Developer and city demand projects
- London Hydro is obligated to connect customers to the distribution system upon request. This includes residential developers as well as government agencies and road authorities. Standard connections are recovered through future revenues from customers, while unusual connection costs are paid by the customer at the time of connection. Since 2013, the split between demand
- and infrastructure projects has been
- 7 ➤ Demand 36%

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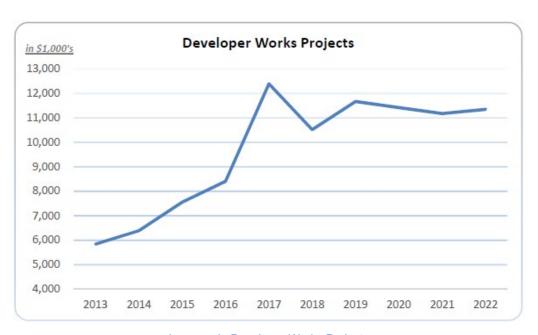
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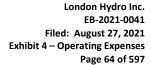
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- Infrastructure 64%
- During the period from 2013 to 2022, developer works projects have increased 94%. New home builds are on the rise as London becomes more attractive to home buyers moving out of the greater Toronto area due to inflated pricing. In fact, London is among the fastest-growing communities in Canada. Between 2001 and 2017, growth in the London region averaged just under 1%. Between 2018 and 2019, population grew by 2.3% (2017 to 2018 2.4%) which is a significant increase and resulting in record levels of new construction.



Increase in Developer Works Projects





- Although the London region has seen an increase in population growth, it is important to note that
- customer growth has remained constant in the range of 1% per annum. While the population in
- London has been increasing, so too has the increase in multi-residential connections. For
- example, the population of London's downtown core has increased 75% over 20 years. This is
- 5 primarily as a result of new high-rise residential towers which are reshaping London's skyline with
- some buildings including as many as 40 storeys.

Bus Rapid transit

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- 8 The City of London's Bus Rapid Transit ("BRT") projects are another significant change impacting
- 9 the Asset Management Department. The projects will add curbside bus-only lanes and
- transportation improvements to ease congestion and help the city grow. The primary goal of the
- BRT projects is to develop a more sustainable transportation system for London with significantly
- improved public transit services and improved safety and efficiency.
- In 2019, the City of London was approved to construct 10 transit projects between 2020 and 2026.
- 14 These projects involve the relocation of London Hydro infrastructure located on the road
- allowance. These relocations are initiated by the Road Authority (City of London) and are
- necessary to accommodate planned modifications to the roadway.

50% of the labour, vehicle, and contract costs from the Road Authority.

London Hydro must comply with these relocation requests in accordance with the Public Service 17 Works on Highways Act. The terms and conditions under which these relocations occur are 18 specified in the Act as enacted by the provincial government. The Act gives a Road Authority the 19 power to ensure that all operating corporations entitled to the use of the road allowance cooperate 20 with the Road Authority to execute any required modifications to the profile of the road allowance 21 in a timely manner. The Act states that an Operating Corporation (London Hydro Inc.) must modify 22 or relocate their plant on the road allowance to accommodate the Road Authority's improvements 23 or alterations within a specified time. The Act also outlines the mechanism for the apportionment 24 of costs for these required works. Typically, the Operating Corporation is permitted to recover 25



1 TS upgrade

- The City of London has developed a plan that will focus on growth in the downtown core and the
- corridor north to the Masonville area. Much of this growth is expected to relate to high density,
- 4 high-rise buildings downtown. London Hydro's infrastructure in the downtown core was
- 5 approaching end of life, and most routes were already congested making it difficult to add new
- 6 supply feeders.

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- 7 To alleviate this problem and to address Hydro One's end of life Nelson Transformer Station,
- 8 London Hydro entered into an agreement with Hydro One to replace the 13.8kV supply from
- 9 Nelson with 27.6kV supply. The higher voltage allows more load to be carried on each feeder
- (reducing the need for new feeder routes) and removes the final "island" of 13.8kV primary
- distribution. The capital contribution paid to Hydro One for the voltage change at the Nelson TS
- and the associated voltage conversion on the distribution system represents a sizable portion of
- capital spending to address aging assets and capacity.

Instead of simply replacing the assets at the Nelson TS with new components, the delivery voltage was changed from 13.8kV (which is unique to the downtown area) to 27.6kV (which is the distribution voltage used in the rest of London). While this voltage change required London Hydro to convert some of the assets ahead of schedule, having a common supply voltage across the entire City provides a more reliable supply (as the downtown can now be supplied by multiple supply points instead of one) and the additional capacity at 27.6kV provided by the new Nelson TS will support growth in areas beyond the downtown core. This defers investments that would otherwise be necessary to increase capacity at the other supply points in London. The Nelson TS 27.6kV upgrade was energized in 2018 and the last 13.8kV customer was converted to 27.6kV in 2021. Now that this major project is complete, the downtown core is being served by a more reliable supply and capacity will be available to meet anticipated load growth for many years to come.



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The Asset Management Team

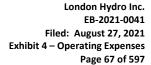
- 2 The Asset Management team comprises of five functional areas Engineering and Design,
- 3 Operations Engineering, GIS Maintenance, System Planning and Engineering Logistics.
- The Asset Management Program is responsible for the overall coordination of activities to modify,
- augment and renew the distribution system. This involves approving connection requests from
- 6 builders and developers, design for distribution system capital projects, system analysis and
- 7 planning and coordination and allocation of resources. The Asset Management team works
- 8 closely with the City of London and associations such as the Electrical Safety Association ("ESA")
- 9 to ensure compliance with applicable regulation and employee and public safety. This group is
 - also responsible for the management of the Outage Management System ("OMS") and
- Geographic Information System ("GIS").



Asset Management Program

Engineering and Design

- The Engineering and Design group is responsible for all aspects of distribution system design including overhead, underground, residential, commercial, industrial and downtown core network distribution systems. This work involves, but is not limited to
 - updating the Asset Management Plan ("AMP") and creating the annual capital budget
 - planning the work, including investigating options and selecting the best solution
 - designing the system according to specified standards, industry regulations and codes
 - estimating the cost and time required for project completion

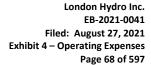




- issuing work packages
 - coordinating the work to be completed with London Hydro operations departments and third parties, including the City of London and developers
 - analyzing and evaluating the reliability of the distribution system and preparing reports on the condition of various distribution system components to support the AMP
 - aiding System Planning, Operations Engineering and Finance in the preparation of Distribution System Plan and other aspects of Ontario Energy Board Rate Applications
- The Engineering and Design group typically prepares over 200 project packages representing over \$35 million (gross) in capital investment each year.
 - As distribution construction projects enter their design phase, the design engineers and technologists work closely with other utilities, builders, government agencies and City planning staff. Community groups are also kept informed. All levels of management and staff are involved in the process related to energy planning and infrastructure development depending on impact and type of project. Load forecasts, alternatives, options, designs, pictures, and supporting justification are provided as required to support an open participation and consultation process.
 - To ensure the Asset Management Plan is targeting the assets most at risk of failure, London Hydro conducts analysis of each outage to determine if trends are developing with particular components. The Asset Management team then evaluates if remedial action continues to be effective. This analysis has allowed London Hydro to extend the life of some components (such as wood poles) and accelerated the replacement of others (such as porcelain insulators) that have become problematic.

Operations Engineering

The Operations Engineering group is responsible for providing engineering support to the Overhead Lines, Electrical Underground Systems, and Construction departments as well as the System Operating Centre. With the increase in FIT and Micro-FIT customers and constant innovation in materials, tools and methods, it is crucial that operating and engineering departments work cohesively in the completion of the various capital and maintenance projects





- and activities. London Hydro places the safety of its workers and the public above all else safety
- is the priority. In addition to valuing safety, London Hydro is committed to creating a workplace
- that builds a capacity for innovation and increased efficiencies by supporting operational
- 4 excellence and reliability for customers.
- 5 The Operations Engineering group is also responsible for the Materials Management Program
- ensuring that proper specifications, quantities and controls are in place for materials and tools
- 7 used in both capital and maintenance activities. The group also works closely with the Purchasing
- department, using a just in time approach, to ensure that materials are readily available.
- 9 London Hydro can only deliver safe and reliable services to the extent that its equipment allows.
- It is the role of the Operations Engineering group to ensure that every piece of equipment meets
- the highest standards for safety, and that each piece of equipment is the best choice. To perform
- this function, the team must understand all work being performed and the equipment required to
- do that job most effectively. In addition, this role is involved in working closely with manufacturers
- to adapt, design and even invent tools and equipment that safely deliver services to customers.

GIS Maintenance

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- The GIS team is responsible for keeping the Geographic Information System ("GIS") current and accurate and that all plans and designs are based on the most current information available to ensure the distribution system is operated safely. This work involves
 - all design related map/drawing update requests from Engineering, Operations, Planning and external consultants (e.g., underground drawings, feeder maps, operations drawings, electric drawings, civil drawings, operations drawings)
 - updating and maintaining GIS records from field as-built marked drawings
- responding to external requests for as-built infrastructure, (e.g., City of London, Union Gas, Rogers, Bell and contractors)
 - importing and maintaining City land base from the City of London
 - maintaining GIS graphics, non-graphics and model connectivity to ensure accurate record for operations (e.g., Outage Management System)



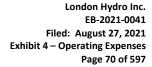
- developing, modifying and enhancing GIS functions to meet user and corporate requirements
 - provide training and assisting users with the GIS system and Computer-Aided Drafting and Design Tools ("CADD")
 - providing installed asset reports as requested
 - responding to all other GIS related requests

System Planning

London Hydro's System Planning group develops short, medium and long-term distribution system plans to ensure the electrical system meets the system operating standards and is optimized in terms of cost, performance and reliability. System Planning works with the IESO and Hydro One as part of the Regional Planning Process ("RPP"), the Integrated Regional Resource Plan ("IRRP"), and the Regional Infrastructure Plan ("RIP") to ensure there is adequate supply capacity (i.e. transformer stations or new feeders) when and where it is required to serve the growing energy needs of the City of London.

System Planning monitors and forecasts load growth to determine when and where new infrastructure is required. This area plans for new feeder builds and reconfigurations to optimize the system and performs short-circuit studies and protective device coordination studies so that unexpected failures have a localized impact. The group also determines optimal locations for feeder automation devices to improve reliability for customers by quickly isolating problems and restoring power. Further, this department develops plans to refurbish or upgrade parts of the electrical system that have reached, or are nearing, the end of their useful service life in a reliable and cost-effective manner. For example, the conversion programs of the 4kV and 13.8kV systems that are being upgraded to 27.6kV for greater efficiencies and overall savings.

Workload has been increasing in this area not only due to Regional Planning requirements, but also due to the increase in development, fault study requests, arc flash inquiries and a dramatic increase in the number of potential generators connecting to the system through Distributed Generation requests and connections. Many other planning activities undertaken, which can be considered more short-term and ongoing in nature, are driven by operational, developer or City





- of London plans. For instance, system plans are required to allow the City to complete their
- 2 upgrade work to ensure the continuity of electrical supply to customers while required electrical
- 3 system upgrades are completed in the area
- While some of the activities relate directly to capital projects, the majority is system-wide in nature
- and thus is charged to OM&A. Following is a list of tasks performed by System Planning that are
- 6 usually charge to OM&A

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- identifying and documenting system needs for new utility plans to be submitted and included in project register
- completing regional planning and Southwestern Ontario corridor activities with the Independent System Electricity Operator and Transmitter
- implementing system monitoring and switching automation strategies to be utilized throughout the utility
- executing system planning activities that permit proactive system design in alignment with business objectives to deliver service with high reliability and economic value while adhering to safety, codes, regulations and environmental conditions
- providing system planning guidelines for asset management, system capacity, new development and sustainment projects
- providing information on the selection of capital projects relating to the overall system plan
- providing technical support to Logistics Support, Engineering, Purchasing, Regulatory and Operations departments with regards to feasibility and economic studies, failure and corrective action investigation of material or equipment and development of work methods and standards
- participation in the Engineering budgeting proposals and assisting in the preparation of
 Ontario Energy Board Rate Applications, and third-party queries and requests
- In all activities such as those mentioned, System Planning looks for opportunities and synergies to upgrade the electrical system where required that would result in reliability improvements and cost savings.



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Engineering Logistics

- 2 Staff in the Engineering Logistics Department provides support services for Engineering and
- 3 Operations departments including
 - project management services
 - managing Fleet and Facilities departments
 - development and control of Engineering and Operations OM&A budget
 - maintaining accurate reporting on annual project deliverables
 - ensuring customer driven project timelines are met
 - monitoring and reacting to perceived risks
 - capital projects budget development
 - monitoring capital and operating spending variances
- system implementations
 - customer damage claims
 - improvements to customer service

Program Delivery Costs

The Asset Management Program OM&A expenditures are forecasted to be \$4,048,800 for the 2021 Bridge Year and \$4,209,300 for the proposed 2022 Test Year. The forecast for 2022 provides an increase over the 2021 Bridge Year of \$160,500 and \$247,663 over 2017 Actual amounts resulting in a CAGR of 1.2%.

Table 4-17: Asset Management Program Delivery Costs

Asset Management Program Delivery Costs											
			Annual Change					Total Change			
			2017 Actual	2018 Actual	2019 Actual	2020 Actual	2021 Bridge	2017 Actual to 2022 Test			
			to	to	to	to	to				
Nature of expenditure	2017 Actual	2022 Test	2018 Actual	2019 Actual	2020 Actual	2021 Bridge	2022 Test				
	\$	\$	\$	\$	\$	\$	\$	\$	CAGR		
Gross labour	4,880,757	5,720,900	331,000	(199,048)	290,699	193,892	223,600	840,143	3.2%		
Allocations to capital, billable	(1,469,139)	(2,237,700)	(193,295)	(189,917)	(352,468)	77,419	(110,300)	(768,561)	8.8%		
Net OM&A labour	3,411,618	3,483,200	137,705	(388,965)	(61,769)	271,311	113,300	71,582	0.4%		
Employee expenses	142,726	168,200	3,922	5,794	(46,380)	58,137	4,000	25,474	3.3%		
Contractor services	134,435	140,500	4,068	(44,980)	(19,837)	33,714	33,100	6,065	0.9%		
Materials and supplies	18,580	34,500	9,487	294	(15,510)	21,048	600	15,920	13.2%		
Vehicles and major equipment	21,363	28,900	(171)	(7,270)	20,868	(6,590)	700	7,537	6.2%		
Software and hardware	138,962	239,900	32,692	21,724	15,713	24,910	5,900	100,938	11.5%		
Corporate membership dues	72,874	97,300	(1,111)	(1,350)	13,628	10,859	2,400	24,426	6.0%		
Other	21,079	16,800	(10,267)	4,643	(2,665)	3,510	500	(4,279)	-4.4%		
Total \$	3,961,637	4,209,300	176,325	(410,110)	(95,952)	416,899	160,500	247,663	1.2%		



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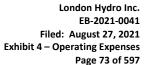
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Net OM&A labour

- 2 As mentioned in the Exhibit 4 Overview under Types of Overhead Costs, London Hydro does not
- 3 charge capital projects for indirect expenses incurred in the Engineering departments (the Asset
- 4 Management Program) as an overhead cost. Pursuant to International Financial Reporting
- 5 Standards ("IFRS") 16 Property, Plant and Equipment, only costs that are directly attributable to
- 6 bringing the asset to the location and condition necessary for it to be capable of operating in the
- 7 manner intended by management are capitalized.
- 8 The budgeted amount for the Asset Management Program net OM&A labour for the proposed
- 2022 Test Year is \$3,483,200, which represents an increase of \$71,582 over 2017 Actual results.
- Although gross available labour in this area has increased due to additional full-time employees
- being brought on staff, allocations to capital projects have increased as well. This increase in
- capital project work is resulting in a CAGR of 0.4% which is lower than expected annual wage
- escalations CAGR of 2.2% per year.

The increased volume in capital projects associated with infrastructure investments, demand and significant projects, like the Bus Rapid Transit and London's revitalization of its downtown core areas, have increased directly attributable engineering services allocated to capital projects. This has resulted in a lower CAGR when comparing the 2022 Test Year to 2017 Actuals. In addition, allocations to capital were higher during the fiscal 2020 COVID 19 pandemic as Engineers spent less time on pre-construction work which is operating in nature, and more time dedicated to existing capital projects.

Resources deployed and charged to OM&A expenditures are more high level in nature and dependent on varying requirements. Engineering costs allocated to OM&A are not 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 as required under IFRS 16. For example, reliability analysis, system planning, aging infrastructure research, service implementations and responding to new service or renewable generation connection enquiries. Studies such as system and material fault analysis and assessment of asset conditions are operating expenses. Similarly, analysis of system performance from a risk perspective are an operating expense under IFRS since the work is done prior to construction of a specific project is officially commenced.





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New resources have been added to London Hydro's staff complement to address the increased

volume of projects including those driven by infrastructure renewal, City of London and customer

requirements and system capacity. These additional resources assist with the increased need to

analyze data properly to determine which capital projects are required, which material or

equipment to install, or if spending can be deferred.

6 London Hydro's permanent staff complement is determined using a systematic, thorough and

7 skill-based needs assessment and validation of current and forecasted requirements in support

of the fulfillment of strategic business objectives, including safe and excellent customer service

delivery. A long-term and strategic focus on the number of full-time equivalents determines the

overall structure of the Asset Management Plan and the complement of resources available to

execute the Asset Sustainment Plan in the near and long term.

Succession planning also plays a role in hiring timelines. In order to prepare for the loss in

knowledge and expertise, London Hydro has initiated internal studies to determine the risks that

could result from loss of staff and if these risks can be mitigated by shifting tasks to other program

areas or contracting them out. Hiring is then budgeted accordingly in advance to ensure a smooth

transition and minimal impact on customers.

Fluctuations in gross labour are the result of delays in replacing employee departures as well as employees being absent because of maternity and paternity leaves and illness. Leaves due to maternity, paternity and illness were clearly a setback for the Asset Management team, as they do in fact impact productivity and workloads. However, replacements are rarely sought to backfill these temporary vacancies due to the significant onboarding and training required before a new employee becomes fully productive. Absences due to illness are even more difficult because it is hard to know whether, and when, the employee will be able to return to work. Delays in replacing employees who leave London Hydro occur despite focused and lengthy recruitment efforts. It takes a significant amount of time to find suitable replacements given the level of skills required to work in the Asset Management environment.

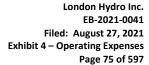


Employee expenses

- 2 Employee expense includes items such as employee development, professional Engineer
- membership fees and safety supplies. The most significant change in this category is employee
- 4 development.
- 5 The Asset Management Program has 39 FTE's, many of which have been employed with London
- 6 Hydro for less than 5 years. As younger Technologists and Engineers are hired, training and
- 7 development costs increase. Further, training costs in this area escalate at a more rapid pace as
- 8 development is more compressed to permit quicker onboarding of new staff.
- 9 Employee development expenditures include industry conferences, seminars and courses as well
- as training or development required to maintain certain certifications. Events attended can range
- from development of new employees to learning and collaborating on new and changing
- regulations, best practices, innovations and alternatives available for managing capital assets as
- well as aging infrastructure.
- Innovations including GIS, the OMS and the Mobile Workforce and new regulation such as
- regional planning, the Distribution System Plan and Smart Grid means that London Hydro Asset
- Management Program staff need ongoing training and development to keep up to date.

17 Contractor services

- Contractor services include costs associated with ongoing maintenance and enhancements to
- Asset Management information systems, maintenance and updating of the Distribution System
- 20 Plan and Engineering outsourcing and consulting.
- 21 Contractors are used to fix all issues, bugs and deficiencies and to implement efficiency related
- 22 enhancements throughout the year covering a wide range of applications that are used by
- engineering and operations, including mobile inspection tools (vegetation, asset inspections),
- 24 CYME integration, SPIDACALC, Joint Use, OMS and all GIS applications.
- London Hydro is continually enhancing its GIS system in terms of technology to provide
- efficiencies and better information for day-to-day operations. Third-party professional services are
- engaged to develop, test and deploy incremental enhancements. For example, modifications to





- the mobile field inspection tool required to capture additional asset attributes and to deliver new
- features within the GIS set of applications (GIS Designer, GIS Networks Mobile, Joint-Use Portal,
- 3 Mobile Inspection tools).
- 4 Third-party services associated with the Distribution System Plan are also included in this
- 5 spending category with respect to periodic updating and annual maintenance to aid in monitoring,
- 6 controlling and reporting on DSP initiatives.
- 7 This line item also includes the cost of hiring consultants or contractors for short duration or single
- studies or projects when the expertise or resources are not available in-house. An example of this
- 9 would be hiring Civil Engineering consultants to perform a structural analysis. London Hydro does
- not have Civil Engineering expertise in-house as outsourcing this type of work is more
- economical. Contractors are also hired for studies and forensic analysis to augment strategic
- decision making. These studies provide information on the infrastructure, reliability, technology,
- power quality, customer preferences, utility benchmarking, and safety, among others.
- Due to the available resource mix currently on staff as well as the heavier involvement of the
- Asset Management department in capital activities, the need for funding in this area for the
- proposed 2022 Test Year has increased slightly in comparison to 2017 Actual results.

Materials and supplies

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- Materials and supplies include expenses for printing supplies, external printing services, general
- office supplies, small tools and subscriptions to various Engineering and/or utility-related
- organizations such as the IEEE and CSA.
- 21 Cost increases in 2018 are largely due to a subscription that commenced that year for Institute of
- 22 Electrical and Electronics Engineers ("IEEE") Enterprise which provides instant access to articles
- 23 and papers from IEEE magazines, journals and conference proceedings.
- As electrical distribution systems become increasingly complex with more automated switches
- and to some extent, artificial intelligence or algorithms, it is essential that utility engineers
- collaborate on the best practices to maintain and even increase reliability. Subscriptions to the
- IEEE library allows engineers to research 1,000's of articles written by scientists and utility



- engineers both local and from around the world. This knowledge can then be applied to the utility
- system without the need for experimentation, trial and error or consultant studies. The
- subscription to the Canadian Standards Association ("CSA") document site allows utility
- 4 engineers to stay current on equipment electrical safety issues as well as collaboration with other
- 5 Canadian utilities.

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Vehicles and major equipment

- 7 Vehicles and major equipment costs relate to the use of London Hydro fleet vehicles for site visits.
- 8 Costs in this area fluctuate dependent upon usage and the hourly rate applied. Hourly rates
- 9 charged alter based on costs in the Fleet department, which have increased since 2017 at a
- 10 CAGR of 4.7%. Cost increases are primarily due to changes in staffing requirements, repairs and
- maintenance and increased cloud service costs. Cloud services have increased because of the
- introduction of automation in the Fleet department commencing in 2019 in connection with
- maintenance management, GPS tracking, idling control and the electronic collection of data
- associated with hours of service. Further details regarding vehicle costs can be found in the Fleet
- Services Program discussion starting on page 249.

Computer software and hardware

- 17 Cost increases in this area pertain to upgrades and additional user licensing for London Hydro's
- GIS system. Since 2017 London Hydro has continually expanded the use of GIS for online real
- time data capture in the field of Underground, Overhead and Substation civil structures and
- 20 electrical equipment. This electronic capture allows for rapid response time when unsafe or
- environmental hazards are discovered, by providing the information necessary for quicker
- decision making regarding the appropriate actions required to rectify the situation.
- London Hydro's GIS system tracks the location of each distribution system asset, as well the
- asset's attributes such as the age of the asset, type, size, easements, equipment inspections,
- testing and connectivity. This data is queried and extracted on a regular basis as many
- departments rely on this information for both operating and capital design requirements. The GIS
- 27 system tracks inspections and upcoming due dates and is the internal data source of information
 - for asset condition assessments and the development of the Asset Management Plan. Capturing



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- inspection data online also provides for more points and volume leading to better trend analysis
- data that is used in determining future failure patterns or capital project needs.
- The GIS digital solution enables distributed generation, distribution system planning, engineering
- design, International Financial Reporting Standards, asset management including vegetation
- 5 management, mobile audits and inspections, as well as the management of third-party telecom
- 6 joint-use attachments. Further, critical information can be shared with external professionals,
- 7 consultants, the City of London, regulators and customers.

Corporate membership dues

- Corporate membership dues have increased because of London Hydro's new membership with The Centre for Energy Advancement through Technological Innovation ("CEATI"). This new membership provides the Asset Management team with access to technology solutions and collaboration along with numerous published reports related to the power grid. CEATI provides electrical utilities with a vehicle for sharing experiences and addressing issues pertinent to their day-to-day operations, maintenance and capital planning, including
 - Network and information sharing
 - Industry benchmarking
 - Collaborative technical projects
 - Smart grid
 - Vegetation management
- Infrastructure protection and security
 - Underground cable
 - Overhead line design issues
- Power quality
 - Protection and control
 - Substation equipment
- Grounding and lightning
 - System planning and operations
- Advanced technologies



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- In addition to facilitating information exchange through programs and industry conferences, being
- a member of CEATI allows London Hydro to leverage a large network of technology suppliers
- and participate in projects and studies at a reduced cost by sharing funding with other
- organizations reducing the cost of engaging consultants to conduct these studies.



4.3.2 OPERATIONS AND MAINTENANCE

2 Overview

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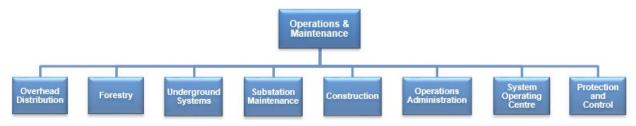
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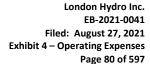
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- The Operations and Maintenance group consists of eight functional areas Overhead Distribution
- 4 (Lines), Forestry, Underground Systems, Substation Maintenance, Construction, Operations
- 5 Administration, System Operating Centre and Protection and Control. This group is responsible
- for the completion of capital infrastructure projects and the operations, maintenance and repair of
- the distribution system assets including automated devices.



Operations and Maintenance Program

- The Operations and Maintenance group is a key component at London Hydro in that this area is responsible for minimizing reactive maintenance by following an effective and proactive planned maintenance program. Appropriate levels of maintenance help to
- ✓ reduce safety risks
 - √ increase network reliability
- 14 ✓ increase energy efficiency
- √ minimize reactive (emergency) maintenance
- 16 ✓ reduce downtime
- 17 ✓ extend the useful service life of assets
- decrease total cost of ownership √





Preventative maintenance is planned activities including tree trimming, network components repairs and replacements, load-break switches, transformers and switchgear maintenance, inspection of underground vaults and maintenance holes, and Tan/Delta cable testing. Predictive maintenance entails testing and performance analysis on distribution assets to assess their condition and to forecast potential for premature failure. These activities minimize unscheduled downtime, which reduces the overall cost and ensures a reliable, smooth running power distribution infrastructure.

The Operations and Maintenance Program follows the Geographic Information System ("GIS") scheduled maintenance program that was developed by Engineering and Planning departments based on the Electrical Safety Authority and OEB Distribution System Code requirements. The GIS is utilized to monitor and control all inspection activities, including timelines and infrastructures inspected, and to ensure deficiencies resolved are recorded. The GIS inspection program has oversight by the Asset Management team. Maintenance activities are performed on an established cycle to reduce the number of unplanned outages by identifying and correcting deficiencies before a failure occurs. By reducing unplanned outages and maximizing equipment lifespan, London Hydro can provide more reliable service to its customers at the lowest cost.

London Hydro uses a combination of defined inspection schedules and defined maintenance activities within its Asset Management Plan to complete inspection requirements and then updates database information regarding the condition of distribution assets. At a minimum, one third of each major asset category is either inspected or has maintenance performed each year. Where equipment is prone to more frequent failure, such as air-insulated switchgear, equipment is inspected on an annual basis. During inspections, minor maintenance and critical items that can be addressed immediately are resolved and reported. Major maintenance that requires more complex coordination is scheduled for completion within the year or planned for future years as defined by the Asset Management Plan.

This group is also responsible for processes surrounding business continuity during a crisis, including overseeing and administering the framework necessary to ensure that customers are supplied with safe and reliable power amid a significant event. The business continuity framework involves identifying potential threats, maintaining emergency preparedness and development of systems essential for prevention and recovery to enable ongoing operations.



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- London Hydro uses metrics and performance measures to help it understand the productivity of its operation and maintenance programs such as,
 - studies of equipment failures to determine if current maintenance is sufficient, whether
 a new maintenance program is required or whether a capital project should be
 implemented to replace the equipment
 - inspection types and quantities are monitored monthly to ensure internal and external requirements are met
 - detailed outage analysis by Systems Planning including review of the annual number to failures by equipment type and the overall effect on SADI and SAFI. This helps to determine whether a certain type, manufacturer or model of equipment needs to have a maintenance program created or altered or if a capital program is required to change the equipment out
- London Hydro uses management tools to determine ways to perform more maintenance at the lowest cost such as,
 - replacement of the fixed year trimming cycles with a hybrid zone model that has longer durations between cycles for lower risk areas (i.e., lower outages, tree densities and distribution circuit densities)
 - optimizing allocation of resources to the areas most in need
 - enhanced reporting on trimming progress and completeness to ensure alignment with expectations
 - reports, tools and apps which have been developed in the Company's GIS system to help field crews determine age, failure statistics, technology type, and loading to enable maintenance and/or replacement decisions
 - replacement of paper inspections and tracking processes with a digital platform that leverages the GIS system to reduce gaps and avoid missing data



Overhead Distribution

The Overhead Distribution (Lines) department is responsible for the construction and maintenance involved in ensuring that customers' new overhead services are connected, repaired, replaced or maintained in a prompt and efficient manner and that overhead system maintenance is completed as scheduled. The Manager of Overhead Lines is responsible for the overall management of line crews and contractors who execute the design plans of the Engineering and Design department for London Hydro's overhead distribution system. The work of the Overhead Distribution department is critical for minimizing the need for reactive and emergency work through an effective and proactive planned maintenance program (including predictive and preventative actions), which minimizes customer outages and avoids potential costly repairs or replacements should equipment fail catastrophically. When reactive and emergency work is required, it is often performed outside of normal working hours at considerable cost to the customers.

The Lines department follows the GIS maintenance program described above to monitor and track equipment and infrastructure inspection activities. These inspections are complemented by using contractor services to regularly conduct tests such as pole testing and leverages tools such as infrared scans to identify potential problems.



Line Pole Transformer Replacement



Overhead Line Pole Replacement



Forestry

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A mature tree canopy has become well established during the past 100 years that the City of London embraces. In fact, the City of London is known as 'The Forest City' due to its heavily treed areas. Tree trimming is vital to maintaining a secure, safe and reliable overhead electrical system. Further, with the increasing frequency of major weather events, proper tree trimming is required to reduce or eliminate damage to the overhead grid from tree contacts. To maintain appropriate tree clearances and compliance with the Canadian Standards Association ("CSA") and Electrical Safety Authority ("ESA"), London Hydro uses a combination of internal resources and contractors.



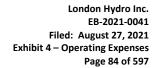




Brush Chipping

Underground Systems

Due to the complexities of the downtown core network system and the size of the commercial and residential underground supply systems in London, the Company has a separate functional area for underground systems – the Underground Systems department ("EUS"). Personnel in this department are trained in and responsible for all aspects of the unique network electrical supply system, including Paper Insulated Lead Covered ("PILC") conductors, ERP conductors, live secondary conductors, the extensive maintenance hole and duct system (which is unique to London and a few other Ontario utilities) as well as all aspects of commercial and resident underground systems.





The EUS department is responsible for the construction and maintenance required to ensure that customers' underground services are connected, repaired or replaced in a prompt and efficient manner and that system maintenance is completed as scheduled. The EUS Supervisor is responsible for the overall management of underground crews and contractors who execute the design plans of the Engineering and Design department for London Hydro's underground distribution system.

The EUS department also uses the GIS maintenance program described earlier for all inspection activities. The EUS department leverages the use of various technologies to increase the effectiveness of inspections performed. These technologies provide a proactive approach to identifying an asset at risk of failure. This includes the use of infrared scanners to detect hot spots and the use of ultrasonic detection equipment to measure corona discharge. Both hot spots and corona discharge are indicators of future equipment failure.



Downtown Network Maintenance



Commercial Services Work



Network Secondary Cable Installation

Substation Maintenance

London Hydro's Substation Maintenance department is responsible for all municipal substation maintenance and underground cable testing activities, including testing and performance analysis to assess the condition of the asset and predict the possibility of a premature failure. This department maintains 58 locations, including 36 locations owned by London Hydro along with other customer owned locations that house London Hydro switching equipment.



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As London Hydro continues to phase out the 13.8kV primary supply and 4kV systems through extensive capital projects, the reliability of existing distribution substations must be sustained. All the cables originating from the old 13.8kV Nelson TS have been removed. The distribution system currently includes 64 main feeder cables. There are 36 substations in total where transformation steps down in voltage. The active 4kV distribution substations range in age from 23 to 69 years old.

Since replacement of all substations would not be prudent, maintenance on the older units has increased as they continue to age. Other activities performed by the Substation Maintenance department include Tan-Delta cable condition testing, transformer oil analysis (power transformers), partial discharge testing on metal-clad switchgear, vibro-acoustic testing on power transformers and internal resistance testing on substation storage battery sets. This department is also responsible for all switchgear, transformers and switching operations on the downtown core 27.6kV systems and the legacy 13.8kV network system. In addition, this team is responsible for the repair of transformers, reclosers and automated switchgear for both the overhead and underground systems.



27.6 Substation Switchgear



Network Transformer



Outdoor Metal-clad Substation



Construction

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- 2 The Construction department is responsible for the installation, maintenance and repair of all civil
- works (such as ducts, transformer bases, maintenance holes) in residential and commercial
- 4 installations as well as in the downtown core. This department also installs the cable and
- 5 transformers required for residential and commercial servicing. These installations are completed
- 6 with a balance of internal staff and third-party contractors.
- 7 The Construction department has a crew dedicated to providing underground secondary service
- 8 cable repairs. As secondary cables age this crew has become increasingly busy and London
- 9 Hydro has added third-party contractor resources to keep up with demand. This department also
- has a crew dedicated to the installation of new home services. With the substantial increase in
- demand for new residential construction in the past three years, contracted resources have been
- added to this function as well. The Construction department also provides 24/7 emergency
- assistance to the EUS Department as required, to repair defective or damaged cables,
- transformers and switchgear.



Residential Transformer Installation



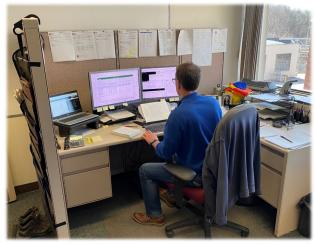
New Townhouse Block



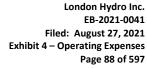
Operations Administration

The Operations Administration department is responsible for the issuing of service orders which are based on a predetermined schedule and through coordination with other departments such as Overhead Line, Underground Systems and Electric Metering. The department also processes capital work orders, and associated locate requirements and Permit of Authorized Works ("PAW's") applications for Engineering and Design and Operations departments. This department also provides administration for all easement and liaison requests, developer correspondence, the Builder's Portal and the as-built drawing process between Operations departments and the GIS departments. This area also provides general administrative services for all Engineering and Operations departments and collects, reviews and organizes OEB-required reporting data.

This team also provides support for the System Operations Centre Dispatch staff in the administration and coordination of the Mobile Workforce Management ("MWFM") system and the Outage Management System ("OMS"). They also work with receiving inbound calls from contractors, customers and London Hydro staff and the dispatching of related troubled calls to Operations crews during normal working hours (and after hours during large scale outages).



Operations and Administration





System Operating Centre

The System Operating Centre team is responsible for the monitoring, control and ongoing management of the distribution network with the objective of maintaining a safe and reliable supply of service for customers. This department oversees the configuration of the grid through defined switching operations. This area is also responsible for receiving inbound calls from contractors, customers and London Hydro employees and dispatching related troubled calls to Operations crews. The System Operating Centre handles a variety of customer requests, examples include service upgrades, disconnects, layouts, panel changes, repairs, meter installs, meter removals, demolitions, trenching and new services. Personnel issue required service orders based on a predetermined schedule and through coordination with other departments such as Overhead Line, Underground Systems and Electric Metering. Further, this area administers Feed-in-Tariff ("FIT") and Micro-FIT account set-up and associated correspondence with customers and the IESO.



System Operating Centre - Dispatch

Operators in the System Operating Centre monitor the distribution system 24 hours per day using the Supervisory Control and Data Acquisition ("SCADA") system and Outage Management System.

The SCADA system is employed to monitor and cache real-time data from the London Hydro network and relay that information to Systems Operators for action. System monitoring enhances customer service, increases utilization efficiency, improves power quality and reduces power losses. By using SCADA London Hydro is able to act in a more expedient manner in the event of an outage to minimize the disruption to customers. A reliable SCADA system is required to monitor and control the distribution system efficiently. SCADA projects are undertaken annually





- to enhance components of the system that are either technically obsolete or inefficient to maintain.
- 2 Specifically, these projects increase the reliability of remote terminal units ("RTU's"), modernize
- 3 communication protocols and media, secure data against cyber threats and develop system
- intelligence tools that enable automation.





System Operating Centre - Operators

The System Operating Centre team operates the OMS to enhance customer service by providing increased visibility and response to system outages. The OMS system also assists the System Operator by predicting the most probable source of an outage using the data provided. The OMS system provides the System Operating Centre with a near real time view of all electrical circuits without power, in addition to interacting with the Interactive Voice Response ("IVR") phone system.

London Hydro has made significant progress in advancing the reliability of the OMS through algorithm development and integration with several systems such as the Company's Advanced Metering Infrastructure ("AMI"), GIS, SCADA, MWFM and notification services. Further, London Hydro has developed a digital 27kV wall map for the System Operating Centre that provides georeferenced grid analysis and real-time responsiveness to outages, while intelligently filtering last gasp meter messages. Notification services provide seamless processing and dissemination of context-based outage messages to customers. Integration with systems such as the GIS and SCADA provides for electrical mapping data which greatly improves customer service during outages.



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Protection and Control

- The Protection and Control department is responsible for design, testing and implementation of the protection and control systems which are used in London Hydro substations, automated devices and sensors. This department also addresses all communications (interconnections to SCADA), cyber security, maintenance and repairs associated with these devices. Personnel conduct testing and performance analyses to assess the condition of the automated control asset and predict the possibility of a premature failure for any electronically controlled or operated switchgear across the entire electrical system.
 - As more intelligent devices are deployed, London Hydro Operators are able to gather more real-time information through the SCADA system, which is then leveraged to perform more remotely controlled switching operations without the need to dispatch crews. By decreasing the number of instances a crew needs to be dispatched; London Hydro has been able to reduce the cost of restoring power for customers. The reliability and security of the SCADA and OMS systems are crucial to the safe and efficient operation of the distribution grid.



Automated Switch Controller



Automated Switch



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Program Delivery Costs

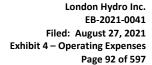
- The Operations and Maintenance Program OM&A expenditures are forecasted to be \$11,371,700
- for the 2021 Bridge Year and \$11,765,600 for the proposed 2022 Test Year. The forecast for
- 4 2022 provides an increase over the 2021 Bridge Year of \$393,900 and \$1,566,425 over 2017
- 5 Actual amounts resulting in a CAGR of 2.9%.

Table 4-18: Operations and Maintenance Program Delivery Costs

Operations and Maintenance Program Delivery Costs										
			Annual Change					Total Change		
			2017 Actual	2018 Actual	2019 Actual	2020 Actual	2021 Bridge	2017 Actual		
			to	to	to	to	to	to		
Nature of expenditure	2017 Actual	2022 Test	2018 Actual	2019 Actual	2020 Actual	2021 Bridge	2022 Test	2022 Test		
	\$	\$	\$	\$	\$	\$	\$	\$	CAGR	
Gross labour	13,378,585	16,159,100	829,422	(57,124)	433,567	1,095,751	478,900	2,780,515	3.8%	
Allocations to capital, billable	(6,351,529)	(8,378,900)	(467,245)	43,135	(10,217)	(1,412,644)	(180,400)	(2,027,371)	5.7%	
Net OM&A labour	7,027,057	7,780,200	362,177	(13,990)	423,350	(316,894)	298,500	753,143	2.1%	
Employee expenses	473,528	539,800	(36,126)	(1,367)	(7,052)	97,517	13,300	66,272	2.7%	
Materials and supplies	798,446	806,700	(61,431)	6,430	(33,141)	76,696	19,700	8,254	0.2%	
Underground cable services	267,546	442,500	249,609	(32,265)	49,187	(102,377)	10,800	174,954	10.6%	
Overhead line services	108,185	142,600	134,986	(107,231)	(20,454)	23,514	3,600	34,415	5.7%	
Tree trimming services	145,954	307,500	112,625	73,563	2,799	(34,941)	7,500	161,546	16.1%	
Substation maintenance services	46,379	56,400	(14,729)	6,102	6,927	10,320	1,400	10,021	4.0%	
Contractor services	70,644	89,200	7,747	(4,959)	(7,526)	21,795	1,500	18,556	4.8%	
Pole and property leasing	75,488	141,100	1,853	84,562	(39,301)	16,498	2,000	65,612	13.3%	
Vehicles and major equipment	791,796	971,300	63,544	(12,716)	145,563	(40,687)	23,800	179,504	4.2%	
Software and hardware	242,485	334,400	23,646	9,445	36,600	14,124	8,100	91,915	6.6%	
Other	151,666	153,900	(2,325)	(6,856)	(13,846)	21,561	3,700	2,234	0.3%	
Total \$	10,199,175	11,765,600	841,575	716	543,107	(212,873)	393,900	1,566,425	2.9%	

Net OM&A labour

- 8 The budgeted amount for the Operations and Maintenance Program net OM&A labour for the
 - proposed 2022 Test Year is \$7,780,200, which represents an increase of \$753,143 over 2017
- Actual results. Increases in capital project work is resulting in a CAGR of 2.1% which is slightly
- lower than expected annual wage escalations CAGR of 2.2% per year.
- Gross available labour in this area has increased due to additional full-time employees being
- brought on staff; however, allocations to capital projects have increased as well. Labour
- allocations to capital have increased because of the increased volume of capital projects, which
- has been rising steadily with city development and as more assets approach (and often exceed)
- their expected useful lives.





Fluctuations and vacancies in gross available labour 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 the most part, where budgeted gross FTE's are vacant, the impact has little bearing on net OM&A expenditures. 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, London Hydro would hire an external contractor for the capital work rather than using internal resources.

The Company adjusts the balance between internal and external resourcing depending on costs, expertise, seasonal work, volume fluctuations and the availability of internal resources. London Hydro's preference is to use internal resources for the majority of operations and maintenance work. Conversely, the Company's preference is to use external contractors for the majority of capital work. Engaging contractors for capital projects allows for flexibility as the amount of capital projects can fluctuate significantly. Utilizing internal resources for the majority of operations and maintenance activities allows London Hydro to retain an appropriate level of trained internal staff.

Internal resources are utilized for capital projects where appropriate which helps provide the Operations and Maintenance Program with qualified resources to respond to outage emergencies, while at the same time developing and maintaining the workforce needed to sustain a safe and reliable infrastructure for customers into the future.

London Hydro, like many of its peers, is struggling to attract and retain skilled trades. This challenge, which is faced throughout the electricity industry, is compounded by the fact that many of these trades require extensive training. The fallout of aging infrastructure, coupled with rapid changes in technology, is a competition for resources in an era with a significant number of retirements over a short period of time.

The Operations and Maintenance Program employs 115 full-time staff, 25% of which is currently, or will be, eligible for retirement by 2027. London Hydro is working continuously to effectively and proactively monitor the demographic profile of its Operations and Maintenance Program workforce to ensure that the high-volume turnover that presently faces Ontario's electrical industry



is being handled properly. The Company's approach to managing the replacement of retiring employees optimizes productivity and engagement. In addition, this streamlined approach provides employees with confidence by preventing distress associated with dramatic swings in staffing, and ensures the maintenance and development of institutional knowledge, processes and procedures.

Resources have also been increased in the System Operating Centre. Since 2017, three Engineering positions and one System Operator position have been added. The added Engineering positions were brought into the SOC 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.

The additional System Operator position was added to provide increased support in the SOC in light of the rise in both capital and maintenance activities in recent years and to ensure compliance with the Utility Work Protection Code ("UWPC"). This position is also key in the planning of the required outages ensuring customers are notified, outage guidelines are followed and work can be done within the shortest outage time possible. Further, the SOC has seen a number of retirements in recent years and anticipates additional retirements within the next 5 years. Operators at London Hydro are required to complete a 4-year training program before they are deemed to be a 'qualified operator' and finding experienced operators in the electricity industry has been very challenging. This new headcount not only supports the SOC due to the increase in work volume, but also allows for ample opportunity for new hires to become qualified to backfill vacancies due to retirements.



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Employee expenses

2 This spending category includes employer-provided employee Personal Protective Equipment

3 ("PPE"), such as arc flash and high visibility clothing, safety boots, fall arrest equipment and other

4 job-related personal safety equipment and supplies. Trade and Association memberships plus

tuition and course materials for apprentice training, and continuing education for experienced

staff, are also included in this section. These training-related costs fluctuate based on the number

7 of apprentices and established annual staff training cycles.

8 The Operations and Maintenance Program has 11 learners and apprentices on staff. Since a

9 majority of the trades in this area require a 3 to 5-year apprenticeship (a combination of in-class

instruction and job experience) before candidates are deemed qualified, it is necessary to hire

prior to anticipated retirements, placing increased cost pressures on training and development

12 costs.

In trade-intensive departments, where apprenticeships and learning curves tend to be lengthier,

London Hydro continues to implement a balanced, long-term planning approach that delivers a

relatively consistent and optimally-utilized staff complement for the fulfilment of the annual

business plan while also ensuring appropriate apprentice-to-journeyperson ratios. It is essential

that there always be a sufficient number of journeypersons on a work site to provide adequate

direction and training for the apprentices. This is necessary in order to ensure the safety of all the

workers.

Underground cable services

Services in this category relate to contractors and equipment required as part of maintaining the

energized components of the underground electrical system for commercial and residential

customers and in the downtown core. As with most Ontario distributors, many of London Hydro's

assets are approaching end of life. As direct-buried, residential primary and secondary cables

age, London Hydro has noticed a dramatic increase in cable faults.

When these faults occur in a joint trench, hand digging has been shown to damage adjacent

cables. In order to mitigate this problem, any cable faults in joint cable or utility trenches are now

typically excavated with a vacuum truck. This method speeds up the fault repair process, thus



restoring the customers' electrical service faster, while avoiding accidental damage to other customers' or utilities' cables.

It should be noted that in 2014, the design standard changed so that residential secondary cables are now housed in ducts; however, over 5,100 km of direct buried secondary service cable remains in the system, which requires the vacuum truck excavation method for repairs when the cable fails. Further, there is approximately 1,200 km of direct buried primary cable in the system, and when faults occur and emergency repairs are required (such as for radial feed customers), the vacuum excavation method is used to speed up the excavation and avoid damage to adjacent cables.

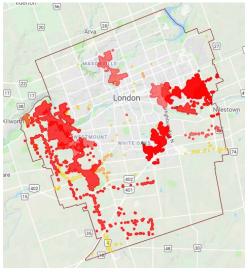
London Hydro's downtown core used PILC cable to supply primary customers via a network of maintenance holes and vaults containing cable, switchgear and transformers. With PILC cable installations splicing and terminations are done with the use of hot lead processes. Also, due to the location of most maintenance holes in the roadways, other contaminants such as motor oils, gas and other vehicle fluids enter through the lids. The City of London Waste Discharge By-Law - WM-16 will not permit any maintenance hole or vault dewatering into storm sewers if contamination is suspected; therefore, discharge filter or vacuum cleaning is mandated so the effluent is disposed of properly. Crews use dewatering filter socks when applicable, however for excessive contamination a vacuum truck is used.

In 2008, London Hydro researched and installed an alternative to PILC cable, called Ethylene Propylene Rubber ("EPR") cable, in an attempt to not only eliminate the use of lead covered cable, but also the need for hot lead work associated with splicing and terminating of the PILC cables. Engineering studies have shown that switching to an EPR insulated cable would permit the use of polymer splicing and elbow termination kits without jeopardizing the electrical characteristics required to maintain the reliability London Hydro customers have come to expect. Given that it would be very expensive to replace all the PILC cable in the downtown core system, a focused approach was initiated that involves the targeted replacement of PILC with EPR in combination with existing projects.



Overhead line services

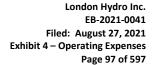
The impact of climate change is being experienced in the City of London by increased storm activities and heat. Wind and rainstorms occur more often and are more intense. Hazardous conditions can trigger system protection devices to interrupt power flows. In addition, higher temperatures result in higher demand that can reduce operating flexibility as capacity limits of overhead lines are reached. Intense rainfall can cause physical damage due to flooding and high winds can result in branches and trees falling onto power lines causing outages and structural damage.



Windstorm

When a storm occurs (for example: wind, snow, ice, lightning, heat, rain) minor infrastructure damage such as blown fuses or broken switches can occur. In extreme cases, poles are broken, overhead wires fall to the ground and transformers are knocked off poles.

A fuse will blow when a tree branch comes into contact with an energized overhead wire isolating the flow of current causing the power to go out. Normally the tree branch is located and removed from the overhead wire. The fuse is then replaced, and the fuse switch is closed restoring power. Occasionally older switches will break and need to be changed before the new fuse can be installed. These types of outages are generally shorter in nature with lower costs. However, during a storm event there can be multiple fuses damaged and needing repair.





When extreme weather events occur damages are more significant, outages are longer in duration and repair costs are higher. For example, during one such storm winds caused five poles to break, which brought down the overhead wires and transformers. Repairs in these circumstances are longer in duration and require more materials (poles, insulators, switches, overhead wire, transformers, etc.) resulting in higher costs. If a transformer leaks oil when it falls to the ground, the environmental impact can be severe and the associated clean-up costs can be significant.

A report commissioned by the United Nations Office for Disaster Risk Reduction in the fall of 2018 indicates that affected countries reported direct losses of \$2.9 trillion as a result of the impact of disasters between 1998 and 2017. Losses from extreme weather events rose by 151% in comparison to the previous two decades. London Hydro continues to work on hardening the utility infrastructure to reduce the impact of extreme weather conditions. System resilience has become an important objective when designing capital for construction and planning for maintenance work. A resilient infrastructure allows for reduced disruption following a weather-related event and means that operations can bounce back more quickly and efficiently. During past major events, London Hydro observed the benefit of policies in place while identifying and responding to outages, including enhancements to the Annual Emergency Procedures Plan, the OMS and agreements with private contractors.

London Hydro's Emergency Procedures Plan training and mock-ups are performed annually. The purpose of the Emergency Procedures Plan is to define the roles and responsibilities of London Hydro personnel in the event of extensive damage to the electrical distribution system. Further, the Company performs post event analysis following each Major Event in order to identify points of strength and areas for improvement. London Hydro has realized the benefit of its effective damage assessment process leading to a more efficient use of available crews. London Hydro's Planning Department works closely with the Overhead and Engineering departments to analyse each outage and then actions are taken to reduce or prevent similar outages from occurring.

London Hydro's Asset Management Plan also addresses system hardening by moving fully depreciated rear yard overhead systems to a front yard underground system, or a front yard underground primary and rear yard overhead secondary system. London Hydro is also actively



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- installing more reclosers which allow sectionalizing of the system to reduce the number of
- 2 customers that experience a particular outage event.
- Increases in overhead line services during 2018 were mainly caused by a series of severe and
- 4 unique weather events in the late winter and early spring. The Insurance Bureau of Canada
- 5 Catastrophe Indices and Quantification lists the following significant storms in 2018,
- January Winter storm damage in Toronto, London and southwestern Ontario of nearly
 \$10 million
 - February Water and winter storm damage in southern Ontario of over \$40 million
 - Early April Wind and rain storm damage in southern Ontario topping \$79 million
 - Mid-April Winter storm and ice storm in Toronto and southwestern Ontario of over \$187 million
 - May Windstorm damages of \$380 million across Ontario

Additional services have also been encountered due to a surge in telecom company third party requests for joint use on our poles. Upgrades for third-party requests are as a result of telecom companies installing fibre optic lines to residential homes via equipment attachments to London Hydro poles. In 2015, the Canadian Standards Association released a new standard for Overhead Systems - C22.3 No. 1-15 which governs how London Hydro must design overhead infrastructure.

After this standard update, it was necessary for all utilities to design poles and guying using Non-

Linear Analysis. This new method of calculation is more demanding from a structural requirement perspective.

Once the third party selects a route using our poles, London Hydro must review the existing state of the poles in question. Under the new standard, some of the existing poles require additional guying and structural support. Accordingly, additional costs are required in order to bring the pole to the current standard. Any enhancements from additional stresses on the poles that are resulting from the third-party attachment are captured under a billable work order and charged back to the third party.

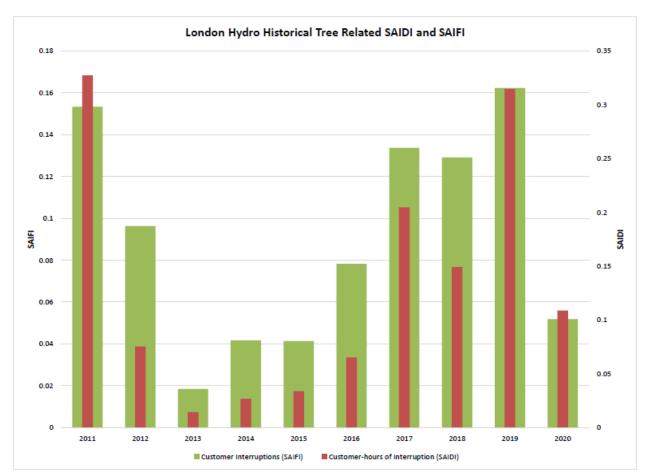


Tree trimming services

- Reliability statistics indicate that tree-related outages are one of the leading causes of power outages. London Hydro's tree trimming program is a key component in the Company's goal of providing reliable power and protecting the public. Trees and other plants growing near power lines and ground-level transformers must be maintained so that they do not interfere with the distribution system. Otherwise outages and safety hazards can occur such as,
 - Power interruptions
 - Direct contact
 - Energized objects
 - Downed power lines
 - Injuries and fires
 - The City of London has been known as 'the Forest City' since 1855 as it was described literally as the city built in the middle of a forest. For over 100 years, overhead distribution lines have been installed side by side with the trees. The ongoing challenge is to plant the trees and install the lines in a manner that promotes a healthy urban forest and safe and reliable distribution network.
 - The average annual rainfall in the London area is higher than the majority of Ontario and the abundance of rainfall contributes towards healthy tree growth. Other factors that contribute towards tree growth include soil nutrients, temperature, and atmospheric carbon dioxide levels. Different species of trees have certain optimal conditions which allow them to thrive. Several ecological factors also influence tree growth including the level of competition and presence of invasive species. Finally, environmental stressors such as heavy storms and the presence of disease-causing pathogens like fungi and insects also affect tree growth.
 - Damage to the trees can occur during significant severe weather events such as storms involving ice, snow, wind and lightning. London Ontario is surrounded by water on three sides so many parts of the region get a large part of their winter snow from lake-effect snow. Lake-effect snow is produced during cooler atmospheric conditions when a cold air mass moves across warmer lakes. The lower layer of air, heated up by the lake water, picks up water vapor from the lake and rises up through the colder air above. It then freezes and is deposited on the downwind shores as

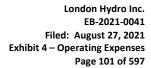


- snow. This is a major factor contributing to London's relative heavy snowfall which presents a risk
- 2 to damage of tree branches.
- 3 The graph below shows the increasing number of outages caused by trees. It also shows that
- 4 severe weather events in years like 2011 (a severe thunderstorm) can greatly influence the
- 5 number of tree related outages.



Outages Caused by Trees

- The impact of damaged trees on the overhead high voltage distribution circuits is one of the most
- significant operational risks and the most efficient ways to reduce this risk is through an effective
- 9 vegetation management program.





In 2015, London Hydro moved to a three-year trimming cycle to mitigate the risk of outages for customers. Previously, the Forestry Department had been operating under a five-year cycle and it had become evident why a five-year trimming cycle was outside of the industry norm as it resulted in an increased risk of outage to the customer. Inspection of our system identified that the allocated resources needed to be increased in order to provide adequate maintenance as trees in some areas were starting to encroach on safe limits. As a result, the Forestry Department started to moderately increase its use of external resources as this type of work is well defined and there is a high availability of skilled contractors in this area.

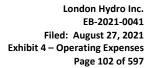
The three-year cycle also ensures that London Hydro is operating under best practices as recommended by the Electrical Safety Authority. Increased maintenance activities have contributed to decreased customer interruptions from tree contact incidences.

In 2017, London Hydro conducted a review of its vegetation management practices. The results of that review are captured in a report that was issued in September 2017. The report identified the increasing number of severe weather events that are impacting southwestern Ontario. The report also identified areas within London Hydro's service territory that present a higher risk of tree related outages due to circuit and tree density. This analysis resulted in revising the trimming cycle to be 3 years for high risk areas and 4 years for lower risk areas.

Further, during the data gathering stage of the 2017 report it was observed that the existing labour resources were not able to meet the required new trimming cycle requirements. London Hydro then brought in additional external resources to ensure that all areas received the necessary trimming. The additional trimming performed late in 2017 helped to prepare London Hydro for the ice storm of April 14th, 2018 and the windstorm of May 4, 2018. The level of resources required to adequately trim trees in close proximity to high voltage lines will continue to be monitored to ensure delivery of safe and reliable power.

Initiatives as a result of the 2017 report also include working more closely with the City of London Trees and Forestry Advisory Committee to ensure adequate clearances are considered when planting new trees and the implementation of a new GIS based mobile inspection tool.

The GIS based mobile inspection tool moves London Hydro's vegetation management program from a paper-based system to automation. Previously, hard copy grid maps were used to inspect





- the overhead system. The supervisor would highlight portions of circuits that required trimming.
- 2 The highlighted maps were then assigned to forestry crews. It was observed that the manual
- nature of the inspection process was not effectively tracking trimming details as it was difficult to
- 4 verify that all areas were identified and had been trimmed sufficiently.
- 5 Automation of this information provides for a searchable format and offers online reporting
- 6 necessary to work proactively by identifying specific areas with higher than desired tree growth
- 7 presenting a risk to the performance of the overhead lines on a timely basis.
- 8 It is recognized that the threat of severe weather is increasing and as a result the risk to the
- 9 performance of the overhead grid is growing. Through the implementation of the above
- improvements, London Hydro will continue to demonstrate a diligent path forward as it maintains
- the safety and reliability of its overhead circuits.

Pole and property leasing

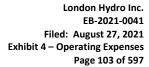
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- This line item represents costs associated with London Hydro attaching distribution equipment to
- poles owned by other utilities for a monthly fee per unit. On December 10, 2020, the Ontario
- Energy Board issued its Order on Wireless Pole Attachment Charges (EB-2020-0288) setting the
- amount that telecom carriers pay to attach their equipment to electricity poles. This increase is
- illustrated in Exhibit 3 under Other Revenue Table 3-32 on the line item for Pole rentals. The
- wireline pole attachment rate was last reviewed by the OEB in 2015.
- This update in rates provided for a corresponding increase in amounts paid by London Hydro for
- attaching its distribution equipment on other utility poles with an effective date of January 1, 2019.
- Pole attachment charges ensure that those attaching their equipment pay an appropriate share
- of expenditures.

Vehicles and major equipment

- Vehicles and major equipment costs primarily relate to the use of London Hydro fleet vehicles for
- site visits. Costs in this area fluctuate dependent upon usage, type and the hourly rate applied.
- Hourly rates charged alter based on costs in the Fleet department, which have increased since
- 27 2017 at a CAGR of 4.7%. Cost increases are primarily due to changes in staffing requirements,





- repairs and maintenance and increased cloud service costs. Cloud services have increased
- because of the introduction of automation in the Fleet department commencing in 2019 in
- 3 connection with maintenance management, GPS tracking and the electronic collection of data
- 4 associated with hours of service. Further details regarding vehicle costs can be found in the Fleet
- 5 Services Program discussion starting on page 249.
- 6 Vehicle expenditures were higher in fiscal 2020 due to the leasing of additional vehicles used
- throughout the COVID 19 pandemic to accommodate physical distancing (so no more than one
- 8 employee was in a vehicle at a time).

Software and hardware

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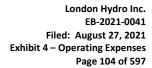
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Software and hardware costs largely pertain to operating the SCADA and OMS systems. The SCADA system is employed to monitor and cache real-time data from the London Hydro network and relay that information to Systems Operators for action. System monitoring enhances customer service, increases utilization efficiency, improves power quality and reduces power losses. By using SCADA, we are able to act in a more expedient manner in the event of an outage to minimize the disruption to customers.

The OMS system provides the System Operating Centre with a near real time view of all electrical circuits without power and it also interacts with the Interactive Voice Response ("IVR") phone system. London Hydro has made significant progress in advancing the reliability of the OMS through algorithm development and integration with several systems such as our Advanced Metering Infrastructure ("AMI"), GIS, SCADA, MWFM, notification services and back-office systems. Notification services provide seamless processing and dissemination of context-based outage messages to customers. Integration with systems such as the GIS and SCADA provides for electrical mapping data which greatly improves customer service during outages.





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Cost increases between 2017 and 2022 are primarily a result of additional OMS licensing required 1

to accommodate enhancements to London Hydro's new Mobile Workforce Management System.

The System has been expanded to incorporate additional departments including Metering, 3

Collections, Underground Systems and Overhead lines, for both staff and contractors. Historically,

paper service orders captured almost all of London Hydro's field service work. As new processes

and interactions relating to meters or master data 6

synchronization are introduced, timelines for 7

processing activities are becoming more stringent; 8

it has become clear that paper-based workflows 9

are not sustainable.

The Mobile Workforce initiative has delivered reduced cost and improved turnaround time by making it unnecessary for crews to return to the office for new work orders. Further, the MWFM system allows electronic interdepartmental transfers of service orders, such as cable faults and display of specific drawings, which also supports London Hydro's environmental initiatives.

With the OMS core and integration to other systems, such as SCADA, IVR, Automatic Vehicle



Location, Advanced Metering Infrastructure and the SAP Customer Information System, London Hydro was well positioned to implement a Mobile Workforce Management System, which allows immediate status updates to service orders as they are carried out and remote dispatching of work to field crews.

At the time of filing the 2017 rate application, London Hydro enhanced the Mobile Workforce Management program to automate all field paper orders. Since then enhancements include the ability for workers to generate and transmit service orders with tablets and mobile phones. In addition, crews in the field can send real-time information about the status of their work to the backend systems for processing. This seamless exchange of information has drastically improved



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- London Hydro's electricity distribution services. MWFM enhancements has delivered numerous benefits for customers including,
 - Operational efficiency is increased with the centralized planning, dispatching and capturing of Service Orders work activity, as these activities are managed electronically. Planning is enhanced as work assignments can be prioritized based upon field crew proximity to service locations. Electronic capture of field data performed for Service Orders reduces the likelihood of key-in errors due to repetitive hand processing and results in faster updates of system records. Lower data error rates and faster updates reflecting work completed results in increased bill accuracy. More wrench time is realized as return trips to the office to collect paper Service Orders are eliminated.
 - Real time status updates, especially in outage events, including estimated time of restoration is reported directly by the field crews and then automatically relayed to the customer representatives (and London Hydro's outage reporting tools) to allow them to provide customers with the latest up to the minute information.
 - Enhanced safety in the field and reduced stress in the System Operating Centre. The System Operating Centre staff and field staff have a coordinated view and understanding of field work underway. Mandatory safety checks and procedures are embedded in the mobile application. Automated "ESA Hold" enforces London Hydro's safety culture and protection of field staff.

New functionality includes,

- ✓ automated tracking of over 23,000 service orders or OMS Outage Events annually for service types such as meter installs, disconnects, reconnects, trenching, demolitions, trouble calls and inspections
- ✓ exception reporting to catch field exceptions before orders are processed and completed.
- ✓ integrated view of service orders for all departments and for better planning.
- ✓ meter in and out logs verification process
 - automation of metering inventory management and update of meter certification status
- ✓ enhanced reporting and post processing capabilities



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- ✓ automation of trouble non-outage work assignments
- introduction of multi-operations service orders for complex service request
- ₃ ✓ field audits direct integration with GIS
- 4 ✓ new digital forms such as ESA inspections
- ✓ improved OMS planned outage customer list for sorting flexibility to expedite delivery of
 corresponding notifications to affected residents
- √ ability to view fault indicator failures on OMS map



4.3.3 METERING AND DATA MANAGEMENT

Overview

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3 London Hydro's Metering and Meter Data departments ensure accurate and compliant metering,

meter reading, and other services to ultimately support accurate billing. These programs have

ensured that London Hydro has maintained a billing accuracy target on the OEB performance

scorecard of >99.7% since 2017 with an improving trend. Since the deployment of smart meters

in 2009-2012, the meter has also become a foundational data source for other operational

8 processes (i.e. outage data, voltage data), customer consumption and demand data made

available through self-serve online portals and the Green Button Download My Data ("DMD") and

10 Connect My Data ("CMD") interfaces.

The mission of London Hydro's Electric Meter and Meter Data Management Program is to install,

maintain and operate utility metering, sensors, information and communications technology to

support an elevated utility, industry and end-use customer experience.

14 The Metering Services area includes the Electric Meter and the Meter Data Management

departments and together they run London Hydro's Metering Program. Metering Services

operates with the vision of leading the utility industry in energy management services through the

safe, secure, reliable, compliant and innovative application of technology to generate business

18 value.

Metering is one of the most fundamental activities for a distribution company and the

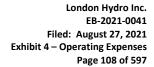
implementation of 'Smart Meters' has had a profound impact on this Program. In addition to a

complete transition from an 'analog' to a 'digital' meter environment, the Metering and Meter Data

22 Management Program has also had to assimilate three new technology streams: wireless

communications, data system management and customer facing applications, again, all based

on new digital technologies.





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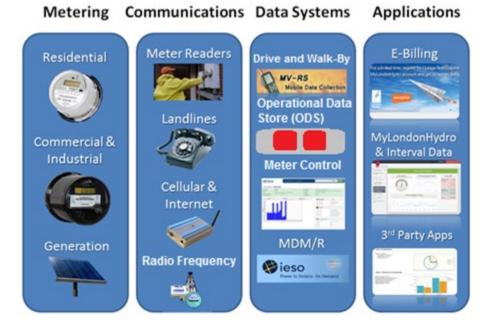
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Scope of Services

- Metering Services' operations touch the full range of the business starting with measuring energy flows within the London Hydro system, both purchases and distribution, to providing individual
- 4 customer usage amounts for billing and eventual revenue collection. Four basic activities
- 5 comprise the Metering mandate:
 - Metering to measure electricity flows
 - Communications collection of the metered data
 - Data Management validation, analysis and storage of the collected data
 - Applications and Support customer engagement through the delivery of the approved data to the customer and other users
 - These four activities are far more complex and are more involved than the simple titles would imply, and they are completely inter-related. Each activity depends upon the successful operation of the other. None of these activities can be considered fully developed or mature and static as changes are always being investigated and incorporated by the drive to leverage benefits from 'Smart Meters' and to develop the 'Smart Grid' of the future.



Metering

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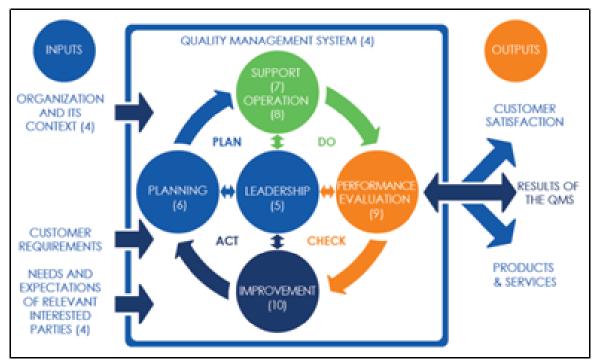
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- The Electric Meter department supports over 154,000 meter installations within its licenced
- service territory. The department supports new and existing customers with installs, exchanges
- 4 and removals. For example, in 2018, London Hydro completed over 5,000 new meters
- 5 installations and installed over 35 new large commercial services. Meter exchanges are initiated
- 6 due to a variety of reasons including,
- customer is reclassified to a different rate class that requires different metering and data (i.e. smart metered GS<50 to interval metered GS>50)
- electronic Smart Meters' technology fails from time to time. In many cases the meter stops
 communicating and needs to be replaced
- meters exchanges are initiated by customer activity such as need for Electrical Safety
 Authority ("ESA"), electricity theft or tampering, or disconnection for non-payment or lack
 of a continuous service agreement following a rental tenant move out
- meter test and inspection (i.e. to support Measurement Canada compliance sample requirements)

London Hydro's Electric Meter department is certified to the ISO 9001:2015 Standard and the principles are embedded in the department's quality management system. This management system ensures high quality accurate billing for utility customers. This program seeks to realize OEB Renewed Regulatory Framework performance outcomes in the areas of Customer Focus and Operational Effectiveness. Accurate metering and billing underpin ratepayer trust and confidence in the entire electricity system and supports London Hydro's brand image as a credible utility. It is hard to quantify proactive avoidance of complaints and disputes, but the ISO 9001 continual improvement standard helps London Hydro not only deliver to, but also exceed, customer expectations and address service delivery non-conformance in a structured way.





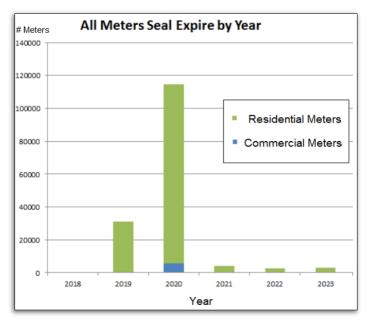
ISO 9001:2015 Continual Improvement Model

As new standards, regulation and technology (i.e. support, obsolescence) emerge, the Electric Meter department aims to keep pace with these advances where appropriate. For instance, London Hydro was one of the first utilities to use voltage monitoring to detect and fix metering and distribution issues before customers became aware or raised complaints. As part of this system, the Electric Meter department directly surveys customers and has achieved both positive results as well as insight as to where to improve. For example, turnaround time is important to utility customers. In addition, commercial customers have requested that meter related planned outages happen before or after working hours. While this type of operation requires premium labour rates, the customers appreciate not having their business interrupted.

A major project since 2014 has been the conversion of GS>50 customers who now require an interval meter (EB-2013—0311). As of August 2020, London Hydro has completed all demand to MIST (Metering Inside the Settlement Timeframe) interval meter conversions. These MIST meters now have cellular or internet modem connections in addition to legacy phone lines and are remotely read by the MV90 meter reading system.

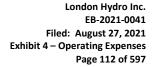


- In addition, metering reverifications increased dramatically over the past few years to successfully accomplish the Measurement Canada Compliance Sample program. The increase in meter reverifications is due to the mass installation of smart meters in 2009 to 2011 which have become due for their 10-year meter seal refresh between 2019 and 2021. London Hydro has been investing in meter sealing capability and capacity enhancements to prepare for this surge. Preparing for this work was a multi-year effort and included building a strong internal team to execute on the program.
- The 'all-at-once' installation of the meters has caused a similar 'all-at-once' re-verification period. In the past, the meters would be re-verified year over year, but now the meter re-verifications happen all at once. The graph below illustrates the impact of this change on meter replacement efforts creating peak demand for service in one year rather than a resourced levelled schedule.



Meter Compliance Sample Workload Volume

London Hydro is accredited to seal meters and performs this work in-house. Accordingly, the Metering department has the expertise and capacity to perform this work and was able to ensure this mass meter reverification compliance through





- pre-sample monitoring and testing of meters in advance of formal testing
- SAP-CIS randomized sample generation and tracking software
- mobile workforce management (i.e. efficiency work order management tools)
- maintenance of ISO and MC accreditation (i.e. transitioned to the new ISO 9001:2015
 Standard)
- the purchase and commissioning of certified and calibrated sealing test console equipment
- Since filing the 2017 Cost of Service Rate Application and to help with meeting challenges such as the peak demand in meter reverifications, London Hydro has introduced Mobile Workforce Automation in the Electric Meter department, using an extension to the existing Geographical
- 10 Information System ("GIS") solution.

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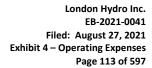
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For the Electric Meter department, field work has been categorized into requirements for 23 distinct types of work and 47 additional business processes related to the management of that work and other workforce automation. London Hydro has introduced computer hand-held units for field workers. The solution's benefits include: the elimination of paper Service Orders, making information availability and submission easier for field service technicians, and allowing for assistance with meter tracking by providing same-day completion of Service Orders. The solution reduces potential manual mistakes on data entry, due to bar-coded meter information and other automated choices, and allows work flexibility by allowing job assignment and transfer of jobs to occur quickly and responsively across the utility.

London Hydro's Smart Meter test bench is another tool that helped with the success of the mass meter reverification requirements. The test bench greatly reduces manual efforts and the associated costs when introducing new technology, meter troubleshooting and recertifications.







London Hydro's Smart Meter Test Bench

- London Hydro's "in-sourcing" strategy to develop meter shop capability to test, certify and reseal electrical meters to Measurement Canada standards for Smart Meters has other benefits as well.
- For example, with regulatory certification, London Hydro not only performs these services for its
- own meters but also offers this service to other LDCs. Currently, London Hydro saves
- approximately \$30,000 \$45,000 annually by avoiding external service provider's fees. In
- addition, by offering this service to external clients, London Hydro raises another \$100,000 per
- 8 year in cost recoveries.
- 9 Other betterment projects in the Electric Metering department include,
- establishment of an Advanced Metering Infrastructure ("AMI") Services / Home Area Network
 ("HAN") / Certification Shop
- rework and installation of new metrology (Measurement Canada) test consoles and business systems to ensure the meters measure accurately
- establishment and execution of an environmentally responsible plan for the orderly and
 financially responsible replacement of the aging primary metering tanks
- providing interval metering for General Service > 50 small commercial and industrial rate
 classes
- implementing significant changes in operations due to the new regulatory billing and metrological requirements (re-certification)



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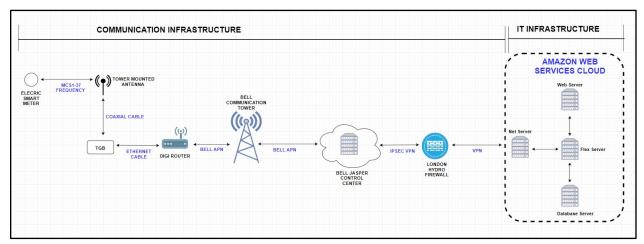
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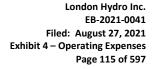
Communications

London Hydro has implemented the Sensus Advanced Metering Infrastructure ("AMI") system as its residential and commercial (GS<50) electric metering system. This system can be broken down into two parts, the Communication Infrastructure (FlexNet Communication Network) and the IT infrastructure (Regional Network Interface). The communication infrastructure consists of all the elements that are required to carry data from electric meters to the head end system and the IT infrastructure consists of the elements that are required to process the data and deliver it to downstream systems.



Sensus Communication & IT Infrastructure

The communication infrastructure that is part of the London Hydro AMI system can be broken down into two parts. The first mile and last mile.





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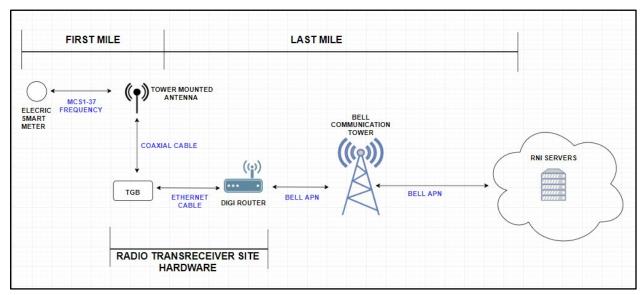
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Sensus Communication Infrastructure

- The first mile of the AMI architecture consists of Smart Meters that send and receive data to and
- from a tower gateway base station ("TGB"). The last mile consists of TGB's that send and receive
- data to and from the head-end systems.
 - Sensus IConA and Elster A3RL electric meters are used by London Hydro for residential and small commercial electric metering. IConA meters use metrology modules and Flexnet communication modules that are developed and built by Sensus; whereas A3RL meters use metrology modules developed and built by Honeywell Elster, but retrofitted with Flexnet communication modules. Both these meters use the Flexnet communication modules to communicate with TGB's strategically distributed throughout the city.
 - Meters are configured to transmit data at different intervals. Various channels are used to transmit and receive different types of messages (in order to reduce data collisions and network congestion). The most common channel used is the "normal channel" and most meters are configured to transmit data every four hours.
- Smart Meters are also tuned to transmit data at various intervals. The meters that are closest to the TGB and have a strong signal strength are tuned such that they transmit data at a lower rate



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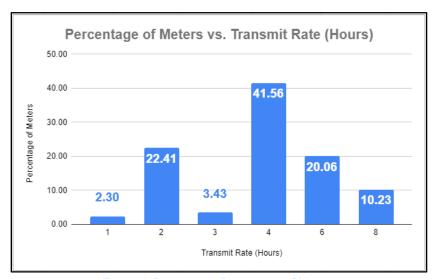
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- than meters that are further away and have a weaker signal strength. The graph below shows the
- 2 percentage of meters that transmit data at various rates.

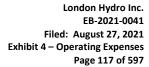


Transmit Rate versus Percentage of Meters

Currently the average transmit rate for the electric meters that are part of the FlexNet network is around 4 - 6 hours. This transmit rate is sufficient for billing purposes but it may not be sufficient for other services such as demand response programs and customer presentment applications (that require near real time data). In order to scale these programs and applications to all the London Hydro residential customers, near real time energy data that does not depend on the customers ISP is required.

London Hydro currently has a total of nine Transceiver Gateway Base Stations ("TGB's"). These are also known as Advanced Metering Regional Collectors ("AMRC"). Four TGB's are sectorized such that they are equipped with three directional antennas each. The other five TGB's use omni directional antennas. Each of these antennas are connected to a transceiver.

After the retirement of the BelAir backhaul network in 2018, London Hydro utilised Bell Private APN for the last mile communication. In order to facilitate last mile communication, TGB's are connected to cellular Digi Transport routers. The Digi routers are equipped with Bell SIM cards that carry the data from the TGB's to the head end system.





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Each TGB has a limited capacity in terms of the number of messages that can be processed per

second. Smart meters have to be tuned and the TGB's have to be sectorized such that the data

throughput is within limits. The challenge with the current system revolves around overloaded

TGB's. For example, according to a capacity analysis that was conducted in 2016 the TGB's at

two locations (Arva and Sub 15) were overloaded. Based on this report, the network was tuned

to try and reduce the loads on the two overloaded TGB's. This proved to be marginally successful.

7 Continued improvements are still required in the coming years to enhance the systems and

8 address these performance issues.

9 Obtaining better and more frequent data provides enhancements for customer billing purposes,

whereas other advantages include better information for other service offerings such as Green

Button and the Trickl application.

London Hydro plans to continue to invest in the Sensus AMI system. This system provides a

number of key advantages that are important to AMI operations at London Hydro. Furthermore,

all current challenges can be mitigated by continuing with the Sensus system and new

enhancements are being investigated to provide benefits such as,

Currently meter disconnections and reconnections for customers that have defaulted on their bills need to be done manually. This is a time-consuming process that can be costly for the utility. There are a number of other use cases for a remote disconnection process such as hot socket alarms, isolating customers with grid-tied distributed energy resources (DER), etc. In order to minimise the resources needed for the disconnection and reconnection process, it would be ideal to have a system where meters can be disconnected remotely using the AMI communication network. Once all bills have been paid, the meter reconnection could also be done remotely as well.

Customers that are on Regulated Price Plan ("RPP") rates are switched to Hourly Ontario Energy Price ("HOEP") rates if their peak usage is greater than 50 kW. In order to accommodate this, their meter needs to be switched to an interval meter. Currently this switch is done manually. There are around 5 meters that are changed from RPP to interval HOEP billing every week. In order to reduce the amount of resources that are used to make these changes manually, it would be beneficial to have a meter that



can be used in RPP as well as interval mode. The mode changes should be done wirelessly using the AMI communication network.

Currently backhaul communication is achieved by using digi routers equipped with Bell SIM cards that work over a London Hydro access point network. This system makes the backhaul communication network dependent on telecom communication infrastructure and exposes the system to the risks associated with data pricing change. It would be ideal to decouple AMI backhaul communication from this telecom dependent system and evaluate other independent systems such as fiber optic communication (SCADA systems currently use fiber optic communication).

Improvements realized from refreshes and enhancements to the AMI network and associated systems has allowed for an increase in the rate of meter reading from 1 hour to 5 minutes for subscribers who want greater visibility of their consumption data. These improvements have also supported the implementation of "behind the meter" data gathering and analysis for a select pilot group using the Trickl application.

Data Systems

Electricity meter data is collected and validated before storing in the Operational Data Store
("ODS"). The ODS system is the singular system of record for London Hydro's Smart Meter data.

Historically, the primary objective of these data systems was to provide billing determinants to

Customer Services for invoicing. However, the advent of Smart Meters and TOU has increased
system complexity and created the need to accommodate large amounts of data.

Currently the ODS holds 7 years of data for approximately 156,500 TOU meters and 2,000 interval meters. Even more data is necessary to provide additional service offerings to customers surrounding their energy consumption. For example, platforms like "MyLondonHydro" and applications such as Green Button that equip customers with the tools that they need to monitor their consumption and make informed decisions to help control their electricity costs.



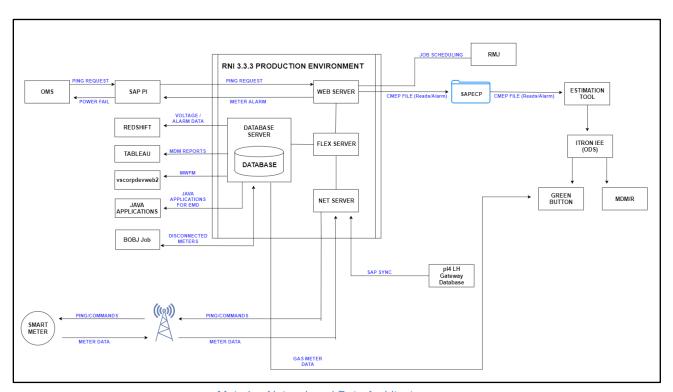
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- In transitioning to Smart Meter operations, London Hydro chose an "in-sourcing" strategy. One
- aspect of this strategy was the decision that London Hydro would own and operate its own
- Regional Network Interface ("RNI") and Smart Meter head-end system. This approach contrasts
- sharply with the strategy of most LDCs that purchase the full service from a vendor. London Hydro
- bas avoided an estimated \$620,000 per year as a result of this "in-sourcing" strategy.
- 6 The Metering and Meter Data Management Program utilizes several information technology data
- ystems. These data systems have been designed and integrated to realize a high-performance
- data flow pipeline. In addition, improvements are being planned and implemented to increase
- 9 productivity through automation.

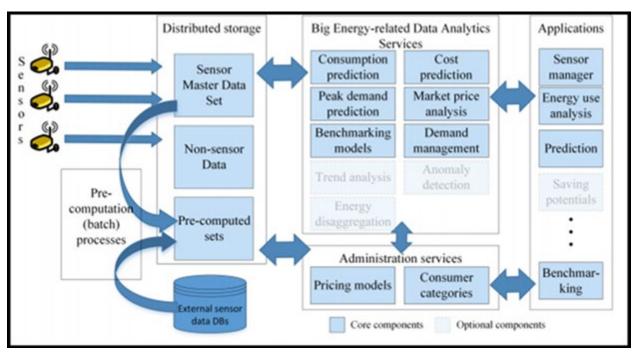


Metering Network and Data Architecture

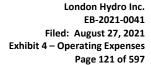
To accommodate business and consumer needs, network and data systems must be available and operational activities need to be performed. Metering and Meter Data Management departmental operations rely on the Information and Communications Technology ("ICT") systems that are in place, which fit within the overall context of business operations.



- Detailed consumption data provides the information necessary for consumers to analyze and
- 2 understand their energy consumption and take steps to reduce energy usage. Making detailed
- 3 consumption data available to customers on a timely basis allows customers to make better
- 4 energy management decisions.
- 5 London Hydro has been working with industry academics to develop modular software technology
- architecture to allow for integration of new innovative components. This framework entitled "Big
- Data Analytics Framework for Energy Management," which is depicted in the figure below,
- 8 illustrates the metering as sensors and assumes that there are a variety of different data types.
- 9 London Hydro has already started using prediction engines such as neural networks for energy
 - consumption and pricing prediction. Benchmarking is the next challenge that is expected to
- provide benefits to London Hydro customers.



Big Data Analytics Framework for Energy Management





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The main objective of this research project is to design a comprehensive software framework for

energy monitoring, analysis of data provided by the sensor technologies, and support of energy-

related software applications. To achieve these goals, this project explores and advances Big

Data analytics in the context of energy management. Key areas of focus include mobile

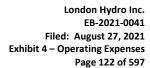
technology platforms increasing customer value. These investments provided several important

6 learnings and outcomes,

- validation that the investments in fine granularity and low latency (i.e. faster) data could be translated into enhanced knowledge and insight for the customer and utility
- opportunities to work with real customers on data driven use cases. Being able to cocreate use cases such as energy cost allocation (within a factory); quantify individual equipment consumption characteristics; perform what-if analysis; or validate efficiency claims
- assisting London Hydro in identifying leading edge technology trends to inform technology investment roadmaps. (i.e. blockchain, analytics, predictive statistics, neural networks)

Originally, only the meter consumption value was transmitted to London Hydro, but with efficiencies in communications and processing, quantities about the meter itself are also transmitted, including:

- communications characteristics that allow for network optimization
- power outage messages that are integrated into Control Room situational awareness systems that help to accelerate the outage root cause and verify service restoration
- power outage messages that are now made available directly to the customers through notifications or when the customer calls in
- voltage information to ensure all customers receive expected service levels across the distribution system
- power quality information available throughout London Hydro to provide better service to customers





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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 for London Hydro

customers. 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 us to meet customers' needs.

7 The progression of incorporating Smart Meters into a 'smarter grid' is expected to continue for

some time into the future. Although Smart Grid technologies are slowly making their way into

operations, the implementation of new innovations has only just begun. The enhanced focus on

gathering data to allow for insight into consumption patterns provides for many benefits such as

system planning and conservation and demand response.

Applications

London Hydro's Metering and Meter Data Management department has gone beyond minimum

expectations to fully support the OEB directive outlined in the "Report of the Board - Supplemental

Report on Smart Grid" EB-2011-0004 issued February 11, 2013, which states "distributors must

explore mechanisms that facilitate "real-time" data access and "behind-the-meter" services and

applications for the purpose of providing customers with the ability to make decisions affecting

their electricity costs."

Platforms such as London Hydro's "MyLondonHydro" and applications such as "Green Button",

20 "MyIDC", "Property Management Portal" and "MyEvent" equip customers with such tools and

provide modern analytics to monitor their consumption and make informed decisions.

Each year, London Hydro's Metering and Meter Data Management Program continues to execute

its plan to maintain regulatory compliance and reliable operation of the electric meters, tune the

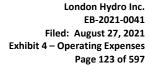
communications network for effective and efficient performance, optimize the data management

schema and leverage investments to deliver and enhance customer engagement particularly with

respect to commercial and industrial ("C&I") customers.

The department recognizes that there is more than one 'type' of customer, and that each of these

customer types has a particular information focus and different analytical needs. Typically,





because of sheer numbers, the residential customer (90% of total customers) has benefited from

2 customer engagement efforts. However, the commercial and industrial customer group also has

significant potential for reducing the consumption of electricity (currently 64% of consumption),

and the Meter Data Management area has now developed applications for customer engagement

5 of this group.

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6 The Interval Data Centre ("MyIDC") and Event Assist are two in-house developed applications

that use meter data presentation and analytics enabled with the Green Button standard. These

applications are part of the London Hydro Energy Data Portal suite of customer facing and

customer focused engagement efforts. These particular applications are focused primarily at the

C&I customer segment. They are the result of collaboration with local customers to identify needs

and internally develop an energy management solution.

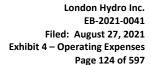
For the first time, these applications provide C&I customers with consumption analysis tools similar to those available for residential customers. Applications such as MyIDC provide electricity users with energy and demand data they need to monitor and manage their costs. London Hydro sent surveys to approximately 100 commercial and industrial customers that utilize the MyIDC data portal to manage their business's electricity usage. Survey results exceeded expectations as customers not only provided London Hydro with insight on how C&I customers use the service, but with great testimonials about its benefits for their business.

"IDC is the perfect way to view my building's energy profile, as well as to keep track of my energy saving projects and see how they affect overall consumption. IDC displays our Power Factor, and helps us make decisions on whether or not Power Factor capacitors are required to improve. Several years of consumption data is ready to be downloaded, the reports show the data in various ways and let us look at things from different points of view."

- Ilona Covaliu, Commercial Property Manager, Bluestone Properties Inc.

"Recently, I used the IDC's Load Duration Graph to identify and compare the base load between several local ice rinks. I also used the load duration curve to compare the rink's performance during unoccupied and occupied hours of the day. It's an easy way to quickly assess a building's performance and can also help size an energy storage system, among other things."

- Adam Trela, Corporate Energy Manager, City of London





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To leverage benefits offered by cloud services (for example; reliability, performance, cyber

security), London Hydro has deployed all customer engagement applications to cloud platforms,

including MyIDC, MyLondonHydro, Green Button and the Property Management portal.

4 Technologies are advancing rapidly and without the utilization of cloud-based solutions, London

5 Hydro would struggle to keep up with the pace of change. Complexities in technology are also

escalating, further driving the need to leverage cloud services. These internet-based subscriptions

help reduce costs, enhance cyber security and keep the Company agile. Third-party service

providers are able to achieve economies of scale that are passed to their customers and ensure

that systems are up to date and flexible, without investing in, and maintaining, physical assets

owned by the Company.

11 Cloud systems provide for enhanced cybersecurity and performance to help the Company cope

with growing volumes of data. They are also more resilient which ensures that application uptime

is maximized for customers. Most on-premise applications demonstrate poorer resiliency because

equipment is so expensive that redundancy is not available to handle downtimes.

15 Enhanced cyber security protocols provided through cloud services are vital to ensure that

systems and customer and business data are adequately protected, especially with the increase

in Smart Grids, Smart Meters and the Internet of Things ("IoT"). Mobile devices and applications

are also on the rise as London Hydro offers additional services to customers through the digital

means that they are requesting.

20 Further details on services provided to customers through cloud-based solutions including

discussions on enhancements, added features and new systems (Trickl) can be found under the

Cloud Services section of this Exhibit on page 265.



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Program Delivery Costs

- 2 Metering and Meter Data Management Program OM&A expenditures are forecasted to be
- \$3,741,000 for the 2021 Bridge Year and \$3,894,100 for the proposed 2022 Test Year. The
- forecast for 2022 provides an increase over the 2021 Bridge Year of \$153,100 and \$762,641 over
- 5 2017 Actual amounts resulting in a CAGR of 4.5%.

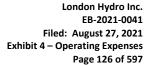
Table 4-19: Metering and Meter Data Management Program Delivery Costs

Metering and Data Management Program Delivery Costs									
			Annual Change				Total Change		
			2017 Actual	2018 Actual	2019 Actual	2020 Actual	2021 Bridge	2017 Ad	tual
			to	to	to	to	to	to	
Nature of expenditure	2017 Actual	2022 Test	2018 Actual	2019 Actual	2020 Actual	2021 Bridge	2022 Test	2022 Test	
	\$	\$	\$	\$	\$	\$	\$	\$	CAGR
Gross labour	2,450,730	3,387,900	385,892	114,302	159,759	164,418	112,800	937,170	6.7%
Labour allocations	(161,039)	(403,000)	(143,560)	178,776	(231,784)	(39,893)	(5,500)	(241,961)	20.1%
Net OM&A labour	2,289,691	2,984,900	242,332	293,079	(72,026)	124,524	107,300	695,209	5.4%
Contractor services	96,418	107,700	75,112	(116,960)	28,238	23,791	1,100	11,282	2.2%
Meter reading services	467,718	220,000	(169,321)	(54,383)	(1,791)	(22,223)	-	(247,718)	-14.0%
Technology and radio licensing	216,299	259,000	6,312	6,021	6,782	16,586	7,000	42,701	3.7%
Software and hardware	166,631	181,600	(31,012)	4,264	6,619	23,799	11,300	14,969	1.7%
Vehicles and major equipment	61,166	101,200	2,540	5,006	10,980	(2,491)	24,000	40,034	10.6%
Materials and supplies	41,148	49,600	(4,031)	5,938	(9,609)	16,054	100	8,452	3.8%
Other	167,923	182,000	11,005	(1,893)	(5,706)	8,372	2,300	14,077	1.6%
Cost recoveries	(375,534)	(191,900)	16,103	113,632	29,195	24,704	-	183,634	-12.6%
Total \$	3,131,459	3,894,100	149,039	254,703	(7,317)	213,116	153,100	762,641	4.5%

Net OM&A labour

Net OM&A labour expenditures in the Metering and Meter Data Management Program have increased between 2017 Actuals and amounts forecasted for the proposed 2022 Test year in the amount of \$695,209 resulting in a CAGR of 5.4%. Wage escalations over this period account for approximately 2.2% of this change, with the remaining 3.2% CAGR representing new resource requirements.

Increasing complexities in metering activities have led to the need for additional resources and a change in the resource mix to bring in more technically skilled staff. For example, a Systems Analyst has been brought into the metering area to provide support in the numerous ongoing system upgrades for RNI, ODS, MV90 and TGB. System upgrades mitigate any risks that arise from versions that are not supported (including security patches), offer upgraded analytics and





reporting capabilities, support newer versions of smart meters and resolve a number of bug fixes

2 in older versions.

Increased skill levels are also necessary for the ongoing proof of concept for the next generation

4 of communication and AMI technologies. The AMI network has become more complex and

5 requires additional support for wireless system optimization and next generation system design

6 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. Providing this data to consumers on a timely basis allows them

to analyze and understand their energy consumption and make better energy management

10 decisions.

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Increased technical skills are also needed for the growth in the number of interval meters which

has increased the overall daily tasks associated with meter data management and validations

and has highlighted the need for automation to achieve efficiencies. The increase in remote

meters impacts the number of reads, which in turn impacts system capacity and requires more

technical labour support.

The Electric Meter department supports over 154,000 meters within its licenced service territory.

17 This area supports new and existing customers with the installation, removal and exchange of

meters. City growth has increased the volume of meter installations and meter exchanges are on

the rise which are initiated due to a variety of reasons including,

 customers being reclassified to a different rate class that requires different metering and data (i.e. smart metered GS<50 to interval metered GS>50)

and data (i.e. smart metered 00 500 to interval metered 00 500)

electronic Smart Meter technology failures (i.e. the meter stops communicating and

needs to be replaced)

 exchanges initiated by customer activity (i.e. need for ESA, electricity theft or tampering, or disconnection for non-payment or lack of a continuous service

agreement following a rental tenant move out)

meter testing and inspection to support Measurement Canada compliance sample

requirements



The functional areas and related staff skill set required for the department are described below:

Category	Core Skills	Evolving Needs		
Electric Meter Technicians	 Electrical Medium and Low voltage field work Electrical Installations Test and Measurement expertise Meter Communications Installation and Troubleshooting Field worker safety 	 Mobile Fieldwork Tools In field metrology testing Stray Voltage Testing Responding to Meter Hot Socket Alarms Supporting DER Projects (Renewables and Batteries) Communications Encryption and Security 		
Metrology Quality Assurance Technicians and Administration	 Measurement Canada Regulatory Compliance Inventory Handling Policy and Procedures including reporting 	 Changing regulatory and technology landscape 		
Power Quality and Account Services	 Liaison with customers Installation of test equipment Data collection and analysis 	 Supporting DER Projects (Renewables and Batteries) Power quality (i.e. harmonics) and metrology accuracy of customer renewables and Inverter based technologies 		

Metering Functional Staffing Skill Sets

Since the deployment of Smart Meters, 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. As new standards, regulation and technology emerge this Program aims to keep pace with advances where appropriate.

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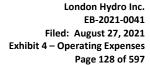
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London Hydro has developed and continues to enhance data presentation and analytic solutions

for both internal and external applications. Internal analytics using meter data readings

materialized using Amazon Redshift data warehousing services and Tableau business

intelligence software technologies. These systems are managed and used by AMI staff to monitor

5 system status and identify data anomalies.

6 With more renewable and non-renewable embedded generation, as well as other inverter-based

7 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.

Labour cost allocations to capital projects have increased due to streamlining of metering

inventories and their associated attributes for better controls and reliability, and the ongoing

development of meter data databases and applications. For example, London Hydro has been

running RNI in the cloud for several years. To support application growth, a second landscape

has been deployed for testing of new versions before promoting them into production.

Additionally, enhancements to other applications such as MyIDC and EventAssist are ongoing to

help commercial and industrial customers view and analyze energy usage data.

Contractor services

20 Contractor services are used to handle short term increases in workload to ensure schedule

compliance and to obtain external expertise to perform work. For example, the replacement of

the GS>50 meters to MIST meters which were regulated to be completed by August of 2020 (EB-

2013-0311) required additional meter technician skill sets. Third parties are also used to backfill

for in-house staff expertise assigned to higher value or capital work.

This line item also includes consulting services which are typically engaged to provide expertise

for activities such as technology assessments and network design. These engagements assist

with increasing AMI network complexity and provide external support for wireless system



- optimization and next generation system design efforts, made necessary for 'near real time data
- 2 acquisition' capability and the interval metering requirements.
- The increase in spending during the 2018 fiscal year relates to a lump sum payment made that
- 4 year to the University of Western Ontario in the amount of \$87,500 for their research engagement
- with Professor Dr. Miriam Capretz. The main objective of this research project is to design a
- 6 comprehensive software framework for energy monitoring, analysis of data provided by sensor
- technologies, and support of energy-related software applications. To achieve these goals, this
- 8 project explores and advances Big Data analytics in the context of energy management. Key
- 9 areas of focus include mobile technology platforms increasing customer value.
- Also, in 2018, the Electric Meter department upgraded its ISO 9001:2009 quality system standard
- to the ISO 9001:2015 standard. This system upgrade engaged external consulting services to
- guide and support document renewal to successfully transition to the new system.
- Moving forward into 2021 and beyond, additional contractor services are anticipated for continued
- smart meter AMI system renewal and maintenance programs. As part of this, London Hydro
- operates a smart meter validation bench to ensure meters work as expected prior to field
- deployment. While this test bench prevents costly equipment recalls from the field, the test bench
- itself requires support and maintenance that are obtained through contractor services.

Meter reading services

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- The meter reading methods have been changing with drive-by wireless meter reading efficiencies
- 20 contributing to lowering costs. Further, in 2014, the OEB amended the Distribution System Code
- such that customers with greater than 50 kW demand now require an interval meter (EB-2013-
- 22 0311). London Hydro completed all demand to MIST (Metering Inside the Settlement Timeframe)
- interval meter conversions by the fall of 2020. These MIST meters now have cellular or internet
- modem connections and are remotely read by the MV90 meter reading system.
- Today, manual meter reading services are tasked to visit meters where there is a communications
- loss or to perform initial meter audits. This activity is accounted for in the planned expenditures



- and work assigned to meter readers is balanced against using an Electric Meter Technician crew
- depending on what is more cost effective.

3 Technology and radio licensing

- 4 Since the deployment of wireless smart meters in 2009, London Hydro has maintained and
- operated its own remote wireless meter reading communication systems and related software
- and radio licences and equipment.
- 7 Due to differences in billing requirements, there are two different systems used for meter reading.
- 8 For smart metered residential and small commercial customers, London Hydro licenses utility
- 9 radio spectrum directly, rather than paying ongoing licence and maintenance fees to other service
- providers to acquire and maintain the radio licences. Government of Canada Radio Frequency
- Spectrum Licence costs are anticipated to increase with inflation. With additional growth in the
- 12 City over the last 10 years, there have been some additional radio capacity added requiring
- additional base station radio licences.
- For interval metered commercial and industrial customers, there are heightened requirements on
- meter collection compared with smart meter customers. In 2014, the OEB amended the
- Distribution System Code such that customers with greater than 50 kW demand now require an
- interval meter (EB-2013-0311). During the 2016/2017 timeframe, London Hydro performed a
- technology evaluation to use licensed spectrum (1.8GHz) to meet this requirement. However,
- lower cost cellular offerings by public carrier cellular providers became available and were
- 20 selected for commercial and industrial customers. London Hydro completed all demand to MIST
- (Metering Inside the Settlement Timeframe) interval meter conversions by the fall of 2020. These
- 22 MIST meters now have cellular or internet modem connections and are remotely read by the
- 23 MV90 meter reading system.
- Smart meter technology licence fee rates related to meter reading software are subject on an
- annual basis to inflationary increases. In addition, license fees are also based on the number of
- meters and thus the overall fee increases by the growth rate of the number of residential and
- small commercial customers in London.



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Vehicles and major equipment

Vehicles and major equipment costs relate to the use of London Hydro fleet vehicles for site visits.

3 Costs in this area fluctuate depending on usage and the hourly rate applied. Hourly rates charged

alter based on costs in the Fleet department, which have increased since 2017 at a CAGR of

4.7%. Cost increases are primarily due to changes in staffing requirements, repairs and

maintenance and increased cloud service costs. Cloud services have increased because of the

introduction of automation in the Fleet department commencing in 2019 in connection with

maintenance management, GPS tracking and the electronic collection of data associated with

hours of service as mandated by Transport Canada. Further details regarding vehicle costs can

be found in the Fleet Program discussion starting on page 249.

Cost recoveries

The Electric Meter Department has been sealing London Hydro meters and those of other clients

for over 20 years. London Hydro typically saves between \$30,000 and \$45,000 each year in

contractor fees by sealing our own meters. In addition, London Hydro is able to seal meters for

third party clients, which provides for approximately \$100,000 annually.

Additional benefits associated with London Hydro sealing its own meters include the quick

turnaround time; we are able to avoid long wait times involved in sending meters out to external

sealing houses. This distinction is important because London Hydro must comply with test time

requirements for sample meters. Sealing meters in-house also translates to lower costs as fewer

meters need to be stocked in-house. This was particularly relevant as it related to the ten-year

Measurement Canada seal renewal in 2019-2020 (ten years after 2009-2010 installation)

resulting in a 15-times typical annual sealing volume workload.

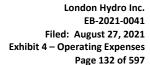
Revenues from meter sealing services budgeted for both the 2021 bridge year and the 2022

proposed test year are in the amount of \$100,000. This is lower than prior years since internal

resources will need to redirect their focus on London Hydro's own needs with respect to smart

meter seals expiring and the replacement of demand meters with interval meters as discussed

27 above.





This line item also 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

6 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.

Thereafter, ongoing water meter services include continued support for the City of London's transition to drive-by water meter reading technology, performing customer appointment scheduling, and validation of meter data. London Hydro also provides customer contacts regarding high or low usage, or as needed for property entry, on behalf of the City of London. Recoveries for these services have been forecasted in the amount of \$91,900 for both the 2021 Bridge Year and the proposed 2022 Test Year, pursuant to the service level agreement with the City of London effective January 1, 2020 to December 31, 2024.

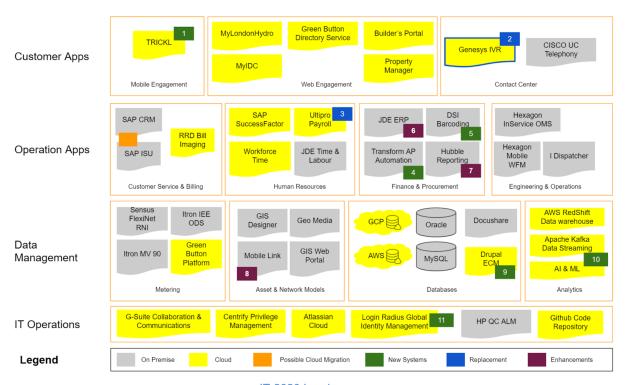


4.3.4 INFORMATION TECHNOLOGY

2 Overview

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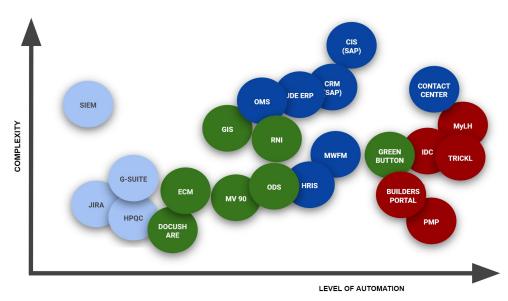
- The Information Technology ("IT") department is responsible for managing the information
- technology infrastructure of the Company which involves the development, protection,
- 5 maintenance and support of data resources, system applications, hardware, networks, servers
- and websites for both London Hydro employees and customers.



IT 2020 Landscape

London Hydro's technology landscape is made of over 40 systems with complex enterprise systems such as SAP, JDE, OMS and GIS along with specialized custom web-based and mobile systems including MyLondonHydro and Trickl for residential customers and the interval data centre portal MyIDC for commercial and industrial customers.





Applications Landscape

London Hydro's IT strategy establishes the framework that guides the delivery of IT services and solutions to meet the current and evolving needs of all its customers and stakeholders. The IT strategy is a 'rolling' 3 to 5-year plan reviewed on a periodic basis to ensure alignment with London Hydro's Strategic Plan, life-cycle approach to IT and involvement of customers and stakeholders to deliver cost-effective solutions.

7 Customer Applications

- All of London Hydro's customer engagement applications (i.e.: MyLondonHydro, MyIDC, Green Button, customer contact centre, London Hydro's website, Builder's portal, Property Management portal) have been deployed through cloud-based solutions to leverage the benefits offered by these platforms in comparison to on-premise environments.
- Technologies are advancing rapidly and without the utilization of cloud-based solutions, London
 Hydro would struggle to keep up with the pace of change. Complexities in technology are also
 escalating, further driving the need to leverage cloud services. These internet-based subscriptions
 help reduce costs, enhance cyber security and keep the Company agile. Third-party service
 providers are able to achieve economies of scale that are passed to their customers and ensure



- that systems are up to date and flexible, without investing in, and maintaining, physical assets
- 2 owned by the Company.
- 3 Cloud systems provide for enhanced cybersecurity and help the Company cope with growing
- 4 volumes of data. They are also more resilient which ensures that application uptime is maximized
- 5 for customers. Most on-premise applications demonstrate poorer resiliency because equipment
- is so expensive that redundancy is not available to handle downtimes.
- 7 Enhanced cyber security protocols provided through cloud services are vital to ensure that
- systems and customer and business data are adequately protected, especially with the increase
- 9 in Smart Grids, Smart Meters and the Internet of Things ("IoT"). Mobile devices and applications
- are also on the rise as London Hydro offers additional services to customers through the digital
- means that they are requesting.
- Further details on services provided to customers through cloud-based solutions including
- discussions on enhancements, added features and new systems (Trickl) can be found under the
- 14 Cloud Services section of this Exhibit on page 265.

Operational Applications

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In addition to cloud-based solutions for customers, the Information Technology department is also

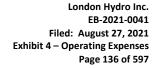
responsible for managing business critical applications including SAP Customer Relationship

Management ("CRM"), SAP Industrial Specific Solution for Utilities ("IS-U"), JD Edwards

19 Enterprise Resource Planning ("ERP"), SAP Success Factors human resource management,

20 Workforce time entry, Ultipro payroll, Hexagon Geographical Information System ("GIS"), Outage

Management System ("OMS") and Mobile Workforce Management ("MWFM") applications.







- These systems are necessary to support processes involving: customer communications, meter to cash billing, outage management, field service work, finance, electricity settlement, human
- resources, payroll, time entry, engineering design and warehousing for capital projects. Key
- 5 statistics include,

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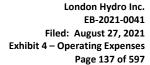
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- 6 ≥ 200+ business users
 - 160+ system interfaces
 - > 10 TB data (3 GB daily growth)
 - 90k user transactions per day
- → 600k customer interactions per year
 - 20k batch jobs per month

Supporting London Hydro's infrastructure requires proactive health monitoring including: reliability, availability, change management, performance, patch management, batch job management, version controls, encryption management, database administration and disaster recovery.





New on-premise operational applications added since the 2017 Cost of Services include the

automation of accounts payable ("APA") and the introduction of barcoding for materials

3 management.

4 The new APA solution has automated accounts payable tasks from end to end including the on-

5 boarding of vendor invoices, data capturing, validation, verification and approval. This saves time

6 throughout London Hydro by streamlining the processing of invoices from receipt to payment.

Data entry is reduced since invoice information is captured through scanning to character

recognition software. Invoices are now routed through predetermined processes for coding and

9 approval at appropriate authority levels.

Barcoding in the Materials Management department has increased the accuracy of information recorded since data is scanned into the system, rather than manually entered by staff removing the possibility for human error. Efficiency has also increased as the time required to enter information into the ERP system has decreased dramatically. Inputting data through scanning increases employee safety and customer reliability as well, by validating products chosen for capital projects and work orders.

Enhancements and additional functionality introduced during the J.D. Edwards upgrade in 2018 migrated information, processes and reporting out of Microsoft Access databases and into JDE to provide for a more structured platform for the logic and so that all appropriate employees have access to available functions and reporting. This also ensures that JDE is the single source of financial information for London Hydro. Processes migrated from Microsoft Access to JDE include: the JDE Time and Labour module, procedures for the reclassification of work-in-progress capital jobs to fixed assets and inventory 'as of' analysis. This J.D. Edwards upgrade also realized foreign currency accounting and new functionality in connection with procurement of goods and services.

Since 2017 London Hydro has continually expanded the use of Geographic Information System ("GIS") for online real time data capture in the field of Underground, Overhead and Substation civil structures and electrical equipment. This electronic capture allows for rapid response time when unsafe or environmental hazards are discovered, by providing the information necessary for quicker decision making regarding the appropriate actions required to rectify the situation. The



- online capture of inspection data also reduces manual errors commonly associated with paper-
- based processes, and enables more points and volume of data capture for trend analysis used in
- 3 determining future failure trends or capital project needs.
- 4 Further, the Company has made significant progress in advancing the reliability of the OMS
- 5 through algorithm development and integration with several systems such as London Hydro's
- 6 Advanced Metering Infrastructure ("AMI"), GIS, SCADA, MWFM and notification services. In
- addition, the Company has developed a digital 27kV wall map for the System Operating Centre
- that provides georeferenced grid analysis and real-time responsiveness to outages, while
- 9 intelligently filtering last gasp meter messages. Notification services provide seamless processing
- and dissemination of context-based outage messages to customers. Integration with systems
- such as the GIS and SCADA provides for electrical mapping data which greatly improves
- customer service during outages.

London Hydro's has also enhanced its Mobile Workforce Management System to the point where

over 85% of field work is now paperless. The system has been expanded to incorporate additional

departments including Metering, Collections, Underground Systems and Overhead lines, for both

staff and contractors. Historically, paper service orders captured almost all of London Hydro's

field service work. The Mobile Workforce initiative has delivered real time status updates, reduced

costs and improved turnaround time by making it unnecessary for crews to return to the office for

new work orders. Further, the MWFM system allows electronic interdepartmental transfers of

service orders, such as cable faults and display of specific drawings, which also supports London

Hydro's environmental initiatives and enhances safety for field staff.

Network, Servers and Storage

This area is also responsible for London Hydro's network and computer servers and ensuring

sufficient levels of storage are available to support operational applications and enable future

growth seamlessly. This includes maintenance of the Company's data centre and monitoring of

systems with a focus on lifecycle management as well as planning for future system refresh

27 requirements.

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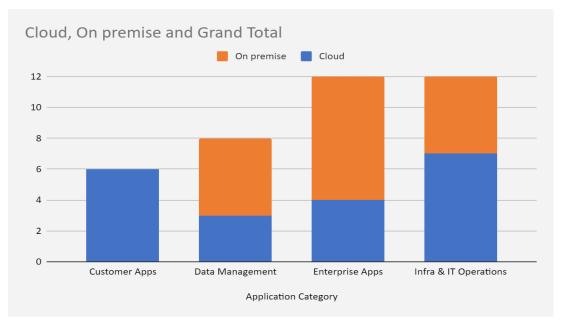
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- Over time, the number of physical hardware components have been greatly reduced and replaced
- by the systems leveraging cloud-based infrastructures. However, there are approximately 50% of
- 3 systems still using on-premise infrastructure.



On-Premise versus Cloud Storage Facilities

- 5 Even though the infrastructure for some on-premise solutions has been partially replaced by cloud
 - infrastructure, investments in keeping premise systems current and supported are still needed. In
- 7 2019, London Hydro introduced a new server (Cisco UCS) environment to address obsolescence
- 8 of support and completed the full migration of all on-premise workloads to this environment. In
- 9 2021, the IT department will complete the network infrastructure refresh.
- This will include the refresh of the network core, edge, and WiFi infrastructure within the Company and selected substations. The ultimate end state will provide a network infrastructure with redundant service, enhancing service delivery capability while improving London Hydro's security posture and troubleshooting capabilities and replacing end of life network devices.
- 14 Consolidated networked storage is about supplying the required storage capacity with fewer 15 physical resources. For example, using shared disks on the network or a Storage Area Network



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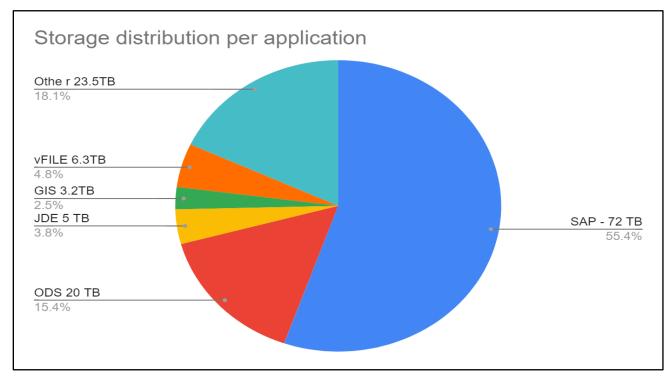
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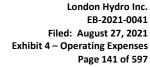
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- (SAN). Fewer physical storage resources mean less hardware to purchase, less physical complexity to manage, and less space and power requirements in London Hydro's data center.
 - Consolidated storage is also an essential enabler of server virtualization and over time the IT department has virtualized the majority of applications in use at London Hydro. The only exceptions are systems which have not been designed to run in a virtual environment. For instance, the OMS and HVAC (heating, ventilation, air conditioning) systems. When servers provision storage from a common pool, utilization is optimized. A single storage management toolset makes monitoring and tuning of storage easier for the system administrators and speeds up servicing requests for storage for both production and project activities.
 - Historically, storage growth has been about 20% to 30% per year. However, with the growing shift to cloud computing and adopting SaaS applications, this annual growth has been reduced. The storage utilization and distribution of storage used is depicted in graphs below. The Metering Operational Data Storage ("ODS") and SAP continue to be the two largest storage requirements.



Application Storage Allocation





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Digital Environment

- Mobile devices and applications are on the rise as London Hydro offers additional services to
- 3 customers through the digital means that they are requesting. Mobile devices are predominantly
- 4 the computing device and communication channel preferred by customers. London Hydro was an
- 5 early adopter of responsive design for customer experience independent of computing devices
- and recently developed mobile apps that are available through app stores.



London Hydro's energy management **TRICKL** app provides customers with their household energy usage so they can make informed decisions in real time regarding their energy cost and consumption. Trickl also has the ability to control smart in-home devices and consolidate our customer's electricity, water and gas consumption / cost information.







London Hydro's Trickl App

Applications like Trickl empower customers by giving them the ability to monitor and control their energy consumption through their smartphones. Furthermore, Trickl provides energy efficiency tips and helps customers better understand their energy data. It also offers additional support and customer engagement channels for MyLondonHydro functions. Energy management tools such as Trickl provide customers with energy usage information to allow them to make informed decisions in real time on their energy cost and consumption.

The number of smart phones and sim cards in use by London Hydro's workforce have also increased as the Company continues to transition to a paperless utility through programs such as



- the Mobile Workforce Management system ("MWFM"). As mentioned above, London Hydro's has
- enhanced its Mobile Workforce Management System to the point where over 85% of field work is
- now paperless. The Mobile Workforce initiative has delivered real time status updates, reduced
- 4 costs and improved turnaround time by making it unnecessary for crews to return to the office for
- 5 new work orders.

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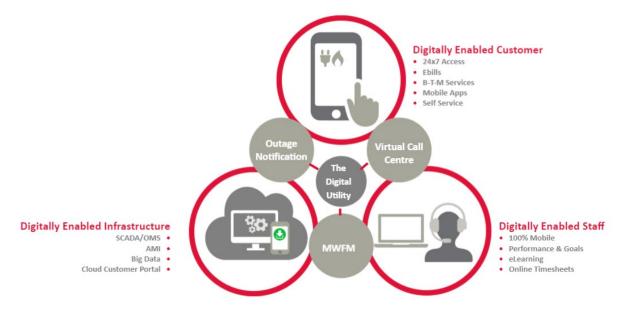
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Digitally Enabled Environment

In addition, in the last 5 years the number of networking devices deployed in the field to connect meters, now communicating via the internet, has increased significantly (i.e.: over 1000). Utilizing new technologies available to provide for remote network monitoring and management of these devices helps to reduce time and costs associated with site visits when there are issues in the field.

London Hydro has also been increasing the level of automation in the distribution system as it works towards building a smarter grid that is less expensive and more flexible for customers. Smart devices, sensors and enhanced communication systems help to limit the size of outages, reduce the need to dispatch workers and reduce restoration times through faster diagnosis. Automation includes upgrades to protection and control devices (relays, RTUs, batteries), communication systems, metering and automated/remote switching (reclosers). Smart devices interconnect with the SCADA system and help personnel to conduct testing and performance



- analyses to assess the condition of the automated control asset. This helps with predicting the
- 2 possibility of a premature failure for any electronically controlled or operated switchgear across
- 3 the entire electrical system.

Cyber Security

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- London Hydro's cyber security program has been continuously evolving as threats and complexities increase due to: the greater number of web and mobile applications, employees accessing data from the field, cloud adoption, increases in IoT devices and decentralized energy resources. The distribution system's unique interdependencies between physical and cyber infrastructure make it particularly vulnerable to exploitation, including billing fraud (via smart meters and wireless technology) and even potential equipment damage caused by the commandeering of digitally controlled physical assets.
- The Company counters the potential of the risk of cyber attacks with rigorous policies, special mechanisms and a number of security focused applications, including

✓ Policies

- acceptable use policy
- password policy
- smartphone policy
- information privacy OEB privacy controls

✓ Programs and mechanisms

- security awareness program
- vulnerability management program and tools
- external vulnerability assessment and penetration testing
- data backup and restore and disaster recovery

✓ Security focused assets and applications

- firewalls
- security incident and event management (SIEM)
- CyberArc single sign-on (SSO)
 - endpoint protection
- data encryption
- Commvault data backup and recovery



- One of the key indicators of overall cyber security maturity level is the OEB Cyber Security
- 2 Framework compliance status which is reported annually, where London Hydro achieved 93%
- 3 compliance in 2020.

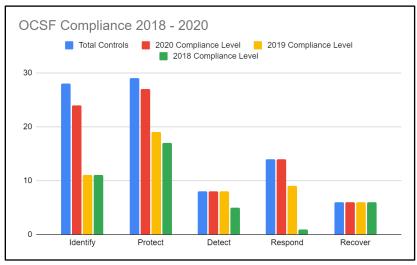
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OCSF Compliance

Enhanced cyber security protocols are crucial to ensure that systems, customer data and business data are protected. As deployment of interconnected smart devices increases throughout the distribution system, the energy grid must be secured in new ways to prevent cybersecurity incidents from disrupting the flow of power or impacting reliability.

Program Delivery Costs

Information Technology OM&A expenditures are forecasted to be \$4,885,900 for the 2021 Bridge Year and \$5,243,600 for the proposed 2022 Test Year. The forecast for 2022 provides an increase over the 2021 Bridge Year of \$357,700 and \$664,323 over 2017 Actual amounts resulting in a CAGR of 2.7%.



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Table 4-20: Information Technology Program Delivery Costs

Information Technology Program Delivery Costs											
			Annual Change					Total Change			
			2017 Actual	2018 Actual	2019 Actual	2020 Actual	2021 Bridge	2017 Actual			
			to	to	to	to	to	to			
Nature of expenditure	2017 Actual	2022 Test	2018 Actual	2019 Actual	2020 Actual	2021 Bridge	2022 Test	2022 Test			
	\$	\$	\$	\$	\$	\$	\$	\$	CAGR		
Gross labour	4,995,354	6,713,800	(49,685)	424,636	397,434	620,061	326,000	1,718,446	6.1%		
Allocations to capital, billable	(1,772,875)	(2,992,700)	302,055	(347,566)	(691,946)	(401,069)	(81,300)	(1,219,825)	11.0%		
Net OM&A labour	3,222,479	3,721,100	252,370	77,070	(294,512)	218,992	244,700	498,621	2.9%		
Contractor services	658,546	565,400	(218,571)	104,314	(97,560)	100,170	18,500	(93,146)	-3.0%		
Employee expenses	126,302	158,300	50,475	(26,390)	(110,342)	113,054	5,200	31,998	4.6%		
Software and hardware	686,593	881,500	46,486	(13,657)	22,335	45,643	94,100	194,907	5.1%		
Business communications	223,731	235,500	13,273	(25,379)	(16,368)	45,244	(5,000)	11,769	1.0%		
Materials and supplies	26,523	30,500	(7,379)	503	(11,367)	23,920	(1,700)	3,977	2.8%		
Other	134,431	135,000	(3,607)	(3,521)	(7,414)	14,211	900	569	0.1%		
Cost recoveries	(499,329)	(483,700)	(40,735)	52,538	(28,976)	31,801	1,000	15,629	-0.6%		
Total \$	4,579,277	5,243,600	92,313	165,478	(544,204)	593,036	357,700	664,323	2.7%		

Net OM&A labour and contractor services

- Net labour expenditures in this Program have increased by \$498,621 between 2017 Actual results and amounts forecasted for the proposed 2022 Test Year resulting in a 2.9% CAGR. Wage escalation over this time at the CAGR of 2.2% accounts for \$373,808. The remaining \$124,813 or CAGR 0.7% is primarily due to the increased use of internal resources over external contractors.
- This move towards internal resources has resulted in decrease of contractor services costs of \$93,146. Use of internal resourcing helps to reduce costs, while developing an in-house team that is more knowledgeable and focused on London Hydro's business requirements and its customers. Having internal resources available also helps to improve consistency and lessen time required for issues to be resolved.
 - The Information Technology Program includes Information Technology ("IT") support costs pertaining to Project Management, Business Systems and Technical Support activities. IT is an essential backbone in all areas of business while supporting staff with the safe and timely operation of assets in the field, ensuring that customer billings are accurate, implementing regulatory changes, maintaining appropriate cybersecurity to protect customer information as well as providing operations, maintenance and support for customer communication tools such as



- MyLondonHydro, Trickl, IDC, MyEvent, Builder's Portal, the Property Manager Portal, and more.
- The IT Department is the foundation for the various systems used by London Hydro including,

Customer

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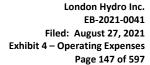
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- SAP Customer Information System ("CIS")
- Genesys Contact Centre
 - London Hydro's website and contents management
- MyLondonHydro
 - Green Button Connect My Data
- 9 Trickl
- Customer ID Management
- Property Management Portal
- Interval Data Centre ("MyIDC")
- Builder's Portal
 - Joint-Use Portal
- Cyber security
- Disaster recovery ("DR")
- Customer billing system
 - Phone systems and Interactive Voice Response ("IVR")
 - Metering Regional Network Interface ("RNI")
- Metering Operational Data Store ("ODS")
 - Metering communications such as the Advanced Metering Infrastructure ("AMI")
- Data analytics and reporting
- Retailer support including Electronic Business Transfers ("EBT")

Operational

- Supervisory Control and Data Acquisition ("SCADA")
- Outage Management System ("OMS")
- Geographic Information System ("GIS")
 - Mobile Workforce Management ("MWFM")
 - J. D. Edwards ("JDE") financial database
 - Transform AP automated accounts payable
- Human Resources Information System ("HRIS")
 - Intelex Health and Safety
 - Fleet database system (usage, driver, GPS, maintenance)
 - Materials Management bar coding system
- Capital project management
- Desktop and laptop computers, operating systems, applications, printers and copiers





The use of technology to enhance the system reliability, flexibility, operability, efficiency and

2 customer service is common-place at London Hydro. The IT Department contributes to this vision

and mission by optimizing IT operating and capital project activities through effective planning,

delivery of technology projects and operations on time, on budget and within expected quality for

5 London Hydro customers.

6 London Hydro has improved leaps and bounds in achieving process efficiencies and in providing

7 employees and customers with smart phone applications. The Company's paradigm for customer

facing applications is defined by security first, mobile first, cloud first and open standard first. This

has helped London Hydro remain a highly efficient utility, and to minimize costs in the IT

department. London Hydro has achieved this success due to the talent and dedication of its

11 employees.

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Technology has become a significant cost driver as it moves into the fabric of customers and

London Hydro's daily activities. Cost drivers result from pressures including

Constant cyber security monitoring, upgrading and enhancement

Keeping up with newer and better products

Increased automation and mobility

Finding resources familiar with legacy systems

London Hydro has been able to counter some of these rising costs through efficiencies gained by

leveraging technology in other areas. For example, through cloud computing as discussed in this

Exhibit starting on page 265. The Company is continuously seeking and implementing better ways

of performing tasks and deploying the necessary tools. Increased functionality through innovation

helps London Hydro to streamline processes and gain efficiencies. Efficiencies, in turn, help to

offset increasing costs associated with (for example) rising customer expectations, new

requirements and customer growth.

25 Fluctuations in net OM&A labour are largely dependent upon the varying phases or milestones of

active capital projects, regulatory changes issued by the Ontario Energy Board, as well as the IT

department's involvement in special projects such as the OEB Regulated Price Plan Pilot ("RPP").

In accordance with IFRS standards, only costs that are directly attributable to a capital asset are

capitalized. This includes activities such as programming, installation, configuration and system



- testing. IT activities charged to OM&A expenditures are more high level in nature and for the most
- part dependent on the phase of a given project. For instance, planning, conceptual design,
- 3 establishment of a business case and training.
- 4 Allocations to capital were higher during the fiscal 2020 year as technical staff spent less time on
- 5 pre and post project work which is operating in nature, and more time dedicated to existing capital
- 6 project implementations and enhancements.

Employee expenses

- 8 The increase in employee expenses relates mainly to higher costs for employee development. As
- 9 London Hydro moves to building in-house staff knowledgeable in the vast areas of technology,
- as well as project management, investing in specialized training is required. In addition,
- technology is under constant flux, which makes continuous professional development necessary.
- Many of the required courses are only available in the United States which adds to the increase
- in costs.

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14 Computer software and hardware

- 15 Computer software and hardware costs contain on premise solutions and numerous applications 16 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



- Overall cost increases for the more than 30 items included in this budget line relate to the addition
- of new applications since 2017, as well as increases associated with new functionality and vendor
- 3 price increases for product enhancements including added cyber security features.
- As mentioned, cyber security is crucial, and London Hydro invests significant effort and resources
- to ensure that systems and customer and business data are protected, especially with the
- 6 increase in Smart Grids, Smart Meters, Internet of Things ("IoT"), mobility devices and the change
- 7 in the way we do business as a result of the global pandemic. Cyber-attacks on utility systems
- 8 have increased and exposure to threats is on the rise. For example
 - Ransomware
- Malicious attacks
 - Phishing, Trojans, Worms
- 12 Botnets

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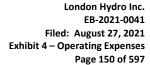
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- Smart grid reliability
 - Operational outages
 - Customer information breach
 - Equipment damage
- Energy theft
- Customer and employee safety
- To establish policies and provide a basis for assessing and reporting, the OEB introduced a new cyber security framework for the industry in the province of Ontario in 2018. This framework was largely based on the U.S. National Institute of Standards and Technology Cyber Security Framework and a separate data privacy protection standard known as Privacy by Design.
 - Cyber security has become a race between hackers and IT, without a finish line. Enhanced security is imperative to reduce the risk of malicious attacks and safeguard London Hydro systems and customer data privacy. In today's environment where cyber threats evolve at a rapid pace, successful security begins during the design stage of technical projects far before an enhancement is deployed to customers. Further security applications require constant updates and testing to ensure that systems and data are secure from attack. Identify management has become essential to ensure that only the proper people have access to technical resources and data.





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Keeping the Company's network secure against intruders, whether targeted attackers or

2 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.

5 London Hydro's cyber security program is continuously evolving along with the application

landscape which is changing and becoming increasingly accessible on the web. Furthermore,

employees work remotely and having access to data from the field is on the rise. London Hydro's

focus on cloud adoption and development of mobile ready applications has significantly

contributed to the cyber threat vector complexity increase. The Company's cyber security assets

consist of Security Information and Event Management ("SIEM"), single sign-on ("SSO")/access

control policy, endpoint security protection, firewalls, data encryptions, vulnerability management

program and tools, and data backup and recovery program and tools.

New items added since 2017 include Commvault backup and recovery system, maintenance

support for the operational contact centre and new technology products necessary for remote

network monitoring and device management given the significant increase in devices in the field

over the past 5 years.

17 Commvault backup and recovery has been added in support of disaster recovery and integration

with cloud platforms. This application delivers powerful functionality through physical and virtual

environments to protect and recover data and manage complexities for better insight into information.

20 Commvault provides protection and recovery of virtual machines, containers, databases,

applications, files and endpoints; with a single view to manage London Hydro's entire environment

allowing users to backup data and workloads efficiently and securely, both on premise and in the

cloud.

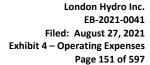
This tool delivers configurable encryption both at-rest and while in transit and stores protected data

on tape and disk with integrated deduplication and encryption support. Data with cloud storage

providers such as Amazon and Google are integrated for a complete view into the operations of the

backup and recovery infrastructure, helping with enhanced disaster recovery readiness as well as

portability of data between cloud platforms.





Another new cost in the computer software line item is the addition of annual support and maintenance for the operational phone system. While the customer facing call centre has been moved to the Genesys cloud-based solution, London Hydro's operational contact centre remains on a phone system installed in 2014. This Cisco phone system originally included maintenance for the first 5 years which has now expired, resulting in a new annual cost. This phone and contact centre system is one of the key systems that enables customers and outside parties to contact London Hydro's employees and includes

8 call routing

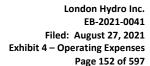
- voice mail and voice mail to email integration
- 10 call queuing
- call recording for quality
 - workforce management
 - emergency response service

Software and hardware budgets for both the 2021 Bridge Year and the proposed 2022 Test Year also include a new budget to help manage the increase in networking devices over the last few years. Most of the IT network management, monitoring and security tools currently in place are scaled to manage London Hydro's corporate network at 111 Horton.

In the last 5 years the number of networking devices deployed in the field to connect meters, now communicating via the internet, has increased significantly (i.e.: over 1000). Utilizing new technologies available to provide for remote network monitoring and management of these devices helps to reduce time and costs associated with site visits when there are issues in the field.

Cost increases associated with the purchase of additional licensing for increased functionality, and vendor price increases for product enhancements such as cyber security features include additional Microsoft and Oracle licensing and added cyber security in connection with DocuShare and single sign on capabilities.

The Microsoft enterprise agreement provides necessary licenses for Microsoft products in use and relevant software assurance which allows the IT Department to upgrade systems and stay current without making additional investments. It also gives London Hydro the ability to use





imaging tools for faster deployment of end user devices and run many servers in a virtualized environment instead of purchasing a licence for every virtual server. The Microsoft products in use at London Hydro include licences and software assurance for 310 personal computers and laptops, 5 data center physical servers running more than 300 virtual servers, the operating system for SCADA servers as well as SQL licensing for numerous databases used throughout the organization.

The cost of running Microsoft products within the London Hydro IT environment has increased significantly since 2017. In 2019 London Hydro concluded that entering into the three-year enterprise agreement with Microsoft was the most cost-effective option. Nonetheless, costs increased because of Microsoft changing their licensing structure. Further, costs have been rising due to additional workstations and laptops being added to the agreement. For example, the number of end user devices has been increasing due to additional laptops being deployed to field employees to support enhanced processes and accessing service orders anywhere.

Oracle costs have also increased due to the addition of a new module added for the purpose of encrypting data at rest as required under the Ontario Cyber Security Framework. Protecting data at rest with encryption is one of the numerous controls that London Hydro has put into place to ensure that both customer and business data is protected from cybercrime.

London Hydro uses Xerox DocuShare for document handling and integration with scanning equipment. This application provides a significant reduction in document search time by allowing employees to find what they need quickly, which is especially helpful for customer inquiries for example. This product has been enhanced by providing content encryption of all uploaded documents. Encryption is a form of data security to render data unreadable to an unauthorized party ensuring confidentiality. Only authorized people who have the key, can decipher the code and access the original information.

London Hydro has addressed the growing complexity and sophistication of cyber security threats by increasing the competency of the internal staff, complemented by state-of-the-art tools e.g. SIEM (Security Information and Event Management) software and a Single Sign On framework. SIEM is one of the key systems used for management of all cyber security events. It provides real-time monitoring of all critical systems for existing and emerging threats. The system collects



and analyzes large amounts of raw logs from many corporate assets, and alerts London Hydro to

shortcomings in the operations, enabling proactive hardening of its infrastructure against known

3 weaknesses.

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4 Single sign-on costs have increased as many applications have been added to this platform since

5 2017. Single sign-on is a centralized session and user authentication service in which one set of

login credentials can be used to access multiple applications. This service provides access to

multiple applications without needing to log in multiple times and delivers the highest level of

security while creating a seamless experience across touchpoints. It also helps to increase

productivity and reduce IT monitoring and management while enforcing strong security measures

and reducing the risk of lost, forgotten or weak passwords.

As mentioned, cloud costs have been segregated in this Exhibit for presentation purposes only to

provide a clear distinction between changes in costs associated with the transition to cloud

services from regular ongoing OM&A expenditures. A detailed discussion on cloud service costs

can be found in this Exhibit starting on page 265.

Business communications

The business communications cost category includes telephone lines, internet fees, cell phones

and photocopiers. Costs in this area fluctuate dependent upon items such as bandwidth

requirements, cell phone expenditures and photocopier maintenance on units acquired by London

19 Hydro in late 2013.

Cost recoveries

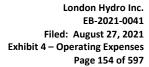
21 Cost recoveries represent amounts recovered from external sources including water billing

services provided to the City of London and periodic one-time implementation costs and ongoing

23 hosting services for other utilities. Most of the cost recoveries pertains to the City of London water

billing services and a full description of this arrangement is provided in the section entitled "Shared

Services and Corporate Cost Allocation" on page 332 of this Exhibit.





- One-time implementation costs pertain primarily to London Hydro deploying its Green Button
- 2 Platform as a 'Software as a Service" to two other utilities in Ontario, Festival Hydro and Whitby
- 3 Hydro.
- 4 Ongoing hosting services budgeted for 2022 are \$40,000 and include services for Festival Hydro
- only. Whitby Hydro and the Veridian Corporation merged to form Elexicon in 2019. This new
- 6 merger has put London Hydro's arrangement with the former Whitby Hydro at risk. Therefore, no
- amounts have been budgeted for any continued services for this location.
- 8 Arrangements with Festival Hydro and Whitby Hydro were in place prior to the Ontario Energy
- 9 Board Decision and Order issued September 6, 2018 (EB-2018-118) authorizing London Hydro
- to carry on business activities related to Green Button services through the company, rather than
- through an affiliate on a temporary basis up until its next Cost of Service Rate Application. The
- OEB's authorization gives due consideration to the fact that London Hydro's Green Button
- services are merely in the incubation period and under investigation. The establishment of an
- affiliate for this business activity at this time would be inefficient.
- Arrangements entered after the OEB's Decision and Order have been tracked on a ring-fenced
- accounting basis as instructed. Accordingly, no new activity in this regard is included in the
- schedule of Program Delivery Costs above post September 2018. Please see Exhibit 1 for full
- details regarding EB-2018-118.



4.3.5 CUSTOMER SERVICE AND COLLECTIONS

Overview

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- 3 Customer Service departments are responsible for taking care of customer needs by providing
- 4 professional and courteous service and assistance. Customer Service is the frontline in London
- 5 Hydro's pursuit of delivering outstanding service to the residents of London and value to the
- 6 community. The advent of online businesses has set high customer service expectations. London
- 7 Hydro strives to keep pace with these expectations while striking a balance between traditional
- 8 high touch person to person customer care against the imperative need to embrace emerging
- 9 and leading information and customer interactive technology.
- Targets in Customer Services include achieving 100% success on Ontario Energy Board Service
- Quality Indices and achieving a Customer Satisfaction Survey Score level of 'A'. These targets
- are achieved through operational objectives, including:
 - ✓ Delivering extraordinary customer service;
 - ✓ Managing customer accounts for both electricity and sundry;
 - ✓ Monitoring and updating the Customer Information System ("CIS") with periodic and other required rate changes;
 - ✓ Managing the CIS and business processes;
 - ✓ Employee training and process documentation;
 - Managing customer rate classification and rates analysis (ad-hoc and annual);
 - ✓ Managing self-service initiatives, including electronic bill presentment, online service applications, move-ins and move-outs, Interactive Voice Response ("IVR") enhancements and customer access to online meter and billing data;
 - ✓ Delivering both customer and employee communication;
 - ✓ Managing procured contracts for printing, mailing, collections, retailer settlement, and related information system and service providers; and
 - ✓ Performing revenue protection activities, including customer notifications, disconnects, reconnects, protection against theft and unbilled energy and managing payment arrangements all pursuant to the OEB mandated policy.



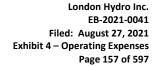
- London Hydro is an energy management services leader and community partner, empowering customers to make efficient and sustainable energy choices. London Hydro's strategic plan outlines the following pillars of focus for customer care:
 - ✓ We will continue to educate our customers to help them understand their energy needs and options.
 - ✓ We will enhance the customer experience by expanding opportunities for conversation.
 - ✓ We will increase the opportunities to listen to our customers.
 - ✓ We will support community initiatives.
 - ✓ We will take a partnership role with customers for their energy solutions.

An important aspect of the Ontario Energy Board's Renewed Regulatory Framework for Electricity ("RRFE") is the evolution to an outcomes-based approach. The OEB "believes that emphasizing results rather than activities, will better respond to customer preferences, enhance distributor productivity and promote innovation". There are four categories of outcomes under the RRFE: customer focus, operational effectiveness, financial performance and public policy responsiveness. London Hydro's Customer Service Program aligns to the following RRFE strategic outcomes:

Customer Focus: Customer engagement is now an explicit and important component of the regulatory framework. Utilities are expected to develop a genuine understanding of their customers' interests and preferences and reflect those interests and preferences in their business plans. Utilities are expected to demonstrate value for money by delivering genuine benefits to customers and by providing services in a manner which is responsive to customer preferences.

In addition to OEB direction on LDC rate application filings contained in the RRFE, its Handbook for Utility Rate Applications notes the following: "The OEB expects a utility's rate application to provide an overview of customer needs, preferences and expectations learned through the utility's customer engagement activities."

Since 1999, London Hydro has participated in UtilityPULSE's annual customer satisfaction survey. Over 475 residential, small business and large commercial customers participated in the last telephone survey, which evaluates London Hydro's overall performance and customer interactions from across the organization, including, but not limited to, field employees, dispatch,





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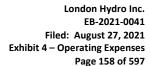
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- customer service and engineering. London Hydro continues to score a report card score of an A rating. Highlights from recent surveys include:
 - ✓ UtilityPulse Report Card score of A
 - √ 93% believe London Hydro provides consistent, reliable energy
 - √ 92% were satisfied overall with their most recent London Hydro experience
 - √ 90% of our customers believe London Hydro quickly handles outages and restores power
 - √ 89% believe London Hydro provides accurate billing
 - √ 89% believe London Hydro deals professionally with customer problems
 - √ 89% of large commercial customers believe they will have a good to excellent experience dealing with our professionals
 - √ 87% of customers think London Hydro is a trusted and trustworthy company

	London Hydro	National	Ontario / UP database
	2020	2020	2020
Customer Satisfaction: Initial	95%	96%	95%
Customer Satisfaction: Post	93%	94%	93%
Overall Satisfaction with most recent experience	73%	80%	76%
Net SUPPORTER Score™ [NSS]	28%		28%
Net Promoter Score™ [NPS]	37%		39%
Customer Effort & Experience Score™ (CEES)	40%		39%
Customer Experience Performance Rating (CEPr)	89%	86%	86%
Customer Centric Engagement Index (CCEI)	86%	85%	85%
Credibility & Trust Index	87%	85%	85%
UtilityPulse Report Card®	Α	Α	Α

Utility Pulse Customer Service Report Card for London Hydro

It has been said that customers will measure London Hydro's performance. While anecdotal, the following are real, selected and anonymized quotes that espouse the feedback the Company strives to achieve:





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- "My family would like to thank the staff at London Hydro for being so patient with my overdue history. Every staff member that I have ever spoken with always treats me with respect. I appreciate it. Thank you!"
 - * "I had a problem and a question about our water usage. Moments ago I spoke with one of your representatives in billing. She was incredibly helpful, patient, clear, and personable. She answered all my questions and was able to resolve our issue. You have a stellar representative."
 - * "I called today to inquire about my billing account and I just want to give a shout out to the agent who answered my call and also gave me some advice on how to save money on Hydro, she was so amazing and polite, it really made my day."
 - * "I had to call Hydro yesterday to sort out some billing information for my insurance company.

 The person who helped me was fabulous. Her help far exceeded my expectations and I wanted the opportunities to express my gratitude."

Areas of Responsibility

- The Customer Service and Collections Program consists of the following primary areas of responsibility:
 - Contact Centre servicing daily inbound customer requests and inquiries
- Back Office Support providing Contact Centre support as well as management and monitoring of the billing system
- Retailer Services providing management and support services for transfers between
 London Hydro customers and energy retailers
- Customer Relationship Management providing management and support services to
 large and key accounts
- Community Services working closely with London's social agencies and community
 groups on behalf of low-income customers to help ensure that those in need receive
 assistance for the energy they require
- Credit and Collections assisting customers with payment arrangements and collection of
 past due accounts



Contact Centre

- 2 Customer Service Representatives ("CSRs") in the Contact Centre are usually the first people to
- respond to customer concerns. The CSR will either resolve the problem or escalate the matter to
- 4 another department or agency. How CSRs handle customer concerns reflects on London Hydro
- in a very important way. Through their hard work, this team of friendly individuals balance the
- 6 needs of the customers and the Company to ensure that both sides have a successful outcome.
- 7 Monday to Friday from 8:30 a.m. to 4:00 p.m., the CSRs assist customers with inquiries, using
- 8 the SAP Customer Information System, once customer information has been verified in
- 9 accordance with the Personal Information Protection and Electronic Documents Act ("PIPEDA").
- Inbound call volumes fluctuate depending upon the issues and changes in the industry.
- The Contact Centre receives inquiries from both residential and commercial customers and
- combines both billing support and call centre activities. Inquiries received and matters handled
- 13 include

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- general billing inquiries
 - rates, pricing and billing options
 - rate classifications and periodic rate changes
 - final and disconnection notices
- 18 outages
 - consumption data
 - conservation initiatives
 - application for service
 - change to contact information
 - cancellation or transfer of services
 - payment arrangements
 - budget billing
 - preauthorized payments
 - invoice copies
 - billing adjustments due to adjusted meter reading and check reads
 - retailer activities and contractual obligations
 - account status changes, general inquiries, deposit inquiries
 - applications for secondary customers
 - exception queues for requests that cannot be accommodated in real time such as consumption adjustments or the creation of account receivable statements
 - billing/payment inquiries for demand and non-demand and/or non-interval meter customers



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- processing applications for service (Move-In / Move-Out)
 - complex billing inquiries
 - mixed meter inquiries
 - lawyer requests for information

As well as fielding inbound calls, the CSRs manage inbound correspondence including e-mail requests, move applications, written correspondence, pre-authorized payment applications, credit reference checks and any other general inquiries received by mail or fax. The Contact Centre staff process exceptions generated by the CIS system to resolve issues such as vacant services and changes to owner allocations. Manual exceptions generated by CSRs during calls are also handled by the CSRs.

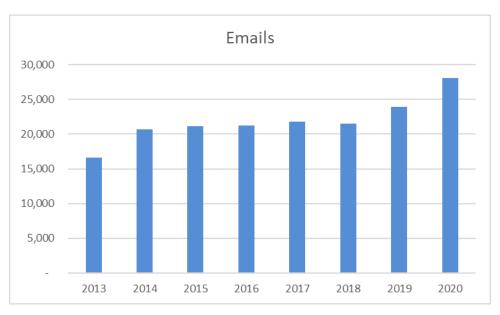
Team leads provide guidance to the CSRs, assisting with process clarifications, verifying policy and procedures and providing payment arrangement approvals. When an issue arises that cannot be resolved by the CSR, calls are forwarded to a Team Lead, who will work with customers to find a solution to the problem.

London Hydro utilizes technologies and innovation, whenever possible, to increase efficiency, while at the same time responding to customers' increasing preference for self-sufficiency and engagement. For example, the following functionalities have been made available to enhance the level of customer service and provide customers with alternative methods for obtaining information and communicating with London Hydro:

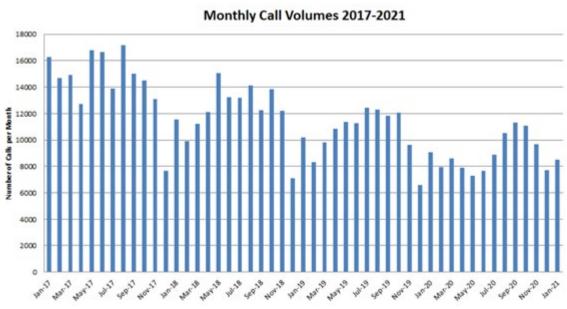
- ✓ corporate public website: https://www.londonhydro.com
- ✓ online self-service customer portal MyLondonHydro
- ✓ Green Button Download My Data
- ✓ commercial and industrial portal MyIDC
- ✓ outage notifications and live maps
- ✓ high consumption alerts
 - √ delegation access
 - ✓ payment arrangements
 - ✓ Property Management Portal
- 29 ✓ interactive voice response
 - ✓ paperless e-billing
- ▼ TOU versus tier pricing online comparator



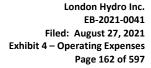
- New technologies have translated into an evolution in the methods used by customers to
- communicate with the Contact Centre. For instance, the Contact Centre has seen a consistent
- drop in the number of daily phone calls and an increase in the number of alternative
- 4 communication methods such as e-mail and self-service options.



Use of E-mail



Call Volume Trends

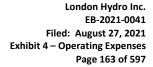




- Additionally, call volumes have decreased because of government subsidies like the Ontario Fair
- 2 Hydro Plan and Ontario Electricity Rebate ("OER") and London Hydro's decision to eliminate
- residential security deposit requirements. This has led to a decrease in staffing levels for both
- 4 core staff and call overflow services.
- 5 While London Hydro has seen a reduction in overall call volumes, a seasonal variation in calls
- 6 has also developed primarily attributed to the OEB's Disconnection Moratorium which
- commenced in 2017 and is now an annual event from November 15th to April 30th. Calls may
 - decrease during the moratorium; however, they later rise in the spring when customers that have
- 9 not paid their bill all winter find themselves working with London Hydro to pay their bill, make
- payment arrangements or manage disconnection.
- As customers utilize technologies they are shifting to "more convenient" methods to correspond
- with London Hydro. To evolve with this transition, new features underway include service offerings
- such as Chat, SMS (two-way texting), CoBrowsing, web surveys and outbound voice notifications.
- The Chat medium being offered is making it easier for customers to reach out to London Hydro's
- support team. Through this new messaging feature, CSRs can respond to customer inquiries in
- real time regarding matters such as account information or assistance with navigating self-serve
- options. Chat services can even be designed to initiate conversations with first-time website
- visitors or offer proactive support.



Live Chat





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SMS (Short Message Service) is similar to email and chat whereby a customer receives a

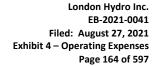
notification on a smartphone and can quickly respond to the message in the same medium.

- Through this two-way texting channel, a CSR can communicate with a customer directly and at
- their convenience to help answer the customer's question or guide them through a business
- 5 process while avoiding emails and phone tag.
- CoBrowsing (short for collaborative browsing) is the joint navigation through MyLondonHydro by two or more people accessing the same web page at the same time. When used in conjunction with communication channels like Chat, video Chat or voice calls, CoBrowsing helps to reduce customer friction and improves customer engagements without having to rely on customer experience. This solution enables a CSR to see what the customer sees and guide them through their needs.



CoBrowsing: where a customer sees the same screen as a CSR

As London Hydro offers more online self-service solutions (i.e. MyLondonHydro, Green Button, MyIDC, Property Manager's Portal) there is a need to help customers navigate and effectively use these solutions. Today, London Hydro's Contact Centre provides phone, email and in-person support, web-based online real-time chat, Co-browsing and SMS technologies that broaden customer engagement. Further, utility applications such as the Trickl mobile app and related inhome energy management load control devices will increase service delivery and communication needs.







Customer Communication Omni-Channel Components

2 Back Office Support

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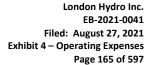
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- The "Back Office" handles all billing exceptions, audits and controls. This area is responsible for ensuring that the system has issued customers' monthly invoices successfully. This team also audits the Customer Information System to ensure that contract management is processed
- accurately, for example, Move-in / Move-outs. If any discrepancies or modifications to the SAP
- 7 CIS system have stalled the billing process, the Back Office manages these exceptions until the
- 8 billing process is completed appropriately. Back Office functions include
 - monitor and manage billing system exceptions
 - monitor and manage bill print exceptions
 - verify, test and implement periodic rate changes
 - audit invoices that exceed threshold limits
 - identify vacant services
 - manage error records for Move-In/Move-Out issues
 - assist with other Customer Service work areas to achieve performance objectives
 - investigate billing irregularities; analyze and evaluate impacts. verify, test and implement solutions
 - analyze and investigate database for incorrect billing, adjustments and fraudulent activities
 - audit and control of business functions and activities





- maintain CIS user access and database security
 - develop all customer service CIS reports
 - perform CIS database analytics
 - prepare functional and business requirements for CIS enhancements/bugs
 - assist with system procurement activities

The Back Office supports the Customer Service team by handling complex customer inquiries, complex billing adjustments and complex billing issues that aren't part of the department's regular activities. These activities include generation and large user account inquiries and billing. These resources assist all departments by responding to requests for assistance with system problems or escalations by troubleshooting and providing a resolution or completing a defect analysis. This group also assists in reporting system issues, testing solutions, identifying process issues and recommending solutions or improvements to the department supervisors and/or the Customer Support Trainer.

Whether to control costs, generate income, be more environmentally friendly or reduce reliance on the grid, customers continue to become more informed and have more sophisticated requirements. Many of London Hydro's residential and small business customers have installed solar panels. While new microfit contracts are no longer offered, administration of existing accounts is still required. In addition, FIT contracts have been increasing. Currently, London Hydro has 56 net-metered customers. Educating and supporting new generation customers is leading to increased time requirements. Net-metered billing is more complex and managing the credits is currently a manual exercise. This is because there are still a relatively small number of customers so that the cost of implementing a billing system for these accounts significantly outweighs the cost of providing manual billing. The full suite of self-serve functions is not yet enabled in the customer portal.

Staff in this area are finding that commercial customers who are becoming generators, each have unique billing and metering requirements that need to be evaluated, correctly interpreted and configured in the system. The various combinations have implications on rate categorization, billing and settlement: Totalized metering, Gross Load Billing, Standby charges, Network Charges, Transmission charges, Load, Generation meters, clock rules, type of generation, etc. that require an increase in support, consultation, education, tracking and potential system development.



Retailer Support

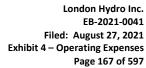
Another role performed by Back Office personnel is Retail Settlement. Those performing this role are the main contact for Retailers and handle Electronic Business Transfers ("EBT"), passing information from energy retailers onto their customers' bills. Currently, over 3,500 customers use energy retailers in London and these Retailers use London Hydro for Distribution Consolidated Billing ("DCB"), which means that London Hydro bills energy retail customers on behalf of these companies. Retailer support functions include monitoring and managing EBT exceptions and transferring pricing data from the IESO to the SAP CIS billing system. Year over year, there has been a continual decline in the number of customers using energy retailers (i.e. a 15% drop in 2020 alone).

Customer Relationship Management

In 2017, London Hydro established a Customer Relationship Management position specifically focused on service delivery for large Commercial and Industrial ("C&I") customers. As these customers have specific needs and more complex billing situations, this role provides a single point of contact. Further, the electricity system is increasing in complexity making it necessary for an increased focus, to ensure that London Hydro understands the rules, regulations, safety, technology and financial implications that these customers face today. Primarily, this role focuses on billing education and concerns. It also leverages and engages with the rest of the London Hydro organization to bring the right experts into a customer conversation as needed.

In establishing this role, London Hydro has been able to identify areas of service delivery where there are gaps in information or discontinuities in end-to-end internal business processes that can be improved. A main desired outcome of this new resource is to reduce billing errors and improve the responsiveness and turnaround time related to customer inquiries and issues, so as to achieve better satisfaction for C&I customers.

The MyIDC tool has been a lighthouse of customer engagement for the Company's C&I customers. London Hydro uses traditional rate classifications for segmentation due to the communication and support related to billing rates. The approach is to meet the smaller commercial and industrial customers by bringing down energy management tools and methods from the larger top users and medium sized customers.





- London Hydro has created the MyIDC solution for their 'key account' customers delivering
- 2 powerful self-serve energy management functionality to the shop floor via a mobile solution.
- London Hydro believes that it has created a unique industry-specific solution that differentiates
- 4 itself by:

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- Delivering mobile-based self-service functionality
 - o In-the-field event annotation
 - Power Factor, Load and Peak reporting and monitoring
 - Meter Grouping Analysis
 - Energy data reporting isolated by substation
 - Delegation
- Designing a solution that is accessible, secure and scalable
 - Cloud-based infrastructure
 - Designed for mobile responsive design
 - o Open Standards supports Green Button standard
- Co-creating with key account customers
 - Western University
 - o Budweiser Gardens
 - Fanshawe College
 - Thames Valley District School Board
 - London Health Sciences Centre
 - City of London

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"The knowledge we can gain from the data is enormous and having it online is a great asset for us."

Mary Quintana Facilities Management Western University

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"London Hydro's Interval Data Centre enables the Thames Valley District School Board to view the electricity usage data for over 150 schools across 7 LDCs [Local Distribution Company]. This service saves time and money by giving us access to all our critical electricity data in one spot".

> Michael Colquhoun Energy Management Coordinator TVDSB



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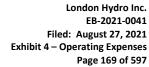
Community Services

- 2 The Community and Customer Service Liaison works closely with London's social agencies and
- 3 community groups on behalf of low-income customers to help ensure that these customers
- 4 receive the assistance needed to afford the energy they require.
- 5 While London Hydro has worked for many years with its social agencies to support this customer
- base, the role of the Community and Customer Service Liaison has evolved to incorporate
- 7 regulations implemented by the Ontario Energy Board ("OEB"). The OEB has defined an Eligible
- 8 Low-Income Customer as "a customer with a pre-tax household income at or below most recent
- 9 Stats Canada low-income cut off plus 15%, taking into account family size and community size."
- The OEB sets Customer Service and low-income rules across the province to assist customers
- who have difficulties paying their energy bills.

Credit and Collections

The Credit and Collections area manages inactive (final billed accounts) and active accounts that have become past due. These staff are responsible for commencing collection activity when customer bills are past due. This proactive approach reduces the risk of non-payment and the associated bad debt expenditure for those customers who do pay their account. When a customer bill becomes past due, a reminder notice is sent to the customer. A Field Collector is sent to the residence for collection if the notice is ignored. If no response is received within ten days, the service to the customer may be disconnected (outside the Disconnection Moratorium period). On average, Field Collectors make 240 visits daily. Within Credit and Collections, special care is also given to low-income customers following Ontario Energy Board Regulations.

- Credit and Collections is staffed by full-time office representatives working under the direction of a supervisor. Credit and Collection activities include
 - issue collection service orders to collect or disconnect
 - issue calls/letter to prompt payment
 - skip trace and forward inactive accounts to collection agencies
 - monitor and manage the Disconnect Approval List ("DA List")
 - issue reminder and final notices (automated)
 - create and process service orders for Field Collectors (partially automated)
 - monitor radios to communicate with field workers





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email.

- process and manage arrears management plans
 - process and manage deposit assessments
 - process and manage bankruptcy accounts
- manage collections on final bills (liaison with collection agencies)
 - fulfill bankruptcy/sale under mortgage requirements
 - maintain deposit requirements
 - manage all sundry receivables
 - manage complicated collection calls
 - report outstanding receivables

London Hydro continues to improve systems and processes in order to minimize bad debt loss.

For example, the new Notification System has been enhanced for overdue accounts and urgent notices for customers who are in jeopardy of having their service disconnected for non-payment.

This new functionality issues a notification for overdue bills, provides notifications after a 10-day notice has been given and notifies the customer prior to service disconnection. Customers receive an IVR message and if they wish, have the option to change the channel of notice to a text or

In addition, to eliminate delays for customers and increase

administrative efficiencies, London Hydro decided to move time-

consuming, manual processes over to a fully automated, web-

based platform by creating the Collections Mobile Workforce in

2018. This project resulted in earning a CS Week Award for

Customer Service Expanding Excellence.



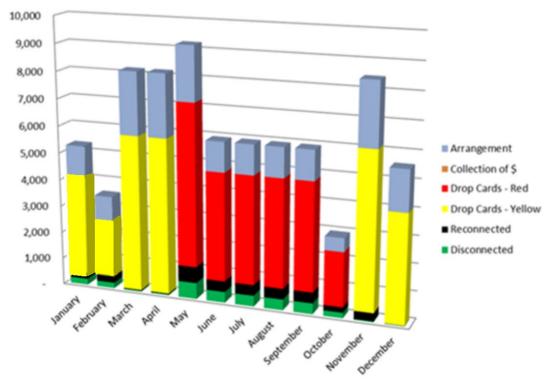
Through customization and automation, the streamlined collections process has

- ✓ reduced the time spent on routine and daily tasks by 92.5%
- ✓ increased efficiencies for field collectors by 96.3%
- ✓ improved the customer experience by allowing for 51% more time for customer interactions



In accordance with OEB regulations, London Hydro does not disconnect residential customers for non-payment during the Disconnection Moratorium period. During the last few years, London Hydro has seen approximately 3,000 residential accounts that remain connected each year, that otherwise would have been disconnected. This number is lower due to proactive revenue protection activities, such as the delivery of yellow cards (residential) resulting in payment arrangements in conjunction with outbound IVR collection calls to help remind consumers of their payment situation. This not only helps consumers stay on top of their accounts, but also assists in preventing additional late payment charges.

The graph below shows the annual collections work volume by type. The red cards that were previously issued have been replaced by yellow payment reminder cards. If the bills become so high that a customer is not able to pay it back, often they will move and leave the utility with bad debt.



Collections Work by Type - an Annual View



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Customer Service Rules Review

- 2 The Ontario Energy Board has implemented a suite of changes to the codes that preside over the
- 3 customer service rules that are intended to provide electricity and natural gas consumers
- throughout the province with a base level of service. The OEB has had customer service rules in
- 5 place for electricity distributors since 2011. Prior to the development of the Rules, each electricity
- 6 distributor was required to describe its operational policies in a "Conditions of Service" document.
- 7 Electricity distributors' customer service policies were embedded in their respective Conditions of
- 8 Service and they often varied from distributor to distributor. The Rules were developed to establish
- 9 minimum standards of customer service to ensure that every customer in Ontario receives a
- certain minimum level of service regardless of which distributor is providing the service.
- London Hydro has implemented the necessary business processes and system changes in order
- to be in full compliance. The Rules address
- Security Deposits;
 - Bill Issuance and Payment;
- Allocation of Payment;
- Equal Payment Plans;
 - Arrears Payment Agreements;
- Disconnection and Reconnection Practices for Non-payment;
- Correction of Billing Errors;
 - Management of Customer Accounts;
- Eliminating the Collection of Account charge and Install/Remove Load Control Device
 charge;
 - Updating the Late Payment Charge as follows: 1.5% per month (effective annual rate
 19.56% per annum or 0.04896% compounded daily rate); and
 - Renaming OEB-approved charges relating to reconnection of customers who had been disconnected for non-payment to "Reconnection" and listing it under Non-Payment of Account Charges.



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Security Deposits

The Distribution System Code allows electricity distributors to collect a security deposit from new

3 residential and commercial customers that do not qualify under certain exemption criteria. This

security deposit is held for a period of time to allow the customer to develop a good payment

5 history. After such time, the security deposit is returned.

In 2011, the Ontario Energy Board amended the Distribution System Code to set common

standards regarding how security deposits should be applied to arrears payments. Under the

amendments, the utility is required to use a customer's security deposit toward the amount owing.

9 Furthermore, electricity utilities cannot issue a disconnection notice to a residential customer for

nonpayment unless they have first applied any security deposit held against amounts owing at

that time, and the security deposit is insufficient to cover the total amount. Where an electricity

utility applies all or part of a security deposit to any arrears, it may request that the customer repay

the amount of the security deposit that was so applied.

While following this new provision, London Hydro saw an increase in customer complaints as

most customers found the new rules to be overly complex. Customers were confused at the total

actual arrears outstanding on their account, thereby increasing the number of calls received

through the Contact Centre.

In 2018, London Hydro changed the Conditions of Service to exclude the collection of all

residential security deposits. By doing so, London Hydro has been able to reduce customer calls

and complaints related to security deposits. This has helped to minimize resource requirements

within the Contact Centre and improve customer satisfaction.



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Program Delivery Costs

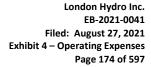
- 2 Customer Service and Collections program expenditures are forecasted to be \$3,345,700 for the
- 2021 Bridge Year and \$3,663,000 for the proposed 2022 Test Year. The forecast for 2022
- 4 provides an increase in comparison to the 2021 Bridge Year of \$317,300 and is \$704,835 over
- 5 2017 Actual amounts resulting in a CAGR of 4.4%.

Table 4-21: Customer Services and Collections Program Delivery Costs

Customer Services and Collections Program Delivery Costs									
			Annual Change					Total Change	
			2017 Actual	2018 Actual	2019 Actual	2020 Actual	2021 Bridge	2017 Actual	
			to	to	to	to	to	to	
Nature of expenditure	2017 Actual	2022 Test	2018 Actual	2019 Actual	2020 Actual	2021 Bridge	2022 Test	2022 Test	
	\$	\$	\$	\$	\$	\$	\$	\$	CAGR
Gross labour	3,971,654	4,293,900	(355,511)	(8,534)	55,857	463,134	167,300	322,246	1.6%
Labour allocations	(197,105)	(126,300)	169,180	32,807	(69,228)	(62,154)	200	70,805	-8.5%
Net OM&A labour	3,774,548	4,167,600	(186,331)	24,273	(13,371)	400,980	167,500	393,052	2.0%
Contractor services	446,069	620,500	(30,196)	(1,136)	33,377	41,386	131,000	174,431	6.8%
Postage and courier	1,267,232	1,188,000	3,317	(4,684)	(167,928)	104,563	(14,500)	(79,232)	-1.3%
Printing and mailing services	114,221	96,000	(27,705)	(1,797)	(8,626)	15,907	4,000	(18,221)	-3.4%
Collection services and fees	271,955	49,000	(3,172)	(23,336)	(66,144)	(121,304)	(9,000)	(222,955)	-29.0%
Bad debts	840,200	900,000	(137,670)	34,733	62,748	99,989	-	59,800	1.4%
Other	169,305	170,400	(8,003)	28,918	(47,080)	26,660	600	1,095	0.1%
Cost recoveries	(3,925,365)	(3,528,500)	86,711	237,755	78,186	(43,487)	37,700	396,865	-2.1%
Total \$	2,958,165	3,663,000	(303,048)	294,726	(128,837)	524,694	317,300	704,835	4.4%

Net OM&A labour

- Labour costs in the Customer Services department have been moving in a downward trend as more enhancements and tools are deployed to London Hydro's website allowing customers to be more self-sufficient. This decrease however, has been offset commencing in 2021 with the addition of 3 staff brought in from the Conservation Demand Management ("CDM") department and included in the budgets for the 2021 Bridge year and proposed 2022 Test Year.
- The Ontario government has cancelled electricity conservation programs delivered through local distribution companies with all activities ceased by December 2020. Programs are now being delivered through the IESO to provide for a more centralized approach. Consequently, London Hydro's CDM department has been closed.





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The IESO promotes conservation through a combination of incentive programs and offers training

and education initiatives. It works with customers to invest in energy efficiency since it is the most

cost-effective resource to help meet the province's energy needs. Energy efficiency is a key

element in responsible resource consumption while improving economic performance and

contributing to Canada's endeavor in reducing greenhouse gas emissions.

6 London Hydro's CDM department had been operating formally for over 15 years and consisted of

7 13 full-time and 8 part-time employees. This department has established London Hydro as a

trusted advisor providing expertise on energy matters within the community. Costs associated

with this area were fully funded resulting in no net costs being borne to the local distribution

10 company.

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. This helps

to maintain consumer confidence as more customers are finding the need for expert advice on

energy related matters; especially as they move towards new industry technologies such as

distributed generation, solar panels, storage devices and electric vehicles.

17 This team works particularly close with C&I customers, who are the largest consumer of energy,

providing guidance, business models and design frameworks to help them with their goals of

developing energy conservation within their infrastructures. Further, London Hydro's MyIDC

application helps customers with performance management by allowing them to monitor and

analyze energy usage patterns.

The Company provides a wide range of service that assists customers with a comprehensive

approach to energy management helping them to develop sustainable energy and cost savings

over the long term. Maintaining the expertise of these employees ensures that London Hydro can

continue with this valuable level of service.



Contractor services

- 2 Contractor services includes third-party call overflow services to assist with moderating the
- 3 balance of inbound calls. Communications into the Call Centre fluctuate during peak daily times
- and periods (e.g., during power outages, student moves in the summer months, or because of
- outside influences such as regulatory changes).
- 6 The Disconnection Moratorium has also impacted the seasonal variation in call volumes. For
- example, while call volumes can decrease during the Moratorium, they rise in the spring. This is
- 8 because customers that have not paid their bill all winter find themselves working with London
- 9 Hydro to pay their bill, make payment arrangements or manage disconnection. Utilizing third party
- call centre services helps the Company better manage these 'peaks and valleys' and meet the
- OEB's performance index in connection with answering inbound calls.
- While more enhancements and tools are deployed to the Company's website that allow customers
- to be more self-sufficient, 24/7, outsourcing call overflows helps keep the Customer Service
- department agile. Having this service available allows the Customer Service department to
- monitor the uptake of new functionality and fully evaluate the direction of customer preferences
- ensuring that a flexible and cost-effective approach is taken into the future.
- As customers have moved towards more electronic interaction, daily inbound calls coming into
- the Call Centre have been declining, while other forms of communication such as email
- correspondence has increased. Third party services increase the availability of Customer Service
- 20 Representatives to respond to correspondence and handle customer calls regarding more
- complex or escalated matters.
- New credit card processing fees for both MasterCard and Visa are also included in the contractor
- services line item. Accepting credit cards provides for enhanced customer convenience and
- increases enrollment in paperless billing which reduces the amount of paper use, transportation
- 25 and waste.



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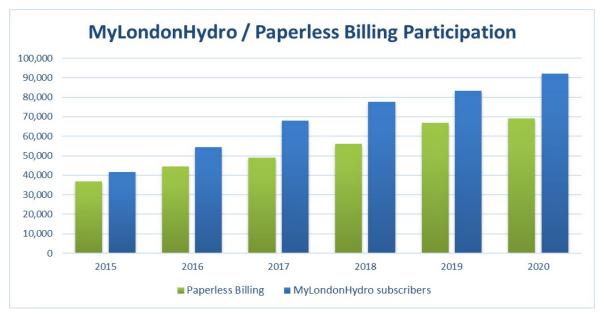
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London Hydro is constantly looking for ways to attract customers to paperless billing and to register for MyLondonHydro. Attracting customers to these services provides many benefits including,

- √ less environmental impact
- ✓ reduction in billing costs
- ✓ promotion of self-service tools
- ✓ promotion of conservation initiatives
- ✓ tools for analysing consumption data
- ✓ sharing consumption data with third parties (Green Button)

The Company introduced the Aeroplan Customer Loyalty Program in 2015 to entice customers to sign up for paperless billing and outage notifications. London Hydro was the first and only utility in Canada to offer a customer loyalty rewards program.



MyLondonHydro / Paperless Billing Participation

London Hydro was elated to learn that the OEB was exploring the idea of allowing LDC's to offer credit card payments as an alternative payment option. Providing customers with the opportunity to pay their utility bill by way of credit card provides the Company with yet another innovative way to help achieve the goal of increasing paperless billing uptake.



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This new offering is the outcome of a research poll commissioned by the OEB which obtained

consumer opinions indicating that 57% of residential customers feel it is important to be able to

pay their energy bill by way of credit card.

4 London Hydro's program with respect to accepting credit cards was developed with a view of

5 minimizing costs. Restricting credit card acceptance to customers who receive paperless billings,

6 helps to ensure that this new service does not increase utility costs much. Specifically, London

Hydro offers residential customers the opportunity to pay their bill by way of credit card only if the

customer is signed up for paperless billing. Other customers who wish to pay by credit card, but

do not qualify under London Hydro's program (residential, paperless), can continue to pay through

a third-party service provider such as Paymentus who will apply additional service charges.

Mastercard was originally offered and was chosen due to their low transaction fee. For example,

the fee on a \$200 utility bill charged on Mastercard is approximately \$0.60 in comparison to the

costs incurred by ratepayers to mail an invoice which is around \$.98 for postage, printing and

paper costs.

London Hydro is planning to accept Visa credit card payments from qualifying customers in 2022.

Visa transactions have a higher fee that is more on par with the price of producing and mailing a

paper invoice, so customers who chose this payment method do not provide for a cost savings.

Accepting Visa payments does however provide: customer convenience, paper reduction and

opportunities for London Hydro to increase customer awareness in connection with initiatives

such as self-service tools and available conservation programs as mentioned above.

Further, to register for paperless billing, customers must be registered for MyLondonHydro. This

powerful portal provides registered customers with access to an ever-increasing suite of self-

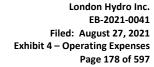
service functionality. Customer uptake of MyLondonHydro results in a corresponding reduction in

calls traditionally handled by Customer Service Representatives. London Hydro is continually

designing innovative portal applications to increase customer engagement and self-service so

that customers can resolve issues in their preferred manner and time of their convenience.

MyLondonHydro functionality includes





- Live outage maps
- Management outage notifications (website, twitter)
- Mobile device support
- Enhanced TOU analysis
- Green Button Connect My Data
- Budget billing
- View account details
- Payment arrangements
- Account nicknames
- Delegate access
- Preauthorized payments
- Activate, transfer or cancel a service (move in; move out; transfer)
- 13 Trickl app

14 **Postage and courier**

- Postage costs have decreased since the last Cost of Service Application because of increased
- participation in paperless billing. Customers who opt for paperless billing help to reduce postage
- costs and counter cost increases related to both inflation and customer growth.
- For example, given the change in postage rates between 2017 and the proposed 2022 Test Year
- and increases in customer growth, which together have increased by almost 20%, one would
- 20 anticipate that postage would have risen by approximately \$250,000 or a CAGR of 3.7%.



Postage Rates and Customer Growth								
Year	Pre-Sort (\$)	Change (\$)	Change (\$) %	Cust. Growth	Total			
2017	0.76							
2018	0.78	0.02	2.6%	1.1%	3.70%			
2019	0.81	0.03	3.8%	1.1%	4.90%			
2020	0.83	0.02	2.5%	1.0%	3.50%			
2021	0.85	0.02	2.4%	1.0%	3.40%			
2022 est.	0.87	0.02	2.4%	1.2%	3.60%			
	•		_	_				
Total		\$ 0.11	14.5%	5.4%	19.9%			

Change in Postage Rates and Customer Growth 2017 to 2022

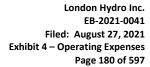
- 2 However, because of more customers moving to paperless billing, postage costs have actually
- decreased by \$79,000 for a negative CAGR of 1.3%.
- The significant drop in postage in 2020 is a result of various factors including the impact of COVID-
- 5 19, increases in paperless billing customers, a rise in paperless administrative activities and the
- extension of the Disconnection Moratorium for an additional 3 months to July 31st as no
- 7 disconnection notices were mailed during that time.

8 Printing and mailing services

- 9 Printing primarily covers printing of invoices and letters from Customer Services and Collections
- and includes direct mail letters printed for the Corporate Communications Program. Mailings also
- include preparing corporate mail, letters, etc. for dissemination along with the invoices and
- 12 reminder/final notices.
- Printing and mailing costs have been declining as more customers move to paperless billing.

14 Collection services and fees

- Collection charges have decreased due to the Winter Disconnection Ban which commenced in
- 2017 and is now an annual event from November 15th to April 30th (EB-2017-0318). During the
- moratorium, distributors are prohibited from disconnecting residential customers for non-payment.





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As the moratorium has created a seasonal variation in Field Collector activities, London Hydro

has decreased its utilization of third-party services and moved towards an internal labour model

for performing disconnection and reconnections. The temporary cessation of disconnection

activities during the winter months has created seasonal fluctuations in demand for disconnection

5 for non-payment. This makes it difficult to engage third-party services due to inconsistent service

6 requirements and timelines. Moving to inhouse resources helps keep the Collection Department

flexible. Further, most employees recruited for these supplementary collection activities are

8 already familiar with this type of work through their experience in the metering area.

9 Another change impacting contracted collection services costs is the move to mailing

disconnection warnings to customers. In the past, these were hand delivered.

Bad debts

Bad debts are forecasted to be \$900,000 for both the 2021 Bridge Year and the proposed 2022

Test Year. The forecast for 2022 provides an increase over 2017 Actual amounts of \$59,800

resulting in a CAGR of 1.4%.

Bad debt expenditures were negatively impacted by the Winter Disconnection Ban which first

came into effect February 2017 resulting in an unfavorable variance of \$140,200. However,

government subsidies introduced by the province, beginning July 2017, to reduce the cost of

energy for customers has helped to reduce the impact of this new directive.

This disconnection moratorium has a greater impact on London Hydro since London is the home

to the University of Western Ontario and Fanshawe College with over 45,000 students attending.

21 Each year thousands of students come to London for their education and many vacate their

premises by April 30th, leaving London ratepayers with the bill.

During the disconnection moratorium, the number of accounts in arrears increases dramatically

as some customer's incentive to pay on time is reduced. Though London Hydro uses

disconnections as a last resort, knowing that the LDC cannot disconnect, some customers neglect

to pay their bills letting them build unmanageable outstanding balances by the spring.



Collectors deliver calling cards and leave customers with information about how they can reach

out to London Hydro to make payment arrangements, so they will not get into a situation without

remedy. London Hydro works closely with delinquent account holders to connect low-income

households struggling to make payments with utility-support programs and get customers on

5 repayment plans.

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6 In addition, each year London Hydro contributes \$200,000 to the Low-Income Energy Assistance

7 Program ("LEAP") to help qualifying customers pay their electricity bills. This Emergency Financial

Assistance Program helps those in need get through difficult situations. As a good corporate

citizen, London Hydro is compelled to support the community. Furthermore, since funding

provided to LEAP is returned to London Hydro from low-income customers, these contributions

are a proactive approach to reducing bad debt expenditures.

Bad debts expense is influenced by the cost of power, global adjustment, TOU billing, as well as regulatory directives affecting London Hydro's collection practices. Even though London Hydro

simply passes the cost of power through to customers without any sort of mark-up, changes in

cost of power impact bad debts. This is because energy consumed by customers that becomes

delinquent due to non-payment, results in a bad debt expense for London Hydro.

Before subsidization began in 2017, historical increases in cost of power were in the range of 7%.

However, government subsidies like the Ontario Fair Hydro Plan brought in during 2017 and

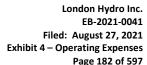
replaced by the new Ontario Electricity Rebate ("OER") in 2019, have had a favorable impact on

the bad debts expense of the Company by reducing the cost of power for customers.

The Ontario Fair Hydro Plan had a significant impact on the cost of power paid for by customers, reducing charges by an average of 25% for households and small businesses. This program was replaced by the Ontario Electricity Rebate in November 2019 and is applied to bills for most residential consumers, farms and many small businesses. The OER is a provincial rebate equal 18.9% (31.8% November 2019 to October 2020; 33.2% November 2020 to December 2020; 21.2% January 2021 to April 2021) and is an expansion of the former 8% rebate and replacement

of the rate reduction previously provided by Global Adjustment Refinancing under the Fair Hydro

28 Plan.

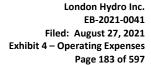




- Other regulatory directives having an impact on bad debts include items such as the extension of
- the Minimum Payment Period to 20 days and waiving late payment charges on Arrears Payment
- 3 Agreements for residential customers.
- 4 Increases in bad debt expenditures caused by the COVID-19 pandemic have been captured
- 5 under an OEB deferral account and are therefore excluded from OM&A expenditures presented
- above. To help minimize the financial impact of the pandemic, the OEB issued an Accounting
- 7 Order dated March 25, 2020 for the establishment of deferral accounts. Sub-accounts were
- 8 established under the main account 1509 Impacts Arising from the COVID-19 Emergency to
- 9 track COVID-19 related expenses which included a section for incremental bad debts
- 10 expenditures.

Cost recoveries

- Cost recoveries represent amounts recovered for activities associated with water billing services
- provided to the City of London (including customer enquiries and account collections), customer
- collection and reconnection charges (OEB 5330) and Retail Cost Variances reclassified to OEB
- deferral accounts. The largest item in this line pertains to the City of London services and a full
- description of this arrangement is provided in the section entitled "Shared Services and Corporate
- 17 Cost Allocation" on page 332 of this Exhibit.
- Collection and reconnection charges recovered directly from London Hydro's customers (i.e. OEB
- 5330, Collection Charges) are netted against collection costs under the Customer Service and
- 20 Collections Program for the Rate Application presentation as required to be consistent with the
- OEB Uniform System of Accounts ("USoA").
- 22 Collection and reconnection charges recovered have decreased \$352,398 between 2017 Actuals
- 23 and the proposed 2022 Test Year as a result of OEB EB-2017-0183 and EB-2017-0318.
- Pursuant to EB-2017-0183 issued March 2019, London Hydro no longer applies specific service
- charges for the collection of account charges or the installation/removal of load control devices.
- These charges have now been eliminated as the OEB considers these charges to be normal
- business activities. The remaining charges in this account relate to reconnection fees only.





- During the Winter Disconnection Ban (EB-2017-0318) which was first implemented in 2017,
- 2 distributors are prohibited from disconnecting residential customers for non-payment. During the
- moratorium, recoveries are reduced because activities are halted with respect to collection on
- residential customers resulting in no levies for disconnection notices (\$10.00 fee) and no
- 5 reconnection of services (\$35.00).
- 6 For example, Collection of Account Charges in the last year of normal activity, being 2016, was
- ⁷ \$485,890 (48,589 units) compared to the amounts for 2020 which were \$12,180 (1,218 units).
- 8 Similarly, Disconnection Connection charges in 2016 were \$144,515 (4,129 units) where
- 9 reconnection amounts for 2020 are \$17,570 (502 units).

The Retail Cost Variance Accounts ("RCVA") are associated with the variance between fees charged for retailer services in comparison to the actual incremental cost of providing services up until December 2021. Effective January 1, 2022, the OEB no longer requires the tracking of these variances for capture under the Retail Cost Variance Accounts 1518 and 1548. RCVA amounts recovered for 2017 were \$68,514 where the amount budgeted for the 2022 Test Year is nil resulting in a further increase in this line item.



London Hydro Inc. EB-2021-0041 Filed: August 27, 2021 Exhibit 4 – Operating Expenses Page 184 of 597

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4.3.6 CORPORATE COMMUNICATIONS

Overview

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3 The Corporate Communications department is responsible for external and internal

communications. This department develops communication plans and strategies to inform and

educate customers on changes or new developments that may affect the services that they

receive from London Hydro. Similarly, internal communications and programs are communicated

to the employees to ensure they have the most recent information regarding changes in the

8 industry, safety issues and programs to provide a safe and healthy work environment.

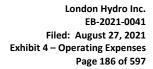
9 Recent Initiatives

The Corporate Communications department prioritizes educating and informing customers and employees of new programs and services available to them through detailed communication plans. Successful uptake and participation in new programs and services depends on delivering key messages clearly and highlighting the benefits to the intended audience. Below are examples of recent initiatives that the Corporate Communications department has rolled out to external and internal audiences:

New energy management tools

In the 2017 Customers Satisfaction Survey, 32% of customers wanted more tools and calculators to help them manage their electricity usage, and 73% wanted more information that would help them reduce their costs. In response to this customer feedback, London Hydro continues to develop new self-service features and update existing ones, so customers can quickly access their data and make decisions about their account at any time that is convenient for them.

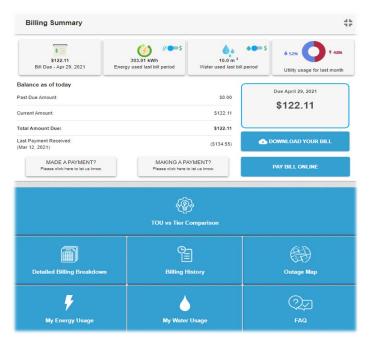
For the last seven years, London Hydro has been developing a suite of applications using the Green Button Platform. These applications allow customers to manage how they use energy by providing them with self-service access to their data usage and pricing information. The Corporate Communications department developed a unifying brand and communication plan to promote these field-tested energy management apps.





1 MyLondonHydro dashboard

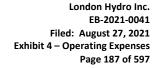
In 2019, London Hydro updated the MyLondonHydro customer portal dashboard to provide an easy-to-read billing summary and a tile interface with easy-to-find options including selections such as the detailed billing breakdown and billing history. A survey was conducted by the Corporate Communications Department after the updated dashboard went live to evaluate customer satisfaction with the new layout. Based on initial customer feedback, London Hydro added energy and water usage tiles and made the DOWNLOAD YOUR BILL button more visible.



16 Choice of price plan - introduction of the tiered price plan

In April 2020, the Ontario Energy Board (OEB) announced that, as of November 1, 2020, they would require LDCs to provide their residential and small business customers with a choice between two regulated price plans, the long-established Time-of-Use (TOU) and new Tiered option.

To help customers understand their options and reduce the back-end complexity of moving customers between plans, London Hydro developed an automated and personalized calculator and self-service rate switch using the information already housed in customer's MyLondonHydro accounts. London Hydro created a thorough communications plan to drive customers to their Price Plan Calculator and promote it as the best tool to use if customers wanted to decide based on their specific personal historical energy usage data.





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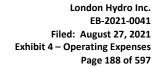
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survey:



Price Plan Comparison Tool

- The campaign resulted in 77% of customers using this self-service feature to switch plans. In fact, the Corporate Communications department's campaign has been so successful that the OEB contacted London Hydro to review the Company's marketing materials. According to a customer
- - √ 92% of customers will use the calculator again
 - √ 93% of customers will recommend the calculator to friends and family
- The Company was awarded the EDA's Customer Service Excellence award in 2021 in part for the creation of the Price Plan Calculator. The Price Plan Calculator promotions raised awareness of the feature and educated customers on its benefits. This put more control in customers' hands and resulted in relieving calls to the call centre.
- 13 No service-fee Mastercard payments
- An Ontario Energy Board study in 2017 conducted across the province indicated that while ratepayers are interested in making their energy bill payments by credit card, the majority wouldn't do so if they had to pay the associated service fee.
- As a result of this, London Hydro launched the no-fee Mastercard[™] payment option in 2019 to paperless billing customers through the MyLondonHydro customer portal.





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- 1 The Corporate Communications department
- 2 implemented a successful communication
- 3 plan to inform customers of the new feature
- and encourage the to switch to paperless
- 5 billing to take advantage of online payments.

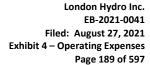


Paper-free communications

- 7 In the 2020 Customer Satisfaction Survey, 67% of customers said they wanted London Hydro to
- 8 prioritize the use of e-billing and paper-free communication options to reduce environmental
- 9 impact and improve cost-effectiveness.
- London Hydro continues to promote their paperless and Aeroplan program with detailed
- communication strategies. Since launching in 2015, the Paperless program has grown to include
- over 70,000 customers, with over 14,000 of them collecting Aeroplan points for each electronic
- bill they receive.
- The Corporate Communications department continues to look for opportunities to move to paper-
- 15 free tactics, especially as more customers move to electronic spaces and forms of
- 16 communication. For example, in 2020, London Hydro decided to avoid mass printing and
- distribution of their 2019 Report on Progress and instead delivered electronic copies to customers
- while making it easily accessible on the website landing page. By going paper-free, London Hydro
- increased its outreach by 450% while reducing printing and distribution costs by 97%.

Updated corporate website

- London Hydro's award-winning corporate website, launched in 2014, was due for an upgrade as
- the coding and design did not meet AODA "AA" WCAG 2.0 compliance mandated for 2021.
- 23 Further, the website's Content Management System ("CMS") did not provide the flexibility
- required to create and manage engaging digital content and communications for the Company's
- customers and key audiences.





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- London Hydro's refreshed website had to provide website administrators with a flexible, easy-to-
- 2 manage solution that has the ability to:
 - ✓ Drive users to self-service
 - ✓ Improve findability of content
 - ✓ Improve operations, content strategy, and support core business
 - ✓ Meet accessibility WCAG 2.0 Level AA compliance (AODA)
 - The Corporate Communications department developed a communications plan to promote the new site and gather feedback from customers. Surveys, focus groups and tree testing sessions were held by the Corporate Communications department for customers to provide feedback on London Hydro's current site and the direction of the new site. London Hydro's new website went live on September 1, 2020, and as a result, customer engagement has increased across many areas:
 - ✓ Visitor traffic to the website increased by 52% over the previous year
 - ✓ Website traffic bounce rates decreased by 18% over the previous year
 - ✓ MyLondonHydro registrations increased by 45% over the previous year
 - ✓ New customer move-ins increased by 39%
 - ✓ Outage notifications increased by 30%
 - ✓ Aeroplan registrations increased by 8%
- 19 Customers surveyed on the new website throughout 2020 provided positive feedback including 20 an average rating of 4 out of 5.

Work safe live safe

Employee safety is a top priority at London Hydro. In 2019, London Hydro launched a new internal safety initiative focusing on making safety a way of life. The "Work Safe Live Safe" program promotes making safety a habit and provides safety training and information that can be used both at work and home. The new program was rolled out to employees through a communications plan developed by the Corporate Communications department.



1 **COVID-19**

- 2 During 2020 and 2021, it has been a priority to keep customers and employees informed
- regarding the impact of COVID-19 on London Hydro's business.
- In the 2020 Customer Satisfaction Survey, 69% of customers said it is highly important that
- 5 London Hydro be a primary source of information for hydro relief programs offered by the Ontario
- 6 Government. The Corporate Communications department initiated a communications plan to
- 7 inform customers of programs available to them if they require assistance paying their bills and
- reassure customers that London Hydro's business continues to operate as normal.
- 9 Internally, the Corporate Communications department has continued to keep employees informed
- of changing workplace safety protocols and government regulations related to COVID-19.

11 Community Relations

- 12 Community relations plays an important role in the Corporate Communications department
- strategy by providing a stage to increase energy literacy and share new innovations while
- rebranding London Hydro and the electricity industry.
- London Hydro is consistently recognized as a good corporate citizen through its involvement with
- many community organizations. The Company contributes to the community through various
- events and ongoing educational programs delivered to the public.
- London Hydro employees have built a strong tradition of generosity, giving both their time and
- money to support several local charities and charitable events. Employees at all levels, in all
- departments, enthusiastically participate in events throughout the year, every year. In 2020, for
- example, employees contributed over \$31,000 to a wide array of charities including over \$4,400
- to the Salvation Army's Christmas Toy Drive. London Hydro also sponsors many industry events
- 23 (through IEEE, EDA, etc.) by providing speakers to share expertise with the delegates.

24 Santa Claus parade

- London Hydro is always looking for exciting and creative volunteer opportunities for employees
- to participate in and allow them to give back to their community and customers.



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- Participating in the Santa Claus parade allows London Hydro to:
- - ✓ positively engage with customers outside of the normal scope of the Company's work
 - ✓ provide a volunteer opportunity for employees from all different departments where they are able to collaborate on a large-scale project and utilize the diverse skillset of London Hydro's workforce
- 7 Since its first entry in 2018, London Hydro has won three awards; two Committee's Choice awards
- 8 from the London Santa Claus parade (2018 & 2019) and one Best Commercial Float award from
- 9 the Hyde Park parade (2019).

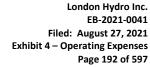
10 **Promoting the JUNOs**

As soon as the JUNOs made the official announcement in December 2018 that it had chosen London, Ontario as its 2019 host city, London Hydro seized the opportunity to be involved. While registered as a host committee sponsor, London Hydro went above and beyond its sponsorship duties. The Corporate Communications department developed a communications plan to engage London Hydro customers and employees with the JUNOs.

Through internal and external promotions, London Hydro was able to:

- Allow customers and employees to attend a variety of JUNO events
- ✓ Raise money through an employee raffle that was donated to
 MusiCounts Canada to invest back into the London community
- ✓ Provide employees with volunteer opportunities throughout JUNO
 week
- ✓ Run a Paperless Billing contest that included 25,000 Aeroplan
 reward points as the grand prize







- **School Electricity Safety Education Program**
- 2 Safety is a top priority at London Hydro for both employees and the public. For over 30 years,
- 3 London Hydro has been delivering interactive electrical safety presentations to students in grades
- 4 3 to 8 at local schools. The presentations are tailored to different age groups to ensure that the
- 5 messages are engaging, relevant and understood.
- This program provides over 8,000 children per year with the chance to understand the dangers
- associated with electricity. School boards, students and parents recognize London Hydro as a
- 8 trusted resource of information, and the students are quick to educate the rest of their families on
- 9 what they have learned.





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The presentations take place three days per week during the school year and a vehicle branded with the graphics from the Electricity Safety Program helps to create awareness as it travels from school to school.



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Program Delivery Costs

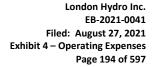
- The Corporate Communication Program OM&A expenditures are forecasted to be \$1,290,300 for
- the 2021 Bridge Year and \$1,387,900 for the proposed 2022 Test Year. The forecast for 2022
- 4 provides an increase over the 2021 Bridge Year of \$97,600 and \$525,720 over 2017 Actual
- 5 amounts resulting in a CAGR of 10%.

Table 4-22: Corporate Communications Program Delivery Costs

Corporate Communications Program Delivery Costs									
			Annual Change					Total Change	
			2017 Actual	2018 Actual	2019 Actual	2020 Actual	2021 Bridge	2017 Actual to 2022 Test	
			to	to	to	to	to		
Nature of expenditure	2017 Actual	2022 Test	2018 Actual	2019 Actual	2020 Actual	2021 Bridge	2022 Test		
	\$	\$	\$	\$	\$	\$	\$	\$	CAGR
Gross labour	336,268	686,700	66,591	130,811	69,893	60,038	23,100	350,432	15.3%
Labour allocations	2,916	(72,600)	9,999	15,511	(53,368)	(61,958)	14,300	(75,516)	-290.2%
Net OM&A labour	339,184	614,100	76,590	146,322	16,524	(1,920)	37,400	274,916	12.6%
Employee expenses	5,125	19,600	5,610	(354)	(3,809)	8,629	4,400	14,475	30.8%
Consulting services	62,725	170,000	30,042	60,792	(125,257)	113,698	28,000	107,275	22.1%
Advertising and promotion	210,583	305,000	38,457	9,224	(16,859)	48,594	15,000	94,417	7.7%
Donation (LEAP)	200,000	200,000	-	-	-	-	-	-	0.0%
Materials and supplies	17,918	34,700	8,839	851	(3,613)	10,205	500	16,782	14.1%
School safety program	18,944	33,100	4,095	5,549	(13,465)	5,176	12,800	14,156	11.8%
Other	7,700	11,400	1,270	(55)	4,352	(1,367)	(500)	3,700	8.2%
Total \$	862,180	1,387,900	164,902	222,330	(142,127)	183,015	97,600	525,720	10.0%

Net OM&A labour

- The budgeted amount for Corporate Communications OM&A labour for the proposed 2022 Test
- 9 Year is \$614,100. This amount represents an increase of \$274,916 over the 2017 Actual results
- or a CAGR of 12.6%. This growth rate is higher than the expected increase for wage escalations,
- benefits and employer costs due to the addition of two new resources. In light of new initiatives to
- increase energy literacy and keep customers informed and engaged, this department was
- previously understaffed.
- Many industry changes have occurred since 2017 including the Fair Hydro Act that came into
- effect in 2017, a change in provincial government in 2018, followed by Bill 97, Fixing the Hydro
- Mess Act and on-going changes to customer service rules. In addition, there has been growing
- project support requests and increasing developments in connection with self-service features
- brought about by the Green Button platform.





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- To meet the growing needs, two additional staff have been hired including a Program Manager
 - and Corporate Communications Assistant. These new resources have allowed for an increase in
- 3 external communications. This allows the Corporate Communications department to keep
- 4 customers informed of changes to rules and regulations and made aware of tools and resources
- 5 available to help them monitor and reduce their electricity usage. These new resources also help
- to increase internal communications that support London Hydro's corporate culture and keep
- 7 employees connected and informed.
- 8 The new resources added to this department help with the increased tasks associated with
 - creating, developing and designing communication materials including billing inserts, newspaper ads, articles, truck signage, direct mail pieces, magazine ads, trade show signage, corporate newsletter, and information pamphlets
 - coordinating the printing of corporate communication materials with local printers
 - conducting research to determine the demographics for programs, services, and corporate communication pieces
 - preparing reports and updates for the Director of Corporate Communications
 - coordinating Conservation Management workshops for the local school boards
 - providing kits, and managing materials and information loaned to teachers from the local school boards
 - coordinating materials and information for trade shows, public exhibits and demonstrations
 - participating at trade shows including setting up booths, coordinating delivery of material, and communicating objectives of programs to the public
 - managing the data posted on internal and external corporate web sites
 - distributing the corporate web site customer emails to appropriate departments or individuals

In today's culture, people want to be informed quickly and through many channels. Resource requirements in the Corporate Communications area have increased to better manage and orchestrate communications with both customers and employees with many objectives and outlets including

- ✓ Community engagement
- √ Websites
 - ✓ Social media
- 2 ✓ Media relations



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- ✓ Strategic communications 1
 - ✓ Advertising
- ✓ Corporate identity/brand 3
- ✓ Promotional materials 4
 - ✓ Public relations
 - ✓ Emergency communications

Effective communication practices help to keep the community and employees informed about 7 London Hydro's vision and values. It also ensures that stakeholders are kept apprised on the 8 Company's corporate strategies, capital development plans and technological advances. Keeping 9 the community informed has many benefits including letting customers know that London Hydro 10 is a good neighbor. It also promotes the Company's reputation which helps to retain and recruit 11 talented employees. Employee engagement and effective internal communications boost 12

productivity and confidence, while building a better workplace and encouraging voluntary efforts.

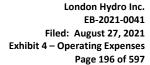
Employee expenses

The increased number of employees within the department require additional support for continued education tuition and conference training programs to stay aligned with industry standards, new technologies and communication platforms. For example, personnel attended conferences at which the case study method is used to identify issues and communication tactics that either worked well or did not have the expected outcome. The importance of these networking opportunities lies in the opportunity to determine best courses of action and to avoid methods that others have not found successful. This helps to reduce the potential for money and resources to be spent without obtaining desired results.

Consulting

Additional consulting services are required as a result of the large increase in the number of 24 initiatives flowing through the department and ensure that customers are kept informed. For 25 example, TOU, RPP options, new support programs, Outage Management notifications, 26 paperless billing, method of payment options, the Aeroplan program, MyLondonHydro, MyIDC, 27

Trickl, Builder's Portal and the Property Managers Portal. 28





Further, the Green Button platform has contributed to the expansion and further development of

self-service features that help customers monitor and reduce their energy usage. To increase

customer recognition and use, London Hydro has recently established a Green Button Marketing

Strategy that brings all Green Button features under one unified creative and user-experience

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6 London Hydro has been a leading Ontario utility in adopting and developing Green Button

systems and applications. In 2018, London Hydro also became the first utility in the world to

receive Green Button Connect My Data ("CMD") certification from Underwriters' Laboratories.

This certification affirms the security and accuracy of London Hydro Green Button data and

10 platform.

The Green Button platform delivers a secure and scalable data structure that simplifies data

integration for London Hydro applications and self-service offerings. Green Button unifies

customer and consumption data under one platform and serves as a data hub, making

development of data driven functions simplified and reusable. This data helps to leverage smart

meters and TOU pricing options while developing a system that provides end-to-end

interoperability and is robust and flexible for changes that lie ahead (for example, electric vehicles,

DER, batteries, smart home integration) so that customers can make sound decisions regarding

the choices available to them.

Increased consulting services help with activities including the development of media content,

creating videos and focus groups and surveys necessary to solicit customer perspectives. This is

imperative during this era of rapid technological developments so that customers have a say in

new products and services that may become available. London Hydro evaluates customer input

carefully to plan for the most appropriate path forward and provide long-term value for customers.

This new funding contributes to the development, coordination and continuous improvement of

the content and delivery of customer communication, outreach and engagement while ensuring

that customer feedback is collected, which is necessary for more effective communication with

customers to ensure that they are informed and empowered.



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Advertising and promotion

- 2 Communication strategies used for advertising programs include, but are not limited to, radio
- spots, billing inserts, posters and billboards, community events, home shows and even meeting
- 4 with customers one on one.
- Advertising costs were lower in fiscal 2017 due to London Hydro's involvement with the OEB 5 Regulated Price Plan Pilot ("RPP"), which commenced in 2017 to test alternative pricing 6 structures and non-price tools to empower consumers and provide incentives and opportunities 7 for consumers to reduce their electricity bills by shifting their time of electricity use. The RPP 8 focuses on the impact and behavioral deviations of digitally engaged customers in relation to real 9 time energy consumption information availability. London Hydro's involvement in this study helped 10 to further enhance and build upon the success of the Company's Green Button initiative by 11 improving availability of energy consumption data and personalized home analytics for customers. 12 London Hydro's participation in this project also helped with the Company's goal of improving 13 consumer's energy literacy and promoting the energy conservation culture in Ontario. The RPP 14 pilot materialized as a result of the Regulated Price Plan Roadmap (EB-2014-0319) issued by the 15 16 OEB in November 2015 which set out a five-point plan. Through this plan, the OEB was provided with statistical information on the potential impact of redesigning the RPP to better respond to 17 policy objectives, improve system efficiency, and give greater consumer control. 18

Advertising costs specifically related to the RPP Pilot were charged directly to the project for recovery. Due to the Corporate Communications Department heavy involvement in the RPP study, less time was available for ongoing corporate advertising as well as activities such as home shows and other community outreach programs.

In 2021, London Hydro is launching the mobile app Trickl, which will provide customers with easily accessible, self-service options. The Trickl app empowers customers by giving them the ability to monitor and control their energy consumption through their smartphones. Trickl provides energy efficiency tips and helps customers better understand their energy data. The Trickl mobile app provides additional support and a customer engagement channel for MyLondonHydro functions. Further, it delivers support for 'behind the meter' engagement, offering integration with home hubs, smart plugs, appliances, load controllers, thermostats, DERs and more.



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LEAP donations

Each year London Hydro contributes to the Low-Income Energy Assistance Program ("LEAP") to 2 help qualifying customers pay their electricity bills. This Emergency Financial Assistance Program 3 helps those in need and funds are distributed through The Salvation Army Centre of Hope to 4 customers that meet the set criteria to qualify for assistance. Since the City of London has a 5 significant number of customers who face financial hardships, the Company has been contributing 6 \$200,000 annually. London Hydro will continue its commitment to support the LEAP program, and 7 annual donations in this amount have been forecasted for both the 2021 Bridge Year and 8 proposed 2022 Test Year. 9

In London, this program assists approximately 200 to 250 families annually. London Hydro staff work closely with the LEAP program to ensure customers have knowledge of this grant and a direct contact to ensure timely assistance is given to destitute customers. As a good corporate citizen, London Hydro is compelled to support the community and especially those in need. Furthermore, since funding provided to LEAP is returned to London Hydro from low-income customers, these contributions are a proactive approach to reducing bad debt expenditures. Additional details regarding the annual LEAP donation can be found on page 345 of this Exhibit.

London Hydro contributed an additional \$200,000 in 2020 to help support customers in London through the COVID-19 pandemic. This additional contribution has been captured under an OEB deferral account and is therefore excluded from OM&A expenditures presented above. To help minimize the financial impact of the pandemic, the OEB issued an Accounting Order dated March 25, 2020 for the establishment of deferral accounts. Sub-accounts were established under the main account 1509 – Impacts Arising from the COVID-19 Emergency to track COVID-19 related expenses which included a section for incremental LEAP contributions.



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Materials and supplies

2 This spending category includes items such as small office equipment, office supplies,

publications and subscriptions, forms and stationery and promotional goods to help with the

4 advertising of new products and services. Overall costs have increased because of the increased

volume of activity in the Corporate Communications department, associated with keeping

customers up to date on industry changes and new products and tools through various means

7 including trade shows and exhibits.

8 To meet the growing project support requests, new office supplies and equipment have been

9 purchased to allow for in-house design and printing of documents. This allows us to meet the

quick turnaround times required for urgent and time-sensitive projects. This change has resulted

in an increased need for paper stock and printing supplies. Equipment such as a folding machine,

laminator, and paper cutter are now required to continue in-house publishing and finishing.

The Corporate Communications department has also seen an increase in the use of promotional

materials to support customer outreach events, such as focus groups and customer information

sessions. These promotional materials help London Hydro express gratitude to customers for

their time and input.

School safety program

London Hydro is committed to continuing with its promotion of safety education for young people.

A modest increase for this line item has been included for the proposed 2022 Test Year to boost

this community outreach program to help ensure that students and their families keep a focus on

the importance of caution when around electric equipment, appliances and power lines. School

safety program costs were lower in 2017 compared to other years, as the Facilitator of the

program became extremely ill and unfortunately had to be replaced in 2018.



London Hydro Inc. EB-2021-0041 Filed: August 27, 2021 Exhibit 4 – Operating Expenses Page 200 of 597

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4.3.7 HUMAN RESOURCES, HEALTH AND SAFETY

Overview

3 Human Resources at London Hydro involves all aspects of employee lifecycle management

(recruitment, orientation and onboarding, performance management, training, development,

through to retirement processing), communications, labour relations, payroll and benefit

administration, attendance and disability/WSIB management, employee culture and engagement,

7 policy development, legislative compliance, reporting and strategic resource and succession

planning. The Human Resources team prides itself on providing a value-added service to the

various departments and employees that extends beyond simple transaction processing and

information services.

While London Hydro is the customer for Human Resources, the team believes that London

Hydro's customers are the ultimate beneficiaries of this focus and the steadfast commitment

within the department for cost consciousness, continuous improvement and

monitoring/enforcement of best practices (e.g. regular benefit cost reviews, enforcement of

15 policies).

The future-facing team looks forward to assisting the Company with the challenges that lie ahead

with respect to the anticipated high levels of turnover due to retirement, ever-changing business

processes, a commitment to collegial labour relations and a continued focus on corporate-wide

training, development and culture initiatives. Further, the team is committed to assisting in

generating a culture of compassion, caring, innovation, respect and trust, both from a labour

relations and day-to-day operating perspective.

Over the next five years, the Human Resources team expects to support the Company with a

continued focus on attracting and retaining exceptional talent, managing a multi-generational

workforce, and building the next generation of industry contributors and leaders through a focus

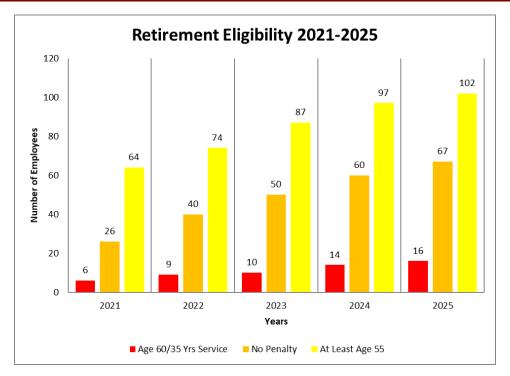
on training, career planning and performance management.

The trend of an average of ten (10) retirements per year or 3% of the workforce is expected to

continue over the next five years, with sixty-seven employees eligible to retire on an OMERS

pension without a penalty, having achieved one or more of the service milestones by 2025.





Retirement Eligibility 2021-2025

As part of maintaining a strong workforce, the Company keeps safety as the number one priority. The Health and Safety department at London Hydro is committed to fostering a healthy and safe workplace through building a strong safety culture in which all employees are engaged in creating and maintaining a safe workplace for themselves, their co-workers and the public. The Health and Safety department continues to focus on ensuring health and safety compliance, continued improvements and communication through enhanced education and training for employees.

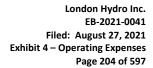
Several projects have been at the center of improving London Hydro's safety processes and performance over the past few years. The Health and Safety department received Certificate of Recognition COR™ in 2019 from the Infrastructure Health and Safety Association ("IHSA"). The new corporate safety theme "Work Safe Live Safe" was launched by the Health and Safety department, to continue to build our health and safety culture while enhancing the skills and safe work behaviours of employees at work and in life. A new health and safety software system (Intelex) was also purchased and implemented to provide a digital solution to track all incidents and inspections.



Certificate of Recognition COR™ provides the Health and Safety department with a nationally recognized tool for assessing and enhancing London Hydro's Health and Safety Management System – it is a key measurement tool that ensures the Company continues to not only meet, but also exceed the industry standards. In addition to maintaining the existing COR certification, the Health and Safety department is preparing to apply for the new, updated COR 2020 standard. This standard was recently released by the IHSA and includes updates to the original COR standard such as procurement and change management, external contractor safety management and control of safety documents and records.

One of the most pressing challenges facing Health and Safety departments in all industries is keeping employees focused on safety in every task they do, no matter how often they perform those tasks. London Hydro recognizes that a momentary lapse in focus is all that stands between a worker and a serious incident that could potentially harm the worker or the public. In order to continue building London Hydro's safety culture, the department must keep safety programs and communication fresh with new and engaging initiatives and methods of communication to ensure that working safely stays at the forefront of employees' minds.







The new corporate safety theme "Work Safe Live Safe" was launched to continue to build London Hydro's health and safety culture while enhancing the skills and safe work behaviours of staff while at work, and at home. In 2019 a sub-committee was formed to develop a strategy and plan for a new safety campaign with a focus on reducing workplace accidents. To ensure a collaborative and successful launch, a group of employees were asked to

participate in group sessions and provide their ideas and feedback

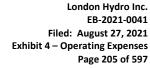


on the initiative. New training initiatives to encompass at home safety were also brought into focus, including fire extinguisher training sessions facilitated by a member of the London Fire Department and safe driving practices provided by a member of the Traffic Management Team with the London Police.

To increase the effectiveness and efficiency of the health and safety program and to aid in the completion and maintenance of COR™ certification, the Health and Safety department implemented Intelex in 2018. Intelex is a cloud-based solution and full details regarding this new system can be found under the Cloud Services section of this Exhibit on page 265.

The Intelex system centralizes all health and safety related data, digitizes incident reporting forms such as injury and vehicle incidents, audits and inspections, and offers real-time statistical reports. The system also supports a streamlined workflow process, which allows the Health and Safety department to easily track incidents, inspections and related corrective actions assigned to staff. Intelex also includes a mobile app which facilitates submissions by field supervisors completing site visits and inspections.

The Health and Safety department is responsible for a number of areas that fall under four broad categories: Regulatory Compliance; Safety Training and Development; Safety Communication and Building a Safety Culture through employee engagement. To meet these responsibilities this new cloud application helps the department record and keep track of tasks and activities in an online database and manage day-to-day processes such as,





Regulatory Compliance

- Keep up-to-date on regulatory requirements of the OHSA, IHSA, ESA, Global Harmonized Systemformerly WHMIS
- Ensure employees are trained in and comply with new regulations
- Facilitate the activities of the Joint Health and Safety Committee
- Perform workplace audits, inspections and crew visits
- Complete COR internal/external audit for continuous improvement through initiatives and strategies to improve worker safety and safety culture
- Track all safety statistics for the Company, including both leading and lagging indicators and developing programs to respond to emerging trends
- Report to the various regulatory bodies (Ministry of Labour, Electrical Safety Authority, WSIB, all incidents under their jurisdiction within the specified time frames

Safety Training and Development

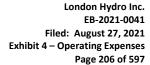
- Follow up on all safety incidents, accidents and near misses
- Schedule and track all safety training (e.g. in 2018, 3,305 hours/2019 6,491 hours/2020 6,017 hours of H&S training were delivered.
- Implement software solutions to monitor and schedule safety training
- Participate with other utilities in creation of BOLT, best practice training videos for industry use
- Organize guest speakers to make safety presentations
- Chair the Vehicle Solutions Group, whose function it is to brainstorm and develop new ways to improve driver safety
- Prepare and present safety orientation to all new employees and all new supervisors
- Prepare and provide safety orientation to all contractors

Safety Communication

- Issue weekly, monthly, quarterly and annual reports detailing H&S leading and lagging stats
- Issue monthly safety bulletin / incident alert
- Use media boards to communicate monthly stats to all employees.
- Use media boards to notify employees of safety reminders, events, activities and accomplishments
- Prepare reports to communicate details of incidents and near misses to senior management
- Disseminate safety messages through stickers, banners, billboards, posters and other media throughout the facilities, yard and vehicles.
- Health and Safety department participation in operations/administration safety meetings.
- New Corporate Health and Safety logo Work Safe Live Safe decal to be placed on hard hats.

Building a Safety Culture: Employee Engagement

- New corporate health and safety initiative to enhance our health and safety culture. Work Safe...Live Safe.
- New health and safety themes developed and communicated to keep employees engaged at work or at home.
- Daily crew visits by H&S. Weekly audits of job plans, detailed information documented of crew visits. Senior management and executive crew visits.
- Work with other utilities throughout the province to develop Best Practice videos (BOLT) to enhance training outcomes.
- Create employee safety videos
- Oversee and participate in the Ergonomics Committee and its activities including workplace assessments and accommodations
- Planning and participation in the activities of the Wellness Team.
- Participate in organizing and promoting the Annual Wellness Fair





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1 The Health and Safety department also administers the Corporate Wellness program. This

2 program provides a number of wellness-related activities, including one-on-one lifestyle and

wellness consultations, interactive group fitness and healthy choice initiatives.

4 The Health and Safety department provides various programs promoting and encouraging health

and wellness, one step at a time, by helping employees make small achievable changes in their

daily routines. Investing in a healthy lifestyle delivers better outcomes and engages employees in

finding their 'balance'. This program provides employees with ideas and the tools to support their

journey to improve their wellbeing and help them thrive through healthier eating, fitness, improved

sleep and stress reduction. Ergonomic improvements are also included in programs to reduce the

risk of musculoskeletal disorders in the workplace. The wellness initiatives and information are

communicated in a number of ways, including through media boards, kiosks, posters and

newsletters.

London Hydro has also developed a Mental Health program which recognizes the importance of

reducing stigma, dispelling myths and increasing knowledge to help employees feel better

supported at work. This program includes training for all employees as well as the development

of a proactive model of service. This includes a Mental Wellness Committee made up of

employees from across the organization as well as an employee mental health resource centre.

Through these efforts, London Hydro is reducing stigma, assisting in sustainable return to work

plans and is able to support leaders to understand and support their employees with mental health

concerns. With the help of a mental health consultant, the Company has been able to demonstrate

its commitment to open communication, trust and accommodate employees who experience

mental health challenges.



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London Hydro also has a partnership with Morneau Shepell to offer services to all employees and their dependants at no cost. Morneau Shepell is a leading provider supporting mental, physical, social and financial wellbeing for all employees of the Company. Their services, which are completely confidential, are offered 24/7 by phone, web or mobile app. Solutions available for work, health and life include professional counselling, achieving wellbeing, managing relations and family, dealing with workplace challenges, tackling addictions, legal advice, financial guidance, nutrition and physical health.

As a result of the COVID-19 pandemic, the Human Resources and Health and Safety Program ("HR&HS") found itself navigating through uncharted territory. Although the challenges were truly overwhelming, the HR&HS program helped London Hydro meet the crisis head-on, taking all necessary steps to ensure the health and safety of employees, their families as well as customers.

As an essential service provider, London Hydro continued to carry on with its capital and operational plans without any stoppage all throughout COVID-19 lockdowns. This was possible as a result of the well documented and communicated procedures and protocols developed by the HR&HS program, focusing on physical distancing, Personal Protective Equipment ("PPE") and working under an abundance of caution to protect the health and safety of employees and the public.



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Program Delivery Costs

- The Human Resources, Health and Safety Program OM&A expenditures are forecasted to be
- \$1,690,400 for the 2021 Bridge Year and \$1,815,500 for the proposed 2022 Test Year. The
- forecast for 2022 provides an increase over the 2021 Bridge Year of \$125,100 and \$203,071 over
- 5 2017 Actual amounts resulting in a CAGR of 2.4%.

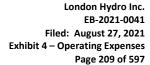
Table 4-23: Human Resources, Health and Safety Program Delivery Costs

Human Resources, Health and Safety Program Delivery Costs											
Annual Change									Total Change		
			2017 Actual	2018 Actual	2019 Actual	2020 Actual	2021 Bridge	2017 Ac	tual		
			to	to	to	to	to	to			
Nature of expenditure	2017 Actual	2022 Test	2018 Actual	2019 Actual	2020 Actual	2021 Bridge	2022 Test	2022 Test			
	\$	\$	\$	\$	\$	\$	\$	\$	CAGR		
Gross labour	1,069,925	1,332,200	(13,365)	103,584	145,334	(63,878)	90,600	262,275	4.5%		
Labour allocations	3,358	(57,500)	(1,202)	(31,006)	(17,764)	(49,286)	38,400	(60,858)	-276.5%		
Net OM&A labour	1,073,283	1,274,700	(14,567)	72,577	127,570	(113,163)	129,000	201,417	3.5%		
Training programs	63,945	61,500	(31,942)	30,920	(37,539)	35,116	1,000	(2,445)	-0.8%		
Consulting and contractor services	115,453	103,600	(28,589)	30,250	(72,085)	57,970	600	(11,853)	-2.1%		
Software and hardware	13,543	500	9,751	(14,431)	(1,073)	1,710	(9,000)	(13,043)	-48.3%		
Materials and supplies	20,249	35,400	(5,406)	9,321	(4,512)	15,148	600	15,151	11.8%		
Other	325,955	339,800	7,187	(7,963)	(22,354)	34,074	2,900	13,845	0.8%		
Total \$	1,612,429	1,815,500	(63,566)	120,675	(9,992)	30,854	125,100	203,071	2.4%		

Net OM&A labour

COR™ certification requires a comprehensive audit and detailed review of the corporation's health and safety management system. The audit includes scrutiny of the health and safety management system, interviews, documentation review and observation of techniques. With a certified health and safety framework in place London Hydro is able to manage risks, establish controls, and minimize the incidence of injury and illness to employees and the public.

Implementation of new legislation and programs such as COR™ emphasize the need for continuous audits, training, process changes and documentation necessary to continue building a strong safety culture and keep safety the priority. To achieve its goal towards building a model for Health and Safety excellence, London Hydro has had to increase staffing levels in this department.





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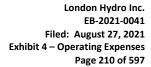
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- Resources added in the Health and Safety department are important to carry out responsibilities
- 2 necessary to attain and maintain standards for administration, monitoring, audit, analysis,
- education, enforcement and continuous improvement of London Hydro's Health and Safety
- 4 Management system. This includes,
 - ✓ contributions towards safe work practices, training matrix and the health and safety Intelex database
 - conducting internal and external audits, inspections and incident investigations
- - ✓ providing direction and leadership and liaise with facilities and external vendors in support of ensuring compliance with developed standards
 - ✓ managing and maintaining analytical data and identifying trends
 - ✓ researching new technology systems and equipment designed to eliminate or minimize hazards
 - ✓ advise and counsel compliance with the Occupational Health and Safety Act, codes, regulations, standards and monitor industry best practices and make recommendations towards continuous improvement.

These additional resources help to keep up with the ongoing changes in health and safety legislation across the industry. These changes bring with them a domino effect by modifying work processes, which, in turn, need to be developed and rolled out across the organization and then documented. Additionally, affected employees need to be trained on the new processes and that training needs to be scheduled and tracked.

Workforce demographics pose another ongoing challenge to maintaining the health and safety of the Company. The Baby Boomers (born 1946-1965), who are one of the largest segments of our population, started to retire en masse in the last five years. The subsequent generation who should be poised to 'take the reins,' called Generation X (born 1965-1980), is proportionally much smaller than its predecessor; Generation Y (also known as the Millennials) are the children of





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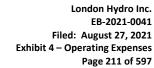
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- Baby Boomers and mirror that generation in its proportion of the population. This 'dumbbell' spread of population is mirrored in London Hydro's workforce and introduces a number of
- 3 challenges that can affect safety:
 - losing a high proportion of skilled workers in a relatively short period of time;
 - communicating effectively to two distinct generations who exhibit very different levels of comfort with technology;
 - preventing the injuries that are naturally found in an aging population (e.g., musculoskeletal issues); and
 - ensuring that both generations continue to feel relevant, valued and engaged in the workplace.
- London Hydro's Health and Safety team have addressed these challenges in the strategic plan, which includes the introduction of a mentorship program as well as adapting training and communications to the increasingly diverse learning styles found in the workplace.
 - Fluctuations in labour are also the result of a senior employee departure in the Human Resources department in early 2018. Despite focused and lengthy recruitment efforts, London Hydro was unsuccessful in securing a suitable replacement. This led to a decision to distribute certain duties amongst the remaining staff members and re-initiate recruitment for an alternate role. Temporary administrative help at a lower hourly rate was eventually pursued for the balance of 2018. There was a continued need for temporary administrative support throughout 2019, as the arrival of the successful internal candidate to the second 2018 recruitment effort was delayed until the end of an approved leave of absence in the fall of 2019.

Training programs

- This line item includes the cost for all Human Resource and Health and Safety training programs, including facilitators and materials, where the course pertains to all staff or is required by the individual department for a job specific.
- London Hydro is committed to ensuring its workers have access to the most current methods, equipment and documentation to perform their jobs safely. Each year, crews are visited to make sure that staff are receiving proper training and demonstrating safe work methods so that





- employees are performing their jobs safely. The list below illustrates the Health and Safety training
- events that occur in a typical year for which external trainers are required:
 - Basic Supervisory Skills for Field Work (IHSA)
 - CPR/AED
 - Confined Space Refresher
 - Confined Space Rescue Training/Self Contained Breathing
 - Cable Splicing Proficiency
 - · Defensive Driving
 - Apparatus review/Fit Testing (quantitative)
 - Electric Meter Proficiency CSA Z462
 - Electrical Awareness
 - Emergency CPR/First Aid Training
 - Equipotential Grounding and Bonding
 - Ergonomic Training
 - EUSR book review
 - Forklift/Walkie Stacker Training
 - · Grounding and Bonding
 - First Aid Training Operations Field Workers mock event
 - First Aid Committee
 - Hazard Awareness Training Admin
 - Health and Safety Certification Part ½
 - Health and Safety at Work: Prevention Conference
 - Health and Wellness Training (Lunch 'N Learns) (e.g., sun sense, mental health, repetitive strains, slips, trips and falls, heart health, nutrition)
 - Hearing Conservation
 - Hydraulic Aerial Equipment

- Ladder Workshops
- Load Securement
- Line Proficiency
- Line Clearing Proficiency
- Material Lifting & Handling
- Mental Health Awareness
- Mobile Crane 0-8 Ton
- ON. Reg 555/06
- Overhead Bridge Crane
- Partners in Prevention
- Pre-Trip Inspections (Circle Check)
- Qualitative N95 Mask Fit Testing
- Quantitative Fit Testing
- Transportation of Dangerous Goods
- Traffic Control -Temporary Work Zones
- Tree Top & Bucket Rescue
- Trenching & Shoring
- Underground Proficiency
- Utility Work Protection
 Code Recertification
- Working at Heights Refresher

- 4 The Human Resources department corporate training budget is intended to address corporate-
- 5 wide training initiatives which focus on non-job-specific aptitudes (e.g. strategic planning, effective
- 6 supervision and leadership, culture, performance management, and group and individual training
- and development initiatives). With the potential retirement turnover of the current workforce over
- the next five years, a long-term commitment to training and knowledge transfer is paramount to
- ensure that London Hydro's strengths in these areas are supported through this critical corporate
- 10 transition.



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Reduced spending in 2018 is primarily a result of the senior departmental vacancy discussed 1 2 above. Further, other resources in the department were focused on post-implementation of the first phase of the Human Resources Information System ("HRIS") followed by the implementation 3 4 of the Learning Management System, in conjunction with the onboarding and acclimatizing of new team members. This resulted in the deferral of planned strategy projects on various matters. With 5 the continued strategic focus on attracting and retaining top talent and building a culture of 6 innovation and engagement, the Human Resources department will resume its activities in 7 various areas including disability and attendance management, labour relations, analytics, job 8 design, talent management, leadership and succession planning and recruitment. 9

Consulting and contractor services

Most of the expenditures in this area focuses on the use of third-party consultants in support of research and policy development on a wide variety of human resources and health and safety strategic initiatives.

Consultants are predominantly accessed for their specialized skills as subject-matter experts, as opposed to staff augmentation. These services help support the Company with its continued focus on human capital and an engaged, talented workforce and its ongoing commitment to a health and safety culture.

Third party consultants are also used to help in the preparation of employee safety videos, the monthly employee Safety Bulletin and other Health and Safety documentation, including reviews and rewrites of the London Hydro Safe Work Practices required when processes or legislation changes. This budget item also represents the cost to have an external auditor from the IHSA perform a comprehensive Health and Safety audit which is a requirement of COR™.

London Hydro engages consultants from the IHSA to conduct audits of the health and safety program. IHSA audits involve a full week of crew visits, observations, interviews, inspections and a thorough review of documentation. The Health and Safety department acts quickly on addressing any of the gaps noted in the external audit through improvements to operational job plans, updating existing health and safety program documents and requirements to ensure alignment with industry best practices.



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Up until the implementation of the new cloud-based payroll solutions in late 2019 as discussed

below, this line item also included the outsourcing of payroll processing to ADP. Transitioning to

a cloud solution has allowed payroll processing to be done in-house, since the new Ultipro SaaS

provides simplified processing through a user-friendly platform.

5 Another change in 2019 was the introduction of outsourcing sick leave benefit claim processing

to Acclaim Ability Management. This new service means that the Human Resources team can

now refer all new benefit claims that reach a set duration point, or other criteria to Acclaim's helpful

and qualified personnel. Acclaim Ability Management provides this service to employers and

employees across Canada to help employees get back to work safely after an illness or injury.

Dedicated Acclaim Ability Management Consultants strive to offer each employee support and

communication throughout their absence. Employees can now have a private confidential

conversation with a trained and certified subject-matter expert regarding their case.

During an employee's absence London Hydro is only provided with the information necessary to

keep up to date on the status of the claim as well as the information required for resource planning

(i.e. anticipated date of return) and return-to-work planning (e.g. restrictions/limitations). The goal

of moving to Acclaim Ability Management is to ensure that when there is an illness or injury,

employees immediately receive any necessary medical attention through a structured and

supportive process so that employees are healthy and can return to work as soon as possible.

Software and hardware

20 Computer software and hardware costs have decreased as a result of moving the legacy payroll

processing application from an on-premise solution to the cloud. Further details on this new cloud-

based solution can be found under the Cloud Services section of this Exhibit on page 265.

London Hydro has been developing its Enterprise Resource Planning ("ERP") system to

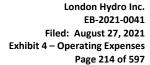
implement strategies developed with the assistance of Ernst and Young ("E&Y") studies

performed in 2014 and 2016. Due to the size and significant costs associated with an ERP system,

London Hydro performed cost-benefit analysis on various deployment options available. For

example, on-premises versus cloud and available software products. These studies reviewed total

cost of ownership, risk factors and analysis of benefits fulfillment for a number of options. The





- resulting E&Y recommendation was that London Hydro select a strategy of continuing on with
- J.D. Edwards and add on external applications ("point solutions") for certain modules such as the
- 3 HRIS.
- 4 London Hydro implemented components related to time and attendance, human resources,
- 5 learning, succession and planning in 2016. Although the legacy payroll system was over 12 years
- old and far past its end of life, this component of the project was purposely left out of scope to
- 7 pace expenditures and ration resources.
- 8 The new Ultipro Payroll Software system went live in late 2019 and removes risks surrounding an
- obsolete unsupported system. This new software-as-a-service provides robust security, a single
- source of information and permission capabilities that help tighten internal controls. Further, in
- the past, computation of complex calculations needed to be calculated outside of the system first
- with results later being used for payroll processing. Today these types of complex earnings and
- deduction amounts are performed through automation inside the system.
- Further details regarding the new Ultipro Payroll System as well as the new Intelex system
- implemented in 2018 to help manage day-to-day Health and Safety process, can be found under
- the Cloud Services section of this Exhibit on page 265.



4.3.8 FACILITIES AND ENVIRONMENTAL SERVICES

Overview

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3 The Facilities and Environmental Services department is responsible for maintaining the London

Hydro facilities, including all equipment attached to the facilities, and for ensuring that London

Hydro not only remains compliant with environmental legislation, but also considers

environmental sustainability in all decision-making. This department has a staff of three who are

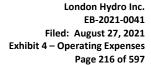
responsible for the administration of all operating and maintenance contracts, the development of

requirements and preparation of both operating and capital budgets while ensuring London Hydro

continues to reduce its impact on the environment.

London Hydro operates out of one main facility at 111 Horton Street in London and 36 active municipal substations with 5 substation buildings, located throughout the City of London. The main facility consists of 3 major buildings constructed at various times dating back to 1931 with the newest building being built in 1987. These buildings are situated on 11.5 acres of land leased from the City of London and are valued at over \$16 million. The buildings require ongoing upgrading and major component replacements to maintain their value and functionality.







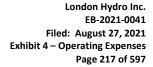
The original building, built in the 1930's, houses Engineering, System Planning and the Materials
Management departments; a second building constructed in 1981, houses Operations, Fleet
Services and Facilities and Environmental Services departments; a third building constructed in
1987, houses Customer Service, Information Technology, Health and Safety, Human Resources,
Corporate Communications, Finance and Executive offices, for a total gross area of 194,363
square feet. The Facilities and Environmental Service department is responsible for maintaining
each of these buildings while accommodating London Hydro's staff with the necessary office

space, furnishings, meeting and training rooms, as well as cafeteria and parking facilities.

Responsibilities for this department include coordinating the inspection of the buildings on a monthly, quarterly or annual basis and developing capital and operating budgets to repair, maintain or upgrade the buildings and environmental systems as required. London Hydro engages outside contractors for most building-related inspections, maintenance and repairs. Some of London Hydro's buildings are either designated heritage properties or have significant historical elements requiring increased and specialized maintenance or repairs.

When certain equipment reaches end of life or is deemed to be too costly or inefficient to repair, a review is undertaken to examine similar or like equipment and then, upon Executive approval, a capital project is budgeted and initiated to replace the equipment. London Hydro endeavors to keep the scope of annual projects relatively small to maintain the buildings and property efficiently, while ensuring environmental responsibility and keeping spending consistent year over year.

The Facilities and Environmental Services department is also responsible for London Hydro's initiatives towards reducing its environmental footprint within our community and supports Ontario's vision for combating climate change. Under the direction of the Environmental Supervisor, the Company has developed an Environmental Management System ("EMS"). The EMS is a standardized objective process for evaluating London Hydro's interaction with, and impact on, the environment. The foundation of London Hydro's EMS is a comprehensive list of environmental aspects and impacts of the organization's activities. The elements of each activity, product, equipment or service that can interact with the environment are considered. The Company's approach examines four areas,





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Four Areas of Environmental Stewardship

Through London Hydro's Management Review process, the significant environmental aspects are enveloped into strategic environmental management programs which facilitate the organization's annual environmental objectives and targets and quarterly key performance indicators. The entire organization is aligned with the EMS objectives and targets through communications within departmental meetings, training, and other communication mechanisms.

✓ Where we work

- Natural gas, water and electricity consumption
- Facilities management
 - Backup generation
 - Fueling station
- Land management
 - Emissions management
 - Emergency preparedness response plan

✓ The way we work

- Efficient use of resources
- Management of materials and chemicals
- Habitat and biodiversity
 - Emergency and crisis management



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✓ The way we move

- Vehicle types (gasoline, diesel, hybrid, electric)
- Vehicle maintenance (tires, fluids, filters, emissions)
- Vehicle use efficiency (m3, dept. hrs, km travelled)
- Emergency response (vehicle spills)

√ The way we green

- Environmental Management Systems (EMS)
- Vehicle automated idle management
- Sustainability and carbon footprint reporting
- Waste management (reduce, reuse and recycle)
- CDM and Green Energy outreach
- SMART and Green Energy installations
- Community outreach
- Educational partnerships

By fostering a culture of environmental stewardship within the Company, employees become champions for the greening of London Hydro's operations, and a key source of continuous improvement suggestions and ideas for how to improve corporate sustainability. Employees have a strong level of awareness of the Company's commitment and actions regarding environmental sustainability and understand their role. London Hydro works to ensure employees have the tools they need to reduce waste and conserve energy, whether through the default settings on their electronic devices, the availability of recycling and waste separation stations in the workplace, or mechanisms for electronic collaboration and communication.



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Program Delivery Costs

- 2 Facilities and Environmental Services expenditures are forecasted to be \$3,056,000 for the 2021
- Bridge Year and \$3,127,700 for the proposed 2022 Test Year. The forecast for 2022 provides an
- 4 increase in comparison to the 2021 Bridge Year of \$71,700 and is \$276,681 over 2017 Actual
- 5 amounts resulting in a CAGR of 1.9%.

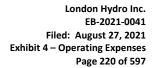
Table 4-24: Facilities and Environmental Services Program Delivery Costs

Facilities and Environmental Services Program Delivery Costs											
				Annual Change							
			2017 Actual	2018 Actual	2019 Actual	2020 Actual	2021 Bridge	2017 A	ctual		
			to	to	to	to	to	to	,		
Nature of expenditure	2017 Actual	2022 Test	2018 Actual	2019 Actual	2020 Actual	2021 Bridge	2022 Test	2022 Test			
	\$	\$	\$	\$	\$	\$	\$	\$	CAGR		
Gross labour	357,049	291,400	(50,717)	(31,826)	10,582	(388)	6,700	(65,649)	-4.0%		
Labour allocations	(23,965)	86,400	48,899	5,668	11,450	40,749	3,600	110,365	-229.2%		
Net OM&A labour	333,084	377,800	(1,818)	(26,158)	22,032	40,361	10,300	44,716	2.6%		
Insurance	65,633	78,200	443	7,240	17,555	(14,570)	1,900	12,567	3.6%		
Utilities	494,915	546,900	(14,700)	32,669	(31,664)	52,380	13,300	51,985	2.0%		
Contractor services	474,805	602,700	58,714	(24,970)	70,518	8,932	14,700	127,895	4.9%		
Landscaping and snow removal	202,212	210,100	3,034	9,350	(56,045)	46,449	5,100	7,888	0.8%		
Other	1,280,371	1,312,000	(130,401)	85,220	50,682	(272)	26,400	31,629	0.5%		
Total \$	2,851,019	3,127,700	(84,728)	83,351	73,078	133,280	71,700	276,681	1.9%		

7 Net OM&A labour

- 8 Resources in this department include a Facilities Managers and an Assistant as well as an
- 9 Environmental Supervisor.

The Facilities Manager and Assistant are responsible for the coordination and supervision of contract work and services asphalt, elevators, fire protection, HVAC, electrical, furniture acquisition and moving, overhead door maintenance, plumbing, and snow removal. These employees are also responsible for the physical security of London Hydro facilities and the supervision of security contract work including scheduling of shifts and coordination of staffing with the contracted security company. Other responsibilities include the development of security policies and procedures and maintenance of security systems such as card access and CCTV video.





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- The Environmental Supervisor is responsible for the development, implementation, education,
- 2 monitoring, compliance and continuous improvement of London Hydro's environmental program
- and policies This position also ensures that the actions of London Hydro and its employees are
- 4 at all times compliant with applicable environmental legislation and for ensuring that the
- 5 environmental program and policies demonstrate a commitment to environmental sustainability.
- 6 Net OM&A labour decreased during fiscal 2019 while the Facilities Manager sought for the
- 7 replacement of a Facilities Assistant position. This is an important position in this department
- 8 necessary to meet responsibilities such as
 - efficient and timely flow of information and reports to the Vice President, Executive
 Committee, Human Resources, Health & Safety, Managers, Supervisors and staff
 - attending and recording minutes of project, tender, planning, and security meetings
 - scheduling meetings, appointments and interacting with visitors and contractors
 - assisting in budget development and maintaining database information
 - administering the corporate fitness centre and parking facilities
 - assisting with tenders, maintaining records of submission and attend official openings
- A replacement for the Facilities Assistant position was required since the employee previously
- holding the permanent position was away on sick leave. Until it is determined whether the
- employee can return to work, their position remains on hold and open for that employee.

Insurance

- 20 Increase in insurance premiums relate to boiler and commercial property coverage. Cost
- increases are a result of updates to the Statement of Values as well as the change in rate base.

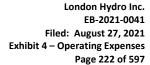
Contractor services

- 23 Compliance with environmental legislation and other directives is a core commitment of the
- 24 Environmental Management System. As part of the EMS, the Company participates in a third-
- party environmental regulatory review of business activities on a regular basis. These ongoing



- reviews help to provide corrections for continuous improvements and ensure that the EMS is up to date and effective.
- Since the 111 Horton Street site sits on a flood plain, third-party services are also used for cleaning of storm drains and the oil water separator systems, as well as the replacement of the drain filter system. Further, outside services are used for the groundwater sampling program which is an important part of monitoring the water emissions impact category of the EMS.
- London Hydro's facilities are situated on 11.5 acres of land adjacent to the Thames River which is an environmentally significant natural area. The Thames River is considered to have a high biodiversity value by the City of London, Upper Thames River Conservation Authority ("UTRCA"), and the community. The UTRCA manages the upper watershed of the Thames River, an area of 3,482 square kilometres.
 - Facilities on this property are used for parking, operations, offices and equipment and materials storage. Water emission concerns are managed with engineering and administrative controls and regularly scheduled maintenance programs. The risks associated with the storage of oil filled equipment (transformers) and vehicular activities on the property are mitigated using five strategically located oil water separators. Incidental vehicle drips are mitigated through the introduction and replacement of storm drain filters. These measures were introduced in addition to the existing administrative controls to provide an additional level of environmental protection. The oil water separators and filters are routinely inspected and maintained. The separators are continuously alarm monitored and equipped with emergency and automatic shut-off valves as well as oil and grit separation capabilities.

In addition, consultants have been overseeing London Hydro's groundwater sampling program since the 1990s. One groundwater monitoring well was replaced in 2016 and additional monitoring wells were added in 2018. In late 2017, a high-resolution site characterization was completed, which involved in-situ laser induced fluorescence and ultraviolet optical screening in tandem with electrical conductivity to delineate the contamination. Even though there are exceedances of petroleum hydrocarbons found within certain groundwater wells, other groundwater wells near the property perimeter do not exhibit exceedances. Through the groundwater monitoring program, along with previous investigations and characterizations, consultants have confirmed that the





concentrations found will have no adverse effects to human, animal, and ecological health and

therefore require no additional actions at this time. However, it is also possible that, in any given

year, additional actions such as a risk-based remediation plan may be recommended for

4 implementation.

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5 Contractor services cost increases are also due to increases in negotiated contract prices for

6 security services. London Hydro's security service personnel are skilled and fully-trained to

protect property, offices and employees. This includes the patrolling of off-site locations which

has become increasingly important due to the rise in copper theft. All new security staff members

receive an orientation, which serves to ensure that London Hydro's internal policies and

procedures are followed. Through this training, London Hydro also ensures the security guards

are trained to provide an integrated and specialized response to various security, health, safety

and environmental emergencies.

Other costs

Other costs in the Facilities department consist of various items such as materials and supplies,

janitorial services, substations property tax, fire protection, standby generators, fencing and gates

and repairs and maintenance expenditures.

17 The Facilities and Environmental Services Department has the responsibility of maintaining the

condition of the head office facilities, along with the Company's municipal substations, and in

compliance with heritage, building, electrical and safety codes. London Hydro has a list of

preventive and regular maintenance, as well as general repairs and upgrades to the facilities that

require attention presently or in the near future. Since London Hydro's facilities were built at

various times from 1912 to 1987, they require ongoing upgrading and major component

replacements to maintain their value and functionality.

Costs fluctuate from year to year as London Hydro facilities, including buildings and yards, consist

of numerous components all with different life expectancies. As components come to the end of

their lives, costs increase. Further, many projects were temporarily placed on hold so that the two

Facility resources in this department could focus on a capital project to renovate office spaces.





London Hydro's office space had never undergone a major renovation. Further, outside walls in the administrative building were not insulated during original construction leading to poor energy efficiency. Until recently, renovations were small, and areas were pieced together to accommodate changes in staffing or department realignments. Beginning in 2016, with the assistance of office space consultants, the Facilities department began a plan to renovate most office areas in the facility. Renovating office areas provides a better use of space which has become congested and disjointed, allowing for more employees to work on site. In addition, these renovations eliminate the immediate need to acquire a new location offsite which would be a significantly greater capital cost.



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4.3.9 CORPORATE SERVICES

Overview

- The Corporate Services program includes activities and expenditures associated with London
- 4 Hydro's

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- Executive group and Board of Directors
 - Finance and Regulatory Affairs Department and
- Purchasing Department

8 Executive Services

- The Executive group is responsible for corporate governance and leadership, as well as the 9 development and execution of the Company's Strategic Plan. This office consists of the CEO, the 10 CEO's Executive Assistant and an Executive Assistant to the Board who performs activities 11 associated with London Hydro's Board of Directors. Responsibilities include reviewing and 12 approving all matters before submission to the Board related to legal issues, enterprise risk 13 management, financial affairs, policies, new initiatives, customer service, safety, reliability, capital 14 investments, operating procedures, regulatory requirements and filings and human resource 15 matters. 16
- All matters are reviewed within the context of London Hydro's Purpose, Vision and Values:

18 Purpose

To provide safe, reliable electricity and energy related value-added services.

20 Vision

- To be a trusted energy services provider through innovation, customer focus and operational
- 22 excellence.

Values

- London Hydro operates within a set of core values established and practiced by our team to
- 25 provide exceptional customer service consistent with the interests of the corporation.

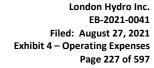


- Safety ➤ Safety is our first priority.
- Employees ➤ Our employees are our greatest strength.
- 3 Customers ➤ Our customers are our primary focus.
- Integrity ➤ We are stewards of the public trust and we demonstrate the highest standards
 of professional ethics and accountability in all our activities. We treat others with respect
 and trust.
- Agility > We are open, innovative and adaptable so that we can promptly pivot to adopt and shape the industry's future.
- Corporate and Social Responsibility ➤ We are committed to being a financially, socially, and environmentally sustainable company.
- The Company's vision is to pursue excellence as an industry leader. The Company's strategy is to be a leading energy services provider through the aggressive and innovative pursuit of customer focus, social and environmental responsibility, and financial health. Through the implementation of viable and economical technology, renewable generation projects, and expanding the application of green technologies in the community, the Company achieves its vision and strategy and adds value for its customers.
- Final decisions are made by selecting options that contain costs, improve efficiency and productivity and move the Company forward through the appropriate leveraging of resources and technologies.

Financial Services

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The Finance Department is responsible for all financial compliance and for all day-to-day, monthly, quarterly and annual reporting to various stakeholders and under diverse formats including London Hydro's internal MIFRS presentation, the OEB functional chart of accounts and the Company's IFRS external financial statements. Ongoing activities are detailed in the table below:





Transaction Processing

- · customer payment processing
- accounts payable
- cash flow management
- sundry billing
- statutory remittances
- · property taxes and payments in lieu of property taxes
- · account refunds including retailers, MFIT and FIT
- signing authorities management
- fraud protection
- exception reporting

Reporting and Compliance

- budget development
- monthly internal financial statements
- quarterly external IFRS financial statements
- MD&A and Key Performance Indicators
- · monthly reporting to managers
- budget to actual variance analysis by expense
- budget to actual variance analysis by employee position
- · debt financing and covenants
- credit rating
- rate application development

Financial Analysis

- · accounts receivable analysis
- inventory activities and analysis
- · monitoring and analyzing capital projects
- fixed assets life cycle
- · labour and benefits
- cost allocations (Materials Management, Fleet, Benefits)
- · bank monitoring and reconciling
- income taxes
- ERP system monitoring

Risk Management and Streamlining

- internal controls
- process mapping
- policies and procedures development
- audit
- risk management
- insurance
- vendor insurance
- WSIB certification
- new system implementation
- 2 The Finance Department has 10.5 Full-Time Equivalents (FTE's) including the Chief Financial
- Officer, the Director of Financial Accounting, a Supervising Accountant, 4.0 Financial Analysts,
- 4 2.5 Accounting Clerks and a Payment Processing Clerk.
- 5 This Department is highly committed to safeguarding London Hydro's assets and works to
- 6 continuously improve operational efficiency, both within the department and throughout the
- organization. The Finance Department works closely with other departments to assist in decision-
- 8 making and to review business cases. The Department is responsible for establishing Company
- 9 policies and procedures related to meeting compliance requirements and for ensuring that
- associated activities under various programs are in harmony. The Finance Department liaises
- with the Engineering group on a regular basis to ensure timely and efficient execution of London
- 12 Hydro's capital programs.



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Regulatory Affairs

- 2 Regulatory Affairs is responsible for overseeing regulatory compliance with the various energy-
- related legislative requirements and applicable codes to which London Hydro must adhere. This
- 4 group also serves as a liaison with other functional areas, ensuring that all OEB regulations and
- information are disseminated to the relevant groups and departments within London Hydro.
- 6 Regulatory Affairs includes 4 FTEs: The Director of Regulatory Affairs and 3 Financial Analysts.
- 7 Operationally, Regulatory Affairs is responsible for
- revenue and cost of power budgeting, forecasting, reporting and variance analysis
- the Gross Load Billing submission
- IESO settlement filing submissions
- Class A customer analysis, communication and submission
- RPP self-certification
 - the collection of delivery point meter data
 - the reconciliation and analysis of regulatory deferral and variance accounts
- the development and preparation of rate filings including the Distribution System Plan
- OEB Reporting and Record Keeping Requirements ("RRRs")
 - Stats Canada and other related filings and reporting
 - implementation of new regulations into the utility
 - monitoring proposed changes in the industry
- 20 the maintenance and updating of reports for submissions as required
- Stakeholder participation in energy-related policy proceedings
- cooperation with energy-related regulatory audits, inspections and examinations
- handling all MOE, MOF, OEB, and IESO compliance-related matters



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Purchasing Services

- 2 The Purchasing Department ensures that the Company follows a specific stepped approach in
- 3 conjunction with co-operative purchasing for the procurement of goods and services. Adherence
- 4 to written policies ensures competitive prices for products and services are obtained in a
- 5 consistent and unbiased manner and that consistent selection criteria guide the bid evaluation
- 6 process. Purchasing transactions are initiated and processed in accordance with the authorization
- 7 levels detailed in the Company's approved signing authority register.
- 8 London Hydro makes use of purchasing cooperatives (e.g., the Elgin-Middlesex-Oxford Public
- 9 Purchasing Cooperative) and provincial and federal government buying groups to reduce costs
- by obtaining price discounts through volume purchasing of commonly used products, such as fuel
- and office supplies. Supplier alliances have also been established with many vendors,
- representing a substantial percentage of the product being used in the Company's distribution
- system. The material supplied by these vendors covers most categories of inventory including
- transformers, concrete products and cable and wire. The alliances have resulted in lower costs
- due to volume purchasing over a long period of time, reduced administrative efforts, and lower
- inventory carrying costs.
- Supplier alliances provide improved security of supply for critical materials and improved supplier
- relationships by allowing information to be shared regarding historical and projected volume
- requirements. When appropriate, some of the vendors also store safety stock (for certain SKUs)
- for London Hydro which allows for a further reduction of inventory on hand. Some of the objectives
- and benefits we have achieved through alliances are
 - decreased inventory levels
 - reduced administrative costs in the procurement process
- lower material costs and improved material quality
 - increased level of customer service
 - improved ability to meet material delivery time schedule requirements
 - improved communications between London Hydro and the chosen supplier(s)
- improved security of supply for critical materials
 - reduced accounts payable transactions



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The majority of purchases for London Hydro are made through the Purchasing Department, which consists of 2 full-time staff, who work together and in conjunction with other departments to ensure that London Hydro's purchasing policies for quotation and tendering are followed so that new assets are purchased and built at the lowest possible cost. Ongoing activities include managing the tender process (including obtaining quotes, evaluating proposals and awarding tenders), preparing purchase orders, overseeing corporate credit card purchases, managing vendor relations and contracts and reporting on activities to department managers and the Executive Committee.

Program Delivery Costs

Corporate Services OM&A expenditures are forecasted to be \$5,588,040 for the 2021 Bridge Year and \$5,676,700 for the proposed 2022 Test Year. The forecast for 2022 provides an increase over the 2021 Bridge Year of \$88,660 and \$599,317 over 2017 Actual amounts resulting in a CAGR of 2.3%.

Table 4-25: Corporate Services Program Delivery Costs

Corporate Services Program Delivery Costs											
					Total Change						
			2017 Actual 2018 Actual 2019 Actual 2020 Actual 2021 Bridge 2017 A						Actual		
			to	to	to	to	to	to	•		
Nature of expenditure	2017 Actual	2022 Test	2018 Actual	2019 Actual	2020 Actual	2021 Bridge	2022 Test	2022	Test		
	\$	\$	\$	\$	\$	\$	\$	\$	CAGR		
Gross labour	3,104,268	3,368,200	85,119	(15,493)	330,156	(184,949)	49,100	263,932	1.6%		
Labour allocations	(56,791)	15,100	(4,240)	30,892	39,968	5,271	-	71,891	-176.7%		
Net OM&A labour	3,047,477	3,383,300	80,879	15,398	370,123	(179,678)	49,100	335,823	2.1%		
Employee expenses	78,298	102,000	2,952	(10,428)	(21,823)	57,502	(4,500)	23,702	5.4%		
OEB cost assessment fees	716,115	719,800	(49,711)	18,421	2,919	17,857	14,200	3,685	0.1%		
Regulatory application costs	54,940	60,000	-	-	-	-	5,060	5,060	1.8%		
Insurance	376,419	420,300	(6,502)	(14,977)	16,654	41,406	7,300	43,881	2.2%		
Contractor services and consulting	215,474	297,100	36,816	(21,201)	50,079	9,232	6,700	81,626	6.6%		
Legal services	151,664	200,000	105,612	54,879	5,745	(117,901)	-	48,336	5.7%		
Software and hardware	89,292	116,200	5,737	(7,654)	15,249	11,577	2,000	26,908	5.4%		
Corporate membership dues	106,635	130,000	2,115	1,383	3,033	14,833	2,000	23,365	4.0%		
Other	241,070	248,000	2,791	(6,209)	(23,293)	26,841	6,800	6,930	0.6%		
Total \$	5,077,383	5,676,700	180,688	29,612	418,688	(118,331)	88,660	599,317	2.3%		



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Net OM&A labour

- The budgeted amount for Corporate Service OM&A labour for the proposed 2022 Test Year is
- \$3,383,300. Net labour expenditures in this Program have increased by \$335,823 between 2017
- Actual results and amounts forecasted for the proposed 2022 Test Year resulting in a 2.1%
- 5 CAGR. Wage escalation over this time at the CAGR of 2.2% accounts for \$353,507. Fluctuations
- during interim years are a result of replacement delays, various maternity and paternity leaves
- and the temporary hiring of a CDM employee as an expert adviser in 2020 until the spring of 2021.

8 Employee expenses

Employee expenses include items such as employee development, professional membership fees and travel expenditures to attend meetings and collaborative events. The increase in employee expenses relates mainly to higher costs in employee development. Employee development expenditures include industry conferences, seminars and courses as well as training and development required to maintain professional designations such as Certified Professional Accountant ("CPA"). Events attended can range from development of new employees, to learning and collaborating on new and changing regulations, best practices and technologies.

This line item also includes an increase for the training of London Hydro Board members to ensure that Board members are formally and appropriately trained. Board members are expected to participate in orientation sessions, board education sessions and additional appropriate educational conferences in accordance with board approved policies. The Board has a mix of competencies and representational backgrounds that include financial and legal knowledge, accounting and tax matters, utility industry knowledge, strategic planning including human resource planning, corporate stewardship and risk management, regulatory knowledge and experience in a competitive business environment.

The Statement of Corporate Governance Practices outline specifically the qualifications required to serve on the Board of Directors as well as those qualifications required to hold the positions of Chair and Vice Chair. These qualifications are supplemented with the Board's "Self-Evaluation – Board Skill and Knowledge Matrix," which is completed annually to identify gaps of expertise within the Board that may result from Director turnover.



Regulatory application costs

- Regulatory application costs represent one-time costs incurred in connection with the 2
- engagement of external consultants and legal support associated with the development of Cost 3
- of Service Rate Applications, as well intervener review costs. 4
- Actual spending associated with filing the 2017 Rate Application was \$274,688 and has been 5
- prorated over 5 years to \$54,940 in the schedule of program delivery costs above. Costs in 6
- connection with filing the 2022 Cost of Service Rate Application have been forecasted to be 7
- \$300,000 and have been prorated over 5 years to \$60,000. Costs relating to updating the 8
- Distribution System Plan have also been prorated over 5 years as well, and are included in
- program delivery program costs for Information Technology and Asset Management. For further 10
- details please refer to the One-Time Costs discussion on page 343. 11

Corporate Services Program Rate Application Filing and Hearing Costs										
		2017 Rebasing		2022 Rebasing						
Description	2015 / 2016 Actual	2022 Test	2019 Actual to 2022 Test							
Legal costs for regulatory matters	20,210	36,045	56,255	-	40,000	60,000	100,000			
Consultants' costs for regulatory matters	95,543	7,188	102,730	-	50,000	-	50,000			
Intervenor costs	-	115,703	115,703	-	90,000	60,000	150,000			
Total one-time costs	115,753	158,935	274,688	-	180,000	120,000	300,000			
Prorated		(5 years)	54,940	(5 years)						

Insurance

To minimize risk and manage premiums, London Hydro reviews insurance coverage and 14 deductible amounts annually. Coverage relates to potential risk such as general liability, Director 15 and Officers' liability and crime and privacy through various insurance companies.

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Contractor services and consulting

This line item includes financial services and consulting for items such as the Scientific Research and Experimental Development ("SR&ED") tax credit application, external year-end audit, post-employment liability actuarial valuation, Standard and Poor's analytical services as well as strategic planning consulting. Increased costs pertain largely to Standard and Poor's services, external audit services and strategic planning consulting. Standard and Poor's fees have increased 40% between 2017 and 2022. External audit fees have increased significantly as well, partly because of an over accrual of estimated fees for 2016 recognized in 2017, combined with external audit services being impacted by the implementation of new IFRS accounting policies and associated reporting requirements.

Third-party consulting in connection with strategic planning has also increased to help the Company with gaining clarity from an objective source in these times of rapid change in the electricity industry. These consulting services help with the maintenance of London Hydro's five-year rolling Strategic Plan, which is reviewed and updated each year to respond to changes in customer preferences, industry standards and regulations. This Plan documents the Company's goals and strategic focus and priorities and ensures that annual targets set are in line with Company objectives.

Legal services

Legal services are retained as necessary to assist with various issues that arise related to matters such as corporate governance, human resources, the collection of arrears, financing and claims and damages. Specific matters addressed can significantly vary from year to year depending upon the matters that emerge.

Between 2018 and 2020, legal service fees were higher than typical due to several important and complex business, regulatory, financing and labour relations matters that required input, advice and/or carriage from external legal counsel. While every effort is made to minimize external legal costs, it is also prudent to proactively secure legal assistance when and as warranted.



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Corporate membership dues

- 2 Corporate Membership dues provided for in the proposed 2022 Test Year budget relate mainly to
- London Hydro's membership with the Electricity Distributors Association ("EDA"). The EDA is an
- organization focused on the needs and issues of electricity utilities across the province of Ontario.
- 5 Working with this organization gives London Hydro access to a wide range of industry knowledge
- developed by members of this group. Other memberships include the Ontario Energy Network,
- 7 TechAlliance of Southwestern Ontario and Institute of Corporate Directors. These memberships
- 8 allow London Hydro to participate in networking and focus groups related to industry regulations,
- 9 best practices and market rules.

Computer software and hardware

- Budgeted amounts for computer software and hardware represent expenditures associated with
- London Hydro's financial accounting system (J.D. Edwards), the Company's financial reporting
- tool (Hubble) and maintenance fees in connection with modules recently added for the purpose
- of automating accounts payable.
- Increases in cost are primarily because of the Finance Department's implementation of an
- automated accounts payable system ("APA") in 2020. This new solution automates accounts
- payable tasks from end to end including the on-boarding of vendor invoices, data capturing,
- validation, verification and approval.
- Automating accounts payable saves time in the Finance Department and throughout London
- 20 Hydro by streamlining the processing of invoices from receipt to payment. Data entry is reduced
- since invoice information is captured through scanning to character recognition software. Invoices
- are now routed through predetermined processes for coding and approval at appropriate authority
- 23 levels.

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- Invoices are no longer hand delivered from office to office for signatures which is an administrative
- benefit for everyone. Other benefits include,

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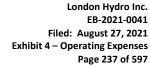
14

- - ✓ Optimization of vendor discounts
 - ✓ Avoidance of late payment fees
 - ✓ More accurate accrual information for financial reporting
 - ✓ Anyone with permission can see invoices at a glance
 - ✓ Improved transparency
 - ✓ Reduction in human error
 - ✓ Creation of approval timers and set up alerts
 - ✓ Elimination of lost invoices or mail sitting on someone's desk
 - ✓ Integration with J.D. Edwards
 - ✓ Mobility; approval invoices from anywhere at anytime
 - ✓ Ability to add text memos and attachments
 - ✓ Real-time collaboration
- √ Better internal controls and easier auditing



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4.3.10 LOCATE SERVICES

Overview

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- 3 Homeowners and contractors are required by law (under the Occupational Health and Safety Act
- of Ontario) to ascertain the location of buried utilities before breaking ground.
- 5 The Locates department is mandated by this same Act to provide location services for all utility-
- 6 owned underground plant installed as part of the electrical system in the City of London. Section
- ⁷ 228 of the Occupational Health and Safety Act and Regulations for Construction Projects (O. Reg.
- 8 213/91) requires the locating and marking of underground services in the vicinity of any
- excavation. The Regulation is intended to prevent injuries and property damage and helps to
- avoid expensive repairs and power outages for customers. Also, London Hydro is partnered with
- the Ontario One Call system as mandated by the Ontario Underground Infrastructure Notification
- 12 System Act, 2012.



- The volume of requests for location services has increased due to public awareness and demand.
- The public has become more aware of the safety issues and legal requirements for locates
- through "Call Before You Dig" advertising campaigns. Demand increases because of city
- development and the enhancement of internet services. In addition, contractors and utilities
- (including London Hydro) have revised their practices to now include obtaining locate services
- before digging by hand or with a vacuum truck.
- Due to the increase in volumes, the seasonal fluctuation of demand, the necessary expertise and
- legislated requirements to provide services within 5 days of request, London Hydro made the
- decision to use a 100% contracted service model in 2014.



The "Call Before You Dig" campaign continues to have an impact on the volume of requests for locate services as the public is more aware of the safety issues and legal requirements. Contractors and utilities are continuing with their requests for service as well. Upon clarification by the Technical Standards and Safety Authority ("TSSA"), the Electrical Safety Authority ("ESA") and the Ontario Regional Common Ground Alliance ("ORCGA"), it was determined that locates are required for hand digging and vacuum-truck types of excavation work. Over the last few years, contractors and utilities have recognized the need to enhance the commitment to damage prevention, by considering plant protection during preliminary engineering efforts. London Hydro, along with the City of London and other utilities, has subscribed to a process whereby potential conflicts with existing underground plant are identified during the planning phase of the engineering process. In doing so, optimum paths are selected and unplanned construction costs are significantly reduced.

London Hydro has adopted the practice of obtaining locates for all excavation types; however, to reduce some of the costs associated with hand digging, the Company uses the Alternate Utility Locate Agreement. The intention of the Alternate Utility Locate Agreement process is to make it easier for the excavator to gain the approvals for construction without compromising safety. Many types of excavation work pose minimal risk to the owners of underground facilities and an Alternate Utility Locate Agreement outlines specific terms and conditions determined by the facility owner and agreed to by the excavator that will allow the excavator to dig without receiving a traditional field locate. This process not only facilitates planning for qualifying construction work, but it also reduces locates cost.



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Program Delivery Costs

- Locate Services expenditures are forecasted to be \$1,096,400 for the 2021 Bridge Year and
- \$1,125,700 for the proposed 2022 Test Year. The forecast for 2022 provides an increase in
- 4 comparison to the 2021 Bridge Year of \$29,300 and is \$119,500 over 2017 Actual amounts
- 5 resulting in a CAGR of 2.3%.

Table 4-26: Locate Services Program Delivery Costs

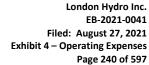
Locate Services Program Delivery Costs											
			Annual Change Total Cha								
			2017 Actual	2017 Actual 2018 Actual 2019 Actual 2020 Actual 2021 Bridge 2							
			to to to to to								
Nature of expenditure	2017 Actual	2022 Test	2018 Actual 2019 Actual 2020 Actual 2021 Bridge 2022 Test								
	\$	\$	\$	\$	\$	\$	\$	\$	CAGR		
Gross labour	-	-	-	-	-	-	-	-			
Labour allocations	44,984	42,500	(16,332)	569	(3,234)	13,513	3,000	(2,484)	-1.1%		
Net OM&A labour	44,984	42,500	(16,332)	569	(3,234)	13,513	3,000	(2,484)	-1.1%		
Contractor services	952,580	1,076,300	75,317	(23,882)	83,924	(37,939)	26,300	123,720	2.5%		
Other	8,636	6,900	(3,406)	175	(1,574)	3,070	-	(1,736)	-4.4%		
Total \$	1,006,200	1,125,700	55,579	(23,138)	79,116	(21,356)	29,300	119,500	2.3%		

Net OM&A labour

- 8 Labour and benefits in this program relate to the supervision of locate contractors. Spending has
- 9 decreased because of new efficiencies in the Construction Department. The Construction
- Department is now working more closely with London Hydro's home-builder customers to provide
- more timely and efficient service. This new initiative covers services closely related to locates
- which have been able to leverage overall supervision.

Contractor services

- 14 Costs related to contracting locate services are captured in this line item. As discussed above,
- due to the increase in volumes, the seasonal fluctuation of demand, the necessary expertise and
- legislated requirements to provide services within 5 days of request, London Hydro contracts a
- third party to perform all locate services.





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Fluctuations in spending associated with third-party locate services are largely a result of new

increased scope locates and increased demand in connection with Internet Service Providers

("ISPs") moving their services to fibre internet within established London subdivisions. Fibre

internet installations have created a considerably large spike in locate requests. For example, a

5 large area can be requested to be located within the 5-day window. In addition, these locate

requests have increased re-marks because delays in the ISP's schedule can cause locates to

7 expire after the 30-day window.

8 Further, the population within the City of London continues to grow and is resulting in a surge of

new homes and subdivisions, as well as new streets and road widenings to accommodate

increased traffic. In fact, London is among the fastest-growing communities in Canada. Between

2001 and 2017, growth in the London region averaged just under 1%. Between 2018 and 2019,

population grew by 2.3% (2017 to 2018 2.4%) which is a significant increase and resulting in

record levels of new construction.

Other costs

The remaining costs in this section are related to items such as ORCGA membership dues, a

locate cell phone and miscellaneous supplies directly related to Locate Services.



4.3.11 CAPITAL MATERIALS SUPPLY MANAGEMENT

Overview

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The Materials Management department warehouses inventories and supplies materials used in capital projects, billable services and operating and maintenance activities. Stock is kept on hand so that it is readily available in an efficient and timely manner. Inventories include (for example) poles, cable, wire, reels, concrete products, transformers and other distribution equipment valued at over \$10,000,000. Approximately 10% of the value of goods is used in operating and maintenance activities, with the remaining 90% being used in billable services and capital projects.



London Hydro Materials Management Program

In order to recognize expenditures associated with keeping required stock on hand, costs captured under this cost centre are allocated out to other activities as an indirect overhead. This is done through an overhead "burden" by attaching a percentage markup to the value of materials issued.



The balance of costs remaining for the 2022 Test Year (\$506,500) represents indirect costs associated with supplying capital projects (\$446,500), as well as inventory obsolescence (\$60,000) as illustrated under the discussion on net cost centre balances on page 247 below. Prior to the implementation of IFRS standards, this cost centre had a nil remaining balance, with the exception of inventory obsolescence. Historically, 100% of costs were allocated to capital projects, billable services and operating and maintenance activities. Under IFRS standards; however, this cost centre is not fully allocated. Under IFRS only costs that can be directly attributable to a specific item can be charged to a capital project. Consequently, costs that are indirect in nature remain in the OM&A expenditures of the Company.

Program Delivery Costs

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- 2 The Materials Management department gross OM&A expenditures (before cost allocations of
- 3 'overhead burden') are forecasted to be \$972,300 for the 2021 Bridge Year and \$996,500 for the
- 4 proposed 2022 Test Year. The forecast for 2022 provides an increase in comparison to the 2021
- 5 Bridge Year of \$24,200 and \$119,057 over 2017 Actual amounts resulting in a CAGR of 2.6%.

Table 4-27: Materials Management Program Delivery Costs

	Materials Management Program Delivery Costs											
				Annual Change								
			2017 Actual	2018 Actual	2019 Actual	2020 Actual	2021 Bridge	2017 Act	tual			
			to	to	to	to	to	to				
Nature of expenditure	2017 Actual	2022 Test	2018 Actual	2019 Actual	2020 Actual	2021 Bridge	2022 Test	2022 Te	est			
	\$	\$	\$	\$	\$	\$	\$	\$	CAGR			
Gross labour	710,311	755,300	(206,766)	(20,429)	93,465	160,319	18,400	44,989	1.2%			
Labour allocations	20,164	25,900	(4,088)	113,954	(18,686)	(86,144)	700	5,736	5.1%			
Net OM&A labour	730,475	781,200	(210,854)	93,525	74,779	74,174	19,100	50,725	1.4%			
Contractor services	3,077	15,400	3,786	3,393	693	4,051	400	12,323	38.0%			
Materials and supplies	34,761	39,200	(7,778)	1,236	(7,555)	17,537	1,000	4,439	2.4%			
Software and hardware	-	44,000	8,000	16,000	18,105	795	1,100	44,000				
Other	109,129	116,700	8,082	(10,094)	4,753	2,230	2,600	7,571	1.4%			
Total \$	877,443	996,500	(198,765)	104,060	90,775	98,786	24,200	119,057	2.6%			
Cost allocations	(383,444)	(490,000)	29,371	20,056	(46,785)	(98,298)	(10,900)	(106,556)	5.0%			
Net cost center balance	493,999	506,500	(169,393)	124,116	43,990	488	13,300	12,501	0.5%			



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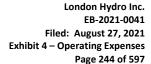
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Net OM&A labour

- 2 The Materials Management department consists of four Stock Keepers, a Purchasing Assistant,
- 3 Capital Project and Materials Scheduler and Supervisor. Duties of the department include,
 - keeping a record of, and maintaining cycle counts for, the complete inventory in the 111
 Horton Street stores building, yard storage areas as well as at three offsite storage
 locations
 - receiving inventory and verifying with the manifests, purchase order listings and material specifications
 - maintaining proper documentation processed for the receipt of the good and supplies
 - reporting loss, damage and any other discrepancies to the supervising authorities
 - sorting all goods and stacking them appropriately
 - labelling, tagging and packaging of the goods
 - ensuring the timely dispatch of the goods to the appropriate destinations and recording appropriate charge numbers
 - coordinating and synchronizing work functions with the vendors, suppliers and other internal divisions of London Hydro
 - maintaining cleanliness and order in the workplace and complying with all safety practices while carrying out work functions
 - inspecting materials returned from the field to confirm quantity and quality and ensuring the material meets all specifications
 - assisting the Environmental Coordinator with new recycling initiatives to reclaim more material for recycling and reduce material sent to landfill
 - working with Operations on the Company's transformer refurbishment program, which takes transformers returned from the field and rebuilds them to current standards (if suitable) to fulfill stock requirements, saving significant costs in comparison to purchasing a new unit





- The Purchasing Assistant is responsible for maintaining inventory stock levels necessary for both
- 2 OM&A and capital activities. Ensuring that materials and supplies are available on a timely basis
- 3 involves being aware of the status of capital project and monitoring inventory levels, while
- 4 considering lead times and minimum safety stock requirements.
- 5 The Capital Project and Materials Scheduler and Purchasing Assistant works closely with other
- 6 departments to,

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- manage the capital budget schedule to reduce or eliminate critical path problems
- provide a detailed update on the capital works schedule and spending, identifying any problems and issues
 - meet with the Operations and Engineering Supervisors on a regular basis to maintain the schedule and resolve conflicts for the completion of all capital work
- assist Operations departments with procurement of contractors as required for capital project completion
- work with Engineering Supervisors to meet and complete capital projects, budgets, and schedules
 - analyze and resolve scheduling problems with contractors, consultants, and customers and implement solutions
 - forecast material, labour, and resource demands for future capital projects
 - maintain a current schedule of capital work orders using project scheduling software
 - assist in the development and maintenance of capital budgets and work with Operations and Engineering Supervisors in meeting budgets and schedules
 - report capital budget variances and cost projections
 - manage all easements for both developer-driven and in-house capital projects
 - respond to easement inquiries from outside sources in a timely manner
- review correspondence from London Consent Authority and provide comments as needed for supply and servicing to future developments
 - manage tenders needed for capital projects



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Fluctuations in net OM&A labour costs are the result of delayed replacements for a staff retirement as well as an employee sick leave. In 2018 there was an employee who had fallen ill, and ultimately resulted with that individual moving to long-term disability where costs are borne by the Company's insurance provider. In cases like these, it is difficult to know whether the employee will be able to return to work. Initially this position was held open for the employee. However, it was eventually determined that the employee was unable to return to work and London Hydro began to post to refill this position. Refilling this position resulted in a further delay since responsibilities in this area require unique skill sets in both scheduling and coordination of distribution construction capital projects as well as monitoring costs and explaining variances to budget.

Contractor services

The Materials Management department has transitioned to utilizing third-party services to perform the counting of inventory on hand in the yard on a quarterly basis. In the past, this inventory count was performed by Materials Management employees, together with employees recruited from other various operations departments.

To reduce costs and avoid disrupting operations in other departments, in-house counts have been replaced with external services. Third-party service providers are better equipped with processes and solutions that deliver a more efficient count and timely results. Further, the process from start to finish now takes 1 week rather than 3 to 4 weeks prior to outsourcing.



Software and hardware

- 2 The Materials Management department began utilizing a new barcode inventory
- management system in 2019. Under this new system, each inventory item has a unique
- barcode label and scanners are used to quickly call up information regarding the SKU item
- 5 before unit information for transactions are entered.
- 6 London Hydro's stock inventory consists of more than 2,000 SKU's and the Materials
- 7 Management department enters more than 900 transactions per week. Barcoding increases
- the accuracy of information recorded since data is scanned into the system, rather than
- 9 manually entered by staff removing the possibility for human error.
- Efficiency is also increased as the time required to enter information into the ERP system is decreased dramatically. Inputting data through scanning increases employee safety and
- customer reliability as well, by validating products chosen for capital projects and work orders.
- 13 Benefits include:

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- Increased safety
- Increased reliability
- Reduced data entry time
- Eliminate human error
- Reduced employee training
- Enforces first-in, first out (FIFO)
- Reduced inventory obsolescence
- Increased available SKU and unit information
- Better warranty and expiry date tracking



Net cost centre balance

- The net cost centre balance remaining in OM&A for the 2022 Test Year (\$506,500) represents
- 3 indirect costs associated with supplying capital projects (\$446,500), as well as inventory
- obsolescence (\$60,000). Under IFRS only costs that can be directly attributable to a specific item
- 5 can be charged to a capital project. Consequently, costs that are indirect in nature remain in the
- 6 OM&A expenditures of the Company.

ALLOCATION OF MATERIALS MANAGEMENT COSTS - 2022 OM&A Expense								
Expenditures	Capitalized (through burdens)	OM&A Programs / Billable Services	•	Total				
Directly attributable	410,900	28,800	_	439,700				
Indirectly attributable	-	50,300	446,500	496,800				
	410,900	79,100	446,500	936,500				
Provision for inventory obsolescence		-	60,000	60,000				
	410,900	79,100	506,500	996,500				

Materials Management Cost Allocations



London Hydro Inc. EB-2021-0041 Filed: August 27, 2021 Exhibit 4 – Operating Expenses Page 248 of 597

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4.3.12 FLEET SERVICES

2 Overview

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London Hydro's Fleet department manages the maintenance, repair, licencing and inspection requirements for all vehicles and equipment required to build and maintain the Company's distribution system infrastructure. Fleet Services ensure that vehicles are operating safely and are available when needed for prompt outage response for customers and efficient completion of new and rebuild capital projects. London Hydro's rolling stock assets consist of over 160 units including small and large trucks, SUV's, sedans, backhoes, forklifts and other pieces of equipment. The Fleet Department also maintains and repairs smaller gas-powered equipment such generators, water pumps, chainsaws, etc.







11 Fleet Services



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- All repairs and maintenance activities are performed in accordance with Manufacturers'
- recommended guidelines, Ministry of Transportation ("MTO") Regulations and industry best
- practices while looking to reduce both costs and environmental impacts.

4 Vehicle replacement program

- 5 London Hydro's Replacement Schedule outlines a schedule of 12 years for large vehicles
- 6 (Classes 6, 7 and 8 such as bucket trucks and RBD vehicles), 15 years for crane trucks (Class 8)
- and 10 years for smaller vehicles such as pickup trucks and SUV's. Trailers are on a 20-year
- 8 replacement schedule which usually translates into running them to the point of structural failure
- or when the trailer no longer passes MTO inspection protocols.
- Specialty equipment, such as line-tensioners and cable-winch trailers, are replaced on a 15-year
- schedule due to the complex hydraulics, controls and motors used in this equipment. Usually this
- type of equipment is run to the point at which annual repair costs exceed 50% of the cost of a
- replacement or the equipment can no longer be operated safely. Other fuel-motorized equipment,
- such as chainsaws, gas drills and pumps are usually run to failure.
- Vehicle maintenance and fuel costs are tracked by individual units and are summarized annually
- to determine cost trends. When a vehicle comes due for budgeted replacement, an overall
- assessment of the vehicle's mileage, engine hours, repair history and future intended usage is
- performed by the Fleet Supervisor. The process includes, but is not limited to
 - Using mileage, hours and age as determining factors in vehicle replacement;
 - Flagging vehicles for replacement consideration when maintenance on the specific vehicle
- exceeds 20% of the value of the vehicle for two consecutive years;
 - The resale value which can have an impact on total cost of ownership; and
- Considering current MTO requirements, Infrastructure Health and Safety Associated
- 24 ("IHSA"), third-party engineering analysis or reports and departmental needs that might
- necessitate major modifications for the vehicle to remain in service.



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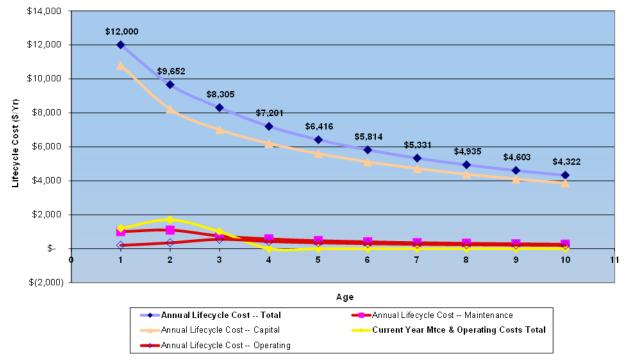
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If the life of a vehicle can be extended based on these criteria, the vehicle will also be inspected in relation to any applicable government regulations to ensure it will still meet requirements if it is to remain in service. In addition, the department that uses the vehicle is consulted to determine whether the vehicle still performs as required or, if replacement with a newer vehicle with enhanced features would provide efficiencies. This assessment may result in the vehicle replacement being deferred to the next year, at which time the vehicle would be assessed again to see if a replacement is necessary. London Hydro also uses the E3 Fleet Economic Life model illustrated below as part of the replacement evaluation.

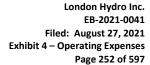


Lifecycle Cost Diagram

- Optimum Economic Life is when Total Annual Lifecycle Cost is minimized
- If Current Year Maintenance & Operating Costs exceed total lifecycle costs, replacement should be considered



E3 Fleet Economic Life Model





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- Finally, the Director of Logistics and Operations Support reviews the London Hydro vehicle
- replacement schedule and associated vehicle maintenance costs annually. This review results in
- a prioritized list of vehicles and equipment to be replaced in the following year's capital budget.
- 4 London Hydro faces challenges in the procurement of large vehicle replacements, such as bucket
- trucks, crane trucks or radial boom derricks ("RBD's"). This challenge stems from suppliers
- 6 leaving the Canadian market and/or amalgamating, resulting in fewer available manufacturers.
- 7 Exasperating the issue is the increased demand for these units. Delivery times have risen from
- 8 10 to 12 months to 18 to 24 months or more.

Manufacturers have also streamlined available vehicle configurations. This has three effects on the Fleet budget. Vehicles scheduled for replacement must be kept in service longer increasing repair and maintenance costs. Manufacturers have increased costs by over 35% in the last few years. Finally, new vehicles ordered need to have some modifications completed by external contractors to meet the department's usage needs and/or task requirements. While meetings are held with staff when a vehicle requires replacement, aimed at aligning usage with available manufacturer designs, inevitably some modifications are required. These modifications add to the final capital cost of the vehicle but ensure the vehicle can be used efficiently and safely by staff.



Program Delivery Costs

- Fleet Services gross OM&A expenditures are forecasted to be \$3,184,200 for the 2021 Bridge 2
- Year and \$3,276,400 for the proposed 2022 Test Year. The forecast for 2022 provides an increase 3
- over the 2021 Bridge Year of \$92,200 and \$673,254 over 2017 Actual amounts resulting in a 4
- CAGR of 4.7%. 5

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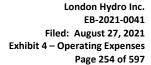
Table 4-28: Fleet Services Program Delivery Costs

Fleet Services Program Delivery Costs										
			Annual Change					Total Change		
			2017 Actual	2018 Actual	2019 Actual	2020 Actual	2021 Bridge	2017 Actual		
			to	to	to	to	to	to		
Nature of expenditure	2017 Actual	2022 Test	2018 Actual	2019 Actual	2020 Actual	2021 Bridge	2022 Test	2022 Test		
	\$	\$	\$	\$	\$	\$	\$	\$	CAGR	
Gross labour	558,302	873,000	21,176	72,602	125,680	76,740	18,500	314,698	9.4%	
Labour allocations	3,494	(83,000)	(29,148)	(3,518)	34,041	(70,369)	(17,500)	(86,494)	-288.4%	
Net OM&A labour	561,796	790,000	(7,972)	69,085	159,720	6,371	1,000	228,204	7.1%	
Repairs and maintenance	436,597	511,800	80,515	(40,566)	92,202	(67,548)	10,600	75,203	3.2%	
Fuel	302,472	348,500	69,852	(65,442)	(35,773)	68,891	8,500	46,028	2.9%	
Consulting services	17,914	41,100	(10,474)	3,021	(7,421)	36,960	1,100	23,186	18.1%	
Cloud services	-	97,800	1,494	50,162	10,341	33,403	2,400	97,800		
Other	274,865	281,200	(4,251)	(3,258)	(34,837)	42,081	6,600	6,335	0.5%	
Total before depreciation	1,593,644	2,070,400	129,165	13,002	184,232	120,157	30,200	476,756	5.4%	
Depreciation	1,009,502	1,206,000	41,117	34,371	(6,718)	65,728	62,000	196,498	3.6%	
Total \$	2,603,146	3,276,400	170,282	47,373	177,514	185,885	92,200	673,254	4.7%	
Annual % change			7%	2%	6%	6%	3%			
Cost allocations	(2,603,146)	(3,276,400)	(170,282)	(47,373)	(177,514)	(185,885)	(92,200)	(673,254)	4.7%	
Net cost center balance	-	-	-	-	-	-	-	-		

Net OM&A labour 7

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- Internal staff are responsible for the preventative maintenance and emergency repair work for all 8
- the fuel powered equipment owned and operated by London Hydro. The talented team repairs 9 everything from lightbulbs, to engines, to suspension, to hydraulics as well as tools such as
- generators and chainsaws. Fleet mechanics all have specialized certification, including 310-T, 11
- 310-S, and Canadian Utility Fleet Council ("CUFC") and other manufacturer related certifications. 12
- These essential certifications allow these employees to maintain and service booms, cranes and 13
- radial boom derrick trucks. 14





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Since filing the 2017 Cost of Service Rate Application, two additional resources have been added

to the Fleet Services Program: A Mechanic Apprentice and an Administrator. In October 2014,

one of the Fleet department's Mechanics applied for, and was awarded the position of Facilitator

for the School Safety Program offered by London Hydro, which removed this employee from the

5 garage three days a week for eight months of the year. In response to losing this partial resource,

the Fleet department increased the use of third-party contractors for smaller repairs.

7 The new apprentice replaces the resource loss to the School Safety Program and also assists

with succession planning for the upcoming retirement of the Fleet Lead Hand Mechanic.

Appropriate success is required in this department since, (for example) to work on di-electric

components in bucket trucks and RBD's, Canadian Utility Fleet Council training and certification

is required which can take up to three years.

Ministry of Transportation Standards.

London Hydro continues to maintain the vehicle and equipment fleet with a combination of internal staff and external contractors. London Hydro has found that operating in this fashion assists with controlling costs while providing appropriate fleet maintenance and accommodating emergency and specialized repairs. While a certain amount of contracting out can be beneficial, London Hydro must retain a minimum complement of in-house expertise to repair and maintain bucket trucks, radial boom derricks (RBDs) and crane trucks in order to meet the Ministry of Labour and

The Fleet Administrator was hired to assist with the new Fleetio cloud-based software solution, work order administration, MTO regulatory filings and document retention. Fleetio has moved the Fleet Department from a paper-based workflow to automation and provides for a single source of information. This new position helps to maintain the Fleetio database and allows for an interface between Fleetio generated work orders and the mechanics, thereby enabling them to focus on

vehicle maintenance and repairs.

The Fleet Administrator also works closely with reporting tools to monitor electronic logging information, vehicle repair history and preventative maintenance tasks to ensure that appropriate actions are taken in response to reminders and notifications. In addition, this new resource assists with the tracking of maintenance and fuel costs by vehicle for costs trends, onboarding of new



- vehicles (i.e.: licencing, time entry, tags, logo, make ready) and helps to ensure that appropriate
- stock is available to optimize mechanic resources and reduce vehicle downtime.

Repairs and maintenance

- 4 Repairs and maintenance expenditures are forecasted to be \$511,800 for the proposed 2022 Test
- 5 Year providing an increase in comparison to the 2017 Actual amounts of \$75,203 and resulting
- in a CAGR of 3.2%. Vehicle repairs and maintenance costs fluctuate from year to year as London
- 7 Hydro's Fleet reaches varying phases in their lifespan. This involves numerous units including
- 8 vehicles, heavy equipment, small equipment and trailers. As units come to the end of their lives,
- 9 repairs and maintenance costs increase.
- In addition, repairs and maintenance costs have been impacted by increased pricing for vehicle
- parts. For example, there are some parts that have increased as much as 30% over that past few
 - years. Further, repair costs increase where a vehicle is kept in service longer than scheduled. As
- mentioned above, London Hydro has encountered challenges when replacing large vehicles
- leading to delays. This means that older vehicles are on the road longer resulting in increased
- 15 repairs.

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Fuel

- Fuel costs fluctuate based on vehicle usage and associated fuel consumption as well as changes
- fuel prices. Vehicle usage fluctuates in response to maintenance and storm repair activities and
- capital distribution assets construction. Average regular unleaded fuel prices per litre have ranged
- 20 from \$0.99 in 2020 to as high as \$1.23 in 2018.
- To assist in minimizing fuel costs, London Hydro ensures that new vehicle purchases have more
- fuel-efficient engines. Also, as discussed below, London Hydro has implemented a new GRIP
- 23 system designed to reduce unnecessary vehicle idling by automatically shutting the engine off.
- Utilization of GRIP can reduce engine operation by more than 50%.



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Consulting services

2 This spending category includes equipment inspections and third-party professional services

engaged for short durations to obtain their expertise on the issues at hand. Costs have increased

in this area in part due to inspection complexities related to newer equipment, and due to the

installation of London Hydro's new fuel dispensing system in 2021.

6 The new fueling system replaces the legacy system which has reached the end of its lifecycle

7 and does not meet new regulations introduced by the Technical Standards and Safety Authority

8 ("TSSA") effective in early 2022. In addition, third-party expertise is being engaged to develop

requirements for the new fueling system to ensure that it meets the standards necessary by both

the Upper Thames Valley Conservation Authority and Technical Standards and Safety Authority.

Once the new fueling system has been installed, London Hydro will also require consulting

services to create an interface between the new fueling system and its Fleetio database and

reporting system, which will require ongoing maintenance and updates.

Further, replacements for older cranes and RBD's are now more specialized requiring additional

consulting services to ensure that equipment purchased meets London Hydro's needs and is

compliant with regulations. In addition, the department completed an upgrade of its 35-year old

hydraulic vehicle lift systems in 2020, which is a combination of floor surface anchored and

portable lifting devices. Complexities surrounding these newer units also require additional

consulting services to ensure that they are operating safety.

Cloud services

21 Cloud services implemented in the Fleet department are discussed here, rather than the Cloud

Services section of this Exhibit since the Fleet Department is an allocation business unit. As such,

cloud services costs in this area have been allocated through burden rates to operating and capital

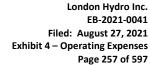
activities as vehicle charges.

Since 2017, the Fleet department has moved to an automated environment through cloud-based

solutions. This has led to working proactivity instead of waiting for problems to occur while

increasing safety for both drivers and the public. New systems brought into the Fleet department

providing enhancements include:





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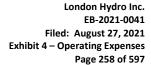
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- Global Positioning System ("GPS") 1
 - Cloud vehicle maintenance software (Fleetio)
 - Electronic Logging Devices ("ELDs")
 - GRIP (Anti-idle controller)
- The GeoTab, Fleetio and GRIP hardware and software systems track and monitor vehicle 5
- activities through GPS and help to manage day-to-day fleet maintenance. These secure and 6
- robust cloud-based software applications allow London Hydro to manage its fleet from anywhere. 7
- GPS tracking and monitoring contributes many benefits including: 8
- ✓ Collection of Hours of Service ("HOS") 9
 - ✓ Improved safety for personnel and the public
 - ✓ Better utilization of resources
 - ✓ Decreased idle time
 - ✓ Better routing and decreased fuel consumption
 - ✓ More predictability for maintenance planning
- ✓ Improving resource allocation & customer service 15
- ✓ Risk and safety reporting with driver ratings 16
- √ Immediate location of any stolen assets 17
- ✓ Timely notification of mishaps or accidents 18



GPS tracking systems allow for monitoring of vehicle location and health while managing productivity and fuel efficiency. Further, they ensure that London Hydro stays compliant with the 20 many government regulations that keep drivers safe. This tracking system also monitors all vehicle BlackBox data which drives the new Fleetio work order repair program. 22

Fleetio, has moved the Fleet department from a paper-based workflow to an automated system 23 helping get drivers back on the road faster. Fleetio integrates with GPS allowing for automated 24 odometer updates, warning alarms and diagnostic handling. This cloud-based system provides 25 for a single source of information and allows for preventative maintenance and tracking of routine 26 inspections through tools such as reminders and notifications. 27





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Streamlining the fleet maintenance process allows for preventative maintenance and tracking of

routine inspections so that required repairs are not overlooked. Fleetio automatically forecasts the

due date of a service reminder based on a vehicle's daily average usage both in hours of operation

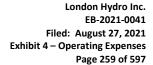
and mileage. Tasks such as oil changes and tire rotations are predicted, and reminders and

notifications are automatically generated. This optimizes the lifecycle of fleet assets and helps to

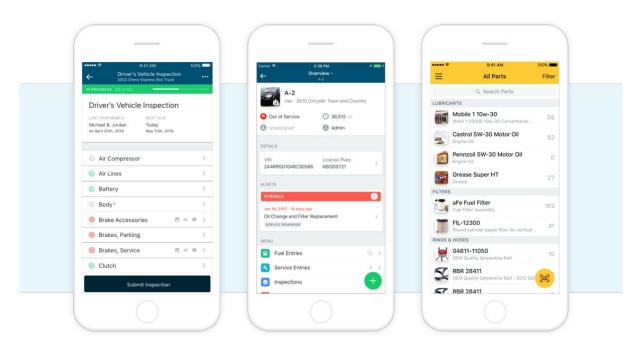
ensure the safety of our workforce and the public. Other benefits include:

- ✓ Reduced vehicle downtime
- ✓ Drivers in and out of shop quickly
- 10 ✓ Predicted due dates based on usage
 - ✓ Set meter and time intervals and due soon thresholds
- ✓ Approval permissions for fleet managers and admins
 - ✓ Approval of maintenance requests electronically
 - ✓ Creation of service schedules for regular tasks and inspections
 - ✓ Tracking of work completed, who did the work and what parts where used
 - ✓ Creation and edit work orders
 - ✓ Reporting on outstanding notifications, issues, failed inspections
- ✓ Detailed information on issue history
- Prince 19 ✓ Reporting on maintenance activities (summary / per vehicle)

The Fleet Services department can now manage outsourced and in-house maintenance, fuel, vehicle inspections, parts and recalls through this single source of information. Further, Fleetio's mobile functionality empowers everyone in the Fleet Service department to contribute to its success with unlimited users and flexible permissions.



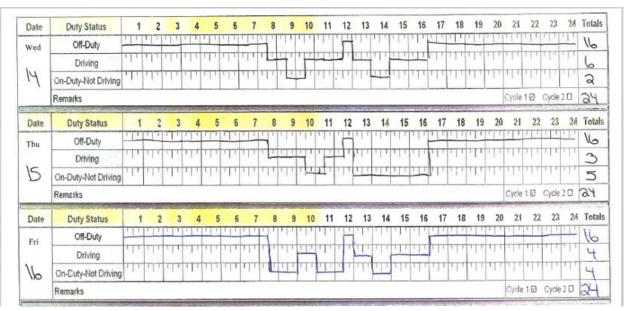




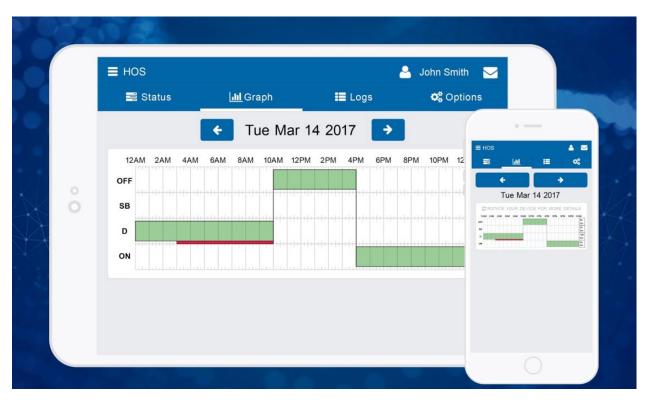
Fleetio Mobile App

Electronic Logging Devices ("ELDs") gather information such as: date, driver's name, location and odometer reading at start of day and at end of day including on-duty and off-duty hours. London Hydro uses this information to prevent driver fatigue and improve road safety. This is done by monitoring maximum hours of work and sleep time to ensure that Health and Safety Safe Work Practices are followed. Historically this information was tracked in paper logs, which is not automated, saving data entry time and providing for better reporting of outliers while providing more accurate reporting.





Before - Manual Log



After - Automated Log



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With transportation contributing to over 20% of greenhouse gas emissions, London Hydro made the decision to bring in a vehicle idle management system, GRIP, which is designed to reduce unnecessary vehicle idling by automatically shutting the engine off after a pre-set period. A GRIP device will turn the unit off and go into monitoring mode when it remains idle for an extended period. The vehicle will restart when required triggered based on unit-specific criteria built into the application. Keeping idling time to a minimum has many benefits including optimizing vehicle utilization, reducing emissions, saving fuel costs and reducing operating expenses.

Utilizing the GRIP system can reduce engine operation by more than 50%. This increases the unit's life span while decreasing maintenance costs and shop time. Lowering shop time means that London Hydro needs to have less backup vehicles available. Decreasing unnecessary idling saves on fuel consumption and engine hours so that CO2 emissions are reduced as well.

GRIP's data analysis tool collects vehicle information using conventional cell phone technology to communicate data to the cloud. This information can then be analyzed and filtered by date range, zone, vehicle type and fuel type to report on idling hours, fuel consumption, engine wear and much more. By analysing this information, the Fleet Manager can look for opportunities to optimize fuel consumption and reduce maintenance and emissions. Keeping idling time to a minimum has many benefits including:

- ✓ Optimizing vehicle utilization
- √ Reducing emissions
- 20 ✓ Saving on fuel costs
- 21 ✓ Reducing operating expenses

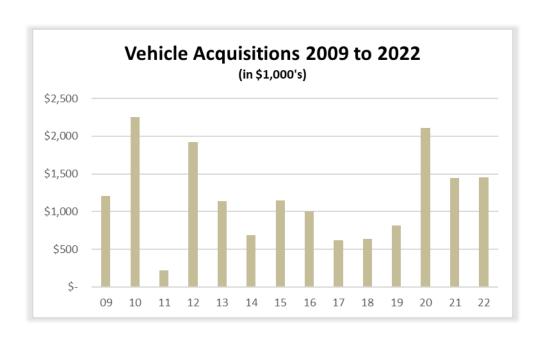




Depreciation

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Depreciation on vehicles and major equipment is forecasted to be \$1,206,000 for the proposed 2022 Test Year providing an increase in comparison to the 2017 Actual amounts of \$196,498 and resulting in a CAGR of 3.6%. Vehicle and equipment depreciation have increased due to the overall increase in fleet and equipment stock, as well as an increase in manufacturer costs for larger units. Also, depreciation fluctuates depending on the timing of vehicles acquisitions which were higher in fiscal 2020 as depicted below.



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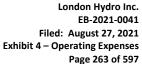
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Vehicles acquired in 2020 include two Freightliners, a single bucket truck and an International crane as well as the replacement of several pickup trucks and vans. London Hydro did try to purchase some of the large units in 2019, however, as mentioned, there are a limited number of suppliers available for these types of units which means that the time from order to delivery is longer and with many unanticipated delays.





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Fleet cost allocations

London Hydro's fleet is used for capital, billable and OM&A activities. In order to recognize 2

expenditures associated with the cost of vehicles and equipment used during daily activities, costs 3

captured under the Fleet department cost centre are allocated out to the various activities. This 4

is done by charging a fixed hourly rate, dependent upon the vehicle type and based on actual 5

usage data tracked through London Hydro's HRIS time entry system. Capital and billable activities

for the proposed 2022 Test Year are forecasted at 60% of usage and OM&A activities at 40%. 7



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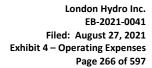
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4.4 CLOUD SERVICES

4.4.1 Overview

- 3 Cloud services have increased due to the migration of on-premise solutions to cloud solutions
- 4 and the implementation of new systems and features that enhance both customer service and
- 5 operational effectiveness.
- 6 Technologies are advancing rapidly and without the utilization of cloud-based solutions, London
- 7 Hydro would struggle to keep up with the pace of change. Complexities in technology are also
- 8 escalating, further driving the need to leverage cloud services. These internet-based subscriptions
- 9 help enhance cyber security, keep the Company agile and provide customers with the
- functionality they have requested. Third-party service providers are able to achieve economies of
- scale that are passed to their customers and ensure that systems are up to date and flexible.
- Large service providers, such as Google and Amazon, offer these on-demand services for a
- monthly fee. Where suitable, obtaining services and functions through the Cloud, rather than in-
- house, can significantly reduce costs. Cloud services allow access to London Hydro systems
- anywhere, anytime and on any device. Other benefits include,
 - ✓ reduced need to acquire costly computer software and hardware
 - ✓ less in-house support and systems maintenance
 - ✓ flexibility to purchase services on an incremental basis as needed
- 19 ✓ inherited cyber security
- 20 ✓ 24/7 accessibility and support
- 21 ✓ real time view of network health and security
- 22 ✓ on demand scalability
- 23 ✓ big data performance 'out of the box'
- 24 ✓ cross cloud platform interoperability
- ✓ flexibility and mobility for web-enabled devices
- √ improved on-line data storage and backup solutions
- 27 ✓ hosted solutions such as email, document collaboration and database processing





London Hydro has been continuing its journey to become a technology-driven utility – a "digital

2 utility". Following the strategic plan, the primary outcome of our innovation strategy has been the

development of technological tools for both customer facing solutions and operational

4 effectiveness.

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5 Cloud computing services such as Amazon and Google offer subscription services that can be

6 accessed by end users over the internet. As technologies develop, service offerings increase and

allow subscribers the opportunity to take advantage of new features in a more cost-effective

8 manner. Accordingly, 100% of London Hydro's customer engagement applications are in the

cloud which also enhances scalability, security and performance on demand.

Cloud systems provide for enhanced cybersecurity and help the Company cope with growing

volumes of data. They are also more resilient which ensures that application uptime is maximized

for customers. Most on-premise applications demonstrate poorer resiliency because equipment

is so expensive that redundancy is not available to handle downtimes.

14 Enhanced cyber security protocols provided through cloud services are crucial to ensure that

systems, customer data and business data are protected, especially with the increase in Smart

Grids, Smart Meters and the Internet of Things ("IoT"). Mobile devices and applications are also

on the rise as London Hydro offers additional services to customers through the digital means

that they are requesting.

On-premise solutions require an investment in physical assets that are owned by the Company.

20 While the current ratemaking model does allow for a return on these investments for stakeholders,

on premise solutions can provide disadvantages associated with keeping pace with technology,

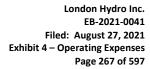
cyber security, implementation timeframes as well as quality and value for customers. Further,

the requirement for ongoing maintenance, upgrades and infrastructure refresh programs can

translate into increased costs.

Transitioning to cloud computing results in a shift in costs from computer hardware and software

depreciation to OM&A expenditures. Unfortunately, the increase in OM&A expenditures can





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provide the misleading representation that costs are increasing; where in fact, cloud services

2 provide an overall cost savings.

3 Although cloud computing is the best option for customers in most cases, choosing cloud-based

4 solutions has the outcome of distorting the Company's performance with respect to OM&A

expenditures captured for ratemaking. For example, when comparing current to historical costs

during periods where the Company is transitioning from on premise to cloud solutions.

7 Performance indicators can also be skewed when comparing to other distributors that have

chosen to go with on premise capital investment solutions.

9 Nevertheless, London Hydro has chosen to take the path that most benefits the customer and

hopes that one day the rate-making model will find a way to equalize performance indicators when

comparing traditional capital asset acquisitions and cloud service solutions that reduce capital

investment needs. Updating the rate-making model for cloud services may provide for many

13 benefits including

removing incentives for LDC's to invest in capital for IT infrastructure and software on

which they can earn a rate of return (in comparison to cloud services where no rate of

return is provided) to allow for better decision making for customers when choosing

between on-premise versus cloud solutions

removing cloud service costs from traditional OM&A expenditures and grouping together

with depreciation and amortization costs when reviewing overall performance indicators;

so as to provide a more parallel view between LDC's who chose cloud services and those

that invest in capital assets

consideration of deferral accounts for material incremental cloud services costs to

accommodate LDC's transitioning from on-premise solutions to cloud-based solutions

during IRM years

consideration of cloud services costs in the Advanced Capital Model ("ACM") so that

LDC's who chose cloud services are not penalized as a result of choosing cloud solutions

during IRM years



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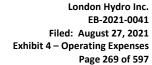
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Cloud services expenditures are forecasted to be \$1,609,400 for the 2021 Bridge Year and \$1,753,200 for the proposed 2022 Test Year. The forecast for 2022 provides an increase in comparison to the 2021 Bridge Year of \$143,800 and is \$887,253 over 2017 Actual amounts.

Table 4-29: Cloud Service Costs - 2017 Actual to 2022 Test Year

							2017 Actua	
	2017	2018	2019	2020	2021	2022	to	
	Actual	Actual	Actual	Actual	Budget	Test	2022 Test	
	\$	\$	\$	\$	\$	\$	\$	
Customer Focus:								
Google (website/MyLondonHydro)	192,361	284,333	277,437	264,571	325,000	380,000	187,63	
Content Management System	-	-	-	50,000	85,000	86,700	86,70	
Customer ID management	-	-	-	29,167	40,000	40,800	40,80	
Genesys Contact Centre	-	-	-	91,510	110,000	120,000	120,00	
Customer bill print	145,786	157,573	165,133	167,809	160,000	166,400	20,61	
Amazon (disaster recovery)	106,062	147,039	198,841	190,673	165,000	168,300	62,23	
Amazon (meter data management)	95,084	76,608	106,220	73,175	140,000	142,800	47,71	
Amazon (data analytics and reporting)	84,856	80,687	119,343	173,723	125,000	135,000	50,14	
Google (data pipeline)	-	-	-	-	10,000	25,000	25,00	
RunMyJob	35,923	36,997	40,361	48,174	75,000	75,000	39,07	
Jira IT project management	52,016	69,877	80,278	94,613	75,000	76,500	24,48	
Miscellaneous tools (notifications, hubs)	-	2,319	4,217	24,993	8,500	12,000	12,00	
_	712,088	855,434	991,829	1,208,408	1,318,500	1,428,500	716,41	
Operational Effectiveness:								
Human Resources, Health and Safety:								
Payroll processing	-	-	-	69,516	72,500	72,500	72,50	
Time entry	35,096	30,842	45,157	35,756	36,000	51,000	15,90	
Human resources, learning & development	65,764	61,469	65,393	69,516	68,000	68,000	2,23	
Health and Safety Intelex e-compliance	-	5,892	23,568	24,520	23,600	24,200	24,20	
	100,860	98,203	134,117	199,308	200,100	215,700	114,84	
Other:								
Google apps (mail, calendar, meet)	30,288	26,546	38,815	54,399	50,000	66,000	35,71	
Board of Directors' web portal	22,711	21,975	24,201	24,868	31,000	33,000	10,28	
Adobe Creative Cloud	-	671	1,771	1,004	2,500	2,500	2,50	
Microsoft capital project management	-	628	2,009	5,959	7,300	7,500	7,50	
	52,999	49,819	66,796	86,230	90,800	109,000	56,00	
	153,859	148,022	200,913	285,538	290,900	324,700	170,84	
	865,947	1,003,456	1,192,742	1,493,946	1,609,400	1,753,200	887,2	

The largest components of these expenditures are for cloud-based usage fees, additional licence agreements for software that has been updated and deployed to the cloud and incremental cyber security protection. These expenditures are required to provide the access for customer-based systems such as the Company's website, MyLondonHydro and Trickl and to protect the privacy of customer information as threats and challenges continue to exist in the cloud-based environment. Increases in cloud computing costs over the past 5 years are primarily due to





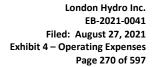
- increased participation in MyLondonHydro
- new customer features available through MyLondonHydro
- new Customer Contact Centre
- 4 > enhanced cyber security
- 5 disaster recovery and backup
- 6 meter data management, analytics and reporting
- operational solutions moving from on-premise to the cloud systems
- 8 Cloud services were unfavorable to budget in fiscal 2017 in the amount of \$240,000. Amounts
- budgeted for Google costs for new resource utilization and application engine requirements
- necessary for new features offered such as move-in / move-out, the Builder's Portal, MyIDC, the
- Property Manager's portal, Trickl and other smart apps were underestimated that year. The 2017
- budget was also understated for Amazon services in connection with London Hydro's disaster
- recovery backup requirements.
- Providing new features to customers can also result in cost fluctuations from year to year because
- of the temporary need for additional IT infrastructure environments to be utilized on cloud servers.
- Additional environments are necessary to thoroughly test enhancements and new functionality
- through numerous scenarios to ensure that they are working properly before being deployed to
- 18 customers.

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4.4.2 Customer Focus

MyLondonHydro

- Technology has become part of the fabric of customers' daily activities. London Hydro listened to
- what they had to say and developed a highly interactive website that empowers customers with
- 23 ✓ self-sufficiency
- 24 ✓ 24/7 access
- √ more and improved communication options
- ✓ mobility (computer, smart phone, tablet)
- 27 ✓ timely outage notifications





- √ tools for analysing consumption data
- √ sharing consumption data with third parties (Green Button)

London Hydro has been working hard to 'put customers in the driver's seat' by providing them with more self-service functions and communication options. New technology-based services include the new London Hydro website and enhanced 'MyLondonHydro' features and notifications. Communication options have been enhanced and include chat messaging, texting, emails and personalized telephone services.

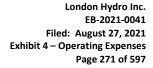


New platforms such as MyLondonHydro provide customers with user-friendly tools and immediate access to information. The MyLondonHydro section of London Hydro's website provides customers with options to select paperless billing, access their energy consumption (as recent as the previous day), view payment history and register to receive outage notifications by phone, email or text.

Mobility computing has increased customer engagement as customers have more selection and are able to conduct their business with London Hydro in the manner and medium of their choice. Additionally, they are not constrained to business hours for account and service information.

London Hydro's web portal, 'MyLondonHydro', delivers many service options for customers which were prompted by either direct requests from customers or the identification of an opportunity to provide better service to customers, including

- ✓ online move in / move out or transfer of account
- ✓ mobile device support
- 25 ✓ live outage map
 - ✓ enhanced TOU analysis
 - ✓ online reporting of historical and current electricity and water consumption data
- 28 ✓ Green Button Download My Data
- 29 ✓ paperless billing registration options





- ✓ no fee credit card payments 1
- ✓ rate information for all customer classes 2
- ✓ payment arrangements 3
- ✓ detailed account transactional activity reporting 4
- ✓ multi-account dashboards 5
- ✓ budget billing 6
- √ delegation access 7
- ✓ integration of MyIDC, property management and builder's portal 8
- √ high usage alert (including ability for customers to set their own threshold) 9
- ✓ outage notifications (power outage and restoration events, payment due) in the medium 10 of the customer's choice (telephone/voice mail, email, social media)
- √ accessibility compliance 12
- ✓ TOU versus tier pricing online comparator. 13
- ✓ a loyalty plan 14

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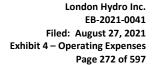
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In the fall of 2020, London Hydro launched the new londonhydro.com website. In addition to a 15 new modern look, the new site has improved navigation making it even easier for customers to 16 find the content they are looking for and drive visitors to the many self-service options. Customer 17 feedback on the new site has been positive and indicates that customers are incredibly happy 18 with the easier navigation and friendlier look and feel. 19

New features underway include service offerings such as Chat, SMS (two-way texting), CoBrowsing, web surveys and outbound voice notifications. The Chat medium being offered is making it easier for customers to reach out to London Hydro's support team. Through this new messaging feature, Customer Service Representatives can respond to customer inquiries in real time regarding matters such as account information or assistance with navigating self-serve options. Chat services can even be designed to initiate conversations with first-time website visitors or offer proactive support.





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Live Chat

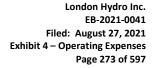
SMS (Short Message Service) is similar to email and chat whereby a customer receives a notification on a smartphone and can quickly respond to the message in the same medium.

Through this two-way texting channel, a Customer Service Representative can communicate with

a customer directly and at their convenience to help answer the customer's question or guide

them through a business process while avoiding emails and phone tag.

CoBrowsing (short for collaborative browsing) is the joint navigation through MyLondonHydro by two or more people accessing the same web page at the same time. When used in conjunction with communication channels like Chat, video Chat or voice calls, CoBrowsing helps to reduce customer friction and improves customer engagements without having to rely on customer experience. This solution enables a Customer Service Representative to see what the customer sees and guide them through their needs.





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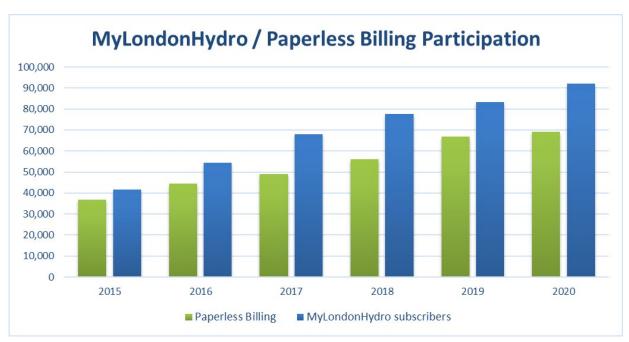


CoBrowsing: where a customer sees the same screen as a representative

- 2 Customers continue to request more technology which facilitates easy and simple access to their
 - data. For example, the Company has received requests to allow Siri/Alexa/Google Home to be
- 4 linked to their MyLondonHydro account. This connection would allow customers the convenience
- to ask their 'home assistant' for information such as the balance of their bill and time-of-use rates.
- 6 London Hydro has a proven track record in the use and development of technology that supports
- 7 efficient business operations and delivers value-added services to our customers, focusing on
 - Multichannel engagement: providing customer experiences and support across a variety of communication channels
 - Self-service opportunities: enhancing customer self service and overall digital experience by expanding opportunities for energy management and conservation
 - *Digital transformation*: continue the journey to transform London Hydro into a digital enterprise, including smart grid and DER segments
- London Hydro is constantly looking for ways to attract customers to paperless billing and to register for MyLondonHydro. This in turn helps to reduce environmental impact and billing costs as well as provide a greater opportunity for London Hydro to promote new self-service tools and



- conservation initiatives. Over 90,000 of our customers now use self-service tools and nearly
- 2 70,000 have signed up for paperless billing.



MyLondonHydro / Paperless Billing Participation

Green Button

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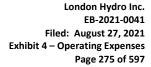
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- 5 Green Button is a recognized utility data standard that empowers households and businesses
- 6 with access to their utility data (i.e. Download My Data) and allow them to authorize the automatic,
- 7 secure transfer of their own data from their utility to apps of their choice (i.e. Connect My Data).
- 8 Green Button allows utility customers to gain better control over energy usage, reduce
- 9 consumption, and reduce their costs.

Green Button is an industry-led effort that provides customers with online access to their energy data in a standard format that is both computer and consumer friendly. This way customers can securely share their data with mobile and web-based apps to gain better insight of waste and inefficiencies.

London Hydro has been a leading Ontario utility in adopting and developing Green Button systems and applications. In 2018, London Hydro also became the first utility in the world to receive Green Button Connect My Data ("CMD") certification from Underwriters' Laboratories.





This certification affirms the security and accuracy of London Hydro Green Button data and platform. In fact, the Minister of Energy has recognized London Hydro's leadership with respect to the implementation of Green Button as indicated in his letter below sent in March 2021,

"Ontario is a leading jurisdiction in the adoption of the Green button standard and, looking forward, our government is considering bringing forward a regulation to require Ontario's electricity and natural gas utilities to implement Green Button. The proposed province-wide implementation of Green Button would be expected to help customers better manage and control their energy use. It would also be expected to help utilities find efficiencies in the internal processes, and create economic development opportunities by fostering the development of innovative and interactive energy management software tools and apps to make the data available to customers in more engaging ways.

I recognize London Hydro's significant, early efforts in the adoption and promotion of Green Buttons standard, including in helping to expand the availability of Green Button offerings for consumers as a third-party service provider supporting other utilities' implementation of Green Button.

We expect that new and existing software platforms, which may include London Hydro's platform, would be leveraged to ensure timely and cost-effective implementation of Green Button by Ontario's regulated electricity and gas utilities."

Minister Bill Walker Associate Minister of Energy March 31, 2021

The Green Button platform delivers a secure and scalable data structure that simplifies data integration for London Hydro applications and self-service offerings. Green Button unifies customer and consumption data under one platform and serves as a data hub, making development of data driven functions simplified and reusable. The Green Button platform serves as:



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standardized data platform servicing:

MyLondonHydro

Property Management Portal

Trickl mobile app

enables development and data reusability while maintaining privacy and security aspects of London Hydro customers

enables delivery and integration of third-party solutions, bringing more choices and

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- solutions to customers (efficiency, energy conservation, DER)
- data backbone for energy consumption and water use ("EWRB") data reporting
- removes paper based and manual data authorization processes
- supports local talent development and innovation (working with universities and research)
- supports agile and rapid development (ie; TOU vs Tier Calculator was delivered through MyLondonHydro offering personalized data analytics and advice for our customers based on their actual energy consumption)



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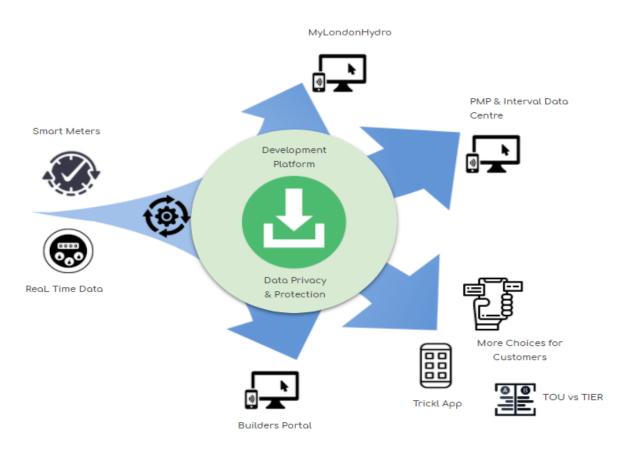
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Green Button Platform

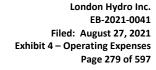
London Hydro continues to progress in its journey to utilize and leverage the benefits of Green Button data so that customers can take advantage of the growing array of online services available to help them manage their energy and minimize costs. Having this information available empowers customers by helping them to understand their energy data which encourages customers to be more energy efficient. This data helps to leverage smart meters and TOU pricing options while developing a system that provides end-to-end interoperability and is robust and flexible for changes that lie ahead (for example, electric vehicles, DER, batteries, smart home integration) so that customers can make sound decisions regarding the choices available to them.



Trickl

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- 2 London Hydro's Trickl app was developed as part of the OEB Regulated Price Plan Pilot ("RPP"),
- which commenced in 2017 to test alternative pricing structures and non-price tools to empower
- 4 consumers and provide incentives and opportunities for consumers to reduce their electricity bills
- 5 by shifting their time of electricity use.
- 6 Energy efficiency is a key element in responsible resource consumption while improving
- 7 economic performance and contributing to Canada's endeavor in reducing greenhouse gas
- 8 emissions. However, research findings indicate that response to TOU pricing to date has been
- 9 moderate and suggests that many consumers may prefer an alternative time-varying pricing
- option and/or an ability to choose between different options.
- 11 The RPP pilot materialized as a result of the Regulated Price Plan Roadmap (EB-2014-0319)
- issued by the OEB in November 2015. In partnership with the OEB, London Hydro implemented
- a customer engagement program that combined quick ramp-up critical peak demand response
- events and 'behind the meter' energy management tools that helped customers understand
- energy impacts in real time, powered by Green Button.
- The project provided Londoners with the Trickl app and special wiring giving them the option for
- pre-selected appliances to be turned down or off when the demand for electricity is likely to
- outpace the supply in the province.
- Using Trickl, customers in the pilot received a notification about 15 minutes before high peak rates
- become effective, letting them know what pre-selected appliances would be powered down unless
- the customer selected the override button. Under this platform, customers had an incentive to
- 22 allow a reduction in electricity because the price plan would charge drastically higher peak rates
- during a high demand period, compared to the off-peak rates.





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iPhone Screenshots



London Hydro's Trickl App

- With customers struggling to keep pace with electricity prices, the Trickl app empowers customers by giving them the ability to monitor and control their energy consumption through their smartphones. Trickl provides energy efficiency tips and helps customers better understand their energy data. The Trickl mobile app provides additional support and customer engagement channels for MyLondonHydro functions. Further, it delivers support for 'behind the meter' engagement, offering integration with home hubs, smart plugs, appliances, load controllers, thermostats, DERs and more.
- London Hydro's energy management app provides users with the energy usage of their household to allow them to make informed decisions in real time on their energy cost and consumption. Customers can now act on real-time energy tips and utilize tools to reduce or shift their home's energy usage. With the Trickl mobile app customer can
 - ✓ subscribe for notifications such as outage and bill due reminders
 - √ view their energy consumption in real time and make informed conservation decisions
- √ participate in Demand Response events
 - ✓ control smart home devices
 - ✓ switch to paperless with one click



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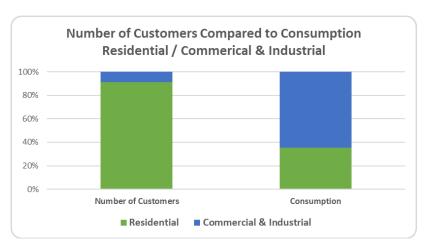
- ✓ collect loyalty program rewards
 - ✓ review rate plans and initiate switch
- ✓ view active outages and construction projects
 - ✓ initiate support request with London Hydro team

MyIDC

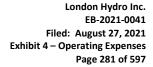
London Hydro's solution for commercial and industrial ("C&I") customers is the Interval Data Centre, 'MyIDC', which was developed to help commercial and industrial customers view and analyze energy usage data for their businesses and use this information to reduce energy use, resulting in a decrease to their operating budget. MyIDC is designed on the Green Button platform and enables businesses to track, report and manage energy use through an easy-to-use online platform and take advantage of ways to potentially reduce their energy costs.

Since 2017, London Hydro has continued to enhance its commercial customers' portal to enable industrial customers to better analyze energy usage information and generate savings by avoiding extra charges. MyIDC helps customers gain powerful insight into their business' energy data and trends, forecast "what if" scenarios for usage and estimate costs long before their bill for consumption is issued. This is an important tool as commercial and industrial customers consume approximately 64% in comparison to residential customers who consume the remaining 36% as illustrated below,





Residential versus C&I Consumption





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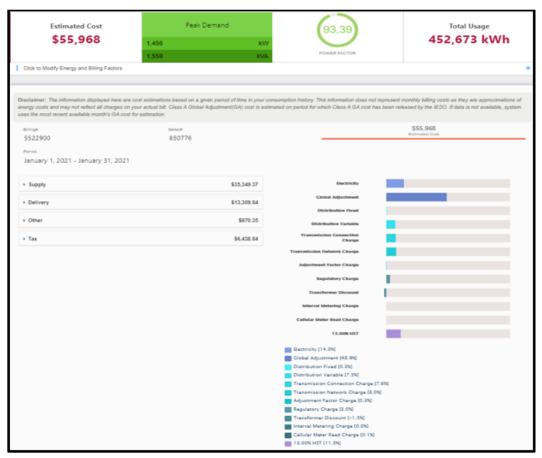
- MyIDC was developed in close consultation with interval meter customers, who through a number
- of focus groups helped London Hydro create the application requirements. This approach helped
- London Hydro design a unique online application, which can be executed from a computer, or a
- 4 mobile device such as a tablet or smartphone. Although the application is an energy management
- tool with advanced features such as integration of weather data, customer specific annotation and
- integration of customer provided time series data, it also has an advanced function to calculate
- 7 Peak Demand Factor (PDF). Other significant features include
 - ✓ Dashboard: The dashboard is designed to represent the most recent meter data at a glance including: daily kW usage and power factor; Monthly kW usage; daily and monthly peak kW and KVA demands; customer information; and navigational tools
 - ✓ Multi account view
 - √ 5 minutes to 60 minutes granular interval demand data (rolling or clock)
 - ✓ Load Duration Graph that provides at-a-glance load diagnosis
 - ✓ Account overview to provide self-serve account and meter information
 - ✓ Weather data integration overlay
 - ✓ Meter grouping options to analyse a group of meters
 - ✓ Ability to compare multiple sites over different time periods
 - ✓ Custom annotation to monitor the effectiveness of energy efficiency initiatives
- 19 ✓ Notifications and alerts
- 20 ✓ Cost estimator to evaluate new loads, equipment efficiency payback and validations
- ✓ Data download and statistical reports
- The application will continue to adapt and provide greater control to customers regarding the way
- they want to use MyIDC for their businesses.

MyIDC cost estimator

- The 'cost estimator' feature available in the MyIDC application was designed to assist with the lag
- in time between the customer's billing period and the time in which they receive their invoice.
- LDC's in Ontario need to wait 10 business days from the last trade day of the billing period to



- receive all the pricing information necessary to produce the invoice. While this pricing information
- is subject to change, any changes are usually immaterial.
- 3 The cost estimator allows customers to access reports the day after their billing period that
- 4 provides an estimated breakdown of what they can expect their invoice to be when it is produced.
- 5 This allows for much more accurate accounting accruals and assists customers in cash flow and
- 6 expense management.



MyIDC Cost Estimator

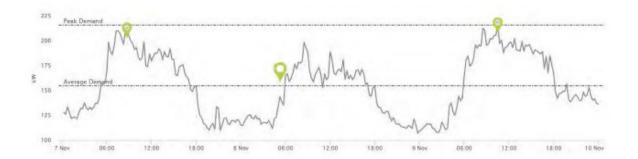
8 MyIDC global adjustment tracker

- 9 The Ontario Industrial Conservation Initiative ("ICI") is designed to promote conservation efforts
- among mostly industrial customers with a monthly peak demand greater than 3MW through the
- Global Adjustment ("GA") portion of their bill.



- London Hydro's MyIDC Global Adjustment Tracker feature enables Class A customers to track
- and manage their energy usage and take steps to reduce consumption at peak times to lower
- 3 their energy bills.
- 4 Class B customers pay for their energy consumption according to their usage patterns and the
- 5 prevailing rates at time of usage. Customers eligible for Class A designation are any customers
- 6 with high monthly peak usage who make the commitment and the effort to reduce consumption
- 7 at critical peak times.

London Hydro Class A customers are able to utilize the MyIDC Global Adjustment Tracker to review their performance on peak days, view trending 'Average and Peak Demand Factors' to ensure the best possible GA outcome, and evaluate various curtailment efforts to reduce consumption. In other words, they can use the GA Tracker to predict when to shut the power off or shift it to different off-peak times, to take advantage of the government's Global Adjustment feature.



MyIDC Global Adjustment Tracker

London Hydro also works with Class A customers to develop curtailment strategies and tactics, such as retrofit lighting or process and system updates, tailored to their unique circumstances.

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Simplified e-bill

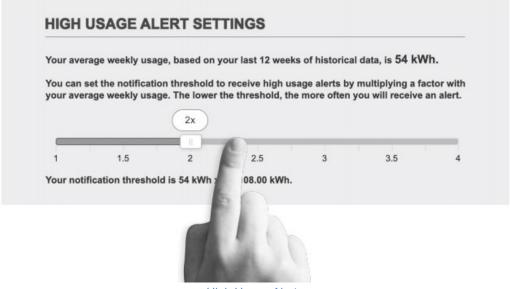
- 2 London Hydro introduced a banner, simple bill dashboard with a
- 3 tile-based framework to customers in 2018 delivering an easy to
- 4 understand and personalized online experience.
- 5 The new dashboard provides customers with self-service 24/7 and
- 6 many other features such as month-to-date views and high-quality
- 7 conversations between staff and customers.



- The goal of the simple bill dashboard is to create a personalized digital experience that is the
- 9 preferred way customers interact with London Hydro. The outcomes and objectives include:
- higher customer satisfaction, customer education, consumption monitoring, fewer paper billed
- customers, overdue payment notifications, outage tracking, increased self-service availability,
- month-to-date views, high quality conversations and a personalized contextual experience.

High Usage Alerts

- High usage alerts are another of the many useful tools London Hydro provides to customers to help them become more knowledgeable about their energy usage and adjust their consumption
- patterns so that they can balance or even reduce their monthly bills.



High Usage Alerts



This new tool was introduced in the summer of 2019 and provides customers the information they

2 need to better manage energy usage and control costs. Customers can now set their own

3 personal usage threshold that they do not want to exceed. Once the threshold set by the customer

is threatened, an alert is sent by text or email. This allows customers to adjust their consumption

5 before a high bill and gives them warning that there may be a higher than expected bill coming in

the future. This has contributed to fewer high bill complaints/inquiries and meter accuracy

7 disputes.

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Price Plan Comparison Tool

9 Regulated price plan customers have the option to switch to tiered pricing instead of time-of-use

10 ("TOU") pricing, effective November 1, 2020. Customers who switch to tiered pricing will see

changes in their electricity bills. To help customers find which plan is best suited for them, London

Hydro has launched a price plan comparison tool in MyLondonHydro that lets residential and

small business customers see the cost difference between TOU or tiered price plans.

This feature provides a personalized comparison between TOU and tiered prices based on the

customer's historical usage, allowing them to easily compare and switch between the two plans

without entering any numbers themselves.

TOU pricing depends on when electricity is being used while tiered pricing allows for a certain

amount of electricity to be used at a lower price, however if exceeded a higher price will be

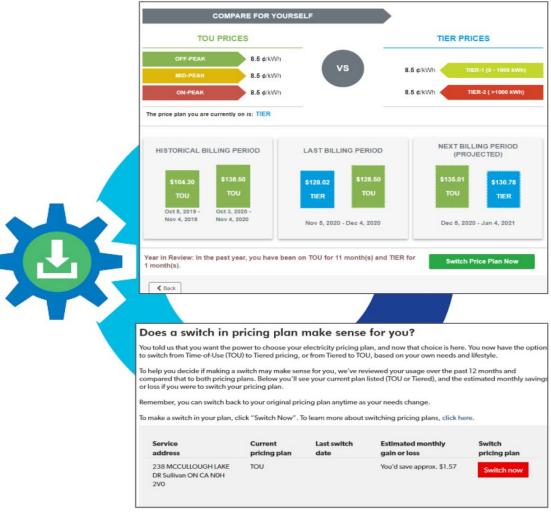
applied. Customers may benefit from one plan over the other depending on how much electricity

they use and when they use it. Using the online tool, customers can choose to switch to tiered

pricing, or switch back to TOU pricing with changes taking effect at the start of the next billing

period.

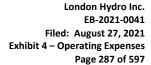




Price Plan Comparison Tool

Property Manager's Portal

- 3 Cloud servers also house data for London Hydro's Property Manager's Portal. The Property
- 4 Managers Portal is a self-service online application that provides commercial customers with
- 5 quick and intuitive features.
- 6 Working with the London Property Management Association and property owners, London Hydro
- developed the Property Manager's Portal in response to OEB's mandate that any property
- 8 50,000ft² or greater to report their energy usage annually. Pursuant to Ontario Regulation 506/18





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under the Electricity Act, 1998, owners of large industrial, commercial and multi-unit residential

buildings must report their energy (i.e.; electricity, natural gas, diesel, fuel oil) and water

consumption every year by July for the previous year. Customers can now obtain electricity

information for these new reporting requirements, which came into force in 2019 in connection

with reporting energy data to the Ministry of Energy, Northern Development and Mines each year,

6 through the property manager's portal.

Big buildings are a large contributor to greenhouse gas emissions through both energy and water

use. This new reporting of Energy Consumption and Water Use ("EWRB") is intended to help

building owners and managers better understand their consumption and find ways to improve

efficiency. Further, customers can now evaluate their curtailment efforts to see how much load

they have dropped within an hour of execution, versus next day reporting to see the benefits of

12 their efforts.

The property manager's portal is a user-friendly web-based solution combining utility data reports

and analytics with day-to-day property management needs. With the property management tool

users can view all their properties, occupancy status, connections, continuous service agreement

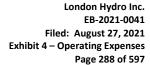
and pending moves. With just one click users can use the tool to list all pending moves and

disconnects. Property owners can easily delegate system access on a superintendent or user

level, access tenant agreements, forms and utility invoices. The self-serve portal allows property

owners and managers to

- obtain in one location a list of all tenants
- access the status of occupancy for each address and unit
- view current information on pending moves
- view connection statuses
 - obtain cost and EWRB reporting
 - manage delegations and customize dashboards
 - generate annual consumption reports for prospective tenants
- receive notification about tenant accounts
- obtain information on a mobile device
- opt-in text and email alerts
- integration of MyLondonHydro billing information





- This portal allows property managers to gain secure access to their accounts around the clock.
- Using this portal, property managers can elect to receive emails regarding move requests and
- 3 service disconnections for each of their properties. Many of these property managers are
- 4 managing hundreds of units and, receiving these notifications and providing all this information in
- one place, allows them to more easily manage the utilities of their properties.

Builder's Portal

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7 Working with builders in the City, London Hydro designed a Builder's Portal which is a self-service

8 online application to help streamline procedures and decrease processing time. New residential

developments are at record high levels in the City of London making it a perfect time to introduce

this new online tool.

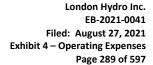
The legacy system was inefficient and overly dependent on manual processes. Service delivery

times were slow due to lack of defined processes between key stakeholders with respect to items

such as site readiness and permit information. Lacking a central location to view information would

often lead to calls to various departments and cause escalations.

The new online tool, which has received outstanding feedback from builders across the city, allows communications and notifications to be tracked in real-time. This helps to keep a record of timelines, maintain regulatory requirements and provide transparency for prioritizing. The Builder's Portal empowers residential builders in the London area to manage residential service connection conveniently and efficiently from beginning to end, within an intuitive, web-based portal. Employees and builders are provided with a 360-degree view of the entire residential connection process using the Builder's Portal.





Having this information readily available has helped to increase efficiencies by providing for more effective crew scheduling. This also helps to reduce the number of field trips and site delays. Builders are provided with a mobile friendly portal that gives them quick access to site readiness information including permit number, number of lots, status, readiness date and contact information. With 24/7 access, builders are empowered to schedule and manage their service requests and are able to keep up to date with notifications throughout every step in the process.



Since the Builder's Portal has gone live, the service connection process has seen a 74% reduction in service delivery timelines. Improvements include reducing the time it takes to receive a building permit from 10 days to 1; permit processing from 3 days to 0; trenching requests from 5 days to 3 and meter installations from 5 days to 2. By introducing operational efficiencies through automating the service connection request process via the online Builder's Portal, London Hydro has seen many business process benefits including,

- ✓ reduction in costs associated with site delays which decreases the amount of field trips
- ✓ reduction in back office work complexity enabling London Hydro to handle more demand.
- ✓ better communication through automatic, real-time notifications reducing escalations
- ✓ enabling continued regulatory compliance
 - ✓ reduction in delays associated with manual paper-based instructions through the digital transfer of data

Joint Use Portal

London Hydro's Joint Use Management Portal was launched in the summer of 2019. This portal processes joint use applications from wireless communications companies. As a result, all joint use pole application requests are now managed online through the portal. Results from surveys conducted show that 100% of the participants find the portal useful. Some of the most popular features for customers are the interactive pole maps (linked to London Hydro's GIS) and pending customer actions notifications.



Content Management System

- 2 London Hydro introduced its new Content Management System ("CMS") in the fall of 2020. The
- legacy website was developed in 2014 on a platform using customized solution components
- requiring a high degree of in-house support. The new website also provided for an AA AODA
- 5 accessibility compliance rating, ahead of the 2021 deadline making content fully accessible to
- 6 people with disabilities.
- 7 The new CMS is a cloud-based software that helps users create, manage and modify content on
- 8 London Hydro's website without the need for specialized technical knowledge. Examples of
- 9 popular CMS systems include WordPress, Wix and Joomla. The CMS software handles all the
- basic infrastructure requirements so that novice users can focus on the front-end components of
- the Company's website.



London Hydro's New Corporate Website

Empowering users with a tool to build a website that does not require an understanding of programming languages such as HTMP or PHP helps keep the website fresh and lively for customers by ensuring that content is available and up to date. Information and content are stored in a central location streamlining information flow to both employees and customers. The CMS

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visitors to see.

- has enhanced London Hydro's website by making it more flexible, intuitive and informative while
- 2 making it easier to manage and maintain.
- London Hydro's website links several digital self-service applications such as MyLondonHydro,
- 4 the Property Manager's Portal, Builder's Portal and MyIDC. Utilizing the CMS to interact with
- these applications provides a professional and welcoming platform and a superior information
- 6 delivery system for key audiences. Benefits include,
- easy and intuitive navigation
 - search engine optimization
- enhanced experience for mobile users (phone and tablet)
- consistency in the "look and feel" of the website
 - ability to update remotely
- 12 increased security
 - accessibility compliance
- revision control and auditability
- online help functions
- user-friendly deployment, management and maintenance
- 17 templates and wizards
 - streamlining authorization process for content
 - easier integration with other business applications
- highly scalability for future needs
- enhanced content management for archives, future and current use

The CMS provides an information architecture that focuses on the needs and requirements of the audience. For example, media content such as images and videos can be uploaded and managed by browsing the library rather than having to interact with a web server directly. This helps to ensure that users can create exactly what they would like

"very clean, the design is definitely more appealing. Site loads very fast. Mobile menu is very nicely built." - Juliana



- Since the launch of the new website, traffic has increased over 50% in comparison to the prior 1
- year and customer feedback has been positive and indicating that customers are happy with the 2
- easier navigation and friendlier look and feel. 3
- The new CMS helps to increase site traffic and provides London Hydro more opportunities to 4
- listen to customer needs. It is an enhanced platform that helps educate customers so that they 5
- can better understand their energy requirements and options and helps them to make efficient 6
- and sustainable energy choices. London Hydro's customers come from a wide demographic 7
- requiring a robust website that can be tailored to each user, delivering digital self-service channels 8
- and a high quality and engaging experience. 9

Customer ID Management

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London Hydro has implemented a new customer identity management solution to improve the 11 customer experience as well as strengthen security. This new cloud service provides customers 12 with access to multiple applications without the requirement to sign up or log in again. Legacy 13

experiences requiring more than one log in no longer meet the expectations of today's customer.

This new service delivers the highest level of security while creating a seamless experience for 15

customers across touchpoints. Once a user enters their credentials or selected social login, they are sent a specific authentication code that they need to enter to complete the login process. This 17

provides multiple layers of authentication without compromising on a frictionless customer

experience and ensures that registration is available in the event of a traffic spike.

Genesys Contact Centre

To enhance the customer experience, London Hydro implemented a new Genesys contact centre 21

in the winter of 2020. The legacy Cisco Call Management System ("CMS"), which was installed

in 2014, was at end of life and no longer supported. The Cisco system primarily managed the

distribution of incoming calls among the call centre agents and provided some management

features to schedule agents, divert phone calls to other agencies and prepare statistical reports.

There were also challenges with the legacy CMS such as limited integration capabilities with SAP

and email causing inefficiencies.



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- In today's technological environment customers are moving to various communication channels when seeking customer services. These channels include email, text, chat and Interactive Voice
- when seeking customer services. These channels include email, text, chat and Interactive Voice
- Response ("IVR"). When a customer contacts London Hydro they expect a quick response and
- resolution of the issue. Delivering a great customer experience means being able to communicate
- 5 with customers across various channels, and quickly getting customers to the appropriate
- resource to resolve issues. This also requires that Customer Service Representatives be
- 7 empowered with collaborative tools and predictive analysis to improve customer engagement.
- 8 London Hydro has chosen Genesys to deliver a world-class contact centre experience for
- 9 customers and taking advantage of the many state of the art features including,
 - omni channels allowing a unified customer experience across any device
 - integration with London Hydro's Customer Information System and OMS
 - orchestration of steps before, during, and after every customer interaction
 - co-browsing with customers through their MyLondonHydro account
 - automatic customer authentication reducing call duration for customers
 - enhanced online self-service such as automatic payment arrangements
 - additional payment options (such as skip a payment if you're a good customer)
 - outbound calls and targeted messaging
 - customer survey after interaction
 - KPI reporting and predictive analytics
 - dynamic distribution of calls
 - customer call back option rather than waiting for an agent
 - routing based on previous calls no need to repeat information
 - business continuity during events and storms

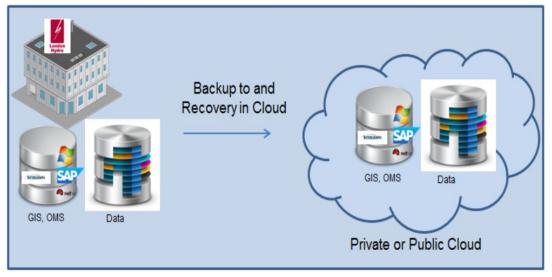
An outdated solution makes work harder for call agents and decreases customer satisfaction. It is also very costly to maintain. The Genesys upgrade is a clear example of London Hydro providing world-class solutions for employees while maintaining the personal touch customers have come to expect. The Genesys cloud-based call centre software provides London Hydro with a greater understanding of customer behavior and flexibility. As customers demand for new channels grow, a cloud contact centre gives London Hydro the ability to adapt, and a host of



- modern tools, to grow with customer expectations. Cloud-based solutions enable continuous
- 2 updates ensuring that the contact centre is always running the most up-to-date software and helps
- 3 to leverage cloud communications and collaboration.

Disaster Recovery

- 5 London Hydro commenced updating its Disaster Recovery process in mid-2017 to reduce
- recovery and restoration times and mitigate the effects of potential threats involving loss of data.
- 7 The new Disaster Recovery process is cloud-based and uses internet connectivity to transfer the
- 8 large volumes of customer and business data and applications to off-site storage in real time. This
- 9 update is required to bring the Company's disaster recovery plan up-to-date and get London
- Hydro to a compliant ISO 27001 level.
- The objective of any effective Disaster Recovery ("DR") Plan is to minimize the impact on customers by rapidly restoring normal business operations. Cloud servers can be accessed from anywhere reducing recovery time and effort. With an effective Disaster Recovery Plan, London Hydro can reduce the amount of data lost and the length of the operations interruptions, minimizing the impact on customers. For example, the new Disaster Recovery process now
- enables data restoration from the Cloud within 30 minutes instead of a day.



Disaster Recovery Infrastructure



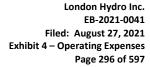
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Meter Data Management

- Meter data management costs are required for EventAssist, ElsterKeyApp and for the most part
- 3 London Hydro's Regional Network Interface ("RNI") system. The RNI system is used as the
- 4 headend system for smart meters in London. Cost increases pertain to additional Amazon
- 5 resources required to deploy a second full landscape to run in parallel for testing new functionality
- and versions before they are deployed to ensure that they are working properly.
- 7 Cloud services are natively designed to scale up and down as needed. Additionally, the test
- 8 landscape is only running when required which provides significant cost efficiencies by avoiding
- 9 capital investments in hardware and software. Further, system resiliency and availability are
- significantly improved as there is no dependency on hardware. In the case of a hardware failure
- or maintenance, systems are automatically moved to other hardware components.
- Amazon cloud services have been used for several years now and deliver a variety of services
- such as storage, network connectivity and computer power. During the initial years when the RNI
- system was running in-house, the lead time to prepare for and start application upgrades was
- long and often delayed because of various infrastructure components which required upgrades
- to support additional workload; delays were significant. With the RNI in the cloud, London Hydro
- is now able to achieve infrastructure readiness in days or weeks instead of months.
- London Hydro is progressively enhancing these database systems to aid in the delivery of
- mechanisms to facilitate real time data access for better behind-the-meter services and provide
- capacity for a more modern and smarter grid.

Data Analytics and Reporting

- 22 Data warehouses such as Amazon Redshift provide a simple and cost-effective way to handle
- large quantities of complex utility data (i.e. metering, GIS, OMS) for storage and analysis, allowing
- for better performance and deeper business insights.
- 25 Powerful business intelligence tools such as Tableau are then used for statistical analysis on the
- large volumes of data and datasets to uncover trends, patterns and correlations. This allows
- London Hydro to proactively address customer needs by delivering operational reports necessary





for data-informed decision making. For example, transformer aging reports generated using the

customer's hourly meter data, rolled up to the transformer rating level, enable London Hydro to

proactively determine what transformers may need replacement as part of asset life-cycle

management. Further, these analytics assist with distribution system planning by illustrating the

load along different sections of the feeder and monitor growth to ensure proper capacity is

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Data Pipeline

8 Google's data pipeline services provide automated, seamless and secure data transfer from

London Hydro's enterprise systems (i.e. SAP, GIS, OMS, ODS) to digital customer engagement

solutions such as MyLondonHydro, Trickl and the Property Manager's portal. For example, this

data flow enables fast and simplified streaming of outage information from the Outage

Management System to on-line maps within MyLondonHydro and the Trickl app for all London

Hydro customers.

RunMyJobs

RunMyJobs is a cloud service application that automates batch job processing for systems such

as the SAP CIS. In fact, SAP recommends Redwood's RunMyJobs software as the preferred job

scheduling solution. RunMyJobs streamlines business processes to ensure critical jobs such as

daily customer bills are produced on time to satisfy printing timelines and to ensure that e-bills are

20 available.

This application helps London Hydro achieve greater reliability, consistency and accuracy across

diverse processes such as billing, supply chain, business intelligence, period-end close and

through the use of a common tool for batch processing and monitoring. Automation frees working

teams from repetitive tasks, allowing them to focus instead on important tasks such as analysis

and improvement. RunMyJobs is secure, readily available and flexible.

London Hydro began using RunMyJob services in 2012 and entered into a new three-year

contract agreement in the fall of 2020. RunMyJob's pricing structure has both fixed and variable

components and under the new agreement the increase in executed jobs was brought into



- consideration. The fixed base monthly fee for this service has not changed since 2012. However,
- variable costs have risen to coincide with the increase in job execution counts which have grown
- from less than 20,000 per month to 36,000 per month.
- The growth in job execution has been gradual, planned and deliberate. The initial focus was on
- 5 SAP jobs and more specifically the main nightly batch jobs where the bulk of the meter to cash
- 6 processing occurs. Once nightly batches were stable, the focus shifted to other periodic SAP jobs
- such as hourly, daily, monthly and yearly, followed by SAP event driven jobs. This was followed
- by processes running on other enterprise systems like Sensus, ODS, OMS and GIS. Additionally,
- 9 RunMyJobs is used for all new customer offerings that are provided through cloud platforms such
- as MyLondonHydro, Green Button, the Builder's Portal and MyIDC.
- RunMyJobs continues to be the best fit for London Hydro from a cost and features perspective
- with no hidden costs. London Hydro has developed in-house expertise enabling all development
- and operation to be completed by London Hydro staff. RunMyJobs is regularly upgraded offering
- new features without additional fees or operational expenses.

Jira IT Project Management

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- London Hydro's IT department uses a SaaS application called Atlassian which is a software
- development package designed for agile IT development teams. The Atlassian software solution
- consists of two components:
 - Confluence a document collaboration tool
- Jira software for project and issue tracking
- 21 Confluence is a content creation and collaboration platform that connects teams with the content,
- knowledge and coworkers they need to get work done, faster. Confluence allows the collaboration
- 23 and organization of rich content related to projects including meeting notes, project plans,
- requirements documentation, release notes, and roadmaps. Since using Confluence, the London
- 25 Hydro team is spending less time searching for information and spending more time on innovative
- and cost-effective solutions.



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The JIRA solution allows the London Hydro team to track issues, bugs and project management

functions more effectively. With JIRA, the London Hydro team can create and estimate software

development stories, build a sprint backlog (agile development), visualize activity, measure team

4 velocity and report on progress automatically.

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5 Both software solutions facilitate transparency, multi-project coordination and collaboration for the

internal London Hydro IT team. Jira and Confluence have provided the London Hydro team with

the ability to view user requests or tasks and related component 'code branches' all in one

interface. This capability represents tremendous data organization and accessibility improvement

and has resulted in greater employee satisfaction. The change management request process has

been integrated with Jira and Confluence systems as well.



4.4.3 Operational Effectiveness

2 Payroll Processing

- London Hydro's human resources information system ("HRIS") consists of time and attendance,
- employee profiles, payroll, learning, succession and performance. During the last few years, all
- these systems have been moved to cloud services. The payroll system was moved in the winter
- of 2019 as part of phase II of the transition to cloud services. This transition was made over many
- years to pace expenditures and ration resources. The legacy payroll system was over 12 years
- 8 old and far past its end of life. After careful evaluation it was decided that a cloud-based solution
- 9 was best.
- The legacy ADP payroll processing and database system has been replaced with an Ultipro cloud-
- based application. While in-house personnel continue to review and approve detailed time and
- equipment entry processes, this new application ensures the availability of robust and
- comprehensive data for tracking and decision-making purposes. It provides many other gains
- including increased compliance, calculation accuracy, operational efficiency and cost controls. In
- addition to removing risks surrounding an obsolete unsupported system, the new Ultipro
- application includes many other benefits such as
 - Cloud-based, SaaS solution enabling offsite access and supports staff mobility
 - Access to paystubs and T4s online anytime, anywhere
- Accessing to historical statements
 - Self-service tools for employees and human resources staff
 - More informative and visually appealing paystubs
 - Single sign on functionality
- Less reliance on internal resources for system support
 - Powerful reporting writing, dashboards, graphing



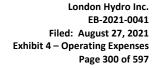
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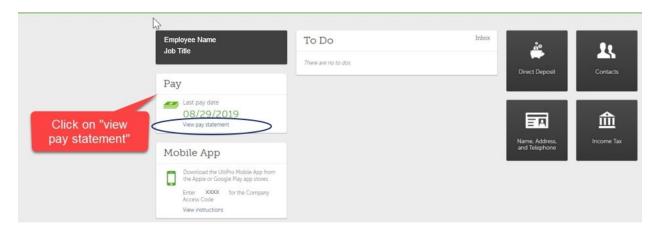
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Ultipro Payroll

- 2 This software-as-a-service equips the Human Resources department with robust security, a
- single source of information and permission capabilities help tighten internal controls. Further, in
- 4 the past, computation of complex calculations was required to be calculated outside of the system
- 5 first with results later used for payroll processing. Going forward, these types of complex earnings
- and deduction amounts can be performed through automation inside the system.

Time Entry

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- 8 The proposed budget for the 2022 Test Year includes additional funds for the implementation of
- 9 Workforce Scheduling as an add-on to the existing Workforce Time & Attendance. This will
- provide a cost-effective means of introducing a more robust and integrated scheduling solution
- for the 24/7 System Operating Centre (where a year of schedules is prepared in advance) and
- the opportunity for electronic field crew scheduling to be implemented for the first time.
- 13 Implementing the scheduling solution will allow for easier compliance with Hours of Work
- regulatory requirements, automated offering of vacant shifts and planned overtime opportunities
- (including automated call-out capabilities to fill shifts), as well as access to reporting and analytics
- (e.g. overtime equalization, hours of work compliance, understaffed overtime, etc.).



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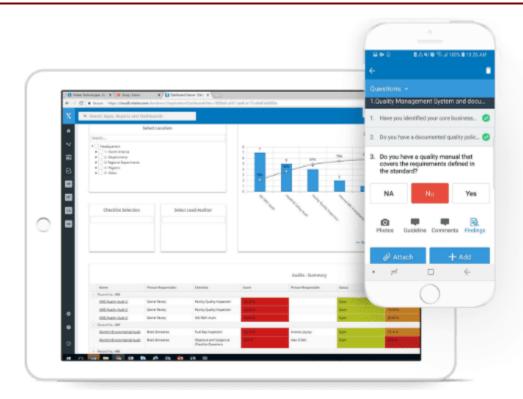
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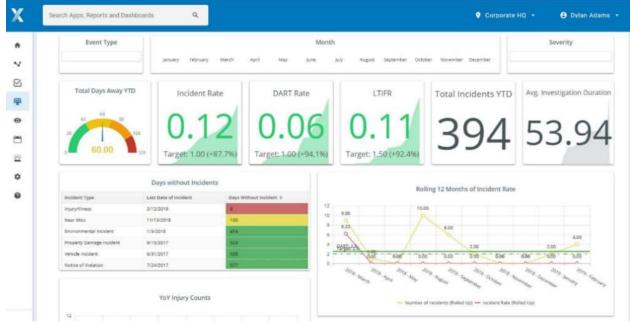
Health and Safety Intelex System

- 2 The Health and Safety Department began utilizing a new software system in 2018 to manage
- day-to-day health and safety processes. The new Intelex system is a fully integrated management
- system that makes it easier to track, manage and report on health and safety data in real time
- 5 from mobile devices or desktops.
- 6 This robust and secure cloud-based software application supports compliance and best practices
- 7 across all parts of London Hydro to help meet industry standards. Intelex provides the framework
- 8 to maintain COR™ certification, manage risks, establish controls, and minimize the incidence of
- 9 injury and illness to our employees.
- This system supports a streamlined workflow process and allows the Health and Safety
- Department to transition from a paper intensive environment. This reduces associated
- administrative work leaving staff to focus on higher-value tasks and ultimately improve the health
- and safety of London Hydro's workforce. Benefits include
- ad hoc reporting
 - document control
- communications management
- safety engagement
- 18 root cause analysis
 - injury and illness management
- OSHA reports
- WSIB forms
 - job safety analysis
- process hazard analysis
- case management
- claims management
- occupational health management



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Intelex Health and Safety System



1 Google Apps (mail, calendar, meet)

- 2 London Hydro utilizes Google business applications for communications and collaborations
- including email, shared calendars, tasks, data storage, meetings, chat and other communication
- 4 capabilities.
- 5 The cost of running Google applications has increased since 2017 due to increases in Google
- 6 fees per user, an increase in the number of users and the addition of new functions and
- 7 enhancements. For example, many users have been moved to the Google Enterprise version
- which provides enhanced features such as live streaming, shared drives, unlimited storage, video
- 9 conferencing with a larger number of participants and the ability to record meetings.



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4.5 ADDITIONAL DETAILS ON OM&A EXPENSES

- As requested under 2.4.3 of the Chapter 2 Filing Requirements, this section of this Exhibit provides details in connection with the following categories:
 - Workforce planning and employee compensation
 - Shared services and corporate cost allocation
 - Purchase of non-affiliate services
 - One-time costs
 - Regulatory costs
 - Low Income Energy Assistance Programs (LEAP)
 - Charitable and political donations

4.5.1 Workforce Planning and Employee Compensation

The Board of Directors and management of London Hydro have long held the belief that our employees are our greatest strength; it is through their efforts that we deliver exceptional service at a reasonable cost to London Hydro's customers. Whether at the level of strategic planning, business planning or day-to-day operations, we operate and make business decisions based on the premise that we will realize our objectives through the contributions of a diverse team of engaged, appropriately-trained and educated, innovative, committed and productive employees. With this culture of engagement in place and a total rewards strategy that balances the needs of all stakeholders (e.g. employees, ratepayers, shareholder, and regulator), London Hydro is optimally positioned to deliver on its promise of safe, reliable electricity distribution and energy related value-added services. From a workforce perspective, we are committed to being known as a competitive employer in terms of attraction, retention and succession.

London Hydro's human resource strategy includes both quantitative and qualitative components:

Resource planning (Quantity of resources required to fulfil business objectives) - A long-term and strategic focus on the number of full-time equivalents (FTEs) determines the overall structure of the organization and the complement of resources available to execute the business plan in the near and long term.



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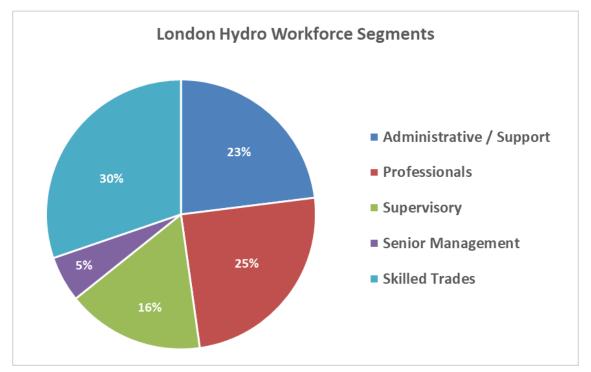
- organizational design
 - required competencies
 - resource mix
 - long-term succession planning / internal development of high potentials
 - ➤ Total rewards (Quality of resources driven by competitive compensation model) A total-rewards philosophy incorporates all of the elements perceived to be of value and therefore driving employee satisfaction from an attraction, motivation and retention perspective. An important element to ensuring a high-performance organization is a competitive, equitable and rigorous approach to total compensation. London Hydro's compensation strategy endeavours to ensure that we are competitive in the markets where we compete for talent by including the following elements:
 - equitable wages/salary (including pay-for-performance incentives)
 - industry-standard benefits portfolio
 - intrinsic / non-financial benefits
 - post-retirement benefits

4.5.1.1 Resource Planning

Organizational design

London Hydro's organizational chart outlines an aligned structure of divisions, departments and work groups with leadership at each level. The CEO and Senior Executive team are supported by a team of Directors, each of whom is responsible for a line of business. Directors delegate day-to-day, front-line leadership tasks that are predicated by the business plan to departmental managers and supervisors, who in turn manage the frontline workers (union and non-union). This structure creates role clarity, clear lines of accountability and responsibility for decision-making, streamlining of processes and interdepartmental collaboration, functional innovation and pathways for growth and development for high potentials.





London Hydro Workforce Segments

Required competencies

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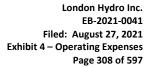
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- London Hydro's needs assessment has generated the following conclusions with respect to required competencies:
 - There is a relatively stable requirement for trades personnel to meet operational demands, which takes into consideration the allocation of work between capital and OM&A activities, growth projections in the near term, prevailing resource requirements for ensuring appropriate emergency-restoration activities and a now-mature succession plan that has equipped the utility to be optimally prepared for the inevitability of turnover (predominantly from retirement).
 - There is an ongoing need for industry-trained engineering (planning), finance (regulatory complexity) and information-technology professionals.
 - As London Hydro continues to ensure that the customer experience is optimized, the evolution of consumer behaviours and preferences and the automation trends for customer service through rapid technology developments, continue to transform the





customer care model and ensure that it includes next-generation, 24/7, online service offerings.

Resource mix

London Hydro's permanent staff complement is determined via a systematic, thorough and skill-based needs assessment and validation of enduring/current and forecasted/future requirements in support of the fulfilment of strategic business objectives and service delivery. While the number of positions in specific departments changes in correlation to the changing needs of the Company and its stakeholders, in total headcount variances have not been material. This philosophy optimizes productivity and engagement as our employees have confidence in job security. This approach prevents the cultural distress and turnover-related costs associated with dramatic swings in staffing, and ensures the maintenance and development of institutional knowledge, process and procedure.

In trade-intensive departments, where apprenticeships and learning curves tend to be lengthier, London Hydro has implemented a balanced, long-term planning approach. This aids in delivering a relatively consistent and optimally-utilized staff complement for the fulfilment of the annual business plan while also ensuring appropriate seasoning periods and apprentice-to-journeyperson ratios.

18 Contract/temporary, seasonal and co-op / student employees are hired for special projects, staff 19 augmentation, to temporarily replace permanent employees on approved leaves or for flexibility 20 in addressing short-term / peak periods of workload intensity. The usage of this type of 21 employment category has not changed materially in recent years.

External contractors are also utilized for staff augmentation and/or to gain access to specialized skills for specific projects.

London Hydro strategically and conservatively utilizes contracted labour to augment its internal labour complement for a variety of reasons, including:

staff augmentation for peak periods or short-term incremental work



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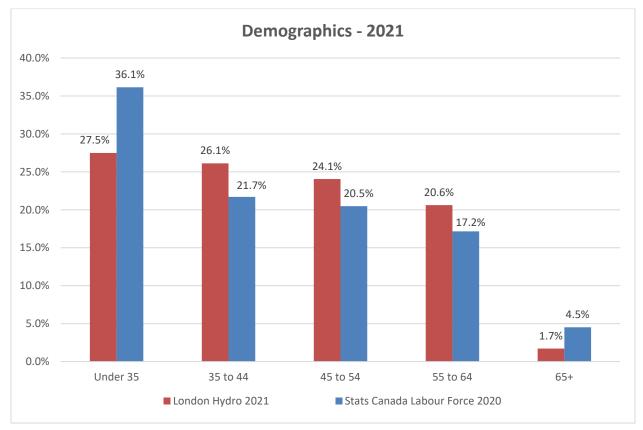
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- short-term projects where specialized/costly skills or equipment are difficult to obtain or costly to maintain in-house
- contingency planning
- 4 Long-term succession planning / internal development of high potentials
- London Hydro is effectively and proactively monitoring the demographic profile of its workforce in
- order to ensure that we are perpetually handling turnover.
- 7 The data below demonstrates London Hydro's situation within the industry:
 - In 2021, the average age (corporate wide) is 44.0 (down from 45.2 in 2016 notwithstanding the passage of five years); 46% of the London Hydro workforce is over the age of 45 (down from 56% in 2016).
 - In 2021, 22% of the current workforce is older than the eligible retirement age (55).
 - In 2021, the corporation derives benefit from an average service length of fourteen (14) years (down from an average of fifteen (15) years in 2016). In 2021, 48% of the current workforce has ten or fewer years of relevant service, reflective of recruitment efforts to replace retiring or departing employees.
 - Fifty-two (52) employees retired in the five-year period of 2016 to 2020. London Hydro has achieved a balanced age mix with a talent pool of 26.1% of the workforce in the age bracket of 35-44 who, through professional development initiatives, future successors may be available when needed to address the corporation's future requirements as retirements occur.





London Hydro Workforce Demographics

2 By 2026 (within the next five years):

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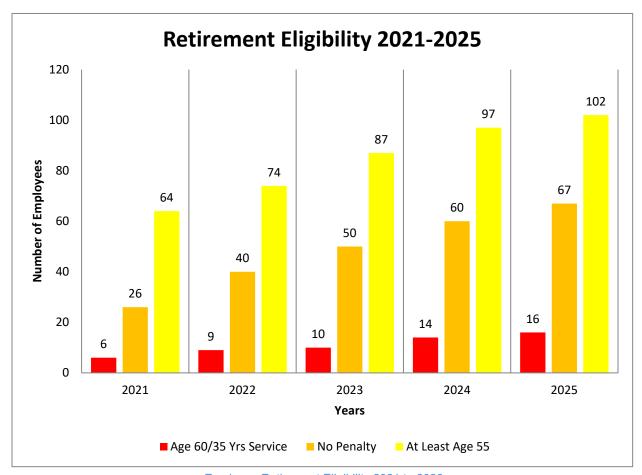
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- 35% of the current workforce will be older than the eligible retirement age (55)
- 23% of the current workforce can retire with an unreduced pension
- 24% of current trades personnel can retire with an unreduced pension
- The trend of an average of ten (10) retirements per year or 3% of the workforce is expected to continue over the next five years, with sixty-seven employees eligible to retire on an OMERS pension without a penalty, having achieved one or more of the service milestones by 2026. With ten retirements per year, over a thirty-year period (average duration of a career, the workplace has refreshed over that time period in a very balanced manner.





Employee Retirement Eligibility 2021 to 2026

Having reached a mature, steady state of workforce and succession planning, the Company performs an analysis as each employee retires to determine if efficiency gains can avoid replacement (attrition). Where a replacement is deemed necessary, London Hydro generally follows a stabilized, "replace as they retire" replenishment model. This approach inherently mitigates the risk associated with proactive hires in anticipation of forecasted retirements. While each departure invokes a strategic and thoughtful review and approval process which assesses the required competencies, resource mix and emerging trends, in general (and particularly with trades personnel), headcount is maintained via the replacement of a retiring employee with a new apprentice (or a seasoned tradesperson, as available).

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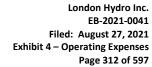
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This headcount-stabilization and competency strategy is predicated by the notion, particularly with

the trades, that a retiring employee's "replacement" is not the coincident new hire; the retiring

employee's official replacement was necessarily hired several years prior in order to enable the

lengthy apprenticeship and seasoning period. Although the length of the apprenticeship program

is four years, it often takes an additional two to three years of on-the-job training to be fully

competent, depending on the trade. In keeping with this approach, 34 trades personnel have been

or will be hired between 2016 and the end of 2021.

8 A similar level of recruitment is expected for the next five years. In other departments and

g divisions, like-for-like replacements remain the norm and staff augmentation and other strategies

are deployed to handle short-term resource constraints. London Hydro prefers to promote

internally whenever possible, and there are several established lines of promotion that employees

are encouraged to pursue.

Pipeline of future leaders

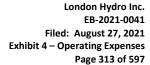
It is at the very least imprudent and potentially an unacceptable risk to assume that London Hydro will be able to attract the necessary talent at the appropriate time to fill senior positions as they come available, given the competitive landscape and the realities of the industry. In order to ensure organizational stability and continuity, London Hydro continues to maintain and enhance a structured approach to identifying, coaching, mentoring and preparing internal candidates for future leadership roles. London Hydro is also mapping existing high potentials to the matrix of required competencies and ensuring that a development plan is in place to ensure optimal readiness. These efforts and options are documented within the annually-updated succession plan. Obviously, strategies that ensure the interim retention of top and emerging talent are an essential element to the plan's success.

4.5.1.2 Wages

25 Base pay

London Hydro is committed to ensuring that it is paying its employees competitive wages that

27 reflect both internal and external equity.





A consistent approach is in place for determining base pay and ensuring internal equity for all organizational positions. Through reference to job descriptions and supporting documents, formalized and trained committees for both union and non-union/management positions utilize a standard process to evaluate jobs according to various criteria (skill, effort, responsibility, working conditions) and establish their placement in the salary grid. The salary grid for both union and non-union/management groups provides for preliminary placement at a lesser rate, followed by step progressions that are not automatic. After a measured elapse of time (e.g. six months or one year) or achievement of hours-based milestones, and further measured by individual performance in comparison to performance expectations employee progressions are reviewed, approved and documented via a structured, performance-management process.

Predominantly Inflationary and industry pressures inform wage adjustments in order to ensure that we are maintaining external equity with our industry competitors. For unionized employees, cost-of-living adjustments (and, if and when necessary, market adjustments) are negotiated during collective bargaining. For non-union/management employees, the Board of Directors approves annual cost-of-living adjustments. Progressions within pay scales are based on merit.

In all cases, London Hydro performs a detailed assessment of consumer price indices, market forces, and recent settlements in order to determine appropriate increases. While London Hydro may participate in industry surveys or solicit benchmarking data from time to time, there were no adjustments made to unionized or non-union/management wages as a result of such participation over the past five years. London Hydro has adopted a temperate approach to market competitiveness; in order to be perceived as a progressive, stable employer of choice within an industry where there is a scarcity of trades, technical and management expertise, we remain dedicated to ensuring that we are offering salaries that will both attract new recruits and ensure that we retain existing talent. In general, even with these approaches in place, as with most electricity distributors in Ontario year-over-year labour cost increases trend above the OEB inflation amount minus productivity factor. Even with the goal of being competitive with pay, there are many times where positions are turned down by potential candidates because the pay is lower than expected. This continues to provide challenges in ensuring that positions are filled by appropriately qualified individuals when there is such a high demand for individuals with specific skill sets.



The Power Workers' Union CUPE Local 1000 represents London Hydro's unionized workers, including trades, technical, operations support, clerical and administrative employees. As of 2021, approximately 60% of London Hydro's permanent, full-time workforce is unionized. In early March 2020, weeks prior to the federal and provincial activation of the COVID-19 pandemic response and ensuing economic events, London Hydro and the Power Workers' Union completed the negotiation of a collective agreement for the four-year period of January 1, 2020 through December 31, 2023. The agreement was ratified by the union membership in May 2020. The primary cost driver associated with the agreement was the cost-of-living adjustments negotiated for January 1 of each year,

Table 4-30: Negotiated Collective Agreement 2020 to 2023

Collective Agreement 2020 to 2023	
Year	<u>%</u>
2020	2.10%
2021	2.10%
2022	2.50%
2023	2.50%

These increases are, on average, not dissimilar to the increases negotiated in the previous, four-year collective agreement (average of 2.3%, vs. average of 2.1%) and are in line with other recent settlements at LDCs where unionized employees are represented by the Power Workers' Union. London Hydro firmly believes that there are many benefits to be gained from the negotiation of longer-term agreements, including cultural stability and cost certainty. Modest inflationary increases to certain paramedical benefits were also negotiated. London Hydro maintained strong alignment with industry-comparator norms in relation to relevant settlement data available at the time of negotiations.



Table 4-31: LDC Collective Agreements Comparison

	LDC C	ollective A	Agreement	ts Compar	ison		
LDC	2018	2019	2020	2021	2022	2023	Average
London Hydro			2.10%	2.10%	2.50%	2.50%	2.30%
Toronto Hydro	2.30%	2.30%	2.30%	2.30%			2.30%
Alectra Utilities		2.30%	2.30%	2.40%			2.33%
Newmarket Hydro		2.50%	2.30%	2.30%			2.37%

2 Pay for performance model

- Each year, in conjunction with budgetary processes, the Executive Committee establishes
- 4 specific developmental activities / strategic goals in support of a balanced scorecard and in
 - relation to the corporation's strategic plan. Each year's plan identifies targets within four core
- 6 areas:

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- > Financial Performance
- ➤ Customer Care (Relationship Management, Customer Information Systems)
- ➤ High Performance Team (Safety, Corporate Culture, Processes)
- ➤ Technology (IT, OT)
- Progress is measured regularly throughout the year, with formal updates provided on a quarterly
- basis. At year end the success in meeting each target is quantitatively assessed by the Executive
- 13 Committee. Incentive payouts for certain senior staff are awarded in direct correlation to the
- successful achievement of the approved targets.

4.5.1.3 Benefit Program

From a plan-design perspective, London Hydro has adopted a balanced emphasis between wages and comprehensive benefits, with company-paid benefits being an integral component of total compensation. This is in keeping with a shared commitment (both employer and employees) to lifetime career opportunities that acknowledge the employee's desire for competitive wages supporting an acceptable standard of living and a comprehensive benefits package that provides for work/life balance and protection / managed risk. The benefit package is essentially consistent



- across the organization with only minor differences in the packages for the Non-Union and
- 2 Executive groups. Benefits are available for active employees, and for retired employees until
- 3 reaching the age of 65.
- 4 Cost pressures in the benefit program have arisen predominantly through claims and experience,
- and the overall rising costs of benefits. London Hydro continues to support its corporate-wide
- 6 physical and mental wellness program.
- 7 London Hydro offers its permanent, full-time employees a traditional, industry-standard portfolio
- 8 of benefits in support of its attraction and retention goals, containing the following core elements:
- 9 Income security / protection from catastrophic events:
 - Employer Portion of Statutory Benefits (CPP, EI, EHT, WSIB)
 - Health, vision and prescription drugs
 - Dental and orthodontic care
 - Paramedical / wellness services
- Life insurance

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- Short-term disability (self-funded)
- Long-term disability
- Employee and Family Assistance Program (EFAP)
- 18 Time-off with pay benefits:
 - Vacation and public holidays
 - Banked time
 - Bereavement leave
- 22 Jury duty
 - Paid family responsibility leave
 - Additional Benefits:
 - Physical and mental wellness initiatives in the workplace
- Reduced cost for community-based fitness centre membership
- Training and education policies



1 OMERS Pension plan

- 2 London Hydro, along with many other local distribution companies in Ontario, is a member
- 3 (associated employer status) of the Ontario Municipal Employees Retirement System ("OMERS")
- 4 pension plan. This provincial plan provides for a common pension plan with shared administrative
- 5 costs and access to a significant depth of investment expertise, which leads to lower premiums
- and reduced risk. This multi-employer plan also supports pension portability for employees who
- 7 move to other LDCs or member employers during their career.
- 8 The most recently available OMERS annual report is for the year ended December 31, 2020,
- which reported that the plan was 97% funded, with an unfunded liability of \$3.2 billion. Although
- OMERS has not made any changes to contribution rates as addressed below, there is the
- potential that this unfunded liability will result in future payments by participating employers and
- members.

- https://www.omers.com/sites/2020-highlights/index.html
- 525,981 members, \$105 billion in net assets
- A jointly sponsored, defined benefit pension plan, with 1,000 participating employers
- ranging from large cities to local agencies and over half a million active, deferred and
- 17 retired members.
- Our members include union and non-union employees of municipalities, school boards,
- local boards, transit systems, electrical utilities, emergency services and children's aid
- 20 societies across Ontario. Contributions to the Plan are funded equally by members and
- 21 employers.
- 22 At year-end, our funded status, calculated on a smoothed basis, remains at 97%, which
- is unchanged from last year. On a fair value basis (i.e., without smoothing), our funded
- ratio was 93% down from 101% in 2019.
- The risks facing OMERS are not new:



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- There is a prospect of lower, long-term future investment returns due to changes in the global economic environment.
- OMERS is a maturing plan, with an increasing number of retirees relative to active
 members.
- Work continues to change, with automation increasing and movements away from
 traditional full-time employment.
 - Life expectancy continues to increase, meaning that OMERS must be able to pay pensions longer.

Given these risks, OMERS sustainability has been and remains an area of focus. The investment loss in 2020 amplifies the need to continue addressing this concern. Because of COVID-19, there is still significant uncertainty about workforces and the investment environment. We will therefore take stock of options to strengthen and protect plan sustainability. In the meantime, contribution rates and benefit levels will remain unchanged.

- London Hydro has not made any provision in the Proposed 2022 Test Year budget for potential increases in OMERS contribution amounts.
- Effective January 1, 2021, OMERS also eliminated the 35-year cap for credited service for members with less than 35 years of credited service prior to January 1, 2021. In addition to this change leading to pension contribution costs enduring for all employees through to their last day of active employment, this decision also renders the projection of potential retirement dates more challenging as there will no longer be a 35-year "cap" that motivates a long-service employee to retire.
- Permanent employees join OMERS on the first day of their employment. Part-time employees are provided with the option to join OMERS at a later date and upon completion of service prerequisites, in accordance with OMERS policies.



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- 1 Intrinsic / non-financial benefits
- 2 In addition to the benefits that have financial or productivity repercussions, London Hydro
- 3 considers a number of other motivation factors in preparing its overall vision for employee
- 4 engagement. This includes various intrinsic rewards as:
- 5 empowerment
 - work variety
 - affiliation
- personal development
 - work environment
- mentorship
 - celebrating achievements
- London Hydro believes that a corporate-wide awareness and commitment to these elements is critical to culture and to being an employer of choice.

4.5.1.4 Gross Labour Available for Deployment

- Gross labour available for deployment represents the full cost of resources available before
- deployment to capital, billable and OM&A activities and consists of base salaries, overtime and
- incentive pay as well as benefit costs. Gross available labour for the proposed 2022 Test year is
- being forecasted at \$43,582,400, resulting in an increase of \$7,769,197 when compared to the
- 19 2017 Actual results of \$35,813,203.



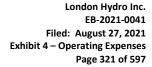
Table 4-32: Gross Labour Costs and FTEs (OEB Appendix 2-K Employee Costs)

6	ross Labour Cos		ne Equivalent				
	Before alloca	tions to Capit	al, Billable, Ot	ther			
	2017 OEB	2017	2018	2019	2020	2021	2022
	Approved	Actual	Actual	Actual	Actual	Bridge	Test
Number of employees (FTEs including PT)							
Management (including executive)	53.0	59.7	57.2	58.5	61.1	63.7	64.0
Non-management (union and non union)	258.7	240.5	240.2	235.9	233.7	252.3	255.7
	311.7	300.2	297.4	294.4	294.8	316.0	319.7
Total salary and wages (incl. OT and incentive pay)							
Management (including executive)	6,608,186	7,504,588	7,531,891	7,888,527	8,463,545	8,980,600	9,226,000
Non-management (union and non union)	21,932,714	20,209,106	21,161,675	21,255,121	21,678,322	24,175,000	25,111,700
	28,540,900	27,713,694	28,693,566	29,143,648	30,141,867	33,155,600	34,337,700
Total benefits (current and accrued)							
Management (including executive)	1,686,929	1,985,263	1,956,005	2,029,491	2,410,380	2,183,748	2,261,176
Non-management (union and non union)	6,570,171	6,114,246	6,206,786	6,196,699	6,930,016	6,728,052	6,983,524
	8,257,100	8,099,509	8,162,791	8,226,190	9,340,396	8,911,800	9,244,700
Total compensation (salary, wages and benefits)							
Management (including executive)	8,295,115	9,489,851	9,487,896	9,918,018	10,873,925	11,164,348	11,487,176
Non-management (union and non union)	28,502,885	26,323,352	27,368,461	27,451,820	28,608,338	30,903,052	32,095,224
	36,798,000	35,813,203	36,856,357	37,369,838	39,482,263	42,067,400	43,582,400

While the number of gross full-time equivalent employees is forecasted to increase by 19.5 (319.7 – 300.2), it is *important to note* that a large majority of these FTEs are anticipated to be deployed to capital and billable activities. For the most part, where budgeted gross FTE's are vacant, the impact has little bearing on net OM&A expenditures. 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, London Hydro would hire an external contractor for the capital work rather than using internal resources.

Fluctuations and vacancies in gross available labour are the result of many factors including delays with respect to replacing a retired employee 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.

London Hydro adjusts the balance between internal and external resourcing depending on costs, expertise, seasonal work, volume fluctuations and the availability of internal resources. Using external resources keeps the Company nimble and is of great value when it does not make





- economic sense to keep a certain level of expertise on staff, for example, legal services, civil
- 2 engineering and for some information technology scenarios.
- Where possible and appropriate, London Hydro will pursue hiring a permanent employee, rather
- than an external contractor in order avoid paying contractor fees while gaining benefits such as,
 - recruiting and retaining skilled resources as the demand for skilled workers in the electricity industry intensifies
 - developing a skilled workforce for the future through training in connection with London Hydro's policies and procedures and the electricity industry in general
 - building a resource pool to assist with employee succession
 - deploying resources who understand the objectives, long-term goals and culture of London Hydro

London Hydro, like many of its peers, is struggling to attract and retain skilled trades. This challenge, which is faced by the entire electricity industry, is compounded by the fact that many of these trades require extensive training. The fallout of aging infrastructure, coupled with rapid changes in technology, is a competition for resources in an era with a significant number of retirements over a short period of time.

Since the 2017 Cost of Service Rate Application, many retirements have occurred and many new employees have been brought on staff to counteract those retirements. London Hydro continues to pursue and develop a new generation of employees to offset the unusually large demographic wave of employee retirements in the electricity industry. Transferring and developing new knowledge is imperative to ensuring knowledge and skills are not lost as a result of retirements and that new skills are developed to design and operate new system infrastructure and functions and to sustain reliability for customers.

Succession planning and employee skills development is critical for London Hydro's future success. Significant progress has been made and plans are in place to deal with future retirements that will have an impact on the resources and skill levels of the staff complement. The increased use of internal over external resources is one method being utilized. Hiring a permanent employee to work on capital projects helps with developing a resource pool in anticipation of

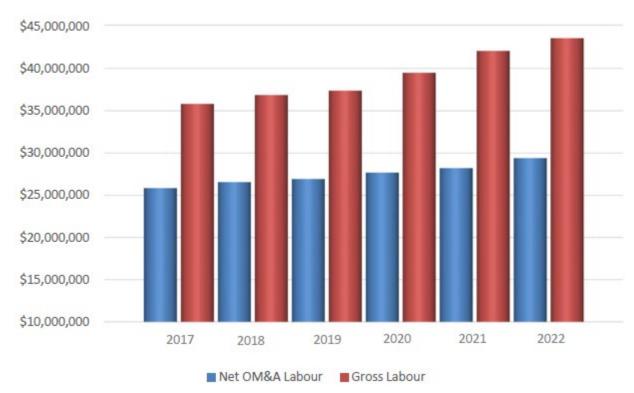


- upcoming retirements. Targeted retirement dates are not always provided in advance, making it
- difficult to ensure sufficient cross training occurs. Further, training an apprentice can take 5 to 7
- years for the individual to become qualified and competent to perform industry duties in a safe
- 4 and efficient manner.

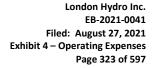
4.5.1.5 Net Labour to OM&A

- 6 Net OM&A labour and benefits refers to the net cost of resources after deployments (allocations)
- to capital projects and billable services. This is the labour that remains in OM&A for operations,
- 8 maintenance and administrative activities. Labour allocation amounts are based on detailed
- 9 information recorded through London Hydro's time entry system.

Gross Labour Comparison to Net OM&A Labour



Gross Labour Comparison to Net OM&A Labour Chart





As mentioned above, although gross available labour has increased, the impact to OM&A is moderate as most of the projected increases are planned for deployment to capital and billable activities. For example, when comparing the 2022 proposed budget for FTEs to OM&A to actual amounts for 2017, it is projected that 2 new FTEs are required for OM&A activities. The increase in OM&A FTEs is a result of 3 additional resources brought in from the Conservation Demand Management ("CDM") department as addressed under the Customer Services Program discussion starting on page 173 as well as customer growth; offset by efficiencies gained through technology.

The Ontario government has cancelled electricity conservation programs delivered through local distribution companies with all activities ceased by December 2020. Programs are now being delivered through the IESO to provide for a more centralized approach. Consequently, London Hydro's CDM department has been closed.

London Hydro's CDM department had been operating formally for over 15 years and consisted of 13 full-time and 8 part-time employees. This department has established London Hydro as a trusted advisor providing expertise on energy matters within the community. Costs associated with this area were fully funded resulting in no net costs being borne to the local distribution company.

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. This helps to maintain consumer confidence as more customers are finding the need for expert advice on energy related matters; especially as they move towards new industry technologies such as distributed generation, solar panels, storage devices and electric vehicles.

Overall the Company has been able to contain labour costs at a CAGR of 2.6%, which is 0.4% over union negotiated contract settlements (discussed below). Because of recruitment and retention challenges for both London Hydro and throughout the industry, there is a shortage of skilled resources and high demand for the same resources resulting in higher costs; especially in the areas of Engineering, IT and Metering and Meter Data Management.



- The Company has been able to keep labour cost increases to a minimum through careful
- succession planning and pace as well as efficiencies gained through new technologies such as
- the Company's self-service website and Mobile Workforce Management System.

4 Wage escalations

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- 5 Salaries and wages have increased between 2.0% and 2.5% per year or a CAGR of 2.2%. The
- shortage of skilled resources, high demand for the same resources, along with union settlements
- 7 result in higher costs. The cumulative increase in 2022 for salaries and wages is forecasted to be
- 8 11.6% over the 2017 Actuals.

Table 4-33: Summary of Wage Increases by Year

Summary of Wage Increases by Year									
<u>Year</u>	Amount	<u>%</u>							
2017	\$ 100.00								
2018	\$ 102.00	2.00%							
2019	\$ 104.45	2.40%							
2020	\$ 106.64	2.10%							
2021	\$ 108.88	2.10%							
2022	\$ 111.60	2.50%							
CAGR		2.2%							
Overall cha	nge 2017-2022	11.6%							

Labour and benefits account for the most significant component of London Hydro's OM&A expenditures, accounting for roughly 60% of overall costs. The majority of London Hydro employees are unionized with the Power Workers' Union, CUPE Local 1000 and hold positions related to trades, technical, operations support, clerical and administration.

The Collective Agreement, effective January 1, 2016 to December 31, 2019, included a provision for wage escalations of 2.0% for each of the years from 2016 to 2018 and 2.4% for 2019. The new collective agreement effective January 1, 2020 is for a 4-year term to December 31, 2023



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- and includes negotiated incremental annual increases of 2.1% for both 2020 and 2021 and 2.5%
- ₂ for 2022 and 2023.
- London Hydro continues to negotiate hard with the Union to provide fair increases while 3 considering those which were agreed by other utilities. Inflationary and market pressures generate 4 wage adjustments that seek to maintain external equity. Market pressures within an industry are 5 exacerbated when there is a scarcity of trades, technical and management expertise. Cost-of-6 living adjustments for unionized employees and necessary market adjustments are negotiated 7 during collective bargaining. For non-union/management employees, the Board of Directors 8 approves annual cost-of-living adjustments and progressions within pay scales and based on 9 merit. In all cases, London Hydro performs a detailed assessment of consumer price indices, 10 market forces, recent settlements and benchmarking surveys in order to determine appropriate 11

increases. To that end, London Hydro strives to pay salaries that are "at market" and fall in the

4.5.1.6 Benefits and Employer Costs

range of the 50th-percentile in relation to available comparator data.

A comprehensive and competitive benefits package exists, which includes medical insurance, life insurance, long term disability insurance, vacation entitlement, and a company-sponsored retirement plan, Ontario Municipal Employees Retirement System ("OMERS"). The plans are designed to address the health and welfare needs of the employee population. The benefit packages are basically consistent across the organization with only minor differences in the packages for the non-union and executive groups.

Gross benefits and employer costs are forecasted to be \$8,911,800 for the 2021 Bridge Year and \$9,244,700 for the proposed 2022 Test Year. The forecast for 2022 provides an increase over 2017 Actual amounts of \$1,145,191 resulting in a CAGR of 2.7%.



Table 4-34: Gross Employee Benefits and Employer Costs 2017 to 2022

	6	Gross Employe	ee Benefits ar	nd Employer	Costs			
	2017	2018	2019	2020	2021	2022	2017 Actuals	
	Actual	Actual	Actual	Actual	Bridge	Test	to 2022 Test	CAGR
i								
STATUTORY								
CPP	\$ 847,526							3.0%
Employment insurance	335,531	340,143	329,130	323,591	347,800	350,300	14,769	0.9%
Employer's health tax	593,667	615,826	619,635	638,436	660,600	663,300	69,633	2.2%
WSIB premiums	472,222	286,759	155,419	275,175	280,700	282,900	(189,322)	-9.7%
	2,248,946	2,097,435	1,986,670	2,164,787	2,268,500	2,277,600	28,654	0.3%
<u>ACTIVE</u>								
OMERS	2,909,209	3,021,006	3,065,571	3,225,454	3,298,800	3,301,300	392,091	2.6%
LTD insurance	635,012	711,638	791,980	846,873	852,600	854,900	219,888	6.1%
Life insurance	132,015	142,859	150,381	149,101	154,700	156,100	24,085	3.4%
Health benefits	1,150,648	1,120,879	1,267,169	1,175,923	1,296,000	1,303,100	152,452	2.5%
EI - employee portion	152,613	149,979	148,085	148,717	158,800	159,500	6,887	0.9%
Employee OHIP premiums	203,094	205,223	204,834	207,170	216,700	220,500	17,406	1.7%
Vacation liability change	145,700	91,412	23,589	504,682	(374,100)	25,400	(120,300)	-29.5%
Other	14,872	15,365	36,625	51,829	50,200	15,000	128	0.2%
	5,343,163	5,458,361	5,688,234	6,309,749	5,653,700	6,035,800	692,637	2.5%
RETIREES								
Retiree benefits	698,074	756,804	863,827	786,506	892,000	867,600	169,526	4.4%
Employee future benefit costs	148,100	231,200	58,600	321,100	132,500	99,400	(48,700)	-7.7%
	846,174	988,004	922,427	1,107,606	1,024,500	967,000	120,826	2.7%
TOTAL BENEFIT COSTS	8,438,283	8,543,800	8,597,331	9,582,142	8,946,700	9,280,400	842,117	1.9%
Less: Non-distribution activities	(338,774)	(381,009)	(371,141)	(241,746)	(34,900)	(35,700)	303,074	-36.2%
LDC BENEFIT COSTS	\$ 8,099,509	\$ 8,162,791	\$ 8,226,190	\$ 9,340,396	\$ 8,911,800	\$ 9,244,700	\$ 1,145,191	2.7%

- 2 Overall changes in gross employee benefits are directly attributable to gross headcount
- increases, wage escalations and government mandated contribution rates. All benefits are
- 4 allocated to OM&A, capital, billable and other activities as appropriate, based on actual labour
- 5 deployment transactions through overhead burden rates.

CPP premiums

- 7 CPP premiums have increased as a result of increases in both the maximum pensionable
- 8 earnings amount as well as the contribution rate. For example, the maximum CPP contribution
- for 2020 was \$2,898.00 where the maximum amount for 2021 is \$3,166.45, for an increase of
- 10 \$268.45 or 9.26%.
- Beginning in 2019, the Government of Canada started making enhancements to the Canada
- Pension Plan ("CPP"). Prior to 2019, the CPP retirement pension was intended to replace one



- quarter of an individual's average work earnings upon retirement. Going forward, the CPP will
- grow with the intention to replace one third of an individual's average work earnings upon
- 3 retirement.
- The CPP contribution rate remained unchanged from 2003-2018, at a rate of 4.95%. This rate is
- paid on all earnings higher than \$3,500, up to the maximum annual contribution limit which
- 6 increases each year. In 2019, the contribution rate for employees and employers increased to
- 5.10%, and will continue to increase each year, until 2023, when the rate reaches 5.95%, a total
- 8 increase of 1%.
- Between 2019 and 2025, the maximum annual contribution limit is increasing. In addition, starting in 2024, a second, higher limit will be introduced, subjecting employees and employers to two earnings limits. Earnings below the first earnings limit will be subject to a contribution rate of 5.95%, whereas earnings in between the two earnings limits will be subject to a contribution rate of 4.0%.
 - London Hydro has quantified, to the best of our ability at this time, the estimated cost of the employer's portion of CPP, over the five-year period covered in this Rate Application, and compared it to costs incurred since our last Cost of Service Rate Application in 2017. The enhanced Canada Pension Plan increases will have a significant impact to London Hydro's expenses, as illustrated in tables and graph below:

Table 4-35: Summary of CPP Changes to 2026

Year	CPP Rate	Maximum Contribution per Employee	CPP Expense
2017	4.95%	\$ 2,564	\$ 812,800
2018	4.95%	\$ 2,594	\$ 813,100
2019	5.10%	\$ 2,749	\$ 842,500
2020	5.25%	\$ 2,898	\$ 905,000
2021	5.45%	\$ 3,166	\$ 976,234
2022	5.70%	\$ 3,431	\$ 977,669
2023	5.95%	\$ 3,701	\$ 1,087,932
2024	5.95%	\$ 4,008	\$ 1,174,781
2025	5.95%	\$ 4,327	\$ 1,264,784
2026	5.95%	\$ 4,468	\$ 1,305,318

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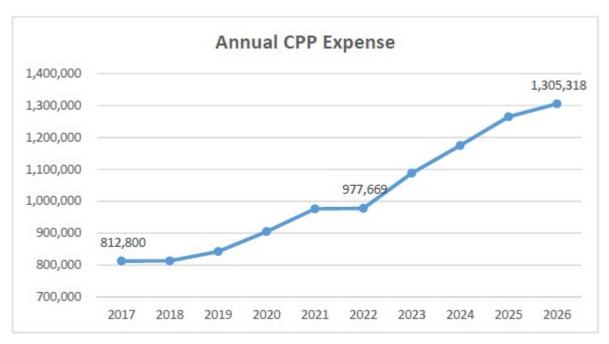
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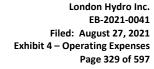


Estimate Annual CPP Expense to 2026

Table 4-36: Estimated Unrecovered CPP Expense for 2023 to 2026

		2022		2023		2024		2025	2026
CPP Expense	Г	977,700		1,087,900		1,174,800		1,264,800	1,305,300
Included in 2022 Rates	l	977,700	l	977,700		977,700		977,700	977,700
Estimated IRM Increase (1.2%)		-		11,700		23,600		35,600	47,800
Total Recovery		977,700		989,400		1,001,300		1,013,300	1,025,500
Unrecovered Amount	\$	-	\$	98,500	\$	173,500	\$	251,500	\$ 279,800
Total Unrecovered CPP in 5-Year Period								\$ 803,300	

- Due to the significant impact of this increase, it is estimated London Hydro will under-recover CPP
- expense in the amount of \$803,300 over the five-year period covered in this Rate Application.
- 5 London Hydro has *not* made any provision in the Proposed 2022 Test Year budget for upcoming
- 6 increases in Canada Pension Plan premiums.





Sources:

1 2 3

www.canada.ca/en/services/benefits/publicpensions/cpp/cpp-enhancement

www.canada.ca/en/revenue-agency/programs/about-canada-revenue-agency-cra/federal-government-

budgets/budget-2016-growing-middle-class/canada-pension-plan-enhancement

www.canada.ca/en/revenue-agency/news/2018/10/the-canada-pension-plan-enhancement--businesses-

individuals-and-self-employed-what-it-means-for-you

WSIB premiums

WSIB costs have decreased \$189,322 between 2017 Actuals and the proposed 2022 Test Year, resulting in a negative CAGR of 9.7%. WSIB Experimental Experience Rating Plan ("NEER") costs were higher than usual in 2017. NEER costs can fluctuate dramatically from year to year dependent upon WSIB claim cost statements. Claim costs assessed by WSIB can rise and fall based on incidents included in statements going back over three years and based on actual claims costs, as well as projected future costs for the expected lifetime of the claim.

OMERS

London Hydro has a pension agreement with OMERS, which is a multi-employer contributory defined benefit plan. Company contributions to the plan are recognized as a pension expense in the period in which they are incurred on an accrual basis. London Hydro's total contributions to OMERS on behalf of employees have increased between the 2017 Actuals and the proposed 2022 Test Year by \$392,091 or 2.6% CAGR. The increase to London Hydro's OMERS costs in this Application is directly attributable to the increases in gross headcount increases and wage escalations during this period.

As mentioned above, the most recently available OMERS annual report is for the year ended December 31, 2020, which reported that the plan was 97% funded, with an unfunded liability of \$3.2 billion. Although OMERS has not made any changes to contribution rates, there is the potential that this unfunded liability will result in future payments by participating employers and members.

London Hydro has *not* made any provision in the Proposed 2022 Test Year budget for potential increases in OMERS contribution amounts.



1 LTD insurance

- Long-term disability ("LTD") insurance premiums increased by \$219,888 between the 2017
- Actuals and the proposed 2022 Test Year resulting in a CAGR of 6.1%. The increase in LTD
- insurance premiums is driven predominantly by significant premium increases from the insurance
- carrier (related to the age profile and pooled experience principles) over the past several years,
- and to a lesser extent by the volumetric impact of cost-of-living or progression-based wage
- 7 adjustments.

8 Health benefits

- 9 Extended health and dental care coverage have remained essentially unchanged, and it is
- experience rated, meaning that London Hydro's cost is determined by its actual claims. Costs
- have increased between the 2017 Actuals and the proposed 2022 Test Year by \$152,452 or 2.5%
- 12 CAGR, driven by industry costs and employee usage.

13 Vacation liability change

- The change in vacation pay liability expense for 2020 was higher than other years since the
- liability increased significantly that year as employees decided not to take vacation because of
- the COVID 19 pandemic. Employees will eventually draw on their accumulated vacation time
- which will result in an offsetting negative expense which has been projected in the 2021 Bridge
- 18 Budget.

19 Other

- The "other" benefits cost line represents items such as maternity leave top-up payments and
- 21 minor accounting adjustments for changes in banked time liability balances due to rate changes.
- These expenditures are minimal in nature and are subject to fluctuation.

23 Retiree benefits

- Retiree benefits consist of health benefits for retirees (up until age 65), paid-up life insurance
- policies and premiums on life insurance policies for a specific group of retirees. Currently,
- employees who retire at eligibility receive a paid-up life insurance policy upon their retirement.
- Historically, retirees were entitled to non-paid up life insurance premiums equal to flat dollar
- amounts. A large group of prior retirees remains on this closed plan.



- These past retirees continue to age and since the plan is closed to new retirees, life insurance
- 2 premiums are increasing dramatically. These ongoing life insurance premiums are paid by
- 3 London Hydro to insure the flat dollar payout amounts, which are then funded by the selected
- 4 insurance company. Each year, as aging occurs in this group (without new, younger retirees being
- 5 added to balance the policy), the premiums continue to escalate. It is these premiums, coupled
- 6 with the increased cost of health benefits paid on behalf of retirees up to the age of 65 that are
- 7 driving the significant increase in retiree benefits.
- 8 Employee future benefit costs (P&OPEBs)
- 9 Employee future benefit costs represent the non-cash accrued expense associated with pensions
- and other post-employment benefits ("P&OPEB"). This expense is an accounting entry made
- each year to record the increase in the post retirement liability on the balance sheet as actuarially
- determined.
- Projected post-employment benefits costs and projections used in the Application were provided
- to London Hydro by its independent advisor and actuary, Mercer, a firm of consultants and
- actuaries with considerable experience in the field of pensions and benefits. The report from
- Mercer is provided in Appendix 4-4 of this Exhibit.
- 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
- 20 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.
- 22 On September 14, 2017, the OEB finalized its decision regarding the treatment of OPEB costs
- (EB-2015-0040). The Report established the use of the accrual accounting method as the default
- method on which to set rates in cost-based rate applications. In view of the foregoing, the non-
- cash accrued expense for P&OPEB's has been presented in Schedule 4-34 to provide a better
- comparative to amounts to those presented for the 2022 Proposed Test Year.



4.5.2 Shared Services and Corporate Cost Allocation

Renewable Generation

- 3 Background
- In 2010, London Hydro made the decision to invest in some renewable generation activities.
- 5 London Hydro has purchased 11 solar panel stations (9 fully owned; 2 jointly owned). At this time,
- 6 no plans are in place to invest in additional sites. These projects consist of both rooftop-mounted
- 7 panels and ground-mounted tracking panels.
- 8 In 2018, London Hydro made a small investment in Electric Vehicle ("EV") charging stations as
- part of a pilot/demonstration program. At the end of 2020, London Hydro has 3 EV charging
- stations in the downtown area. At this time, no plans are in place to invest in additional stations.

11 Analysis and assumptions

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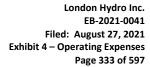
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- As London Hydro does not have any other affiliated businesses, all of the costs and revenues from these non-regulated activities are included in the financial results of the Company under a separate cost centre and accounts for easy identification. As required, these non-distribution
- revenues and expenses have been removed from analysis for Rate Application purposes.
 - In addition to the actual third-party costs incurred, the following steps were taken to ensure that the interactions between the distribution and generation activities were carried out in a manner similar to that contemplated by the Board in the Affiliate Relationship Code ("ARC"), which governs interactions between licensed distributors and their affiliates. The methodology used has not changed since agreement of the treatment during the 2017 Cost of Service process.
 - 1. Any amounts owing to or from the rate regulated portion of the business from the renewable generation project have been charged using a weighted average cost of capital of 5.08%, from 2017 2022. The average balance outstanding was determined using the simple formula beginning of year + end of year before interest / 2. The average balance was then multiplied by the rate indicated above which rate was determined as part of the 2017 settlement agreement.





- 2. As the generation project does not have separate staff to compile the results of the financial activities, perform any of the administrative functions required or to incur any of the overhead costs, the renewable generation company pays 2% of all external costs including capital expenditures to the rate regulated business to cover the costs of these functions. There have been no changes to the calculation methodology since the last cost of service application was approved.
- Table 4-37 below provides proforma financial statements for the historical actuals (2017 to 2020)
- 8 as well for the 2021 Bridge and 2022 Test Years.



Table 4-37: Renewable Generation Proforma Financial Statements

1,790,593 1,790,593 1,235,743 554,850	\$	1,727,177 1,727,177 1,243,632 483,545	\$	2019 Actuals 1,597,994 1,597,994 1,031,871 568,123 1,597,994 2019 Actuals	\$	1,468,811 1,468,811 774,294	\$	1,339,611 1,339,611 538,821	\$	1,210,411 292,308 918,103
1,790,593 1,790,593 1,235,743 554,850 1,790,593 2017 Actuals	\$	1,727,177 1,727,177 1,243,632 483,545 1,727,177 2018 Actuals	\$	1,597,994 1,597,994 1,031,871 588,123 1,597,994 2019	\$	1,468,811 1,468,811 774,294 694,517 1,468,811	\$	1,339,611 1,339,611 538,821 800,790 1,339,611	\$	1,210,411 292,308 918,103 1,210,411
1,790,593 1,790,593 1,235,743 554,850 1,790,593 2017 Actuals	\$	1,727,177 1,727,177 1,243,632 483,545 1,727,177 2018 Actuals	\$	1,597,994 1,597,994 1,031,871 588,123 1,597,994 2019	\$	1,468,811 1,468,811 774,294 694,517 1,468,811	\$	1,339,611 1,339,611 538,821 800,790 1,339,611	\$	1,210,411 292,308 918,103 1,210,411
1,790,593 1,790,593 1,235,743 554,850 1,790,593 2017 Actuals	\$	1,727,177 1,727,177 1,243,632 483,545 1,727,177 2018 Actuals	\$	1,597,994 1,597,994 1,031,871 588,123 1,597,994 2019	\$	1,468,811 1,468,811 774,294 694,517 1,468,811	\$	1,339,611 1,339,611 538,821 800,790 1,339,611	\$	1,210,411 292,308 918,103 1,210,411
51,790,593 51,235,743 554,850 1,790,593 2017 Actuals	\$	1,727,177 1,243,632 483,545 1,727,177 2018 Actuals	\$	1,597,994 1,031,871 568,123 1,597,994 2019	\$	1,468,811 774,294 694,517 1,468,811	\$	1,339,611 538,821 800,790 1,339,611	\$	1,210,411 292,308 918,103 1,210,411
51,790,593 51,235,743 554,850 1,790,593 2017 Actuals	\$	1,727,177 1,243,632 483,545 1,727,177 2018 Actuals	\$	1,597,994 1,031,871 568,123 1,597,994 2019	\$	1,468,811 774,294 694,517 1,468,811	\$	1,339,611 538,821 800,790 1,339,611	\$	1,210,411 292,308 918,103 1,210,411
51,790,593 51,235,743 554,850 1,790,593 2017 Actuals	\$	1,727,177 1,243,632 483,545 1,727,177 2018 Actuals	\$	1,597,994 1,031,871 568,123 1,597,994 2019	\$	1,468,811 774,294 694,517 1,468,811	\$	1,339,611 538,821 800,790 1,339,611	\$	292,308 918,103 1,210,411 2022
554,850 1,790,593 2017 Actuals	\$	1,243,632 483,545 1,727,177 2018 Actuals	\$	1,031,871 588,123 1,597,994 2019	\$	774,294 694,517 1,468,811 2020	\$	538,821 800,790 1,339,611 2021	\$	292,308 918,103 1,210,411 2022
554,850 1,790,593 2017 Actuals	\$	1,243,632 483,545 1,727,177 2018 Actuals	\$	1,031,871 588,123 1,597,994 2019	\$	774,294 694,517 1,468,811 2020	\$	538,821 800,790 1,339,611 2021	\$	292,308 918,103 1,210,411 2022
554,850 1,790,593 2017 Actuals	\$	483,545 1,727,177 2018 Actuals	\$	566,123 1,597,994 2019		894,517 1,468,811 2020		800,790 1,339,611 2021		2022
554,850 1,790,593 2017 Actuals	\$	483,545 1,727,177 2018 Actuals	\$	566,123 1,597,994 2019		894,517 1,468,811 2020		800,790 1,339,611 2021		918,103 1,210,411 2022
554,850 1,790,593 2017 Actuals	\$	483,545 1,727,177 2018 Actuals	\$	566,123 1,597,994 2019		894,517 1,468,811 2020		800,790 1,339,611 2021		918,103 1,210,411 2022
554,850 1,790,593 2017 Actuals	\$	483,545 1,727,177 2018 Actuals	\$	566,123 1,597,994 2019		894,517 1,468,811 2020		800,790 1,339,611 2021		918,103 1,210,411 2022
1,790,593 2017 Actuals	\$	1,727,177 2018 Actuals		1,597,994	\$	1,468,811	\$	1,339,611	\$	1,210,411
1,790,593 2017 Actuals	\$	1,727,177 2018 Actuals		1,597,994	\$	1,468,811	\$	1,339,611	\$	1,210,411
1,790,593 2017 Actuals	\$	1,727,177 2018 Actuals		1,597,994	\$	1,468,811	\$	1,339,611	\$	1,210,411
2017 Actuals		2018 Actuals		2019	\$	2020	\$	2021	\$	2022
2017 Actuals		2018 Actuals		2019	\$	2020	\$	2021	\$	2022
Actuals	\$	Actuals								
Actuals	\$	Actuals								
340,599	\$	311,600								
			\$	322,008	\$	348,419	\$	324,700	\$	324,700
67,402		61,416		56,366		44,740		32,527		20,588
10,000		10,000		10,000		10,000		10,000		10,000
834		2,600		761		1,334		800		800
1,054		1,687		3,725		3,067		3,800		3,900
2,683		8,383		2,061		3,341		3,400		3,400
										1,700
										1,400
										17,000
		-				-				2,700
(5,336))			(4,2/2)		(8,520)		(4,500)		(4,600
-				20.000		-		20.000		24.000
-		140,000		20,000		-		20,800		21,300
91 071		250 244		110 249		90.842		80 227		78,188
81,071		200,274		110,240		60,042		08,221		70,100
123,159		123,661		129,183		129,183		129,200		129,200
	_									
	1,547 10,260 2,458 (5,336 - - - 91,071	168 1,547 10,260 2,458 (5,336) - - - 91,071 123,159	1,547 2,355 10,260 20,308 2,458 2,212 (5,336) (1,997) - 5,000 - 146,000 - 91,071 259,244	1,547 2,355 10,260 20,308 2,458 2,212 (5,338) (1,997) - 5,000 - 148,000 - 91,071 259,244	1,547 2,355 1,390 10,280 20,308 16,014 2,458 2,212 2,528 (5,338) (1,997) (4,272) - 5,000 146,000 20,000 91,071 259,244 110,248	1,547 2,355 1,390 10,280 20,308 16,014 2,458 2,212 2,528 (5,338) (1,997) (4,272) - 5,000 146,000 20,000 91,071 259,244 110,248	1,547 2,355 1,390 1,390 10,260 20,308 16,014 32,509 2,458 2,212 2,528 2,853 (5,338) (1,997) (4,272) (8,520) - 5,000 146,000 20,000 91,071 259,244 110,248 90,842	1,547 2,355 1,390 1,390 10,260 20,308 16,014 32,509 2,458 2,212 2,528 2,853 (5,336) (1,997) (4,272) (8,520) - 5,000 146,000 20,000 91,071 259,244 110,248 90,842	1,547 2,355 1,390 1,390 1,400 10,280 20,308 16,014 32,509 16,700 2,458 2,212 2,528 2,853 2,600 (5,338) (1,997) (4,272) (8,520) (4,500) - 5,000 - - - - - 146,000 20,000 - 20,800 - - - - - 91,071 259,244 110,248 90,842 89,227	1,547 2,355 1,390 1,390 1,400 10,280 20,308 18,014 32,509 16,700 2,458 2,212 2,528 2,853 2,800 (5,338) (1,997) (4,272) (8,520) (4,500) - 5,000 - - - - 146,000 20,000 - 20,800 - - - - 91,071 259,244 110,248 90,842 89,227

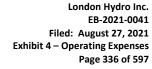


Corporate Cost Allocation

- London Hydro does not have any retail affiliates; however, by virtue of the definition under the
- 3 Ontario Business Corporations Act, the sole shareholder of London Hydro, the Corporation of the
- 4 City of London, is an affiliated.
- 5 London Hydro provides certain services to the City. These services are provided on a full cost
- recovery basis or at market rates where market pricing is available. There is no cross-subsidy of
- 7 costs with respect to services provided to the shareholder affiliate.
- 8 The total cost allocation for each of the following services is provided in Table 4-38 (OEB
- 9 Appendix 2-N), on page 338.
- There are no Board of Directors-related costs for any affiliates included in London Hydro's own
- 11 costs.

Water billing services

- Water billing services (water meter reading, billing, collection, and customer services for the City's
- water, sanitary sewer and storm drainage accounts) are provided to the City on a full cost recovery
- basis, which includes labour, benefits, overhead, materials, equipment, information services,
- mailing and postage, and all other identifiable costs. Cost recoveries for water billing services are
- captured under the Customer Services and Collections and the Information Technology
- 18 Programs.
- The most recent Service Level Agreement ("SLA") between the City of London and London Hydro
- was finalized on December 4, 2019 and is effective January 1, 2020 to December 31, 2024. The
- agreement indicates that the City will pay \$3,998,000 for the water billing (\$3,906,100) and water
- meter services (\$91,900) as discussed below. The increase from the 2017 OEB-approved amount
- (\$3,980,000) is \$18,000. This marginal increase represents a combination of factors: the
- 24 provision of additional payment options for customers, additional services (MyLondonHydro water
- portal support), price increase, inflation, removal of control room water services and savings
- resulting from the evolution of drive-by water meter reading services.





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London Hydro utilized a prior third-party analysis of services provided to the City as the basis for

determining the incremental cost of services for the years covered in this Rate Application. The

report indicated a ratio of incremental cost to the net value of the water billing services to the City

of London of 29.5%. For purposes of Appendix 2-N (Table 4-38), this cost amount has been

inflated annually at the rate of 2.8%, to correspond with the increase in OM&A expenditures

between 2017 OEB Approved Amounts and amounts proposed for the 2022 Test Year (See Table

7 4-1 of Exhibit 4).

8 London Hydro determined this to be an appropriate estimate and in accordance with the ARC

9 because of the large differential between fully allocated and actual incremental costs. For

example, actual amounts collected and retained by London Hydro from the City of London for this

service provide an excess over incremental costs of \$2,590,100 (\$3,906,100 - \$1,316,000) in the

2022 Test Year. This excess amount represents the City of London's contributions towards fixed

costs incurred by the Company and, thus, the savings that benefit the electricity rate payers of

14 London Hydro.

Water billing services late payment fees

London Hydro will also collect fees in connection with City of London water customers' late

payments. These charges are covered by the SLA, but represent a recovery not included in the

predetermined flat rate of \$3,998,000. The expected recoveries for these amounts are expected

to be an additional \$725,100 for 2021 and \$593,500 for 2022 as forecasted in Exhibit 3 Other

20 Revenues. Water late payment charges averaged \$559,200 for 2017 to 2019.

21 Water meter services

London Hydro's Meter Data Management department provides water meter reading services to

the City of London. London Hydro has been supporting the City of London's transition to Drive-by

water meter reading technology, as well as performing customer appointment scheduling, and

validation of meter data. London Hydro also provides customer contacts regarding high or low

usage, or as needed for property entry, on behalf of the City of London.

27 These services are forecasted to provide additional cost recoveries in the amount of \$91,900 for

both the 2021 Bridge Year and the proposed 2022 Test Year.



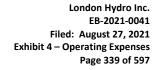
- The cost of this program was determined using direct labour cost estimates and is captured under
- the Metering and Meter Data Management Program.
- 3 Rental of surplus office and shop space
- 4 London Hydro rents out a small portion of its office space to the City's Waterworks Department.
- 5 A rental rate, currently \$21.50 per square foot, has been established and is based upon the actual
- operating cost per square foot of owning and maintaining the facilities plus a fair market value
 - rental charge for similar facilities. The operating cost element is determined from actual operating
- 8 expense accounts including depreciation, insurance, staffing costs, security, taxes, etc. London
- 9 Hydro is not aware of any plans for the City of London to vacate this rental space. Office space
- rentals have been projected at \$29,400 for the 2021 Bridge Year and \$30,100 for the 2022 Test
- 11 Year.

- 12 Control Centre after-hours support
- Previously, London Hydro provided after-hours support for the Waterworks Department of the City
- of London. This service involved answering customer water inquiries and dispatching waterworks
- personnel as required after normal business hours. As London Hydro's Control Centre is staffed
- 24-7, no additional cost was incurred related to the provision of this service. The City of London
- was billed \$10,000 annually for this service. This cost recovery has been captured under the
- Operations and Maintenance Program. This service ended on December 31, 2019. It was
- mutually agreed to cease this service and remove it from the SLA.
- 20 Other shared services
- The operation centre and business offices of London Hydro, located at 111 Horton Street, are
- located on lands that are owned by the City. Consistent with the agreement signed in 1994
- between the City of London and London Hydro, London Hydro pays \$100,000 annually to the City
- for the use of the land.
- London Hydro does not purchase or provide any other services to or receive any services from
- the Corporation of the City of London.



Table 4-38: Shared Services and Corporate Cost Allocation (OEB Appendix 2-N)

		2017 OEB APPROV	VED		
Name o	of Company To	Service Offered	Pricing Methdology	Price for the Service	Cost for the Service
London Hydro	City of London	Water billing services	Fully allocated cost	3,888,700	1,149,000
London Hydro	City of London	Water meter services	Fully allocated cost	91,300	91,300
London Hydro	City of London	Rental of office space	Market Value	33,000	22,619
London Hydro	City of London	Control Centre - water support	Fully allocated cost	10,000	22,013
London Flydro	City of London	Control Centre - water support	TOTAL:	4.023,000	1,262,919
				4,023,000	1,202,919
		2017 ACTUAL			
Name o	of Company	Service Offered	Pricing Methdology	Price for the Service	Cost for the
From	То			\$	\$
London Hydro	City of London	Water billing services	Fully allocated cost	3,878,700	1,146,000
London Hydro	City of London	Water meter services	Fully allocated cost	91,524	91,300
London Hydro	City of London	Rental of office space	Market Value	28,966	25,600
London Hydro	City of London	Control Centre - water support	Fully allocated cost	10,000	-
			TOTAL:	4,009,190	1,262,900
	•	2018 ACTUAL			
Name o	of Company			Price for the	Cost for the
		Service Offered	Pricing Methdology	Service	Service
From	То		3,	\$	\$
London Hydro	City of London	Water billing services	Fully allocated cost	3,878,700	1,178,000
London Hydro	City of London	Water meter services	Fully allocated cost	91,314	91,300
London Hydro	City of London	Rental of office space	Market Value	29,089	25,100
London Hydro	City of London	Control Centre - water support	Fully allocated cost	10,000	20,100
			TOTAL:	4,009,103	1,294,400
		2019 ACTUAL			
Name o	of Company			Price for the	Cost for the
		Service Offered	Pricing Methdology	Service	Service
From	То			\$	\$
London Hydro	City of London	Water billing services	Fully allocated cost	3,878,700	1,211,000
London Hydro	City of London	Water meter services	Fully allocated cost	91,314	91,300
London Hydro	City of London	Rental of office space	Market Value	29,214	27,500
London Hydro	City of London	Control Centre - water support	Fully allocated cost	10,000	
			TOTAL:	4,009,228	1,329,800





		2020 ACTUAL			
Name (of Company	Service Offered	Pricing Methdology	Price for the Service	Cost for the Service
From	То			\$	\$
London Hydro	City of London	Water billing services	Fully allocated cost	3,906,100	1,245,000
London Hydro	City of London	Water meter services	Fully allocated cost	91,900	91,900
London Hydro	City of London	Rental of office space	Market Value	29,400	28,400
London Hydro	City of London	Control Centre - water support	Fully allocated cost	-	-
			TOTAL:	4,027,400	1,365,300
		2021 BRIDGE			
Name (of Company	Service Offered	Pricing Methdology	Price for the Service	Cost for the Service
From	To			\$	\$
London Hydro	City of London	Water billing services	Fully allocated cost	3,906,100	1,280,000
London Hydro	City of London	Water meter services	Fully allocated cost	91,900	91,900
London Hydro	City of London	Rental of office space	Market Value	29,400	27,200
London Hydro	City of London	Control Centre - water support	Fully allocated cost	-	-
			TOTAL:	4,027,400	1,399,100
		2022 TEST			
Name (of Company	Service Offered	Pricing Methdology	Price for the Service	Cost for the Service
From	То			\$	\$
London Hydro	City of London	Water billing services	Fully allocated cost	3,906,100	1,316,000
London Hydro	City of London	Water meter services	Fully allocated cost	91,900	91,900
London Hydro	City of London	Rental of office space	Market Value	30,100	27,200
London Hydro	City of London	Control Centre - water support	Fully allocated cost	-	-
			TOTAL:	4,028,100	1,435,100

2 Reconciliation of Appendix 2-N

- The table below summarizes the costs allocated by London Hydro as seen in Appendix 2-N and
- 4 provides the location of the cost recoveries, other revenues and OM&A expenditure throughout
- 5 the Rate Application.



	Reconciliation of Corporate Cost Allocation										
Service	Exhibit	Program	2017 OEB Approved	2017 Actual	2018 Actual	2019 Actual	2020 Actual	2021 Bridge	2022 Test Year		
Location breakdown:											
Water billing services	#4 - Cost Recoveries	Information Technology	475,800	465,400	465,400	465,400	468,700	468,700	468,700		
Water billing services	#4 - Cost Recoveries	Customer Services and Collections	3,412,900	3,413,300	3,413,300	3,413,300	3,437,400	3,437,400	3,437,400		
Rental of office space	#3 - Other Revenue	n/a	33,000	28,966	29,089	29,214	29,400	29,400	30,100		
Control Room services	#4 - Cost Recoveries	Operations and Maintenance	10,000	10,000	10,000	10,000	-	-	-		
Water meter services	#4 - Cost Recoveries	Metering and Data Management	91,300	91,524	91,314	91,314	91,900	91,900	91,900		
		TOTAL:	4,023,000	4,009,190	4,009,103	4,009,228	4,027,400	4,027,400	4,028,100		

Reconciliation of Appendix 2-N

- **2 Variance analysis**
- 3 The table below shows the variances between the following:
 - Test year vs. last OEB-approved
 - Test year vs. most recent actuals

Service Offered	2017 OEB APPROVED	2022 TEST	VARIANCE
Water billing services	3,888,700	3,908,100	17,400
Water meter replacements	91,300	91,900	600
Rental of office space	33,000	30,100	- 2,900
Control Centre - water support	10,000	-	- 10,000
TOTAL:	4,023,000	4,028,100	5,100

Service Offered	2020 ACTUALS	2022 TEST	VARIANCE
Water billing services	3,906,100	3,906,100	0
Water meter replacements	91,900	91,900	0
Rental of office space	29,400	30,100	700
Control Centre - water support	-	-	-
TOTAL:	4,027,400	4,028,100	700

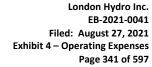
Variance Analysis

- 7 Revenue from Shared Services in the 2022 Test Year is projected to be in line with 2017 OEB-
- 8 Approved levels. Revenue from Shared Services in the 2022 Test Year is projected to be in line
- 9 with 2020 Actual levels.

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4.5.3 Purchase of Non-Affiliate Services

- 2 London Hydro procurement policy
- The London Hydro Procurement Policy is provided in this Exhibit as Appendix 4-5, as required by
- 4 the Filing Requirements.
- 5 Signing authority levels
- 6 London Hydro has a formal signing authority policy, which is structured with various levels of
- 7 approvals. This policy offers significant control for the procurement and payment of vendor
- 8 invoices and is continually monitored by the Financial Services Department. The following are the
- 9 current signing authority levels under the policy:

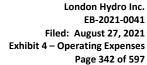
Level (Position)	Approval Limit (\$)
Administrative Assistant	250
Supervisor	2,000
Manager / Director	5,000
Vice Presidents	10,000
Chief Financial Officer	15,000
Chief Executive Officer	100,000

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- Unique authorities are also utilized under the policy for large recurring items such as power purchases from the IESO, PILs, and payroll deductions, among others. All invoices and payment requisitions greater than \$100,000 must be signed by two Executives.
- 14 Competitive tendering process
- Based on the estimated value of a contract London Hydro utilizes various competitive tendering processes:
 - Purchases less than \$25,000 vendor must be on approved vendor list*
 - Purchases > \$25,000 and < \$50,000 Request for Quotation
- Purchases > \$50,000 and < \$75,000 Formal Request for Quotation
 - Purchases > \$75,000 Request for Proposal or Tender





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- *If a purchase of less than \$25,000 cannot be made from the approved vendor list, supplier
- selection will be governed by the supplier selection criteria and the reasons for the supplier
- 3 selection will be documented in the supplier file.
- 4 London Hydro participates in buying consortiums for products and services. In these cases, the
- tendering process follows the consortium's policies. Some of these products and services
- 6 purchased through consortiums include the following:
 - Locator Services Part of locator buying consortium
 - Bulk Fuel Part of Elgin-Middlesex-Oxford Public Purchasing Cooperative
 - Servers Part of Ontario Government Vendor of Record program
 - Office Supplies Part of Ontario Education Collaborative Marketplace program
 - Courier Services Part of Ontario Government Vendor of Record program
- All non-affiliate purchases are made in compliance with the above-noted policies.



4.5.4 One-Time Costs

- 2 With the exception of costs related to the preparation of this Cost of Service Rate Application
- including the Distribution System Plan, London Hydro is not proposing to recover any other one-
- 4 time costs in this Application. As discussed below, London Hydro is proposing that one-time costs
- 5 be amortized over a period of five years.
- In accordance with the Filing Requirements, one-time costs pertaining to the Cost of Service Rate
- 7 Application and the Distribution System Plan have been listed in OEB Appendix 2-M, together
- 8 with on-going OEB Cost Assessments.
- Costs associated with this Application have been forecasted in the amount of \$538,000. These
- costs exclude internal labour costs and have been forecasted based on actual costs incurred for
- the 2017 rebasing year, including additional requirements and anticipated increases for legal,
- consulting and interveners.

Table 4-39: One-Time Costs

RATE APPLICATION FILING AND DISTRIBUTION SYSTEM PLAN UPDATE							
	2017 Rebasing				2022 R	ebasing	
Description	2014 - 2016 Actual	2017 Actual	2014 to 2017 Actual	2019 - 2020 Actual	2021 Bridge	2022 Test	2019 Actuals to 2022 Test
Legal costs for regulatory matters	20,210	36,045	56,255	-	40,000	60,000	100,000
Consultants' costs for regulatory matters	308,813	7,188	316,001	132,700	140,300	15,000	288,000
Intervenor costs	-	115,703	115,703	-	90,000	60,000	150,000
Total one-time costs	329,023	158,936	487,959	132,700	270,300	135,000	538,000
Prorated		(5 years)	97,590			(5 years)	107,600

- London Hydro proposes that these costs be amortized over five years and has therefore included
- \$107,600 in the total OM&A expenditures for the proposed 2022 Test Year. These amortized
- costs have been recorded under program delivery costs for Corporate Services (\$60,000),
- 17 Information Technology (\$25,200) and Asset Management (\$22,400).



4.5.5 Regulatory Costs

- 2 Regulatory costs represent Ontario Energy Board ("OEB") cost assessment fees levied under
- Ontario Regulation 16/08. The amount budgeted under the Corporate Services Program for the
- 4 proposed 2022 Test Year is \$694,700, plus a \$25,100 provision for periodic Section 30 costs
- 5 awards.

Table 4-40: OEB Cost Assessments

Corporate Services Program Ontario Energy Board Cost Assessments						
Description	2017 Actual	2018 Actual	2019 Actual	2020 Actual	2021 Bridge	2022 Test
Assessments	699,691	653,765	664,517	665,214	680,900	693,900
Section 30 costs	15,624	11,838	19,507	21,729	23,900	25,100
Annual fee	800	800	800	800	800	800
T-4-1	716.115	555 403	604.034	607.742	705 600	710 000
Total on-going costs	716,115	666,403	684,824	687,743	705,600	719,800

- 7 In accordance with the Filing Requirements, these OEB Cost Assessments have been listed in
- 8 OEB Appendix 2-M, together with information from Table 4-39 associated with Rate Application
- 9 filing and hearing costs and Distribution Systems Plan.



4.5.6 Low Income Energy Assistance Program ("LEAP")

- 2 Only donations qualifying for recovery have been included in this submission and represent
- annual donations made to the Low Income Energy Assistance Program ("LEAP"). The LEAP
- 4 program provides low-income customers with one-time grants to assist them in paying their
- 5 electricity bills in an emergency situation.
- 6 London Hydro's LEAP contributions for 2017 Actual to the proposed 2022 Test Year are \$200,000
- annually as listed in Table 4-41 below. This schedule excludes additional contributions made in
- fiscal 2020 recorded in the OEB COVID 19 deferral account to assist customers through the
- 9 pandemic.

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Table 4-41: Contributions to LEAP

LEAP			
Donations			
Year Amount (\$)			
2017	200,000		
2018	200,000		
2019	200,000		
2020	200,000		
2021 (Bgt)	200,000		
2022 (Bgt)	200,000		

In London, this program is run through the Salvation Army and assists approximately 200 to 250

families each year. London Hydro will continue its commitment to support the LEAP program, and

donations have been forecasted at \$200,000 for both the 2021 Bridge Year and proposed 2022

14 Test Year.

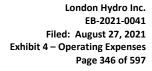
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London Hydro's Distribution Revenue Requirement multiplied by the rate of 0.12% is provided in

the table below to illustrate the OEB's guideline as to what may be a reasonable commitment by

a distributor to emergency financial assistance.





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Table 4-42: LEAP: Revenue Requirement @ 0.12%

	2017 OEB	2022
	Approved	Test Year
	(\$)	(\$)
Distribution revenue requirement	66,555,388	79,330,946
LEAP commitment @ .12%	79,866	95,197

- 2 Contributions to LEAP are in excess of the 0.12% calculation as London Hydro has a significant
- number of customers who face financial hardships and have difficulty paying their utility bills.
- Increases in the cost of power coupled with other pressures, such as the declining manufacturing
- 5 sector are making it more difficult for low-income customers to pay their electricity bills.
- 6 London Hydro staff work closely with the LEAP program to ensure customers have knowledge of
- this grant and a direct contact to ensure timely assistance is given to destitute customers. The
 - Contact Centre is experiencing an increase in customers seeking assistance and London Hydro
 - wants to help. As a good corporate citizen, London Hydro is compelled to support the community
- and especially those in need. Furthermore, since funding provided to LEAP is returned to London
 - Hydro from low-income customers, these contributions are a proactive approach to reducing bad
- debt expenditures.



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4.5.7 Charitable and Political Donations

- Table 4-43 below lists charitable donations paid by year from the last OEB-Approved rebasing
- application in 2017 until and including the proposed 2022 Test Year. These charitable donations
- do not include those made under LEAP. London Hydro has excluded these charitable donations
- for the purpose of setting rates so as to not seek recovery for these amounts from customers.
- 6 London Hydro also confirms that no political contributions have been included for recovery.

Table 4-43: Charitable Donations (Excluding LEAP)

Charitable Donations (excluding LEAP)			
Year Amount (\$)			
2017	5,000		
2018	5,000		
2019	5,000		
2020	10,295		
2021 (Bgt)	5,000		
2022 (Bgt)	5,000		

- 8 Donation amounts listed above represent London Hydro's annual contribution to the Salvation
- 9 Army Centre of Hope in London, Ontario for their Annual Harvest and the Christmas Hamper
- campaign, as well as additional contributions in 2020 to the London Food Bank and Thames
- Valley Children's Centre. All of these amounts have been excluded from the Cost of Service Rate
- 12 Application for rate-making.



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4.6 DEPRECIATION AND AMORTIZATION EXPENSE

4.6.1 Overview

- London Hydro seeks to recover \$22,148,800 of depreciation expense in the proposed 2022 Test
- Year, in addition to vehicle and equipment depreciation allocated to OM&A, capital and billable
- 5 activities of \$1,206,000. Depreciation expense is provided by asset group and has increased
- \$4,921,587 or 5.2% CAGR between the 2017 Actual results and the proposed 2022 Test Year.
- 7 All significant components of each item of Property, Plant & Equipment ("PP&E") are depreciated
 - separately for each of the 2017 Actual to the proposed 2022 Test Year amounts, using the most
- 9 current estimates of useful service life spans based on London Hydro's professional judgement
- and studies completed by Kinectrics.
- 11 The Kinectrics studies were conducted for utilities including London Hydro in preparation for
- conversion to MIFRS. London Hydro implemented these new life spans effective January 1, 2012
- in order to convert to MIFRS for rate-making purposes. Depreciation expenses approved for 2017
- as well as all amounts reported in this Application are calculated using these life spans. Table 4-
- 44 below provides a summary of the useful service lives and amortization periods (in years) used
- in this Application by asset category.
- Since London Hydro has made one minor change as discussed below, a detailed summary of the
- useful service life spans has also been provided in OEB Appendix 2-BB Service Life
- Comparison in accordance with OEB Filing Requirements. Although some life spans fall outside
- of the Typical Useful Life ("TUL") from the OEB Kinetrics study, they are within the TUL's from
- London Hydro's Kinetrics Study that was filed and approved by the OEB in it's 2013 Cost of
- 22 Service application (EB-2012-0146). Where no Kinetrics guidelines are available or
- 23 circumstances are atypical (for example, a used vehicle acquisition), the applicable useful life is
- based on London Hydro's professional judgement in accordance with IFRS.
- 25 The one minor change to the life spans used by London Hydro to depreciate capital investments
- made since its last rebasing relates to asset account 1955-Communication Equipment. In 2017,
- it was determined that the life span used to depreciate Tower Gateway Basestation's ("TGBs")



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- was not reflective of the actual useful life of newly purchased assets. The previous life span used to depreciate TGB's was 15 years, however, TGB's are computer-based communication equipment and with continuing technological advancements in the Regional Network Infrastructure ("RNI"), newer TGB technology is anticipated to become obsolete within 10 years. In accordance with London Hydro's Depreciation Practices, useful lives are reviewed annually and the changes to the life spans for new TGB's were made on a prospective basis. As illustrated in Appendix 2-BB, the current 10-year service life is still within the recommended TUL's of the OEB Kinetrics Study.
- London Hydro confirms that asset construction costs are not depreciated until the project is complete.

Table 4-44: Summary of Useful Service Life Spans

Summary of Rate of Depreciation/Amortization (in years)			
1609	Capital Contributions Paid	45	
1610	Intangible Wholesale Meters	30	
1611	Computer Equipment - Software	3-5	
1612	Land Rights	25	
1805	Land	N/A	
1808	Buildings (Substations)	30-75	
1820	Equipment (Substations)	15-45	
1830	Poles, Towers & Fixtures	45	
1835	OH Conductors & Devices	45-50	
1840	UG Conduit	5-60	
1845	UG Conductors & Devices	25-40	
1850	Transformers	35	
1855	Services	30-60	
1860	Electric Meters	15-30	
1908	Buildings (General Plant Area)	12-65	
1915	General Office	5	
1920	Computer Equipment - Hardware	3	
1930	Transportation	8-12	
1935	Stores Department	8	
1940	Tools, Shop, Garage Equipment	8	
1945	Measurement & Testing Equipment	8	
1950	Power Operated (Major) Equipment	8	
1955	Communication Equipment	8-35	
1960	Miscellaneous	8	
1980	System Supervisory Equip (Scada)	10-20	
2005	Property Under Finance Lease	40	
2075	Renewable Generation	10-20	
1995	Contributed Capital	40	
2440	Deferred Revenue	40	



4.6.2 Non-Distribution Assets

- 2 Depreciation related to non-distribution assets, specifically renewable generation assets, has
- 3 been excluded for rate-making purposes.

4.6.3 Depreciation/Amortization Practices

- In preparation for the adoption of International Financial Reporting Standards ("IFRS"), London
- 6 Hydro completed a formal capitalization policy reflecting the new requirements under that
- accounting standard. This policy has been used as the basis under which amortization is
- 8 calculated from January 1, 2012 and onwards. A copy of London Hydro's capitalization policy has
- been provided in Exhibit 2 as Appendix 2-4. London Hydro has not made any changes to its
- depreciation practices since its last rebasing application.
- Depreciation is calculated in a rational and systematic manner, as required and as follows,
 - Using a straight-line basis over the estimated remaining useful life of the assets
 - Amortizing spare transformers and electric meters assets from the date of acquisition
 - Amortizing capital contributions in the aid of construction and recognizing as other revenue

4.6.4 Half-Year Rule

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- London Hydro can confirm that it has complied with the OEB's general policy for electricity
- distribution rate setting under which capital additions would attract six months of depreciation
- expense in the year the asset is put into service for both the 2021 Bridge and the proposed 2022
- Test Years, with the exception of assets transferred from deferral accounts.
- 20 Historical actual depreciation expense is calculated automatically using London Hydro's fixed
- asset system. Actual additions to capital assets are updated on a quarterly basis, as assets are
- 22 put into service. Depreciation begins at this point as it ties more closely with the in-service date
- of the asset. This difference in depreciation start date is the reason for the variances in the
- prescribed 2017, 2018, 2019 and 2020 Actuals Depreciation and Amortization Schedules (OEB
- 25 Appendices 2-C).



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4.6.5 Asset Retirement Obligations (AROs)

- London Hydro does not have any Asset Retirement Obligations ("AROs") or associated
- depreciation or accretion expenses in relation to the AROs to report as part of this application.

4.6.6 Depreciation Expense Schedules

- 5 Depreciation expense schedules by Major Asset Category (Table 4-45) and by Asset Group detail
- 6 (Table 4- 46) for historical, 2021 Bridge and 2022 Test years are provided below.

7 Prescribed Depreciation Tables

- 8 The following tables have been provided in accordance with the Filing Requirements:
 - (OEB Appendix 2-C) Table 4- 48 2017 Depreciation and Amortization Expense
 - (OEB Appendix 2-C) Table 4- 49 2018 Depreciation and Amortization Expense
 - (OEB Appendix 2-C) Table 4- 50 2019 Depreciation and Amortization Expense
 - (OEB Appendix 2-C) Table 4- 51 2020 Depreciation and Amortization Expense
 - (OEB Appendix 2-C) Table 4- 52 2021 Depreciation and Amortization Expense
- (OEB Appendix 2-C) Table 4- 53 2022 Depreciation and Amortization Expense

Prescribed tables variance explanations (2017,2018,2019 and 2020)

- Although the prescribed OEB appendix depreciation tables assume that the half-year rule is utilized for all historical, bridge and test years, this is not the case at London Hydro, as mentioned above in the discussion on the 'Half-Year Rule.' Since London Hydro commences depreciation at the service date in the first year, rather than taking a half-year of depreciation (ignoring service date), this results in variances between London Hydro's depreciation calculations and the OEB calculated depreciation amounts, for the historical years 2017, 2018, 2019 and 2020. Depreciation expense for the 2021 Bridge and 2022 Test Years has been calculated using the half-year rule.
- London Hydro's forecasted depreciation expense for the proposed 2022 Test Year, as seen in
- Appendix 2-C below, is calculated to be equal to the calculations in Table 4- 45 and Table 4- 46
- below, with minor variances attributable to rounding.



Table 4- 45: Depreciation Expense Summary by Major Asset Category

	DEPRECIAT	ION EXPENSE 20	017 TO 2022 - Summ	ary					
	2017 Actual	2017 OEB Approved	2018 Actual	2019 Actual	2020 Actual	2021 Bridge	2022 Test	2017 Actuals to 2022 Test	CAGR
	\$	\$	\$	\$	\$	\$	\$	\$	%
Distribution Plant General Plant Information Systems	11,005,211 2,711,162 5,380,716	11,006,752 2,727,428 5,491,329	11,547,199 2,911,631 5,307,063	12,200,547 3,041,016 5,029,494	12,888,687 3,202,143 5,433,010	13,744,600 3,399,100 5,505,800	14,524,000 3,697,900 6,032,900	3,518,789 986,738 652,184	5.7% 6.4% 2.3%
Total Additions before Contributed Capital	19,097,090	19,225,509	19,765,893	20,271,057	21,523,840	22,649,500	24,254,800	5,157,710	4.9%
1995 /2440 Contributions and Grants	(1,179,530)			(1,424,330)	(1,577,851)	(1,736,000)			
	17,917,560	18,062,727	18,454,512	18,846,727	19,945,989	20,913,500	22,379,800	4,462,240	4.5%
Add: Amortization of 1576 MIFRS Transition Note 1 Less: V&E (included in OH Allocation) Note 2 Less: 2440 Contributions and Grants (Deferred Revenue) Note 3	39,327 (1,009,502) 279,829	- (1,053,100) 263,081	(1,050,619) 411,680	- (1,084,990) 524,629	- (1,078,272) 678,150	- (1,144,000) 836,000	- (1,206,000) 975,000	(39,327) (196,498) 695,171	-100.0% 3.6% 28.4%
	17,227,213	17,272,708	17,815,573	18,286,365	19,545,867	20,605,500	22,148,800	4,921,587	5.2%

Note 1 - Amortization of 1576 over 4 years begins in 2013. This is offset to regulatory asset and not recorded on FA continuity schedule, and explains the difference between these schedules

Note 3 - Contributions in the aid of construction are amortized to other revenues and are therefore excluded from depreciation expense

Note 2 - V&E depreciation is included in overhead allocation and is therefore excluded from depreciation expense.



Table 4- 46: Depreciation Expense by Asset Group

	DEPR	ECIATION EXPENS	E 2017 TO 2022 - D	etails			
		2017					
	2017	OEB	2018	2019	2020	2021	2022
	Actual	Approved	Actual	Actual	Actual	Bridge	Test
	\$	\$	\$	\$	\$	\$	\$
Distribution Plant							
1609 Capital Contributions Paid		_		_	_		119,800
1612 Land Rights	19,789	19,275	22,476	24,322	26,473	29,700	19,900
1808 Buildings - Substations	12,453	11,435	14,756	14,992	14,992	15,600	16,700
1820 /1610 Substation Equipment	332,009	331,374	335,842	343,699	421,150	431,200	433,900
1830 Poles, Towers & Fixtures	723,865	733,703	751,421	795,481	837,806	894,400	934,800
1835 OH Conductors & Devices	1,014,768	1,034,154	1,056,351	1,117,556	1,180,341	1,268,600	1,349,200
1840 UG Conduit	785,181	797,768	899,404	1,046,865	1,224,321	1,429,000	1,552,000
1845 UG Conductor & Devices	3,395,275	3,391,367	3,395,519	3,386,338	3,379,642	3,483,400	3,535,800
1850 Line Transformers	2,298,895	2,311,470	2,465,494	2,603,503	2,695,161	2,849,600	2,997,300
1855 Services (OH & UG)	742,071	731,035	836,072	1,019,479	1,162,145	1,321,400	1,482,300
1860 Meters	1,680,905	1,645,171	1,769,864	1,848,311	1,946,657	2,021,700	2,082,300
- 1000 Weters	11,005,211	11,006,752	11,547,199	12,200,547	12,888,687	13,744,600	14,524,000
General Plant	11,003,211	11,000,732	11,347,133	12,200,347	12,888,087	13,744,000	14,324,000
2005 Property under Finance Lease	_	_	57,974	57,974	57,974	58,000	58,000
1908 Buildings & Fixtures	762,268	767,196	762,236	801,579	834,696	735,700	764,400
1910 Leasehold Improvements	702,200	707,130	702,230	-	-	733,700	704,400
1915 Office Furniture & Equipment	136,157	141,140	139,484	178,030	249,866	313,800	403,200
1930 Transportation Equipment	892,631	927,838	932,243	978,489	971,315	1,056,400	1,110,700
1935 Stores Equipment	19,476	19,212	33,188	36,914	38,706	39,700	41,000
1940 Tools, Shop & Garage Equipment	115,398	120,337	118,083	105,743	105,788	134,500	146,900
1945 Measurement & Testing Equipment	103,665	107,373	123,124	142,379	168,689	178,100	194,700
1950 Power Operated Equipment	116,871	125,212	118,376	106,502	106,958	87,600	95,300
1955 Communication Equipment	311,912	273,353	354,061	354,983	359,178	427,500	474,500
1960 Miscellaneous Equipment	505	505	505	1,828	7,514	8,900	11,400
1980 System Supervisory Equipment	252,279	245,262	272,357	276,595	301,461	358,900	397,800
-	2,711,162	2,727,428	2,911,631	3,041,016	3,202,143	3,399,100	3,697,900
-	2,711,102	2,727,428	2,911,031	3,041,010	3,202,143	3,399,100	3,097,900
Information Systems							
1920 Computer - Hardware	559,081	578,257	452,411	436,177	403,012	588,300	665,300
1611 Computer - Software	4,821,635	4,913,072	4,854,653	4,593,317	5,029,998	4,917,500	5,367,600
- -	5,380,716	5,491,329	5,307,063	5,029,494	5,433,010	5,505,800	6,032,900
Takal Addiki ara bafara Carkibakad Caribal	10.007.000	10 225 500	10.705.003	20 271 057	24 522 040	22.640.500	24 254 000
Total Additions before Contributed Capital	19,097,090	19,225,509	19,765,893	20,271,057	21,523,840	22,649,500	24,254,800
1995 /2440 Contributions and Grants	(1,179,530)	(1,162,782)	(1,311,381)	(1,424,330)	(1,577,851)	(1,736,000)	(1,875,000)
-	17,917,560	18,062,727	18,454,512	18,846,727	19,945,989	20,913,500	22,379,800
-							
Add: Amortization of 1576 MIFRS Transition	39,327	-	-	-	-	-	-
Less: V&E (included in OH Allocation)	(1,009,502)	(1,053,100)	(1,050,619)	(1,084,990)	(1,078,272)	(1,144,000)	(1,206,000)
Less: 2440 Contributions and Grants (Deferred				•	•		
Revenue)	279,829	263,081	411,680	524,629	678,150	836,000	975,000
	17,227,213	17,272,708	17,815,573	18,286,365	19,545,867	20,605,500	22,148,800



Table 4- 47: Annual Change in Depreciation Expense by Asset Group

	2017 OEB					
	Approved-2017 Actual	2018 - 2017 Actual	2019 - 2018 Actual	2020 Actual - 2019 Actual	2021 Bridge - 2020 Actual	2022 Test - 2021 Bridge
	\$	\$	\$	\$	\$	\$
Distribution Plant						
1609 Capital Contributions Paid	-	-	-	-	-	119,800
1612 Land Rights	(514)	2,687	1,846	2,150	3,227	(9,800)
1808 Buildings - Substations	(1,018)	2,303	236	(0)	608	1,100
1820 /1610 Substation Equipment	(635)	3,833	7,857	77,451	10,050	2,700
1830 Poles, Towers & Fixtures	9,838	27,557	44,059	42,326	56,594	40,400
1835 OH Conductors & Devices	19,386	41,583	61,205	62,785	88,259	80,600
1840 UG Conduit	12,587	114,222	147,462	177,455	204,679	123,000
1845 UG Conductor & Devices	(3,908)	243	(9,181)	(6,696)	103,758	52,400
1850 Line Transformers	12,575	166,599	138,009	91,658	154,439	147,700
1855 Services (OH & UG)	(11,036)	94,001	183,407	142,666	159,255	160,900
1860 Meters	(35,734)	88,959	78,447	98,346	75,043	60,600
	1,541	541,988	653,347	688,141	855,913	779,400
General Plant					-	
2005 Property under Finance Lease	-	57,974	0	(0)	26	-
1908 Buildings & Fixtures	4,928	(32)	39,343	33,117	(98,996)	28,700
1910 Leasehold Improvements	-	-	-	-	-	-
1915 Office Furniture & Equipment	4,983	3,327	38,546	71,836	63,934	89,400
1930 Transportation Equipment	35,207	39,612	46,245	(7,174)	85,085	54,300
1935 Stores Equipment	(264)	13,711	3,727	1,791	994	1,300
1940 Tools, Shop & Garage Equipment	4,939	2,685	(12,340)	45	28,712	12,400
1945 Measurement & Testing Equipment	3,708	19,459	19,255	26,310	9,411	16,600
1950 Power Operated Equipment	8,341	1,505	(11,874)	456	(19,358)	7,700
1955 Communication Equipment	(38,559)	42,149	922	4,195	68,322	47,000
1960 Miscellaneous Equipment	0	0	1,323	5,686	1,386	2,500
1980 System Supervisory Equipment	(7,017)	20,078	4,238	24,866	57,439	38,900
	16,266	200,469	129,385	161,127	196,957	298,800
Information Systems						
1920 Computer - Hardware	19,176	(106,671)	(16,233)	(33,166)	185,288	77,000
1611 Computer - Software	91,437	33,018	(261,336)	436,681	(112,498)	450,100
	110,613	(73,653)	(277,569)	403,516	72,791	527,100
Total Additions before Contributed Capital	128,419	668,804	505,163	1,252,783	1,125,660	1,605,300
1995 /2440 Contributions and Grants	16,748	(131,851)	(112,949)	(153,521)	(158,149)	(139,000)
	145,167	536,952	392,215	1,099,262	967,511	1,466,300
Add: Amortization of 1576 MIFRS Transition	(39,327)	(39,327)	-	_	_	
Less: V&E (included in OH Allocation)	(43,598)	(41,117)	(34,371)	6,718	(65,728)	(62,000)
Less: 2440 Contributions and Grants (Deferred Revenue)	(16,748)	131,851	112,949	153,521	157,850	139,000
A I 6 (A)				4 0-0 -0-	4	4.5.0.00
Annual Change (\$)	45,495	588,360	470,792	1,259,502	1,059,633	1,543,300
Annual Change (%)	0.26%	3.42%	2.64%	6.89%	5.42%	7.90%



Table 4-48: 2017 Depreciation and Amortization Expense (OEB Appendix 2-C)

						Book Values					Service	Lives			Depreciation	n Expense			
Account	Description	De scription	Opening Net Book Value of Existing Assets as at Date of Policy Change (Jan.	Less Fully Depreciated ⁷	Net Amount of Existing Assets Before Policy Change to be	Opening Gross Book Value of Assets Acquired After Policy	Less Fully Depreciated	Net Amount of A ssets Acquired A fter Policy Change to be	Current Year A dditions	A verage Remaining Life of Assets Existing Before	Depreciation Rate Assets Acquired After Policy Change	Life of Assets Acquired After Policy	Depreciation Rate on New Additions	Depreciation Expense on Assets Existing Before Policy	Depreciation Expense on Assets Acquired After	Depreciation Expense on Current Year Additions 5	Total Current Year Depreciation Expense	Depreciation Expense per Appendix 2-BA Fixed Assets,	Variance ⁶
			1,2012)1		Depreciated	Change ²		Depreciated		Policy Change 3		Change 4		Change	Policy Change		-	Column J	ـــــــ
			a	ь	c = a-b	d	e	f = d- e	g	h	i = 1/h	i	k = 1/j	I = c/h	m = f/j	n = g*0.5/j	o= Hm+n	P	q= p-o
1611	Computer Software	Computer Equip-Software	\$ -	\$ -	\$ -	\$ 22,654,276	\$2,150,126	\$ 20,504,150	\$ 3,238,025		0.00%	5.00	20.00%	\$ -	\$ 4,100,830	\$ 323,802		\$ 4,348,101	
1611	Computer Software	Computer Equip-Software - 3 yr	\$ -	\$ -	S -	\$ 1,448,744	\$ 185,177		\$ 951,295		0.00%	3.00	33.33%	\$	\$ 421,189	\$ 158,549		\$ 473,534	
1612	Land Rights	Land Rights	\$ 98,605	S -	\$ 98,605	\$ 106,518	S -	\$ 106,518	\$ 30,136	6.57	15.23%	25.00	4.00%	\$ 15,014	\$ 4,261	\$ 603	\$ 19,878	\$ 19,789	-\$ 89
1805	Land	Land	\$ 385,690	\$ -	\$ 385,690	\$ -	\$ -	\$ -	S -		0.00%	-	0.00%		\$ -	\$ -	\$ -	\$ -	\$ -
1808	Buildings	SS Building O verall	\$ 288,865	\$ -	\$ 288,865	\$ 4,652	\$ -	\$ 4,652	\$ 236,138	50.02	2.00%	75.00	1.33%		\$ 62			\$ 6,887	
1808	Buildings	SS Roof	\$ 92,733	\$ -	\$ 92,733	\$ -	\$ -	5 -	\$ 12,783	17.44		30.00	3.33%		\$ -	\$ 213		\$ 5,566	
1820 1820	Distribution Station Equipment < 50 kV	Distr Stn Equip	\$ 7.552.701	S -	\$ 7.552.701	\$ 1.167.193	S -	\$ 1.167.193	S 136,167	33.93	2.95%	45.00	2.22%		\$ 25,938			\$ 249.776	
1820	Distribution Station Equipment < 50 kV Distribution Station Equipment < 50 kV	Battery Banks & Charges	\$ 70,583	\$ 503	\$ 70,080	\$ 49,964	\$ -	\$ 49,964	\$ 39,543	5.89	16.99%	15.00	6.67%	\$ 11,904	\$ 3,331			\$ 16,391	
		Digital Relays	\$ 165,494	\$ -	\$ 165,494	\$ 188,502	\$ -	\$ 188,502	\$ 939	12.44		20.00	5.00%	\$ 13,305	\$ 9,425 \$ -	\$ 23		\$ 22,746	
1610 1830	Intangible - wholesale meter	Intangible - wholesale meter	\$ 956,206	S -	\$ 956,206	\$ -	S -	S -	S -	22.19		30.00	3.33%	\$ 43,096	*	\$ - \$ 13.337	\$ 43,096	\$ 43,096	
1835	Poles, Towers & Fixtures Overhead Conductors & Devices	Poles, and Fixtures OH Primary Conductor	\$ 15,942,688	\$ -	\$ 15,942,688	\$ 8,666,428	\$ -	\$ 8,666,428	\$ 1,200,322	30.85	3.24%	45.00	2.22%	\$ 516,815	\$ 192,587			\$ 723,865	
1835	Overhead Conductors & Devices Overhead Conductors & Devices	Switches & Reclosers	\$ 20,955,276	3 -	\$ 20,955,276	\$ 11,412,826	5 -			37.49	2.67%	50.00	2.00%	\$ 558,935 \$ 163,759	\$ 228,257 \$ 47,412	\$ 12,312 \$ 3,307		\$ 801,414	
1840	Underground Conduit	Vaults & Manholes	\$ 5,339,069	5 -	\$ 5,339,069	\$ 2,133,520	5 -	9 2,100,020	\$ 297,626	32.60	3.07%	45.00	2.22% 1.67%	\$ 163,759	\$ 47,412			\$ 213,354	
1840	Underground Conduit	Vaults & Manholes Vault & Manhole Roofs	\$ 19,394,091 \$ 888.541	S -	\$ 19,394,091 \$ 888,482	\$ 16,916,734 \$ 1,008,955	\$ -	\$ 16,916,734 \$ 1,008,955	\$ 4,680,080 \$ 222,510	49.23 18.10	2.03% 5.53%	60.00 30.00	1.6/% 3.33%	\$ 393,983 \$ 49,090	\$ 281,946			\$ 700,060 \$ 85,122	
	_	Major Inspections - Vaults &	3 888.541	5 60	s 888.482	3 1.008.955	3 -	3 1.008.955	3 222.510	18.10	5.53%	30.00	3.33%	a 43,090	\$ 33,032	a 3,708	\$ 55,430	3 85.122	-\$ 1,308
1840	Underground Conduit	Manholes	s -	s -	s -	s -	s -	s -	s -		0.00%	5.00	20.00%	s -	s -	\$ -	s -	s -	s -
1845	Underground Conductors & Devices	Direct Buried Cable	\$ 23,289,434	\$ 155,632	\$ 23.133.801	\$ 305,416	s -	\$ 305,416	\$ 93	9.45	10.58%	25.00	4.00%	\$ 2,448,115	\$ 12,217	5 2	\$ 2,460,334	\$ 2,460,332	-5 2
1845	Underground Conductors & Devices	TRXLPE Cable - in duct	\$ 4,284,132	\$ -	\$ 4,284,132	\$ 19,028,147	s -		\$ 4,165,708	34.54	2.90%	40.00	2.50%	\$ 124,027	\$ 475,704	\$ 52,071		\$ 649,072	
1845	Underground Conductors & Devices	SF6 & Vacuum Switchgear	\$ 1.084.252	s -	\$ 1.084.252	\$ 1.535,109	s _	\$ 1.535.109	\$ 1.212.594	20.84	4.80%	30.00	3.33%		\$ 51,170	\$ 20,210		\$ 121.831	-
1845	Underground Conductors & Devices	PILC Primary Cable	\$ 1,752,102	S -	\$ 1.752.102	\$ 772,738	S -	\$ 772,738	\$ 535,785	17.54		30.00	3.33%		\$ 25,758			\$ 135,958	
1845	Underground Conductors & Devices	Air Insulated Switchgear	\$ 185,260	\$ 635	\$ 184.625	\$ 8.866	s -	\$ 8.866	\$ 2	6.66	15.02%	25.00	4.00%	\$ 27.726	\$ 355		\$ 28,081	\$ 28,081	
1850	Line Transformers	Pad Mount Transformers	\$ 20.696.294	S 1.831	\$ 20.694.464	\$ 15,770,659	S -	\$ 15,770,659	\$ 3.809.302	22.03	4.54%	35.00	2.86%	\$ 939,330	\$ 450,590	\$ 54,419	\$ 1,444,339	\$ 1,422,606	
1850	Line Transformers	Network Transformers	\$ 3,877,500	\$ 305		\$ 521,052	š -	\$ 521.052	\$ 689,860	22.52		35.00	2.86%	\$ 172,191	\$ 14,887	\$ 9,855		\$ 189,495	
1850	Line Transformers	Overhead Transformers	\$ 9.892.580	S 915		\$ 7.539.827	s -	\$ 7.539.827	\$ 977.449	21.78	4.59%	35.00	2.86%	\$ 454,176	\$ 215,424	\$ 13,964		\$ 686,794	
1855	Services (Overhead & Underground)	UG Secondary Services	S 5,291,095	S -	\$ 5.291.095	\$ 7,209,710	S -	\$ 7,209,710	\$ 1,943,999	20.38	4.91%	30.00	3.33%	\$ 259,630	\$ 240,324	\$ 32,400	\$ 532,354	\$ 527,104	
1855	Services (Overhead & Underground)	OH Secondary Services	S 5,469,572	S -	\$ 5,469,572	\$ 5,595,535	S -	\$ 5.595.535	\$ 598,413	46.59	2.15%	60.00	1.67%		\$ 93,259	\$ 4,987	\$ 215,640	\$ 214,966	
1880	Meters	Regular Meters	\$ 1,466,393	\$ 2,667	\$ 1.463,727	\$ 2,382	S -	\$ 2,382	S 55	18.12	5.52%	30.00	3.33%	\$ 80,799	\$ 79	\$ 1	\$ 80,879	\$ 80,884	
1860	Meters (Smart Meters)	Smart Meters	\$ 9,309,897	S -	\$ 9.309.897	\$ 4,285,566	S -	\$ 4,285,566	\$ 1,804,990	8.18	12.23%	15.00	6.67%	\$ 1,138,206	\$ 285,704	\$ 60,166	\$ 1,484,077	\$ 1,489,101	
1880	Meters (Smart Meters)	CT's and PT's	\$ 1,034,152	\$ 354	\$ 1,033,798	\$ 1,096,103	\$ -	\$ 1,096,103	\$ 226,528	14.66	6.82%	30.00	3.33%	\$ 70,540	\$ 36,537	\$ 3,775	\$ 110,852	\$ 110,921	\$ 68
1908	Buildings & Fixtures	Buildings - Civil	\$ 3,950,215	\$ -	\$ 3,950,215	\$ 808,619	S -	\$ 808,619	\$ 241,585	34.68	2.88%	65.00	1.54%	\$ 113,891	\$ 12,440	\$ 1,858	\$ 128,190	\$ 128,608	\$ 419
1908	Buildings & Fixtures	Buildings - Roof	\$ 783,921	S -	\$ 783,921	\$ -	S -	S -	\$ -	17.62	5.67%	25.00	4.00%	\$ 44,486	\$ -	\$ -	\$ 44,486	\$ 44,486	
1908	Buildings & Fixtures	Buildings - Parking	S 11.612	S -	\$ 11.612	\$ 1.078,148	S -	\$ 1.078.148	\$ 337,693	15.42	6.49%	30.00	3.33%	\$ 753	\$ 35,938	\$ 5,628	\$ 42,320	\$ 42,471	\$ 152
1908	Buildings & Fixtures	Buildings - Fences	\$ 3,310	S -	\$ 3,310	\$ -	S -	S -	S -	7.00	14.29%	60.00	1.67%	\$ 473	\$ -	\$ -	\$ 473	\$ 473	-\$ 0
1908	Buildings & Fixtures	Electronic/Mechanical Systems	\$ 1,130,182	S -	\$ 1,130,182	\$ 953,446	\$ -	\$ 953,446	\$ 22,149	4.45	22.49%	12.00	8.33%		\$ 79,454			\$ 335,605	
1908	Buildings & Fixtures	Electric / Mechanical Systems	\$ 1,736,088	\$ 25,476	\$ 1,710,613	\$ 1,993,686	S -	\$ 1,993,686	\$ 255,547	13.75	7.27%	30.00	3.33%	\$ 124,385	\$ 66,456	\$ 4,259		\$ 194,202	
1908	Buildings & Fixtures	Buildings - Improvements	S -	S -	S -	\$ 244,189	\$ -	\$ 244,189	\$ 25,800		0.00%	15.00	6.67%	\$ -	\$ 16,279	\$ 860		\$ 16,423	
1915	Office Furniture & Equipment	Office Furn & Equip	S -	S -	S -	\$ 651,484	\$ 43,986	\$ 607,498	\$ 115,730		0.00%	5.00	20.00%		\$ 121,500	\$ 11,573		\$ 136,157	
1920	Computer Equipment - Hardware	Computer Equip-Hardware	S -	S -	S -	\$ 1,735,368	\$ 148,146	\$ 1,587,222	\$ 230,674		0.00%	3.00	33.33%		\$ 529,074	\$ 38,446		\$ 559,081	
1930	Transportation Equipment	Transportation-Cars, Vans	\$ 159,063	\$ 22,961	\$ 136,102	\$ 1,653,892	S -	\$ 1,653,892	\$ 285,958	1.54		8.00	12.50%		\$ 206,737	\$ 17,872		\$ 302,224	
1930	Transportation Equipment	Transportation-Large Vehicles	S 1.119.692	S -	\$ 1.119.692	\$ 3.979.243	S -	\$ 3.979.243	S 320.111	5.05	19.80%	12.00	8.33%	\$ 221,721	\$ 331,604	\$ 13,338		\$ 555.547	
1930	Transportation Equipment	Trailers	\$ 41,403	S -	\$ 41,403	\$ 216,087	S -	\$ 216,087	\$ 11,331	3.15		10.00	10.00%	\$ 13,157	\$ 21,609	\$ 567		\$ 34,860	
1935	Stores Equipment	Stores Equipment	\$ 188	\$ 188		\$ 144,685	\$ -	\$ 144,685	\$ 115,467		0.00%	8.00	12.50%	\$ -	\$ 18,086	\$ 7,217		\$ 19,476	
1940	Tools, Shop & Garage Equipment	Tools,Shop & Garage Equi	\$ 89,031	\$ 8,177	\$ 80,854	\$ 530,268	S -	\$ 530,268	\$ 137,630	1.82	54.94%	8.00	12.50%	\$ 44,422	\$ 66,283	\$ 8,602		\$ 115,398	
1945	Measurement & Testing Equipment	Measurement & Test Equip	\$ -	S -	S -	\$ 783,926	\$ -	\$ 783,926	\$ 180,181		0.00%	8.00	12.50%		\$ 97,991			\$ 103,665	
1950	Power Operated Equipment	Power Operated Equipment	\$ 147,420	\$ 4,259	\$ 143,161	\$ 324,506	\$ -	\$ 324,506	\$ 249,328	1.94		8.00	12.50%		\$ 40,563	\$ 15,583		\$ 116,871	
1955	Communications Equipment	Communication Towers	\$ 413,747	S -	\$ 413,747	\$ 186,146	\$ -	\$ 186,146	\$ -	27.92	3.58%	35.00	2.86%	\$ 14,821	\$ 5,318	\$ -	\$ 20,139	\$ 20,139	
1955	Communications Equipment	Communication -wireless	\$ 1,494,940	S -	\$ 1,494,940	\$ 324,717	\$ -	\$ 324,717	\$ 1,011,008	7.92	12.63%	10.00	10.00%	\$ 188,770	\$ 32,472	\$ 50,550		\$ 269,393	
1955	Communications Equipment	Communication -equipment	\$ -	S -	\$ -	\$ 179,038	\$ -	\$ 179,038	S -		0.00%	8.00	12.50%	\$ -	\$ 22,380	\$ -	\$ 22,380	\$ 22,380	
1960	Miscellaneous Equipment	Misœllaneous Equipment	\$ -	\$ -	\$ -	\$ 4,039	\$ -	\$ 4,039	\$ -		0.00%	8.00	12.50%	\$ -	\$ 505	\$ -	\$ 505	\$ 505	
1980	System Supervisor Equipment	Scada RTU's	\$ 634,612	\$ 361		\$ 2,149,840	\$ -	\$ 2,149,840	\$ 623,589	11.68	8.56%	20.00	5.00%		\$ 107,492			\$ 175,796	
1980	System Supervisor Equipment	Scada Master Station	\$ 98,980	S -	\$ 98,980	\$ 208,874	\$ -	\$ 208,874	\$ 116,649	1.95		10.00	10.00%		\$ 20,887	\$ 5,832		\$ 76,483	
1995	Contributions & Grants	Contribution & Grants Credit	-\$ 22,371,049	\$ -	-\$ 22,371,049	-\$ 6,199,669	\$ -	-\$ 6,199,669	\$ -	30.04	3.33%	40.00	2.50%	-\$ 744,709	-\$ 154,992		-\$ 899,701	-\$ 899,701	
2440	Deferred Revenue	Deferred Revenue	5 -	S -	5 -	-\$ 8,972,720	5 -	-\$ 8,972,720	\$ 5,205,870		0.00%	40.00	2.50%	> -	-\$ 224,318	-\$ 65,073	-\$ 289,391	\$ 279,829	\$ 9,563
2005	Property Under Finance Lease	Property Under Finance Lease	\$ -	\$ -	S -	\$ -	5 -	S -	5 -		0.00%	40.00	2.50%		\$ -	\$ -	5 -	\$ -	\$ -
	Total		\$ 149,206,561	\$ 224,324	\$ 148,982,237	\$ 132,407,230	\$ 2,527,434	\$ 129,879,796	\$ 27,316,147	I	1	1	1 1	\$ 8,526,902	\$ 8,704,633	\$ 964,928	\$ 18,196,463	\$ 17,917,560	-\$ 278,903



Table 4-49: 2018 Depreciation and Amortization Expense (OEB Appendix 2-C)

		[Book Values					Service	Lives			Depreciation	Expense			
			Opening Net Book	•	Net Amount of	Opening Gross		Net Amount of		Average			r †	Depreciation	Depreciation			Depreciation	$\overline{}$
			Value of Existing		Existing Assets	Book Value of	Less Fully	Assets Acquired		Remaining Life	Depreciation	Life of Assets	Depreciation	Expense on	Expense on	Depreciation	Total	Expense per	
	D	Description	Assets as at Date of	Less Fully	Before Policy	Assets Acquired	Depreciated	After Policy	Current Year	of Assets	Rate Assets	Acquired After Policy	Rate on New	Assets Existing	Assets	Expense on	Current Year	Appendix 2-BA	Variance 6
Account	Description		Policy Change (Jan.	Depreciated 7	Change to be	After Policy	8	Change to be	Additions	Existing Before	Acquired After Policy Change	Change 4	Additions	Before Policy	Acquired After	Current Year Additions ⁵	Depreciation Expense	Fixed Assets,	
			1, 2012) ¹		Depreciated	Change ²		Depreciated		Policy Change 3		Onlange		Change	Policy Change			Column J	
			a	b	c = a-b	d	е	f = d- e	g	h	i = 1/h	j	k = 1/j	I = c/h	m = f/j	n = g*0.5/j	o = I+m+n	р	q = p-o
1611	Computer Software	Computer Equip-Software	\$ -	\$ -	\$ -	\$ 20,689,296	\$ 766,156	\$ 19,923,140	\$ 3,720,935		0.00%	5.00	20.00%	\$ -	\$ 3,984,628	\$ 372,094	\$ 4,356,721	\$ 4,256,103	-\$ 100,619
1611	Computer Software	Computer Equip-Software - 3 yr	\$ -	\$ -	\$ -	\$ 1,794,260	\$ 71,750	\$ 1,722,510	\$ 151,841		0.00%	3.00	33.33%	\$ -	\$ 574,170	\$ 25,307	\$ 599,477	\$ 598,550	-\$ 927
1612	Land Rights	Land Rights	\$ 83,591	\$ -	\$ 83,591	\$ 136,654	\$ -	\$ 136,654	\$ 80,905	5.57	17.96%	25.00	4.00%	\$ 15,014	\$ 5,466	\$ 1,618	\$ 22,098	\$ 22,476	\$ 378
1805	Land	Land	\$ 385,690	\$ -	\$ 385,690	\$ -	\$ -	\$ -	\$ -		0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1808	Buildings	SS Building Overall	\$ 283,089	\$ -	\$ 283,089	\$ 240,789	\$ -	\$ 240,789	\$ 359	49.02	2.04%	75.00	1.33%	\$ 5,775	\$ 3,211			\$ 8,991	
1808	Buildings	SS Roof	\$ 87,415	\$ -	\$ 87,415	\$ 12,783	\$ -	\$ 12,783	\$ 7,728	16.44	6.08%	30.00	3.33%	\$ 5,318	\$ 426		\$ 5,873	\$ 5,765	
1820	Distribution Station Equipment <50 kV	Distr Stn Equip	\$ 7,330,121	\$ -	\$ 7,330,121	\$ 1,303,360	\$ -	\$ 1,303,360	\$ 78,186	32.93	3.04%	45.00	2.22%	\$ 222,579	\$ 28,964	\$ 869	\$ 252,412	\$ 252,407	
1820	Distribution Station Equipment <50 kV	Battery Banks & Charges	\$ 58,678	\$ 1,023	\$ 57,656	\$ 89,506	\$ -	\$ 89,506	\$ 12,741	5.10	19.61%	15.00	6.67%	\$ 11,308	\$ 5,967	\$ 425	\$ 17,700	\$ 17,560	
1820	Distribution Station Equipment <50 kV	Digital Relays	\$ 152,189	\$ -	\$ 152,189	\$ 189,442	\$ -	\$ 189,442	\$ 70	11.44	8.74%	20.00	5.00%	\$ 13,305	\$ 9,472			\$ 22,779	
1610	Intangible - wholesale meter	Intangible - wholesale meter	\$ 913,110	\$ -	\$ 913,110	\$ -	\$ -	\$ -	\$ -	21.19	4.72%	30.00	3.33%	\$ 43,096	\$ -	\$ -	\$ 43,096	\$ 43,096	_
1830	Poles, Towers & Fixtures	Poles, and Fixtures	\$ 15,425,873	\$ -	\$ 15,425,873	\$ 9,866,751	\$ -	\$ 9,866,751	\$ 1,725,693	29.85	3.35%	45.00	2.22%	\$ 516,815	\$ 219,261	\$ 19,174	\$ 755,250	\$ 751,421	
1835	Overhead Conductors & Devices	OH Primary Conductor	\$ 20,396,340	\$ -	\$ 20,396,340	\$ 12,644,072	\$ -	\$ 12,644,072	\$ 2,153,908	36.49	2.74%	50.00	2.00%	\$ 558,935	\$ 252,881	\$ 21,539	\$ 833,356	\$ 832,709	
1835	Overhead Conductors & Devices	Switches & Reclosers	\$ 5,175,309	\$ -	\$ 5,175,309	\$ 2,431,147	\$ -	\$ 2,431,147	\$ 558,664	31.60	3.16%	45.00	2.22%	\$ 163,759	\$ 54,025	\$ 6,207	\$ 223,992	\$ 223,641	
1840	Underground Conduit	Vaults & Manholes	\$ 19,000,108	\$ -	\$ 19,000,108	\$ 21,596,814	\$ -	\$ 21,596,814	\$ 8,060,509	48.23	2.07%	60.00	1.67%	\$ 393,983	\$ 359,947	\$ 67,171	\$ 821,101	\$ 806,945	
1840	Underground Conduit	Vault & Manhole Roofs	\$ 839,452	\$ 315	\$ 839,137	\$ 1,231,464	\$ -	\$ 1,231,464	\$ 202,379	17.11	5.84%	30.00	3.33%	\$ 49,030	\$ 41,049	\$ 3,373	\$ 93,452	\$ 92,459	-\$ 993
1840	Underground Conduit	Major Inspections - Vaults & Manho	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		0.00%	5.00	20.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1845	Underground Conductors & Devices	Direct Buried Cable	\$ 20,841,318	\$ 154,224	\$ 20,687,094	\$ 305,509	\$ -	\$ 305,509	\$ 5,862	9.02	11.08%	25.00	4.00%	\$ 2,292,483	\$ 12,220	\$ 117	. ,,.	\$ 2,304,891	\$ 70
1845	Underground Conductors & Devices	TRXLPE Cable - in duct	\$ 4,160,105	\$ -	\$ 4,160,105	\$ 23,193,854	\$ -	\$ 23,193,854	\$ 5,192,756	33.54	2.98%	40.00	2.50%	\$ 124,027	\$ 579,846	\$ 64,909	\$ 768,782	\$ 766,232	
1845	Underground Conductors & Devices	SF6 & Vacuum Switchgear	\$ 1,032,228	\$ -	\$ 1,032,228	\$ 2,747,703	\$ -	\$ 2,747,703	\$ 298,237	19.84	5.04%	30.00	3.33%	\$ 52,025	\$ 91,590	\$ 4,971	\$ 148,585	\$ 152,327	
1845	Underground Conductors & Devices	PILC Primary Cable	\$ 1,652,229	\$ 3,462	\$ 1,648,768	\$ 1,308,523	\$ -	\$ 1,308,523	\$ 93,607	16.51	6.06%	30.00	3.33%	\$ 99,873	\$ 43,617	. ,	\$ 145,051	\$ 144,621	
1845	Underground Conductors & Devices	Air Insulated Switchgear	\$ 157,534	\$ 3,319	\$ 154,215	\$ 8,867	\$ -	\$ 8,867	\$ 98	5.69	17.57%	25.00	4.00%	\$ 27,091	\$ 355	\$ 2	\$ 27,448	\$ 27,448	
1850	Line Transformers	Pad Mount Transformers	\$ 19,756,964	\$ 4,280		\$ 19,574,248	\$ -	\$ 19,574,248	\$ 3,731,832	21.07	4.75%	35.00	2.86%	\$ 937,499	\$ 559,264	\$ 53,312		\$ 1,544,564	
1850	Line Transformers	Network Transformers	\$ 3,705,309	\$ 713		\$ 1,210,911	\$ -	\$ 1,210,911	\$ 139,057	21.55	4.64%	35.00	2.86%	\$ 171,886	\$ 34,597	\$ 1,987	\$ 208,470	\$ 205,613	7 -,
1850	Line Transformers	Overhead Transformers	\$ 9,436,182	\$ 2,140		\$ 8,517,276	\$ -	\$ 8,517,276	\$ 1,493,376	20.82	4.80%	35.00	2.86%	\$ 453,215	\$ 243,351	\$ 21,334	\$ 717,899	\$ 715,318	
1855	Services (Overhead & Underground)	UG Secondary Services	\$ 5,031,465	\$ -	\$ 5,031,465	\$ 9,153,709	\$ -	\$ 9,153,709	\$ 4,409,703	19.38	5.16%	30.00	3.33%	\$ 259,630	\$ 305,124	\$ 73,495	\$ 638,249	\$ 607,745	
1855	Services (Overhead & Underground)	OH Secondary Services	\$ 5,352,178	\$ -	\$ 5,352,178	\$ 6,193,553	\$ -	\$ 6,193,553	\$ 1,274,352	45.59	2.19%	60.00	1.67%	\$ 117,394	\$ 103,226	\$ 10,620	\$ 231,240	\$ 228,327	
1860	Meters	Regular Meters	\$ 1,385,595	\$ 1,333	\$ 1,384,262	\$ 2,437	\$ -	\$ 2,437	\$ -	17.72	5.64%	30.00	3.33%	\$ 78,132	\$ 81	\$ -	\$ 78,213	\$ 78,213	
1860	Meters (Smart Meters)	Smart Meters	\$ 8,171,690	\$ -	\$ 8,171,690	\$ 6,090,555	\$ -	\$ 6,090,555	\$ 1,170,334	7.18	13.93%	15.00	6.67%	\$ 1,138,206	\$ 406,037	\$ 39,011	\$ 1,583,255	\$ 1,575,384	
1860	Meters (Smart Meters)	CT's and PT's	\$ 963,612	\$ 918		\$ 1,322,631	\$ -	\$ 1,322,631	\$ 98,960	13.72	7.29%	30.00	3.33%	\$ 70,186	\$ 44,088	\$ 1,649	\$ 115,923	\$ 116,267	
1908	Buildings & Fixtures	Buildings - Civil	\$ 3,836,324	\$ -	\$ 3,836,324 \$ 739,436	\$ 1,050,204	\$ -	\$ 1,050,204	\$ 527,425	33.68	2.97%	65.00	1.54%	\$ 113,891	\$ 16,157	\$ 4,057	\$ 134,105	\$ 134,066	
1908	Buildings & Fixtures	Buildings - Roof	\$ 739,436	\$ -	Ψ 100,100	\$ -	\$ -	\$ -	\$ -	16.62	6.02%	25.00	4.00%	\$ 44,486	\$ -	\$ -	\$ 44,486	\$ 44,486	
1908	Buildings & Fixtures	Buildings - Parking	\$ 10,859	\$ -	\$ 10,859	\$ 1,415,841	\$ -	\$ 1,415,841	\$ 334,513	14.42	6.94%	30.00	3.33%	\$ 753	\$ 47,195		\$ 53,523	\$ 49,178	
1908	Buildings & Fixtures	Buildings - Fences	\$ 2,837	\$ -	\$ 2,837	\$ 975.595	\$ -	\$ -	\$ -	6.00	16.67%	60.00	1.67%	\$ 473	\$ -	\$ -	\$ 473	\$ 473	
1908	Buildings & Fixtures	Electronic/Mechanical Systems	\$ 876,023 \$ 1,611,704	\$ -	\$ 876,023 \$ 1.605,779	\$ 975,595	\$ -	\$ 975,595 \$ 2.249,233	\$ 38,455	3.45 16.23	29.01%	12.00 30.00	8.33%	\$ 254,160	\$ 81,300	\$ 1,602	\$ 337,062	\$ 338,775	
	Buildings & Fixtures	Electric / Mechanical Systems	\$ 1,611,704	\$ 5,925	\$ 1,605,779		\$ -		\$ 335,189	16.23	6.16%		3.33%	\$ 98,909	\$ 74,974	\$ 5,586	\$ 179,470	\$ 177,626	
1908	Buildings & Fixtures	Buildings - Improvements	5 -	\$ -	\$ -	\$ 269,989	D 40.547	\$ 269,989	\$ 34,868		0.00%	15.00	6.67%	\$ -	\$ 17,999	\$ 1,162	\$ 19,162	\$ 17,633	. ,
1915 1920	Office Furniture & Equipment Computer Equipment - Hardware	Office Furn & Equip Computer Equip-Hardware	a -	3 -	3 -	\$ 682,678 \$ 1,501,860	\$ 40,547 \$ 288.931	\$ 642,132 \$ 1,212,930	\$ 290,952 \$ 634,663		0.00%	5.00 3.00	20.00% 33.33%	\$ -	\$ 128,426	\$ 29,095	\$ 157,522	\$ 139,484 \$ 452,411	
1920			\$ - \$ 70.966	\$ -	\$ - \$ 43.438		\$ 288,931 c	\$ 1,212,930 \$ 1,939,850		0.70	127.88%			> -	\$ 404,310		\$ 510,087		
1930	Transportation Equipment Transportation Equipment	Transportation-Cars, Vans Transportation-Large Vehicles	\$ 70,966 \$ 897.971	7.	\$ 43,438 \$ 897.971	\$ 1,939,850 \$ 4,299,354	ф -	\$ 1,939,850 \$ 4,299,354	\$ 207,434 \$ 432,746	0.78 4.05	127.88% 24.69%	8.00 12.00	12.50% 8.33%	\$ 55,549	\$ 242,481	\$ 12,965	\$ 310,995	\$ 307,459	
		. ,	+	\$ - \$ 646	4	+ -,=,	ф -	+ -,=,	· · · · · · ·	2.25	24.69% 44.40%	12.00	10.00%	\$ 221,721	\$ 358,279	\$ 18,031	\$ 598,031	\$ 589,660	
1930 1935	Transportation Equipment	Trailers	\$ 28,246	_	\$ 27,600	\$ 227,419	φ -	\$ 227,419	\$ 1,285	2.25				\$ 12,253	\$ 22,742			\$ 35,125	
	Stores Equipment	Stores Equipment	D -	\$ -	\$ -	\$ 260,152	\$ -	\$ 260,152	\$ 28,813	4.44	0.00%	8.00	12.50%	• •	\$ 32,519	\$ 1,801	\$ 34,320	\$ 33,188	
1940 1945	Tools, Shop & Garage Equipment	Tools,Shop & Garage Equi	\$ 44,609	\$ 8,572	\$ 36,037	\$ 667,898 \$ 964,106	ф -	\$ 667,898 \$ 964,106	\$ 62,787 \$ 152,423	1.14	87.66%	8.00	12.50% 12.50%	\$ 31,588	\$ 83,487	\$ 3,924	\$ 118,999	\$ 118,083	
1945	Measurement & Testing Equipment		\$ - \$ 73,705	\$ - \$ 19.811	\$ -		\$ -		\$ 152,423	1.16	0.00%	8.00		\$ -	\$ 120,513	\$ 9,526	\$ 130,040	\$ 123,124	
	Power Operated Equipment	Power Operated Equipment	ψ 10,100	\$ 19,811	\$ 53,893 \$ 398,926	\$ 573,834	ф -	\$ 573,834	\$ -	1.16 26.92	86.56%	8.00 35.00	12.50%	\$ 46,651	\$ 71,729	• -	\$ 118,381	\$ 118,376	
1955	Communications Equipment	Communication Towers	\$ 398,926	\$ -	Ψ 000,020	\$ 186,146	ф -	\$ 186,146	\$ -		3.72%		2.86%	\$ 14,821	\$ 5,318		\$ 20,139	\$ 20,139	
1955	Communications Equipment	Communication -wireless	\$ 1,306,170	\$ -	\$ 1,306,170	\$ 1,335,724	D -	\$ 1,335,724	\$ -	7.34	13.62%	10.00	10.00%	\$ 177,946	\$ 133,572	\$ -	\$ 311,518	\$ 311,519	
1955	Communications Equipment	Communication -equipment	ф -	\$ -	3 -	\$ 179,038	D -	\$ 179,038 \$ 4,039	\$ 2,265		0.00%	8.00	12.50%	•	\$ 22,380	\$ 142	\$ 22,521	\$ 22,403	
1960	Miscellaneous Equipment	Miscellaneous Equipment	ф - -	\$ -	\$ -	\$ 4,039	\$ -	7 .,,,,,,	\$ - 6 0F7.0F0	40.74	0.00%	8.00	12.50%	\$ -	\$ 505		\$ 505	\$ 505	
1980	System Supervisor Equipment	Scada RTU's	\$ 580,325	\$ 900	\$ 579,425	\$ 2,773,429	ф -	\$ 2,773,429	\$ 357,652	10.74	9.31%	20.00	5.00%	\$ 53,926	\$ 138,671	\$ 8,941	\$ 201,539	\$ 200,019	
1980	System Supervisor Equipment	Scada Master Station	\$ 48,113	\$ 23,023	\$ 25,090	\$ 325,523	ф -	\$ 325,523	\$ 89,387	0.68	148.05%	10.00	10.00%	\$ 37,144	\$ 32,552	\$ 4,469	\$ 74,166	\$ 72,338	
1995	Contributions & Grants	Contribution & Grants Credit	-\$ 21,626,340	\$ -	-\$ 21,626,340	<u>-\$ 6,199,669</u>	ф -	-\$ 6,199,669	D -	29.04	3.44%	40.00	2.50%	\$ 744,709	-\$ 154,992	3 -	-\$ 899,701	\$ 899,701	
2440	Deferred Revenue	Deferred Revenue	ф -	\$ -	3 -	-\$ 14,178,591	D -	-\$ 14,178,591	-\$ 4,795,268		0.00%	40.00	2.50%	•	-\$ 354,465	\$ 59,941	-\$ 414,406	\$ 411,680	\$ 2,726
2005	Property Under Finance Lease	Property Under Finance Lease	5 -	\$ -	\$ -	5 -	\$ -	5 -	\$ 2,318,969		0.00%	40.00	2.50%	\$ -	\$ -	\$ 28,987	\$ 28,987	\$ 57,974	
	Total		\$ 140,677,247	\$ 258,131	\$ 140,419,116	\$ 153,359,767	\$ 1,167,383	\$ 152,192,384	\$ 35,716,650					\$ 8,240,128	\$ 9,488,519	\$ 972,642	\$ 18,701,289	\$ 18,454,512	-\$ 246,777



Table 4- 50: 2019 Depreciation and Amortization Expense (OEB Appendix 2-C)

			Book Values Service Lives Depreciation Expense																
		1	Opening Net Book	1	Net Amount of	Opening Gross			l	Average		Life of		Depreciation	Depreciation	•		Depreciation	
			Value of Existing		Existing Assets	Book Value of	Less Fully	Net Amount of		Remaining Life	Depreciation	Assets	Depreciation	Expense on	Expense on	Depreciation	Total	Expense per	1 ,
		Description	Assets as at Date of	Less Fully	Before Policy	Assets Acquired	Depreciated	Assets Acquired	Current Year	of Assets	Rate Assets	Acquired	Rate on New	Assets Existing	Accore		Current Year	Appendix 2-BA	Variance 6
Account	Description		Policy Change (Jan.	Depreciated 7	Change to be	After Policy	8	After Policy Change to be Depreciated	Additions	Existing Before	Acquired After	After Policy	Additions	Before Policy	Acquired After		Depreciation Expense	Fixed Assets,	
			1, 2012) ¹		Depreciated	Change 2				Policy Change 3	Policy Change	Change 4		Change	Policy Change	Additions 5		Column J	
			a	b	c = a-b	d	е	f = d- e	g	h	i = 1/h	J	k = 1/j	I = c/h	m = f/j	n = g*0.5/j	o = l+m+n	р	q = p-o
1611	Computer Software	Computer Equip-Software	\$ -	\$ -	\$ -	\$ 19,814,856	\$1,232,219	\$ 18,582,637	\$ 6,094,119		0.00%	5.00	20.00%	\$ -	\$ 3,716,527	\$ 609,412	\$ 4,325,939	\$ 4,205,539	-\$ 120,401
1611	Computer Software	Computer Equip-Software - 3 yr	\$ -	\$ -	\$ -	\$ 1,161,664	\$ 20,481	\$ 1,141,184	\$ 60,983		0.00%	3.00	33.33%	\$ -	\$ 380,395	\$ 10,164	\$ 390,558	\$ 387,778	-\$ 2,780
1612	Land Rights	Land Rights	\$ 68,576	\$ -	\$ 68,576	\$ 217,559	\$ -	\$ 217,559	\$ 32,129	4.57	21.89%	25.00	4.00%	\$ 15,014	\$ 8,702	\$ 643	\$ 24,359	\$ 24,322	-\$ 37
1805	Land	Land	\$ 385,690	\$ -	\$ 385,690	\$ -	\$ -	\$ -	\$ -		0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1808	Buildings	SS Building Overall	\$ 277,314	\$ -	\$ 277,314	\$ 241,148		\$ 241,148	\$ -	48.02	2.08%	75.00	1.33%	\$ 5,775	\$ 3,215	\$ -	\$ 8,991	\$ 8,991	
1808	Buildings	SS Roof	\$ 82,097	\$ -	\$ 82,097	\$ 20,511	\$ -	\$ 20,511	\$ -	15.44	6.48%	30.00	3.33%	\$ 5,318	\$ 684	\$ -	\$ 6,002	\$ 6,002	\$ 0
1820	Distribution Station Equipment <50 kV	Distr Stn Equip	\$ 7,107,542	\$ -	\$ 7,107,542	\$ 1,381,546	\$ -	\$ 1,381,546	\$ 59,858	32.03	3.12%	45.00	2.22%	\$ 221,920	\$ 30,701	\$ 665		\$ 253,389	
1820	Distribution Station Equipment <50 kV	Battery Banks & Charges	\$ 47,370	\$ -	\$ 47,370	\$ 102,247	\$ -	\$ 102,247	\$ 15,284	4.61	21.71%	15.00	6.67%	\$ 10,286	\$ 6,816	\$ 509	\$ 17,612	\$ 17,187	-\$ 425
1820	Distribution Station Equipment <50 kV	Digital Relays	\$ 138,884	\$ -	\$ 138,884	\$ 189,512	\$ -	\$ 189,512	\$ 190,351	10.44	9.58%	20.00	5.00%	\$ 13,305	\$ 9,476	\$ 4,759	\$ 27,539	\$ 30,027	\$ 2,488
1610	Intangible - wholesale meter	Intangible - wholesale meter	\$ 870,014	\$ -	\$ 870,014	\$ -	\$ -	\$ -	\$ -	20.19	4.95%	30.00	3.33%	\$ 43,096	\$ -	\$ -	\$ 43,096	\$ 43,096	-\$ 0
1830	Poles, Towers & Fixtures	Poles, and Fixtures	\$ 14,909,058	\$ -	\$ 14,909,058	\$ 11,592,443	\$ -	\$ 11,592,443	\$ 1,797,747	28.85	3.47%	45.00	2.22%	\$ 516,815	\$ 257,610	\$ 19,975	\$ 794,400	\$ 795,481	\$ 1,081
1835	Overhead Conductors & Devices	OH Primary Conductor	\$ 19,837,405	\$ -	\$ 19,837,405	\$ 14,797,981	\$ -	\$ 14,797,981	\$ 2,269,384	35.49	2.82%	50.00	2.00%	\$ 558,935	\$ 295,960	\$ 22,694	\$ 877,589	\$ 877,741	\$ 152
1835	Overhead Conductors & Devices	Switches & Reclosers	\$ 5,011,550	\$ -	\$ 5,011,550	\$ 2,989,811	\$ -	\$ 2,989,811	\$ 943,786	30.60	3.27%	45.00	2.22%	\$ 163,759	\$ 66,440	\$ 10,487	\$ 240,686	\$ 239,815	-\$ 872
1840	Underground Conduit	Vaults & Manholes	\$ 18,606,125	\$ -	\$ 18,606,125	\$ 29,657,323	\$ -	\$ 29,657,323	\$ 9,059,462	47.23	2.12%	60.00	1.67%	\$ 393,983	\$ 494,289	\$ 75,496	\$ 963,767	\$ 944,705	-\$ 19,062
1840	Underground Conduit	Vault & Manhole Roofs	\$ 790,421	\$ 543	\$ 789,878	\$ 1,433,844	\$ -	\$ 1,433,844	\$ 488,182	16.21	6.17%	30.00	3.33%	\$ 48,716	\$ 47,795	\$ 8,136	\$ 104,647	\$ 102,160	
1840	Underground Conduit	Major Inspections - Vaults &												· ·					
	· ·	Manholes	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		0.00%	5.00	20.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1845	Underground Conductors & Devices	Direct Buried Cable	Ψ 10,040,000	\$ 128,803	\$ 18,420,032	\$ 311,371	\$ -	\$ 311,371	\$ 173	8.61	11.61%	25.00	4.00%	\$ 2,138,259	\$ 12,455		\$ 2,150,718	\$ 2,150,721	\$ 3
1845	Underground Conductors & Devices	TRXLPE Cable - in duct	\$ 4,036,079	\$ -	\$ 4,036,079	\$ 28,386,611	\$ -	\$ 28,386,611	\$ 5,184,660	32.54	3.07%	40.00	2.50%	\$ 124,027	\$ 709,665	\$ 64,808	\$ 898,500	\$ 900,711	\$ 2,211
1845	Underground Conductors & Devices	SF6 & Vacuum Switchgear	\$ 980,203	\$ -	\$ 980,203	\$ 3,045,941		\$ 3,045,941	\$ 572,137	18.84	5.31%	30.00	3.33%	\$ 52,025	\$ 101,531	\$ 9,536	\$ 163,092	\$ 165,094	
1845	Underground Conductors & Devices	PILC Primary Cable	\$ 1,552,356	\$ 767	\$ 1,551,590	\$ 1,402,130	\$ -	\$ 1,402,130	\$ 120,940	16.09	6.21%	30.00	3.33%	\$ 96,411	\$ 46,738	\$ 2,016	\$ 145,165	\$ 144,914	-\$ 250
1845	Underground Conductors & Devices	Air Insulated Switchgear	\$ 130,443	\$ 2,075	\$ 128,367	\$ 8,965	\$ -	\$ 8,965	\$ 23,001	5.40	18.52%	25.00	4.00%	\$ 23,772	\$ 359	\$ 460	\$ 24,591	\$ 24,898	\$ 307
1850	Line Transformers	Pad Mount Transformers	\$ 18,819,465	\$ 6,176	\$ 18,813,290	\$ 23,306,079	\$ -	\$ 23,306,079	\$ 1,803,949	20.16	4.96%	35.00	2.86%	\$ 933,219	\$ 665,888	\$ 25,771		\$ 1,627,883	
1850	Line Transformers	Network Transformers	\$ 3,533,422	\$ 1,029	\$ 3,532,393	\$ 1,349,968	\$ -	\$ 1,349,968	\$ 764,597	20.64	4.85%	35.00	2.86%	\$ 171,173	\$ 38,571	\$ 10,923	\$ 220,666	\$ 214,696	-\$ 5,970
1850	Line Transformers	Overhead Transformers	\$ 8,982,967	\$ 3,088	\$ 8,979,879	\$ 10,010,651	\$ -	\$ 10,010,651	\$ 1,171,598	19.91	5.02%	35.00	2.86%	\$ 451,075	\$ 286,019	\$ 16,737	\$ 753,830	\$ 760,924	\$ 7,094
1855	Services (Overhead & Underground)	UG Secondary Services	\$ 4,771,835	\$ -	\$ 4,771,835	\$ 13,563,412	\$ -	\$ 13,563,412	\$ 4,484,696	18.38	5.44%	30.00	3.33%	\$ 259,630	\$ 452,114	\$ 74,745	\$ 786,489	\$ 771,137	-\$ 15,352
1855	Services (Overhead & Underground)	OH Secondary Services	\$ 5,234,783	\$ -	\$ 5,234,783	\$ 7,467,905	\$ -	\$ 7,467,905	\$ 895,053	44.59	2.24%	60.00	1.67%	\$ 117,394	\$ 124,465	\$ 7,459	\$ 249,318	\$ 248,343	-\$ 975
1860	Meters	Regular Meters	\$ 1,307,463	\$ 1,226	\$ 1,306,236	\$ 2,437	\$ -	\$ 2,437	\$ -	17.01	5.88%	30.00	3.33%	\$ 76,799	\$ 81	\$ -	\$ 76,881	\$ 76,881	\$ 0
1860	Meters (Smart Meters)	Smart Meters	\$ 7,033,484	\$ -	\$ 7,033,484	\$ 7,180,905	\$ -	\$ 7,180,905	\$ 1,454,385	6.18	16.18%	15.00	6.67%	\$ 1,138,206	\$ 478,727	\$ 48,480	\$ 1,665,413	\$ 1,651,992	-\$ 13,421
1860	Meters (Smart Meters)	CTs and PTs	\$ 893,426	\$ 1,454	\$ 891,972	\$ 1,421,591	\$ -	\$ 1,421,591	\$ 150,551	12.88	7.77%	30.00	3.33%	\$ 69,268	\$ 47,386	\$ 2,509	\$ 119,164	\$ 119,438	\$ 274
1908	Buildings & Fixtures	Buildings - Civil	\$ 3,722,433	\$ -	\$ 3,722,433	\$ 1,577,629	\$ -	\$ 1,577,629	\$ 606,015	32.68	3.06%	65.00	1.54%	\$ 113,891	\$ 24,271	\$ 4,662	\$ 142,824	\$ 140,284	-\$ 2,540
1908	Buildings & Fixtures	Buildings - Roof	\$ 694,950	\$ -	\$ 694,950	\$ -	\$ -	\$ -	\$ -	15.62	6.40%	25.00	4.00%	\$ 44,486	\$ -	\$ -	\$ 44,486	\$ 44,486	\$ 0
1908	Buildings & Fixtures	Buildings - Parking	\$ 10,105	\$ -	\$ 10,105	\$ 1,750,354	\$ -	\$ 1,750,354	\$ 252,596	13.42	7.45%	30.00	3.33%	\$ 753	\$ 58,345	\$ 4,210	\$ 63,308	\$ 60,101	-\$ 3,208
1908	Buildings & Fixtures	Buildings - Fences	\$ 2,365	\$ -	\$ 2,365	\$ -	\$ -	\$ -	\$ -	5.00	20.00%	60.00	1.67%	\$ 473	\$ -	\$ -	\$ 473	\$ 473	-\$ 0
1908	Buildings & Fixtures	Electronic/Mechanical Systems	\$ 621,863	\$ -	\$ 621,863	\$ 1,014,050	\$ -	\$ 1,014,050	\$ 65,995	2.45	40.87%	12.00	8.33%	\$ 254,160	\$ 84,504	\$ 2,750	\$ 341,414	\$ 343,950	\$ 2,536
1908	Buildings & Fixtures	Electric / Mechanical Systems	\$ 1,512,795	\$ -	\$ 1,512,795	\$ 2,584,422	\$ -	\$ 2,584,422	\$ 696,491	16.27	6.15%	30.00	3.33%	\$ 92,984	\$ 86,147	\$ 11,608	\$ 190,740	\$ 189,293	-\$ 1,447
1908	Buildings & Fixtures	Buildings - Improvements	\$ -	\$ -	\$ -	\$ 304,857	\$ -	\$ 304,857	\$ 137,516		0.00%	15.00	6.67%	\$ -	\$ 20,324	\$ 4,584	\$ 24,908	\$ 22,993	-\$ 1,915
1915	Office Furniture & Equipment	Office Furn & Equip	\$ -	\$ -	\$ -	\$ 872,335	\$ 47,093	\$ 825,242	\$ 356,108		0.00%	5.00	20.00%	\$ -	\$ 165,048	\$ 35,611		\$ 178,030	
1920	Computer Equipment - Hardware	Computer Equip-Hardware	\$ -	\$ -	\$ -	\$ 1,505,207	\$ 323,593	\$ 1,181,615	\$ 335,302		0.00%	3.00	33.33%	\$ -	\$ 393,872	\$ 55,884	\$ 449,755	\$ 436,177	-\$ 13,578
1930	Transportation Equipment	Transportation-Cars, Vans	\$ 9,749	\$ 9,749	\$ -	\$ 2,147,283	\$ -	\$ 2,147,283	\$ 123,514	-	0.00%	8.00	12.50%	\$ -	\$ 268,410	\$ 7,720	\$ 276,130	\$ 291,232	\$ 15,102
1930	Transportation Equipment	Transportation-Large Vehicles	\$ 676,251	\$ -	\$ 676,251	\$ 4,732,100	\$ -	\$ 4,732,100	\$ 689,621	3.06	32.71%	12.00	8.33%	\$ 221,169	\$ 394,342	\$ 28,734	\$ 644,245	\$ 653,355	\$ 9,110
1930	Transportation Equipment	Trailers	\$ 15,993	\$ 6,893	\$ 9,100	\$ 228,704	\$ -	\$ 228,704	\$ 5,892	0.83	120.67%	10.00	10.00%	\$ 10,981	\$ 22,870	\$ 295	\$ 34,146	\$ 33,901	-\$ 244
1935	Stores Equipment	Stores Equipment	\$ -	\$ -	\$ -	\$ 288,965	\$ -	\$ 288,965	\$ 13,800		0.00%	8.00	12.50%	\$ -	\$ 36,121	\$ 863	\$ 36,983	\$ 36,914	-\$ 69
1940	Tools, Shop & Garage Equipment	Tools, Shop & Garage Equi	\$ 13,021	\$ 13,021	\$ -	\$ 730,684	\$ -	\$ 730,684	\$ 100,225	-	0.00%	8.00	12.50%	\$ -	\$ 91,336	\$ 6,264	\$ 97,600	\$ 105,743	
1945	Measurement & Testing Equipment	Measurement & Test Equip	\$ -	\$ -	\$ -	\$ 1,116,529	\$ -	\$ 1,116,529	\$ 198,020		0.00%	8.00	12.50%	\$ -	\$ 139,566	\$ 12,376	\$ 151,942	\$ 142,379	-\$ 9,563
1950	Power Operated Equipment	Power Operated Equipment	\$ 20,753	\$ 20,753	\$ -	\$ 573,834	\$ -	\$ 573,834	\$ 299,322	-	0.00%	8.00	12.50%	\$ -	\$ 71,729	\$ 18,708	\$ 90,437	\$ 106,502	\$ 16,065
1955	Communications Equipment	Communication Towers	\$ 384,106	\$ -	\$ 384,106	\$ 186,146	\$ -	\$ 186,146	\$ -	25.92	3.86%	35.00	2.86%	\$ 14,821	\$ 5,318	\$ -	\$ 20,139	\$ 20,139	
1955	Communications Equipment	Communication -wireless	\$ 1,117,400	\$ -	\$ 1,117,400	\$ 1,335,724	\$ -	\$ 1,335,724	\$ 11,355	6.28	15.93%	10.00	10.00%	\$ 178,041	\$ 133,572	\$ 568	\$ 312,181	\$ 312,181	-\$ 0
1955	Communications Equipment	Communication -equipment	\$ -	\$ -	\$ -	\$ 181,303	\$ -	\$ 181,303	\$ -		0.00%	8.00	12.50%	\$ -	\$ 22,663	\$ -	\$ 22,663	\$ 22,663	\$ 0
1960	Miscellaneous Equipment	Miscellaneous Equipment	\$ -	\$ -	\$ -	\$ 4,039	\$ -	\$ 4,039	\$ 53,621		0.00%	8.00	12.50%	\$ -	\$ 505	\$ 3,351	\$ 3,856	\$ 1,828	-\$ 2,028
1980	System Supervisor Equipment	Scada RTU's	\$ 526,399	\$ -	\$ 526,399	\$ 3,131,080	\$ -	\$ 3,131,080	\$ 451,103	9.93	10.07%	20.00	5.00%	\$ 53,026	\$ 156,554	\$ 11,278		\$ 221,716	
1980	System Supervisor Equipment	Scada Master Station	\$ 10,969	\$ 3,688	\$ 7,281	\$ 414,910	\$ -	\$ 414,910	\$ 102,184	0.82	121.23%	10.00	10.00%	\$ 8,827	\$ 41,491	\$ 5,109	\$ 55,427	\$ 54,879	-\$ 548
1995	Contributions & Grants	Contribution & Grants Credit	-\$ 20,881,630	\$ -	\$ 20,881,630	\$ 6,199,669	\$ -	-\$ 6,199,669	\$ -	28.04	3.57%	40.00	2.50%	-\$ 744,710	-\$ 154,992	\$ -	-\$ 899,701	-\$ 899,701	-\$ 0
2440	Deferred Revenue	Deferred Revenue	\$ -	\$ -	\$ -	\$ 18,973,858	\$ -	-\$ 18,973,858	-\$ 4,358,519		0.00%	40.00	2.50%	\$ -	-\$ 474,346	\$ 54,481		-\$ 524,629	\$ 4,199
2005	Property Under Finance Lease	Property Under Finance Lease	\$ -	\$ -	\$ -	\$ 2,318,969	\$ -	\$ 2,318,969	\$ -		0.00%	40.00	2.50%	\$ -	\$ 57,974	\$ -	\$ 57,974	\$ 57,974	
	Total		\$ 132,414,327	\$ 199,264	\$ 132,215,063	\$ 182,884,010	\$ 1,623,385	\$ 181,260,625	\$ 37,777,183					\$ 7.897.084	\$ 9.928.233	\$ 1,186,476	\$ 19.011.794	\$ 18.846.727	-\$ 165,066
	•		, , , ,	,,	, , , ,				, , , , , , , , , , , , , , , , ,	•				, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			, . ,		



Table 4-51: 2020 Depreciation and Amortization Expense (OEB Appendix 2-C)

Second Promiption Promipt							Darle Walers										_			
According Acco				ļ	•		Book Values					Service I					Expense		Depreciation	
100 Compare Selection 1	Account	Description	Description	Value of Existing Assets as at Date of Policy Change (Jan.		Existing Assets Before Policy Change to be	Book Value of Assets Acquired After Policy		Assets Acquired After Policy Change to be		Remaining Life of Assets Existing Before	Rate Assets Acquired After	Assets Acquired After Policy	Rate on New	Expense on Assets Existing Before Policy	Expense on Assets Acquired After	Expense on Current Year	Current Year Depreciation	Expense per Appendix 2-BA Fixed Assets,	Variance ⁶
100 Control Prince				а	b	c = a-b	d	е	f = d- e	g	h	i = 1/h	j	k = 1/j	l = c/h	m = f/j	n = g*0.5/j	o = l+m+n	р	q = p-o
100 contract feature Company Englishment Control 1	1611	Computer Software	Computer Equip-Software	\$ -	\$ -	\$ -	\$ 22,077,670	\$1,176,868	\$ 20,900,802	\$ 4,557,705		0.00%	5.00	20.00%	\$ -	\$ 4,180,160		\$ 4,635,931	\$ 4,673,729	\$ 37,798
182 March				\$ -	\$ -	\$ -	\$ 1,164,118	\$ 157,007	\$ 1,007,112						\$ -	\$ 335,704	\$ 27,517	\$ 363,221		
165 June 167 June 168 June				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -						\$ -	\$ -				
State Stat					•		\$ 249,688	\$ -	\$ 249,688	\$ 116,447	3.57		25.00		\$ 15,014	\$ 9,988	\$ 2,329	\$ 27,331		-\$ 858
1989 Scheder							\$ -	\$ -	\$ -	\$ -	1= 00		-		\$ -	\$ -	\$ -	\$ -		\$ -
Section Engineer 4-90 Marking States Changes 1,000 1,0					\$ -	Ψ 271,000		\$ -		\$ -							\$ -			
1802 Seminor Engineer Gov Demon Service Seminor					3 -			\$ -		\$ 133.502							\$ -			
Section Submit Engineer Color (2017) Engineer Colo								\$ -												
Fig. Part								\$ -												
Section of Primary Conductors & Section Se	1610	Intangible - wholesale meter		\$ 826,918	\$ -		\$ -	\$ -	\$ -	\$ -	19.19					\$ -	\$ -			
Montant Condesion A Record S. April 797 S. 3. 4.647/791 S. 3. 3.557/69 S. 3.507/69 S. 3.507/69 S. 4.007	1830	Poles, Towers & Fixtures	Poles, and Fixtures	\$ 14,392,244	\$ -	\$ 14,392,244	\$ 13,390,191	\$ -	\$ 13,390,191	\$ 2,716,403	27.85	3.59%	45.00	2.22%	\$ 516,815	\$ 297,560	\$ 30,182	\$ 844,557	\$ 837,806	-\$ 6,751
Second S					\$ -			\$ -												
Mary Standard Mark Standard Rode S					\$ -			\$ -									, ,,,,,			
Mary Insertion Marketines					\$ -			\$ -												
Non-control	1840	Underground Conduit		\$ 741,706	\$ 401	\$ 741,305	\$ 1,922,026	\$ -	\$ 1,922,026	\$ 719,772	15.39	6.50%	30.00	3.33%	\$ 48,172	\$ 64,068	\$ 11,996	\$ 124,236	\$ 123,743	-\$ 493
Mary	1840	Underground Conduit		s -	s -	s -	\$ -	s -	s -	\$ 151 610		0.00%	5.00	20.00%	s .	s .	\$ 15 161	\$ 15.161	\$ 2,527	-\$ 12 634
Second conditions to Device Second Conditions & Device Second Condit	1845	Underground Conductors & Devices		\$ 16,410,576	\$ 103.092	\$ 16.307.484	\$ 311.544	\$ -	\$ 311.544	\$ -	8.12				\$ 2.009.456	\$ 12.462	\$ -			
1955 Oxfortigened Conduction & Devices PLC Private Classes PLC Private Conduction & Devices PLC Private Conduction & Part Month Transformers PLC Private Conduction & PLC	1845				\$ -			\$ -		\$ 5,117,419							\$ 63,968			
Insert Configurated Conductions Devices All Possible Stratemens \$1,006,77 \$1,476 \$1,005,705 \$3,1906 \$. \$3,1906 \$. \$3,1906 \$. \$3,1906 \$. \$3,1906 \$. \$3,1906 \$. \$3,1907 \$1,277 \$. \$1,2	1845	Underground Conductors & Devices	SF6 & Vacuum Switchgear	\$ 928,178	\$ -	\$ 928,178	\$ 3,618,078	\$ -	\$ 3,618,078	\$ 644,346	17.84	5.61%	30.00	3.33%	\$ 52,025	\$ 120,603	\$ 10,739	\$ 183,366	\$ 180,074	-\$ 3,292
150 the Transformer			PILC Primary Cable					\$ -		\$ 392,376					\$ 95,644	\$ 50,769	\$ 6,540			
1800 Low Transformers					\$ 1,476			\$ -		\$ -							\$ -			
1850 Des Transformers					\$ -	·,,		\$ -	T								. ,			
Services (Combened & Lubridgound) U.S. Services (Services S. 15,122,005 S. 15,014,005 S. 15,173,005 S. 15,014,005 S. 15,014,005 S. 15,005 S.					\$ -			\$ -												
Sensors (Coerheads & Underground) Of Sensoris (Verlage Buildings - Flattures) Buildings - Flattures Buildings					\$ -			-\$ 122,089							, , , , ,	. , ,	,			
Meter Regular Meters S 1230 (86) S 680 S 1229 (81) S 5,886 (187) S 1,824 (187) S 1,844 (187) S 1,845 (187) S 1,445 (187)			_		- ·	\$ 1,012,200		\$ -							,			,		
Motion Motion Smart Meters S 5,896 278 S 4,341 S 5,890 937 S 8,635,291 S 1,522,142 S 1,393 T 12,12 S 12,373 S 13,386 S 75,868 S 2,473 S 12,172 S 13,391 S 13,391 S 14,391 S 13,396 S 12,172 S 13,391 S 13,391 S 14,391 S 13,396 S 12,172 S 13,391 S 14,391 S 13,395 S 14,391 S 14,391 S 13,395 S 14,391 S					\$ 682			\$ -		\$ 1,029,070							\$ 12,745			
Meders (Smart Metters)								\$ -		\$ 1.352.127							\$ 45.071			
Bulldings & Fixtures Bulldings - Poking S 650,464 \$ - \$ 650,464 \$ - \$ \$		Meters (Smart Meters)	CT's and PT's					\$ -												
908 Buldings - Fixtures Buldings - Fix	1908	Buildings & Fixtures	Buildings - Civil	\$ 3,608,542	\$ -	\$ 3,608,542	\$ 2,183,644	\$ -	\$ 2,183,644	\$ 373,491	31.68	3.16%	65.00	1.54%	\$ 113,891	\$ 33,595	\$ 2,873	\$ 150,359	\$ 150,074	-\$ 284
Buldrings & Fixtures Buldrings & Fixtures Buldrings & Fixtures Electric / Mechanical Systems \$ 1,802 \$ - \$ 1,802 \$ - \$ 1,800 \$ - \$ 1,800 \$ \$ - \$ 1,800 \$ - \$ 1,800 \$ \$ - \$ 1,800 \$ \$ - \$ 1,800 \$ \$ - \$ 1,800 \$ \$ - \$ 1,800 \$ \$ - \$ 1,800 \$ \$ - \$ 1,800 \$ \$ - \$ 1,800 \$ \$ - \$ 1,800 \$ \$ - \$ 1,800 \$ \$ - \$ 1,800 \$ \$ - \$ 1,800 \$ \$ - \$ 1,800 \$ \$ - \$ 1,800 \$ - \$ 1,800 \$ \$ - \$ 1,800 \$ \$ - \$ 1,800 \$ \$ - \$ 1,800 \$ \$ - \$ 1,800 \$ \$ - \$ 1,800 \$ \$ - \$ 1,800 \$ \$ - \$ 1,800 \$ \$ - \$ 1,800 \$ - \$ 1		Buildings & Fixtures	Buildings - Roof		\$ -		\$ -	\$ -	\$ -	\$ -					\$ 44,486	\$ -	\$ -	\$ 44,486		
Bulidings & Fixtures Electrior: Mechanical Systems \$ 367.703 \$ 141.205 \$.26.498 \$.1080.045 \$. \$ 1.080.045 \$. \$.1080.045 \$. \$.1080.045 \$. \$.20.048 \$.1080.045 \$. \$.20.048 \$.1080.045 \$. \$.20.048 \$.1080.045 \$. \$.20.048 \$.1080.045 \$. \$.20.048 \$.1080.045 \$. \$.20.048 \$.1080.045 \$.20.048 \$.1080.048 \$.1080.045 \$.20.048 \$.1080.045 \$					•		\$ 2,002,950	\$ -	\$ 2,002,950	\$ -							\$ -			
Bulldings A Fixtures Bulldings - Improvements \$ 1,419,810 \$ 5,425 \$ 1,414,385 \$ 3,280,913 \$ - \$ 3,280,913 \$ - \$ 68,926 \$ 1,000,000 \$ 1,000,000 \$ - \$ 2,942 \$ 1,000,000 \$ - \$ 2,942 \$ 1,000,000 \$ - \$ 2,942 \$ 1,000,000 \$ - \$ 2,000,000					•		\$ -	\$ -	\$ -	\$ -							\$ -			
Buildings & Fixtures								\$ -												
1915 Office Furniture & Equipment Office Furniture & Equipment Furniture Computer EquipHardware S				\$ 1,419,810	\$ 5,425	\$ 1,414,385		\$ -			15.21				\$ 92,984	,		. ,		
1920 Computer Equipment - Hardware Computer Equip-Hardware S - S - S - S - S - S - S - S - S - S				\$ -	\$ -	\$ -		\$ -							\$ -					
Transportation Equipment Transportation Equi				\$ - e	Ÿ	ş -									•					
Transportation Equipment S 5,012 600 S 4,412 S 234,596 S - S 234,596 S 67,250 1.36 73,519 10.00 10.00% S 3,247 S 3,460 S 3,263 S 30,089 S 27,269 S 2,801				\$ -	•	s -									\$ -					
1935 Stores Equipment Stor				\$ 448.647	\$ 43.534	\$ 405,113		\$ -			1.89				\$ 214.865					
1935 Stores Equipment Tools, Shop & Garage Equip \$ - \$ - \$ 830,009 \$32,021 \$ 797,988 \$ 237,045 0.00% 8.00 12.50% \$ - \$ 99,783 \$ 14,815 \$ 14,656 \$ 5 105,788 \$ 8,776 \$19,709 \$ 12,50% \$ - \$ 19,271 \$ 7,304 \$ 16,557 \$ 108,689 \$ 2,714 \$1,500 \$ 1,500 \$ \$ - \$ 108,004 \$ 1,500 \$ \$ - \$ 108,004 \$ 1,500 \$ \$ - \$ 108,004 \$ 1,500 \$ \$ - \$ 108,004 \$ 1,500 \$ 1,500 \$ \$ - \$ 108,004 \$ 1,500 \$ 1,50		<u> </u>		,.				\$ -							, , , , , ,	. ,				
Measurement & Testing Equipment Measurement & Test Equipment Power Operated Equipment S	1935	Stores Equipment	Stores Equipment	\$ -	\$ -	\$ -	\$ 302,765	\$ 99	\$ 302,665	\$ 10,648		0.00%	8.00	12.50%	\$ -	\$ 37,833		\$ 38,499	\$ 38,706	\$ 207
Power Operated Equipment Power Operated Equi		Tools, Shop & Garage Equipment	Tools,Shop & Garage Equi	\$ -	\$ -	\$ -									\$ -	\$ 99,748	\$ 14,815			
1955 Communications Equipment Communication Towers \$ 369,285 \$ - \$ 369,285 \$ \$ 186,146 \$ - \$ \$ 186,146 \$ - \$ 24.92 \$ 4.01% \$ 35.00 \$ 2.86% \$ 14,821 \$ 5.318 \$ - \$ \$ 20,139 \$ \$ 0				\$ -	\$ -	\$ -				\$ 116,862					\$ -	,	\$ 7,304			
1955 Communication Equipment Communication - squipment Communication - squipment Communication - squipment Communication - squipment Scala RTUs \$ 928,630 \$ - \$ 928,630 \$ 1,347,079 \$ - \$ 1,347,079 \$ 445,394 \$ 5.83 \$ 17.16% \$ 10.00 \$ 10.00% \$ 159,398 \$ 134,708 \$ 22,270 \$ 316,376 \$ 0 1955 Communication - squipment Communication - squipment Scala RTUs \$ - \$ - \$ - \$ 181,303 \$ - \$ 181,303 \$ - \$ 0.00% \$ 8.00 \$ 12.50% \$ - \$ 22,663 \$ - \$ 22,663 \$ 22,663 \$ 22,663 \$ 22,663 \$ - \$				\$ -	-	\$ -		\$ 9,125		Ψ					\$ -		\$ -			
1955 Communications Equipment Communication - equipment \$ - \$ - \$ - \$ 181,303 \$ - \$ 181,303 \$ - \$ 0.00% 8.00 12.50% \$ - \$ 22,663 \$ - \$					Ÿ			\$ -		Ψ							\$ -			
1980 Miscellaneous Equipment Miscellaneous Equipment \$ - \$ - \$ 57,660 \$ - \$				\$ 928,630	*	\$ 928,630		\$ -		\$ 445,394	5.83				\$ 159,398		\$ 22,270			
1980 System Supervisor Equipment Scada Master Station \$ 473,373 \$ 706 \$ 472,667 \$ 3,582,183 \$ - \$ 3,582,183 \$ 323,822 8.94 11.18% 20.00 5.00% \$ 52,856 \$ 179,109 \$ 8,096 \$ 240,060 \$ 239,407 \$ 653				9 -	9 -	٠ •		э - e		\$ 3 AEE					ə -		\$ -			
1980 System Supervisor Equipment Scada Master Station \$ 2,142 \$ 2,142 \$ - \$ 517,094 \$ - \$ 517,094 \$ 344,657 - 0.00% 10.00 10.00% \$ - \$ 51,709 \$ 17,233 \$ 68,942 \$ 62,053 \$ 6,889 \$ 1995 Contribution's Grants Credit \$ 20,136,921 \$ - \$ 20,136,921 \$ - \$ 20,136,921 \$ - \$ 6,199,669 \$ - \$ 6,199,669 \$ - \$ 27.04 \$ 3.70% 40.00 2.50% \$ 744,799 \$ 154,992 \$ - \$ 899,701 \$ 899,701 \$ 50,000 \$ 10		- ''		\$ 473,373	\$ 706	\$ 472 667		\$ -			8 94				\$ 52.856					
1995 Contributions & Grants Contribution & Grants Credit \$ 20,136,921 \$ - \$ 20,136,92						\$ -		\$ -			0.94				\$ -			,		
2440 Deferred Revenue Deferred Revenue \$ - \$ - \$ 23,332,378 \$ - \$ 23,332,378 \$ 6,838,793 0.00% 40.00 2.50% \$ - \$ 583,309 \$ 686,794 \$ 678,150 \$ 9,355 2005 Property Under Finance Lease Property Under Finance Lease \$ - \$ - \$ 2,318,969 \$ - \$ 2,318,969 \$ - \$ 2,318,969 \$ - \$ 57,974 \$ - \$ 57,974 \$ - \$ 57,974 \$ 57,974 \$ 57,974 \$ 57,974						-\$ 20.136.921		\$ -			27,04				-\$ 744,709		\$			
2005 Property Under Finance Lease Property Under Finance Lease \$ - \$ - \$ 2,318,969 \$ - \$ 0.00% 40.00 2.50% \$ - \$ 57,974 \$ - \$ 57,974 \$ 5 57,974 \$ 5 0.00%				\$ -	\$ -	\$ -	, ., .,,	\$ -		-\$ 6,838,793					\$ -		-\$ 85,485			
Total \$ 124,244,013 \$ 307.315 \$ 123,936,698 \$ 216,010,448 \$ 1,824,013 \$ 214,186,435 \$ 38,546,600 \$ 7.758,661 \$ 11.267,083 \$ 1.185,507 \$ 20.211.250 \$ 19.945,999 \$ 265,261	2005	Property Under Finance Lease	Property Under Finance Lease	\$ -	\$ -	\$ -		\$ -		\$ -					\$ -		\$ -			
		Total		\$ 124,244,013	\$ 307,315	\$ 123,936,698	\$ 216,010,448	\$ 1,824,013	\$ 214,186,435	\$ 38,546,600					\$ 7,758,661	\$ 11,267,083	\$ 1,185,507	\$ 20,211,250	\$ 19,945,989	-\$ 265,261



Table 4- 52: 2021 Depreciation and Amortization Expense (OEB Appendix 2-C)

						Book Values					Service	Lives			Depreciatio	n Expense			
Account	Description	Description	Opening Net Book Value of Existing Assets as at Date of Policy Change (Jan. 1, 2012) 1	Less Fully Depreciated ⁷	Net Amount of Existing Assets Before Policy Change to be Depreciated	Opening Gross Book Value of Assets Acquired After Policy Change ²	Less Fully Depreciated	Net Amount of Assets Acquired After Policy Change to be Depreciated	Current Year Additions	Average Remaining Life of Assets Existing Before Policy Change ³		Life of Assets Acquired After Policy Change ⁴	Depreciation Rate on New Additions	Depreciation Expense on Assets Existing Before Policy Change	Depreciation Expense on Assets Acquired After Policy Change	Depreciation Expense on Current Year Additions ⁵	Total Current Year Depreciation Expense	Depreciation Expense per Appendix 2-BA Fixed Assets, Column J	
			a	b	c = a-b	d	е	f = d- e	g	h	i = 1/h	i	k = 1/j	I = c/h	m = f/j	n = g*0.5/j	o = l+m+n	р	q = p-o
1611	Computer Software	Computer Equip-Software	\$ -	\$ -	\$ -	\$ 22,370,511	\$1,208,511	\$ 21,162,000	\$ 4,253,000		0.00%	5.00	20.00%	\$ -	\$ 4,232,400		\$ 4,657,700	\$ 4,657,700	
1611	Computer Software	Computer Equip-Software - 3 yr	\$ -	\$ -	\$ -	\$ 378,398	\$ 73,626	\$ 304,772	\$ 123,000		0.00%	3.00	33.33%	\$ -	\$ 101,591		\$ 122,091	\$ 122,500	
1611	Computer Software	Computer Equip-Software - Cloud	\$ -	\$ -	\$ -	\$ 686,656	\$ -	\$ 686,656	\$ -		0.00%	5.00	20.00%	\$ -	\$ 137,331		\$ 137,331	\$ 137,300	
1612	Land Rights	Land Rights	\$ 38,548	\$ 9,736	\$ 28,812	\$ 366,135	\$ -	\$ 366,135	\$ -	1.92	52.11%	25.00		\$ 15,014	\$ 14,645	\$ -	\$ 29,660	\$ 29,700	\$ 40
1805	Land	Land	\$ 379,690	\$ -	\$ 379,690	\$ -	\$ -	\$ -	\$ -		0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$
1808	Buildings	SS Building Overall	\$ 265,763	\$ -	\$ 265,763	\$ 241,148	\$ -	\$ 241,148	\$ 23,000	46.02	2.17%	75.00	1.33%	\$ 5,775	\$ 3,215			\$ 9,200	
1808 1820	Buildings	SS Roof	\$ 71,462	\$ -	\$ 71,462	\$ 20,511	\$ -	\$ 20,511	\$ 23,000	13.44	7.44%	30.00	3.33%	\$ 5,318	\$ 684			\$ 6,400	
1820	Distribution Station Equipment <50 kV Distribution Station Equipment <50 kV	Distr Stn Equip Battery Banks & Charges	\$ 6,399,517 \$ 27,243	\$ - \$ 1.473	\$ 6,399,517	\$ 1,574,995 \$ 129,996	\$ -	\$ 1,574,995	\$ 27,600 \$ 27,600	21.64 2.74	4.62% 36.44%	45.00	2.22%	\$ 295,700	\$ 35,000 \$ 8,666			\$ 331,000 \$ 19,000	
1820	Distribution Station Equipment <50 kV	Digital Relays	\$ 21,243 \$ 112,784	\$ 1,473	\$ 25,770 \$ 112,784	\$ 459,220	\$ -	\$ 129,996 \$ 459,220	\$ 102,500	8.99	11.12%	15.00 20.00	6.67% 5.00%	\$ 9,390 \$ 12,541	\$ 22,961			\$ 38,100	
1610	Intangible - wholesale meter	Intangible - wholesale meter	\$ 783,822	\$ -	\$ 783,822	\$ 409,220	\$ -	\$ 459,220	\$ 102,300	18.19	5.50%	30.00	3.33%	\$ 12,541	\$ 22,961	\$ 2,563	\$ 43,096	\$ 43,100	
1830	Poles, Towers & Fixtures	Poles, and Fixtures	\$ 13.875.429	\$ -	\$ 13.875.429	\$ 16.106.594	\$ -	\$ 16.106.594	\$ 1.760.900	26.85	3.72%	45.00	2.22%	\$ 43,096 \$ 516,815	\$ 357.924	\$ 19,566		\$ 894,400	
1835	Overhead Conductors & Devices	OH Primary Conductor	\$ 18.698.178	\$ -	\$ 18,698,178	\$ 19,423,203	\$ -	\$ 19,423,203	\$ 2.718.200	33.50	2.99%	50.00	2.22%	\$ 558,222	\$ 388,464		\$ 973,868	\$ 973,900	
1835	Overhead Conductors & Devices Overhead Conductors & Devices	Switches & Reclosers	\$ 4,666,153	\$ -	\$ 4.666.153	\$ 5.517.509	\$ -	\$ 5.517.509	\$ 822,600	28.62	3.49%	45.00	2.00%	\$ 556,222 \$ 163.025	\$ 122,611			\$ 294,700	
1840	Underground Conduit	Vaults & Manholes	\$ 17.818.159	\$ -	\$ 17.818.159	\$ 48.484.918	\$ -	\$ 48.484.918	\$ 6.876.000	45.23	2.21%	60.00	1.67%	\$ 393,983	\$ 808,082		\$ 1,259,365	\$ 1.259.400	
1840	Underground Conduit	Vault & Manhole Roofs	\$ 693,534	\$ 145	\$ 693,389	\$ 2,641,798	\$ -	\$ 2,641,798	\$ 211,800	14.51	6.89%	30.00	3.33%	\$ 47,772	\$ 88,060		\$ 1,239,362	\$ 139,300	
		Major Inspections - Vaults &	\$ 093,334	\$ 140	\$ 093,309	\$ 2,041,790	3 -	\$ 2,041,790	\$ 211,000	14.51	0.0970	30.00	3.33%	\$ 41,112	\$ 00,000	\$ 3,530	\$ 139,362	\$ 139,300	-\$ 62
1840	Underground Conduit	Manholes	s -	\$ -	s -	\$ 151,610	s -	\$ 151,610	\$ -		0.00%	5.00	20.00%	s -	\$ 30,322	s -	\$ 30.322	\$ 30,300	-\$ 22
1845	Underground Conductors & Devices	Direct Buried Cable	\$ 14,401,120	\$ 167.928	\$ 14,233,192	\$ 311,544	\$ -	\$ 311,544	\$ -	7.47	13.39%	25.00	4.00%	\$ 1,906,364	\$ 12,462		\$ 1,918,826	\$ 1,918,800	
1845	Underground Conductors & Devices	TRXLPE Cable - in duct	\$ 3,788,026	\$ -	\$ 3,788,026	\$ 38,688,689	\$ -	\$ 38,688,689	\$ 6.646.100	30.36	3.29%	40.00	2.50%	\$ 124,783	\$ 967,217		\$ 1,175,076	\$ 1,175,100	
1845	Underground Conductors & Devices	SF6 & Vacuum Switchgear	\$ 876,154	\$ -	\$ 876,154	\$ 4,262,424	\$ -	\$ 4,262,424	\$ 881,500	16.56	6.04%	30.00	3.33%	\$ 52,920	\$ 142,081	\$ 14,692	\$ 209,692	\$ 209,700	\$ 8
1845	Underground Conductors & Devices	PILC Primary Cable	\$ 1,360,301	\$ 1,117	\$ 1,359,183	\$ 1,915,446	\$ -	\$ 1,915,446	\$ -	14.39	6.95%	30.00	3.33%	\$ 94,443	\$ 63,848	s -	\$ 158,291	\$ 158,300	\$ 9
1845	Underground Conductors & Devices	Air Insulated Switchgear	\$ 84,974	\$ -	\$ 84,974	\$ 31,966	\$ -	\$ 31,966	\$ -	4.20	23.80%	25.00	4.00%	\$ 20,221	\$ 1,279	s -	\$ 21,500	\$ 21,500	
1850	Line Transformers	Pad Mount Transformers	\$ 16,959,202	\$ -	\$ 16,959,202	\$ 28,042,786	\$ -	\$ 28,042,786	\$ 3,400,500	18.29	5.47%	35.00	2.86%	\$ 927,044	\$ 801,222	\$ 48,579	\$ 1,776,845	\$ 1,776,800	-\$ 45
1850	Line Transformers	Network Transformers	\$ 3,192,106	\$ -	\$ 3,192,106	\$ 2,334,682	\$ -	\$ 2,334,682	\$ 292,200	18.84	5.31%	35.00	2.86%	\$ 169,395	\$ 66,705	\$ 4,174	\$ 240,274	\$ 240,300	\$ 26
1850	Line Transformers	Overhead Transformers	\$ 8,083,906	\$ -	\$ 8,083,906	\$ 12,801,432	\$ -	\$ 12,801,432	\$ 1,316,900	18.04	5.54%	35.00	2.86%	\$ 447,987	\$ 365,755	\$ 18,813	\$ 832,555	\$ 832,500	-\$ 55
1855	Services (Overhead & Underground)	UG Secondary Services	\$ 4,252,575	\$ -	\$ 4,252,575	\$ 21,192,396	\$ -	\$ 21,192,396	\$ 3,951,700	16.38	6.11%	30.00	3.33%	\$ 259,630	\$ 706,413	\$ 65,862	\$ 1,031,905	\$ 1,032,000	\$ 95
1855	Services (Overhead & Underground)	OH Secondary Services	\$ 4,999,995	\$ -	\$ 4,999,995	\$ 9,892,331	\$ -	\$ 9,892,331	\$ 850,100	42.59	2.35%	60.00	1.67%	\$ 117,394	\$ 164,872	\$ 7,084	\$ 289,351	\$ 289,400	\$ 49
1860	Meters	Regular Meters	\$ 1,155,090	\$ -	\$ 1,155,090	\$ 2,437	\$ -	\$ 2,437	\$ -	15.42	6.48%	30.00	3.33%	\$ 74,891	\$ 81	\$ -	\$ 74,973	\$ 75,000	\$ 27
1860	Meters (Smart Meters)	Smart Meters	\$ 4,761,412	\$ 5,450	\$ 4,755,962	\$ 9,987,418	\$ -	\$ 9,987,418	\$ 861,000	4.23	23.64%	15.00	6.67%	\$ 1,124,075	\$ 665,828	\$ 28,700	\$ 1,818,603	\$ 1,818,600	-\$ 3
1860	Meters (Smart Meters)	CTs and PTs	\$ 756,343	\$ 1,762	\$ 754,581	\$ 1,700,519	\$ -	\$ 1,700,519	\$ 331,000	11.45	8.73%	30.00	3.33%	\$ 65,876	\$ 56,684	\$ 5,517	\$ 128,077	\$ 128,100	\$ 23
1908	Buildings & Fixtures	Buildings - Civil	\$ 3,494,651	\$ -	\$ 3,494,651	\$ 2,557,135	\$ -	\$ 2,557,135	\$ 1,420,000	30.68	3.26%	65.00	1.54%	\$ 113,891	\$ 39,341	\$ 10,923	\$ 164,155	\$ 164,200	\$ 45
1908	Buildings & Fixtures	Buildings - Roof	\$ 605,978	\$ -	\$ 605,978	\$ -	\$ -	\$ -	\$ -	13.62	7.34%	25.00	4.00%	\$ 44,486	\$ -	\$ -	\$ 44,486	\$ 44,500	
1908	Buildings & Fixtures	Buildings - Parking	\$ 8,599	\$ -	\$ 8,599	\$ 2,002,950	\$ -	\$ 2,002,950	\$ 430,000	8.31	12.04%	30.00	3.33%	\$ 1,035	\$ 66,765	\$ 7,167	\$ 74,967	\$ 75,000	
1908	Buildings & Fixtures	Buildings - Fences	\$ 1,419	\$ -	\$ 1,419	\$ -	\$ -	\$ -	\$ -	3.00	33.33%	60.00	1.67%	\$ 473	\$ -	\$ -	\$ 473	\$ 500	
1908	Buildings & Fixtures	Electronic/Mechanical Systems	\$ 132,277	\$ 27,037	\$ 105,240	\$ 1,132,747	\$ -	\$ 1,132,747	\$ 270,000	1.24	80.49%	12.00	8.33%	\$ 84,705	\$ 94,396			\$ 190,400	
1908	Buildings & Fixtures	Electric / Mechanical Systems	\$ 1,326,826	\$ 5,142	\$ 1,321,684	\$ 3,847,894	\$ -	\$ 3,847,894	\$ 610,000	15.09	6.62%	30.00	3.33%	\$ 87,559	\$ 128,263			\$ 226,100	
1908	Buildings & Fixtures	Buildings - Improvements	\$ -	\$ -	\$ -	\$ 505,579	\$ -	\$ 505,579	\$ 40,000		0.00%	15.00	6.67%	\$ -	\$ 33,705	. ,	,	\$ 35,000	
1915	Office Furniture & Equipment	Office Furn & Equip	\$ -	\$ -	\$ -	\$ 1,270,267	\$ 78,819	\$ 1,191,448	\$ 755,000		0.00%	5.00	20.00%	\$ -	\$ 238,290			\$ 313,800	
1920	Computer Equipment - Hardware	Computer Equip-Hardware	\$ -	\$ -	\$ -	\$ 1,315,919	\$ 24,518	\$ 1,291,401	\$ 947,000		0.00%	3.00	33.33%	\$ -	\$ 430,467		\$ 588,300	\$ 588,300	
1930	Transportation Equipment	Transportation-Cars, Vans	\$ -	\$ -	\$ -	\$ 2,907,158	\$ 943,158	\$ 1,964,000	\$ 455,000		0.00%	8.00	12.50%	\$ -	\$ 245,500		\$ 273,937	\$ 273,900	
1930	Transportation Equipment	Transportation-Large Vehicles	\$ 226,173	\$ 5,358	\$ 220,814	\$ 6,811,653	\$ -	\$ 6,811,653	\$ 990,000	1.57	63.89%	12.00	8.33%	\$ 141,081	\$ 567,638		\$ 749,969	\$ 750,500	
1930	Transportation Equipment	Trailers	\$ 1,765	_	\$ 1,765	\$ 301,846	\$ -	\$ 301,846	\$ -	1.00	100.00%	10.00	10.00%	\$ 1,765	\$ 30,185	-	\$ 31,949	\$ 32,000	
1935	Stores Equipment	Stores Equipment	\$ -	\$ -	\$ -	\$ 313,293	\$ 3,208	\$ 310,085	\$ 15,000		0.00%	8.00	12.50%	\$ -	\$ 38,761			\$ 39,700	
1940	Tools, Shop & Garage Equipment	Tools,Shop & Garage Equi	\$ -	\$ -	\$ -	\$ 987,170	+ +,		\$ 240,000		0.00%	8.00	12.50%	\$ -	\$ 119,488			\$ 134,500	
1945	Measurement & Testing Equipment	Measurement & Test Equip	\$ -	\$ -	\$ -	\$ 1,343,478	\$ 6,339	\$ 1,337,139	\$ 175,000		0.00%	8.00	12.50%	\$ -	\$ 167,142	,	,	\$ 178,100	
1950	Power Operated Equipment	Power Operated Equipment	\$ -	\$ -	\$ -	\$ 773,156	\$ 72,068	\$ 701,088	\$ -		0.00%	8.00	12.50%	\$ -	\$ 87,636		\$ 87,636	\$ 87,600	
1955	Communications Equipment	Communication Towers	\$ 354,464	\$ -	\$ 354,464	\$ 186,146	\$ -	\$ 186,146	\$ -	23.92	4.18%	35.00	2.86%	\$ 14,821	\$ 5,318		\$ 20,139	\$ 20,100	
1955	Communications Equipment	Communication -wireless	\$ 739,860	\$ -	\$ 739,860	\$ 1,792,473	\$ -	\$ 1,792,473	\$ 550,000	4.16	24.05%	10.00	10.00%	\$ 177,953	\$ 179,247		\$ 384,700	\$ 384,700	
1955	Communications Equipment	Communication -equipment	\$ -	\$ -	\$ -	\$ 181,303	\$ -	\$ 181,303	\$ -	-	0.00%	8.00	12.50%	\$ -	\$ 22,663		\$ 22,663	\$ 22,700	
1960	Miscellaneous Equipment	Miscellaneous Equipment	\$ -	\$ -	\$ -	\$ 61,115	\$ -	\$ 61,115	\$ 20,000	0.00	0.00%	8.00	12.50%	\$ -	\$ 7,639	, , , , ,		\$ 8,900	
1980	System Supervisor Equipment	Scada RTU's	\$ 420,517	\$ 324	\$ 420,193	\$ 3,906,005	\$ -	\$ 3,906,005	\$ 776,800	8.06	12.40%	20.00	5.00%	\$ 52,120	\$ 195,300			\$ 266,800	
1980	System Supervisor Equipment	Scada Master Station	\$ -	\$ -	\$ -	\$ 861,752	5 -	\$ 861,752	\$ 117,000		0.00%	10.00	10.00%	\$ -	\$ 86,175		\$ 92,025	\$ 92,100	
1995	Contributions & Grants	Contribution & Grants Credit	-\$ 19,392,211	5 -	-\$ 19,392,211	-\$ 6,199,669	5 -	-\$ 6,199,669	\$ -	26.04	3.84%	40.00	2.50%	-\$ 744,709	-\$ 154,992		-\$ 899,701	-\$ 900,000	
2440	Deferred Revenue	Deferred Revenue	\$ -	\$ -	\$ -	-\$ 30,171,171	\$ - \$ -	-\$ 30,171,171	-\$ 6,534,000	-	0.00%	40.00	2.50%	\$ -	-\$ 754,279			-\$ 836,000	
2005	Property Under Finance Lease	Property Under Finance Lease	5 -	\$ -	Ÿ	\$ 2,318,969		\$ 2,318,969	5 -		0.00%	40.00	2.50%	\$ -	\$ 57,974		\$ 57,974	\$ 58,000	
	Total		\$ 116,421,800	\$ 225,472	\$ 116,196,328	\$ 248,724,438	\$ 2,441,516	\$ 246,282,922	\$ 36,777,000	l			l	\$ 7,426,851	\$ 12,299,027	\$ 1,186,420	\$ 20,912,298	\$ 20,913,500	\$ 1,202



Table 4-53: 2022 Depreciation and Amortization Expense (OEB Appendix 2-C)

						Book Values					Service	Lives			Depreciation	Expense			
			Opening Net Book		Net Amount of	Opening Gross				Average		Life of	1	Depreciation	Depreciation	Depreciation	T.4.1	Depreciation	Т
			Value of Existing	Less Fully	Existing Assets	Book Value of	Less Fully	Net Amount of		Remaining Life	Depreciation	Assets	Depreciation	Expense on	Expense on		Total	Expense per	
Account	Description	Description	Assets as at Date of	Depreciated 7	Before Policy	Assets Acquired	Depreciated 8	Assets Acquired After Policy Change	Current Year Additions	of Assets	Rate Assets Acquired After	Acquired	Rate on New	Assets Existing	Assets		Current Year Depreciation	Appendix 2-BA	A Variance 6
Account	Description		Policy Change (Jan.	Depreciated	Change to be	After Policy	Depreciated	to be Depreciated	Additions	Existing Before	Policy Change	After Policy	Additions	Before Policy	Acquired After	Additions 5	Expense	Fixed Assets,	
			1, 2012) 1		Depreciated	Change 2				Policy Change 3		Change 4		Change	Policy Change			Column J	
			a	b	c = a-b	d	е	f = d- e	g	h	i = 1/h		k = 1/j	l = c/h	m = f/j	n = g*0.5/j	o = l+m+n	P	q = p-o
1609	Capital Contributions Paid	Intangible - Contributions Paid	\$ -		\$ -	\$ 5,507,706		\$ 5,507,706	\$ -		0.00%	45.00	2.22%	\$ -	\$ 122,393	\$ -	\$ 122,393	\$ 119,800	
1611	Computer Software	Computer Equip-Software	\$ -		\$ -	\$ 24,455,120	\$ 1,212,620	\$ 23,242,500	\$ 4,625,000		0.00%	5.00	20.00%	\$ -	\$ 4,648,500	\$ 462,500	\$ 5,111,000	\$ 5,111,000	
1611	Computer Software	Computer Equip-Software - 3 yr	\$ -		\$ -	\$ 349,098	\$ 22,098	\$ 327,000	\$ 62,000		0.00%	3.00	33.33%	\$ -	\$ 109,000	\$ 10,333	\$ 119,333	\$ 119,300	
1611	Computer Software	Computer Equip-Software - Cloud	\$ -		\$ -	\$ 686,656	\$ 156		\$ -		0.00%	5.00	20.00%	\$ -	\$ 137,300	\$ -	\$ 137,300	\$ 137,300	
1612	Land Rights	Land Rights	\$ 23,534	\$ 2,576	\$ 20,958	\$ 366,147		\$ 366,147	\$ -	3.97	25.18%	25.00	4.00%	\$ 5,278	\$ 14,646	\$ -	\$ 19,924	\$ 19,900) -\$ 24
1805	Land	Land	\$ 379,690		\$ 379,690	\$ -		\$ -	\$ -		0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1808	Buildings	SS Building Overall	\$ 259,988		\$ 259,988	\$ 264,148		\$ 264,148	\$ 24,000	45.02	2.22%	75.00	1.33%	\$ 5,775	\$ 3,522			\$ 9,500	
1808	Buildings	SS Roof	\$ 66,144		\$ 66,144	\$ 69,441	\$ 25,930		\$ 24,000	12.44	8.04%	30.00	3.33%	\$ 5,318	\$ 1,450			\$ 7,200	
1820	Distribution Station Equipment <50 kV	Distr Stn Equip	\$ 6,277,163		\$ 6,277,163	\$ 4,540,831		\$ 4,540,831	\$ 1,200	27.25	3.67%	45.00	2.22%	\$ 230,393	\$ 100,907			\$ 331,300	
1820	Distribution Station Equipment <50 kV	Battery Banks & Charges	\$ 17,853		\$ 17,853	\$ 157,100		\$ 157,100	\$ 1,200	2.41	41.57%	15.00	6.67%	\$ 7,422	\$ 10,473	\$ 40	\$ 17,935	\$ 17,900	-\$ 35
1820	Distribution Station Equipment <50 kV	Digital Relays	\$ 100,243		\$ 100,243	\$ 561,720		\$ 561,720	\$ 38,400	7.99	12.51%	20.00	5.00%	\$ 12,541	\$ 28,086	\$ 960	\$ 41,587	\$ 41,600) \$ 13
1610	Intangible - wholesale meter	Intangible - wholesale meter	\$ 740,726		\$ 740,726	\$ -		\$ -	\$ -	17.19	5.82%	30.00	3.33%	\$ 43,095	\$ -	\$ -	\$ 43,095	\$ 43,100) \$ 5
1830	Poles, Towers & Fixtures	Poles, and Fixtures	\$ 13,358,614		\$ 13,358,614	\$ 17,867,494		\$ 17,867,494	\$ 1,878,500	25.85	3.87%	45.00	2.22%	\$ 516,815	\$ 397,055	\$ 20,872	\$ 934,742	\$ 934,800	
1835	Overhead Conductors & Devices	OH Primary Conductor	\$ 18,139,957		\$ 18,139,957	\$ 22,141,403		\$ 22,141,403	\$ 3,475,300	32.50	3.08%	50.00	2.00%	\$ 558,222	\$ 442,828	\$ 34,753	\$ 1,035,803	\$ 1,035,900) \$ 97
1835	Overhead Conductors & Devices	Switches & Reclosers	\$ 4,503,128		\$ 4,503,128	\$ 6,340,109		\$ 6,340,109	\$ 848,500	27.62	3.62%	45.00	2.22%	\$ 163,025	\$ 140,891	\$ 9,428	\$ 313,344	\$ 313,300	
1840	Underground Conduit	Vaults & Manholes	\$ 17,424,175		\$ 17,424,175	\$ 55,360,918		\$ 55,360,918	\$ 7,063,400	44.23	2.26%	60.00	1.67%	\$ 393,983	\$ 922,682	\$ 58,862	\$ 1,375,527	\$ 1,375,600	\$ 73
1840	Underground Conduit	Vault & Manhole Roofs	\$ 645,762	\$ 111	\$ 645,651	\$ 2,858,698		\$ 2,858,698	\$ 196,900	13.56	7.38%	30.00	3.33%	\$ 47,627	\$ 95,290	\$ 3,282	\$ 146,198	\$ 146,100) -\$ 98
1840	Underground Conduit	Major Inspections - Vaults &																	
		Manholes	\$ -		\$ -	\$ 151,610	\$ 110		\$ -		0.00%	5.00	20.00%	\$ -	\$ 30,300	\$ -	\$ 30,300	\$ 30,300	
1845	Underground Conductors & Devices	Direct Buried Cable	\$ 12,494,755	\$ 155,151	\$ 12,339,604	\$ 311,553		\$ 311,553	\$ -	7.10	14.09%	25.00	4.00%	\$ 1,738,436	\$ 12,462	\$ -	\$ 1,750,899	\$ 1,750,900	
1845	Underground Conductors & Devices	TRXLPE Cable - in duct	\$ 3,663,243		\$ 3,663,243	\$ 45,366,949		\$ 45,366,949	\$ 8,637,500	29.54	3.39%	40.00	2.50%	\$ 124,027	\$ 1,134,174	\$ 107,969	\$ 1,366,169	\$ 1,366,200	\$ 31
1845	Underground Conductors & Devices	SF6 & Vacuum Switchgear	\$ 823,234		\$ 823,234	\$ 5,143,924		\$ 5,143,924	\$ 934,000	15.56	6.43%	30.00	3.33%	\$ 52,920	\$ 171,464	\$ 15,567	\$ 239,950	\$ 240,000	\$ 50
1845	Underground Conductors & Devices	PILC Primary Cable	\$ 1,265,858	\$ 2,495	\$ 1,263,363	\$ 1,915,418		\$ 1,915,418	\$ -	13.54	7.39%	30.00	3.33%	\$ 93,326	\$ 63,847	\$ -	\$ 157,173	\$ 157,200) \$ 27
1845	Underground Conductors & Devices	Air Insulated Switchgear	\$ 64,753	\$ 3,965	\$ 60,788	\$ 31,966		\$ 31,966	\$ -	3.01	33.27%	25.00	4.00%	\$ 20,221	\$ 1,279	\$ -	\$ 21,500	\$ 21,500) \$ 0
1850	Line Transformers	Pad Mount Transformers	\$ 16,032,159	\$ 3,654	\$ 16,028,505	\$ 31,443,286		\$ 31,443,286	\$ 3,616,000	17.29	5.78%	35.00	2.86%	\$ 927,044	\$ 898,380	\$ 51,657	\$ 1,877,080	\$ 1,877,100	\$ 20
1850	Line Transformers	Network Transformers	\$ 3,022,711	\$ 609	\$ 3,022,102	\$ 2,626,882		\$ 2,626,882	\$ 240,700	17.84	5.61%	35.00	2.86%	\$ 169,395	\$ 75,054	\$ 3,439	\$ 247,887	\$ 247,800) -\$ 87
1850	Line Transformers	Overhead Transformers	\$ 7,635,919	\$ 1,827	\$ 7,634,092	\$ 14,118,332		\$ 14,118,332	\$ 1,475,000	17.04	5.87%	35.00	2.86%	\$ 447,987	\$ 403,381	\$ 21,071	\$ 872,439	\$ 872,400) -\$ 39
1855	Services (Overhead & Underground)	UG Secondary Services	\$ 3,992,945		\$ 3,992,945	\$ 25,144,096		\$ 25,144,096	\$ 4,748,300	15.38	6.50%	30.00	3.33%	\$ 259,630	\$ 838,137	\$ 79,138	\$ 1,176,905	\$ 1,176,900) -\$!
1855	Services (Overhead & Underground)	OH Secondary Services	\$ 4,882,601		\$ 4,882,601	\$ 10,742,431		\$ 10,742,431	\$ 1,068,900	41.59	2.40%	60.00	1.67%	\$ 117,394	\$ 179,041	\$ 8,908	\$ 305,342	\$ 305,400	\$ 58
1860	Meters	Regular Meters	\$ 1,080,198	\$ 612	\$ 1,079,586	\$ 2,437		\$ 2,437	\$ -	14.42	6.94%	30.00	3.33%	\$ 74,891	\$ 81	\$ -	\$ 74,973	\$ 75,000) \$ 27
1860	Meters (Smart Meters)	Smart Meters	\$ 3,637,337	\$ 755	\$ 3,636,582	\$ 10,848,385		\$ 10,848,385	\$ 863,000	3.25	30.74%	15.00	6.67%	\$ 1,117,871	\$ 723,226	\$ 28,767	\$ 1,869,863	\$ 1,869,900) \$ 37
1860	Meters (Smart Meters)	CTs and PTs	\$ 690,467	\$ 948	\$ 689,519	\$ 2,031,542		\$ 2,031,542	\$ 336,000	10.77	9.29%	30.00	3.33%	\$ 64,026	\$ 67,718	\$ 5,600	\$ 137,344	\$ 137,400	\$ 56
1908	Buildings & Fixtures	Buildings - Civil	\$ 3,380,760		\$ 3,380,760	\$ 3,977,135		\$ 3,977,135	\$ 424,000	29.68	3.37%	65.00	1.54%	\$ 113,891	\$ 61,187	\$ 3,262	\$ 178,339	\$ 178,400	\$ 61
1908	Buildings & Fixtures	Buildings - Roof	\$ 561,493		\$ 561,493	\$ -		\$ -	\$ -	12.62	7.92%	25.00	4.00%	\$ 44,486	\$ -	\$ -	\$ 44,486	\$ 44,500) \$ 14
1908	Buildings & Fixtures	Buildings - Parking	\$ 7,564		\$ 7,564	\$ 2,432,950		\$ 2,432,950	\$ 331,000	7.31	13.69%	30.00	3.33%	\$ 1,035	\$ 81,098	\$ 5,517		\$ 87,600	
1908	Buildings & Fixtures	Buildings - Fences	\$ 946		\$ 946	\$ -		\$ -	\$ -	2.00	50.00%	60.00	1.67%	\$ 473	\$ -	\$ -	\$ 473	\$ 500	
1908	Buildings & Fixtures	Electronic/Mechanical Systems	\$ 47,572		\$ 47,572	\$ 1,402,747		\$ 1,402,747	\$ 220,000	0.94	106.16%	12.00	8.33%	\$ 50,504	\$ 116,896	\$ 9,167	\$ 176,566	\$ 176,600	
1908	Buildings & Fixtures	Electric / Mechanical Systems	\$ 1,239,267	\$ 1.607	\$ 1.237.659	\$ 4,457,864		\$ 4,457,864	\$ 479,000	15.02	6.66%	30.00	3.33%	\$ 82,417	\$ 148,595	\$ 7.983	\$ 238,996	\$ 239,000) s /
1908	Buildings & Fixtures	Buildings - Improvements	\$ -		\$ -	\$ 545,579		\$ 545,579	\$ 41,000		0.00%	15.00	6.67%	s -	\$ 36,372	\$ 1,367	\$ 37,739	\$ 37,800	\$ 61
1915	Office Furniture & Equipment	Office Furn & Equip	\$ -		\$ -	\$ 1,760,467	\$ 73,287	\$ 1,687,180	\$ 658,000		0.00%	5.00	20.00%	\$ -	\$ 337,436	\$ 65,800	\$ 403,236	\$ 403,200	
1920	Computer Equipment - Hardware	Computer Equip-Hardware	\$ -		\$ -	\$ 1,628,219	\$ 66,419	\$ 1,561,800	\$ 868,000		0.00%	3.00	33.33%	\$ -	\$ 520,600	\$ 144,667	\$ 665,267	\$ 665,300	
1930	Transportation Equipment	Transportation-Cars, Vans	\$ -		\$ -	\$ 3,362,158	\$ 1,149,597	\$ 2,212,561	\$ 760,000		0.00%	8.00	12.50%	\$ -	\$ 276,570	\$ 47,500	\$ 324,070	\$ 324,100	
1930	Transportation Equipment	Transportation-Large Vehicles	\$ 85,092		\$ 85,092	\$ 7.801.653	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	\$ 7.801.653	\$ 370,000	1.00	100.00%	12.00	8.33%	\$ 85,092	\$ 650,138	\$ 15,417	\$ 750,646	\$ 750,600	
1930	Transportation Equipment	Trailers	\$ -	\$ -	\$ -	\$ 301.846	\$ 31.846	\$ 270,000	\$ 180,000	-	0.00%	10.00	10.00%	\$ -	\$ 27,000	\$ 9,000	\$ 36,000	\$ 36,000	
1935	Stores Equipment	Stores Equipment	\$ -	•	\$ -	\$ 328,293	\$ 7,651	\$ 320,642	\$ 15,000		0.00%	8.00	12.50%	\$ -	\$ 40,080	\$ 938	\$ 41,018	\$ 41,000	
1940	Tools, Shop & Garage Equipment	Tools.Shop & Garage Equi	\$ -		\$ -	\$ 1,115,070	\$ 63,250	\$ 1.051.820	\$ 247,000		0.00%	8.00	12.50%	s -	\$ 131,477		\$ 146,915	\$ 146,900	
1945	Measurement & Testing Equipment	Measurement & Test Equip	\$		\$ -	\$ 1,500,078	\$ 15,980	\$ 1,484,098	\$ 147,000		0.00%	8.00	12.50%	\$ -	\$ 185,512	\$ 9,188	\$ 194,700	\$ 194,700	
1950	Power Operated Equipment	Power Operated Equipment	\$ -		\$ -	\$ 773,156	\$ 81.156	\$ 692,000	\$ 140,000		0.00%	8.00	12.50%	\$ -	\$ 86.500	\$ 8,750	\$ 95,250	\$ 95,300	
1955	Communications Equipment	Communication Towers	\$ 339.643		\$ 339.643	\$ 186,146	\$ -	\$ 186,146	\$ -	22.92	4.36%	35.00	2.86%	\$ 14,821	\$ 5,318	\$ -	\$ 20,139	\$ 20,100	
1955	Communications Equipment	Communication -wireless	\$ 561.907		\$ 561.907	\$ 2.342.473	\$ -	\$ 2.342.473	\$ 500.000	3.16	31.67%	10.00	10.00%	\$ 177,953	\$ 234.247	\$ 25,000	\$ 437,200	\$ 437,200	
1955	Communications Equipment Communications Equipment	Communication -equipment	\$ 301,907		\$ 501,907	\$ 181,303	\$ 68,503	\$ 2,342,473	\$ 50,000	5.10	0.00%	8.00	12.50%	\$ 177,953	\$ 234,247	\$ 25,000	\$ 437,200 \$ 17,225	\$ 437,200 \$ 17,200	
1960	Miscellaneous Equipment	Miscellaneous Equipment	¢ -		¢ -	\$ 81.115	\$ 315		\$ 20,000		0.00%	8.00	12.50%	\$ -	\$ 10,100	\$ 3,125 \$ 1,250	\$ 17,225	\$ 17,200	
1980	System Supervisor Equipment	Scada RTU's	\$ 368.397		\$ 368.397	\$ 4.682.805	\$ 315	\$ 4.682.805	\$ 569,800	7.07	14.15%	20.00	5.00%	\$ - \$ 52,120	\$ 10,100	\$ 1,250 \$ 14,245	\$ 11,350	\$ 300,000	
1980	System Supervisor Equipment	Scada Master Station	¢ 300,397		φ 300,397 e	\$ 978,752	\$ 61,752	\$ 4,682,805	\$ 122,400	7.07	0.00%	10.00	10.00%	\$ 52,120	\$ 234,140	\$ 14,245 \$ 6,120	\$ 97,820	\$ 97.800	
1995	Contributions & Grants	Contribution & Grants Credit	-\$ 18.647.502		-\$ 18.647.502	-\$ 6.199.669	¢ 01,752	-\$ 6.199.669	\$ 122,400	25.04	3.99%	40.00	2.50%	\$ - -\$ 744,709	\$ 91,700 -\$ 154.992	\$ 6,120	\$ 97,820 -\$ 899,701	-\$ 900.000	
1995 2440	Contributions & Grants Deferred Revenue	Contribution & Grants Credit Deferred Revenue	-φ 10,047,302		-ψ 10,047,502 e	-\$ 6,199,669 -\$ 36.705.171	φ -	-\$ 6,199,669 -\$ 36.705.171	-\$ 4.558.000	25.04	0.00%	40.00	2.50%	-9 /44,/09	-\$ 154,992 -\$ 917.629	\$ - \$ 56.975	-\$ 899,701 -\$ 974,604	-\$ 900,000 -\$ 975.000	
			φ -		ψ - e	\$ 2.318.969	-	\$ 2.318.969	-φ 4,000,000 e				2.50%	• -		φ 56,9/5		\$ 975,000 \$ 58,000	
2005	Property Under Finance Lease Total	Property Under Finance Lease	\$ 109.168.295		Ъ -	+ =,0.0,000		7 =,0.0,000	2 -		0.00%	40.00	2.50%	> -	\$ 57,974	> -	\$ 57,974	7 00,000	
				5 17// 310	\$ 108,993,985		\$ 2,880,670		\$ 41,742,000		1			5 7 074 742	\$ 14,047,988	5 1 260 A7A	£ 32 383 204	\$ 22,379,800	0 -\$ 3,404



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4.7 TAXES OR PAYMENTS IN LIEU OF TAXES ("PILs") AND PROPERTY TAXES

4.7.1 Income Taxes

- As a wholly-owned subsidiary of the Corporation of the City of London, London Hydro is exempt
- from income taxes under the Income Tax Act (Canada). Pursuant to Section 93 of the Electricity
- 6 Act, 1998, as amended, London Hydro is required to make payments in lieu of taxes ("PILs") to
- the Ontario Electricity Financial Corporation. The amount of PILs payable is equivalent to the
- 8 income taxes that would be paid if London Hydro was a taxable corporation under the Income
- 9 Tax Act (Canada).
- Table 4-54 below provides a summary of income taxes, together with the gross-up amount
- necessary for revenue requirement calculations, from 2017 Actual results through to amounts
- forecasted to the proposed 2022 Test Year.

Table 4-54: Summary of Income Taxes 2017 to 2022

	Summa	ary of Incom	e Taxes 2017	' to 2022		
	2017 Actual	2018 Actual	2019 Actual	2020 Actual	2021 Bridge Year	2022 Test Year
Income tax rate	26.50%	26.50%	26.50%	26.50%	26.50%	26.50%
Income taxes - current	974,143	1,158,300	(408,252)	29,907	(1,397,838)	296,526
Gross-up	351,222	417,618	(147,193)	10,783	(503,982)	106,911
Total PILs	1,325,364	1,575,919	(555,445)	40,690	(1,901,820)	403,436

A Detailed Tax Calculation schedule is provided in Table 4-55 on page 364 supporting income tax amounts displayed in Table 4-54 above. This schedule calculates and compares income tax expense for each year and excludes non-utility income and expenses, removing non-utility activity from PILs that are required through rates. Utility net income listed for the 2017 OEB Approved



- and proposed 2022 Test Year represents deemed return on equity, which equates to deemed net
- 2 income for rate making purposes.

Table 4-55: Detailed Tax Calculations 2017 to 2022

	Detaile	d Tax Calcula	tions 2017 to	2022			
Description	2017 OEB	2017	2018	2019	2020	2021	2022
Description	Approved	Actual	Actual	Actual	Actual	Bridge Year	Test Year
Utility net income	10,520,856	13,930,631	12,606,077	10,313,540	5,327,901	6,337,982	12,792,357
Additions to Accounting Income:							
Income tax expense		2,728,000	2,809,000	(1,141,000)	(1,140,000)	(807,200)	
Depreciation and amortization	18,062,727	17,956,887	18,454,512	18,846,727	19,945,989	20,913,500	22,379,800
Meals and entertainment	46,550	52,782	72,330	71,080	49,432	67,950	69,150
Non-deductible company pension plans	-	148,100	231,200	58,600	321,100	132,500	178,300
EFB actuarial (gain) loss through OCI		584,000	(1,549,600)	1,581,300	244,400		
Apprenticeship and Co-op tax credits	50,600	49,053	88,405	69,279	45,365	25,078	31,814
SR&ED tax credits	335,000	473,429	528,069	523,284	583,247	582,218	570,939
Ontario business research tax credit	6,000	6,000	14,000	-	-	6,000	6,000
Swap agreements (gain) loss		(3,519,571)	341,274	419,013	6,629,973		
Advanced capital module funding			571,045	847,429	844,800	856,000	-
Other		(39,328)	(56,583)	6,427	60,469		
Total Additions	18,500,877	18,439,352	21,503,652	21,282,139	27,584,775	21,776,046	23,236,003
Deductions from Accounting Income:							
Capital cost allowance	22,044,696	21,210,023	23,438,737	28,548,208	27,297,536	27,053,237	28,627,524
SR&ED expenditures reclass from CCA pool	1,289,000	2,689,747	2,358,275	2,410,762	2,175,641	2,400,000	2,400,000
Gain on disposal of assets	147,000	137,771	219,888	30,880	28,108	116,400	149,500
Sale of scrap for accounting purposes	383,000	487,840	551,567	834,291	803,193	600,000	600,000
Financing fees proration for tax purposes	8,900	8,947	8,946	-	13,096	13,096	13,096
Tax credits for accounting purposes	380,600	575,710	590,634	573,430	586,428	715,615	606,939
Facilities restorations	567,000	398,761	342,240	567,492	98,010	216,000	222,000
Total Deductions	24,820,196	25,508,799	27,510,287	32,965,063	31,002,012	31,114,348	32,619,059
Total tax adjustments to accounting income	(6,319,319)	(7,069,447)	(6,006,635)	(11,682,924)	(3,417,237)	(9,338,302)	(9,383,056)
Taxable Income	4,201,537	6,861,184	6,599,442	(1,369,384)	1,910,664	(3,000,319)	3,409,301
Corporate Income Tax Rate	26.50%	26.50%	26.50%	26.50%	26.50%	26.50%	26.50%
Total PILs before gross up and tax credits	1,113,407	1,818,214	1,748,852	(362,887)	506,326	(795,085)	903,465
Tax credits:							
SR&ED	(335,000)	(523,206)	(507,273)	(569,477)	(683,801)	(570,939)	(570,939)
SR&ED carryback		(232,460)		569,477	232,460		
Apprenticeship Tax Credits-Provincial	(22,600)	(36,205)	(37,794)	(17,205)	(4,918)	-	-
Apprenticeship Tax Credits-Federal	(10,000)	(7,935)	(5,633)	(4,160)	(2,000)	(1,814)	(6,000)
Co-Op	(18,000)	(44,265)	(25,852)	(24,000)	(14,960)	(24,000)	(24,000)
Ontario Business Institute Research	(6,000)		(14,000)		(3,200)	(6,000)	(6,000)
Total tax credits	(391,600)	(844,071)	(590,552)	(45,365)	(476,419)	(602,753)	(606,939)
Total PILs before gross up	721,807	974,143	1,158,300	(408,252)	29,907	(1,397,838)	296,526
Calculation of Utility Income Taxes							
Gross up	260,243	351,222	417,618	(147,193)	10,783	(503,982)	106,911
Total Taxes (PIL's) for rate recovery	982,051	1,325,364	1,575,919	(555,445)	40,690	(1,901,820)	403,436
Tax Rates							
Federal Tax	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
Provincial Tax	11.50%	11.50%	11.50%	11.50%	11.50%	11.50%	11.50%
Total Tax Rate	26.50%	26.50%	26.50%	26.50%	26.50%	26.50%	26.50%
	2013070	2013070	2013070	2013070	2013070	2013070	2013070



- London Hydro's actual debt structure differs from that used for ratemaking and, accordingly,
- 2 actual interest expense for income tax purposes is lower than that used in the calculation of PILs
- in the Cost of Service Rate Application. This results in actual taxable income being higher than
- 4 amounts budgeted for ratemaking purposes.

Accelerated Investment Incentive

- 6 Another factor creating variances from income tax budgeted for 2017, is the new Accelerated
- 7 Investment Incentive. This new tax measure focuses on enhanced tax deductions for investments
- by all businesses through accelerated capital cost allowance ("CCA") for both tangible and
- 9 intangible property.

- The Government of Canada introduced the Accelerated Investment Incentive ("AII") program
- through Bill C-97 effective November 21, 2018. This new incentive allows businesses in Canada
- to deduct the cost of their capital investments more quickly by suspending the half-year rule and
- then applying the prescribed CCA rate for a class to one-and-a-half times the additions for the
- 14 year. This means that additions are eligible for three times the tax deduction in the year of
- acquisition than they otherwise would be. This change in CCA has resulted in reduced taxes
- payable by London Hydro commencing in fiscal 2018.
- Accelerated CCA is available for eligible property that becomes available for use before 2028 and
- a phase-out will begin for property that becomes available for use after 2023. Commencing in
- 19 2024 and ending 2028, prescribed CCA rates will revert back to normal, however, the half-year
- rule will be suspended resulting in additions being eligible for two times the tax deduction in the
- 21 year.
- The OEB issued accounting direction regarding the differences between the payments-in-lieu of
- income tax ("PILs") recovered through rates and these legislative changes in its letter of July 25,
- 2019, which instructs LDC's to share 100% of tax savings amounts with customers by recording
- 25 the savings in a new sub-account of Uniform System of Accounts No. 1592 PILs and Tax
- Variances titled "CCA changes". Amounts recorded in the CCA changes deferral account are as
- 27 follows:



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Table 4-56: Summary of Tax Savings Due to Customers

CCA	CHANGES TAX S	AVINGS 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

- Income tax expenses above include the impact of CCA changes as a result of the Accelerated
- 3 Investment Incentive program. London Hydro has recorded the decreased revenue requirement
- as a result of this PILs savings in the 1592 CCA Changes sub account with offsetting entries to
- 5 distribution revenue.

6 Reconciliation of Regulatory Taxable Income

- A reconciliation between actual taxable income as reported in annual corporate income tax
 - returns as filed with the Ministry of Finance in comparison to regulatory taxable income for the
- 9 taxation years from 2017 to 2020 is provided below:

Table 4-57: Reconciliation of Regulatory Taxable Income 2017 to 2020

	2017	2018	2019	2020
	Actual	Actual	<u>Actual</u>	<u>Actual</u>
Taxable income (loss) as filed with Ministry of Finance	6,988,602	8,548,447	(1,205,862)	2,134,632
Remove non-distribition activities:				
Renewable generation and electric vehicle activities:				
Revenues	(340,599)	(311,600)	(322,008)	(348,419
Operating expenditures	91,071	259,244	110,248	90,842
CCA	117,110	64,579	40,121	23,314
	(132,418)	12,223	(171,639)	(234,263
Non-utility donations	5,000	5,000	5,000	10,295
OPA Conservation Demand Management incentives	-	(1,966,228)	3,117	-
	(127,418)	(1,949,005)	(163,522)	(223,968
Regulatory taxable income	6,861,184	6,599,442	(1,369,384)	1,910,664



Income Tax Credits

- A summary of income tax credits for 2017 to 2020 taxation years, as well as projected amounts
- for the 2021 Bridge Year and proposed 2022 Test Year are provided below. These income tax
- 4 credits are deducted in the calculation of current taxes payable and are associated with Scientific
- 5 Research and Experimental Development (SR&ED), Ontario Business Research, Ontario
- 6 Apprenticeship Training, Federal Apprenticeship Job Creation and Co-operative Education tax
- 7 credits.

- 8 Income tax credits have decreased in connection with Apprenticeship Training Tax Credits
- 9 ("ATTC") as these credits are no longer available. The ATTC program has been replaced by the
- new Graduated Apprenticeship Grant for Employers ("GAGE") for apprenticeship programs that
- commenced after November 14, 2017. This program is not funded by way of income tax credits
- resulting in an increase to net income tax expense. GAGE funding is recorded in Other Revenue
- resulting in an increase in revenue offsets.



Table 4-58: Summary of Tax Credits 2017 to 2022

	Sumi	mary of Tax	Credits			
	2017	2018	2019	2020	2021	2022
	<u>Actual</u>	<u>Actual</u>	<u>Actual</u>	<u>Actual</u>	Bridge Year	Test Year
Investment tax credits						
SR&ED	523,206	507,273	569,477	683,801	570,939	570,939
Ontario business research	-	14,000	-	3,200	6,000	6,000
	523,206	521,273	569,477	687,001	576,939	576,939
Apprenticeship tax credits						
Eligible apprentice	5,000	1,986	3,616	3,798	-	-
Eligible apprentice	5,000	5,000	5,000	1,120	-	-
Eligible apprentice	5,000	2,452	5,000	-	-	-
Eligible apprentice	1,205	5,000	1,534	-	-	-
Eligible apprentice	-	3,356	2,055	-	-	-
Eligible apprentice	10,000	10,000	_	-	-	-
Eligible apprentice	10,000	10,000	-	-	-	_
	36,205	37,794	17,205	4,918	-	-
Job creation tax credits						
Eligible apprentice	2,000	2,000	2,000	2,000	1,814	2,000
Eligible apprentice	2,000	2,000	564	-	-	2,000
Eligible apprentice	1,623	1,633	1,596	-	-	2,000
Eligible apprentice	1,398	-	-	-	-	-
Eligible apprentice	914	-	-	-	-	-
	7,935	5,633	4,160	2,000	1,814	6,000
Co-operative education						
Eligible student	3,000	3,000	3,000	3,000	3,000	3,000
Eligible student	3,000	3,000	3,000	3,000	3,000	3,000
Eligible student	3,000	3,000	3,000	3,000	3,000	3,000
Eligible student	3,000	3,000	3,000	3,000	3,000	3,000
Eligible student	3,000	3,000	3,000	2,960	3,000	3,000
Eligible student	3,000	3,000	3,000	-	3,000	3,000
Eligible student	3,000	3,000	3,000	-	3,000	3,000
Eligible student	3,000	3,000	3,000	-	3,000	3,000
Eligible student	3,000	1,852	-	-	-	-
Eligible student	3,000	-	-	-	-	-
Eligible student	3,000	-	-	-	-	-
Eligible student	3,000	-	-	-	-	-
Eligible student	3,000	-	-	-	-	-
Eligible student	2,977	-	-	-	-	-
Eligible student	2,288	-	-	-	-	-
_	44,265	25,852	24,000	14,960	24,000	24,000
	611,611	590,552	614,842	708,879	602,753	606,939



1 SR&ED investment tax credits

- The SR&ED for 2019 is listed as nil in Table 4-55 above because the actual tax credit was carried
- back to the 2016 taxation year, as there was no tax payable for the 2019 year as a result of the
- 4 Accelerated CCA Incentive. For this same reason, a portion of the SR&ED for 2020 was carried
- 5 back to the 2017 taxation year.
- 6 Scientific Research and Experimental Development (SR&ED) Investment Tax Credits have been
- forecasted in the amount of \$570,939 for each of the 2021 Bridge year and 2022 proposed Test
- 8 Year. The 2021 and 2022 SR&ED budgets are based on the rounded four-year average of actual
- 9 amounts for 2017 to 2020.

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

Average SR&ED Investment Tax Credits

Ontario business institute research tax credit

Eligible corporations can claim a 20 per cent refundable tax credit for qualified expenditures on scientific research and experimental development work performed in Ontario under contract with eligible research institutes. At the timing of preparing the 2017 Cost of Service Rate Application, London Hydro was working with an eligible post-secondary institution on a joint project and received tax credits for both of the 2015 and 2016 taxation years. During development of the 2017 Test Year budget, it was assumed that this project would continue. However, the project ended in 2016. There were eligible projects in 2018 and 2020 however, resulting in tax credits for those years.



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SR&ED Expenditures Reclass from CCA Pool

- 2 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
- 4 current year, for income tax purposes only. This adjustment has been forecasted at \$2,400,000
- 5 for both the 2021 Bridge Year and 2022 proposed Test Year based on actual amounts deducted
- for the four years from 2017 to 2020.

7 Capital Cost Allowance - CCA

- 8 Details with respect to capital cost allowance, as displayed in the Detailed Tax Calculation
- schedule, have been provided in Appendix 4-2. London Hydro has claimed the maximum CCA
- deduction available for the proposed 2022 Test Year.

Financial Statements included with Tax Return

- The financial statements included with London Hydro's 2020 income tax return are the same as
- those filed with this Cost of Service Rate Application as an attachment to Exhibit 1.

Non-Recoverable and Disallowed Expenses

- London Hydro confirms that all non-distribution activities have been excluded from the calculation
- of taxable income and that all disallowed expenses have been identified in the PILs calculations
- for this Application.

Tax Treatment of Dividends

- London Hydro pays dividends to its sole shareholder, the Corporation of the City of London. These
- dividends are paid from after-tax retained earnings and are, therefore, not treated as a deduction
- for income tax purposes. In addition, there is no refundable dividend tax balance on hand
- 24 ("RDTOH").



1 Integrity Checks

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2 Depreciation and amortization

	2017	2018	2019	2020	2021	2022
Depreciation Integrity	Actual	Actual	Actual	Actual	Bridge Year	Test Year
Total depreciation, including allocated fleet	18,040,719	18,578,173	18,975,910	20,075,172	21,042,700	22,509,000
Account 1576 amortization	39,327	-	-	-	-	-
Renewable generation	(123,159)	(123,661)	(129,183)	(129,183)	(129,200)	(129,200)
	17,956,887	18,454,512	18,846,727	19,945,989	20,913,500	22,379,800
Per detailed tax calculation	17,956,887	18,454,512	18,846,727	19,945,989	20,913,500	22,379,800
	-	-	-	-	-	-

The detailed tax calculation depreciation amount includes vehicle depreciation which has been

allocated to OM&A, capital and billable activities as well as the amortization of capital

6 contributions treated as a revenue offset in this Application.

7 Capital additions / CCA

	2017	2018	2019	2020	2021	2022
Capital additions / CCA	Actual	Actual	Actual	Actual	Bridge Year	Test Year
Total fixed asset additions	27,316,147	35,716,650	37,777,183	38,546,600	36,777,000	41,742,000
Transfer from Smart Grid deferral accounts	423,643					
ACM Nelson TS under deferral account		7,257,707			(1,750,000)	
ACM J.D. Edwards under deferral account		2,591,309				
Property under finance lease		(2,318,969)				
	27,739,790	43,246,697	37,777,183	38,546,600	35,027,000	41,742,000
Additions per CCA Schedule	27,739,790	43,246,697	37,777,183	38,546,600	35,027,000	41,742,000
	-	-	-	-	-	-

9 Please note that amounts included in the "Adjustment" column of the CCA schedules (Appendix 4-2) represent,

- SR&ED expenditures reclassification
- Facilities restorations
 - Increase or decrease adjustment for transformers and meters on hand and not in use

Opening UCC balance

London Hydro confirms that the ending UCC balance in Schedule 8 of the 2020 income tax filing is \$267,667,701 and agrees to the opening UCC balance for the 2021 Bridge Year.



1 CCA deduction

- London Hydro confirms that the CCA deduction in the PILs tax model for historical, Bridge and
- Test years agree with amounts listed in the CCA schedules included in Appendix 4-2.

4 **OPEB and pension amounts**

	2017	2018	2019	2020	2021	2022
OPEB (non deductible company pension plans	Actual	Actual	Actual	Actual	Bridge Year	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
	-	-	-	-	-	-

6 Other integrity

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- 7 London Hydro confirms that
 - The maximum CCA deductions available have been claimed
 - There are no capital or non-capital loss carry-forward amounts
- The income tax rate for each of the years from 2017 to 2022 is 26.5%

11 Appendix Items

- In support of its PILs expense, London Hydro has provided the OEB Income Tax PILs Work Form
- Excel version for the proposed 2022 Test Year along with the following documentation as
- 14 Appendices:
 - 4-1 OEB Income Tax PILs Work Form (pdf version)
- 4-2 Capital Cost Allowance schedules for 2017 OEB Approved to the 2022 Test Year
- 4-3 Corporate tax return filing for the 2020 taxation year



Funding Further Innovation through SR&ED

Ever since 2009, London Hydro has been diligently carrying on with innovative technology development to increasingly make use of smart meter data. This innovation has manifested into several excellent applications including customer friendly billing, a myriad of self-service options and tools, smart applications, energy management solutions and Green Button evolution. These innovations have also enabled London Hydro to undertake several novel demonstration projects with great success, examples of such include the OEB's Critical Peak Pricing project, the PowerForward Challenge funded by NRCan and Sidewalk Labs project to determine the value of local solar products vis-a-vis the grid supply. These pilot projects fueled the further development of many smart applications. London Hydro still continues to innovate and develop new technologies primarily with the focus to become more efficient and concurrently provide easy, user-friendly, tools and applications for our customers.

Our customers, both residential and commercial, have repeatedly expressed appreciation for these efforts. As such, many of the smart apps developed for commercial customers were accomplished through frequent customer focus groups to understand their requirements and needs and as a result, many of these apps have become popular among our customers. Above all, all of London Hydro's technology development is fully predicated on Green Button systems, which is further affirmation of the enhanced value provided by Green Button systems.

On our journey of excellence through innovation, London Hydro has significantly benefited from the SRED program of the federal government. Our benefits in 2009 were small in the beginning of our innovation journey, but this benefit has grown to more than \$500k a year. This indicates the level of our investment in innovation and the proliferation of London Hydro's innovative thinking and collaboration. Between 2009 and 2020, total SRED benefit London Hydro received is about \$4.6M.

This brings us to the crux of the matter, which is that in the OEB's Cost of Service rate making regulations, the SRED claim are offset against the revenue requirement. In 2013, London Hydro had to offset its revenue requirement by approximately \$105k and in our 2017 application, the offset against revenue was \$335k. In our current Cost of Service rate application, as per the standard rate making process, the SRED offset is approximately \$570k. In our view, this is a



- discouragement of innovation and is contrary to the OEB's recent strategic goal of facilitating future innovation and embracing technology to support long-term reliability, sustainability and value in the electricity sector. This also serves as a disincentive for London Hydro's employees as the reduction in revenue reduces corporate wherewithal to a certain degree to provide incentives to employees for being innovative. Sincerely, we believe that the SRED benefit should be left to London Hydro so that we can use these funds to further promote an innovative culture in our corporation.
- 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.

4.7.2 Property Taxes

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Property taxes listed below are paid to the Corporation of the City of London in connection with London Hydro's head office located at 111 Horton Street. Amounts budgeted for the proposed 2022 Test Year in the amount of \$609,200 have been forecasted based on the average increase in actual assessments from 2017 to 2020.

Table 4-59: Property Tax Summary

			Property T	axes				
							2017 Actuals	
	2017	2018	2019	2020	2021	2022	to	
Location	Actual	Actual	Actual	Actual	Bridge	Test	2022 Test	CAGR
	\$	\$	\$	\$	\$	\$	\$	%
111 Horton Street offices	504,190	523,560	543,231	568,688	588,500	609,200	105,010	4%

As instructed in the OEB Accounting Procedures Handbook, property taxes for London Hydro's 36 substations positioned throughout the City of London have been captured in the OM&A expenditures of London Hydro, and are located under the Facilities and Environmental Services Program in this Exhibit.



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4.8 CONSERVATION AND DEMAND MANAGEMENT

Conservation and Demand Management ("CDM") programs for electricity distributors were first 2 approved by the OEB in 2004, and have expanded since becoming a more important part of the 3 energy policy in Ontario. The Board developed and issued the CDM Code for Electricity 4 Distributors (the "CDM Code") on September 16, 2010 to support the CDM framework. The CDM 5 Code sets out the obligations along with requirements, with which electricity distributors must 6 comply in relation to the CDM targets set out in their licenses for the January 1, 2011 to December 7 31, 2014 CDM target period. The CDM Code was created in response to a Directive dated March 8 31, 2010 by the Minister of Energy and Infrastructure pursuant to sections 27.1 and 27.2 of the 9 Ontario Energy Board Act, 1998. Section 12 of the Directive states that lost revenues that result 10 from CDM programs should not act as a disincentive to a distributor. 11

The Board issued detailed guidelines on the lost revenue adjustment mechanism ("LRAM") related to CDM programs implemented under the CDM code. London Hydro calculated the LRAM Variance Account balance ("LRAMVA") in compliance with the requirements set out in the following guidelines issued by the Board:

Guideline for Electricity Distributor Conservation and Demand Management (EB-2012-0003 – the "2012 CDM Guidelines"), dated April 26, 2012, describes the mechanism to capture the difference between the results of actual verified impacts of authorized CDM activities undertaken by the distributor between 2011 and 2014 and the level of activities embedded into rates through the distributor's load forecast. This guideline also describes the establishment of the LRAM Variance Account and the method to record the related lost revenues.

The Conservation and Demand Management Requirement Guidelines for Electricity Distributors (EB-2014-0278 – the "2015 CDM Guidelines"), issued by the OEB on December 19, 2014, are applicable to CDM programs beginning January 1, 2015. These guidelines require distributors to continue to rely on the LRAMVA to track and dispose lost revenues that result from approved CDM programs between 2015 and 2020.

The Report of the OEB: Updated Policy for the Lost Revenue Adjustment Mechanism Calculation:
Lost Revenues and Peak Demand Savings from Conservation and Demand Management



- Programs (EB-2016-0182 the "LRAMVA Report"), issued on May 19, 2016, outlines the OEB's
- policy with respect to the treatment of peak demand savings for the LRAM Variance Account
- 3 calculation for demand billed customers.
- 4 On March 20, 2019 the Minister of Energy, Northern Development and Mines issued a directive
- to the IESO in which the 2015-2020 Conservation First Framework was concluded and replaced
- 6 with a 2019-2020 Interim Framework, under which the IESO was tasked to streamline and
- 7 centrally deliver refocused CDM programs. Subsequently directives were issued to extend the
- 8 deadlines for the completion of CFF projects. The first such directive was issued on July 22, 2020
- to extend deadlines until June 30, 2021, and followed by another one on June 10, 2021 to further
- extend in-service deadlines until December 31, 2021 due to delays caused by the COVID-19
- 11 emergency.
- The IESO established a new CDM framework for the 2021-2024 period and the OEB intends to
- issue future updates to the CDM Guidelines.
- London Hydro confirms that no CDM costs are included in its revenue requirement.

1568 LRAM Variance Account

- The CDM Guidelines (EB-2012-0003), which apply to the four-year period from January 1, 2011
- to December 31, 2014, direct that the variances between the Board approved CDM forecast and
- the actual results at the customer rate class level are to be recorded in Account 1568 LRAMVA.
- The LRAM Variance Account captures, at the rate class level, the difference between the
- 20 following:

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- i. The results of actual, verified impacts of authorized CDM activities undertaken by
- electricity distributors between 2011-2014 for both Board-Approved programs and
- OPA-Contracted Province-Wide programs in relation to activities undertaken by the
- 24 distributor and/or delivered for the distributor by a third party under contract (in the
- distributor's franchise area); and



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ii. The level of CDM program activities included in the distributor's load forecast (i.e., the level embedded into rates).

In accordance with the Board's *Guidelines for Electricity Distributor Conservation and Demand Management* (EB-2012-0003) issued April 26, 2012, as well as Chapter 2 Filing Requirements, at minimum, distributors must apply for the disposition of the balance in the LRAMVA at the time of their Cost of Service rate applications. Distributors may apply for the disposition of the balance in the LRAMVA on an annual basis, as part of their Incentive Regulation Mechanism ("IRM") rate application if the balance is deemed significant by the applicant. The LRAMVA shall not be included in the pre-set disposition threshold calculation in determining materiality for disposition for Group 1 accounts as per the July 31, 2009 Report of the Board: *Electricity Distributors' Deferral and Variance Account Initiative* (EB-2008-0046). All requests for disposition of the LRAMVA must be made together with carrying charges.

London Hydro received Board approval for the recovery of an LRAMVA amount of \$905,045 in its 2021 IRM rate application (EB-2020-0038). This amount consisted of lost revenues from the 2017 CDM programs and the 2011-2016 programs savings persisting in Year 2017. The calculated amount was based on the Final 2017 Annual Verified Results and the adjustments in the Program Participation and Cost Report issued by the IESO in April 2019 for London Hydro. The resulting rate riders expire on April 30, 2022.

London Hydro is not requesting recovery of lost revenue resulting from any pre-2011 CDM activities or legacy programs, and any OEB-approved programs.

London Hydro has used the most recent input assumptions available when calculating lost revenue and has also relied on the most recent final evaluation reports from the IESO.

The 2017 Final Verified Annual Program Results London Hydro Inc. issued on June 29, 2018, included the 2015 2017 verified program results.

The IESO will not issue further final verified annual program results reports. In its place, the IESO made the monthly Participation and Cost Report available to distributors for the period of January 1, 2018 to April 15, 2019. This report contains the incremental first year energy savings and program specific persistence information. To calculate the net savings values, the LDC is to apply



- the net-to-gross values and gross realization rates to post-2017 gross unverified savings values
- 2 from the 2017 Final Verified Annual Program Results. The Participation and Cost Report issued
- in April 2019 includes the 2018 unverified energy savings as well as adjustments to the 2015,
- 4 2016 and 2017 verified program results. In addition, detailed project level savings files are
- 5 required to support energy and demand related LRAMVA claims for Year 2018 and beyond.
- 6 The requested amount in Account 1568 LRAMVA for recovery in this application includes the lost
- 7 revenues from the 2018-2019 CDM programs and the prior year programs savings persistence
- into 2018 and 2019, as well as applicable carrying charges up to April 30, 2022.
- 9 London Hydro utilized the OEB model Lost Revenue Adjustment Mechanism Variance Account
- (LRAMVA) Work Form Version 6.0 (2022), issued on June 24, 2021, updated on July 8, 2021,
- to calculate the LRAMVA amount and has filed the model with this application.
- The balance of Account 1568 LRAMVA with projected carrying charges at the Board prescribed
- interest rate is presented in Table 4-60 Account 1568 LRAMVA Balance. The Board prescribed
- interest rate 0.57% applied for the period of January 1, 2021 to April 30, 2022 to the opening
- principal balance. The projected balance is \$1,537,236, and it is proposed for recovery via rate
- 16 riders.

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Table 4-60 - Account 1568 LRAMVA Balance

LRAMVA Account	ı	Net Accruals / Variances		Carrying Charges		Ending Balances at Dec. 31, 2020		Projected Interest Jan 1/21 to Apr 30/22 - 0.57%		Projected Balances as at Apr 30/22	
1568 LRAMVA	\$	1,473,305	\$	52,733	\$	1,526,039	\$	11,197	\$	1,537,236	

London Hydro will continue the use of 1568 LRAM Variance Account on a going forward basis.

Calculation of the LRAMVA Amount

- The LRAMVA calculation involves the comparison of the actual verified savings to the level of
- 21 CDM program activities included in the distributor's load forecast and computing the resulting lost
- 22 revenues.



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Expected Savings for LRAMVA

- 2 London Hydro incorporated rate class specific energy and demand savings from CDM activities
- in the load forecast approved in its 2013 COS rate application. Table 4-61 Expected Savings
- 4 for LRAM Variance Account reflects the expected savings to be incorporated into the LRAM
- 5 calculation according to the related decision and rate order. This table is titled as "Settlement
- 6 Table 7 LRAMVA Allocation per Customer Class" in the Decision and Rate Order, EB-2012-
- 7 0146, Appendix A Settlement Agreement, Page 24.

Table 4-61 - 2013 Expected Savings for LRAM Variance Account

Table 3-20: 2013 Expected Savings for LRAM Variance Account									
Residential GS<50 GS>50 Large User Cogeneration Street Lighting Sentinels USL Total								Total	
kWh	14,896,090	5,412,015	21,361,865	2,576,753	552,808	315,677	10,286	65,791	45,191,286
kW where applicable			53,511	5,133	2,704	885	28		62,262

There were no expected CDM savings incorporated into London Hydro's load forecast prior to the 2013 Cost of service application (EB-2012-0146).

Rate class specific expected energy and demand savings from CDM activities incorporated into the LRAMVA calculation from the 2017 Cost of Service rate application is shown in Table 4-62 – 2017 Expected Savings for LRAM Variance Account. This table is titled as "*Table 16: LRAMVA Baseline kWhs and kWs*" in the Decision and Rate Order, EB-2016-0091, Tab 1 of 1 Settlement Agreement, Page 32.

Table 4-62 - 2017 Expected Savings for LRAM Variance Account

Table 1	6: LRAMVA Base	eline kWhs and	l kWs						
	Residential	GS<50	GS>50	Large User	Cogeneration	Street Lighting	Sentinels	USL	Total
kWh	9,641,185	27,433,333	4,106,000	23,333,333		5,600,000			70,113,851
kW			10,470	44,917		15,680			71,067

Actual Savings for LRAMVA

The LRAMVA balance is based on Final Verified Savings Results Reports and the Participation and Cost Report issued by the IESO for each applicable year, where available. The reports are filed in Excel format with this application. The latest and most up-to-date information was used in the calculation.



- London Hydro has calculated the energy and peak demand savings resulting from the 2011-2014
- 2 CDM programs based on the *2011-2014 Final Results Report London Hydro Inc.*, issued by the 3 IESO.
- 4 Energy and peak demand savings from CDM programs in Years 2015-2017 were calculated
- based on the final verified results reports for each of those years issued by the IESO. The *Final*
- 6 2017 Annual Verified Results Report London Hydro Inc., issued on June 29, 2018 by the IESO,
- 7 included 2015-2017 verified results used in the LRAM calculation. The Participation and Cost
- 8 Report issued in April 2019 included some 2017 unverified energy savings as well as adjustments
- 9 to the 2015 and 2016 verified program results. The adjustments were updated in the LRAMVA
- 10 Work Form for each year.

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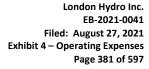
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Energy and peak demand savings from CDM programs in Years 2018 and 2019 were determined using detailed project level gross savings records and the applicable net-to-gross factors and gross realization rates from the 2017 Final Verified Annual Program Results report were applied to calculate net energy and demand savings. The project list for Save on Energy Retrofit and Small Business Lighting programs in 2018 and 2019 is included in the LRAMVA Work Form on Tab B. Project List for reference with the details of net savings calculations. The date of the incentive payment reflects the reporting year and the project completion date determined the first year of savings.

The IESO reported the final verified results of both energy savings and reductions in demand. Customers who are in the Residential, General Service less than 50 kW, General Service 50-4,999 kW, Co-Generation 1,000-4,999 kW, Large Use and Street Lighting rate classes, participated in the CDM programs conducted during the years of 2011-2019. The net energy and demand savings for programs reported during 2018 and 2019 were calculated on Tab B. Project List in the LRAMVA Work Form. The energy savings and demand reductions are reflected in kWh and kW, respectively. The lost revenues are calculated for each rate class using energy savings or demand reductions based on the billing determinant that is applied in the calculation of the variable distribution charge. Peak demand reductions from Demand Response 3 programs are not included in the lost revenue calculations.





Energy and demand savings by year for each rate class are updated in the appropriate tables on Tabs 4. 2011-2014 LRAM and 5. 2015-2020 LRAM. The tables list the individual CDM programs/initiatives applicable to each rate class and indicate the energy savings (kWh) and peak demand (kW) savings assigned to those programs/initiatives. Program persistence was populated on Tab 7 based on the IESO issued persistence report for each year and linked to each program in the corresponding tables. The net demand kW savings for the adjustments from the April 2019 Participation and Cost Report was calculated using the average kW/kWh ratios from the 2017 Annual Verified Results, or earlier years where applicable, of the same program. Program persistence were determined for each program reported in 2018 and 2019 using the Persistence Methodology by Program table from the Participation and Cost Report issued in April 2019, on Tab Reference Tables. Rate class allocations are populated in the LRAMVA Work Form on Tab A based on customer participation from each rate class in the programs reported in the final results.

The savings then are totalized by rate classes and program year. The persisting savings from prior year programs are added to each year's summarized savings to establish the total savings for the year.

London Hydro's rate year does not coincide with its fiscal year, therefore, in order to calculate the lost revenues resulting from CDM activities, an average volumetric distribution rate is computed for each rate class by year. The calculation does not include any volumetric rate riders that are subject to their own independent true up process.

The rates were prorated based on the approved effective implementation period. London Hydro's rate year cycles from May 1 of current year to April 30 of subsequent year. The average rate is calculated by taking the prior year rate and prorate it for the first four months (January to April), then taking the current year's approved rate and prorate if for the remaining eight months (May to December). The implementation of distribution rates in 2020 were delayed from May 1 to Nov 1 with the intention to lessen the impact of the COVID-19 emergency to customers. The summary of the two prorated value yields the average annual volumetric distribution rate specific to the rate class.



- The lost revenue is determined by multiplying the volumetric impact of the load reductions by the
- 2 average annual Board approved variable distribution charges applicable to the customer rate
- class, in which the volumetric variance occurred. The enclosed LRAMVA Work Form details each
- 4 CDM initiative by program year and rate class, and the complete calculation of the LRAMVA
- 5 amount.

6 <u>LRAMVA Proposed for Recovery</u>

- 7 The LRAMVA principal amount consists of the difference between the results of actual verified
- and/or unverified impacts in 2018-2019 of authorized CDM activities undertaken by the distributor
- between 2011 and 2019 and the expected energy and demand savings approved by the OEB for
- LRAMVA calculation multiplied with the distribution rates in effect for the respective period.
- 11 Carrying charge, included in the LRAMVA claim, is calculated using the Board prescribed interest
- rate for the respective quarterly period, and applied to the monthly opening balances of the
- 13 LRAMVA principal.

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Table 4-63 - LRAMVA Principal and Interest Proposed for Recovery

Customer Class	Billing Unit	Principal (\$)	Carrying Charges (\$)	Total LRAMVA (\$)
Residential	kWh	\$371,648	\$18,108	\$389,756
GS<50 kW	kWh	\$285,302	\$11,847	\$297,149
General Service 50 - 4,999 kW	kW	\$1,176,218	\$49,156	\$1,225,373
Co-Generation 1,000 - 4,999 kW	kW	\$54,796	\$2,299	\$57,095
Large User	kW	-\$151,248	-\$6,387	-\$157,634
Street Lighting	kW	-\$263,411	-\$11,092	-\$274,504
Sentinel Lighting	kW	\$0	\$0	\$0
Unmetered Scattered Load	kWh	\$0	\$0	\$0
Total		\$1,473,305	\$63,930	\$1,537,236

The LRAMVA claim proposed for recovery has been included in the 2022 EDDVAR Continuity

Schedule COS latest model ("EDDVAR model") within Exhibit 9 - Deferral and Variance

Accounts. The allocation of the LRAMVA amount to the appropriate rate classes and the resulting

rate riders are also included in the EDDVAR model.



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4.9 PRESCRIBED TABLE LISTING

- 2 As per the Filing Requirements, London Hydro has completed the required tables listed below in
- 3 connection with OM&A Expenditures. To assist with navigation, the location of this information
- 4 throughout the Application is provided as follows:
- 5 Appendix 2-BB: Capital Assets Service Life Comparison
 - ➤ 2022 Filing Requirements Chapter 2 Appendices (Excel workbook)
- 7 Appendix 2-C: Depreciation and Amortization Expense for 2017
 - Exhibit 4, Table 4-48, page 356
 - ➤ 2022 Filing Requirements Chapter 2 Appendices (Excel workbook)
- 10 Appendix 2-C: Depreciation and Amortization Expense for 2018
- 11 Exhibit 4, Table 4-49, page 357
 - 2022 Filing Requirements Chapter 2 Appendices (Excel workbook)
- Appendix 2-C: Depreciation and Amortization Expense for 2019
- 14 Exhibit 4, Table 4-50, page 358
- → 2022 Filing Requirements Chapter 2 Appendices (Excel workbook)
- Appendix 2-C: Depreciation and Amortization Expense for 2020
 - Exhibit 4, Table 4-51, page 359
- ▶ 2022 Filing Requirements Chapter 2 Appendices (Excel workbook)
- Appendix 2-C: Depreciation and Amortization Expense for 2021
 - Exhibit 4, Table 4-52, page 360
- ≥ 2022 Filing Requirements Chapter 2 Appendices (Excel workbook)
- 22 Appendix 2-C: Depreciation and Amortization Expense for 2022
- 23 Exhibit 4, Table 4-53, page 361
- 24 > 2022 Filing Requirements Chapter 2 Appendices (Excel workbook)



1	Appendix 2-D: Overhead Expense
2	2022 Filing Requirements Chapter 2 Appendices (Excel workbook)
3	Appendix 2-JA: Summary of Recoverable OM&A Expenses
4	2022 Filing Requirements Chapter 2 Appendices (Excel workbook)
5	Appendix 2-JB: Recoverable OM&A Cost Driver Table
6	Exhibit 4, Table 4-15, page 49
7	2022 Filing Requirements Chapter 2 Appendices (Excel workbook)
8	Appendix 2-JC: OM&A Programs Table
9	Exhibit 4, Table 4-16, page 52
0	 2022 Filing Requirements Chapter 2 Appendices (Excel workbook)
1	Appendix 2-K: Employee Costs
2	Exhibit 4, Table 4-32, page 320
3	 2022 Filing Requirements Chapter 2 Appendices (Excel workbook)
4	Appendix 2-L: Recoverable OM&A Cost per Customer and per FTE
5	Exhibit 4, Table 4-5, page 22
6	 2022 Filing Requirements Chapter 2 Appendices (Excel workbook)
7	Appendix 2-M: Regulatory Cost Schedule
8	Exhibit 4, Table 4-39, page 343
9	Exhibit 4, Table 4-40, page 344
20	 2022 Filing Requirements Chapter 2 Appendices (Excel workbook)
21	Appendix 2-N: Shared Services and Corporate Cost Allocation
22	Exhibit 4, Table 4-38, page 338
23	2022 Filing Requirements Chapter 2 Appendices (Excel workbook)



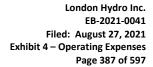
4.10 APPENDICES LISTING

- 2 Appendix items provided at the end of this Exhibit include:
- Appendix 4-1: OEB PILs Work Form (pdf version)
- Appendix 4-2: CCA Schedules 2017 to 2022
- 6 Appendix 4-4: Post Retirement Obligation Actuarial Valuation Report for 2020
- Appendix 4-5: Purchasing Department Policies and Procedures



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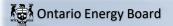


Appendix 4-1: OEB PILS Work Forms (pdf)



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PILs Tax Provision - Test Year

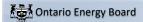
									W	res Only	
Regulatory Taxable Income								<u>T1</u>	\$	3,409,301 A	
	Tax Rate Sn	mall Business Rate (If Applicable)	Tax	es Payable	Effective Tax Rate	•					
Ontario (Max 11.5%)	11.5%	11.5%	\$	392,070	11.5%	В					
Federal (Max 15%)	15.0%	15.0%	\$	511,395	15.0%	С					
Combined effective tax rate (Max	26.5%)									26.50% D = B + C	
Total Income Taxes									\$	903,465 E = A * D	
Investment Tax Credits Miscellaneous Tax Credits									\$	570,939 F 36,000 G	
Total Tax Credits									\$	606,939 H = F + G	
Corporate PILs/Income Tax Provision	on for Test Yea	ar							\$	296,526 I = E - H	S. Summary
Corporate PILs/Income Tax Provision	Gross Up ¹						73.50%	J = 1-D	\$	106,911 K = I/J-I	
Income Tax (grossed-up)									\$	403,436 L = K + I	S. Summary



Taxable Income - Test Year

		Working Paper Reference	Test Year Taxable Income
Net Income Before Taxes		<u>A.</u>	12,792,35
	· 	· ·	
	T2 S1 line #		
Additions:			
Interest and penalties on taxes	103		
Amortization of tangible assets	104		16,829,40
2-4 ADJUSTED ACCOUNTING DATA P489 Amortization of intangible assets			
2-4 ADJUSTED ACCOUNTING DATA P490	106		5,550,40
Recapture of capital cost allowance from Schedule 8	107	<u>T8</u>	
Income inclusion under subparagraph 13(38)(d)(iii) from Schedule 10	108		
Loss in equity of subsidiaries and affiliates	110		
Loss on disposal of assets	111		
Charitable donations	112		
Taxable Capital Gains	113		
Political Donations Deferred and prepaid expenses	114 116		
Scientific research expenditures deducted on			
financial statements	118		
Capitalized interest	119		
Non-deductible club dues and fees	120		2,00
Non-deductible meals and entertainment expense	121		67,15
Non-deductible automobile expenses	122		
Non-deductible life insurance premiums	123		
Non-deductible company pension plans	124		178,30
Tax reserves beginning of year Reserves from financial statements- balance at	125 126	<u>T13</u> <u>T13</u>	
end of year Soft costs on construction and renovation of buildings	127		
Book loss on joint ventures or partnerships	205		
Capital items expensed	206		
Debt issue expense	208		
Development expenses claimed in current year	212		
Financing fees deducted in books	216		
Gain on settlement of debt	220		
Non-deductible advertising	226		
Non-deductible interest	227		
Non-deductible legal and accounting fees	228		
Recapture of SR&ED expenditures Share issue expense	231		
Write down of capital property	235 236		
Amounts received in respect of qualifying environment trust per paragraphs 12(1)(z.1) and 12(1)(z.2)	237		
Other Additions			
Interest Expensed on Capital Leases	295		
Realized Income from Deferred Credit Accounts	295		
Pensions	295		
Non-deductible penalties	295		
	295 295		
	295		
	295		
ARO Accretion expense			
Capital Contributions Received (ITA 12(1)(x))			
Lease Inducements Received (ITA 12(1)(x))			
Deferred Revenue (ITA 12(1)(a))			
Prior Year Investment Tax Credits received			608,75

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Total Additions			23,236,003
Deductions:			
Gain on disposal of assets per financial statements	401		149,500
Dividends not taxable under section 83	402		
Capital cost allowance from Schedule 8	403	<u>T8</u>	28,627,524
Terminal loss from Schedule 8	404 406	<u>T8</u>	0
Allowable business investment loss Deferred and prepaid expenses	406	-	
Scientific research expenses claimed in year	411		
Tax reserves end of year	413	T13	0
Reserves from financial statements - balance at beginning of year	414	<u>T13</u>	0
Contributions to deferred income plans	416		
Book income of joint venture or partnership	305		
Equity in income from subsidiary or affiliates	306		
Other deductions			
Interest capitalized for accounting deducted for tax	395		
Capital Lease Payments	395		
Non-taxable imputed interest income on deferral and variance accounts	395		
	395		
	395		
	395		
	395		
	395		
ARO Payments - Deductible for Tax when Paid			
ITA 13(7.4) Election - Capital Contributions Received			
ITA 13(7.4) Election - Apply Lease Inducement to cost of Leaseholds			
Deferred Revenue - ITA 20(1)(m) reserve			
Principal portion of lease payments			
Lease Inducement Book Amortization credit to income			
Financing fees for tax ITA 20(1)(e) and (e.1)			
Sale of scrap for accounting purposes			600,000
Capital items expensed for tax			222,000
ATTC and COOP credits accrued for accounting purposes			30,000
SR&ED cost capitalized for accounting purposes			2,400,000
SR&ED proceeds included in income for accounting purposes			570,939
Business Research Credit for accounting			6,000
Financing fees for tax ITA 20(1)(e) and (e.1)		-	13,096
Total Deductions		calculated	32,619,059
NET INCOME FOR TAX PURPOSES		calculated	3,409,301
Charitable donations	311		
Taxable dividends received under section 112 or 113	320		
Non-capital losses of previous tax years from Schedule 4	331	<u>T4</u>	0
Net capital losses of previous tax years from Schedule 4	332	<u>T4</u>	0
Limited partnership losses of previous tax years from Schedule 4	335		
DECIII ATORY TAYARI E INCOME		colordata -	2 400 204
REGULATORY TAXABLE INCOME		calculated	3,409,301



Schedule 8 CCA - Test Year

(1) Class	Class Description	Working Paper Reference	(2) Undepreciated capital cost (UCC) at the beginning of the test year	(3) Cost of acquisitions during the year (new property must be available for use except CWIP)	(4) Cost of acquisitions from column 3 that are accelerated investment incentive property (AIIP)	(5) Adjustments and transfers (enter amounts that will reduce the UCC as negatives)	(6) Amount from column 5 that is assistance received or receivable during the year for a property, subsequent to its disposition	(7) Amount from column 5 that is repaid during the year for a property, subsequent to its disposition	(8) Proceeds of dispositions	(9) UCC (column 2 plus column 3 plus or minus column 5 minus column 8)	(10) Proceeds of sposition available reduce the UCC of AIIP (column 8 plus column 6 minus column 3 plus column 4 minus column 7) (if segative, enter "0")	Net capital cost additions of AIIP acquired during the year (column 4 minus column 10) (if negative, enter "0")	factor	(12) UCC adjustment for AIIP acquired during the year (column 11 multiplied by the relevant factor)	(13) UCC adjustment for non-AIIP acquired during the year (0.5 multiplied by the result of column 3 minus column 6 plus column 7 minus column 8) (if negative, enter "0")	(14) CCA Rate %	(15) Recapture of CCA	(16) Terminal Loss	CCA (for declining balance method, the result of column 9 plus column 12 minus column 13, multiplied by column 14)	(18) UCC at the end of the test year (column 9 minus column 17)
1	Buildings, Distribution System (acq'd post 1987)	<u>B8</u>	\$ 60,586,304							\$ 60,586,304 \$	-	\$ -	0.50	\$ -	\$ -	4%			\$ 2,423,452	\$ 58,162,852
1b	Non-Residential Buildings [Reg. 1100(1)(a.1) election]	<u>B8</u>	\$ 7,505,198	1,273,00	1,273,000	0				\$ 8,778,198 \$	-	\$ 1,273,000	0.50	\$ 636,500	\$ -	6%			\$ 564,882	\$ 8,213,316
2	Distribution System (acq'd pre 1988)	<u>B8</u>	\$ 19,430,079							\$ 19,430,079 \$	-	\$ -		\$ -	\$ -	6%			\$ 1,165,805	\$ 18,264,274
3	Buildings (acq'd pre 1988)	<u>B8</u>	\$ -							\$ - \$	-	\$ -		\$ -	\$ -	5%			\$ -	\$ -
6	Certain Buildings; Fences	<u>B8</u>	\$ -							\$ - 9	-	\$ -	0.50	\$ -	\$ -	10%			\$ -	\$ -
8	General Office Equipment, Furniture, Fixtures	<u>B8</u>	\$ 8,106,694	3,528,20	3,528,200					\$ 11,634,894 \$	-	\$ 3,528,200	0.50	\$ 1,764,100	\$ -	20%			\$ 2,679,799	\$ 8,955,095
10	Motor Vehicles, Fleet	<u>B8</u>	\$ 2,639,335	1,450,00	1,450,000				82,500	\$ 4,006,835 \$	82,500	\$ 1,367,500	0.50	\$ 683,750	\$ -	30%			\$ 1,407,176	\$ 2,599,660
10.1	Certain Automobiles	B8	\$ -							\$ - 5	-	\$ -	0.50	\$ -	\$ -	30%			\$ -	\$ -
12	Computer Application Software (Non-Systems)	<u>B8</u>	\$ -	4,687,00	4,687,000	-2,400,000				\$ 2,287,000 \$	-	\$ 4,687,000	0.00	\$ -	\$ -	100%			\$ 2,287,000	\$ -
13 ₁	Lease #1	<u>B8</u>	\$ -							\$ - 9	-	\$ -	0.00	\$ -	\$ -	NA				\$ -
13 ₂	Lease # 2	<u>B8</u>	\$ -							\$ - 9	-	\$ -	0.00	\$ -	\$ -	NA				\$ -
13 ₃	Lease # 3	<u>B8</u>	\$ -							\$ - 9	-	\$ -	0.00	\$ -	\$ -	NA				\$ -
13 4	Lease # 4	<u>B8</u>	\$ -							\$ - 9	-	\$ -	0.00	\$ -	\$ -	NA				\$ -
14	Limited Period Patents, Franchises, Concessions or Licences	B8	\$ -							\$ - 9	-	\$ -	0.00	\$ -	\$ -	NA				\$ -
14.1	Eligible Capital Property (acg'd pre Jan 1, 2017)	B8	\$ 474,823							\$ 474,823 \$	-	\$ -		\$ -	\$ -	7%			\$ 33,238	\$ 441,585
14.1	Eligible Capital Property (acg'd post Jan 1, 2017)	B8	\$ 4,324,356							\$ 4,324,356 \$	-	\$ -	0.50	\$ -	\$ -	5%			\$ 216,218	\$ 4,108,138
17	Elec. Generation Equip. (Non-Bldng, acq'd post Feb 27/00); Roads, Lots, Storage	B8	\$ -							\$ - 5	-	\$ -	0.50	\$ -	\$ -	8%			\$ -	\$ -
42	Fibre Optic Cable	B8	\$ -							\$ - 5	-	\$ -	0.50	\$ -	\$ -	12%			\$ -	\$ -
43.1	Certain Clean Energy/Energy-Efficient Generation Equipment	<u>B8</u>	\$ -							\$ - 9	-	\$ -	2.33	\$ -	\$ -	30%			\$ -	\$ -
	Certain Clean Energy/Energy-Efficient Generation Equipment	B8	\$ -							\$ - 5	-	\$ -	1.00	\$ -	\$ -	50%			\$ -	\$ -
45	Computers & System Software (acq'd post Mar 22/04 and pre Mar 19/07)	B8	\$ -							\$ - 9	-	\$ -		\$ -	\$ -	45%			\$ -	\$ -
46	Data Network Infrastructure Equipment (acq'd post Mar 22/04)	B8	\$ -							\$ - 9	-	\$ -	0.50	\$ -	\$ -	30%			\$ -	\$ -
47	Distribution System (acq'd post Feb 22/05)	B8	\$ 168,950,468	29,713,80	29,713,800				667,000	\$ 197,997,268 \$	667,000	\$ 29,046,800	0.50	\$ 14,523,400	\$ -	8%			\$ 17,001,653	\$ 180,995,614
50	General Purpose Computer Hardware & Software (acq'd post Mar 18/07)	B8	\$ 240,367	868,00	868,000					\$ 1,108,367 \$	-	\$ 868,000	0.50	\$ 434,000	\$ -	55%			\$ 848,302	\$ 260,065
95	CWIP	B8	\$ -							\$ - 5	-	\$ -	0.00	\$ -	\$ -	0%			\$ -	\$ -
		B8	\$ -							\$ - 9	-	\$ -		\$ -	\$ -	30%			\$ -	\$ -
		B8	\$ -							\$ - 9	-	\$ -		\$ -	\$ -					\$ -
		B8	\$ -							\$ - 9	-	\$ -		\$ -	\$ -					\$ -
		B8	\$ -							\$ - 9	-	\$ -		\$ -	\$ -					\$ -
		B8	\$ -							\$ - 9	-	\$ -		\$ -	\$ -					\$ -
		<u>B8</u>	\$ -							\$ - 9	-	\$ -		\$ -	\$ -					\$ -
		<u>B8</u>	\$ -							\$ - 9	-	\$ -		\$ -	\$ -					\$ -
		B8	\$ -							\$ - 9	-	\$ -		\$ -	\$ -					\$ -
	TOTALS		\$ 272,257,624	\$ 41,520,000	\$ 41,520,000	-\$ 2,400,000	\$ -	\$ -	\$ 749,500	\$ 310,628,124 \$	749,500	\$ 40,770,500		\$ 18,041,750	\$ -		\$ -	\$ -	\$ 28,627,524 T	1 \$ 282,000,600



PILS Tax Provision - Bridge Year

Regulatory Taxable Income

Tax Rate Small Effective Tax Rate Taxes **Business** Payable Rate (If Applicable) Ontario (Max 11.5%) 11.5% 11.5% В 11.5% -\$ 345,037 Federal (Max 15%) 15.0% 15.0% -\$ 450,048 15.0% С

Combined effective tax rate (Max 26.5%)

Total Income Taxes

Investment Tax Credits Miscellaneous Tax Credits

Total Tax Credits

Corporate PILs/Income Tax Provision for Bridge Year

Note

1. This is for the derivation of Bridge year PILs income tax expense and should not be used for Test year revenue requirement calculations.

Wires Only

Reference

\$ 3,000,320 **A**

26.50% D = B + C

602,753 H = F + G

\$ - E = A * D

\$ 570,939 **F** \$ 31,814 **G**

\$ - I=E-H



Adjusted Taxable Income - Bridge Year

	T2S1 line #	Working Paper Reference	Total for Regulated Utility
Income before PILs/Taxes	(A + 101 + 102)		5,530,782
Additions:			

Additions:	400	1	
Interest and penalties on taxes	103		45.040.00
Amortization of tangible assets	104		15,246,89
Amortization of intangible assets	106		5,666,60
Recapture of capital cost allowance from Schedule 8	107	<u>B8</u>	
Income inclusion under subparagraph	108		
13(38)(d)(iii)	100		
Income or loss for tax purposes- joint	109		
ventures or partnerships			
Loss in equity of subsidiaries and affiliates	110		
Loss on disposal of assets	111		
Charitable donations and gifts from Schedule 2	112		
Taxable capital gains	113		
Political contributions	114		
Deferred and prepaid expenses	116		
Scientific research expenditures deducted on			
financial statements	118		
Capitalized interest	119		
Non-deductible club dues and fees	120		2,00
Non-deductible meals and entertainment	121		05.05
expense	121		65,95
Non-deductible automobile expenses	122		
Non-deductible life insurance premiums	123		
Non-deductible company pension plans	124		132,50
Tax reserves deducted in prior year	125	<u>B13</u>	
Reserves from financial statements- balance at end of year	126	<u>B13</u>	
Soft costs on construction and renovation of	127		
buildings			
Capital items expensed	206		
Debt issue expense	208		
Development expenses claimed in current	212		
year			
Financing fees deducted in books	216		
Gain on settlement of debt	220		
Non-deductible advertising	226		
Non-deductible interest	227		
Non-deductible legal and accounting fees	228		
Recapture of SR&ED expenditures	231		
Share issue expense	235		
Write down of capital property	236		
Amounts received in respect of qualifying environment trust per paragraphs 12(1)(z.1) and 12(1)(z.2)	237		



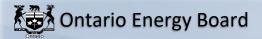
Adjusted Taxable Income - Bridge Year

Other Additions		
Interest Expensed on Capital Leases 295		
Realized Income from Deferred Credit		
Accounts 295		
Pensions 295		
Non-deductible penalties 295		
295		
295		
ARO Accretion expense		
Capital Contributions Received (ITA 12(1)(x))		
Lease Inducements Received (ITA 12(1)(x))		
Deferred Revenue (ITA 12(1)(a))		
Prior Year Investment Tax Credits received		613,296
ACM funding		856,000
Total Additions		22,583,246
Deductions:		, , , , , ,
Gain on disposal of assets per financial		440,400
statements 401		116,400
Dividends not taxable under section 83 402		
Capital cost allowance from Schedule 8 403	<u>B8</u>	27,053,237
Terminal loss from Schedule 8 404	B8	0
Allowable business investment loss 406		
Deferred and prepaid expenses 409		
Scientific research expenses claimed in year 411		
Tax reserves claimed in current year 413	<u>B13</u>	0
Reserves from financial statements - balance 414	B13	0
at beginning of year	<u>D13</u>	U
Contributions to deferred income plans 416		
Book income of joint venture or partnership 305		
· ·		



Adjusted Taxable Income - Bridge Year

		1	
Interest capitalized for accounting deducted for tax	395		
Capital Lease Payments	395		
Non-taxable imputed interest income on deferral and variance accounts	395		
deterral and variance accounts	395		
	395		
ARO Payments - Deductible for Tax when Paid	000		
ITA 13(7.4) Election - Capital Contributions Received			
ITA 13(7.4) Election - Apply Lease			
Inducement to cost of Leaseholds			
Deferred Revenue - ITA 20(1)(m) reserve			
Principal portion of lease payments			
Lease Inducement Book Amortization credit to income			
Financing fees for tax ITA 20(1)(e) and (e.1)			13,096
Sale of scrap for accounting purposes			600,000
Capital items expensed for tax			216,000
ATTC and COOP credits accrued for			05.044
accounting purposes			25,814
SR&ED cost capitalized for accounting			2,400,000
purposes			_,,
SR&ED proceeds included in income for			683,801
accounting purposes		+	
Business Research Credit for accounting			6,000
Total Deductions		calculated	31,114,348
			, , , , , , , , , , , , , , , , , , , ,
Net Income for Tax Purposes		calculated	-3,000,320
Charitable donations	311		-,,
Taxable dividends received under section 112			
or 113	320		
Non-capital losses of previous tax years from	331	B4	0
Schedule 4			
Net capital losses of previous tax years from Schedule 4	332	<u>B4</u>	0
Limited partnership losses of previous tax years			
from Schedule 4	335		
TAXABLE INCOME		calculated	-3,000,320



Corporation Loss Continuity and Application

Schedule 4 Loss Carry Forward - Bridge Year

Non-Capital Loss Carry Forward Deduction		Total
Actual Historical	<u>H4</u>	0
Amount to be used in Bridge Year	<u>B1</u>	0
Loss Carry Forward Generated in Bridge Year (if any)	<u>B1</u>	3,000,320
Other Adjustments		-3,000,320
Balance available for use post Bridge Year	calculated	0

 Net Capital Loss Carry Forward Deduction
 Total

 Actual Historical
 H4
 0

 Amount to be used in Bridge Year
 Loss Carry Forward Generated in Bridge Year (if any)
 B1

 Other Adjustments
 Balance available for use post Bridge Year
 calculated

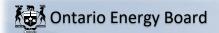
<u>T4</u>

T4



Schedule 8 CCA - Bridge Year

(1) Class	Class Description	Working Paper Reference	(2) Undepreciated capital cost (UCC) at the beginning of the bridge year	(3) Cost of acquisitions during the year (new property must be available for use, except CWIP)	Cost of acquisitions from column 3 that are accelerated investment incentive property (AIIP)	(5) Adjustments and transfers (enter amounts that will reduce the UCC as negatives)	(6) Amount from column 5 that is assistance received or receivable during the year for a property, subsequent to its disposition	(7) Amount from column 5 that is repaid during the year for a property, subsequent to its disposition	(8) Proceeds of dispositions	(9) UCC (column 2 plus column 3 plus or minus column 5 minus column 8)	(10) Proceeds of disposition available to reduce the UCC of AIIP (column 8 plus column 6 minus column 4 minus column 7) (if negative, enter "0")	(11) Net capital cost additions of AlIP acquired during the year (column 4 minus column 10) (if negative, enter "0")	factor	(12) UCC adjustment for AIIP acquired during the year (column 11 multiplied by the relevant factor)	(13) UCC adjustment for non-AliP acquired during the year (0.5 multiplied by the result of column 3 minus column 4 minus column 6 plus column 7 minus column 8) (if negative, enter "0")	(14) CCA Rate %	(15) Recapture of CCA	(16) Terminal Loss	(17) CCA (for declining balance method, the result of column 9 plus column 12 minus column 13, multiplied by column 14)	(18) UCC at the end of the bridge year (column 9 minus column 17)
1	Buildings, Distribution System (acq'd post 1987)	<u>H8</u>	\$ 63,110,733							\$ 63,110,733	\$ -	\$ -	0.50		\$ -	4%			\$ 2,524,429	\$ 60,586,304
1b	Non-Residential Buildings [Reg. 1100(1)(a.1) election]	H8	\$ 5,511,764	\$ 2,554,000	\$ 2,554,000	\$ -				\$ 8,065,764	\$ -	\$ 2,554,000	0.50	\$ 1,277,000	\$ -	6%			\$ 560,566	\$ 7,505,198
	Distribution System (acq'd pre 1988)	<u>H8</u>	\$ 20,670,297							\$ 20,670,297	\$ -	\$ -		\$ -	\$ -	6%			\$ 1,240,218	\$ 19,430,079
	Buildings (acq'd pre 1988)	H8	\$ -							\$ -	\$ -	\$ -		\$ -	\$ -	5%			\$ -	\$ -
6	Certain Buildings; Fences	<u>H8</u>	\$ -							\$ -	\$ -		0.50			10%			\$ -	\$ -
	General Office Equipment, Furniture, Fixtures	H8	\$ 6,772,667	\$ 3,840,800						\$ 10,613,467	\$ -					20%			\$ 2,506,773	\$ 8,106,694
	Motor Vehicles, Fleet	<u>H8</u>	\$ 2,675,586	\$ 1,445,000	\$ 1,445,000				\$ 51,500	\$ 4,069,086	\$ 51,500					30%			\$ 1,429,751	\$ 2,639,335
	Certain Automobiles	<u>H8</u>	\$ -							\$ -	\$ -		0.50		\$ -	30%			\$ -	\$ -
	Computer Application Software (Non-Systems)	<u>H8</u>	S -	\$ 4,376,000	\$ 4,376,000	-\$ 2,400,000				\$ 1,976,000	\$ -					100%			\$ 1,976,000	\$ -
	Lease # 1	<u>H8</u>	\$ -							\$ -	\$ -		0.00			NA				\$ -
	Lease # 2	<u>H8</u>	\$ -							\$ -	\$ -	*	0.00			NA				\$ -
	Lease # 3	<u>H8</u>	\$ -							\$ -	\$ -		0.00			NA				\$ -
	Lease # 4	<u>H8</u>	\$ -							\$ -	\$ -		0.00			NA				\$ -
	Limited Period Patents, Franchises, Concessions or Licences	H8	\$ -							\$ -	s -		0.00			NA				\$ -
	Eligible Capital Property (acq'd pre Jan 1, 2017)	<u>H8</u>	\$ 510,562							\$ 510,562				\$ -		7%			\$ 35,739	\$ 474,823
	Eligible Capital Property (acq'd post Jan 1, 2017)	H8	\$ 6,301,954	-\$ 1,750,000	-\$ 1,750,000	s -	\$ -		\$ -	\$ 4,551,954			0.50			5%			\$ 227,598	\$ 4,324,356
	Elec. Generation Equip. (Non-Bldng, acq'd post Feb 27/00); Roads, Lots, Storage	<u>H8</u>	\$ -							\$ -	\$ -	*	0.50		-	8%			\$ -	\$ -
	Fibre Optic Cable	H8	s -							\$ -	\$ -		0.50		\$ -	12%			S -	\$ -
	Certain Clean Energy/Energy-Efficient Generation Equipment	<u>H8</u>	\$ -							\$ -			2.33			30%			\$ -	\$ -
	Certain Clean Energy/Energy-Efficient Generation Equipment	<u>H8</u>	\$ -							\$ -	\$ - \$ -		1.00			50% 45%			\$ -	\$ -
	Computers & System Software (acq'd post Mar 22/04 and pre Mar 19/07) Data Network Infrastructure Equipment (acq'd post Mar 22/04)	H8 H8	\$ -							\$ -	\$ -	*	0.50	•	-	30%			\$ -	\$ -
	Data Network Infrastructure Equipment (acq d post Mar 22/04) Distribution System (acq'd post Feb 22/05)	H8	\$ 161.898.926	\$ 23.398.200	\$ 23.398.200				\$ 667.000	\$ 184.630.126	\$ 667.000				\$ - \$ -	8%			\$ 15.679.658	\$ 168.950.468
	General Purpose Computer Hardware & Software (acg'd post Mar 18/07)	H8	\$ 165.872						\$ 007,000	\$ 1,112,872	\$ 667,000		0.50			55%			\$ 872.505	\$ 240.367
	CWIP	H8	\$ 105,672	₩ 547,000	\$ 547,000					\$ 1,112,072	s -		0.00			0%			\$ 672,303	\$ 240,367
33	****		s -							s -	*		0.00	\$ -		30%			s -	\$ -
		H8	9	٠ .	۹ .					9	\$.	*			s -	5%			9	\$ -
		H8	s -	<u> </u>						s -	•	•		\$ -		3/6			_	s -
		H8	s -							s -	s -			s -	s -					s -
		H8	s -							s -	s -	*		s -	-					s -
		H8	s -							s -	s -	s -		s -						s -
		H8	s -							S -	s -	s -		\$ -	s -					s -
		H8	\$ -							\$ -	\$ -	\$ -		\$ -	\$ -					\$ -
	TOTALS	_	\$ 267.618.361	\$ 34,811,000	\$ 34,811,000	-\$ 2.400.000	s -	s -	\$ 718.500	\$ 299,310,861	\$ 718,500	\$ 35.842.500		\$ 15,733,250	s -		s -	s -	\$ 27,053,237 B1	\$ 272,257,624



PILs Tax Provision - Historical Year

Note: Input the actual information from the tax returns for the historical year.

Regulatory Taxable Income Combined Tax Rate and PILs

Ontario Tax Rate (Maximum 11.5%) Federal tax rate (Maximum 15%) Combined tax rate (Maximum 26.5%)

Total Income Taxes

Investment Tax Credits
Miscellaneous Tax Credits
Total Tax Credits

Corporate PILs/Income Tax Provision for Historical Year

Wires Only

\$ 1,910,664 **A**

11.50%

15.00%

В

С

26.50% **D = B+C**

506,326 E = A * D

476,419 H = F + G

5 451,341 **F** 25,078 **G**

\$ 29,907 I = E - H



Adjusted Taxable Income - Historical Year

	T2S1 line #	Total for Legal	Non-Distribution	Historic
	1251 line #	Entity	Eliminations	Wires Only
Income before PILs/Taxes	(A + 101 + 102)	4,306,000	118,099	4,187,901
Additions:				
Interest and penalties on taxes	103	15,938		15,938
Amortization of tangible assets	104	20,069,393	129,183	19,940,210
Amortization of intangible assets	106	5,779		5,779
Recapture of capital cost allowance from Schedule 8	107			0
Income inclusion under subparagraph 13(38)(d)(iii) from Schedule 10	108			0
Loss in equity of subsidiaries and affiliates	110			0
Loss on disposal of assets	111			0
Charitable donations and gifts from Schedule 2	112			0
Taxable capital gains from Schedule 6	113			0
Political contributions	114			0
Deferred and prepaid expenses	116			0
Scientific research expenditures deducted on financial statements	118	3,786,070		3,786,070
Capitalized interest	119			0
Non-deductible club dues and fees	120	1,729		1,729
Non-deductible meals and entertainment expense	121	47,703		47,703
Non-deductible automobile expenses	122			0
Non-deductible life insurance premiums	123			0
Non-deductible company pension plans	124	321,100		321,100
Tax reserves deducted in prior year	125			0
Reserves from financial statements – balance at the end of the year	126			0
Soft costs on construction and renovation of buildings	127			0
Capital items expensed	206			0
Debt issue expense	208			0
Development expenses claimed in current year	212			0
Financing fees deducted in books	216	65,299		65,299
Gain on settlement of debt	220			0
Non-deductible advertising	226			0
Non-deductible interest	227			0
Non-deductible legal and accounting fees	228	11,996		11,996
Recapture of SR&ED expenditures	231			0
Share issue expense	235			0
Write down of capital property	236			0
Amounts received in respect of qualifying environment trust per paragraphs 12(1)(z.1) and 12(1)(z.2)	237			0
Other additions				
Interest Expensed on Capital Leases	295	67,236		67,236
Realized Income from Deferred Credit Accounts	295			0
Pensions	295	244,400		244,400
Non-deductible penalties	295			0
	295			0
	295			0
ARO Accretion expense				0
Capital Contributions Received (ITA 12(1)(x))		6,838,793		6,838,793
Lease Inducements Received (ITA 12(1)(x))				0
Deferred Revenue (ITA 12(1)(a))				0
Prior Year Investment Tax Credits received		45,365		45,365
Portion of 2020 SR&ED related to prescribed proxy amount	·	24,819		24,819

Unrealized swap adjustment		6,629,973		6,629,973
ACM funding		844,800		844,800
- Total landing		011,000		
Total Additions		20,020,202	129,183	38,891,210
Total Additions		39,020,393	129,103	30,091,210
Deductions:				
	404	00.400		20.40
Gain on disposal of assets per financial statements	401	28,108		28,10
Non-taxable dividends under section 83	402	07.000.050	00.044	07.007.50
Capital cost allowance from Schedule 8	403	27,320,850	23,314	27,297,53
Terminal loss from Schedule 8	404			
Allowable business investment loss	406			
Deferred and prepaid expenses	409	0.700.515		(
Scientific research expenses claimed in year	411	2,762,645		2,762,64
Tax reserves claimed in current year	413			(
Reserves from financial statements - balance at beginning of year	414			
Contributions to deferred income plans	416			(
Book income of joint venture or partnership	305			(
Equity in income from subsidiary or affiliates	306			(
Other deductions				
Interest capitalized for accounting deducted for tax	395			(
Capital Lease Payments	395	100,000		100,000
Non-taxable imputed interest income on deferral and variance accounts	395			(
	395			(
	395			C
ARO Payments - Deductible for Tax when Paid				(
ITA 13(7.4) Election - Capital Contributions Received		6,838,793		6,838,793
ITA 13(7.4) Election - Apply Lease Inducement to cost of Leaseholds				(
Deferred Revenue - ITA 20(1)(m) reserve				(
Principal portion of lease payments				(
Lease Inducement Book Amortization credit to income				(
Financing fees for tax ITA 20(1)(e) and (e.1)		13,096		13,096
Sale of scrap for accounting purposes		803,193		803,193
Capital items expensed for tax		98,010		98,010
ATTC and COOP credits accrued for accounting purposes		21,897		21,897
SR&ED cost capitalized for accounting purposes		2,175,641		2,175,64
SR&ED proceeds included in income for accounting purposes		569,477		569,47
Government assistance added back to SR&ED		460,051		460,05
		,		(
				C
Total Deductions		41,191,761	23,314	41,168,447
		, , ,	- ,	,,
Net Income for Tax Purposes		2,134,632	223,968	1,910,664
	· '	, - ',	,	,,,,,,,,,
	I			
Charitable donations from Schedule 2	311			(
Taxable dividends received under section 112 or 113	320			(
Non-capital losses of previous tax years from Schedule 4	331			(
Net capital losses of previous tax years from Schedule 4	332			(
Limited partnership losses of previous tax years from Schedule 4	335			(
TAXABLE INCOME		2,134,632	223,968	1,910,66



Schedule 8 - Historical Year

Class	Class Description	 JCC End of Year orical per tax returns	Less: Non-Distribution Portion	UCC Regulated Historical Year
1	Buildings, Distribution System (acq'd post 1987)	\$ 63,110,733		\$ 63,110,733
1b	Non-Residential Buildings [Reg. 1100(1)(a.1) election]	\$ 5,511,764		\$ 5,511,764
2	Distribution System (acq'd pre 1988)	\$ 20,670,297		\$ 20,670,297
3	Buildings (acq'd pre 1988)			\$ -
6	Certain Buildings; Fences			\$ -
8	General Office Equipment, Furniture, Fixtures	\$ 6,807,369	\$ 34,702	\$ 6,772,667
10	Motor Vehicles, Fleet	\$ 2,675,586		\$ 2,675,586
10.1	Certain Automobiles			\$ -
12	Computer Application Software (Non-Systems)			\$ -
13 ₁	Lease # 1			\$ -
13 2	Lease # 2			\$ -
13 3	Lease # 3			\$ -
13 4	Lease # 4			\$ -
14	Limited Period Patents, Franchises, Concessions or Licences			\$ -
14.1	Eligible Capital Property (acq'd pre 2017)	\$ 510,562		\$ 510,562
14.1	Eligible Capital Property (acq'd post 2016)	\$ 6.301.954		\$ 6,301,954
17	Elec. Generation Equip. (Non-Bldng, acq'd post Feb 27/00); Roads, Lots, Storage			\$ -
42	Fibre Optic Cable			\$ -
43.1	Certain Clean Energy/Energy-Efficient Generation Equipment			\$ -
43.2	Certain Clean Energy/Energy-Efficient Generation Equipment	\$ 14,638	\$ 14,638	\$ -
45	Computers & System Software (acq'd post Mar 22/04 and pre Mar 19/07)	,	,	\$ -
46	Data Network Infrastructure Equipment (acq'd post Mar 22/04)			\$ -
47	Distribution System (acq'd post Feb 22/05)	\$ 161,898,926		\$ 161,898,926
50	General Purpose Computer Hardware & Software (acg'd post Mar 18/07)	\$ 165.872		\$ 165.872
95	CWIP	·		\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
	SUB-TOTAL - UCC	267,667,701	49,340	267,618,361



Appendix 4-2: CCA Schedules 2017 TO 2022



London Hydro Inc. EB-2021-0041 Filed: August 27, 2021 Exhibit 4 – Operating Expenses Page 404 of 597

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LONDON HYDRO INC. CAPITAL COST ALLOWANCE 2017 OEB APPROVED

			C	CCA Continuity	Schedule (2017)) - OEB Approved	i				
Class	Class Description	UCC Prior Year Ending Balance	Additions	Adjustments	Proceeds on Disposal	UCC Before 1/2 Yr Adjustment	1/2 Year Rule {1/2 Additions Less Disposals}	Reduced UCC	Rate %	CCA	UCC Ending Balance
1	Distribution System - 1988 to 22-Feb-2005	67,270,942	-	-	-	67,270,942	-	67,270,942	4%	2,690,838	64,580,104
1	Buildings - pre 2008	7,034,102	-	-	-	7,034,102	-	7,034,102	4%	281,364	6,752,738
1	Buildings - post 2008	2,980,119	867,400	(567,000)	-	3,280,519	(150,200)	3,130,319	6%	187,819	3,092,700
2	Distribution System - pre 1988	26,474,961	-	-	-	26,474,961	-	26,474,961	6%	1,588,498	24,886,463
8	Equipment	12,176,623	2,371,300	-	(7,500)	14,540,423	(1,181,900)	13,358,523	20%	2,671,705	11,868,718
10	Vehicles	2,868,880	920,900	-	(19,000)	3,770,780	(450,950)	3,319,830	30%	995,949	2,774,831
12	Computer Software	1,764,627	4,053,104	(1,289,000)	-	4,528,731	(1,382,052)	3,146,679	100%	3,146,679	1,382,052
38	Power-operated Equipment	212,606	175,000	-	(8,500)	379,108	(83,250)	295,856	30%	88,757	290,350
47	Distribution System - post Feb 22, 2005	113,252,619	18,740,140	-	(500,000)	131,492,758	(9,120,070)	122,372,688	8%	9,789,815	121,702,943
50	Computer Hardware - post 2007	862,443	295,100	-	-	1,157,543	(147,550)	1,009,993	55%	555,496	602,047
14.1	Eligible Capital Property post Jan 1, 2017	682,519	-	-	-	682,519	-	682,519	7%	47,776	634,743
Rate Ba	se CCA	235,580,440	27,422,944	(1,856,000)	(535,000)	260,612,384	(12,515,972)	248,096,412		22,044,696	238,567,689
	Renewable Generation Equipment	234,219 234,219		-	-	234,219 234,219	-	234,219 234,219	50%	117,110 117,110	117,109 117,109
Non-dis		235,814,659	27,422,944	(1,856,000)	(535,000)	260,846,603	(12,515,972)	248,330,631		22,161,806	238,684,797
ı		233,814,639	21,422,944	(1,836,000)	(535,000)	200,846,603	(12,313,972)	248,330,631		22,161,806	230,684,797



LONDON HYDRO INC. CAPITAL COST ALLOWANCE 2017 ACTUAL

			CCA (Continuity Sc	hedule (2017	') - Actual					
Class	Class Description	UCC Prior Year Ending Balance	Additions	Adjustments	Proceeds on Disposal	UCC Before 1/2 Yr Adjustment	1/2 Year Rule {1/2 Additions Less Disposals}	Reduced UCC	Rate %	CCA	UCC Ending Balance
1	Distribution System - 1988 to 22-Feb-2005	67,270,942	-	-	-	67,270,942	-	67,270,942	4%	2,690,838	64,580,104
2	Distribution System - pre 1988	26,474,961	-	-	-	26,474,961	-	26,474,961	6%	1,588,498	24,886,463
1	Buildings - pre 2008	7,034,102	-	-	-	7,034,102	-	7,034,102	4%	281,364	6,752,738
1	Buildings - post 2008	3,126,880	882,775	(398,761)	-	3,610,894	(242,007)	3,368,887	6%	197,667	3,413,227
8	Equipment	8,728,873	2,300,254	(245,800)	(28,832)	10,754,495	(1,012,811)	9,741,684	20%	1,948,337	8,806,158
10	Vehicles	2,868,880	617,399	-	(36,090)	3,450,189	(290,655)	3,159,534	30%	947,860	2,502,329
12	Computer Software	1,674,306	4,590,424	(2,234,801)	-	4,029,929	(1,177,811)	2,852,118	100%	2,852,117	1,177,812
38	Power-operated Equipment	213,131	249,328	-	-	462,459	(124,664)	337,795	30%	101,339	361,120
47	Electrical Distributing Equipment	125,098,939	24,044,672	(1,535,340)	(568,381)	147,039,889	(10,970,475)	136,069,414	8%	10,885,553	136,154,336
47B	Electrical Distributing Equip (contributed capital)	(8,047,007)	(5,205,870)	-	-	(13,252,877)	2,602,935	(10,649,942)	8%	(851,995)	(12,400,882)
50	Computer Hardware - post 2007	829,964	230,674	-	-	1,060,638	(115,337)	945,301	55%	519,916	540,722
14.1	Eligible Capital Property Dec 2016	682,521	-	-	-	682,521	-	682,521	7%	47,776	634,745
14.1	Eligible Capital Property post Jan 1, 2017	-	30,136	-	-	30,136	(15,068)	15,068	5%	753	29,383
Rate Ba	se CCA	235,956,492	27,739,790	(4,414,702)	(633,303)	258,648,277	(11,345,893)	247,302,384		21,210,023	237,438,255
	Renewable Generation Equipment tribution CCA	234,219 234,219	-	-	-	234,219 234,219	-	234,219 234,219	50%	117,110 117,110	117,109 117,109
		236,190,711	27,739,790	(4,414,702)	(633,303)	258,882,496	(11,345,893)	247,536,603		21,327,133	237,555,364



LONDON HYDRO INC. CAPITAL COST ALLOWANCE 2018 ACTUAL

					CCA	Continuity Sc	hedule (2018) - A	ctual						
Class	Class Description	UCC Prior Year Ending Balance	Additions to Nov 20, 2018	Additions Nov 21, 2018 - Dec 31, 2018	Adjustments	Proceeds on Disposal	1/2 Year Rule {1/2 Additions Less Disposals}	Reduced UCC Balance (excluding Additions Nov 21- Dec 31)	Rate %	CCA	Incentive Rate %	Incentive CCA	UCC Ending Balance	Total CCA
1	Distribution System - 1988 to 22-Feb-2005	64,580,104	-	-	-	-	-	64,580,104	4%	2,583,204	6%	-	61,996,900	2,583,204
2	Distribution System - pre 1988	24,886,463	-	-	-	-	-	24,886,463	6%	1,493,188	9%	-	23,393,275	1,493,188
1	Buildings - pre 2008	6,752,738	-	-	-	-	-	6,752,738	4%	270,110	6%	-	6,482,628	270,110
1	Buildings - post 2008	3,413,227	1,086,156	184,294	(342,240)	-	(371,958)	3,785,185	6%	227,111	9%	16,586	4,097,739	243,697
8	Equipment	8,806,158	610,428	373,850	(42,016)	(72,562.00)	(247,925)	9,054,083	20%	1,810,817	30%	112,155	7,752,886	1,922,972
10	Vehicles	2,502,329	345,294	296,171	-	(141,324.00)	(101,985)	2,604,314	30%	781,294	45%	133,277	2,087,899	914,571
12	Computer Software	1,177,812	6,302,885	161,201	(2,139,226)	-	(2,081,829)	3,259,642	100%	3,259,642	100%	161,201	2,081,828	3,420,843
38	Power-operated Equipment	361,120	-	-	-	-	-	361,120	30%	108,336	45%	-	252,784	108,336
47	Electrical Distributing Equipment	136,154,336	26,292,363	4,416,048	(434,007)	(633,524.00)	(12,612,416)	148,766,752	8%	11,901,340	12%	529,926	153,363,950	12,431,266
47B	Electrical Distributing Equip (contributed capital)	(12,400,882)	(4,328,083)	(467,185)	-	-	2,164,041	(14,564,924)	8%	(1,165,194)	12%	(56,062)	(15,974,894)	(1,221,256)
50	Computer Hardware - post 2007	540,722	204,556	430,107	(106,405)	-	(49,076)	589,797	55%	324,388	83%	354,838	389,754	679,226
14.1	Eligible Capital Property Dec 2016	634,745	-	-	-	-	-	634,745	7%	44,432	11%	-	590,313	44,432
14.1	Eligible Capital Property post Jan 1, 2017	29,383	74,340	7,264,272	-	-	(37,170)	66,553	5%	3,328	8%	544,820	6,819,847	548,148
Rate Ba	89 CCA	237,438,255	30,587,940	12,658,757	(3,063,894)	(847,410)	(13,338,318)	250,776,573		21,641,996		1,796,741	253,334,909	23,438,737
1														-
	Renewable Generation Equipment	117,109	-	-	-	-	-	117,109	50%	58,555	100%	-	58,554	58,555
8	External EV Charging Stations	-	60,245	-			(30,123)	30,122	20%	6,024	30%	-	54,221	6,024
Non-dis	tribution CCA	117,109	60,245	-	-	-	(30,123)	147,231		64,579		-	112,775	64,579
1		237,555,364	30,648,185	12,658,757	(3,063,894)	(847,410)	(13,368,441)	250,923,803		21,706,575		1,796,741	253,447,684	23,503,316



LONDON HYDRO INC. CAPITAL COST ALLOWANCE 2019 ACTUAL

				CCA	Continuity	Schedule (20	19) - Actual						
Class	Class Description	UCC Prior Year Ending Balance	Additions	Adjustments	Proceeds on Disposal	1/2 Year Rule	Reduced UCC Balance	Rate %	CCA (Excluding Additions)	Incentive Rate	CCA On Net	UCC Ending Balance	Total CCA
1	Distribution System - 1988 to 22-Feb-2005	61,996,900	-	-	-	-	61,996,900	4%	2,479,876	6%	-	59,517,024	2,479,876
2	Distribution System - pre 1988	23,393,275	-	-	-	-	23,393,275	6%	1,403,597	9%	-	21,989,678	1,403,597
1	Buildings - pre 2008	6,482,628	-	-	-	-	6,482,628	4%	259,305	6%	-	6,223,323	259,305
1	Buildings - post 2008	4,097,739	1,758,612	(567,492)	-	-	5,288,859	6%	245,864	9%	107,201	4,935,794	353,065
8	Equipment	7,752,886	1,286,415	-	(297)	-	9,039,004	20%	1,550,577	30%	385,836	7,102,591	1,936,413
10	Vehicles	2,087,899	819,027	-	(36,562)	-	2,870,363	30%	626,370	45%	352,109	1,891,885	978,479
12	Computer Software	2,081,828	6,155,102	(2,375,248)	-	-	5,861,682	100%	2,081,828	100%	3,779,854	-	5,861,683
38	Power-operated Equipment	252,784	299,322	-	-	-	552,106	30%	75,835	45%	134,695	341,576	210,530
47	Electrical Distributing Equipment	153,363,950	31,449,795	609,540	(1,047,290)	-	184,375,994	8%	12,269,116	12%	3,721,445	168,385,433	15,990,561
47B	Electrical Distributing Equip (contributed capital)	(15,974,894)	(4,358,519)	-	-	-	(20,333,413)	8%	(1,277,992)	12%	(523,022)	(18,532,400)	(1,801,014)
50	Computer Hardware - post 2007	389,754	335,302	-	-	-	725,056	55%	214,365	83%	276,624	234,067	490,989
14.1	Eligible Capital Property Dec 2016	590,313	-	-	-	-	590,313	7%	41,322	11%	-	548,991	41,322
14.1	Eligible Capital Property post Jan 1, 2017	6,819,847	32,129	-	-	-	6,851,976	5%	340,992	8%	2,410	6,508,574	343,402
Rate Ba	se CCA	253,334,909	37,777,183	(2,333,200)	(1,084,150)	-	287,694,743		20,311,055		8,237,152	259,146,536	28,548,208
1													-
43.2	Renewable Generation Equipment	58,554	-	-	-	-	58,554	50%	29,277	100%	-	29,277	29,277
8	External EV Charging Stations	54,221	-	-	-	-	54,221	20%	10,844	30%	-	43,377	10,844
Non-dis	tribution CCA	112,775	-	-	-	-	112,775		40,121		-	72,654	40,121
		253,447,684	37,777,183	(2,333,200)	(1,084,150)	-	287,807,518		20,351,176		8,237,152	259,219,190	28,588,329



LONDON HYDRO INC. CAPITAL COST ALLOWANCE 2020 ACTUAL

				CCA	A Continuity	Schedule (20	20) - Actual						
Class	Class Description	UCC Prior Year Ending Balance	Additions	Adjustments	Proceeds on Disposal	1/2 Year Rule	Reduced UCC Balance	Rate %	CCA (Excluding Additions)	Incentive Rate	CCA On Net	UCC Ending Balance	Total CCA
1	Distribution System - 1988 to 22-Feb-2005	59,517,024	-	-	-	-	59,517,024	4%	2,380,681	6%	-	57,136,343	2,380,681
2	Distribution System - pre 1988	21,989,678	-	-	-	-	21,989,678	6%	1,319,381	9%	-	20,670,297	1,319,381
1	Buildings - pre 2008	6,223,323	-	-	-	-	6,223,323	4%	248,933	6%	-	5,974,390	248,933
1	Buildings - post 2008	4,935,794	1,056,381	(98,010)	-	-	5,894,165	6%	296,148	9%	86,253	5,511,764	382,401
8	Equipment	7,102,591	1,724,553	(166,505)	(55)	-	8,660,584	20%	1,420,519	30%	467,398	6,772,667	1,887,917
10	Vehicles	1,891,885	2,108,610	-	(26,455)	-	3,974,040	30%	567,566	45%	936,969	2,469,505	1,504,535
12	Computer Software	-	5,409,464	(1,977,362)	-	-	3,432,102	100%	-	100%	3,432,102	-	3,432,102
38	Power-operated Equipment	341,576	-	-	(47,175)	-	294,401	30%	102,473	30%	(14,153)	206,081	88,320
47	Electrical Distributing Equipment	168,385,433	34,623,983	335,130	(808,802)	-	202,535,744	8%	13,470,835	12%	4,098,037	184,966,872	17,568,872
47B	Electrical Distributing Equip (contributed capital)	(18,532,400)	(6,838,793)	-	-	-	(25,371,193)	8%	(1,482,592)	12%	(820,655)	(23,067,946)	(2,303,247)
50	Computer Hardware - post 2007	234,067	345,954	-	-	-	580,021	55%	128,737	83%	285,412	165,872	414,149
14.1	Eligible Capital Property Dec 2016	548,991	-	-	-	-	548,991	7%	38,429	11%	-	510,562	38,429
14.1	Eligible Capital Property post Jan 1, 2017	6,508,574	116,447	11,996	-	-	6,637,017	5%	325,429	8%	9,634	6,301,954	335,063
Rate Ba	se CCA	259,146,536	38,546,600	(1,894,751)	(882,487)	-	294,915,898		18,816,539		8,480,997	267,618,361	27,297,536
400	Barawahla Canaratian Environant	00.077					00.077	500/	44.000	4000		44.000	-
43.2	Renewable Generation Equipment	29,277	-	-	-	-	29,277	50%	14,639	100%	-	14,638	14,639
L. 8	External EV Charging Stations	43,377	-	-	-	-	43,377	20%	8,675	30%	-	34,702	8,675
Non-dis	tribution CCA	72,654	20 540 000	(4.004.754)	(000 407)	-	72,654		23,314	-	0.400.007	49,340	23,314
ı		259,219,190	38,546,600	(1,894,751)	(882,487)		294,988,552		18,839,853		8,480,997	267,667,701	27,320,850



LONDON HYDRO INC. CAPITAL COST ALLOWANCE 2021 BRIDGE YEAR

				CCA	Continuity S	chedule (202	1) - Bridge Year						
Class	Class Description	UCC Prior Year Ending Balance	Additions	Adjustments	Proceeds on Disposal	1/2 Year Rule	Reduced UCC Balance	Rate %	CCA (Excluding Additions)	Incentive Rate	CCA On Net	UCC Ending Balance	Total CCA
1	Distribution System - 1988 to 22-Feb-2005	57,136,343	-	-	-	-	57,136,343	4%	2,285,454	6%	-	54,850,889	2,285,453
1	Buildings - pre 2008	5,974,390	-	-	-	-	5,974,390	4%	238,976	6%	-	5,735,414	238,976
1	Buildings - post 2008	5,511,764	2,770,000	(216,000)	-	-	8,065,764	6%	330,706	9%	229,860	7,505,198	560,566
2	Distribution System - pre 1988	20,670,297	-	-	-	-	20,670,297	6%	1,240,218	9%	-	19,430,079	1,240,218
8	Equipment	6,772,667	3,840,800	-	-	-	10,613,467	20%	1,354,533	30%	1,152,240	8,106,694	2,506,773
10	Vehicles	2,469,505	1,445,000	-	(51,500)	-	3,863,005	30%	740,852	45%	627,075	2,495,078	1,367,927
12	Computer Software	-	4,376,000	(2,400,000)	-	-	1,976,000	100%	-	100%	1,976,000	-	1,976,000
38	Power-operated Equipment	206,081	-	-	-	-	206,081	30%	61,824	45%	-	144,257	61,824
47	Electrical Distributing Equipment	184,966,872	29,932,200	-	(667,000)	-	214,232,072	8%	14,797,350	12%	3,511,824	195,922,898	18,309,174
47B	Electrical Distributing Equip (contributed capital)	(23,067,946)	(6,534,000)	-	-	-	(29,601,946)	8%	(1,845,436)	12%	(784,080)	(26,972,430)	(2,629,516)
50	Computer Hardware - post 2007	165,872	947,000	-	-	-	1,112,872	55%	91,230	83%	781,275	240,367	872,505
14.1	Eligible Capital Property Dec 2016	510,562	-	-	-	-	510,562	7%	35,739	11%	-	474,823	35,739
14.1	Eligible Capital Property post Jan 1, 2017	6,301,954	(1,750,000)	-	-	-	4,551,954	5%	315,098	8%	(87,500)	4,324,356	227,598
Rate Ba	se CCA	267,618,361	35,027,000	(2,616,000)	(718,500)	-	299,310,861		19,646,544		7,406,694	272,257,623	27,053,237
43.2	Renewable Generation Equipment	14,638	-	-	-	-	14,638	50%	7,319	100%	-	7,319	7,319
8	External EV Charging Stations	34,702	-	-	-	-	34,702	20%	6,940	30%	-	27,762	6,940
Non-dis	tribution CCA	49,340	-	-	-	-	49,340		14,259		-	35,081	14,259
1		267,667,701	35,027,000	(2,616,000)	(718,500)	-	299,360,201		19,660,803		7,406,694	272,292,704	27,067,496



LONDON HYDRO INC. CAPITAL COST ALLOWANCE 2022 TEST YEAR

				CCA	Continuity S	chedule (202	2) - Test Year						
Class	Class Description	UCC Prior Year Ending Balance	Additions	Adjustments	Proceeds on Disposal	1/2 Year Rule	Reduced UCC Balance	Rate %	CCA (Excluding Additions)	Incentive Rate %	CCA On Net	UCC Ending Balance	Total CCA
1	Distribution System - 1988 to 22-Feb-2005	54,850,889	-	-	-	-	54,850,889	4%	2,194,036	6%	-	52,656,853	2,194,036
1	Buildings - pre 2008	5,735,414	-	-	-	-	5,735,414	4%	229,417	6%	-	5,505,998	229,416
1	Buildings - post 2008	7,505,198	1,495,000	(222,000)	-	-	8,778,198	6%	450,312	9%	114,570	8,213,316	564,882
2	Distribution System - pre 1988	19,430,079	-	-	-	-	19,430,079	6%	1,165,805	9%	-	18,264,274	1,165,805
8	Equipment	8,106,694	3,528,200	-	-	-	11,634,894	20%	1,621,339	30%	1,058,460	8,955,095	2,679,799
10	Vehicles	2,495,078	1,310,000	-	(52,500)	-	3,752,578	30%	748,523	45%	565,875	2,438,180	1,314,398
12	Computer Software	-	4,687,000	(2,400,000)	-	-	2,287,000	100%	-	100%	2,287,000	-	2,287,000
38	Power-operated Equipment	144,257	140,000	-	(30,000)	-	254,257	30%	43,277	45%	49,500	161,480	92,778
47	Electrical Distributing Equipment	195,922,898	34,271,800	-	(667,000)	-	229,527,698	8%	15,673,832	12%	4,032,576	209,821,292	19,706,406
47B	Electrical Distributing Equip (contributed capital)	(26,972,430)	(4,558,000)	-	-	-	(31,530,430)	8%	(2,157,794)	12%	(546,960)	(28,825,676)	(2,704,754)
50	Computer Hardware - post 2007	240,367	868,000	-	-	-	1,108,367	55%	132,202	83%	716,100	260,065	848,302
14.1	Eligible Capital Property Dec 2016	474,823	-	-	-	-	474,823	7%	33,238	11%	-	441,585	33,238
14.1	Eligible Capital Property post Jan 1, 2017	4,324,356	-	-	-	-	4,324,356	5%	216,218	8%	-	4,108,138	216,218
Rate Bas	se CCA	272,257,623	41,742,000	(2,622,000)	(749,500)	-	310,628,123		20,350,405		8,277,121	282,000,600	28,627,524
1													-
	Renewable Generation Equipment	7,319	-	-	-	-	7,319	50%	3,660	100%	-	3,659	3,660
8	External EV Charging Stations	27,762	-	-	-	-	27,762	20%	5,552	30%	-	22,210	5,552
Non-dist	tribution CCA	35,081	-	-	-	-	35,081		9,212		-	25,869	9,212
1		272,292,704	41,742,000	(2,622,000)	(749,500)	-	310,663,204		20,359,617		8,277,121	282,026,469	28,636,736



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Appendix 4-3: 2020 Income Tax Return



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Code 1901



Agence du revenu du Canada

Scientific Research and Experimental **Development (SR&ED) Expenditures Claim**

Use this form:

- to provide technical information on your SR&ED projects;
- to calculate your SR&ED expenditures; and
- to calculate your qualified SR&ED expenditures for investment tax credits (ITC).

To claim an ITC, use either:

- Schedule T2SCH31, Investment Tax Credit Corporations; or
- Form T2038(IND), Investment Tax Credit (Individuals).

The information requested in this form and documents supporting your expenditures and project information (Part 2) are prescribed information.

In Part 6, a new box is added: Box 758 that must be filled if traditional method is used. The information is required for tax year ends after 2020 and optional for tax year ends before 2021.

Your SR&ED claim must be filed within 12 months of the filing due date of your income tax return.

To help you fill out this form, use the T4088, Guide to Form T661, which is available on our website: canada.ca/taxes-sred.

Part 1 - General information

010 Name of claimant	Enter one of the following:
London Hydro Inc.	86483 7430 RC0001
Tax year	Business number (BN)
From 2020-01-01 to 2020-12-31 Year Month Day Year Month Day	
Total number of projects you are claiming this tax year:	Social insurance number (SIN)
4 100 Contact person for the financial information	105 Telephone number/extension 110 Fax number
xxxxxxxxxxx	(519) 661-5800
Contact person for the technical information	Telephone number/extension 125 Fax number
XXXXXXXXXXX	(519) 661-5800
151 If this claim is filed for a partnership, was Form T5013 Partnership Informatio	n Return filed? Yes No
If you answered no to line 151, complete lines 153, 156 and 157.	
Names of the partners	156 % 157 BN or SIN
1	
2	
3	
4	
5	
Part 2 - Project information	CRA internal form identifier 060
Complete a separate Part 2 for each project claimed this year.	Code 1901
Section A - Project identification	
200 Project title (and identification code if applicable)	

See schedule

Part 3 - Calculation of SR&ED expenditures

What did you spend on your SR&ED projects?

Section A – Select the method to calculate the SR&ED expenditures
I elect (choose) to use the following method to calculate my SR&ED expenditures and related investment tax credits (ITC) for this tax year. I understand that my election is irrevocable (cannot be changed) for this tax year.
160 1 X I elect to use the proxy method (Enter "0" on line 360 and complete Part 5.)
162 1 Choose to use the traditional method (Enter "0" on line 502. Complete line 360.)

Section B – Calculation of allowable SR&ED expenditures (to the nearest dollar) • SR&ED portion of salary or wages of employees directly engaged in the SR&ED:		
a) Employees other than specified employees for work performed in Canada b) Specified employees for work performed in Canada		1,683,793
Subtotal (add lines 300 and 305)	306 =	1,683,793
c) Employees other than specified employees for work performed outside Canada (subject to limitations – see guide)	307 + 309 +	
Salary or wages identified on line 315 in prior years that were paid in this tax year	310 +	
• Salary or wages incurred in the year but not paid within 180 days of the tax year end 315	200	
Cost of materials consumed in performing SR&ED Cost of materials transformed in performing SR&ED	320 + 325 +	
Contract expenditures for SR&ED performed on your behalf:		
a) Arm's length contracts b) Non-arm's length contracts	340 + 345 +	2,082,277
Overhead and other expenditures (enter "0" if you elected to use the proxy method at line 160)	360 +	
Third-party payments (complete Form T1263*)	370 +	20,000
Total allowable SR&ED expenditures (add lines 306 to 370; do not add line 315)	380 = are an individ	3,786,070 lual, include

Section C – Calculation of pool of deductible SR&ED expenditures (to the nearest dollar)		
Amount from line 380	420	3,786,070
Deduct		
• provincial government assistance for expenditures included on line 380	429	104,783
• other government assistance for expenditures included on line 380		460,051
• non-government assistance for expenditures included on line 380	432	
• SR&ED ITCs applied and/or refunded in the prior year (do not include ITCs allocated from a partnership)	435	458,591
• sale of SR&ED capital assets and other deductions	440	
Subtotal (line 420 minus lines 429 to 440)	442 =	2,762,645
Add		
• repayments of government and non-government assistance that previously reduced the SR&ED expenditure pool	445 + _	
• prior year's pool balance of deductible SR&ED expenditures (from line 470 of prior year T661)	450 + _	
SR&ED expenditure pool transfer from amalgamation or wind-up		
amount of SR&ED ITC recaptured in the prior year		
Amount available for deduction (add lines 442 to 453)	455 =	2,762,645
Deduction claimed in the year (Corporations should enter this amount on line 411 of schedule T2SCH1)	460	2,762,645
Pool balance of deductible SR&ED expenditures to be carried forward to future years (line 455 minus 460)	470 =	

^{*} Form T1263, Third-Party Payments for Scientific Research and Experimental Development (SR&ED)

Part 4 – Calculation of qualified SR&ED expenditures for investment tax credit (ITC) purposes (to the nearest dollar)

The resulting amount is used to calculate your refundable and/or non refundable ITC.

Total allowable SR&ED expenditures (from line 380)	492	3,786,070
Add		
• payment of prior years' unpaid amounts (other than salary or wages) (see note 1)	500	+
• prescribed proxy amount (complete Part 5)		
(Enter "0" if you use the traditional method)	502	+901,816
• qualified expenditures transferred to you (see note 3) (complete Form T1146**)	508	+
Subtotal (add lines 492 to 508)		4,687,886
Deduct		
• provincial government assistance	513	- <u>136,346</u>
• other government assistance		- 460,051
• non-government assistance and contract payments	517	
• current expenditures (other than salary or wages) not paid within 180 days of the tax year end (see note 1)		
• 80% of the amounts paid in respect of an SR&ED contract to a person or partnership that is not a taxable supplier	528	
• 20% of the amount on lines 340 and 370	529	420,455
• prescribed expenditures not allowed by regulations (see guide)	530	_
• other deductions (see guide)	533	_
• non-arm's length transactions		
assistance allocated to you (complete Form T1145*)	538	
- expenditures for non-arm's length SR&ED contracts (from line 345)	541	
adjustments to purchases (limited to costs) of goods and services from non-arm's length suppliers (see guide)	542	- <u> </u>
- qualified expenditures you transferred (complete Form T1146**)	544	
Qualified SR&ED expenditures (line 511 minus lines 513 to 544)	559	3,671,034
Add		
• repayments of assistance and contract payments made in the year	560	+
Total qualified SR&ED expenditures for ITC purposes (add lines 559 and 560)	570	= 3,671,034

^{*} Form T1145, Agreement to Allocate Assistance for SR&ED Between Persons Not Dealing at Arm's Length

Note 1 – For arm's length contracts, only include 80% of the contract amount.

^{**} Form T1146, Agreement to Transfer Qualified Expenditures Incurred in Respect of SR&ED Contracts Between Persons Not Dealing at Arm's Length

Part 5 - Calculation of prescribed proxy amount (PPA)

A notional amount representing your overhead and other expenditures.

This part calculates the PPA to enter on line 502 in Part 4. Do not complete this part if you have chosen to use the traditional method in Part 3 (line 162). You can only claim a PPA if you elected to use the proxy method for the year in Part 3 (line 160).

Special rules apply for specified employees. Calculate your salary base in Section A and the PPA in Section B.

or wages of specified e						_	
850 Column 1	852 Column 2	854 Column 3	856 Column 4	858 Column 5	860 Column 6		
Name of specified employee	Total salary or wages for the year (SR&ED and non-SR&ED) excluding bonuses, remuneration based on profits, and taxable benefits (to the nearest dollar)	% of time spent on SR&ED (maximum 75%)	Amount in column 2 multiplied by percentage in column 3	2,5 x A x B/365 A = Year's maximum pensionable earnings B = Number of days employed in tax year	Amount in column 4 or 5, whichever amount is less		
			(Enter total of co	umn 6 on line 816)		816 +	

Section B – Prescribed proxy amount (PPA)

Enter the amount from line 820 on to line 502 in Part 4 unless the overall cap on PPA applies to you. (See the guide for explanation and example of the overall cap on PPA)

Part 6 - Project costs

Information requested in this part must be provided for **all** SR&ED projects claimed in the year. Expenditures should be recorded and allocated on a project basis.

* For Box 758, the information is required for tax year ends after 2020 and optional for tax year ends before 2021.

	750	752	754	756	758
	Project title or identification code	Salary or wages in the tax year (Total of lines 306 to 309)	Cost of materials in the tax year (Total of lines 320 and 325)	Contract expenditures for SR&ED performed on your behalf in the tax year (Total of lines 340 and 345)	Overhead and other expenditures in the tax year* (total of line 360, if applicable)
1	2020-02 Advancements in Meter Analytics	687,530		795,123	
2	2020-03 Backend Analytics for Energy Consumption 360,898 827,980				
3 2020-01 Development of Scalable Real-Time Architecture		477,733		459,174	
4	2020-04 Smart Devices for Grid Management	157,632			
	Total	1,683,793		2,082,277	

Part 7 - Additional information

Expenditures for SR&ED performed by you in Canada (line 380 minus lines 307, 309, 340, 345, and 370)		605	1,683,793
From the total you entered on line 605, estimate the percentage of distribution of the sources of funds for SR&ED performed within your organization.	Canadian (%)		Foreign (%)
Internal 600	100.000		
Parent companies, subsidiaries, and affiliated companies Federal grants (do not include funds or tax credits from SR&ED tax incentives) Federal contracts Provincial funding SR&ED contract work performed for other companies on their behalf Other funding (e.g., universities, foreign governments) 602 603 606 608 Fosion SR&ED tax incentives) 610 610 611		614 618	
For statistical purposes indicate whether the work you performed falls within the realm of Basic or Applied researd Experimental development (to achieve a technological advancement):	ch (to advance scientific	knowledge)	or
620 1 Basic or Applied research 622 1 X Experimental of	levelopment		
Enter the number of SR&ED personnel in full-time equivalents (FTE):			
Scientists and engineers Technologists and technicians Managers and administrators Other technical supporting staff		632 634 636 638	1 1 3 12

Part 8 - Claim checklist

To ensure your claim is complete, make sure you have: 1. used the current version of this form
2. entered the method you have chosen for reporting your SR&ED expenditures in Section A of Part 3
3. completed Part 2 for each project X
4. filed a completed Schedule T2SCH31 or Form T2038(IND) to claim ITCs on your qualified SR&ED expenditures
5. filed a completed Form T1145*, T1146**, T1174*** and/or T1263**** including any required attachments, if applicable
To expedite the processing of your claim, make sure you have: 1. completed Form T2, Corporation Income Tax Return or Form T1, Income Tax and Benefit Return
2. filed the appropriate provincial and/or territorial tax credit forms, if applicable
3. retained documents to support the SR&ED work performed and SR&ED expenditures you claimed
4. checked boxes 231 and 232 on page 2 of your T2 return to indicate attachment of Form T661 and Schedule T2SCH31

^{*} Form T1145, Agreement to Allocate Assistance for SR&ED Between Persons Not Dealing at Arm's Length

^{**} Form T1146, Agreement to Transfer Qualified Expenditures Incurred in Respect of SR&ED Contracts Between Persons Not Dealing at Arm's Length

^{***} Form T1174, Agreement Between Associated Corporations to Allocate Salary or Wages of Specified Employees for Scientific Research and Experimental Development (SR&ED)

^{****} Form T1263, Third Party Payments for Scientific Research and Experimental Development (SR&ED)

Part 9 - Claim preparer information

Information requested in this part must be provided for each claim preparer that has accepted consideration to prepare or assist in the preparation of this SR&ED claim. Certification is required on lines 935, 970, and 975.

A \$1,000 penalty may be assessed if the information requested below about the claim preparer(s) and billing arrangement(s), is missing, incomplete, or inaccurate. Where a claim preparer has prepared or assisted in the preparation of this SR&ED form, the claimant and the claim preparer will be jointly and severally, or solidarily, liable for the penalty.

935 Was a claim preparer engaged in any aspect of the preparation of this SR&ED claim?

1 X Yes (complete the claim preparer information table and lines 970 and 975 below)

2 No (complete lines 970 and 975)

Claim preparer information table

	940	945	950	955	960	965
	Name of claim preparer (company or individual)	Business number	Billing arrangement code (see codes below*)	Billing rate (percentage, hourly/daily rate or flat fee)	Other billing arrangement(s) (Maximum 10 words)	Total fee paid, payable, or expected to pay
1. xx	XXXXX	xxxxxxxxxxxx	1	xxxx		xxxxxxx
					Total	XXXXXXX
* Billing	arrangement codes					
Code	Type of billing arrangement					
1	Contingency fee arrangement – where the fee is based on a percentage of the investment tax credit earned					
2	Hourly rate					
3	Daily rate					
4	Flat fee arrangement (lump sum)					
5	Other arrangements – describe the arrange	ement in box 960 in 10 wo	ords or less			
970 l,	xxxxxxxxxx			certify that the information	tion provided in this part is	complete
,	Name of authorized signing officer of the c	orporation, or individual (prin		oorting triat trio irriorma	tion provided in the part is t	Somplete
and	d accurate.	. "	•			
					975	2021-06-14

PREPARED SOLELY FOR INCOME TAX PURPOSES WITHOUT AUDIT OR REVIEW FROM INFORMATION PROVIDED BY THE TAXPAYER.

Part 10 - Certification

I cert	ify that I have examined the information provided on this form and on the attachments a	and it is true, correct, and complete.	
165	xxxxxxxxxx		170
	Name of authorized signing officer of the corporation, or individual	Signature	Date
175	KPMG LLP		
	Name of person/firm who completed this form		

Privacy Notice

Personal information is collected pursuant to subsections 37(1), 37(11), and 162(5.1) of the Income Tax Act (the Act) and is used for verification of compliance, administration and enforcement of the Scientific Research and Experimental Development (SR&ED) program requirements.

Information may also be used for the administration and enforcement of other provisions of the Act, including assessment, audit, enforcement, collections, and appeals, and may be disclosed under information-sharing agreements in accordance with the Act. Incomplete or inaccurate information may result in assessment of monetary penalties and delays in processing SR&ED claims.

The social insurance number is collected pursuant to section 237 of the Act and is used for identification purposes.

Information is described in personal information bank CRA PPU 441 "Scientific Research and Experimental Development" in the Canada Revenue Agency (CRA) chapter of *Info Source*. Personal information is protected under the Privacy Act, and individuals have a right of access to, correction, and protection of their personal information. Further details regarding requests for personal information at the CRA and our Info Source chapter can be found at <u>canada.ca/cra-info-source</u>.



e Agence du revenu du Canada

THIRD-PARTY PAYMENTS FOR SCIENTIFIC RESEARCH AND EXPERIMENTAL DEVELOPMENT (SR&ED)

Complete this form for each third-party payment and attach it to Form T661.

For more information on third-party payments:

- See line 370 of Guide to Form T661, Scientific Research and Experimental Development (SR&ED) Expenditures Claim;
- Third-Party Payments Policy;
- Consult our Web site: www.cra.gc.ca/sred.

	Required Information	
1. Identification		
701 Name of the third party		
XXXXXXXXXXXXXXX		
702 Address (Street number and name)		
XXXXXXXXXXXXXXXXX		
City	Province / Territory	Postal Code
London	ON	xxxxxxx
704 Total amount paid in the year		
\$ 20,000		
dentify the research project(s) performed by the thi	ird party antity for the payment	
706 Project title (and identification code if applic		
Data Analytics for Residential Energy	•	
1 _ Data Analytics for Residential Energ	gy rianagement	
Check the appropriate box to indicate the type of en	tity:	
711 Approved association		1 Yes X
712 Non-profit SR&ED corporation resident in Ca	anada	
	titute, or other similar institution	1 Yes
_		1 Yes
	ient?	1 Yes X 2 No
2. Nature of payment		
Check the appropriate box to indicate the type of en	tity:	
The payment is for:		
731 Experimental development		1 Yes X
736 Briefly explain what the payment is for:		
	voca gnition to shair use to	
Research study: Developing pattern	recognition techniques to	

reduce residential energy consumption.

738 Briefly explain how the SR&ED is related to a business that you carry on:	
Will enhance energy consumption and energy distribution	
efficiency	
740 Briefly explain how you are entitled to exploit the results of the SR&ED:	
Unlimited access to all research findings and the ensuing technologies	

Personal information is collected pursuant to subsections 37(1), 37(11), and 162(5.1) of the *Income Tax Act* (the Act) and is used for verification of compliance, administration and enforcement of the Scientific Research and Experimental Development (SR&ED) program requirements.

Information may also be used for the administration and enforcement of other provisions of the Act, including audit, enforcement action, collections, and appeals, and may be disclosed under information-sharing agreements in accordance with the Act. Incomplete or inaccurate information may result in assessment of monetary penalties and/or delays in processing SR&ED claims.

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Information is described in personal information bank CRA PPU 441 "Scientific Research and Experimental Development", in the Canada Revenue Agency (CRA) chapter of *Info Source*. Personal information is protected under the *Privacy Act* and individuals have a right of access to, correction, and protection of their personal information. Further details regarding requests for personal information at the CRA and our Info Source chapter can be found at http://www.cra.gc.ca/atip/.

T1263 E (15)



Part 2 – Project information (continued)

Project number 1

CRA internal form identifier 060 Complete a separate Part 2 for each project claimed this year. Code 1901 Section A - Project identification 200 Project title (and identification code if applicable) 2020-02 Advancements in Meter Analytics 206 Field of science or technology code 202 Project start date 204 Completion or expected completion date (See guide for list of codes) 2018-09 2021-11 Information technology and bioinformatics (Software 6 Month Month Project claim history 1 X Continuation of a previously claimed project First claim for the project **210** 1 X No Was any of the work done jointly or in collaboration with other businesses? If you answered **yes** to line 218, complete lines 220 and 221. 220 221 Names of the businesses BN 3 Section B - Project descriptions 242 What scientific or technological uncertainties did you attempt to overcome? (Maximum 50 lines) London Hydro carried out research studies on how to intelligently reduce 2. energy consumption with the goal of; i) Developing pattern recognition techniques to interpret the energy consumption pattern of different appliances in a household. ii) Predicting Electric Vehicle (EV) charging 4. times to determine charging patterns. The hypothesis to be tested was that by 5. 6. understanding the nature of power signals, realistic synthetic data could be created to pre-train models for load disaggregation models and reinforcement machine learning simulations. Systematic investigations were necessary to 8. 9. determine if this will be successful. 10. With an objective of effectively managing peak demands, one of the attempts 11. that was undertaken in FY20 was to enhance the intelligent energy analytics 12. environment by integrating the state information of electric grid components 13. to better contextualize abnormal energy events. The idea was to efficiently 14. monitor loads in the smart grid network and provide statistical patterns 15. (i.e., loads at any given time in a year) and understand what was causing the overloads with respect to various grid assets such as transformers, feeders, 16. 17. and sub-stations in the network such that the outages related to system overloads could be prevented. To this end, London Hydro sought to integrate 18. 19. the company's outage management system (OMS) with a data warehouse in order 20. to analyze the OMS state data and the results would then be used to monitor 21. system loads. The challenge to be addressed was that data generated by the 22. assets are in 15-minute snapshots and it was uncertain how these snapshots 23. could be parsed to provide load insights. 24. London Hydro also sought to develop efficient techniques to achieve last-hour 25. read performance from the smart meter RNI head-end system, while providing the capability to load the last hour read data into the ODS in real-time. The 26. RNI in its current state could not support many meters in faster transmit 27. 28. modes. The RF network was congested with meter messages and increasing the 29. transmit frequency created more traffic. Therefore, the Company was uncertain 30. if the communication architecture could be improved to meet the desired 31. latency (less than 100 milliseconds) owing to the presence of noise in the

3<u>2.</u>

network.

244 What work did you perform in the tax year to overcome the scientific or technological uncertainties described in line 242? (Summarize the systematic investigation or search) (Maximum 100 lines) With an objective of analyzing the real power signals, power consumption data 2. from several appliances were collected over a two-year period. The yearly 3. consumption data was then partitioned to minutely data per day, to determine 4. statistical parameters. To find the patterns of power consumption signals, 5. the idea was to distinguish each period of power consumption by identifying power signals that are nonzero for more than 10 minutes in sequence; padding 6. 7. was added to each period to unify the length. By analyzing the data, discrete 8. consumption patterns were noted, which led to developing noise reduction techniques. A clustering method based on K-Means was implemented in order to 9. 10. distinguish different levels of power consumption; elbow distortion method was applied to determine the best "K" values. It was initially thought 11. discretization would reduce noise in the data. However, discretization on the 12. 13. data before training the model did not show any performance improvements of 14. the model. Therefore, discretization was used only to find different patterns 15. of each distinct signal("periods"); However, because the power consumption is 16. represented as time series data, the clustering method could not be directly 17. applied for each period of signals. To address this, time series data was 18. converted to a frequency domain data and it was noted that some portion of 19. the center pattern were still negative due to using Euclidean based distance 20. metric in the frequency domain. Subsequently, K-Means method was applied on 21. the coded space (AutoEncoder), which successfully captured the cluster center 22. generic trends of the patterns. Results were successful. 23. In order to develop an EV charging model to predict energy consumption of EV 24. loads, usage data was pre-processed by inputting the sliding window data 25. frame into K-Means algorithm to cluster the data points into multiple user segments using the current data, to determine the charging cluster for user1, 26. 27. 2 etc. For predicting charging pattern, the first step was to implement a 28. synthetic minority oversampling technique to resolve biases in the dataset; 29. subsequently, a classifier algorithm was implemented to predict if the EV is 30. charging or not. In order to predict consumption pattern, the EV charging 31. data (in kwh) from the previous step was used along with the time stamps from 32. each household. Test results were satisfactory. 33. In order to analyze overloads associated with various assets in the smart 34. grid network, the idea was to extract OMS state data into the data warehouse 35. flat non-normalized data that can be added to an analytics platform. In order to describe the event states of the assets (e.g., transformer1 fed by feeder 36. 37. 1 etc.), the event data comes in every 15-minute interval from the grid 38. assets in the form of images, which presented issues in effectively parsing 39. the data associated with the snapshots for providing load insights. The 40. hypothesis proposed and tested was to develop a time-slicing technique such 41. that instead of viewing the event states every 15 minutes, the time sliced 42. historical data could be compared between subsequent intervals and only deltas would be retained in the event of change in event states (e.g., 43. 44. transformer1 fed by feeder 1 before, but now is fed by feeder 2 etc.). ETL 45. techniques were developed in order to process the raw 15-minute interval data from OMS with timestamps and compress the data by comparing the old OMS state 46. 47. data and new OMS state data and update the target data set using only the 48. delta data. This method guaranteed an aggregated approach in determining the 49. state of the assets. 50. In continuation with the experiments from past FY, propagation studies were 51. carried out to confirm 99% Read Interval Success (RIS); however, the channel 52. congestions were observed due to the increased population of concurrently 53<u>.</u> communicating smart meters, thus presenting communication challenges. London 54. Hydro evaluated a 3-tier distributed architecture, which included the 55. introduction of 120 degree spaced trisectored antennae in the RF 56. communication architecture to enhance the meter coverage and handle better 57. traffic. The results revealed reduction in co-channel interference, while 58. simultaneously improving the coverage area.

246	What scientific or technological advancements did you achieve or attempt to a	chieve as a result of the work described in line	e 244? (Maximum 50 lines)	
1.	. This project represents a technological advancement in the field of			
2.	electrical engineering IT systems. London Hydro achieved the following			
3.	advancements in FY20:	,		
4.	London Hydro advanced the understanding of how	to model and predict overloa	ads	
5.	conditions and develop proactive measures to av			
6.	overloads. To reduce ETL payloads, London Hydro			
7.	techniques to compare the incoming time interva			
8.	such that only delta data will be retained to t	-		
9.	states.	crack the change in event		
10.	London Hydro successfully developed pattern red	rognition tochniques to		
11.	understand the energy consumption pattern associated			
12.	electrical appliances and also the EVs. Generat		<u>/</u>	
13.	developed in order to create and analyze realis			
14.	Hydro learned that the accuracy of the predicte			
15.	improved by developing large number of clusters	s to better describe the use	<u> </u>	
16.	behaviour.	t		
17.	London Hydro successfully developed techniques			
18.	data congestions associated with the AMI RNI ne		1e	
19.	communication between meters and the backend ar			
20.	latencies with respect to message packet transm	nissions were also		
21.	significantly reduced.			
Secti	on C – Additional project information			
	repared the responses for Section B?			
253	1 X Employee directly involved in the project 254 Name xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx			
255	1 Other employee of the company 256 Name			
257	1 X External consultant 258 Name	259 Firm		
	KPMG LLP	KPMG I	LP	
List th	e key individuals directly involved in the project and indicate their qualifications	s/experience.		
260	Names	261 Qualifications/experience	e and position title	
1 XX	xxxxxxxxxx	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxx	
2 XX	xxxxxxxxxx	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	(XXXXXXXXXXXX	
3 XX	XXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	xxxxxxxxxxx	
265 /	are you claiming any salary or wages for SR&ED performed outside Canada?		Yes X No	
266 /	are you claiming expenditures for SR&ED carried out on behalf of another par	ty?	Yes X No	
267	Are you claiming expenditures for SR&ED performed by people other than you	r employees?	X Yes No	
	tre you claiming expenditures for STALD performed by people offer than you	ii employees:	res	
16				
_	answered yes to line 267, complete lines 268 and 269.		000	
268	Names of individuals or companies		269 BN	
1	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	
2	XXXXXXXXXXXXXXXXXXXXXXXX		xxxxxxxxxxxxxxx	
_				
	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
4	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX		xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	
5	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx		XXXXXXXXXXXXXXXX	
6	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxx	
7	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX		xxxxxxxxxxxxxxx	

What evidence do you have to support your claim? (Check any that apply) You do not need to submit these items with the claim. However, you are required to retain them in the event of a review.				
270 1 Project planning documents	276 1 X Progress reports, minutes of project meetings			
271 1 X Records of resources allocated to the project, time sheets	277 1 X Test protocols, test data, analysis of test results, conclusions			
272 1 Design of experiments	278 1 Photographs and videos			
273 1 Project records, laboratory notebooks	279 1 Samples, prototypes, scrap or other artefacts			
274 1 X Design, system architecture and source code	280 1 X Contracts			
275 1 Records of trial runs	281 1 Others, specify 282			

Part 2 - Project information (continued)

Project number 2

Comp	CRA internal form identifier 060 clete a separate Part 2 for each project claimed this year.
Sect	ion A – Project identification
200	Project title (and identification code if applicable)
	2020-03 Backend Analytics for Energy Consumption
202	Project start date 204 Completion or expected completion date 206 Field of science or technology code
LVL	(See guide for list of codes)
	Year Month 2017-09 Year Month Year Month Year Month Year Month Year Month 1.02.02 Information technology and bioinformatics (Software e
Proje	ct claim history
208	1 X Continuation of a previously claimed project 210 1 First claim for the project
218	Was any of the work done jointly or in collaboration with other businesses?
	answered yes to line 218, complete lines 220 and 221.
220	Names of the businesses 221 BN
1	
2	
3	
Sect	ion B – Project descriptions
242	What scientific or technological uncertainties did you attempt to overcome? (Maximum 50 lines)
1.	London Hydro (LH or "the Company") is a leader in developing energy
2.	management solutions to accommodate growing energy demands. In FY20, London
3.	Hydro sought to develop an innovative peak load shavings energy management
4.	technology that would dynamically assist with demand side load
5.	scheduling/shedding to within a specified setpoint or maximum consumption
6.	limit and/or carbon footprint. A pilot study was carried out using four
7.	distinct elements: The demand-side scheduler, rate engine, dynamic billing
8.	engine, distributed energy resources (DER). Initial investigations revealed
9.	communication challenges with respect to meters and IoT devices not
10.	transmitting data. Subsequently, London Hydro was uncertain how to address
11.	the partition tolerance issue (distribution communication system continues to
12.	operate despite an arbitrary number of messages being dropped or delayed by
13.	the network), while ensuring consistency (every read receives the most recent
14.	write).
15.	London Hydro sought to develop a distributed system to aggregate data from
16.	multiple channels such as Green Button (GB) technology and third-party cloud
17.	platforms in order to provide hourly electricity and water consumption
18.	analytics on a monthly basis. Detailed backend algorithms were necessary in
19. 20.	order to analyze granular level energy consumption data. Based on the energy
21.	analytics, the Company sought to implement a tiered vs time of use (TOU)
22.	pricing model; batching techniques were implemented to retrieve the energy data from the various data distributed channels; however incorrect data was
23.	retrieved while querying the Bigdata. Conflicts between scheduled querying
24.	techniques was identified to be the main issue with data inaccuracies and LH
25.	was uncertain how the data could be correctly retrieved to effectively carry
26.	out energy analytics.
244	What work did you perform in the tax year to overcome the scientific or technological uncertainties described in line 242? (Summarize the systematic investigation or search) (<i>Maximum 100 lines</i>)
1.	Following the modeling of a distributed energy management system, a pilot
2.	study was carried out to evaluate effectiveness and efficiencies based on
3.	various patterns. As a part of this pilot study, a "home scheduler" sub-
4.	system, which will receive inputs from a number of sub-systems such as a
5.	measurement service(to track real-time energy consumption), real time rate
_	

244 What work did you perform in the tax year to overcome the scientific or technological uncertainties described in line 242? (Summarize the systematic investigation or search) (Maximum 100 lines) capacity shares) and an asset register manager service (to monitor device and 8. user profiles). In order to achieve the objective, an event driven micro 9. service architecture pattern consisting of various microservices was 10. developed using domain-driven design (DDD) pattern; a loosely coupled 11. microservices pattern was implemented in order to allow each microservice to own a dedicated non-relational database. REST API calls were used for sending 12. 13. commands or requests in the microservices; Inbound event Handlers (which 14. subscribe to the various events that are generated by other microservices) 15. and outbound event handlers (which generates the event indicating state 16. changes) were subsequently developed. As aforementioned, due to the system's 17. inherent partition tolerance, London Hydro needed to address inevitable 18. communication packet losses, which translated into data gaps. Interpolation 19. techniques were then developed to determine the best data match. 20. With an objective of monitoring the IoT connected devices in real time and develop strategies for managing the load schedules, a rule-driven scheduling 21. and load shedding algorithm was developed to control various connected 22. 23. devices from the residential units over a certain time interval. In order to allow load shedding through hybrid distributed energy resources (DERs) and 24. 25. smart grid power generation, clean DERs (solar backups) were implemented on 26. the demand side such that peak power shavings could be achieved when 27. electricity rates are higher. For this, a solar Generation forecast engine 28. using machine learning models was developed to provide hourly solar 29. generation schedule for the entire bill period based on historical solar 30. generation and weather data, which was then scaled down based on the demand 31. adjustment factor to fit the pilot community. The "Rate engine" tool was 32. designed to perform three types of processing stages; Pre-Processing (to 33. forecast the hourly rate for the upcoming Bill period based on the forecast 34. usage), Processing (to continuously adjust the forecasted rates based on 35. actual usage) and Post-Processing (after the billing period, this reconciles 36. the calculated charges and applies the differential amount to current month Rates). The final component of this implementation was an "ebilling" engine, 37. 38. which will receive the inputs from above three components in the sub-system 39. in order to provide granular level energy consumption details to the end 40. subjects such that they gain insights regarding which devices consume more 41. energy, and investigate ways to reduce the energy consumption. To test the 42. pilot study, energy modes defining selectable statistical benchmarks, 43. depending on the historical energy consumptions were made available to the 44. end points. By the end of FY20, the pilot study was successfully carried out 45. and LH was planning to expand this study with larger number of focus groups 46. in the next year. 47. Experiments continued from the previous year on how to develop a technique to 48. for aggregation of hourly energy consumption analysis using the granular 49. level meter readings in seconds that are inputted from multiple channels. In 50. order to overcome the inaccurate data retrieval with existing querying 51. methods, the batch processes were initially investigated to identify the 52. cause of scheduling conflicts. To improve the data retrieval process, the 53. batch jobs were developed in a such way that several processes belonging to 54. the same task were executed in parallel to reduce the overall computational 55. time. However, the drawback with this approach was racing conditions and 56. synchronization issues with respect to interdependent processes. Subsequent 57. investigations focused on developing exception conditions to prevent 58. execution precedence issues to guarantee correct data retrieval ordering. 59<u>.</u> Subsequently a rate engine was developed to compare the tiered vs TOU 60. approaches and provide a comparative monthly analysis based on the analysis 61. to enable the end subjects to choose between TOU or Tiered approach.

246 What scientific or technological advancements did you achieve or attempt to achieve as a result of the work described in line 244? (Maximum 50 lines)

					86483 7430 RC0001
1. T	he work performed in FY2020 re	presents a techr	nological advancement	in the	
2. f	ield of information technology	. The project co	ontributed to the foll	Lowing	
3. a	dvancements in FY20.				
	Load modeling analysis was su				
	lgorithms and techniques to de				
	lerts to notify what loads cou				of
	he day, thereby preventing high				
	his concept, load shedding alo he DERs could be utilized for			ch that	
	London Hydro also successfull	_	_	del hase	d
	n tiered vs TOU; London Hydro				
	evel energy consumption data i			_	<u>u - </u>
	ffectively analyzed and aggree	_	_		to
14. g	ain consumption patterns.				
Section	C – Additional project information				
Who prep	pared the responses for Section B?				
253 ₁	V Lingioyee directly inverted in	4 Name			
	— trie project	XXXXXXXXXXXXX			
255 1	Other employee of the company	6 Name			
257 ₁	X External consultant	8 Name	25	9 Firm	
		KPMG LLP		KPMG LI	LP
260	ey individuals directly involved in the project and	indicate their qualifications	204	, .	
200	Names		Qualification	s/experience	e and position title
1 XXXX	XXXXXXXX		xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	XXXXXXXXXX	XXXXXXXXXXXXXX
2 xxxx	xxxxxxxxx		xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	xxxxxxxxx	xxxxxxxxxxxx
3 xxxx	XXXXXXXXXX		xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	XXXXXXXXXX	xxxxxxxxxxxxx
265 Are	you claiming any salary or wages for SR&ED pe	rformed outside Canada?			Yes X No
	you claiming expenditures for SR&ED carried or				Yes X No
	you claiming expenditures for SR&ED performed				X Yes No
ZOT Ale	you claiming expenditures for SR&ED performer	by people officer than you	ii employees?		A resNo
If you and	wered yes to line 267, complete lines 268 and 2	60			
268		ndividuals or companies			269 BN
	Names of I	ndividuals of companies			DIV
	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
2 xx	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
3 xx	(XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
4 xx	(XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
5 xx	······································				XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
6 xx	· · · · · · · · · · · · · · · · · · ·				xxxxxxxxxxxxxxxxx
7 xx	· · · · · · · · · · · · · · · · · · ·				xxxxxxxxxxxxxxxxxx
8 xx	(XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				xxxxxxxxxxxxxxxxxxxxx

9

What evidence do you have to support your claim? (Check any that apply) You do not need to submit these items with the claim. However, you are required to retain them in the event of a review.				
270 1 Project planning documents	276 1 X Progress reports, minutes of project meetings			
271 1 X Records of resources allocated to the project, time sheets	277 1 X Test protocols, test data, analysis of test results, conclusions			
272 1 Design of experiments	278 1 Photographs and videos			
273 1 Project records, laboratory notebooks	279 1 Samples, prototypes, scrap or other artefacts			
274 1 X Design, system architecture and source code	280 1 X Contracts			
275 1 Records of trial runs	281 1 Others, specify 282			

Part 2 - Project information (continued)

Project number 3

CRA internal form identifier 060 Complete a separate Part 2 for each project claimed this year. Code 1901 Section A - Project identification 200 Project title (and identification code if applicable) 2020-01 Development of Scalable Real-Time Architecture 206 Field of science or technology code 202 Project start date 204 Completion or expected completion date (See guide for list of codes) 2018-10 2020-11 1.02.02 Information technology and bioinformatics (Software e Month Month Project claim history 1 X Continuation of a previously claimed project First claim for the project **210** 1 X No Was any of the work done jointly or in collaboration with other businesses? If you answered **yes** to line 218, complete lines 220 and 221. 220 221 Names of the businesses BN 3 Section B - Project descriptions 242 What scientific or technological uncertainties did you attempt to overcome? (Maximum 50 lines) London Hydro Inc. ("LH" or "the Company") is a pioneer electricity 2. distribution Company in London, Ontario that delivers power to over 250,000 homes and businesses. London Hydro addressed the following technological 4. uncertainties in FY20: Development efforts to improve the effectiveness of outage management system 5. 6. (OMS) entailed dynamic pinpointing of grid faults and generation of analysis/reports for field crew. The limitation with the underlying computation process was that if scheduled job events could not be completed, 8. 9. they could not be automatically reassigned within the processing pipeline 10. leading to orphaned processes. It was uncertain how to develop techniques to 11. deal with the orphaned processes such that the faulty events could be tracked 12. and updated in real time, and also assign the fault events to the line crew 13. without having to manually assign the incomplete job events. 14. With an objective of analyzing the energy consumption patterns on a spatial geography basis, it was imperative to identify the geo-spatial coordinates of 15. a large population of smart meters. A third party Geocode API was used in 16. 17. this process for fetching the coordinates in order to build a map based 18. visual representation of the geographical locations. However, the limitation 19. was that the API response was heavily dependent on the data quality; for 20. instance, irregular building geometries and the missing data associated with 21. the newly constructed buildings posed a challenge in accurately identifying 22. the geo coordinates thus presented challenges with energy pattern analytics. 23. London Hydro focused on developing techniques to provide granular tracking 24. and management of the states of accounts associated with electricity 25. consumption patterns and records. Investigations were carried out on how to 26. design computation systems and services to exude interoperability, flexibility and extensibility in response to various transaction and grid-27. 28. related constraints. This necessitated integrating the SAP, OMS and MDM 29. (Meter data Management) sub-systems to support grid transactions. The 30. underlying challenge was how to reliably integrate these sub-systems, as 31. these systems were not inherently designed to work together.

(Summarize the systematic investigation or search) (Maximum 100 lines)

What work did you perform in the tax year to overcome the scientific or technological uncertainties described in line 242?

In order to accurately track active fault events on the smart grid, London

244 What work did you perform in the tax year to overcome the scientific or technological uncertainties described in line 242? Summarize the systematic investigation or search) (Maximum 100 lines) Hydro sought to build a dynamic reporting tool based on OMS state events. Initial experiments focused on developing a data extraction engine 3. 4. corresponding to how data is assembled inside the subsystem and methodologies 5. to extract the complete event data on a monthly basis. However, as this was 6. tested it was noted that some event states had long durations (such as cable faults) which created issues; as scheduled tasks were executed periodically, 7. they failed to capture this additional data and therefore this approach was 9. not successful. Subsequently, London Hydro sought to query the OMS database 10. in real time to pull the scheduled job events based on its status. To reduce 11. the latency and complexity associated with this data fetching operation, the 12. data file was parsed then transformed into a custom report embodying a 13. description of all event states irrespective of the active life duration of 14. each event. This resolved data gaps that occurred due to missing interval 15. data from the database in manually scheduled monthly event status extracts. 16. Tests confirmed the authenticity and completeness of the data in the report. 17. Investigations were carried out to remodel the address database for it to be 18. transformed and fed to the Geocode API such that it returns the accurate 19. coordinates. Since the third-party API accepted unambiguous addresses as 20. queries, an address validation service was designed for verifying the raw 21. address data in postal code defined batches, against the national postal 22. directory (also consumed by the geocode API) and assigning the incorrect or 23. incomplete addresses with the absolute data. This helped to remove bias in 24. the API output by standardizing the addressees and also ensured that new 25. addresses as captured from the GIS database are recorded in the desired 26. format. Going forward, LH will work on utilizing the API output in running 27. big data queries on the cloud to create pipelines to handle higher throughout 28. for accurate analysis on the ever-increasing address database. 29. With an objective of developing a tiered billing rate engine, time sliced 30. hourly data from the smart meters were initially analyzed. To account for any 31. missing meter data, work was done to provide handshake between the MDM and 32. the billing transaction engine for tiered bucket-based analysis. Obtaining 33. accurate calculations from the billing engine was another challenge owing to 34. presence of myriad of variables and account categories associated with the 35. billing transactions. A rule engine was hence developed to factor in the 36. multi variable relationships and to augment the processing capability of the 37. billing engine. Finally, the data from the rate engine was pushed onto a bill 38. simulation module, which was designed to generate an on-demand tiered pricing-39. based electricity bill on the LH web application. This was implemented 40. successfully thus enabling the end user to make informed decision on 41. selecting between TOU and Tier price plan. 42. Investigations were done to establish rules governing water consumptions 43. notifications by querying the hourly interval data from a third-party cloud 44. platform and incorporating the custom defined threshold levels. Throughout 45. the development, areas that necessitated iterative approach included the 46._ synchronization of data objects that defined the different account states 47. (residential or commercial) with event triggers which were functions of 48. objects constituting the user driven configurations. Considerable efforts 49. were concentrated on streamlining all object relationships to ensure end-to-50. end accuracy in all possible permutations of execution patterns. London Hydro

What scientific or technological advancements did you achieve or attempt to achieve as a result of the work described in line 244? (Maximum 50 lines)

1. The work performed for this project represents a technological advancement in

performed various volume/performance tests and end-to-end integration tests

2. the field of electrical engineering IT systems. Specifically, the work

prior to the successful release of these system developments.

- 3. performed in FY 2020 resulted in the following advancements:
- 4. London Hydro developed a reliable and flexible platform for aggregating and

51.

52.

5.	disseminating data on the real time outage even	nts thus eliminating the manu	al		
6.	5. process of mapping and assigning job states to the line crew. Through				
7.	development of a geocoding API to link individual meter addresses in the GIS				
8.	<u> </u>				
9.	algorithmic design for running bigdata queries				
10.	analysis associated with a specific geographic	al area.			
11.	London Hydro seamlessly connected multiple sub-		S		
12.	to setup a billing engine that iterated on mult				
13.	simulate the tiered pricing for electricity usa	-			
14.	level. Furthermore, London Hydro also built in	-	to		
15.	configure water consumption parameters and real	l time communication channels			
16.	to notify them in real time.				
Sect	ion C – Additional project information				
Who	orepared the responses for Section B?				
253	1 X Employee directly involved in the project 254 Name xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx				
255	1 Other employee of the company 256 Name				
257	1 X External consultant 258 Name KPMG LLP	259 Firm KPMG LI	D		
List th	e key individuals directly involved in the project and indicate their qualifications		-f		
260	Names	261 Qualifications/experience	and position title		
	Ivanies	Qualifications/experience	s and position title		
1 ×	XXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	(XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX		
2 X	XXXXXXXXXXXX	***************************************	(XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX		
3 ^x	XXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	(XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX		
265	Are you claiming any salary or wages for SR&ED performed outside Canada?		Yes X No		
266	Are you claiming expenditures for SR&ED carried out on behalf of another par	ty?	Yes X No		
	Are you claiming expenditures for SR&ED performed by people other than you		X Yes No		
	to you draining experience for ending performed by people outer trial you				
If you	answered yes to line 267, complete lines 268 and 269.				
268	·		269 BN		
200	Names of individuals or companies		269 BN		
1	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX		xxxxxxxxxxxxxxxxxxxxx		
2	xxxxxxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxxxxxx		
3					
	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX		
4	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX		
5	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX		xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx		
6	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX		
\A/I: -4					
	What evidence do you have to support your claim? (Check any that apply) You do not need to submit these items with the claim. However, you are required to retain them in the event of a review.				
270	1 X Project planning documents 276 1 X	Progress reports, minutes of project meetings	3		
271	1 X Records of resources allocated to the project, time sheets	Test protocols, test data, analysis of test resu conclusions	lts,		
272	1 Design of experiments 278 1	Photographs and videos			
273	1 Project records, laboratory notebooks 279 1	Samples, prototypes, scrap or other artefacts			
274	1 X Design, system architecture and source code 280 1 X	Contracts			
275	1 Records of trial runs 281 1	Others, specify 282			

Part 2 - Project information (continued)

Project number 4

CRA internal form identifier 060
Complete a separate Part 2 for each project claimed this year.

Code 1901

•	, , , , , , , , , , , , , , , , , , , ,
Sect	on A – Project identification
200	Project title (and identification code if applicable)
	2020-04 Smart Devices for Grid Management
202	Project start date 204 Completion or expected completion date 206 Field of science or technology code
	2018-09 CSee guide for list of codes)
	Year Month Year Month 1.02.02 Information technology and bioinformatics (Software 6
Proje	t claim history
208	1 X Continuation of a previously claimed project 210 1 First claim for the project
218	Vas any of the work done jointly or in collaboration with other businesses?
	answered yes to line 218, complete lines 220 and 221.
220	Names of the businesses 221 BN
	Names of the pusitiesses
1	
2	
3	
<u> </u>	
Cast	on D. Dusinet descriptions
	on B – Project descriptions
242	Vhat scientific or technological uncertainties did you attempt to overcome? Maximum 50 lines)
1.	London Hydro sought to develop a grid reliability framework for analyzing
2.	what factors trigger outages and how these factors correlate with power
3.	quality. Statistical patterns were sought to be modelled along with how
4.	faulty events could be immediately addressed/prevented. The challenge was
5.	that the input data to the outage management system (OMS) comes from various
6.	data sources from the field, which are all typically paper based. It was
7.	uncertain how this data could be transformed for effective outage analysis.
8.	As the transformer stations are integrated with each other, loads are
9.	transferred between the transformer stations to mitigate overloads and ensure
10.	flexibility during planned/unplanned maintenance/contingencies scenarios. It
11.	was thought that this could be achieved by combining the real time OMS state
12.	data with the metering data, and then aggregating this demand information to
13.	the transformer Station level. However, data inconsistencies between the OMS
14.	and metering sub-systems presented significant challenges as these were two
15.	independent systems that were designed for different purposes; one for
16.	operational needs the other for billing. Systematic investigations were
17.	necessary to identify how much load was transferred between transformer
18.	stations at specific times of the year.
19.	For a net zero community design, a hybrid DC-AC microgrid (MG) concept was
20.	investigated such that AC and DC type distributed energy resources (DERs) can
21.	be directly integrated into distribution networks without AC/DC converters. A
22.	medium voltage (MV) configuration that operates at the feeder level was
23.	investigated to allow for a more reliable distribution network.
24.	Investigations were necessary to determine if this will be successful.
25.	London Hydro operates a unique looped ring bus configuration and continuously
26.	improve the design of the ring bus. In FY20, the ring bus design was modified
27.	to incorporate an independent generator by developing an additional
28.	protection layer. The complexity was that the existing circuit was designed
29.	with parallel sources of power supply in ring bus configuration. Unlike the
30.	typical distribution feeder/circuits that have single breaker per feeder,
31.	this looped ring bus has several active breakers; the challenge was how to
32.	predict faults and loss of voltage from the independent generator and isolate
32.	the appropriate breaker

244 What work did you perform in the tax year to overcome the scientific or technological uncertainties described in line 242? Summarize the systematic investigation or search) (Maximum 100 lines) LH sought to develop a framework in order to extract data from various data 2. sources (access databases, web applications, on-premise databases etc.) and 3. how to efficiently aggregate the data for report generation. Data mappings 4. were developed by studying correlations to remove redundant information; data 5. management policies for standardized formatting were designed for efficient processing. In order to overcome data loading errors and latencies, a 6. 7. framework was developed that iteratively verifies data correctness, 8. streamlines and traces the movement of data across the systems. To address 9. computational latencies, database calls were reduced through normalization 10. techniques that hinged on common identifiers across datasets. Through this work, LH was able to increase the efficiency of the OMS outage reporting 11. 12. system such that outages could be efficiently analyzed and predicted. 13. With an objective of identifying how much load was transferred between transformer stations at specific times of the year, querying techniques were 14. 15. developed to extract 15-minute OMS state data into the Datawarehouse for 16. further analysis. In order to reduce the size of the data records, the 17. technique proposed was to apply delta calculations between samples, which 18. demonstrated record sizes to be only a fraction as compared with full sample 19. sizes without compromising data integrity. However, time synchronization 20. challenges were still noted as the OMS state data was derived from a number 21. of sub-systems. This was overcome by generating and comparing the timeframes 22. to confirm the same sampling instants and ensuring the samples were using the 23. common time zones. Even though this was successful, LH still encountered 24. challenges while attempting to aggregate system/feeder peaks. Data from the 25. SCADA system was used to identify the demand of every feeder in real time; OMS state capture data was used to identify the state of the feeder at any 26. 27. given time of the year such as if they are under normal or abnormal 28. configuration at peak times. In the event of a change in feeder 29. configuration, techniques were developed to identify the meter-to-transformer-30. to-feeder relationships for enabling the ability to determine primary feeders 31. and/or transformer stations abnormal and/or normal demand, and where the 32. demand was actually transferred. By the end of FY20, LH successfully 33. developed techniques to aggregate feeder demands, at various system device 34. levels and states (i.e. normal or abnormal), at any given time of the year. 35. In FY2020, the experimental work involved implementing and analyzing a MV 36. feeder loop. Predictive analytics techniques using the weather forecast data were investigated to determine how to effectively manage the microgrid's 37. 38. battery state-of-charge for strategic reserve capacity. The parameters 39. associated with the various modes of operation such as normal mode, alternate 40. feeder mode, outage mode, injection request mode and planned island mode were 41. also investigated in order to determine how to remotely switch operating 42. modes of the microgrid. In addition, load management techniques were 43. investigated such that the microgrid controller will monitor the net bulk 44. consumption/generation and identify any surplus or deficit in generation. The 45. objective is to achieve balanced net zero building usage over the span of 12 46. months at each building. The system will redirect energy to where it is 47. needed using the battery and DC microgrid that interconnects the various 48. buildings. The actual implementation and tests will be carried out in FY2021. 49. The new ring bus topology was designed such that it could efficiently monitor 50. the status of breakers on the ring bus and rapid reaction to isolate faults. 51. As a result, advanced monitoring and control were necessary to facilitate the 52. connection with the independent generator. The underlying logic was needed to 53. be designed to handle multiple permutations of breaker actions. The redesign 54. of the ring bus topology involved developing logics to monitor the status of 55. breakers on the ring bus and facilitate rapid reaction to isolate generation 56. sources during fault events and loss of voltage. An SEL protocol was 57. implemented such that the status of the input and output ports(breakers) were 58. communicated between the SEL and the host device using mirrored bits

244	What work did you perform in the tax year to overcome the scientific or technological uncertainties described in line 242? (Summarize the systematic investigation or search) (Maximum 100 lines)				
59					
60	# #				
00	generator was successfully integration to one i				
246	What scientific or technological advancements did you achieve or attempt to achieve as a result of the work described in line 244? (Maximum 50 lines)				
1.	The work performed in FY2020 represents a tech	nological advancement in the			
2.	field of information technology. The project co	ontributed to the following			
3.	advancements in FY20.				
4.	- London Hydro successfully developed a system	reliability reporting tool;			
5.	this will help improve the smart grid in terms	of reducing the outage times			
6.	by finding outage trends analytics such as dur	ation of outage, faulty assets			
7.	in the network were sought to be identified su	ch that faulty events could be			
8.	immediately addressed/prevented.				
9.	- London Hydro successfully developed or ident	ified how much load was			
10	transferred between transformer stations, which	n provided invaluable insights			
11	to where the demand was being shifted at any g	iven time in the year. In			
12	addition, the insight supported planning initia	atives for feeder loading			
13	analysis, in normal or abnormal states, to ini	tiate action(s) for mitigating			
14	station and/or feeder overload scenarios.				
15	- London Hydro advanced the understanding of h	ow to develop sustainable, net-			
16	zero communities. If successful, LH will have	developed an AC-DC hybrid			
17	microgrid, such that AC and DC type distribute	d energy resources (DERs) can			
18	be directly integrated into distribution netwo	rks without any power losses.			
19	- London Hydro successfully developed protection	on and control techniques using			
20	a complex ring bus network to ensure network r	eliability and support the			
21	islanding and power generation concepts, while	moving a building to a new			
22	27KV sub-station network.				
Sec	tion C – Additional project information				
Wh	prepared the responses for Section B?				
253					
	trie broject xxxxxxxxxxxxx				
255	1 Other employee of the company				
257	258 Name	259 Firm			
	1 X External consultant KPMG LLP	KPMG LLP			
List	the key individuals directly involved in the project and indicate their qualification				
260		261 Qualifications/experience and position title			
1	xxxxxxxxxxx	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx			
	VARGANAGANAGAN				
2	xxxxxxxxxxx	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX			
3	XXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX			
265	Are you claiming any salary or wages for SR&ED performed outside Canada?	Yes X No			
266	Are you claiming expenditures for SR&ED carried out on behalf of another party?				
	Are you claiming expenditures for SR&ED performed by people other than your employees?				
_	f you answered yes to line 267, complete lines 268 and 269.				
268	Names of individuals or companies	269 BN			
1					

What evidence do you have to support your claim? (Check any that apply) You do not need to submit these items with the claim. However, you are required to retain them in the event of a review.				
270 1 Project planning documents	276 1 X Progress reports, minutes of project meetings			
271 1 X Records of resources allocated to the project, time sheets	277 1 X Test protocols, test data, analysis of test results, conclusions			
272 1 Design of experiments	278 1 Photographs and videos			
273 1 Project records, laboratory notebooks	279 1 Samples, prototypes, scrap or other artefacts			
274 1 X Design, system architecture and source code	280 1 X Contracts			
275 1 Records of trial runs	281 1 Others, specify 282			

*

Canada Revenue Agence du revenu du Canada

T2 Corporation Income Tax Return



This form serves as a federal, provincial, and territorial corporation income tax return, unless the corporation is located in Quebec or Alberta. If the corporation is located in one of these provinces, you have to file a separate provincial corporation return.

All legislative references on this return are to the federal Income Tax Act and Income Tax Regulations. This return may contain changes that had not yet become law at the time of publication.

Send one completed copy of this return, including schedules and the General Index of Financial Information (GIFI), to your tax centre. You have to file the return within six months after the end of the corporation's tax year.

For more information see **<u>canada.ca/taxes</u>** or Guide T4012, T2 Corporation – Income Tax Guide.

055	Do not use this area

┌ Identification ————————————————————————————————————	
Business number (BN) 001 86483 7430 RC0001	
Corporation's name OO2 London Hydro Inc. Address of head office	To which tax year does this return apply? Tax year start Year Month Day Year Month Day
Has this address changed since the last time we were notified?	Mas there been an acquisition of control resulting in the application of subsection 249(4) since the tax year start on line 060?
City Province, territory, or state O15 London O16 ON	If yes, provide the date control was acquired
Country (other than Canada) Postal or ZIP code 017 018 N6A 4H6 Mailing address (if different from head office address)	Is the date on line 061 a deemed tax year-end according to subsection 249(3.1)?
Has this address changed since the last time we were notified?	Is the corporation a professional corporation that is a member of a partnership?
021 c/o 022 023 City Province, territory, or state	Is this the first year of filing after: Incorporation?
Country (other than Canada) Postal or ZIP code 027 Location of books and records (if different from head office address)	Has there been a wind-up of a subsidiary under section 88 during the current tax year?
Has this address changed since the last time we were notified?	Is this the final tax year before amalgamation?
If yes, complete lines 031 to 038. 031	Is this the final return up to dissolution?
035 London 036 ON Postal or ZIP code 037 038 N6A 4H6	Is the corporation a resident of Canada?
Type of corporation at the end of the tax year (tick one) X 1 Canadian-controlled private corporation (CCPC) 2 Other private corporation 3 Public corporation	Is the non-resident corporation claiming an exemption under an income tax treaty?
4 Corporation controlled by a public corporation 5 Other corporation (specify) If the type of corporation changed during the tax year, provide the effective date of the change	If the corporation is exempt from tax under section 149, tick one of the following boxes: 1 Exempt under paragraph 149(1)(e) or (I) 2 Exempt under paragraph 149(1)(j) 4 Exempt under other paragraphs of section 149
	se this area
095 096	898

┌ Attachments ──────────		
Financial statement information: Use GIFI schedules 100, 125, and 141.		
Schedules – Answer the following questions. For each yes response, attach the schedule to the T2 return, unless otherwise instructed.		
		Schedule
Is the corporation related to any other corporations?	150 X	9
Is the corporation an associated CCPC?	160 X	23
Is the corporation an associated CCPC that is claiming the expenditure limit?	161	49
Does the corporation have any non-resident shareholders who own voting shares?	151	19
Has the corporation had any transactions, including section 85 transfers, with its shareholders, officers, or employees,		1
other than transactions in the ordinary course of business? Exclude non-arm's length transactions with non-residents	162	11
If you answered yes to the above question, and the transaction was between corporations not dealing at arm's length, were all or substantially all of the assets of the transferor disposed of to the transferee?	163	44
Has the corporation paid any royalties, management fees, or other similar payments to residents of Canada?	164	14
Is the corporation claiming a deduction for payments to a type of employee benefit plan?	165	15
Is the corporation claiming a loss or deduction from a tax shelter?	166	T5004
Is the corporation a member of a partnership for which a partnership account number has been assigned?	167	T5013
Did the corporation, a foreign affiliate controlled by the corporation, or any other corporation or trust that did not deal at arm's length with the corporation have a beneficial interest in a non-resident discretionary trust (without reference to section 94)?	168	22
Did the corporation own any shares in one or more foreign affiliates in the tax year?	169	25
Has the corporation made any payments to non-residents of Canada under subsections 202(1) and/or 105(1) of the Income Tax Regulations?	170	29
Did the corporation have a total amount over CAN\$1 million of reportable transactions with non-arm's length non-residents?	171	T106
For private corporations: Does the corporation have any shareholders who own 10% or more of the corporation's	173 X]
common and/or preferred shares?	172	50
Has the corporation made payments to, or received amounts from, a retirement compensation plan arrangement during the year?	180	
Does the corporation earn income from one or more Internet web pages or websites?		88
Is the net income/loss shown on the financial statements different from the net income/loss for income tax purposes?	201 X 202	1
, , , , , , , , , , , , , , , , , , , ,		2
Has the corporation received any dividends or paid any taxable dividends for purposes of the dividend refund?	203 X	3
Is the corporation claiming any type of losses?	204	4
Is the corporation claiming a provincial or territorial tax credit or does it have a permanent establishment in more than one jurisdiction?	205 X	5
Has the corporation realized any capital gains or incurred any capital losses during the tax year?	206 X	6
i) Is the corporation a CCPC and reporting a) income or loss from property (other than dividends deductible on line 320 of the T2 return), b) income from a partnership, c) income from a foreign business, d) income from a personal services business, e) income referred to in clause 125(1)(a)(i)(C) or 125(1)(a)(i)(B), f) aggregate investment income as defined in subsection 129(4), or g) an amount assigned to it under subsection 125(3.2) or 125(8); or ii) Is the corporation a member of a partnership and assigning its specified partnership business limit to a designated member under		1
subsection 125(8)?	207	7
Does the corporation have any property that is eligible for capital cost allowance?	208 X	8
Does the corporation have any resource-related deductions?	212	12
Is the corporation claiming deductible reserves?	213	13
Is the corporation claiming a patronage dividend deduction?	216	16
	217	17
Is the corporation an investment corporation or a mutual fund corporation?	218	18
Is the corporation carrying on business in Canada as a non-resident corporation?	220	20
Is the corporation claiming any federal, provincial, or territorial foreign tax credits, or any federal logging tax credits?	221	21
g promote any contained and processing promote	227	27
	231 X	31
	232 X	T661
Is the total taxable capital employed in Canada of the corporation and its related corporations over \$10,000,000?	233 X	33/34/35
Is the total taxable capital employed in Canada of the corporation and its associated corporations over \$10,000,000?	234 X	
Is the corporation subject to gross Part VI tax on capital of financial institutions?	238	38
Is the corporation claiming a Part I tax credit?	242	42
	243	43
Is the corporation agreeing to a transfer of the liability for Part VI.1 tax?	244	45
1	250	39
To the corporation of the corporation that corporation the corporation to the corporation	253	T1131
To the corporation claiming a min or video production cornect tax orbital.	254	T1177
10 and desperation claiming a damaga. Journal and stouch	272	58
Is the corporation subject to Part XIII.1 tax? (Show your calculations on a sheet that you identify as Schedule 92.)	255	92

- Attachments (continued)
Did the corporation have any foreign affiliates in the tax year?
Did the corporation own or hold specified foreign property where the total cost amount of all such property, at any time in the year, was more than CAN\$100,000?
Did the corporation transfer or loan property to a non-resident trust?
Did the corporation receive a distribution from or was it indebted to a non-resident trust in the year?
Has the corporation entered into an agreement to allocate assistance for SR&ED carried out in Canada?
Has the corporation entered into an agreement to transfer qualified expenditures incurred in respect of SR&ED contracts?
Has the corporation entered into an agreement with other associated corporations for salary or wages of specified employees for SR&ED?
Did the corporation pay taxable dividends (other than capital gains dividends) in the tax year?
Has the corporation made an election under subsection 89(11) not to be a CCPC?
Has the corporation revoked any previous election made under subsection 89(11)?
Did the corporation (CCPC or deposit insurance corporation (DIC)) pay eligible dividends, or did its
general rate income pool (GRIP) change in the tax year? 53
Did the corporation (other than a CCPC or DIC) pay eligible dividends, or did its low rate income pool (LRIP) change in the tax year? 54
□ Additional information ────────────────────────────────────
Did the corporation use the International Financial Reporting Standards (IFRS) when it prepared its financial statements?
What is the corporation's main revenue-generating business activity? 221122 _ Electric Power Distribution
Specify the principal products mined, manufactured, 284 Electricity Distribution 285 100.000 %
sold, constructed, or services provided, giving the approximate percentage of the total revenue that each
product or service represents.
Did the corporation immigrate to Canada during the tax year?
Did the corporation emigrate from Canada during the tax year?
Do you want to be considered as a quarterly instalment remitter if you are eligible?
If the corporation was eligible to remit instalments on a quarterly basis for part of the tax year, provide the date the corporation ceased to be eligible
If the corporation's major business activity is construction, did you have any subcontractors during the tax year? 295 Yes No
┌ Taxable income ─────────────────────────
Net income or (loss) for income tax purposes from Schedule 1, financial statements, or GIFI
Charitable donations from Schedule 2
Cultural gifts from Schedule 2 313
Ecological gifts from Schedule 2
Gifts of medicine made before March 22, 2017, from Schedule 2
Taxable dividends deductible under section 112 or 113, or subsection 138(6) from Schedule 3
Part VI.1 tax deduction* Non-capital losses of previous tax years from Schedule 4 325 331
Limited partnership losses of previous tax years from Schedule 4 Taxable capital gains or taxable dividends allocated from a central credit union
Prospector's and grubstaker's shares
Employer deduction for non-qualified securities under an employee stock options agreement a
Subtotal ► B
Subtotal (amount A minus amount B) (if negative, enter "0")
Section 110.5 additions or subparagraph 115(1)(a)(vii) additions D
Taxable income (amount C plus amount D) 2,134,632
Taxable income for the year from a personal services businessZ.1
* This amount is equal to 3.5 times the Part VI.1 tax payable at line 724 on page 9.

	all business ded		0000-) (-1.41						_
	lian-controlled private e eligible for the small b		, ,	-				400	2,134,632	,
	· ·							400	2,134,032	-
	e income from line 360 4 times the amount					on page 6,				
	law, is exempt from Pa			•				405	2,134,632	Е
Busine	ess limit (see notes 1 ar	nd 2 below) .						410	500,000	C
Notes:										
	CCPCs that are not as									
	associated CCPCs, u	•	,	•	•					
Rusina	ess limit reduction									
	cable capital busines	s limit reduction								
	table supriul busines									
Am	ount C	500,000 ×	415 ***	782,591	D=				34,781,822	Е
				11,250						
	ssive income busines			-						
Adjı	usted aggregate invest	ment income from	n Schedule 7****	417			50,000 =	• •		F
Am	ount C	500,000 ×	Amount F		=					C
		100,000								
					The	greater of amount	E and amount G	422	34,781,822	F
Reduce	ed business limit (amo	unt C minus amo	unt H) (if negative, e	enter "0")				426		ı
Busine	ss limit the CCPC assi	igns under subse	ction 125(3.2) (from	line 515 below)						J
Reduc	ed business limit afte	er assignment (a	amount I minus amo	ount J)				428		k
Small I	business deduction -	- Amount A, B, C,	, or K, whichever is	the least		x	19 % =	430		
Enter a	amount from line 430 at	amount J on pag	e 8.							
	Calculate the amount o						e refundable tax c	n the CCPC's		
	Calculate the amount o	,		•			rporation tax redu	ctions under se	ction 123.4.	
	Large corporations						. por autori tast roual			
	 If the corporation is 	not associated w	ith any corporations	in both the currer	nt and previo	us tax vears, the ar	mount to be entere	ed on line 415 is	s:	
	(total taxable capita	l employed in Can	nada for the prior ye	ear minus \$10,000	0,000) x 0.22	25%.				
	 If the corporation is entered on line 415 							, the amount to	be	
	 For corporations as 	,			•) X 0.223 %.			
****	Enter the total adjusted		, ,		•	,	ach tax year that e	nded in the pre	ceding	
(calendar year. Eách co	rporation with suc	ch income has to file	a Schedule 7. Fo	or a corporati	on's first tax year tl	hat starts after 201	18, this amount	is	
	reported at line 744 of t Schedule 7 of the corp					f all amounts repor	ted at line 745 of t	he correspond	ng	
	·		•		noridai yodi.					
Speciii	ied corporate income		it under subsectio	11 125(3.2)						
	Name of	L1 corporation recei	ving the	Business nu	ımher of	M Income paid	d under	Rusiness lin	N nit assigned to	
		e and assigned ar		the corpo		clause 125(1)(a			n identified in	
		· ·		receiving		corporation id	entified in		mn L ⁴	
				assigned a	_	column	_	_		
				490		500		5	05	
1.										
 Nat:					To	tal 510	Tot	al 515		Ī
Notes: 3. This	s amount is [as defined	d in subsection 12	5(7) specified core	oorate income (a						

- 3. This amount is [as defined in subsection 125(7) **specified corporate income** (a)(i)] the total of all amounts each of which is income (other that specified farming or fishing income of the corporation for the year) from an active business of the corporation for the year from the provision of services or property to a private corporation (directly or indirectly, in any manner whatever) if
 - (A) at any time in the year, the corporation (or one of its shareholders) or a person who does not deal at arm's length with the corporation (or one of its shareholders) holds a direct or indirect interest in the private corporation, and
 - (B) it is not the case that all or substantially all of the corporation's income for the year from an active business is from the provision of services or property to
 - (I) persons (other than the private corporation) with which the corporation deals at arm's length, or
 - (II) partnerships with which the corporation deals at arm's length, other than a partnership in which a person that does not deal at arm's length with the corporation holds a direct or indirect interest.
- 4. The amount of the business limit you assign to a CCPC cannot be greater than the amount determined by the formula A B, where A is the amount of income referred to in column M in respect of that CCPC and B is the portion of the amount described in A that is deductible by you in respect of the amount of income referred to in clauses 125(1)(a)(i)(A) or (B) for the year. The amount on line 515 cannot be greater than the amount on line 426.

□ General tax reduction for Canadian-controlled private corporations ————————————————————————————————————			
Canadian-controlled private corporations throughout the tax year			
Taxable income from line 360 on page 3		2,134,632	Α
Lesser of amounts 9B and 9H from Part 9 of Schedule 27	В		
Amount 13K from Part 13 of Schedule 27			
Personal services business income	D		
Amount from line 400, 405, 410, or 428 on page 4, whichever is the least			
Aggregate investment income from line 440 on page 6*			
Subtotal (add amounts B to F)	▶		G
Amount A minus amount G (if negative, enter "0")		2,134,632	Н
General tax reduction for Canadian-controlled private corporations – Amount H multiplied by 13 %			
Enter amount I on line 638 on page 8.		2777302	1
* Except for a corporation that is, throughout the year, a cooperative corporation (within the meaning assigned by subsection 136	(2)) or a credit	union.	
General tax reduction Do not complete this area if you are a Canadian-controlled private corporation, an investment corporation, a mortgage a mutual fund corporation, or any corporation with taxable income that is not subject to the corporation tax rate of 38%			
Taxable income from line 360 on page 3	· · · · · ·		J
Lesser of amounts 9B and 9H from Part 9 of Schedule 27	K		
Amount 13K from Part 13 of Schedule 27	L		
Amount 13K from Part 13 of Schedule 27 Personal services business income 434	M		
Subtotal (add amounts K to M)			N
Amount J minus amount N (if negative, enter "0")	· · · · · · <u> </u>		0
General tax reduction – Amount O multiplied by 13 %			Ь
• •	···· =		۲
Enter amount P on line 639 on page 8.			

Refundable portion of Part I ta	ıx ———				
Canadian-controlled private corporation	s throughout the t	tax year			
Aggregate investment income from Schedule 7		x 30 2 / 3 %	=		A
Foreign non-business income tax credit from	n line 632 on page 8	·	B		
Foreign investment income from Schedule 7		x 8 % =	c		
Subtotal (amount B	minus amount C) (if negative, enter "0")			D
Amount A minus amount D (if negative, ent	er "0")			<u> </u>	E
Taxable income from line 360 on page 3		· · · · · · · · · · · · · · · · · · ·	2,134,632 F		
Amount from line 400, 405, 410, or 428 on pwhichever is the least	0 /	G			
Foreign non-business income tax credit from line 632 on page 8 x 7	5 / 29 =	н			
Foreign business income tax credit from line 636 on page 8	4 =	ı			
Subtotal (add amo	ounts G to I)	<u> </u>	J		
,	· 	t F minus amount J)	2,134,632 _K	x 30 2 / 3 % =	654,620 L
Part I tax payable minus investment tax cred	,	· 			
Refundable portion of Part I tax – Amoun	•	. 6			 N
	, _, _,,				

$_{ extstyle \cap}$ Refundable dividend tax on hand $\phantom{aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa$	
Refundable dividend tax on hand (RDTOH) at the end of the previous tax year	
Dividend refund for the previous tax year	
Net RDTOH transferred on an amalgamation or the wind-up of a subsidiary	<u></u>
Subtotal (line 460 minus line 465 plus line 480)	A
General rate income pool (GRIP) at the end of the previous tax year (from line 100 of Schedule 53)	В
Total clinible dividende maid in the many investment (forms line 2000 of Calcadula 52)	
Total eligible dividends paid in the previous tax year (from line 300 of Schedule 53)	
Total excessive eligible dividend designation in the previous tax year (from line 310 of Schedule 53)	
Subtotal (amount C minus amount D) (if negative, enter "0")	=▶
Net GRIP at the end of the previous tax year (amount B minus amount E) (if negative, enter "0")	F
(total of lines 230 and 240 of Schedule 53)	G
Subtotal (amount F plus amount G)	► н
Amount H multiplied by 38 1 / 3 %	· · · · · · <u> </u>
Eligible refundable dividend tax on hand (ERDTOH) at the end of the previous tax year (for the first tax year starting after 2018,	
amount A or I, whichever is less, otherwise, use line 530 of the preceding tax year)	. 520 J
Non-eligible refundable dividend tax on hand (NERDTOH) at the end of the previous tax year (for the first tax year starting after	
2018, amount A minus amount I, otherwise, use line 545 of the preceding tax year) (if negative, enter "0")	535 K
Part IV tax payable on taxable dividends from connected corporations (amount 2G from Schedule 3)	L
Part IV tax payable on eligible dividends from non-connected corporations (amount 2J from Schedule 3)	
Subtotal (amount L plus amount M)	
Net ERDTOH transferred on an amalgamation or the wind-up of a subsidiary	
ERDTOH dividend refund for the previous tax year	
Refundable portion of Part I tax (from line 450 on page 6)	
Part IV tax before deductions (amount 2A from Schedule 3)	
Part IV tax allocated to ERDTOH (amount N)	
Part IV tax reduction due to Part IV.1 tax payable (amount 4D of Schedule 43)	<u> </u>
Subtotal (amount R minus total of amounts S and T)	<u> </u>
Net NERDTOH transferred on an amalgamation or the wind-up of a subsidiary	. 540 ∨
NERDTOH dividend refund for the previous tax year	. 575 W
38 1/3% of the total losses applied against Part IV tax (amount 2D from Schedule 3)	X
Part IV tax payable allocated to NERDTOH, net of losses claimed (amount U minus amount X) (if negative enter "0")	-7-
NERDTOH at the end of the tax year (total of amounts K, Q, V, and Y minus amount W) (if negative, enter "0")	545
Part IV tax payable allocated to ERDTOH, net of losses claimed (amount N minus the amount, if any, by which amount X exceeds amount U) (if negative, enter "0")	. Z
ERDTOH at the end of the tax year (total of amounts J, O, and Z minus amount P) (if negative, enter "0")	530
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
┌ Dividend refund ──────────────	
38 1/3% of total eligible dividends paid in the tax year (amount 3A from Schedule 3)	AA
ERDTOH balance at the end of the tax year (line 530)	BB
Eligible dividend refund (amount AA or BB, whichever is less)	co
38 1/3% of total non-eligible taxable dividends paid in the tax year (amount 3B from Schedule 3)	1,916,667 DE
NERDTOH balance at the end of the tax year (line 545)	EE
Non-eligible dividend refund (amount DD or EE, whichever is less)	FF
Amount DD minus amount EE (if negative, enter "0")	
Amount BB minus amount CC (if negative, enter "0")	
Additional non-eligible dividend refund (amount GG or HH, whichever is less)	
Dividend refund – Amount CC plus amount FF plus amount II	
Enter amount JJ on line 784 on page 9.	33

Part I tax —			
Base amount Part I tax – Taxable income (from line 360 on page 3) multiplied by	88 %		811,160 A
Additional tax on personal services business income (section 123.5)			
Taxable income from a personal services business	555	x 5 % = 560	B
Recapture of investment tax credit from Schedule 31		602	C
Calculation for the refundable tax on the Canadian-controlled private corporation (if it was a CCPC throughout the tax year)	on's (CCPC) investment i	ncome	
Aggregate investment income from line 440 on page 6		D	
Taxable income from line 360 on page 3	2,134,632 E		
Deduct: Amount from line 400, 405, 410, or 428 on page 4, whichever is the least	F		
Net amount (amount E minus amount F)	2,134,632	2,134,632 G	
Refundable tax on CCPC's investment income – 10 2 / 3 % of whichever is less		604	Н
Refull dable tax of COPO's investment income = 10 27 3 % of whichever is less			811,160
	Subtotal (add	amounts A, B, C, and H)	611,100
Deduct:			
Small business deduction from line 430 on page 4		J	
Federal tax abatement		213,463	
Manufacturing and processing profits deduction from Schedule 27			
Investment corporation deduction	620		
Taxed capital gains 624			
Federal foreign non-business income tax credit from Schedule 21			
Federal foreign business income tax credit from Schedule 21			
General tax reduction for CCPCs from amount I on page 5		277,502	
General tax reduction from amount P on page 5			
Federal logging tax credit from Schedule 21			
Eligible Canadian bank deduction under section 125.21			
Federal qualifying environmental trust tax credit			
Investment tax credit from Schedule 31	652	320,195	
	Subtotal	811,160	811,160 K
Part I tax payable – Amount I minus amount K			1
Enter amount L on line 700 on page 9.			

Privacy statement -

Personal information (including the SIN) is collected for the purposes of the administration or enforcement of the Income Tax Act and related programs and activities including administering tax, benefits, audit, compliance, and collection. The information collected may be used or disclosed for purposes of other federal acts that provide for the imposition and collection of a tax or duty. It may also be disclosed to other federal, provincial, territorial, or foreign government institutions to the extent authorized by law. Failure to provide this information may result in interest payable, penalties, or other actions. Under the Privacy Act, individuals have a right of protection, access to and correction of their personal information, or to file a complaint with the Privacy Commissioner of Canada regarding the handling of their personal information. Refer to Personal Information Bank CRA PPU 047 on Info Source at canada.ca/cra-info-source.

Summary of tax and credits		
Federal tax		
Part I tax payable from amount L on page 8		
Part III.1 tax payable from Schedule 55		
Part IV tax payable from Schedule 3		
Part IV.1 tax payable from Schedule 43		
Part VI tax payable from Schedule 38		
Part VI.1 tax payable from Schedule 43		
Part XIII.1 tax payable from Schedule 92	700	
Part XIV tax payable from Schedule 20		
Add provincial or territorial tax:	Total federal tax	
Provincial or territorial jurisdiction		
Net provincial or territorial tax payable (except Quebec and Alberta)		93,184
	Total tax payable 770	93,184 A
Deduct other credits:		
Investment tax credit refund from Schedule 31		
Dividend refund from amount JJ on page 7		
Federal capital gains refund from Schedule 18	788	
Federal qualifying environmental trust tax credit refund		
Canadian film or video production tax credit (Form T1131)		
Film or video production services tax credit (Form T1177)		
Canadian journalism labour tax credit from Schedule 58		
Tax withheld at source	800	
Total payments on which tax has been withheld		
Provincial and territorial capital gains refund from Schedule 18		
Provincial and territorial refundable tax credits from Schedule 5	812 840310.000	
Tax instalments paid		210 000 -
l otal ci	redits 890 310,000 >	310,000 B
	Balance (amount A minus amount B)	-216,816
Refund code 894 1 Refund 216,816	If the result is negative, you have a refund .	
Direct deposit request	If the result is positive, you have a balance owing Enter the amount on whichever line applies.	^{g.} 7
To have the corporation's refund deposited directly into the corporation's bank	Generally, we do not charge or refund a difference	e
account at a financial institution in Canada, or to change banking information you already gave us, complete the information below:	of \$2 or less.	
	Balance owing	【
Start Change information 910 Branch number	For information on how to make your payment, go	to
914 918	canada.ca/payments.	
Institution number Account number		
If the corporation is a Canadian-controlled private corporation throughout the tax year,	896 Yes No.	X
does it qualify for the one-month extension of the date the balance of tax is due?		^
If this return was prepared by a tax preparer for a fee, provide their EFILE number	920 A4970	
PREPARED SOLELY FOR INCOME TAX PURPOSES WITHOUT AUDIT OR REVIEW FRO	M INFORMATION PROVIDED BY THE TAXPAYER.	
Certification —		
ı, 950 xxxxxxxxxx 951 xxxxxxxxxx	954 xxxxxxxxx	
Last name First name	Position, office, or r	, rank
am an authorized signing officer of the corporation. I certify that I have examined this return, incl		
the information given on this return is, to the best of my knowledge, correct and complete. I also year is consistent with that of the previous tax year except as specifically disclosed in a statement		ax
·		00
955 Date (vee/mm/dd) Signeture of the outherized signing officer of the	956 (519) 661-580	
Date (yyyy/mm/dd) Signature of the authorized signing officer of the) NET	
Is the contact person the same as the authorized signing officer? If no , complete the information		'
958 Name of other authorized person		number
Ivalite of outer additionized person		папірсі
 Language of correspondence – Langue de correspondance 		
Indicate your language of correspondence by entering 1 for English or 2 for French.	990 1	
Indiquez votre langue de correspondance en inscrivant 1 pour anglais ou 2 pour français.	1	

Schedule of Instalment Remittances

Name of corporation	n contact				
Telephone number		_			
Effective		Desc	cription (instalment remittance,		Amount of
interest date			it payment, assessed credit)		credit
	Instalments pa	id			210,000
	Final payment				100,000
		Total amount of i	nstalments claimed (carry the re	esult to line 840 of the T2 Return)	<u>310,000</u> A
			Total instalments cre	edited to the taxation year per T9	310,000 B
		Taxation		Effective	
Account no	umber	year end	Amount	interest date	Description
From:					
To:					
From:					
То:					
From:					
To:					
From:					
То:					
From:					
To:					

*

Canada Revenue Agency Agence du revenu du Canada

Net Income (Loss) for Income Tax Purposes

Schedule 1

Corporation's name	Business number	Tax year-end
		Year Month Day
London Hydro Inc.	86483 7430 RC0001	2020-12-31

- Use this schedule to reconcile the corporation's net income (loss) as reported on the financial statements and its net income (loss) for tax purposes. For more information, see the T2 Corporation Income Tax Guide.
- All legislative references are to the Income Tax Act.

Net in	come (loss) after taxes and extraordinary items from line 9999 of Sc	chedule 125				5,446,000
Add:						
Provi	sion for income taxes – current		1	101	617,000	
Provi	sion for income taxes – deferred		1	02	-1,757,000	
Inter	est and penalties on taxes		1	03	15,938	
Amo	rtization of tangible assets		1	04	20,075,172	
Scie	ntific research expenditures deducted per financial statements .		1	18	3,786,070	
Non-	deductible club dues and fees		1	20	1,729	
Non-	deductible meals and entertainment expenses		1	21	47,703	
Non-	deductible company pension plans		1	24	321,100	
		Subtotal of addi	tions		23,107,712	23,107,712
Othe	er additions:					
Finar	ncing fees deducted in books		2	216	65,299	
Non-	deductible legal and accounting fees		2	228	11,996	
Таха	ble/non-deductible other comprehensive income items		2	239	244,400	
Misc	ellaneous other additions:					
	1	2				
	Description	Amount				
	605	295				
1	Inducement under 12(1)(x) ITA	70,18	4			
2	Unrealized swap adjustment	6,629,97	'3			
3	ACM Funding	844,80	0			
4	ROU interest	67,23	6			
5	Contributed capital in deferred revenue	6,838,79			1.4.450.005	
	Total of column 2	14,450,98			14,450,986	
		Subtotal of other addi	_		14,772,681	14,772,681
		Total addit	ions E	500	37,880,393	37,880,393
Amoui	nt A plus line 500					43,326,393
Dedu	uct:					
Gain	on disposal of assets per financial statements		4	101	28,108	
Capi	tal cost allowance from Schedule 8		4	103	27,320,850	
SR&	ED expenditures claimed in the year on line 460 from Form T661		4	111	2,762,645	
		Subtotal of	deduction	ons —	30,111,603	30,111,603

Other deductions:

Miscellaneous other deductions:

	1 Description 705	2 Amount 395
1	Deduction under 20(1)(e) ITA	13,096
2	Sale of scrap for accounting	803,193
3	Capital Items expensed for tax	98,010
4	ATTC credits accrued for actg	21,897

	1 Description 705	2 Amount 395		
5	SR&ED cost capitalized for accounting	2,175,641		
6	SRED proceeds incl in income for actg	569,477		
7	Gov't assistance added back for SR&ED	460,051		
8	ROU - rent payment	100,000		
9	Election under subsection 13(7.4)	6,838,793		
	Total of column 2	11,080,158	▶ 39611,080,158	
	S	Subtotal of other deduction	ns 499 11,080,158 ▶	11,080,158_E
		Total deduction	ns 510 41,191,761	41,191,761
Net in	come (loss) for income tax purposes (amount B minus line 510))		<u>2,134,632</u> C
Enter a	amount C on line 300 of the T2 return.			

T2 SCH 1 E (19)

Inducement

This form is used to calculate inducements that a corporation must add to its income under paragraph 12(1)(x) ITA. If an amount reduces the capital cost of a property, this amount will be indicated in Part "Tax credits whose amount should reduce the capital cost of property."

If you want to transfer an amount to Schedule 1 and include it in the corporation's income for tax purposes, select the corresponding check box in column A. You can also select the option **Select this check box to add all the amounts to income calculated in Schedule 1** to transfer all the amounts to Schedule 1. In either case, the column A check box will be selected for that amount and it will therefore be updated to Schedule 1.

Tax credits whose amount should be added to income

reae	rai	
Α		
X	Investment tax credit from apprenticeship job creation expenditures	4,160
	Investment tax credit from child care spaces expenditures	
	Canadian film or video production tax credit*	
	* Please verify if the credit amount relates to depreciable property. For more information, consult the Help (F1).	
	Film or video production services tax credit*	
	* Please verify if the credit amount relates to depreciable property. For more information, consult the Help (F1).	
	Investment tax credit claimed on contributions made to SR&ED farming organizations	
	Canadian journalism labour tax credit	
	Canada emergency wage subsidy (CEWS), Canada emergency rent subsidy (CERS) and other taxable amounts from COVID-19 programs*	
	* The amount entered in this field is transferred to the Miscellaneous other additions section of Schedule 1 on the line of column 295 associated with line 4, Taxable amounts from COVID-19 programs , of column 605.	
Onta	rio	
Α		
X	Portion of the Ontario research and development tax credit that relates to the prescribed proxy amount (PPA) and portion of the Ontario investment tax credit that relates to contributions made to SR&ED farming organizations	24,819
X	Ontario co-operative education tax credit	24,000
X	Ontario apprenticeship training tax credit	17,205
	Ontario computer animation and special effects tax credit*	
	* Please verify if the credit amount relates to depreciable property. For more information, consult the Help (F1).	
	Ontario film and television tax credit*	
	* Please verify if the credit amount relates to depreciable property. For more information, consult the Help (F1).	
	Ontario production services tax credit*	
	* Please verify if the credit amount relates to depreciable property. For more information, consult the Help (F1).	
	Ontario interactive digital media tax credit*	
	* Please verify if the credit amount relates to depreciable property. For more information, consult the Help (F1).	
	Ontario book publishing tax credit	
X	Portion of the Ontario innovation tax credit that relates to the prescribed proxy amount (PPA) and portion of the Ontario investment tax credit that relates to contributions made to SR&ED farming organizations	
X	Ontario business-research institute tax credit	
	Ontario community food program donation tax credit for farmers	

Tax credits whose amount should reduce the capital cost of property

Agence du revenu du Canada

Schedule 3

Dividends Received, Taxable Dividends Paid, and Part IV Tax Calculation

Corporation's name	Business number	Tax year-end Year Month Day
London Hydro Inc.	86483 7430 RC0001	2020-12-31

- · Corporations must use this schedule to report:
 - non-taxable dividends under section 83
 - deductible dividends under subsection 138(6)
 - taxable dividends deductible from income under section 112, subsection 113(2) and paragraphs 113(1)(a), (a.1), (b) or (d)
 - taxable dividends paid in the tax year that qualify for a dividend refund (see page 3)
- All legislative references are to the federal Income Tax Act.
- The calculations in this schedule apply only to private or subject corporations.
- A payer corporation is connected with a recipient corporation at any time in a tax year, if at that time the recipient corporation meets either of the following
 conditions:
 - it controls the payer corporation, other than because of a right referred to in paragraph 251(5)(b)
 - it owns more than 10% of the issued share capital (with full voting rights), and shares that have a fair market value of more than 10% of the fair market value of all shares of the payer corporation
- If you need more space, continue on a separate schedule.
- File this schedule with your T2 Corporation Income Tax Return.
- Column A1 Enter "X" if dividends were received from a foreign source.
- Column F1 Enter the code that applies to the deductible taxable dividend.

Part 1 – Dividends received in the tax year

- Do **not** include dividends received from foreign non-affiliates.
- Complete columns B, C, D, H, I, I.1 and L only if the payer corporation is connected.

Important instructions to follow if the payer corporation is connected

- If your corporation's tax year-end is different than that of the **connected** payer corporation, dividends could have been received from more than one tax year of the payer corporation. If so, **use a separate line** to provide the information according to each tax year of the payer corporation.
- When completing columns J, K and L use the special calculations provided in the notes.

	A Name of payer corporation (from which the corporation received the dividend)	A1	B Enter 1 if payer corporation is connected	C Business Number of connected corporation	D Tax year-end of the payer corporation in which the sections 112/113 and subsection 138(6) dividends in column F were paid YYYYMMDD	E Non-taxable dividends under section 83
	200		205	210	220	230
1			2			
		1	otal of colu	mn E (enter amount on	line 402 of Schedule 1)	

- P	art 1 - Dividends received i	in the tax year (continu	ed) ————		
	F Taxable divideductible from income under the subsections 11 and paragraphs (a.1),(b), or	om taxable er section 3(2) and 138(6), s 113(1)(a), · (d) ^{note 1}	F1	G Eligible dividends included in column F	H Total taxable dividends paid by connected payer corporation (for tax year in column D)
1					
	I Dividend refund of the connected payer corporation (for tax year in column D) ^{note 2}	I.1 Dividend refund of the connected payer corporation from its eligible refundable dividend tax on hand (ERDTOH) (for tax year in column D) notes 2 and 5	J Part IV tax for eligible dividends. Dividends (from column G) multiplied by 38 1/3% ^{note 3}	K Part IV tax before deductions. Dividends (from column F) multiplied by 38 1/3% ^{note 4}	L Part IV tax before deductions on taxable dividends received from connected corporations notes 2 and 5
	260		265	275	280
1					
			Total of column L (en	ter amount on line 2E in Part 2)	
-	and the distribution of th			, ,	
	xable dividends received from connecte xable dividends received from non-con			,	1 1
ıa	Rable dividends received from fron-com	. ,	plus amount 1B, include this ar	,	
Elig	gible dividends received from connecte				1
Eliç	gible dividends received from non-conr	nected corporations (total amoun	ts from column G with code 2 ir		
(tot Pai	rt IV tax before deductions on taxable of tal amounts from column K with code 1 rt IV tax before deductions on taxable of tal amounts from column K with code 2	I in column B)			
(10.	an amounto nom column i war couc z	,	ototal (amount 1F plus amount 1		
	rt IV tax on eligible dividends received t	from connected corporations (to	tal amounts from column J		
	h code 1 in column B) rt IV tax on eligible dividends received t	from non-connected corporation:		11	
			ubtotal (amount 11 plus amount		1
Pa	rt IV tax before deductions on taxable of	dividends (other than eligible divi	dends) (amount 1H minus amo	ount 1K)	1
1	If taxable dividends are received, enter subject corporation as defined in subsubsection 138(6) dividends.				
2	If the connected payer corporation's ta to estimate the payer's dividend refund dividend refund from its eligible refund	d when you calculate the corpora	ation's Part IV tax payable. For c		
3	For eligible dividends received from co	onnected corporations, Part IV	tax on dividends is equal to: colu	umn I divided by column H mu	Itiplied by column G.
	For taxable dividends received from co	•	•	•	. ,
5	For taxable dividends received from co of amounts CC and II of the connected refund to the connected payer corporate.	d payer corporation (on page 7 c	of the T2 return)) divided by col	umn H multiplied by column F	

Part IV tax on dividends received before deductions (amount 1H in part 1) Part IV.I tax payable on dividends subject to Part IV tax (from line 360 of Schedule 43) Subtotal (amount 2A minus Current-year non-capital loss claimed to reduce Part IV tax Non-capital losses from previous years claimed to reduce Part IV tax Current-year farm loss claimed to reduce Part IV tax Farm losses from previous years claimed to reduce Part IV tax Total losses applied against Part IV tax (total of lines 33) Amount 2C multiplied by 38 1 / 3 %	320 s line 320)	2A	2E
Subtotal (amount 2A minus Current-year non-capital loss claimed to reduce Part IV tax Non-capital losses from previous years claimed to reduce Part IV tax Current-year farm loss claimed to reduce Part IV tax Farm losses from previous years claimed to reduce Part IV tax Total losses applied against Part IV tax (total of lines 33)	330 335 340 345	<u></u> ►	2E
Current-year non-capital loss claimed to reduce Part IV tax Non-capital losses from previous years claimed to reduce Part IV tax Current-year farm loss claimed to reduce Part IV tax Farm losses from previous years claimed to reduce Part IV tax Total losses applied against Part IV tax (total of lines 33)	330 335 340 345		21
Non-capital losses from previous years claimed to reduce Part IV tax Current-year farm loss claimed to reduce Part IV tax Farm losses from previous years claimed to reduce Part IV tax Total losses applied against Part IV tax (total of lines 33)	335 340 345		
Current-year farm loss claimed to reduce Part IV tax Farm losses from previous years claimed to reduce Part IV tax Total losses applied against Part IV tax (total of lines 3:	340 345		
Farm losses from previous years claimed to reduce Part IV tax	345		
Total losses applied against Part IV tax (total of lines 33			
Amount 2C multiplied by 38 1 / 3 %			
			2[
Part IV tax payable (amount 2B minus amount 2D, if negative enter "0")		360	
(enter amount on line 712 of the T2 return)			
If your tax year begins after 2018, complete the following part to determine the required amount refundable dividend tax on hand (ERDTOH) at the end of the tax year.		in order to calculate the	eligible
Part IV tax before deductions on taxable dividends received from connected corporations (total of	column L in part 1)	· · · · · · · · · · · · · · · · · · ·	
Amount 4A from Schedule 43			2F
Part IV tax payable on taxable dividends received from connected corporations (amount 2 enter "0")		-	20
(enter at amount L on page 7 of the T2 return)			
If your tax year begins after 2018, complete the following part to determine the required amount refundable dividend tax on hand (ERDTOH) at the end of the tax year.	t of Part IV taxes payable	in order to calculate the	eligible
Part IV tax on eligible dividends received from non-connected corporations (amount 1J in part 1)			2
Amount 4C from Schedule 43			
Part IV tax payable on eligible dividends received from non-connected corporations (amo	ount 2H minus amount 2I	, if negative	
enter "0")		· · · · · · · · · · · · · · · · · · ·	2J
(enter at amount M on page 7 of the T2 return)			
− Part 3 – Taxable dividends paid in the tax year that qualify for a divid	dend refund ——		
If your corporation's tax year-end is different than that of the connected recipient corporation one tax year of the recipient corporation. If so, use a separate line to provide the information			
L	N	0	Р
Name of connected recipient corporation Business Numb		Taxable dividends paid to connected corporations	Eligible dividends included in column O
400	420	430	440
	2020-12-31	5,000,000	
1 The Corporation of the City of London NR	2020-12-31		1
The Corporation of the City of London NR	2020-12-31	5,000,000	

− Part 3 – Taxable dividends paid in the tax year that qualify for a dividend refund (continued) ————	
Total taxable dividends paid in the tax year to other than connected corporations	
Eligible dividends included in line 450	
Total taxable dividends paid in the tax year that qualify for a dividend refund (total of column O plus line 450)	5,000,000
Total eligible dividends paid in the tax year (total of column P plus line 455)	
Total non-eligible taxable dividends paid in the tax year (line 460 minus line 465)	5,000,000
Complete this part to determine the following amounts in order to calculate the dividend refund.	
Line 465 multiplied by 38 1 / 3 %	3A
(enter at amount AA on page 7 of the T2 return)	
Line 470 multiplied by 38 1 / 3 %	1,916,667 _{3B}
(enter at amount DD on page 7 of the T2 return)	
Complete this part if the total taxable dividends paid in the tax year that qualify for a dividend refund (line 460) is different from the total dividends paid in the tax year.	
Total taxable dividends paid in the tax year for the purposes of a dividend refund (from above)	5,000,000
Other dividends paid in the tax year (total of 510 to 540)	
Total dividends paid in the tax year	5,000,000
Dividends paid out of capital dividend account	
Capital gains dividends	
Dividends paid on shares described in subsection 129(1.2)	
Taxable dividends paid to a controlling corporation that was bankrupt at any time in the year	
	4A
Subtotal (total of lines 510 to 540)	
Total taxable dividends paid in the tax year that qualify for a dividend refund (Line 500 minus amount 4A)	5,000,000 _{4B}

T2 SCH 3 E (21) Canadä

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Tax Calculation Supplementary - Corporations

Schedule 5

Corporation's name	Business Number	Tax year-end Year Month Day
London Hydro Inc.	86483 7430 RC0001	2020-12-31

- Use this schedule if, during the tax year, your corporation:
 - had a permanent establishment in more than one jurisdiction (corporations that have no taxable income should only complete columns A, B, and D in Part 1)
 - is claiming provincial or territorial tax credits or rebates (see Part 2), or
 - has to pay taxes, other than income tax, for Newfoundland and Labrador, or Ontario (see Part 2).
- All legislative references are to the Income Tax Regulations.
- For more information, see the T2 Corporation Income Tax Guide.
- For the regulation number to be entered in field 100 of Part 1, see the chart below.

F
on of taxable C + E) x 1/2** either G or H is multiply by 1/2

^{*} Permanent establishment is defined in subsection 400(2)

Notes:

- 1. After determining the allocation of taxable income, you have to calculate the corporation's provincial or territorial tax payable. For more information on how to calculate the tax for each province or territory, see the instructions for Schedule 5 in the T2 Corporation Income Tax Guide.
- 2. If your corporation has provincial or territorial tax payable, complete Part 2.
- If your corporation is a member of a partnership and the partnership had a permanent establishment in a jurisdiction, select the jurisdiction in Column A and include your proportionate share of the partnership's salaries and wages and gross revenue in columns B and D, respectively.

Canadä

^{**} For corporations other than those described under section 402, use the appropriate calculation described in the Regulations to allocate taxable income.

income	Income eligible for small business deduction	Provincial or territorial allocation of taxable income	Provincial or territorial tax payable before credits			
2,134,632		2,134,632	245,483			
Ontario basic incom	ne tax (from Schedule	500)		270	245,483	
Ontario small busines	s deduction (from Sch	edule 500)		402		
			Subtotal (line 270	minus line 402)	245,483	245,483
	tax debits (from Sched io research and develo	lule 506) pment tax credit (from S	Schedule 508) Subtotal (line 27	277	<u> </u>	
Gross Ontario tax (an	nount 5A plus amount	5B)				245,483
Ontario tax credit fo Ontario foreign tax o Ontario credit union	credit (from Schedule 2	rocessing (from Schedu 21)		406 408 410		
·	,	Ontario non-refundab	le tax credits (total of I		<u> </u>	
			Subtotal (amou	ınt 5C minus amount 5[O) (if negative, enter "0")	245,483
Ontario research and	development tax credit	(from Schedule 508)			416	133,146
		Ontario corporate minir ninus line 416) (if negat		ntario community food pr	rogram	112,337
	imum tax credit (from s	Schedule 510)			418	,
Ontario community fo	od program donation ta	ax credit for farmers (fro	m Schedule 2)		418	
Ontario community fo	od program donation ta	ax credit for farmers (fro	m Schedule 2)		418	
Ontario community fo Ontario corporate inco Ontario corporate m	od program donation ta ome tax payable (amou ninimum tax (from Sche	ax credit for farmers (fro int 5F minus the total of edule 510)	m Schedule 2) f lines 418 and 420) (if	negative, enter "0")	418 420	
Ontario community fo Ontario corporate inco Ontario corporate m	od program donation ta ome tax payable (amou ninimum tax (from Sche	ax credit for farmers (fro ant 5F minus the total of	m Schedule 2) fi lines 418 and 420) (if	f negative, enter "0") 278 280		112,337
Ontario community fo Ontario corporate inco Ontario corporate m Ontario special add	od program donation to ome tax payable (amou ninimum tax (from Scho itional tax on life insura	ax credit for farmers (fro int 5F minus the total of edule 510) ance corporations (from	m Schedule 2) f lines 418 and 420) (if	f negative, enter "0")	3,925 3,925	112,337 3,925
Ontario community fo Ontario corporate inco Ontario corporate m Ontario special add	od program donation to ome tax payable (amou ninimum tax (from Scho itional tax on life insura	ax credit for farmers (fro int 5F minus the total of edule 510)	m Schedule 2) f lines 418 and 420) (if	f negative, enter "0")		
Ontario community fo Ontario corporate inco Ontario corporate m Ontario special add Total Ontario tax paya Ontario qualifying e	od program donation to ome tax payable (amou ninimum tax (from Sche itional tax on life insura able before refundable to nvironmental trust tax of	ax credit for farmers (fro int 5F minus the total of edule 510) ance corporations (from tax credits (amount 5G p	m Schedule 2) f lines 418 and 420) (if Schedule 512) Subtotal (line 27	f negative, enter "0")	3,925 3,925	112,337 3,925
Ontario community fo Ontario corporate inco Ontario corporate m Ontario special add Total Ontario tax paya Ontario qualifying e Ontario co-operative	od program donation to ome tax payable (amou ninimum tax (from Sche itional tax on life insura able before refundable to nvironmental trust tax of the education tax credit (to	ax credit for farmers (from the total of the edule 510)	m Schedule 2) f lines 418 and 420) (if	f negative, enter "0")	3,925 3,925 14,960	112,337 3,925
Ontario community fo Ontario corporate inco Ontario corporate m Ontario special add Total Ontario tax paya Ontario qualifying e Ontario co-operative Ontario apprentices	od program donation to ome tax payable (amou ninimum tax (from Sche itional tax on life insural able before refundable to nvironmental trust tax of e education tax credit (the ship training tax credit (the	ax credit for farmers (from the following state of the total of the edule 510)	m Schedule 2) f lines 418 and 420) (if	f negative, enter "0")	3,925 3,925	112,337 3,925
Ontario community fo Ontario corporate inco Ontario corporate m Ontario special add Total Ontario tax paya Ontario qualifying e Ontario co-operative Ontario apprentices Ontario computer a	od program donation to ome tax payable (amou ninimum tax (from Sche itional tax on life insural able before refundable to nvironmental trust tax of the education tax credit (the ship training tax credit (nimation and special ef	ax credit for farmers (from the following state of the total of the edule 510)	m Schedule 2) f lines 418 and 420) (if Schedule 512) Subtotal (line 27 plus amount 5H)	f negative, enter "0")	3,925 3,925 14,960	112,337 3,925
Ontario community fo Ontario corporate inco Ontario corporate in Ontario special add Total Ontario tax paya Ontario qualifying e Ontario co-operative Ontario apprentices Ontario computer a Ontario film and tele	od program donation to ome tax payable (amou ninimum tax (from Sche itional tax on life insural able before refundable to nvironmental trust tax of e education tax credit (for inimation and special ef evision tax credit (from	ax credit for farmers (from the following state of the st	m Schedule 2) f lines 418 and 420) (if Schedule 512) Subtotal (line 27 plus amount 5H) chedule 554)	f negative, enter "0")	3,925 3,925 14,960	112,337 3,925
Ontario community fo Ontario corporate inco Ontario corporate m Ontario special add Total Ontario tax paya Ontario qualifying e Ontario co-operative Ontario apprentices Ontario computer a Ontario film and tele Ontario production	od program donation to ome tax payable (amou ninimum tax (from Sche itional tax on life insural able before refundable to nvironmental trust tax of e education tax credit (fichip training tax credit (from services tax credit (from services tax credit (from	ax credit for farmers (from the state of the	m Schedule 2) f lines 418 and 420) (if Schedule 512) Subtotal (line 27 plus amount 5H) chedule 554)	f negative, enter "0")	3,925 3,925 14,960	112,337 3,925
Ontario community fo Ontario corporate inco Ontario corporate m Ontario special add Total Ontario tax paya Ontario qualifying e Ontario co-operative Ontario apprentices Ontario computer a Ontario film and tele Ontario production s Ontario interactive o	od program donation to ome tax payable (amou ninimum tax (from Sche itional tax on life insural able before refundable to nvironmental trust tax of e education tax credit (from thip training tax credit (from services tax credit (from services tax credit (fror digital media tax credit (fror	ax credit for farmers (from the state of the	m Schedule 2) f lines 418 and 420) (if Schedule 512) Subtotal (line 27 plus amount 5H) chedule 554)	f negative, enter "0")	3,925 3,925 14,960	112,337 3,925
Ontario community fo Ontario corporate inco Ontario corporate m Ontario special add Total Ontario tax paya Ontario qualifying e Ontario co-operative Ontario apprentices Ontario computer a Ontario film and tele Ontario production so Ontario interactive co Ontario book publis	od program donation to ome tax payable (amouninimum tax (from Scheitional tax on life insural able before refundable to invironmental trust tax of the education tax credit (from tax in tax or edit (from tax credit (from services tax credit (from services tax credit (from Scheitigital media tax credit (from Scheitigital media tax credit (from Scheitigital tax credi	ax credit for farmers (from the state of the	m Schedule 2) f lines 418 and 420) (if Schedule 512) Subtotal (line 27 plus amount 5H) chedule 554)	f negative, enter "0")	3,925 3,925 14,960	112,337 3,925
Ontario community fo Ontario corporate inco Ontario corporate in Ontario corporate in Ontario special add Total Ontario tax paya Ontario qualifying e Ontario co-operative Ontario apprentices Ontario computer a Ontario film and tele Ontario production on Ontario interactive co Ontario book publis Ontario innovation t	od program donation ta ome tax payable (amou ninimum tax (from Sche itional tax on life insural able before refundable to nvironmental trust tax of e education tax credit (for iship training tax credit (from services tax credit (from services tax credit (from digital media tax credit (from thing tax credit (from Schedular schedular)	ax credit for farmers (from the farmers of the state of t	m Schedule 2) f lines 418 and 420) (if Schedule 512) Subtotal (line 27 plus amount 5H) chedule 554)	f negative, enter "0")	3,925 3,925 14,960 4,918	112,337 3,925
Ontario community fo Ontario corporate inco Ontario corporate inco Ontario corporate inco Ontario special add Total Ontario tax paya Ontario qualifying e Ontario co-operative Ontario apprentices Ontario computer a Ontario film and tele Ontario production so Ontario interactive co Ontario book publis Ontario innovation t Ontario business-re	od program donation ta ome tax payable (amou ninimum tax (from Sche itional tax on life insural able before refundable to nvironmental trust tax of e education tax credit (from ship training tax credit (from services tax credit (from services tax credit (from digital media tax credit (from sax credit (from Schedu esearch institute tax credit	ax credit for farmers (from the farmers of the state of t	m Schedule 2) f lines 418 and 420) (if Schedule 512) Subtotal (line 27 plus amount 5H) chedule 554)	f negative, enter "0")	3,925 3,925 14,960	112,337 3,925
Ontario community fo Ontario corporate inco Ontario corporate m Ontario corporate m Ontario special add Total Ontario tax paya Ontario qualifying e Ontario co-operative Ontario apprentices Ontario computer a Ontario film and tele Ontario production s Ontario interactive o Ontario book publis Ontario innovation t Ontario business-re	od program donation ta ome tax payable (amou ninimum tax (from Sche itional tax on life insural able before refundable to nvironmental trust tax of e education tax credit (from ship training tax credit (from services tax credit (from services tax credit (from digital media tax credit (from sax credit (from Schedu esearch institute tax credit	ax credit for farmers (from the farmers of the state of t	m Schedule 2) f lines 418 and 420) (if Schedule 512) Subtotal (line 27 plus amount 5H) chedule 554) chedule 554)	f negative, enter "0")	3,925 3,925 14,960 4,918	3,925 116,262
Ontario community fo Ontario corporate inco Ontario corporate inco Ontario corporate inco Ontario special add Total Ontario tax paya Ontario qualifying e Ontario co-operative Ontario apprentices Ontario computer a Ontario film and tele Ontario production ontario interactive of Ontario book publis Ontario innovation t Ontario business-re Ontario regional opp	od program donation ta ome tax payable (amou ninimum tax (from Sche itional tax on life insural able before refundable to nvironmental trust tax of e education tax credit (from thip training tax credit (from services tax credit (from services tax credit (from services tax credit (from digital media tax credit (from sax credit (from Schedu esearch institute tax cre- portunities investment to	ax credit for farmers (from the farmers) and the total of the edule 510)	m Schedule 2) f lines 418 and 420) (if Schedule 512) Subtotal (line 27 plus amount 5H) chedule 554) chedule 554) chedule 554)	f negative, enter "0")	3,925 3,925 3,925 14,960 4,918 3,200 23,078	112,337 3,925 116,262
Ontario community fo Ontario corporate inco Ontario corporate inco Ontario corporate inco Ontario special add Total Ontario tax paya Ontario qualifying e Ontario co-operative Ontario apprentices Ontario computer a Ontario film and tele Ontario production so Ontario interactive o Ontario book publis Ontario innovation t Ontario business-re Ontario regional opp	od program donation talement tax payable (amoun ninimum tax (from Scheitional tax on life insurable before refundable to a redictional tax on life insurable before refundable to a rediction tax credit (from tax	ax credit for farmers (from the farmers of the state of t	m Schedule 2) f lines 418 and 420) (if Schedule 512) Subtotal (line 27 plus amount 5H) chedule 554) chedule 554) le tax credits (total of lines amount 5J)	f negative, enter "0")	3,925 3,925 3,925 14,960 4,918 3,200 23,078	3,925 116,262
Ontario community fo Ontario corporate inco Ontario corporate inco Ontario corporate in Ontario special add Total Ontario tax paya Ontario qualifying e Ontario co-operative Ontario apprentices Ontario computer a Ontario film and tele Ontario production so Ontario interactive co Ontario interactive co Ontario book publis Ontario innovation t Ontario business-re Ontario regional opp Net Ontario tax paya (if a credit, enter amore	od program donation talement tax payable (amoun ninimum tax (from Scheitional tax on life insurable before refundable to a redictional tax on life insurable before refundable to a rediction tax credit (from tax	ax credit for farmers (from the farmers of the state of t	m Schedule 2) f lines 418 and 420) (if Schedule 512) Subtotal (line 27 plus amount 5H) chedule 554) chedule 554) le tax credits (total of lines amount 5J)	f negative, enter "0")	3,925 3,925 3,925 14,960 4,918 3,200 23,078	112,337 3,925 116,262
Ontario community for Ontario corporate incommunity for Ontario corporate in Ontario special add Total Ontario tax payare Ontario qualifying e Ontario co-operative Ontario apprentices Ontario computer a Ontario film and tele Ontario production on Ontario interactive of Ontario book publis Ontario innovation to Ontario business-re Ontario regional oppositional opposit	od program donation talement tax payable (amount inimum tax (from Scheitional tax on life insurable before refundable tax or invironmental trust tax or education tax credit (from tax credit (from services tax credit (from Scheitional tax credit (from Scheition tax credit (from Scheitional tax credit (from Scheiti	ax credit for farmers (from the farmers of the state of t	m Schedule 2) f lines 418 and 420) (if Schedule 512) Subtotal (line 27 plus amount 5H) chedule 554) chedule 554) e 570) le tax credits (total of linus amount 5J) simus amount 5J) 5.	f negative, enter "0")	3,925 3,925 3,925 14,960 4,918 3,200 23,078	112,337 3,925 116,262
Ontario community fo Ontario corporate inco Ontario corporate m Ontario corporate m Ontario special add Total Ontario tax paya Ontario qualifying e Ontario co-operative Ontario apprentices Ontario computer a Ontario film and tele Ontario production Ontario interactive o Ontario book publis Ontario innovation t Ontario business-re Ontario regional opp Net Ontario tax paya (if a credit, enter amounts) Summary Enter the total net tax	od program donation talement tax payable (amount inimum tax (from Scheitional tax on life insurable before refundable to invironmental trust tax of electric	ax credit for farmers (from the farmers of the second of t	m Schedule 2) f lines 418 and 420) (if Schedule 512) Subtotal (line 27 plus amount 5H) chedule 554) chedule 554) le tax credits (total of Inus amount 5J) sees and territories on Incess and territories on Incess and	f negative, enter "0")	3,925 3,925 3,925 14,960 4,918 3,200 23,078	112,337 3,925 116,262

Schedule 6

Canada Revenue Agency

Agence du revenu du Canada

Summary of Dispositions of Capital Property

Corporation's name	Business number	Tax year-end
		Year Month Day
London Hydro Inc.	86483 7430 RC0001	2020-12-31

- Use this schedule if your corporation disposed of (actual or deemed) capital property or claimed an allowable business investment loss (ABIL), or both, in the tax year.
- All legislative references are to the federal Income Tax Act.
- Also use this schedule to make a designation under paragraph 111(4)(e) if control of the corporation has been acquired by a person or a group of persons.
- For more information, see the section called "Schedule 6, Summary of Dispositions of Capital Property" in the T2 Corporation Income Tax Guide.
- If you need more space, attach additional schedules.

Designation under paragraph 111(4)(e)			
Are any dispositions shown on this schedule related to deemed dispositions designated under paragraph 111(4)(e)?	050	Yes	No X
If yes , attach a statement specifying which properties such a designation applies to.			

In the various sections of this form:

- The abbreviation FS (for foreign source) is used to indicate the capital gain or loss arising from foreign property;
- The abbreviation PA (for passive asset) is used to indicate the capital gain or loss arising from the disposition of an asset other than an active asset of the corporation.

1 Number of shares	2 Name of corporation in which the shares are held	3 Class of shares	Date of acquisition YYYYMMDD	5 Proceeds of disposition	6 Adjusted cost base	7 Outlays and expenses from disposition	Gain (or loss) (column 5 minus columns 6 and 7)	,
100	105	106	110	120	130	140	150	FS
			Totals					

Date of acquisition YYYYMMDD	Proceeds of disposition	Adjusted cost base	Outlays and expenses from disposition	Gain (or loss) (column 3 minus columns 4 and 5)	
210	220	230	240	250	FS I
	6,000	6,000			
					ı
-	210	6,000	6,000 6,000	6,000 6,000	6,000

1	2	3	4	5	6	7	8	,
Face value of bonds	Maturity date YYYYMMDD	Name of bond issuer	Date of acquisition YYYYMMDD	Proceeds of disposition	Adjusted cost base	Outlays and expenses from disposition	Gain (or loss) (column 5 minus columns 6 and 7)	
300	305	307	310	320	330	340	350	FS

		2020-12-31			86483 7	n Hyaro '430 RC
art 4 – Other properties (Do not i	nclude losses on	depreciable p	roperty) ———			
1	2	3	4	5	6	Δ
Description of other property	Date of acquisition	Proceeds of disposition	Adjusted cost base	Outlays and expenses from disposition	Gain (or loss) (column 3 minus columns 4 and 5)	
400	410	420	430	440	450	FS
						H.,
	Totals					D
Note Other property includes capital debts, debts currency transactions.	in respect of the disposi	tion of a personal-use	e property per subse	ection 50(2), and amou	unts that arise from fo	reign
rt 5 – Personal-use property (De	o not include liste	ed personal pro	operty)			
1	2	3	4	5	6	
Description of personal-use property	Date of acquisition YYYYMMDD	Proceeds of disposition	Adjusted cost base	Outlays and expenses from disposition	Gain only (column 3 minus columns 4 and 5; if negative, enter	
500	510	520	530	540	"0") 550	FS
rom your income. rt 6 – Listed personal property						
1	2	3	4	5	6	
Description of listed personal property		Proceeds of disposition	Adjusted cost base	Outlays and expenses from disposition	Gain (or loss)* (column 3 minus columns 4 and 5)	
600	610	620	630	640	650	FS
	Totals					
oplied listed personal property losses from o	• '	line 530 of Schedule	e 4,	655	•	
oration Loss Continuity and Application) gains (or losses) from the disposition of liste	d personal property (tet	of column 6 minus	· · · · · · · · · · · · · · · · · · ·			
ote	a personal property (total	ar or column o minus	· iii le 033)			<u>-</u> '
et listed personal property losses can only be	e applied against listed p	ersonal property gair	ns.			
o not include gains arising on the disposition ee subparagraph 39(1)(a)(i.1) for more inform		ural property to a des	ignated cultural insti	tution.		
rt 7 – Property qualifying for an	d resulting in an	allowable busi	ness investme	ent loss		
1	2 3	4	5	6	7	
	Shares, Date of	Proceeds of	Adjusted	Outlays and	Loss only	

_ D2	irt 7 – Property qualifying for a	nd rae	ultina in an	allowable busin	nace invactma	nt loss —		
' 6	int 7 – 1 Toperty qualitying for a	iiu ies	unting in an	anowabie busii	icoo iliveolilie	111 1033		
	1	2	3	4	5	6	7	Α
	Name of small business corporation	Shares, enter 1; debt, enter 2	Date of acquisition YYYYMMDD	Proceeds of disposition	Adjusted cost base	Outlays and expenses from disposition	Loss only (column 4 minus columns 5 and 6)	
	900	905	910	920	930	940	950	FS PA
			Totals					
Allo	Allowable business investment losses (ABILs) Total of Column 7 × 50.0000 % =							
	er amount G on line 406 of Schedule 1, Ne ote	t Income	(Loss) for Incom	ne Tax Purposes.				
Р	roperties listed in Part 7 should not be incl	uded in a	ny other parts of	this schedule.				

CORPORATE TAXPREP / TAXPREP DES SOCIÉTÉS - GE05 VERSION 2021 V1.0

Part 8 – Capital gains or losses	
Total of amounts A to F (do not include amount F if it is a loss)	H FS PA
Capital gains dividend received in the year	875
Capital gains reserve opening balance (from Part 1 of Schedule 13, Continuity of Re	eserves) 880
Subtot	tal (amount H plus total of lines 875 and 880)
Capital gains reserve closing balance (from Part 1 of Schedule 13, Continuity of Res	serves) 885
Capital gains or losses, excluding ABILs (amount I minus line 885)	<u>890</u>
Part 9 – Taxable capital gains and total capital losses	
Capital gains or losses, excluding ABILs (amount from line 890 in Part 8)	J
Deduct the following amounts included in amount J, that are subject to the zero included Note	
When a taxpayer is entitled to an advantage in respect of a donation, the zero include the taxpayer's capital gain on disposition of the property. See section 38.2 for more	re information.
Gain on the donation to a qualified donee of a share, debt obligation, or right listed a designated stock exchange and other securities under paragraphs 38(a.1)(i) and	
Gain on the donation to a qualified donee of ecologically sensitive land under subsection 38(a.2)*	896 FS PA
Exempt portion of the gain on the donation of securities arising from the exchang of a partnership interest under paragraph 38(a.3)	
Subtotal (line 895 plus line 8	896 plus line a) K
	Subtotal (amount J minus amount K) L
Deemed capital gain from the donation of property included in a flow-through shar class of property to a qualified donee under subsection 40(12):	
Exemption threshold at time of disposition	
The total of all capital gains from the disposition of the actual property	898
	Line 897 or line 898, whichever is less M M
Taxable capital gains under section 34.2 (line 275 of Schedule 73, Income Inclusion Summary for Corporations that are Members of Partnerships)	x 2 = 899
	
Sub	total (total of amounts L and M plus line 899) N
Allowable capital losses under section 34.2 (line 285 of Schedule 73, Income Inclusion Summary for Corporations that are Members of	
Partnerships)	x 2 = 901
Total capita	al gains or losses (amount N minus line 901) O
	<u> </u>
Taxable capital gains or total capital losses Total capital losses (amount O, if amount O is negative; if amount O is positive, en Enter amount P on line 210 of Schedule 4.	nter "0") P
Taxable capital gains (if amount O is positive, enter amount O	multiplied by 50.0000 %:
* Do not include gains on donations of ecologically sensitive land to a private found	lation.

T2 SCH 6 E (19)

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Schedule 8

Canada Revenue Agence du revenu du Canada

Capital Cost Allowance (CCA)

Corporation's name	Business number	Tax year-end Year Month Day
London Hydro Inc.	86483 7430 RC0001	2020-12-31

For more information, see the section called "Capital Cost Allowance" in the T2 Corporation Income Tax Guide.

Is the corporation electing under Regulation 1101(5q)?

101 Yes	No X
----------------	------

Γ	1		2	3	4	5	6	7	8	9
	Class number	Description	Undepreciated capital cost (UCC) at the beginning of the year	Cost of acquisitions during the year (new property must be available for use)	Cost of acquisitions from column 3 that are accelerated investment incentive	Adjustments and transfers See note 4	Amount from column 5 that is assistance received or receivable	Amount from column 5 that is repaid during the year for a property,	Proceeds of dispositions See note 7	UCC (column 2 plus column 3 plus or minus column 5 minus column 8)
	See note 1			See note 2	properties (AIIP) or zero-emission vehicle (ZEV) See note 3		during the year for a property, subsequent to its disposition	subsequent to its disposition See note 6		See note 8
	000		994	999	005	225	See note 5	999	007	
	200		201	203	225	205	221	222	207	
1.	1	Buildings	6,223,323						0	6,223,323
2.	1	Distribution Equip	59,517,024						0	59,517,024
3.	1b	Buildings	4,935,794	958,371	958,371				0	5,894,165
4.	2	Distribution Equip	21,989,678						0	21,989,678
5.	8	Equipment	7,145,968	1,558,048	1,558,048				55	8,703,961
6.	10	Vehicles/Computer b/f March 07	1,891,885	2,108,610	2,108,610				26,455	3,974,040
7.	12	Computer Software		3,432,102	3,432,102				0	3,432,102
8.	14.1		7,057,565	128,443	128,443				0	7,186,008
9.	38	Back Hoes	341,576	·	·				47,175	294,401
0.	43.2	Renewable Genration Equipment	29,277						0	29,277
1.	47	Distribution equipment	149,853,033	28,120,320	28,120,320				808,802	177,164,551
2.	50	Computer equipment	234,067	345,954	345,954				0	580,021
		Totals	259,219,190	36,651,848	36,651,848				882,487	294,988,551

	1	
	Class number *	Description
	See note 1	
	200	
1.	1	Buildings
2.	1	Distribution Equip

1		10	11	12	13	14	15	16	17	18
Class numbe * See note	r	Proceeds of disposition available to reduce the UCC of AllP and ZEV (column 8 plus column 8 plus column 4 minus column 7) (if negative, enter "0")	Net capital cost additions of AIIP and ZEV acquired during the year (column 4 minus column 10) (if negative, enter "0")	UCC adjustment for AIIP and ZEV acquired during the year (column 11 multiplied by the relevant factor) See note 9	UCC adjustment for property acquired during the year other than AIIP and ZEV (0.5 multiplied by the result of column 3 minus column 4 minus column 6 plus column 7 minus column 8) (if negative, enter "0")	CCA rate % See note 11	Recapture of CCA See note 12	Terminal loss See note 13	CCA (for declining balance method, the result of column 9 plus column 13, multiplied by column 14 or a lower amount) See note 14	UCC at the end of the year (column 9 minus column 17)
200					224	212	213	215	217	220
1. 1	Buildings					4	0	0	248,933	5,974,390
2. 1	Distribution Equip					4	0	0	2,380,681	57,136,343
3. <u>1b</u>	Buildings		958,371	479,186		6	0	0	382,401	5,511,764
4. 2	Distribution Equip					6	0	0	1,319,381	20,670,297
5. 8	Equipment	55	1,557,993	778,997		20	0	0	1,896,592	6,807,369
6. 10	Vehicles/Computer b/f March (26,455	2,082,155	1,041,078		30	0	0	1,504,535	2,469,505
7. 12	Computer Software		3,432,102			100	0	0	3,432,102	
8. 14.1			128,443	64,222		5	0	0	373,492	6,812,516
9. 38	Back Hoes	47,175				30	0	0	88,320	206,081
10. 43.2	Renewable Genration Equipme					50	0	0	14,639	14,638
11. 47	Distribution equipment	808,802	27,311,518	13,655,759		8	0	0	15,265,625	161,898,926
12. 50	Computer equipment		345,954	172,977		55	0	0	414,149	165,872
	Totals	882,487	35,816,536	16,192,219					27,320,850	267,667,701

2020-12-31

Enter the total of column 15 on line 107 of Schedule 1. Enter the total of column 16 on line 404 of Schedule 1. Enter the total of column 17 on line 403 of Schedule 1.

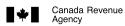
- Note 1. If a class number has not been provided in Schedule II of the Income Tax Regulations for a particular class of property, use the subsection provided in Regulation 1101. Class numbers followed by a letter indicate the basic rate of the class taking into account the additional deduction allowed. Class 1a: 4% + 6% = 10% (class 1 to 10%), class 1b: 4% + 2% = 6% (class 1 to 6%).
- Note 2. Include any property acquired in previous years that has now become available for use. This property would have been previously excluded from column 3. List separately any acquisitions of property in the class that are not subject to the 50% rule. See Income Tax Folio S3-F4-C1, General Discussion of Capital Cost Allowance, for exceptions to the 50% rule.
- Note 3. An AllP is a property (other than ZEV) that you acquired after November 20, 2018 and became available for use before 2028. ZEV is, subject to certain exceptions, a new motor vehicle included in Class 54 or 55 that you acquired after March 18, 2019 and became available for use before 2028. The Government proposes to create Class 56 for zero-emission automotive equipment and vehicles that currently do not benefit from the accelerated rate provided by Classes 54 and 55. Class 56 would apply to eligible zero-emission automotive equipment and vehicles that are acquired after March 1, 2020, and became available for use before 2028. Columns 4, 10, 11, 12 and 13 also apply for additions of class 56 property. See the T2 Corporation Income Tax Guide for more information.
- Note 4. Enter in column 5, "Adjustments and transfers", amounts that increase or reduce the undepreciated capital cost (column 9). Items that increase the undepreciated capital cost include amounts transferred under section 85, or transferred on amalgamation or winding-up of a subsidiary. Items that reduce the undepreciated capital cost (show amounts that reduce the undepreciated capital cost in brackets) include government assistance received or entitled to be received in the year, or a reduction of capital cost after the application of section 80. See the T2 Corporation Income Tax Guide for other examples of adjustments and transfers to include in column 5.

 Also include the UCC of each property acquired in a non-arm's length transaction (other than by virtue of a right referred to in paragraph 251(5)(b) of the Act) if the property was a depreciable property
 - continuously owned by the transferor for at least 364 days before the end of your tax year.
- Note 5. Include all amounts of assistance you received (or were entitled to receive) after the disposition of a depreciable property that would have decreased the capital cost of the property by virtue of paragraph 13(7.1)(f) if received before the disposition.
- Note 6. Include all amounts you have repaid during the year with respect to any legally required repayment, made after the disposition of a corresponding property, of:
 - assistance that would have otherwise increased the capital cost of the property under paragraph 13(7.1)(d) and
 - an inducement, assistance or any other amount contemplated in paragraph 12(1)(x) received, that otherwise would have increased the capital cost of the property under paragraph 13(7.4)(b)
 Also include the UCC of each property of a prescribed class acquired in the course of a corporate reorganization described under paragraph 55(3)(b) of the Act (also known as "butterfly reorganization") or in a non-arm's length transaction (other than by virtue of a right referred to in paragraph 251(5)(b) of the Act) if the property was a depreciable property acquired by the transferor less than 364 days before the end of your tax year.
- Note 7. For each property disposed of during the year, deduct from the proceeds of disposition any outlays and expenses to the extent that they were made or incurred for the purpose of making the disposition(s). The amount reported in respect of the property cannot exceed the property's capital cost, unless that property is a timber resource property as defined in subsection 13(21). The proceeds of disposition of a ZEV that has been included in Class 54 and that is subject to the \$55,000 (plus sales taxes) capital cost limit will be adjusted based on a factor equal to the capital cost limit of \$55,000 (plus sales taxes) as a proportion of the actual cost of the vehicle.
- Note 8. If the amount in column 5 reduces the undepreciated capital cost (i.e. it is shown in brackets), you must subtract it for the purposes of the calculation. Otherwise, add the amount in column 5 for the purposes of the calculation.
- Note 9. The relevant factors for property of a class in Schedule II, that is AllP or included in Classes 54 to 56, available for use before 2024 are:
 - 2 1/3 for property in Classes 43.1, 54 and 56
 - 1 1/2 for property in Class 55
 - _ 1 for property in Classes 43.2 and 53
 - 0 for property in Classes 12, 13, 14, and 15, as well as properties that are Canadian vessels included in paragraph 1100(1)(v) of the Regulations (see note 14 for additional information) and
 - 0.5 for all other property that is AIIP
- Note 10. The UCC adjustment for property acquired during the year other than AllP and ZEV (formerly known as the half-year rule or 50% rule) does not apply to certain property (including AllP). For special rules and exceptions, see Income Tax Folio S3-F4-C1, General Discussion of Capital Cost Allowance.
- Note 11. Enter a rate only if you are using the declining balance method. For any other method (for example the straight-line method, where calculations are always based on the cost of acquisitions), enter N/A. Then enter the amount you are claiming in column 17.
- Note 12. If the amount in column 9 is negative, you have a recapture of CCA. If applicable, enter the negative amount from column 9 in column 15 as a positive. The recapture rules do not apply to passenger vehicles in Class 10.1.
- Note 13. If no property is left in the class at the end of the tax year and there is still a positive amount in the column 9, you have a terminal loss. If applicable, enter the positive amount from column 9 in column 16. The terminal loss rules do not apply to:
 - passenger vehicles in Class 10.1
 - property in Class 14.1, unless you have ceased carrying on the business to which it relates or
 - limited-period franchises, concessions, or licences in Class 14 if, at the time of acquisition, the property was a former property of the transferor or any similar property attributable to the same fixed place of business, and you had jointly elected with the transferor to have the replacement property rules apply
- Note 14. If the tax year is shorter than 365 days, prorate the CCA claim. Some classes of property do not have to be prorated. See the T2 Corporation Income Tax Guide for more information. For property in class 10.1 disposed of during the year, deduct a maximum of 50% of the regular CCA deduction if you owned the property at the beginning of the tax year. For AllP listed below, the maximum first year allowance you can claim is determined as follows:
 - Class 13: the lesser of 150% of the amount calculated in Schedule III of the Regulations and the UCC at the end of the tax year (before any CCA deduction)
 - Class 14: the lesser of 150% of the allocation for the year of the capital cost of the property apportioned over the remaining life of the property (at the time the cost was incurred) and the UCC at the end of the tax year (before any CCA deduction)
 - Class 15: the lesser of 150% of an amount computed on the basis of a rate per cord, board foot or cubic metre cut in the tax year and the UCC at the end of the tax year (before any CCA deduction)
 - Canadian vessels described under paragraph 1100(1)(v) of the Regulations: the lesser of 50% of the capital cost of the property and the UCC at the end of the tax year (before any CCA deduction)
 - Class 41.2: use a 25% CCA rate. The additional allowance under paragraph 1100(1)(y.2)(for single mine properties) and 1100(1)(ya.2)(for multiple mine properties) of the Regulations is not eligible for the accelerated investment incentive. The additional allowance in respect of natural gas liquefaction under paragraph 1100(1)(yb) of the Regulations is eligible for the accelerated investment incentive.

The AllP also apply to property (other than a timber resource property) that is a timber limit or a right to cut timber from a limit as well as to industrial mineral mine or a right to remove minerals from an industrial mineral mine. See the Income Tax Regulations for more detail.

T2 SCH 8 (20)

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Agence du revenu du Canada

SCHEDULE 9

RELATED AND ASSOCIATED CORPORATIONS

Name of corporation	Business Number	Tax year end Year Month Day
London Hydro Inc.	86483 7430 RC0001	2020-12-31

- Complete this schedule if the corporation is related to or associated with at least one other corporation.
- For more information, see the T2 Corporation Income Tax Guide.

	Name	Country of resi- dence (other than Canada)	Business number (see note 1)	Relation-ship code (see note 2)	Number of common shares you own	% of common shares you own	Number of preferred shares you own	% of preferred shares you own	Book value of capital stock
	100	200	300	400	500	550	600	650	700
1.	The Corporation of the City of Londo		NR	1	1,001	100.000			96,116

Note 1: Enter "NR" if the corporation is not registered or does not have a business number.

Note 2: Enter the code number of the relationship that applies from the following order: 1 - Parent 2 - Subsidiary 3 - Associated 4 - Related but not associated

T2 SCH 9 (11) Canadä

Agreement Among Associated Canadian-Controlled Private Corporations to Allocate the Business Limit

- For use by a Canadian-controlled private corporation (CCPC) to identify all associated corporations and to assign a percentage for each associated corporation. This percentage will be used to allocate the business limit for the small business deduction. Information from this schedule will also be used to determine the date the balance of tax is due and to calculate the reduction to the business limit.
- An associated CCPC that has more than one tax year ending in a calendar year must file an agreement for each tax year ending in that calendar year.
- Column 1: Enter the legal name of each of the corporations in the associated group, including those deemed to be associated under subsection 256(2) of the Income Tax Act.
- Column 2: Provide the business number for each corporation (if a corporation is not registered, enter "NR").
- Column 3: Enter the association code from the list below that applies to each corporation:
 - 1 Associated for purposes of allocating the business limit (unless association code 5 applies)
 - 2 CCPC that is a **third corporation** as referred to in subsection 256(2) and has filed Schedule 28, Election not to be Associated Through a Third Corporation
 - 3 Non-CCPC that is a third corporation
 - 4 Associated non-CCPC
 - 5 Associated CCPC to which association code 1 does not apply because a third corporation has filed Schedule 28
- **Column 4:** Enter the business limit for the year of each corporation in the associated group. Enter "0" if the corporation has association code 2, 3 or 4 in column 3 (except if the corporation is a cooperative or a credit union eligible for the SBD and it has association code 4).
- **Column 5:** Assign a percentage to allocate the business limit to each corporation that has association code 1 in column 3. The total of all percentages in column 5 cannot exceed 100%.
- **Column 6:** Enter the business limit allocated to each corporation by multiplying the amount in column 4 by the percentage in column 5. Add all business limits allocated in column 6 and enter the total at line A.

Ensure that the total at line A does not exceed \$500,000.

Allocating the business limit								
Pate filed (do not use this area) Year Month Day Oate filed (do not use this area)								
Enter the calendar year the agreement applies to				. 050	Year 2020			
Is this an amended agreement for the above calendar year that is an agreement previously filed by any of the associated corporation	•			. 075	Yes X No			
1	2	3	4	5	6			
Name of associated corporations	Business number of associated corporations	Asso- ciation code	Business limit for the year before the allocation \$	Percentage of the business limit %	Business limit allocated* \$			
100	200	300		350	400			
1 London Hydro Inc.	86483 7430 RC0001	1	500,000	100.0000	500,000			
2 The Corporation of the City of London	NR	4						
			Total	100.0000	500,000 A			

Business limit reduction under subsection 125(5.1) of the Act

The business limit reduction is calculated in the small business deduction area of the T2 return. One of the factors used in this calculation is the "large corporation amount" at line 415 of the T2 return. The amount at line 415 is determined using the formula 0.225% x (C - \$10,000,000). Another factor is the "adjusted aggregate investment income" from lines 744 and 745 of Schedule 7, Aggregate Investment Income and Income Eligible for the Small Business Deduction. Details of these formulas and variable C are in subsection 125(5.1) of the Act.

* Each corporation will enter on line 410 of the T2 return, the amount allocated to it in column 6. However, if the corporation's tax year is less than 51 weeks, prorate the amount in column 6 by the number of days in the tax year divided by 365, and enter the result on line 410 of the T2 return.

Special rules for business limit

Special rules apply under subsection 125(5) if a CCPC has more than one tax year ending in the same calendar year and it is associated in more than one of those tax years with another CCPC that has a tax year ending in that calendar year. The business limit for the second or later tax year will be equal to the lesser of: the business limit determined for the first tax year ending in the calendar year or the business limit determined for the second or later tax year ending in the same calendar year.



Agence du revenu du Canada

Investment Tax Credit – Corporations

- General information

- Use this schedule:
 - to calculate an investment tax credit (ITC) earned during the tax year
 - to claim a deduction against Part I tax payable
 - to claim a refund of credit earned during the current tax year
 - to claim a carryforward of credit from previous tax years
 - to transfer a credit following an amalgamation or the wind-up of a subsidiary, as described under subsections 87(1) and 88(1)
 - to request a credit carryback to one or more previous years
 - if you are subject to a recapture of ITC
 - if you are claiming:
 - the Ontario Research and Development Tax Credit
 - the Ontario Innovation Tax Credit
- Unless otherwise stated, all legislative references are to the Income Tax Act and the Income Tax Regulations.
- The ITC is eligible for a three-year carryback (if not deductible in the year earned). It is also eligible for a twenty-year carryforward.
- Investments or expenditures, described in subsection 127(9) and Regulation Part XLVI, that currently earn an ITC are:
 - qualified property and qualified resource property (Parts 4 to 7 of this schedule)
 - qualified scientific research and experimental development (SR&ED) expenditures (Parts 8 to 17). File Form T661, Scientific Research and Experimental Development (SR&ED) Expenditures Claim
 - pre-production mining expenditures (Part 18)
 - You can no longer claim the ITC for the pre-production mining expenditures. Only unused credits that have not expired can be carried forward for up to 20 tax years following the tax year in which you made the investment.
 - apprenticeship job creation expenditures (Parts 19 to 21)
 - child care spaces expenditures (Parts 22 to 26)
 - Expenditures related to child care spaces incurred after March 21, 2017 no longer qualify for the ITC. However, if you entered into a written agreement before March 22, 2017, eligible expenditures incurred before 2020 remain eligible for the credit.
- File this schedule with the T2 Corporation Income Tax Return. If you need more space, attach additional schedules.
- For more information on ITCs, see "Investment Tax Credit" in Guide T4012, T2 Corporation Income Tax Guide and read Information Circular IC78-4, Investment Tax Credit Rates, and its related Special Release.
- For more information on SR&ED, see guide T4088, Scientific Research and Experimental Development (SR&ED) Expenditures Claim Guide to Form T661.

Detailed information

- For the purpose of this schedule, **investment** means the capital cost of the property (excluding amounts added by an election under section 21), determined without reference to subsections 13(7.1) and 13(7.4), minus the amount of any government or non-government assistance that the corporation has received, is entitled to receive, or can reasonably be expected to receive for that property at the time it files the income tax return for the year in which the property was acquired.
- An ITC deducted in a tax year for a depreciable property, other than a depreciable property deductible under paragraph 37(1)(b), reduces both the capital cost of that property and the undepreciated capital cost of that class in the next tax year. An ITC for SR&ED deducted or refunded in a tax year will reduce the balance in the pool of deductible SR&ED expenditures and the adjusted cost base (ACB) of an interest in a partnership in the next tax year. An ITC from pre-production mining expenditures deducted in a tax year reduces the balance in the pool of deductible cumulative Canadian exploration expenses in the next tax year.
- Property acquired has to be available for use before a claim for an ITC can be made. See subsections 127(11.2) and 248(19) for more information.
- Expenditures for SR&ED qualifying for an ITC must be identified by the claimant on Form T661 and Schedule 31 no later than 12 months after the claimant's income tax return is due for the tax year in which it incurred the expenditures.
- Expenditures for apprenticeship or child care space for an ITC must be identified by the claimant on Schedule 31 no later than 12 months after the claimant's income tax return is due for the tax year in which it incurred the expenditures or capital costs.
- Partnership allocations Subsection 127(8) provides for the allocation of the amount that may reasonably be considered to be a partner's share of
 the ITCs of the partnership at the end of the fiscal period of the partnership. An allocation of ITCs is generally considered to be the partner's
 reasonable share of the ITCs if it is made in the same proportion in which the partners have agreed to share any income or loss and if section 103 is
 not applicable for the agreement to share any income or loss. Special rules apply to specified members of a partnership and limited partners.
 For more information, see Guide T4068, Guide for the Partnership Information Return (T5013 Forms).
- For tax purposes, Canada includes the exclusive economic zone of Canada as defined in the Oceans Act (which generally consists of an area of the sea
 that is within 200 nautical miles from the Canadian coastline), including the airspace, seabed and subsoil of that zone.
- For the purpose of this schedule, the expression **Atlantic Canada** includes the Gaspé Peninsula and the provinces of Newfoundland and Labrador, Prince Edward Island, Nova Scotia, and New Brunswick, as well as their respective offshore regions (prescribed in Regulation 4609).



Detailed information (continued)

- For the purpose of this schedule, **qualified property** means property in Atlantic Canada that is used primarily for manufacturing and processing, farming or fishing, logging, storing grain, or harvesting peat. Property in Atlantic Canada that is used primarily for oil and gas, and mining activities is considered qualified property only if acquired by the taxpayer **before** March 29, 2012, unless transitional measures were granted*. Qualified property includes new buildings and new machinery and equipment (prescribed in Regulation 4600), and new energy generation and conservation property (prescribed in Regulation 4600). Qualified property can also be used primarily to produce or process electrical energy or steam in a prescribed area (as described in Regulation 4610). See the definition of **qualified property** in subsection 127(9) for more information.
- For the purpose of this schedule, **qualified resource property** means property in Atlantic Canada that is used primarily for oil and gas, and mining activities, if acquired by the taxpayer **after** March 28, 2012, and **before** January 1, 2016. Qualified resource property includes new buildings and new machinery and equipment (prescribed in Regulation 4600). See the definition of **qualified resource property** in subsection 127(9) for more information.

- Part 1 - Investments	. expenditures.	and	percentages -

Investments Qualified property acquired primarily for use in Atlantic Canada Qualified resource property acquired primarily for use in Atlantic Canada and acquired: - after March 28, 2012, and before 2014 - after 2013 and before 2016 - after 2015* Expenditures If you are a Canadian-controlled private corporation (CCPC), this percentage may apply to the portion that you claim of the SR&ED qualified expenditure pool that does not exceed your expenditure limit (see Part 10) Note: If your current year's qualified expenditures are more than your expenditure limit (see Part 10), the excess is eligible for an ITC calculated at the 15% rate. If you are a corporation that is not a CCPC and have incurred qualified expenditures for SR&ED in any area in Canada 15 % If you paid salary and wages to apprentices in the first 24 months of their apprenticeship contract for employment 10 %		
Qualified resource property acquired primarily for use in Atlantic Canada and acquired: — after March 28, 2012, and before 2014 — after 2013 and before 2016 — after 2015* — ofter 2015* — ofter 2015* Expenditures If you are a Canadian-controlled private corporation (CCPC), this percentage may apply to the portion that you claim of the SR&ED qualified expenditure pool that does not exceed your expenditure limit (see Part 10) Note: If your current year's qualified expenditures are more than your expenditure limit (see Part 10), the excess is eligible for an ITC calculated at the 15% rate. If you are a corporation that is not a CCPC and have incurred qualified expenditures for SR&ED in any area in Canada 15 % If you paid salary and wages to apprentices in the first 24 months of their apprenticeship contract for employment 10 %	Investments	Specified percentage
- after March 28, 2012, and before 2014 - after 2013 and before 2016 - after 2015* Expenditures If you are a Canadian-controlled private corporation (CCPC), this percentage may apply to the portion that you claim of the SR&ED qualified expenditure pool that does not exceed your expenditure limit (see Part 10) Note: If your current year's qualified expenditures are more than your expenditure limit (see Part 10), the excess is eligible for an ITC calculated at the 15% rate. If you are a corporation that is not a CCPC and have incurred qualified expenditures for SR&ED in any area in Canada 15 % If you paid salary and wages to apprentices in the first 24 months of their apprenticeship contract for employment 10 %	Qualified property acquired primarily for use in Atlantic Canada	10 %
- after 2013 and before 2016	Qualified resource property acquired primarily for use in Atlantic Canada and acquired:	
Expenditures If you are a Canadian-controlled private corporation (CCPC), this percentage may apply to the portion that you claim of the SR&ED qualified expenditure pool that does not exceed your expenditure limit (see Part 10) Note: If your current year's qualified expenditures are more than your expenditure limit (see Part 10), the excess is eligible for an ITC calculated at the 15% rate. If you are a corporation that is not a CCPC and have incurred qualified expenditures for SR&ED in any area in Canada 15 % If you paid salary and wages to apprentices in the first 24 months of their apprenticeship contract for employment 10 %	- after March 28, 2012, and before 2014	10 %
Expenditures If you are a Canadian-controlled private corporation (CCPC), this percentage may apply to the portion that you claim of the SR&ED qualified expenditure pool that does not exceed your expenditure limit (see Part 10)	- after 2013 and before 2016	5 %
If you are a Canadian-controlled private corporation (CCPC), this percentage may apply to the portion that you claim of the SR&ED qualified expenditure pool that does not exceed your expenditure limit (see Part 10)	- after 2015*	0 %
If you are a corporation that is not a CCPC and have incurred qualified expenditures for SR&ED in any area in Canada	If you are a Canadian-controlled private corporation (CCPC), this percentage may apply to the portion that you claim of the SR&ED qualified expenditure pool that does not exceed your expenditure limit (see Part 10) Note: If your current year's qualified expenditures are more than your expenditure limit (see Part 10),	35 %
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		15 %
If you incurred expanditures after March 18, 2007, and before March 22, 2017 for before 2020 if you entered into a written agreement before	If you paid salary and wages to apprentices in the first 24 months of their apprenticeship contract for employment	10 %
	If you incurred expenditures after March 18, 2007, and before March 22, 2017 (or before 2020 if you entered into a written agreement before March 22, 2017) for the creation of licensed child care spaces for the children of your employees and, potentially, for other children	25 %

^{*} A transitional relief rate of 10% may apply to property acquired after 2013 and before 2017, if the property is acquired under a written agreement entered into before March 29, 2012, or the property is acquired as part of a **phase** of a project where the construction or the engineering and design work for the construction started before March 29, 2012. See paragraph (a.1) of the definition of **specified percentage** in subsection 127(9) for more information.

2020-12-31

Corporation's name	Business number	Tax year-end Year Month Day
London Hydro Inc.	86483 7430 RC0001	2020-12-31

Part 2 - De	termination	of a	qualifying	corporation -
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Is the corporation a qualifying corporation?

101 ₁

l Yes

2 No X

For the purpose of a refundable ITC, a **qualifying corporation** is defined under subsection 127.1(2). The corporation has to be a CCPC and its taxable income (before any loss carrybacks) for its previous tax year cannot be more than its **qualifying income limit** for the particular tax year. If the corporation is associated with any other corporations during the tax year, the total of the taxable incomes of the corporation and the associated corporations (before any loss carrybacks), for their last tax year ending in the previous calendar year, cannot be more than their qualifying income limit for the particular tax year.

Note: A CCPC considered associated with another corporation under subsection 256(1) will be considered **not** associated for the calculation of a refundable ITC if both of the following conditions are met:

- one corporation is associated with another corporation only because one or more persons own shares of the capital stock of both corporations
- one of the corporations has at least one shareholder who is not common to both corporations

If you are a **qualifying** corporation, you will earn a **100%** refund on your share of any ITCs earned at the 35% rate on qualified expenditures for SR&ED, up to the allocated expenditure limit.

Some CCPCs that are **not qualifying** corporations may also earn a **100%** refund on their share of any ITCs earned at the 35% rate on qualified expenditures for SR&ED, up to the allocated expenditure limit. The expenditure limit can be determined in Part 10.

The 100% refund will not be available to a corporation that is an **excluded corporation** as defined under subsection 127.1(2). A corporation is an excluded corporation if, at any time during the year, it is a corporation that is either controlled by (directly or indirectly, in any manner whatever) or is related to one of the following:

- a) one or more persons exempt from Part I tax under section 149
- b) Her Majesty in right of a province, a Canadian municipality, or any other public authority
- c) any combination of persons referred to in a) or b) above

- Part 3 – Corporations in the farming industry ————————————————————————————————————				
Complete this area if the corporation is making SR&ED contributions.				
Is the corporation claiming a contribution in the current year to an agricultural organization whose goal is to finance SR&ED work (for example, check-off dues)?		102	1 Yes	2 No X
If yes , complete Schedule 125, Income Statement Information, to identify the type of farming industry the cor	rporation is i	nvolved in.		
Contributions to agricultural organizations for SR&ED*	x 80) % = 103		
* Enter only contributions not already included on Form T661				

Qualified Property and Qualified Resource Property

– Part 4 – Eligible investments for qualified property and qualified resource property from the current tax year

105	110	115	120	125
Capital cost allowance class number	Description of investment	Date available for use	Location used in Atlantic Canada (province)	Amount of investment

	redit and account balances esource property	s – ITC fror	n investments	s in qualified prop	erty ———	
ITC at the end of the previous tax	year					B1
Credit deemed as a remittance of	co-op corporations		21	0		
					_	
		Subtotal (line	e 210 plus line 215	5)	>	C1
ITC at the beginning of the tax yes	ar (amount B1 minus amount C1)				<u> </u>	
Credit transferred on an amalgam	nation or the wind-up of a subsidiary					
ITC from repayment of assistance	e		23	5	_	
Qualified property; and qualified reacquired after March 28, 2012, ar January 1, 2014* (applicable part amount A1 in Part 4)	nd before	x	10 % = 24	0	_	
Qualified resource property acqui December 31, 2013, and before J (applicable part from amount A1 i		x	5 % = 24	2	_	
Credit allocated from a partnershi	p		25	0	_	
		Subtotal (total	of lines 230 to 250)) <u> </u>	- ▶	D1
Total credit available (line 220 plu	us amount D1)				· · · · · · <u> </u>	E1
Credit deducted from Part I tax			26	0	_	
Credit carried back to previous ye	ears (amount H1 in Part 6)				_ a	
Credit transferred to offset Part V	'II tax liability		28	0	_	
	Subtotal (total	l of line 260, an	nount a, and line 28	30)	_	F1
Credit balance before refund (ame	ount E1 minus amount F1)				· · · · · · <u> </u>	G1
Refund of credit claimed on inves	tments from qualified property and qu	ualified resourc	e property (from Pa	art 7)	310	
ITC closing balance of investm (amount G1 minus line 310)	nents from qualified property and				320	
* Include investments acquired a	fter 2013 and before 2017 that are eli	igible for transit	ional relief.			
Part 6 – Request for ca	rryback of credit from inve	estments in	qualified pro	perty and qualified	d resource prop	erty ———
1st previous tax year				- 11	901	
2nd previous tax year 3rd previous tax year				. Credit to be applied. Credit to be applied	902	
Sid previous tax year				Total of lines 901 Enter at amount a in	1 to 903	H1
	for qualifying corporations resource property	s on invest	ments from q	ualified property –		
Current-year ITCs (total of lines 2					· · · · · · <u> </u>	I1
Credit balance before refund (fror	m amount G1 in Part 5)				· · · · · <u> </u>	J1
Refund (40 % of amount	I1 or J1, whichever is less)				· · · · · · <u></u>	K1
Enter amount K1 or a lesser amount	unt on line 310 in Part 5 (also enter o	n line 780 of the	e T2 return if you d	lo not claim an SR&ED IT	C refund).	

SR&ED

Part 8 – Qualified SR&ED expenditures		
Current expenditures (from line 559 on Form T661)	3,671,034_	
Contributions to agricultural organizations for SR&ED Deduct:	_	
Government assistance, non-government assistance, or contract payment		
Subtotal	_	
	<u>)</u> %	
Contributions to agricultural organizations for SR&ED for the federal ITC (this amount is updated to line 103 of Part 3. For more details, consult the Help.)*	_ *	
Qualified SR&ED expenditures (line 559 on Form T661 plus line 103 in Part 3)*		50 3,671,034
Repayments made in the year (from line 560 on Form T661)	3	70
Total qualified SR&ED expenditures (line 350 plus line 370)	3	80 3,671,034
* If you are claiming only contributions made to agricultural organizations for SR&ED, line 350 sho	ould equal line 103 in Part 3. Do not	file Form T661.
- Part 9 – Components of the SR&ED expenditure limit calculation ——		
Part 9 only applies if you are a CCPC.		
Note: A CCPC considered associated with another corporation under subsection 256(1) will be considered associated with another corporation under subsection 256(1) will be considered associated with another corporation solely because one or more personal corporation is associated with another corporation solely because one or more personal corporation.	ons own shares of the capital stock o	
 one of the corporations has at least one shareholder who is not common to both corpora 		
Is the corporation associated with another CCPC for the purpose of calculating the SR&ED expendence	diture limit? 385	1 Yes 2 No X
If you answered no to the question on line 385 or if you are not associated with any other corporation of you answered yes , complete Schedule 49, Agreement Among Associated Canadian-Controlled to determine the amounts for associated corporations.	•	Expenditure Limit,
Enter your taxable income for the previous tax year * (prior to any loss carrybacks applied)		390
Enter your taxable capital employed in Canada for the previous tax year 357,818,000 minus \$10 million. If this amount is nil or negative, enter "0". If this amount is over \$40 million, enter \$40 million		398 40,000,000
* If the tax year referred to on line 390 is less than 51 weeks, multiply the taxable income by the that tax year.	following result: 365 divided by the	number of days in
- Part 10 - SR&ED expenditure limit for a CCPC		
For a stand-alone (not associated) corporation		\$8,000,000
Taxable income for the previous tax year (line 390 in Part 9) or \$500,000, whichever is more	500,000 x 10	= <u>5,000,000</u> A2
Excess (\$8,000,000 minus amount A2; if negative, enter "0")		<u>3,000,000</u> B2
\$ 40,000,000 minus line 398 in Part 9	b	
Amount b divided by \$ 40,000,000		C2
For tax years ending before March 19, 2019 Amount B2 multiplied by amount C2		D2
For tax years ending after March 18, 2019 3,000,000 multiplied by amount C2		E2
Expenditure limit for the stand-alone corporation (amount D2 or amount E2, whichever applie	s)*	F2
For an associated corporation:		
If associated, the allocation of the SR&ED expenditure limit, as provided on Schedule 49^\star	4	00 G2
If your tax year is less than 51 weeks, calculate the amount of the expenditure limit as follows: Amount F2 or G2 X Number of days in the tax year	ows: 366 =	uэ
Amount F2 or G2 x Number of days in the tax year 365		H2
Your SR&ED expenditure limit for the year (enter amount F2, G2, or H2, whichever applies)	4	10
* Amount F2 or G2 cannot be more than \$3,000,000.		

** For corporations that are not CCPCs, enter "0" for amount I2. ** For corporations that are not CCPCs, enter "0" for amount I2. ** If you were a Canadian-controlled private corporation (CCPC), this percentage was applied to the portion that you claimed of the SR&ED qualified expenditure pool that did not exceed your expenditure limit at the time. This percentage includes the rate under subsection 127(10.1), Additions to investment tax credit. See subsection 127(10.1) for details about exceptions. For expenditures not eligible for this rate use line 480 or 490 as appropriate.	Part 11 – Investment tax credits on SR&ED expenditures				
If a corporation makes a repayment of any government or non-government assistance, or contract payments that reduced the amount of qualified expenditures for ITC purposes, the amount of the repayment is eligible for a credit. Repayments (amount from line 370 in Part 8) Enter the amount of the repayment on the line that corresponds to the appropriate rate. Repayment of assistance that reduced a qualifying expenditure for a CCPC+** Repayment of assistance that reduced a qualifying expenditure for a CCPC+** Repayment of assistance made after September 16, 2016 that reduced a qualifying expenditure incurred before 2015. Repayment of assistance made after September 16, 2016 that reduced a qualifying expenditure incurred before 2014. 490		x	35 % =		12
amount of qualified expenditures for ITC purposes, the amount of the repayment is eligible for a credit. Repayment (amount from line 370 in Part 8)	Line 350 minus line 410 (if negative, enter "0")	3,671,034 ×	15 % =	550,655	J2
Enter the amount of the repayment on the line that corresponds to the appropriate rate. Repayment of assistance made after september 16, 2016 that reduced a qualifying expenditure for a CCPC+** Repayment of assistance made after September 16, 2016 that reduced a qualifying expenditure incurred before 2015 180			d the		
Repayment of assistance that reduced a qualifying expenditure for a CCPC** 160 x 35 % =	Repayments (amount from line 370 in Part 8)				
qualifying expenditure for a CCPC**	Enter the amount of the repayment on the line that corresponds to the appropriate rate.				
September 16, 2016 that reduced a qualifying expenditure incurred before 2015 430		35 % =	с		
September 16, 2016 that reduced a qualifying expenditure incurred after 2014 \$30	September 16, 2016 that reduced a	20 % =	d		
Current-year SR&ED ITC (total of amounts 12 to K2; enter on line 540 in Part 12) * For corporations that are not CCPCs, enter "0" for amount 12. ** If you were a Canadian-controlled private corporation (CCPC), this percentage was applied to the portion that you claimed of the SR&ED qualified expenditure pool that did not exceed your expenditure limit at the time. This percentage includes the rate under subsection 127(10.1), Additions to investment tax credit. See subsection 127(10.1) for details about exceptions. For expenditures not eligible for this rate use line 480 or 490 as appropriate.	September 16, 2016 that reduced a	15 % =	e		
Current-year SR&ED ITC (total of amounts 12 to K2; enter on line 540 in Part 12) * For corporations that are not CCPCs, enter "0" for amount 12. ** If you were a Canadian-controlled private corporation (CCPC), this percentage was applied to the portion that you claimed of the SR&ED qualified expenditure pool that did not exceed your expenditure limit at the time. This percentage includes the rate under subsection 127(10.1), Additions to investment tax credit. See subsection 127(10.1) for details about exceptions. For expenditures not eligible for this rate use line 480 or 490 as appropriate.	Subtotal (total of a	mounts c to e)	>		K2
** If you were a Canadian-controlled private corporation (CCPC), this percentage was applied to the portion that you claimed of the SR&ED qualified expenditure pool that did not exceed your expenditure limit at the time. This percentage includes the rate under subsection 127(10.1), Additions to investment tax credit. See subsection 127(10.1) for details about exceptions. For expenditures not eligible for this rate use line 480 or 490 as appropriate.				550,655	L2
expenditure pool that did not exceed your expenditure limit at the time. This percentage includes the rate under subsection 127(10.1), Additions to Investment tax credit. See subsection 127(10.1) for details about exceptions. For expenditures not eligible for this rate use line 480 or 490 as appropriate.	* For corporations that are not CCPCs, enter "0" for amount I2.				
TC at the end of the previous tax year M2 Credit deemed as a remittance of co-op corporations 510 Credit expired 515 Subtotal (line 510 plus line 515) N2 ITC at the beginning of the tax year (amount M2 minus amount N2) 520 Credit transferred on an amalgamation or the wind-up of a subsidiary 530 Total current-year credit (from amount L2 in Part 11) 540 550,655 Credit allocated from a partnership 550 Subtotal (total of lines 530 to 550) 550,655 > 550,655 P2 Total credit available (line 520 plus amount O2) 550,655 > 2 Credit deducted from Part I tax 560 318,195 Credit carried back to previous years (amount S2 in Part 13) 232,460 f Credit transferred to offset Part VII tax liability 580 550,655 > 550,655 Subtotal (total of line 560, amount f, and line 580) 550,655 > 550,655 Q2 Credit balance before refund (amount P2 minus amount Q2) 82	expenditure pool that did not exceed your expenditure limit at the time. This percentage inc to investment tax credit. See subsection 127(10.1) for details about exceptions. For expappropriate.	cludes the rate under subsection and the subsection of the subsect	ection 127(10.1), Additi is rate use line 480 or 49	ons 90 as	
Credit deemed as a remittance of co-op corporations 510 Credit expired 515 Subtotal (line 510 plus line 515) ► N2 ITC at the beginning of the tax year (amount M2 minus amount N2) 520 ► N2 Credit transferred on an amalgamation or the wind-up of a subsidiary 530	 Part 12 – Current-year credit and account balances – ITC from SR 	&ED expenditures -			
Credit expired \$15 Subtotal (line 510 plus line 515) ITC at the beginning of the tax year (amount M2 minus amount N2) Credit transferred on an amalgamation or the wind-up of a subsidiary Total current-year credit (from amount L2 in Part 11) Subtotal (total of lines 530 to 550) Subtotal (total of lines 530 to 550) Total credit available (line 520 plus amount O2) Credit deducted from Part I tax Credit carried back to previous years (amount \$2 in Part 13) Credit transferred to offset Part VII tax liability Subtotal (total of line 560, amount f, and line 580) Stop,655 Credit balance before refund (amount P2 minus amount Q2)	ITC at the end of the previous tax year	<u></u>			M2
Subtotal (line 510 plus line 515)	Credit deemed as a remittance of co-op corporations				
TTC at the beginning of the tax year (amount M2 minus amount N2) Credit transferred on an amalgamation or the wind-up of a subsidiary Total current-year credit (from amount L2 in Part 11) Subtotal (total of lines 530 to 550) Subtotal (line 520 plus amount O2) Credit deducted from Part I tax Credit carried back to previous years (amount S2 in Part 13) Credit transferred to offset Part VII tax liability Subtotal (total of line 560, amount f, and line 580) Subtotal (total of line 560, amount f, and line 580)	Credit expired	515			
Credit transferred on an amalgamation or the wind-up of a subsidiary 530 Total current-year credit (from amount L2 in Part 11) 540 550,655 Credit allocated from a partnership 550 Subtotal (total of lines 530 to 550) 550,655 > Total credit available (line 520 plus amount O2) 550,655 P2 Credit deducted from Part I tax 560 318,195 Credit carried back to previous years (amount S2 in Part 13) 232,460 f Credit transferred to offset Part VII tax liability 580 550,655 > Subtotal (total of line 560, amount f, and line 580) 550,655 > 550,655 Q2 Credit balance before refund (amount P2 minus amount Q2) R2	Subtotal (line 510 pl	us line 515)	>		N2
Total current-year credit (from amount L2 in Part 11)	ITC at the beginning of the tax year (amount M2 minus amount N2)		520		
Credit allocated from a partnership 550 Subtotal (total of lines 530 to 550) 550,655 > 550,655 O2 Total credit available (line 520 plus amount O2) 550,655 P2 Credit deducted from Part I tax 560 318,195 Credit carried back to previous years (amount S2 in Part 13) 232,460 f Credit transferred to offset Part VII tax liability 580 550,655 > 550,655 Q2 Credit balance before refund (amount P2 minus amount Q2) R2 R2	Credit transferred on an amalgamation or the wind-up of a subsidiary	530			
Subtotal (total of lines 530 to 550) 550,655 O2 Total credit available (line 520 plus amount O2) 550,655 P2 Credit deducted from Part I tax 560 318,195 Credit carried back to previous years (amount S2 in Part 13) 232,460 f Credit transferred to offset Part VII tax liability 580 550,655 ► Subtotal (total of line 560, amount f, and line 580) 550,655 ► 550,655 Q2 Credit balance before refund (amount P2 minus amount Q2) R2	Total current-year credit (from amount L2 in Part 11)	540	550,655		
Total credit available (line 520 plus amount O2) Credit deducted from Part I tax 560 318,195 Credit carried back to previous years (amount S2 in Part 13) Credit transferred to offset Part VII tax liability Subtotal (total of line 560, amount f, and line 580) 550,655 Credit balance before refund (amount P2 minus amount Q2)	Credit allocated from a partnership	550			
Credit deducted from Part I tax 560 318,195 Credit carried back to previous years (amount S2 in Part 13) 232,460 f Credit transferred to offset Part VII tax liability 580 Subtotal (total of line 560, amount f, and line 580) 550,655 > 550,655 Q2 Credit balance before refund (amount P2 minus amount Q2) R2	Subtotal (total of lines	530 to 550)	<u>550,655</u> ►	550,655	02
Credit carried back to previous years (amount S2 in Part 13)	Total credit available (line 520 plus amount O2)			550,655	P2
Credit transferred to offset Part VII tax liability Subtotal (total of line 560, amount f, and line 580) Subtotal (total of line 560, amount f, and line 580) Credit balance before refund (amount P2 minus amount Q2)	Credit deducted from Part I tax	560	318,195		
Subtotal (total of line 560, amount f, and line 580) 550,655 Credit balance before refund (amount P2 minus amount Q2)	Credit carried back to previous years (amount S2 in Part 13)		232,460 f		
Credit balance before refund (amount P2 minus amount Q2)	Credit transferred to offset Part VII tax liability	580			
Credit balance before refund (amount P2 minus amount Q2)			550,655 ▶	550,655	Q2
·					R2
			610		

.....

ITC closing balance on SR&ED (amount R2 minus line 610)

620

- Part 13 – Request for ca	arryback of credit from	SR&ED expenditures —————	
·	Year Month Day	·	
1st previous tax year	2019-12-31	Credit to be applied 911	
2nd previous tax year	2018-12-31	Credit to be applied 912	
3rd previous tax year	2017-12-31		232,460
,		Total of lines 911 to 913	232,460 s ₂
		Enter at amount f in Part 12.	
- Part 14 – Refund of ITC	for qualifying corpora	itions – SR&ED	
Complete this part only if you are a	qualifying corporation as deter	mined on line 101 in Part 2.	
Is the corporation an excluded corp	poration as defined under subse	ection 127.1(2)? 650 1 Yes	2 No X
Current-year ITC (lines 540 plus 5	550 in Part 12 minus amount K	2 in Part 11)	
Refundable credits (amount g or a	mount R2 in Part 12, whichever	r is less)*	T2
Amount T2 or amount I2 in Part 11	, whichever is less		U2
Net amount (amount T2 minus an	nount U2; if negative, enter "0")		V2
Amount V2 multiplied by	40 %	· · · · · · · · · · · · · · · · · · ·	W2
Amount U2			X2
Refund of ITC (amount W2 plus Enter the total of line 310 in Part 5		sser amount, on line 610 in Part 12)	Y2
* If you are also an excluded corporation with the second of the second		n 127.1(2), this amount must be multiplied by 40%. Claim this, or a lesser amount, as	
- Part 15 – Refund of ITC	for CCPCs that are no	ot qualifying or excluded corporations – SR&ED	
Complete this part only if you are a	CCPC that is not a qualifying c	or excluded corporation as determined on line 101 in Part 2.	
Credit balance before refund (amo	unt R2 in Part 12)		Z2
Refund of ITC (amount Z2 or amo	ount I2 in Part 11, whichever is I	less)	AA2

Enter amount AA2, or a lesser amount, on line 610 in Part 12 and also on line 780 of the T2 return.

Recapture - SR&ED

¬ Part 16 – Recapture of ITC for corporations and partnerships – SR&ED

You will have a recapture of ITC in a year when all of the following conditions are met:

- you acquired a particular property in the current year or in any of the 20 previous tax years, and the credit was earned in a tax year ending after 1997 and did not expire before 2008
- you claimed the cost of the property as a qualified expenditure for SR&ED on Form T661
- the cost of the property was included in calculating your ITC or was the subject of an agreement made under subsection 127(13) to transfer qualified expenditures
- you disposed of the property or converted it to commercial use after February 23, 1998. This condition is also met if you disposed of or converted to commercial use a property that incorporates the particular property previously referred to

Note:

The recapture **does not apply** if you disposed of the property to a non-arm's-length purchaser who intended to use it all or substantially all for SR&ED. When the non-arm's-length purchaser later sells or converts the property to commercial use, the recapture rules will apply to the purchaser based on the historical ITC rate of the original user.

You will report a recapture on the T2 return for the year in which you disposed of the property or converted it to commercial use. In the following tax year, add the amount of the ITC recapture to the SR&ED expenditure pool.

If you have more than one disposition for calculations 1 and 2, complete the columns for each disposition for which a recapture applies, using the calculation formats below.

Amount of ITC you originally calculated for the property you acquired, or the original user's ITC where you acquired the property from a non-arm's length party, as described in the note above	Amount calculated using ITC rate at the date of acquisition (or the original user's date of acquisition) on either the proceeds of disposition (if sold in an arm's length transaction) or the fair market value of the property (in any other case)	Amount from column 700 or 710, whichever is less
700	710	

Α	В	С	D	E	F
Rate that the transferee used in determining its ITC for qualified expenditures under a subsection 127(13) agreement	Proceeds of disposition of the property if you dispose of it to an arm's length person; or, in any other case, enter the fair market value of the property at conversion or disposition	Amount, if any, already provided for in Calculation 1 (This allows for the situation where only part of the cost of a property is transferred under a subsection 127(13) agreement.)	Amount determined by the formula (A x B) – C	ITC earned by the transferee for the qualified expenditures that were transferred	Amount from column D or E, whichever is less
720	730	740		750	

Part 16 − Recapture of ITC for corporations and partnerships − SR&ED (continued) ——

_	Cal	CII	lati	n	3

As a member of the partnership, you will report your share of the SR&ED ITC of the partnership after the SR&ED ITC has been reduced by the amount of the recapture. If this amount is a positive amount, you will report it on line 550 in Part 12. However, if the partnership does not have enough ITC otherwise available to offset the recapture, then the amount by which reductions to ITC exceed additions (the excess) will be determined and reported on line 760.

Corporate partner's share of the excess of SR&ED ITC Enter at amount E3 in Part 17.

Part 17 – Total recapture of SR&ED investment tax credit	
Recaptured ITC from calculation 1, amount A3 in Part 16	C3
Recaptured ITC from calculation 2, amount B3 in Part 16	D3
Recaptured ITC from calculation 3, line 760 in Part 16	E3
Total recapture of SR&ED investment tax credit (total of amounts C3 to E3) Enter at amount A8 in Part 27.	F3

Pre-Production Mining

□ Part 18 – Account balances – ITC from pre-production mining expenditures	
ITC at the end of the previous tax year	A4
Credit deemed as a remittance of co-op corporations	
Credit expired	
Subtotal (line 841 plus line 845)	B4
ITC at the beginning of the tax year (amount A4 minus amount B4)	
Credit transferred on an amalgamation or the wind-up of a subsidiary	
Total credit available (line 850 plus line 860)	C4
Amount of unused credit carried forward from previous years and applied to reduce Part I tax payable in the current year	
ITC closing balance from pre-production mining expenditures (amount C4 minus line 885)	

Apprenticeship Job Creation

		A	pprenticesnip Joi	o Creation				
− Pa	rt 19 – Total current-yea	r credit – ITC from a	pprenticeship jo	b creation expe	nditures ——			
	ı are a related person as defined ι							
	will be claiming the apprenticeship ocial insurance number (SIN) or n				ot number	11 1 Ye	es X 2 No	
For e	ach apprentice in their first 24 mo	onths of the apprenticeship,	enter the apprenticeship	contract number regi	istered with Canada,	— or a provinc	e or territory,	
	r an apprenticeship program designated act number, enter the SIN or the r			the province, the trad	de must be a Red Sea	al trade. If th	iere is no	
COILL	act number, enter the 5114 of the f	iaine or the eligible apprenti	ce.					
	A	В		С	D		Е	
	Contract number (SIN or name of apprentice)	Name of elig	gible trade	Eligible salary and wages*	Column C x		Lesser of column D or	
	(Cirt of Figure of approximos)			Hagos	10 %		\$ 2,000	
	601	602	2	603	604		605	
1.	xxxxxxxxxxxxxxxxxxxxxxxxx	Powerline Technicia	an	78,00	0 7	,800	2,000	
					credit (total of colum ter on line 640 in Par		2,000	A5
							_	
	ther than qualified expenditure inc nd wages, and qualified expend			ernment assistance re	ceived or to be receiv	ed. Eligible	salary	
⊢ Pa	rt 20 – Current-year cred	lit and account bala	nces – ITC from a	apprenticeship j	job creation ex	penditur	es ———	
ITC a	at the end of the previous tax year							_ B5
Cred	it deemed as a remittance of co-o _l	o corporations		612				
	it expired after 20 tax years .	' '						
Creu	it expired after 20 tax years .							
			Subtotal (line 612	pius line 615)				_ C5
ITC a	at the beginning of the tax year (an	nount B5 minus amount C5	5)	<u></u>		625		=
Cred	it transferred on an amalgamation	or the wind-up of a subsidia	ary	630				
ITC f	rom repayment of assistance			635				
Total	current-year credit (amount A5 in	Part 19)		640	2,000			
Cred	it allocated from a partnership			655				
			Subtotal (total of lin	nes 630 to 655)	2,000	_	2,000	_ D5
Total	credit available (line 625 plus am	ount D5)				<u></u>	2,000	_ E5
Cred	it deducted from Part I tax			660	2,000			
Cred	it carried back to previous years (a	amount G5 in Part 21) .				h		
		,	Subtotal (line 660 _l	plus amount h)	2,000	>	2,000	F5
ITC (closing balance from apprentic	eshin ioh creation expend	,	· 		690		•
	sioning scitation from approxima		artares (amount Lo min					=
– Pa	rt 21 – Request for carry	back of credit from	annrenticeshin id	ob creation exp	enditures ——			
	-		appromiseomp j	ob orounon oxp	oriantar oo			
1ct n		Year Month Day		Cro	edit to be applied	931		
	revious tax year previous tax year			Cre	ant to so applied	932		-
	revious tax year			Cre	ant to so applied	933		_
	,				Total of lines 931 to			_ _ G5
				Ent	er at amount h in Par	t 20.		

Child Care Spaces

Part 22 − Eligible child care spaces expenditures -

Enter the eligible expenditures that you incurred after March 18, 2007, and before March 22, 2017,* to create licensed child care spaces for the children of the employees and, potentially, for other children. You cannot be carrying on a child care services business. The eligible expenditures include:

- the cost of depreciable property (other than specified property)
- the specified child care start-up expenditures

Properties should be acquired and expenditures should be incurred only to create new child care spaces at a licensed child care facility.

Capital cost allowance class number	Description of investment	Date available for use	Amount of investment
665	675	685	695
1.			
	Total cost of depreciable property from the current tax y	year (total of column 695) 715	
pecified child care start-up expend			•
otal gross eligible expenditures for	child care spaces (line 715 plus line 705)		
	nts, subsidies, rebates, and forgivable loans) or reimbursements that id to receive in respect of the amounts referred to in amount A6		
	(if negative, enter "0")		
ccess (amount A6 minus line 725)			1
	overnment and non-government assistance		
epayments by the corporation of go	· ·		

Part 23 – Current	-year credit –	ITC from chil	ld care spaces e	expenditures
-------------------	----------------	---------------	------------------	--------------

The credit is	equal to 25% c	of eligible child ca	re spaces expen	ditures incurred	to a maximum	of \$10,000 per c	child care space crea	ated in a licensed c	nıld
care facility.									

Eligible expenditures (from line 745 in Part 22)		X	25 % = _	C6
Number of child care spaces	755	x \$	10,000 =	 D6
ITC from child care spaces expenditures (amount C6 or D6, whichever is less)			=	 E6

Part 24 – Current-ye	ear credit and account ba	lances – ITC from child care sp	paces expenditures ————	
ITC at the end of the previous	s tax year			F6
Credit deemed as a remittand	ce of co-op corporations	765		
Credit expired after 20 tax ye	ars	770		
		Subtotal (line 765 plus line 770)	>	G6
ITC at the beginning of the ta	ax year (amount F6 minus amount	G6)	775	
Credit transferred on an ama	lgamation or the wind-up of a subs	idiary 777		
Total current-year credit (am	ount E6 in Part 23)	780		
Credit allocated from a partne	ership	782		
		Subtotal (total of lines 777 to 782)	>	H6
Total credit available (line 77	5 plus amount H6)		<u></u>	16
Credit deducted from Part I to	ax	785		
Credit carried back to previou	us years (amount K6 in Part 25)		i	
		Subtotal (line 785 plus amount i)	>	J6
ITC closing balance from o	child care spaces expenditures (amount I6 minus amount J6)	790	
⊢ Part 25 – Request fo	or carryback of credit fro	m child care space expenditure	es —	
-	Year Month Day	7		
1st previous tax year	2019-12-31		Credit to be applied 941	
2nd previous tax year	2018-12-31		Credit to be applied 942	
3rd previous tax year	2017-12-31			
			Total of lines 941 to 943 Enter at amount i in Part 24.	K6

Recapture - Child Care Spaces

- Part 26 - Recapture of ITC for corporations and partnerships - Child care spaces	
The ITC will be recovered against the taxpayer's tax otherwise payable under Part I of the Act if, at any time within 60 months of the day on which the taxpayer acquired the property, one of the following situations takes place:	
• the new child care space is no longer available	
• property that was an eligible expenditure for the child care space is	
 disposed of or leased to a lessee 	
 converted to another use 	
If the property disposed of is a child care space, the amount that can reasonably be considered to have been included in the original ITC (paragraph 127(27.12)(a))	
In the case of eligible expenditures (paragraph 127(27.12)(b)), the lesser of:	
The amount that can reasonably be considered to have been included in the original ITC 795	
25% of either the proceeds of disposition (if sold in an arm's length transaction) or the fair market value (in any other case) of the property	
Amount from line 795 or line 797, whichever is less	_ A7
─ Partnerships ──────	
As a member of the partnership, you will report your share of the child care spaces ITC of the partnership after the child care spaces ITC has been reduced by the amount of the recapture. If this amount is a positive amount, you will report it on line 782 in Part 24. However, if the partnership does not have enough ITC otherwise available to offset the recapture, then the amount by which reductions to ITC exceed additions (the excess) will be determined and reported on line 799 below.	
Corporate partner's share of the excess of ITC Total recapture of child care spaces investment tax credit (total of line 792, amount A7, and line 799)	= B7
Summary of Investment Tax Credits	
Part 27 – Total recapture of investment tax credit	
Recaptured SR&ED ITC (amount F3 in Part 17)	A8
Recaptured child care spaces ITC (amount B7 in Part 26)	_ B8
Total recapture of investment tax credit (amount A8 plus amount B8)	_ C8
Enter on line 602 of the T2 return.	= 00
Part 28 – Total ITC deducted from Part I tax	
ITC from investments in qualified property deducted from Part I tax (line 260 in Part 5)	_ D8
ITC from SR&ED expenditures deducted from Part I tax (line 560 in Part 12)	5 E8
ITC from pre-production mining expenditures deducted from Part I tax (line 885 in Part 18)	F8
ITC from apprenticeship job creation expenditures deducted from Part I tax (line 660 in Part 20)) G8
ITC from child care space expenditures deducted from Part I tax (line 785 in Part 24)	_ _ H8
Total ITC deducted from Part I tax (total of amounts D8 to H8) Enter on line 652 of the T2 return.	<u> </u>

Summary of Investment Tax Credit Carryovers

CCA class number	97	Apprenticeship :	job creation ITC			
Current year						
		Addition	Applied	Claimed as a refund	Carried back	ITC end
		current year (A)	current year (B)	as a retund (C)	(D)	of year (A-B-C-D)
		2,000	2,000	(3)	()	(1.2.3.2)
Prior years	_					
Taxation year			ITC beginning	Adjustments	Applied	ITC end
			of year		current year	of year
			(E)	(F)	(G)	(E-F-G)
2019-12-31						
2018-12-31						
2017-12-31						
2016-12-31						
2015-12-31						
2014-12-31						
2013-12-31						
2012-12-31						
2011-12-31						
2010-12-31						
2009-12-31						
2008-12-31						
2007-12-31						
2006-12-31						
2005-12-31						
2004-12-31						
2003-12-31						
2002-12-31						
2001-12-31						
2001-09-30						
		Total				
B+C+D+G					Total ITC utilized	2,000

any expired credit will be posted to line 215, 515, 615, 770 or 845, as applicable, in Schedule 31 the following year.

Summary of Investment Tax Credit Carryovers

CCA class number 99	Cur. or cap. R&	D for ITC			
Current year					
	Addition current year (A) 550,655	Applied current year (B) 318,195	Claimed as a refund (C)	Carried back (D) 232,460	ITC end of year (A-B-C-D)
Prior years					
Taxation year		ITC beginning of year (E)	Adjustments (F)	Applied current year (G)	ITC end of year (E-F-G)
2019-12-31		()	()	()	,
2018-12-31					
2017-12-31					
2016-12-31					
2015-12-31					
2014-12-31					
2013-12-31					
2012-12-31					
2011-12-31					
2010-12-31					
2009-12-31					
2008-12-31					
2007-12-31					
2006-12-31					
2005-12-31					
2004-12-31					
2003-12-31					
2002-12-31					
2001-12-31					
2001-09-30					
	Total				
B+C+D+G				Total ITC utilized	550,655

any expired credit will be posted to line 215, 515, 615, 770 or 845, as applicable, in Schedule 31 the following year.

Agence du revenu du Canada Schedule 33

Taxable Capital Employed in Canada – Large Corporations

Corporation's name	Business number	Tax year-end Year Month Day
London Hydro Inc.	86483 7430 RC0001	2020-12-31

- Use this schedule in determining if the total taxable capital employed in Canada of the corporation (other than a financial institution or an insurance corporation) and its related corporations is greater than \$10,000,000.
- If the total taxable capital employed in Canada of the corporation and its related corporations is greater than \$10,000,000, file a completed Schedule 33 with your T2 Corporation Income Tax Return no later than six months from the end of the tax year.
- Unless otherwise noted, all legislative references are to the Income Tax Act and the Income Tax Regulations.
- Subsection 181(1) defines the terms financial institution, long-term debt, and reserves.
- Subsection 181(3) provides the basis to determine the carrying value of a corporation's assets or any other amount under Part I.3 for its capital, investment allowance, taxable capital, or taxable capital employed in Canada, or for a partnership in which it has an interest.
- If the corporation was a non-resident of Canada throughout the year and carried on a business through a permanent establishment in Canada, go to Part 4,
 Taxable capital employed in Canada.

┌ Part 1 – Capital ─────		
Add the following year-end amounts:		
Reserves that have not been deducted in calculating income for the year under Part I 101	8,277,000	
Capital stock (or members' contributions if incorporated without share capital) 103	96,116,000	
Retained earnings	80,466,000	
Contributed surplus	5	
Any other surpluses	6	
Deferred unrealized foreign exchange gains	7	
All loans and advances to the corporation	229,021,000	
All indebtedness of the corporation represented by bonds, debentures, notes, mortgages, hypothecary claims, bankers' acceptances, or similar obligations	9	
Any dividends declared but not paid by the corporation before the end of the year 110	0	
All other indebtedness of the corporation (other than any indebtedness for a lease) that has been outstanding for more than 365 days before the end of the year	1	
The total of all amounts, each of which is the amount, if any, in respect of a partnership in which the corporation held a membership interest at the end of the year, either directly or indirectly through another partnership (see note below)	2	
Subtotal (add lines 101 to 112)	2) 413,880,000	► 413,880,000 A

Note:

Line 112 is determined by the formula (A - B) x C/D (as per paragraph 181.2(3)(g)) where:

- A is the total of all amounts that would be determined for lines 101, 107, 108, 109, and 111 in respect of the partnership for its last fiscal period that ends at or before the end of the year if
 - a) those lines applied to partnerships in the same manner that they apply to corporations, and
 - b) those amounts were computed without reference to amounts owing by the partnership
 - (i) to any corporation that held a membership interest in the partnership either directly or indirectly through another partnership, or
 - (ii) to any partnership in which a corporation described in subparagraph (i) held a membership interest either directly or indirectly through another partnership.
- B is the partnership's deferred unrealized foreign exchange losses at the end of the period,
- C is the share of the partnership's income or loss for the period to which the corporation is entitled either directly or indirectly through another partnership, and
- D is the partnership's income or loss for the period.

Doub 4 Comital (combined)		86483 7430 RC0001
Part 1 – Capital (continued)	Subtotal A (from page 1)	413,880,000 A
Deduct the following amounts:	Subtotal A (ITOTT page 1)	A
Deferred tax debit balance at the end of the year	121	
Any deficit deducted in calculating its shareholders' equity (including, for this purpose, the		
amount of any provision for the redemption of preferred shares) at the end of the year	122	
To the extent that the amount may reasonably be regarded as being included in any of lines 101 to 112 above for the year, any amount deducted under subsection 135(1) in calculating income under Part I for the year.	123	
Deferred unrealized foreign exchange losses at the end of the year	124	
Subtotal (add lines	121 to 124)	В
Capital for the year (amount A minus amount B) (if negative, enter "0")	190	413,880,000
Part 2 – Investment allowance		
Add the carrying value at the end of the year of the following assets of the corporation:		
A share of another corporation		
A loan or advance to another corporation (other than a financial institution)		
A bond, debenture, note, mortgage, hypothecary claim, or similar obligation of another corporati (other than a financial institution)	100	
Long-term debt of a financial institution	404	
A dividend payable on a share of the capital stock of another corporation		
A loan or advance to, or a bond, debenture, note, mortgage, hypothecary claim or similar obligat member of which was, throughout the year, another corporation (other than a financial institution tax under this Part (otherwise than because of paragraph 181.1(3)(d)), or another partnership d paragraph 181.2(4)(d.1)	n) that was not exempt from described in	
An interest in a partnership (see note 2 below)		
Investment allowance for the year (add lines 401 to 407)		
Notes:		
 Lines 401 to 405 should not include the carrying value of a share of the capital stock of, a diviexempt from tax under Part I.3 (other than a non-resident corporation that at no time in the year establishment). 		
2. Where the corporation has an interest in a partnership held either directly or indirectly through additional rules regarding the carrying value of an interest in a partnership.	n another partnership, refer to subsection 181.2(5) for
Where a trust is used as a conduit for loaning money from a corporation to another related co considered to have been made directly from the lending corporation to the borrowing corporat apply.		
┌ Part 3 – Taxable capital		
·		413,880,000 C
Capital for the year (line 190)		
Deduct: Investment allowance for the year (line 490)		D

Taxable capital for the year (amount C minus amount D) (if negative, enter "0")

413,880,000

Part 4 – Taxab	le capital	employe	ed in	Canada ———							
		To be c	omple	eted by a corporation	n that was resi	dent in Canada a	t any t	ime in the year			
Taxable capital for the year (line 500)	413,	880,000	Та х		610		T: emp	axable capital loyed in Canada	690	413,880,000	
				Taxable income		2,134,632					
to have a	corporation's taxable incor	taxable inc	ome fo	or a tax year is "0," it s	shall, for the purp	ooses of the above					
				d by a corporation ried on a business					r		
Total of all amounts enheld in the year, in the									701		
Deduct the following	amounts:										
Corporation's indebted paragraphs 181.2(3)(on during the year thro	c) to (f)] that r	nay reason	ably be	e regarded as relating		carried	I		_		
Total of all amounts edescribed in subsection year, in the course of establishment in Canal	on 181.2(4) of carrying on a	the corpor y business	ration t durin	hat it used in the year g the year through a	r, or held in the permanent	712			_		
Total of all amounts excorporation that is a spersonal or movable puring the year through	hip or aircraft property used	the corpora or held by t	ation o	perated in internation poration in carrying o	al traffic, or n any business	·	I		_		
				Total deduct	ions (add lines 7	11, 712, and 713)			_ > _		Ε
Taxable capital emp	oloyed in Car	ada (line 7	'01 mi i	nus amount E) (if ne	gative, enter "0")				790		
Note: Complete line year on the in				h the corporation is re hip or aircraft in inter						tax for the	
− Part 5 – Calcul	lation for	ourpose	s of	the small busir	ess deduct	on —					_
This part is applicab	ble to corpor	ations tha	t are n	ot associated in the	e current year, l	out were associa	ted in t	the prior year.			
Taxable capital emplo	yed in Canad	a (amount t	from lir	ne 690)							F
Deduct:									<u> </u>	10,000,000	G
					Excess (a	mount F minus ar	mount (G) (if negative, en	ter "0")		Н
Calculation for purp	oses of the	small busi	ness o	deduction (amount H	l x 0.225%)				<u>_</u>		ı
Enter this amount at li	ine 415 of the	T2 return.							-		

Attached Schedule with Total

Part 1 – All loans and advances to the corporation

Title Part 1 – All loans and advances to the corporation

	Operator	
Description	(Note)	Amount
Due to shareholder		5,749,000 00
Accrued post retirement liability	_+	16,100,000 00
Customer and other deposits - short term	_+	2,923,000 00
Customer and other deposits - long term	_+	2,025,000 00
Long term debt	_+	200,000,000 00
Current portion of debt	_+	34,000 00
Long-term portion of debt	_+	2,190,000 00
	Total	229,021,000 00

Note: The calculations are performed one at a time, from the first to the last line, and not according to the priority rules of the operations. For example, the formula 1+2*3 will not result in the same thing as the formula 1+3*2.

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Schedule 50

Shareholder Information

Corporation's name	Business number	Tax year-end Year Month Day
London Hydro Inc.	86483 7430 RC0001	2020-12-31

- All private corporations must complete this schedule for any shareholder who holds 10% or more of the corporation's common and/or preferred shares.
- Provide only one number (business number, partnership account number, social insurance number or trust number) per shareholder.

	Name of shareholder (after name, indicate in brackets if the shareholder is a corporation, partnership, individual, or trust)	Business number or partnership account number (9 digits, 2 letters, and 4 digits. If not registered, enter "NR")	Social insurance number (9 digits)	Trust number (T followed by 8 digits)	Percentage common shares	Percentage preferred shares
	100	200	300	350	400	500
1	The Corporation of the City of London	NR			100.000	
2						
3						
4						
5						
6						
7						
8						
9						
10						



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Schedule 55

Part III.1 Tax on Excessive Eligible Dividend	Desig	nations			
Corporation's name	Busir	Tax year-end Year Month Day			
London Hydro Inc.	86483	483 7430 RC0001 2020-12-31			
 Every corporation resident in Canada that pays a taxable dividend (other than a capital gains dividend within the meaning assigned by subsection 130.1(4) or 131(1)) in the tax year must file this schedule. 	n	Do not	use this area		
 Canadian-controlled private corporations (CCPC) and deposit insurance corporations (DIC) must complete Part 1 of this schedule. All other corporations must complete Part 2. 					
 Every corporation that has paid an eligible dividend must also file Schedule 53, General Rate Income Pool Calculation, or Schedule 54, Low Rate Income Pool (LRIP) Calculation, whichever is applicable. 	(GRIP)				
• File the schedules with your T2 Corporation Income Tax Return no later than six months from the end of th tax year.	е				
All legislative references are to the Income Tax Act and the Income Tax Regulations.					
 Subsection 89(1) defines the terms eligible dividend, excessive eligible dividend designation, general and low rate income pool. 	al rate inco	ome pool,			
 The calculations in Part 1 and Part 2 do not apply if the excessive eligible dividend designation arises from paragraph (c) of the definition of excessive eligible dividend designation in subsection 89(1). This paragrap dividend is paid to artificially maintain or increase the GRIP or to artificially maintain or decrease the LRIP. 					
Part 1 – Canadian-controlled private corporations and deposit insurance cor	poration	s ———			
Taxable dividends paid in the tax year not included in Schedule 3					
Taxable dividends paid in the tax year included in Schedule 3	5,000	0,000			
Total taxable dividends paid in the tax year	5,000	0,000			
Total eligible dividends paid in the tax year		150		_	
GRIP at the end of the tax year (line 590 on Schedule 53) (if negative, enter "0")		160	91,596,967	_	
Excessive eligible dividend designation (line 150 minus line 160)				_ A	
Excessive eligible dividend designations elected under subsection 185.1(2) to be treated as ordinary dividends	s*	180		_	
Subtota	al (amount A	A minus line 180)		_ B	
Part III.1 tax on excessive eligible dividend designations – CCPC or DIC (amount B multiplied by	20 %	6) 190		=	
Enter the amount from line 190 on line 710 of the T2 return.					
- Part 2 – Other corporations —					
Taxable dividends paid in the tax year not included in Schedule 3					
Taxable dividends paid in the tax year included in Schedule 3					
Total taxable dividends paid in the tax year					
Total excessive eligible dividend designations in the tax year (amount A of Schedule 54)				_ C	
Excessive eligible dividend designations elected under subsection 185.1(2) to be treated as ordinary dividends	s*	280		-	
Subtota	al (amount (C minus line 280)		_ D	
Part III.1 tax on excessive eligible dividend designations – Other corporations (amount D multiplied b	v	20 %) . 290			

Enter the amount from line 290 on line 710 of the T2 return.

^{*} You can elect to treat all or part of your excessive eligible dividend designation as a separate taxable dividend in order to eliminate or reduce the Part III.1 tax otherwise payable. You must file the election on or before the day that is 90 days after the day the notice of assessment for Part III.1 tax was sent. We will accept an election before the assessment of the tax.

2,134,632 1A

Ontario taxable income Note 1

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¬ Part 1 – Ontario basic income tax ·

Ontario Corporation Tax Calculation

Corporation's name	Business number	Tax year-end Year Month Day
London Hydro Inc.	86483 7430 RC0001	2020-12-31

- Use this schedule if your corporation had a **permanent establishment** (as defined in section 400 of the federal Income Tax Regulations) in Ontario at any time in the tax year and had Ontario taxable income in the year.
- Legislative references are to the federal Income Tax Act and Income Tax Regulations.
- This schedule is a worksheet only and is not required to be filed with your T2 Corporation Income Tax Return.

Note 1 If your corporation had a permanent establishment only in Ontario, enter the amount from line 360, from page 3 of the T2 return. Otherwise, enter the taxable income allocated to Ontario from column F in Part 1 of Schedule 5. Note 2 If your corporation had a permanent establishment in more than one jurisdiction or is claiming an Ontario tax credit in addition to Ontario	<u>45,483</u> 1C
Otherwise, enter the taxable income allocated to Ontario from column F in Part 1 of Schedule 5. Note 2 If your corporation had a permanent establishment in more than one jurisdiction or is claiming an Ontario tax credit in addition to Ontario	
basic income tax, or Ontario corporate minimum tax or Ontario special additional tax on life insurance corporations payable, enter amount 1C on line 270 of Schedule 5, Tax Calculation Supplementary – Corporations. Otherwise, enter it on line 760 of the T2 return.	
Part 2 – Ontario small business deduction (OSBD)	
Complete this part if your corporation claimed the federal small business deduction under subsection 125(1).	
Line 400 of the T2 return	
Line 405 of the T2 return2,134,632_ 2B	
Line 410 of the T2 return	
Line 415 of the T2 return	
Amount 2C Amount 2D	
500,000 ×782,591 =34,781,822 2E 11,250	
Line 515 of the T2 return	
Subtotal (amount 2C minus amount 2E minus amount 2F) 2G	
Amount 2A, 2B or 2G whichever is the least	2H
Ontario domestic factor (ODF): Taxable income for Ontario Note 3 2,134,632.00 = 1.	.00000 21
Taxable income for all provinces Note 4 2,134,632	
Amount 2H multiplied by amount 2l2J	
Ontario taxable income (amount 1A)2,134,632 2K	
Ontario small business income (amount 2J or 2K, whichever is less)	2L
Ontario small business deduction for the year	
Amount 2L Number of days in the tax year x before January 1, 2020 x 8 % = 2M	
Number of days in the tax year 366	
Amount 2L x	
Number of days in the tax year 366	
Ontario small business deduction for the year (amount 2M plus amount 2N) Enter amount 2O on line 402 of Schedule 5.	20
Note 3 Enter amount 1A.	
Note 4 Includes the territories and the offshore jurisdictions for Nova Scotia and Newfoundland and Labrador.	

1.00000 4G

┌ Part 3 – Ontario adjusted small business income ──────	
Complete this part if your corporation was a Canadian-controlled private corporation throughout the tax year and is claiming the Ontario tax manufacturing and processing or the Ontario credit union tax reduction.	credit for
Ontario adjusted small business income (amount 1A or 2H, whichever is the least)	3/
Enter amount 3A at amount 4B in Part 4 of this schedule or at amount 2E in Part 2 of Schedule 502, Ontario Tax Credit for Manufacturing and Processing, whichever applies.	
Part 4 – Credit union tax reduction	
Complete this part and Schedule 17, Credit Union Deductions, if the corporation was a credit union throughout the tax year.	
Amount 3C of Schedule 174/	4
Ontario adjusted small business income (amount 3A)	3
Subtotal (amount 4A minus amount 4B, if negative, enter "0")	40
Number of days in the tax year	

7 unount 10		Number of days in the tax year	366	plus amount 4E)	·	4 г
Amount 4C	x	Number of days in the tax year after December 31, 2019	366 ×	8.3 % = _	4E	

366

before January 1, 2020

Number of days in the tax year

Ontario credit union tax reduction (amount 4F multiplied by amount 4G) 4H Enter amount 4H on line 410 of Schedule 5.

Ontario domestic factor (amount 2I)

Amount 4C _

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Ontario Research and Development Tax Credit

Corporation's name	Business number	Tax year-end Year Month Day
London Hydro Inc.	86483 7430 RC0001	2020-12-31

- Use this schedule to:
 - calculate an Ontario research and development tax credit (ORDTC);
 - claim an ORDTC earned in the tax year or carried forward from any of the 20 previous tax years that are a tax year ending after December 31, 2008, to reduce Ontario corporate income tax payable in the current tax year;
 - carry back an ORDTC earned in the tax year to reduce Ontario corporate income tax payable in any of the three previous tax years;
 - add an ORDTC that was allocated to the corporation by a partnership of which it was a member;
 - add an ORDTC transferred after an amalgamation or windup; or
 - calculate a recapture of the ORDTC.
- The ORDTC is a non-refundable tax credit on eligible expenditures incurred by a corporation in a tax year. The ORDTC rate is:
 - 4.5% for tax years that end before June 1, 2016;
 - 3.5% for tax years that start after May 31, 2016; and

- Part 1 – Ontario SR&ED expenditure pool -

Total eligible expenditures incurred by the corporation in Ontario in the tax year

- prorated for a tax year that ends on or after June 1, 2016, and includes May 31, 2016.
- An eligible expenditure is an expenditure for a permanent establishment in Ontario of a corporation, that is a qualified expenditure for the purposes
 of section 127 of the federal *Income Tax Act* for scientific research and experimental development (SR&ED) carried on in Ontario.
- Only corporations that are not exempt from Ontario corporate income tax and none of whose income is exempt income can claim the ORDTC.
- Complete and attach this schedule to the T2 Corporation Income Tax Return for the tax year.
- To claim this credit, you must also send in completed copies of the Form T661, Scientific Research and Experimental Development (SR&ED) Expenditures Claim, and the Schedule 31, Investment Tax Credit Corporations, within 18 months of the tax year end.

100

4,267,431 A

Net eligible expenditures for the	ax year (amoun					463,251 B 3,804,180 C	
Eligible expenditures transferred	to the corporation	on by another corp	oration	11	10	D	
			Subtotal (amount	C plus amount l	D)	3,804,180	3,804,180 E
Eligible expenditures the corpora	tion transferred	to another corpora	ation			115 _	F
Ontario SR&ED expenditure p	ool (amount E r	minus amount F)	(if negative, enter "0")			120 _	3,804,180 _G
Part 2 – Eligible repay The repayment of the ORDTC is reduced because of the governm to the appropriate rate.	calculated usin	•	,	,		, , ,	
Repayments for tax years that	end before June	e 1, 2016	210		x	4.5 % = 215	Н
Repayment for a tax year that	ends on or after	June 1, 2016 and	includes May 31, 20	16. Complete the	proration ca	lculation below.	
Number of days in the tax year before June 1, 2016 Number of days in the tax year		4.5 % =	<u>1.8689</u> % 1				
Number of days in the tax year after May 31, 2016 Number of days in the tax year		3.5 % =	<u>2.0464</u> % 2				
Subtotal (pe	ercentage 1 plus	percentage 2) _	<u>3.9153</u> % 3				
Repayments for a tax year that June 1, 2016 and includes Ma		211		_ ^X percentaç	ge 3	3.9153 _% = 216	1

Part 2 – Eligible repayments (continued)			
Repayments for tax years that start after May 31, 2016	x	3.5 % = 217	.1
Repayments made in the tax year of government or non-government assistance or contract payments that reduced eligible expenditures for first term or second term		3.5 %	0
shared-use equipment acquired before 2014 220 × 1 / 4 =	x	4.5 % = 225	K
Eligible repayments (total of amounts H to K)		229	L
Part 3 – Calculation of the current part of the ORDTC			
For tax years that end before June 1, 2016			
Ontario SR&ED expenditure pool (amount G in Part 1)	x	4.5 % = 200	M
ORDTC allocated to the corporation by a partnership of which it is a member (other than a specified for a fiscal period that ends in the corporation's tax year *	member)	205	N
Eligible repayments (amount L in Part 2)		<u></u>	0
Current part of the ORDTC for tax years that end before June 1, 2016 (total of amounts M to O))	230	Р
For a tax year that ends on or after June 1, 2016, and includes May 31, 2016	,		
Number of days in the tax year before June 1, 2016 Number of days in the tax year Number of days			
in the tax year after May 31, 2016			
Subtotal (percentage 4 plus percentage 5)% 6			
Ontario SR&ED expenditure pool (amount G in Part 1) x percent	age 6	% = 201	Q
ORDTC allocated to the corporation by a partnership of which it is a member (other than a specified for a fiscal period that ends in the corporation's tax year *		206	R
Eligible repayments (amount L in Part 2)		· · · · · · · · · · · · · · · · · · ·	S
Part of the ORDTC for a tax year that ends on or after June 1, 2016, and includes May 31, 20 (total of amounts Q to S)		231	т
For tax years that start after May 31, 2016			
Ontario SR&ED expenditure pool (amount G in Part 1) 3,804,	180 ×	3.5 % = 202	133,146 U
ORDTC allocated to the corporation by a partnership of which it is a member (other than a specified for a fiscal period that ends in the corporation's tax year *		207	V
Eligible repayments (amount L in Part 2)			W
The ORDTC for tax years that start after May 31, 2016 (total of amounts U to W)			133,146 _X
1.10 OTO 10 tur your true out attor may 01, 2010 (total of allounts 0 to W)			^ ^

 $^{\star}\;$ If there is a disposal or change of use of eligible property, see Part 7 on page 4.

┌ Part 4 – Calculatio	on of ORDTC available	for deduction	and ORDTC balance			
ORDTC balance at the en	d of the previous tax year .				_ Y	
ORDTC expired after 20 to	ax years				Z	
ORDTC at the beginning of	of the tax year (amount Y minus	amount Z)	305		_AA	
ORDTC transferred to the	corporation on amalgamation or	r windup	310		BB	
Current part of ORDTC (amount P, T or X in Part	3 whichever applies)		<u>133,146</u> cc			
Are you waiving all or part current part of the ORDTO	of the C?	No 2 X				
If you answered yes at line the tax credit waived on lin						
If you answered no at line	315, enter "0" on line 320.					
Waiver of the current part	of the ORDTC	320	DD			
	Subtotal (amount CC minu s	s amount DD)	133,146	133,146	EE	
ORDTC available for dec	duction (total of amounts AA, B	B and EE)		133,146	.	133,146_FF
				133,146	_GG	
ORDTC carried back to p	revious tax years (from Part 5)				_нн	
		Subtotal (a	mount GG plus amount HH)	133,146	.	133,146
ORDTC balance at the e	nd of the tax year (amount FF	minus amount II)			325	JJ
ORDTC available for	e more than the lesser of the follor r deduction (amount FF); or come tax payable before the ORI	-	o corporate minimum tax credi	it (amount from line E6 o	n page 5 of S	Schedule 5).
− Part 5 – Request f	for carryback of tax cre	dit —				
	Year Month Day	ı				
1 st previous tax year	2019-12-31			Credit to be applied	901	
2 nd previous tax year	2018-12-31			Credit to be applied	902	
3 rd previous tax year	2017-12-31			Credit to be applied	903	
		Tota	al (total of amount 901 to 903)	(enter at amount HH in F	Part 4)	

Current tax year

- Part 6 – Analysis of tax credit available for carryforward by tax year of origin -

You can complete this part to show all the credits from previous tax years available for carryforward, by year of origin. This will help you determine the amount of credit that could expire in following years.

Tax year of origin (earliest tax year first)

(J	,	
Year	Month	Day	Credit available
2	001-09-3	30	
2	001-12-3	31	
2002-12-31			
2003-12-31			
2004-12-31			
2005-12-31			
2006-12-31		31	
2007-12-31			
2008-12-31			
2	009-12-3	31	

Tax year of origin (earliest tax year first)

`	,	,	
Year	Month	Day	Credit available
2	010-12-3	31	
2	011-12-3	31	
2	012-12-3	31	
2	013-12-3	31	
2	014-12-3	31	
2	015-12-3	31	
2	016-12-3	31	
2	017-12-3	31	
2	018-12-3	31	
2	019-12-3	31	
2	020-12-3	31	

Total (equals line 325 in Part 4)

The amount available from the 20th previous tax year will expire after this year. When you file your return for the next year, you will enter the expired amount on line 300 of Schedule 508 for that year.

Part 7 – Calculation of a recapture of ORDTC -

You will have a recapture of ORDTC in a tax year when you meet all of the following conditions:

- you acquired a particular property in the current year or in any of the 20 previous tax years if the ORDTC was earned in a tax year ending
 after 2008;
- you claimed the cost of the property as an eligible expenditure for the ORDTC;
- the cost of the property was included in computing your ORDTC or was subject to an agreement made under subsection 127(13) of the federal Act to transfer qualified expenditures and section 42 of the *Taxation Act*, 2007 (Ontario) applied; and
- you disposed of the property or converted it to commercial use in a tax year ending after December 31, 2008. You also meet this condition if you disposed of or converted to commercial use a property which incorporates the particular property previously referred to.

Note: The recapture **does not apply** if you disposed of the property to a non-arm's length purchaser who intended to use it all or substantially all for SR&ED in Ontario. When the non-arm's length purchaser later sells or converts the property to commercial use, the recapture rules will apply to the purchaser based on the historical federal investment tax credit (ITC) rate *** of the original user in Calculation 1 below.

You have to report the recapture on Schedule 5 for the year in which you disposed of the property or converted it to commercial use. If the corporation is a member of a partnership, report its share of the recapture.

Complete the columns for each disposition for which a recapture applies, using the calculation formats below.

*** Federal ITC in calculations 1 and 2 should be determined without reference to paragraph (e) of the definition **investment tax credit** in subsection 127(9) of the federal Act.

Calculation 1 - Complete this part If you meet all of the above conditions

	кк	LL	MM
	Amount of federal ITC you originally calculated for the property you acquired, or the original user's federal ITC where you acquired the property from a non-arm's length party, as described in the note above	Amount calculated using the federal ITC rate at the date of acquisition (or the original user's date of acquisition) on either the proceeds of disposition (if sold in an arm's length transaction) or the fair market value of the property (in any other case)	Amount from column 700 or 710, whichever is less
	700	710	
1.			

Total of column MM (enter at amount WW in Part 8)

Part 7 - Calculation of a recapt	ure of ORDTC (continued)
----------------------------------	--------------------------

Calculation 2 – If the corporation is deemed by subsection 42(1) of the Taxation Act, 2007 (Ontario) to have transferred all or part of the
eligible expenditure to another corporation as a consequence of an agreement described in subsection 127(13) of the federal Act complete
Calculation 2. Otherwise, enter nil on line SS.

Calcul	ation 2. Otherwise, enter hill on line 33.			
	00	PP	QQ	
	Rate percentage that the transferee used to determine its federal ITC for qualified expenditure that was transferred under an agreement under subsection 127(13) of the federal Act	Proceeds of disposition of the property if you dispose of it to a person at arm's length; or, in any other case, the fair market value of the property at conversion or disposition	Amount, if any, already provided for in Calculation 1 (this allows for the situation where only part of the cost of a property is transferred for an agreement under subsection 127(13) of the federal Act)	
	720	730	740	
1.				
	RR	SS	тт	
	Amount determined by the formula (OO x PP) - QQ (using the columns above)	Federal ITC earned by the transferee for the qualified expenditure that was transferred	Amount from column RR or SS, whichever is less	
		750		
1.				1
		Total of column TT (enter at amount XX in Part 8)		_UU
Calcu	lation 3			
recapt enougl	ure. If this is a positive amount, you will report it on	of the ORDTC of the partnership after the ORDTC has line 205, 206, or 207 in Part 3, whichever applies. How e, then the amount by which reductions to the ORDTC	vever, if the partnership does not have	
Corpo	rate partner's share of the excess of ORDTC (ente	r at amount ZZ in Part 8)		_vv
- Par	t 8 – Total recapture of ORDTC ——			
Recap	tured federal ITC for Calculation 1 (amount NN fro	m Part 7)	ww	
Recap	tured federal ITC for Calculation 2 (amount UU fro	m Part 7)	xx	
Amour	nt WW plus amount XX		x 23.56 % =	_YY

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Corporate partner's share of the excess of ORDTC for Calculation 3 (amount VV from Part 7)

Recapture of ORDTC (amount YY plus amount ZZ) (enter amount AAA on line 277 on page 5 of Schedule 5)

_ZZ

Schedule A - Worksheet for eligible expenditures incurred by the corporation in Ontario for the current taxation year

This worksheet allows you to report the amount of eligible expenditures entered on Form T661, *Scientific Research and Experimental Development (SR&ED) Expenditures Claim* which represents eligible expenditures as defined in section 127 of the *Income Tax Act* (ITA) with regard to scientific research and experimental development (SR&ED) carried on in Ontario and attributable to a permanent establishment in Ontario of a corporation.

Data on the worksheet is calculated based on the amounts on Form T661, but will have to be adjusted according to the rules of Ontario, if applicable, in particular when the corporation has had a permanent establishment in more than one jurisdiction. This data will be used when calculating Schedule 508 and Schedule 566.

otal expenditures for SR&ED	_	3,786,070
Add .		
payment of prior years' unpaid expenses (other than salary or wages)	+	
prescribed proxy amount (Enter "0" if you use the traditional method)	+	901,816
other additions	+	4.607.006
Subtotal	=_	4,687,886
ess		
current expenditures (other than salary or wages) not paid within 180 days	_	
of the tax year end amounts paid in respect of an SR&ED contract to a person or partnership		
that is not taxable supplier		
20% of contract expenditures for SR&ED performed on your behalf		420,455
prescribed expenditures not allowed by regulations		
other deductions		
non-arm's length transactions		
expenditures for non-arm's length SR&ED contracts	_	
purchases (limited to costs) of goods and services from non-arm's		
length suppliers		
Total	=	4,267,431
inter amount I on line 100 of Schedule 508.		

Attached Schedule with Total

Deduct: Government assistance, non-government assistance, or a contract payment for eligible expenditures – Other government assistance, non-government assi

Title Deduct: Government assistance, non-government assistance, or a contract

	Operator		
Description	(Note)	Amount	
OBRITC		3,200 00)
SR&ED portion of Impact Canada Initiative funding		460,051 00)
	+		
	Total	463,251 00	j

Note: The calculations are performed one at a time, from the first to the last line, and not according to the priority rules of the operations. For example, the formula 1+2*3 will not result in the same thing as the formula 1+3*2.

Ontario Corporate Minimum Tax

Corporation's name	Business number	Tax year-end Year Month Day
London Hydro Inc.	86483 7430 RC0001	2020-12-31

- File this schedule if the corporation is subject to Ontario corporate minimum tax (CMT). CMT is levied under section 55 of the Taxation Act, 2007 (Ontario), referred to as the "Ontario Act".
- Complete Part 1 to determine if the corporation is subject to CMT for the tax year.
- A corporation not subject to CMT in the tax year is still required to file this schedule if it is deducting a CMT credit, has a CMT credit carryforward,
 or has a CMT loss carryforward or a current year CMT loss.
- A corporation that has Ontario special additional tax on life insurance corporations (SAT) payable in the tax year must complete Part 4 of this schedule even if it is not subject to CMT for the tax year.
- A corporation is exempt from CMT if, throughout the tax year, it was one of the following:
 - 1) a corporation exempt from income tax under section 149 of the federal *Income Tax Act*;
 - 2) a mortgage investment corporation under subsection 130.1(6) of the federal Act;
 - 3) a deposit insurance corporation under subsection 137.1(5) of the federal Act;
 - 4) a congregation or business agency to which section 143 of the federal Act applies;
 - 5) an investment corporation as referred to in subsection 130(3) of the federal Act; or
 - 6) a mutual fund corporation under subsection 131(8) of the federal Act.
- File this schedule with the T2 Corporation Income Tax Return.

- Part 1 - Determination of CMT applicability	
Part 1 - Determination of OM1 applicability	
Total assets of the corporation at the end of the tax year *	514,645,000
Share of total assets from partnership(s) and joint venture(s) *	
Total assets of associated corporations (amount from line 450 on Schedule 511)	
Total assets (total of lines 112 to 116)	514,645,000
Total revenue of the corporation for the tax year **	517,704,000
Share of total revenue from partnership(s) and joint venture(s) **	
Total revenue of associated corporations (amount from line 550 on Schedule 511)	
Total revenue (total of lines 142 to 146)	517,704,000

The corporation is subject to CMT if:

- for tax years ending before July 1, 2010, the total assets at the end of the year of the corporation or the associated group of corporations are more than \$5,000,000, or the total revenue for the year of the corporation or the associated group of corporations is more than \$10,000,000.
- for tax years ending after June 30, 2010, the total assets at the end of the year of the corporation or the associated group of corporations are equal to or more than \$50,000,000, and the total revenue for the year of the corporation or the associated group of corporations is equal to or more than \$100,000,000.

If the corporation is not subject to CMT, do not complete the remaining parts unless the corporation is deducting a CMT credit, or has a CMT credit carryforward, a CMT loss carryforward, a current year CMT loss, or SAT payable in the year.

* Rules for total assets

- Report total assets according to generally accepted accounting principles, adjusted so that consolidation and equity methods are not used.
- Do not include unrealized gains and losses on assets and foreign currency gains and losses on assets that are included in net income for accounting purposes but not in income for corporate income tax purposes.
- The amount on line 114 is determined at the end of the last fiscal period of the partnership or joint venture that ends in the tax year of the corporation. Add the proportionate share of the assets of the partnership(s) and joint venture(s), and deduct the recorded asset(s) for the investment in partnerships and joint ventures.
- A corporation's share in a partnership or joint venture is determined under paragraph 54(5)(b) of the Ontario Act and, if the partnership or joint venture had no income or loss, is calculated as if the partnership's or joint venture's income were \$1 million. For a corporation with an indirect interest in a partnership or joint venture, determine the corporation's share according to paragraph 54(5)(c) of the Ontario Act.

** Rules for total revenue

- Report total revenue in accordance with generally accepted accounting principles, adjusted so that consolidation and equity methods are not used.
- If the tax year is less than 51 weeks, multiply the total revenue of the corporation or the partnership, whichever applies, by 365 and divide by the number of days in the tax year.
- The amount on line 144 is determined for the partnership or joint venture fiscal period that ends in the tax year of the corporation. If the partnership or joint venture has 2 or more fiscal periods ending in the filing corporation's tax year, **multiply** the sum of the total revenue for each of the fiscal periods by 365 and **divide** by the total number of days in all the fiscal periods.
- A corporation's share in a partnership or joint venture is determined under paragraph 54(5)(b) of the Ontario Act and, if the partnership or joint venture had no income or loss, is calculated as if the partnership's or joint venture's income were \$1 million. For a corporation with an indirect interest in a partnership or joint venture, determine the corporation's share according to paragraph 54(5)(c) of the Ontario Act.

Part 2 – Adjusted net income/loss for CMT purposes –			
Net income/loss per financial statements *			5,446,000
Add (to the extent reflected in income/loss):			
Provision for current income taxes/cost of current income taxes		617,000	
Provision for deferred income taxes (debits)/cost of future income taxes .			
Equity losses from corporations	224		
Financial statement loss from partnerships and joint ventures Dividends deducted on financial statements (subsection 57(2) of the Ontario excluding dividends paid by credit unions under subsection 137(4.1) of the fee	,,		
Other additions (see note below):			
Share of adjusted net income of partnerships and joint ventures ** \dots .			
Total patronage dividends received, not already included in net income/loss	232		
281	282		
283	284		
	Subtotal	617,000	617,000 A
Deduct (to the extent reflected in income/loss):			<u>, </u>
Provision for recovery of current income taxes/benefit of current income taxes	320		
Provision for deferred income taxes (credits)/benefit of future income taxes	322	1,757,000	
Equity income from corporations	204		
	326		
Dividends deductible under section 112, section 113, or subsection 138(6) of			
Dividends not taxable under section 83 of the federal Act (from Schedule 3)			
Gain on donation of listed security or ecological gift	340		
Accounting gain on transfer of property to a corporation under section 85 or 8 of the federal Act ***	5.1 		
Accounting gain on transfer of property to/from a partnership under section 85 of the federal Act ****			
Accounting gain on disposition of property under subsection 13(4), subsection 14(6), or section 44 of the federal Act *****			
Accounting gain on a windup under subsection 88(1) of the federal Act or an amalgamation under section 87 of the federal Act	348		
Other deductions (see note below):			
Share of adjusted net loss of partnerships and joint ventures **			
Tax payable on dividends under subsection 191.1(1) of the federal Act multip Interest deducted/deductible under paragraph 20(1)(c) or (d) of the federal Act not already included in net income/loss	et,		
Patronage dividends paid (from Schedule 16) not already included in net incor	me/loss 338		
381	382		
383			
385			
387			
389	390		
	Subtotal	1,757,000	1,757,000 B
Adjusted net income/loss for CMT nurposes (line 210 nlus amount A minus		490	4,306,000

If the amount on line 490 is positive and the corporation is subject to CMT as determined in Part 1, enter the amount on line 515 in Part 3.

If the amount on line 490 is negative, enter the amount on line 760 in Part 7 (enter as a positive amount).

Note

In accordance with Ontario Regulation 37/09, when calculating net income for CMT purposes, accounting income should be adjusted to:

- exclude unrealized gains and losses due to mark-to-market changes or foreign currency changes on specified mark-to-market property (assets only);
- include realized gains and losses on the disposition of specified mark-to-market property not already included in the accounting income, if the
 property is not a capital property or is a capital property disposed in the year or in a previous tax year ended after March 22, 2007.

These rules also apply to partnerships. A corporate partner's share of a partnership's adjusted income flows through on a proportionate basis to the corporate partner.

* Rules for net income/loss

Banks must report net income/loss as per the report accepted by the Superintendent of Financial Institutions under the federal Bank Act, adjusted so consolidation and equity methods are not used.

[&]quot;Specified mark-to-market property" is defined in subsection 54(1) of the Ontario Act.

− Part 2 − Calculation of adjusted net income/loss for CMT purposes (continued) ·

- Life insurance corporations must report net income/loss as per the report accepted by the federal Superintendent of Financial Institutions or equivalent provincial insurance regulator, before SAT and adjusted so consolidation and equity methods are not used. If the life insurance corporation is resident in Canada and carries on business in and outside of Canada, **multiply** the net income/loss by the ratio of the Canadian reserve liabilities **divided** by the total reserve liability. The reserve liabilities are calculated in accordance with Regulation 2405(3) of the federal Act.
- Other corporations must report net income/loss in accordance with generally accepted accounting principles, except that consolidation and equity methods must not be used. When the equity method has been used for accounting purposes, equity losses and equity income are removed from book income/loss on lines 224 and 324 respectively.
- Corporations, other than insurance corporations, should report net income from line 9999 of the GIFI (Schedule 125) on line 210.
- ** The share of the adjusted net income of a partnership or joint venture is calculated as if the partnership or joint venture were a corporation and the tax year of the partnership or joint venture were its fiscal period. For a corporation with an indirect interest in a partnership through one or more partnerships, determine the corporation's share according to clause 54(5)(c) of the Ontario Act.
- *** A joint election will be considered made under subsection 60(1) of the Ontario Act if there is an entry on line 342, and an election has been made for transfer of property to a corporation under subsection 85(1) of the federal Act.
- **** A joint election will be considered made under subsection 60(2) of the Ontario Act if there is an entry on line 344, and an election has been made under subsection 85(2) or 97(2) of the federal Act.
- ***** A joint election will be considered made under subsection 61(1) of the Ontario Act if there is an entry on line 346, and an election has been made under subsection 13(4) or 14(6) and/or section 44 of the federal Act.

For more information on how to complete this part, see the T2 Corporation - Income Tax Guide.

	· · · · · · · · · · · · · · · · · · ·	· · ·				
┌ Part 3 – CMT payab	le					
Adjusted net income for CM7	Γ purposes (line	e 490 in Part 2, if positive)		515	4,306,000	
Deduct:						
CMT loss available (amount	R from Part 7)					
Minus: Adjustment for an ac	quisition of con	itrol * 518		<u> </u>		
Adjusted CMT loss available				 ▶	C	
Net income subject to CMT of	calculation (if ne	egative, enter "0")		520	4,306,000	
Amount from		Number of days in the tax				
line 5204,	.306,000 ×	year before July 1, 2010	x	4 % =	1	
		Number of days in the tax year	366			
Amount from	206.000	Number of days in the tax	266	2.70/	116 262	
line 5204,	.306,000 × _	year after June 30, 2010 Number of days	_366_ x	2.7 % =	116,262 2	
		in the tax year	366			
	_	•			116 262	
	S	Subtotal (amount 1 plus amou	ınt 2)	· · · · · · · · · · · · · · · · · · ·	116,262 3	
Gross CMT: amount on line	3 above x OAF	**			540	116,262
Deduct:						
Foreign tax credit for CMT pu	urposes ***					
CMT after foreign tax credit of	deduction (line s	540 minus line 550) (if negati	ve, enter "0")			116,262 D
Deduct:						
Ontario corporate income tax	payable before	CMT credit (amount F6 from	Schedule 5)			112,337
Net CMT payable (if negative	e, enter "0")				<u> </u>	3,925 E
Enter amount E on line 278 of	of Schedule 5, 7	Tax Calculation Supplementar	y – Corporation	ns, and complete Part	4.	
* Enter the portion of CM control. See subsection			t income for the	tax year from carryin	g on a business before the acquis	ition of
*** Enter "0" on line 550 for	· life insurance o	corporations as they are not el	ligible for this de	eduction. For all other	corporations, enter the cumulative	e total
of amount J for the prov	ince of Ontario	from Part 9 of Schedule 21 or	n line 550.		•	
** Calculation of the Ont	ario allocation	factor (OAF):				
If the provincial or territoria	l jurisdiction en	tered on line 750 of the T2 ret	urn is "Ontario,	enter "1" on line F.		
If the provincial or territoria	l jurisdiction en	tered on line 750 of the T2 ret	urn is "multiple,	" complete the follow	ing calculation, and enter the resul	t on line F:
Ontario taxable income	****	=				
Taxable income ****	*					
Ontario allocation factor						1.00000 F
**** Enter the amount alloca taxable income were \$1		rom column F in Part 1 of Sch	nedule 5. If the t	axable income is nil,	calculate the amount in column F	as if the
***** Enter the taxable income	e amount from I	line 360 or amount Z of the T2	2 return, whiche	ver applies. If the tax	able income is nil, enter "1,000".	

┌ Part 4 – Calculation of CMT credit carryforward ——————————		
CMT credit carryforward at the end of the previous tax year *	249,669 G	
Deduct:	<u>, </u>	
CMT credit expired *		
CMT credit carryforward at the beginning of the current tax year * (see note below)	249,669 > 620	249,669
Add:		
CMT credit carryforward balances transferred on an amalgamation or the windup of a subsidiary (see note l	· · · · · · · · · · · · · · · · · · ·	240.660
CMT credit available for the tax year (amount on line 620 plus amount on line 650)		<u>249,669</u> н
CMT credit deducted in the current tax year (amount P from Part 5)		
Subto	otal (amount H minus amount I)	249,669 J
Add:		
Net CMT payable (amount E from Part 3)	3,925	
SAT payable (amount O from Part 6 of Schedule 512)	2.025	2.025
Subtotal _	3,925 ▶	3,925 K
CMT credit carryforward at the end of the tax year (amount J plus amount K)		253,594 L
* For the first harmonized T2 return filed with a tax year that includes days in 2009:		
do not enter an amount on line G or line 600;		
- for line 620, enter the amount from line 2336 of Ontario CT23 Schedule 101, Corporate Minimum	Tax (CMT), for the last tax year that ended	d in 2008.
For other tax years, enter on line G the amount from line 670 of Schedule 510 from the previous tax ye	ar.	
Note: If you entered an amount on line 620 or line 650, complete Part 6.		
Part 5 – Calculation of CMT credit deducted from Ontario corporate income	e tax payable —————	
CMT credit available for the tax year (amount H from Part 4)		249,669 M
Ontario corporate income tax payable before CMT credit (amount F6 from Schedule 5)	<u>112,337</u> 1	
For a corporation that is not a life insurance corporation:		
CMT after foreign tax credit deduction (amount D from Part 3) 2		
For a life insurance corporation:		
Gross CMT (line 540 from Part 3)		
Gross SAT (line 460 from Part 6 of Schedule 512)		
The greater of amounts 3 and 4		
Deduct: line 2 or line 5, whichever applies:	116,262 ₆	
Subtotal (if negative, enter "0") _	>	N
Ontario corporate income tax payable before CMT credit (amount F6 from Schedule 5)	112,337	
Deduct:		
Total refundable tax credits excluding Ontario qualifying environmental trust tax credit (amount J6 minus line 450 from Schedule 5)	23,078	
(amount J6 minus line 450 from Schedule 5) Subtotal (if negative, enter "0")	00.050	89,259 _O
Subtotal (Il riegative, enter 0) _	<u> </u>	05/255
CMT credit deducted in the current tax year (least of amounts M, N, and O)	······ <u> </u>	P
Enter amount P on line 418 of Schedule 5 and on line I in Part 4 of this schedule.		_
Is the corporation claiming a CMT credit earned before an acquisition of control?	675 1 Yes	2 No X
If you answered yes to the question at line 675, the CMT credit deducted in the current tax year may be res may be restricted, see subsections 53(6) and (7) of the Ontario Act.	tricted. For information on how the deducti	ion

Complete this part if:

- the tax year includes January 1, 2009; or
- the previous tax year-end is deemed to be December 31, 2008, under subsection 249(3) of the federal Act.

Year of origin	CMT credit balance *
10th previous tax year	680
9th previous tax year	681
8th previous tax year	682
7th previous tax year	683
6th previous tax year	684
5th previous tax year	685
4th previous tax year	686
3rd previous tax year	687
2nd previous tax year	688
1st previous tax year	689
Total **	

- * CMT credit that was earned (by the corporation, predecessors of the corporation, and subsidiaries wound up into the corporation) in each of the previous 10 tax years and has not been deducted.
- ** Must equal the total of the amounts entered on lines 620 and 650 in Part 4.

CMT loss carryforward at the end of the previous tax year *	
Deduct:	
CMT loss expired *	
CMT loss carryforward at the beginning of the tax year * (see note below) > 720	
Add:	
CMT loss transferred on an amalgamation under section 87 of the federal Act ** (see note below)	
CMT loss available (line 720 plus line 750)	R
Deduct:	
CMT loss deducted against adjusted net income for the tax year (lesser of line 490 (if positive) and line C in Part 3)	
Subtotal (if negative, enter "0")	S
Add:	
Adjusted net loss for CMT purposes (amount from line 490 in Part 2, if negative) (enter as a positive amount)	
CMT loss carryforward balance at the end of the tax year (amount S plus line 760)	Т
* For the first harmonized T2 return filed with a tax year that includes days in 2009:	
 do not enter an amount on line Q or line 700; 	
- for line 720, enter the amount from line 2214 of Ontario CT23 Schedule 101, Corporate Minimum Tax (CMT), for the last tax year that ended	d in 2008.
For other tax years, enter on line Q the amount from line 770 of Schedule 510 from the previous tax year.	
** Do not include an amount from a predecessor corporation if it was controlled at any time before the amalgamation by any of the other predecessor corporations.	
Note: If you entered an amount on line 720 or line 750, complete Part 8.	

Part 8 – Analysis of CMT loss available for carryforward by year of origin -

Complete this part if:

- the tax year includes January 1, 2009; or
- the previous tax year-end is deemed to be December 31, 2008, under subsection 249(3) of the federal Act.

Year of origin	Balance earned in a tax year ending before March 23, 2007 *	Balance earned in a tax year ending after March 22, 2007 **
10th previous tax year	810	820
9th previous tax year	811	821
8th previous tax year	812	822
7th previous tax year	813	823
6th previous tax year	814	824
5th previous tax year	815	825
4th previous tax year	816	826
3rd previous tax year	817	827
2nd previous tax year	818	828
1st previous tax year		829
Total ***		

^{*} Adjusted net loss for CMT purposes that was earned (by the corporation, by subsidiaries wound up into or amalgamated with the corporation before March 22, 2007, and by other predecessors of the corporation) in each of the previous 10 tax years that ended before March 23, 2007, and has not been deducted.

^{**} Adjusted net loss for CMT purposes that was earned (by the corporation and its predecessors, but not by a subsidiary predecessor) in each of the previous 20 tax years that ended after March 22, 2007, and has not been deducted.

^{***} The total of these two columns must equal the total of the amounts entered on lines 720 and 750.

Agence du revenu du Canada **SCHEDULE 511**

ONTARIO CORPORATE MINIMUM TAX – TOTAL ASSETS AND REVENUE FOR ASSOCIATED CORPORATIONS

Name of corporation	Business Number	Tax year-end
		Year Month Day
London Hydro Inc.	86483 7430 RC0001	2020-12-31

- For use by corporations to report the total assets and total revenue of all the Canadian or foreign corporations with which the filing corporation was associated at any time during the tax year. These amounts are required to determine if the filing corporation is subject to corporate minimum tax.
- Total assets and total revenue include the associated corporation's share of any partnership(s)/joint venture(s) total assets and total revenue.
- Attach additional schedules if more space is required.
- File this schedule with the T2 Corporation Income Tax Return.

Names of associated corporations	Business number (Canadian corporation only) (see Note 1)	Total assets* (see Note 2)	Total revenue** (see Note 2)
200	300	400	500
1 The Corporation of the City of London	NR	0	0
		450	550
	Total		

Enter the total assets from line 450 on line 116 in Part 1 of Schedule 510, Ontario Corporate Minimum Tax. Enter the total revenue from line 550 on line 146 in Part 1 of Schedule 510.

Note 1: Enter "NR" if a corporation is not registered.

Note 2: If the associated corporation does not have a tax year that ends in the filing corporation's current tax year but was associated with the filing corporation in the previous tax year of the filing corporation, enter the total revenue and total assets from the tax year of the associated corporation that ends in the previous tax year of the filing corporation.

* Rules for total assets

- Report total assets in accordance with generally accepted accounting principles, adjusted so that consolidation and equity methods are not used.
- Include the associated corporation's share of the total assets of partnership(s) and joint venture(s) but exclude the recorded asset(s) for the
 investment in partnerships and joint ventures.
- Exclude unrealized gains and losses on assets that are included in net income for accounting purposes but not in income for corporate income tax purposes.

** Rules for total revenue

- Report total revenue in accordance with generally accepted accounting principles, adjusted so that consolidation and equity methods are not used.
- If the associated corporation has 2 or more tax years ending in the filing corporation's tax year, multiply the sum of the total revenue for each of those tax years by 365 and divide by the total number of days in all of those tax years.
- If the associated corporation's tax year is less than 51 weeks and is the only tax year of the associated corporation that ends in the filing corporation's tax year, multiply the associated corporation's tax year.
- Include the associated corporation's share of the total revenue of partnerships and joint ventures.
- If the partnership or joint venture has 2 or more fiscal periods ending in the associated corporation's tax year, multiply the sum of the total revenue for each of the fiscal periods by 365 and divide by the total number of days in all the fiscal periods.

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Agence du revenu du Canada

SCHEDULE 550

ONTARIO CO-OPERATIVE EDUCATION TAX CREDIT

Name of corporation	Business Number	Tax year-end Year Month Dav
London Hydro Inc.	86483 7430 RC0001	2020-12-31

- Use this schedule to claim an Ontario co-operative education tax credit (CETC) under section 88 of the Taxation Act, 2007 (Ontario).
- The CETC is a refundable tax credit that is equal to an eligible percentage (10% to 30%) of the eligible expenditures incurred by a corporation for
 a qualifying work placement. The maximum credit amount is \$1,000 for each qualifying work placement ending before March 27, 2009, and \$3,000
 for each qualifying work placement beginning after March 26, 2009. For a qualifying work placement that straddles March 26, 2009, the maximum
 credit amount is prorated.
- Eligible expenditures are salaries and wages (including taxable benefits) paid or payable to a student in a qualifying work placement, or fees paid or payable to an employment agency for services performed by the student in a qualifying work placement. These expenditures must be paid on account of employment or services, as applicable, at a permanent establishment of the corporation in Ontario. Expenditures for a work placement (WP) are not eligible expenditures if they are greater than the amounts that would be paid to an arm's length employee.
- A WP must meet all of the following conditions to be a qualifying work placement:
 - the student performs employment duties for a corporation under a qualifying co-operative education program (QCEP);
 - the WP has been developed or approved by an eligible educational institution as a suitable learning situation;
 - the terms of the WP require the student to engage in productive work;
 - the WP is for a period of at least 10 consecutive weeks or, in the case of an internship program, not less than 8 consecutive months and not more than 16 consecutive months;
 - the student is paid for the work performed in the WP;
 - the corporation is required to supervise and evaluate the job performance of the student in the WP;
 - the institution monitors the student's performance in the WP; and
 - the institution has certified the WP as a qualifying work placement.
- Make sure you keep a copy of the letter of certification from the Ontario eligible educational institution containing the name of the student, the employer, the institution, the term of the WP, and the name/discipline of the QCEP to support the claim. Do not submit the letter of certification with the T2 Corporation Income Tax Return.
- File this schedule with the T2 Corporation Income Tax Return.

- Part 1 - Cornorate information

Tart i Corporate information	
110 Name of person to contact for more information	120 Telephone number including area code
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	(519) 661-5800
Is the claim filed for a CETC earned through a partnership?*	
If you answered yes to the question at line 150, what is the name of the partnership?	
Enter the percentage of the partnership's CETC allocated to the corporation	
* When a corporate member of a partnership is claiming an amount for eligible expenditures incurred by a partnership as if the partnership were a corporation. Each corporate partner, other than a limited partner, shou the partner's share of the partnership's CETC. The allocated amounts can not exceed the amount of the partnership's ceta.	ld file a separate Schedule 550 to claim

– Dar	t 2 – Eligibility ————————————————————————————————————		
Гаі	LZ – Englomity		
1. Di	d the corporation have a permanent establishment in Ontario in the tax year?	1 Yes X	2 No
2. W	as the corporation exempt from tax under Part III of the <i>Taxation Act</i> , 2007 (Ontario)?	1 Yes	2 No X
If you	answered no to question 1 or yes to question 2, then the corporation is not eligible for the CETC.		

Part 3 – Eligible percentage for determining the eligible amount -

Corporation's salaries and wages paid in the previous tax year *

20,000,000

For eligible expenditures incurred before March 27, 2009:

- If line 300 is \$400,000 or less, enter 15% on line 310.
- If line 300 is \$600,000 or more, enter 10% on line 310.
- If line 300 is more than \$400,000 and less than \$600,000, enter the percentage on line 310 using the following formula:

Eligible percentage for determining the eligible amount

310 10.000 %

For eligible expenditures incurred after March 26, 2009:

- If line 300 is \$400,000 or less, enter 30% on line 312.
- If line 300 is \$600,000 or more, enter 25% on line 312.
- If line 300 is more than \$400,000 and less than \$600,000, enter the percentage on line 312 using the following formula:

Eligible percentage for determining the eligible amount

2

25.000 %

* If this is the first tax year of an amalgamated corporation and subsection 88(9) of the *Taxation Act, 2007* (Ontario) applies, enter the salaries and wages paid in the previous tax year by the predecessor corporations.

- Part 4 - Calculation of the Ontario co-operative education tax credit

Complete a separate entry for each student for each qualifying work placement that ended in the corporation's tax year. If a qualifying work placement would otherwise exceed four consecutive months, divide the WP into periods of four consecutive months and enter each full period of four consecutive months as a separate WP. If the WP does not divide equally into four-month periods and if the period that is less than 4 months is 10 or more consecutive weeks, then enter that period as a separate WP. If that period is less than 10 consecutive weeks, then include it with the WP for the last period of 4 consecutive months. Consecutive WPs with two or more associated corporations are deemed to be with only one corporation, as designated by the corporations.

	A Name of university, college, or other eligible educational institution	B Name of qualifying co-operative education program
	400	405
1.	Conestoga College	Powerline Technician Co-op Program
2.	Conestoga College	Powerline Technician Co-op Program
3.	Western University	Engineering Co-op Program
4.	Western University	Engineering Co-op Program
5.	Western University	Masters of Environmental and Sustainability (MES)
6.		

	C Name of student	D Start date of WP (see note 1 below)	E End date of WP (see note 2 below)
	410	430	435 2020-08-21
1	XXXXXXXXXXXXX	2020-05-11	
	XXXXXXXXXXXXX	2020-05-11	2020-08-21
	XXXXXXXXXXXX	2020-05-19	2020-09-04
ŀ.	XXXXXXXXXXXX	2020-05-19	2020-08-14
5.	XXXXXXXXXXXX	2020-09-01	2020-12-31
6			

Note 1: When the WP has been divided into separate periods because it exceeds four consecutive months, enter the start date for the separate WP.

Note 2: When the WP has been divided into separate periods because it exceeds four consecutive months, enter the end date for the separate WP.

− Part 4 − Calculation of the Ontario co-operative education tax credit (continued)

Г					Г	I
	F1		F2		X	Υ
	Eligible expenditures before	Eligible	Eligible expenditures after	Eligible	Number of consecutive	Total number of consecutive
	March 27, 2009	percentage	March 26, 2009	percentage	weeks of the WP completed	weeks of the student's WP
	(see note 1 below)	before	(see note 1 below)	after	by the student before	(see note 3 below)
		March 27, 2009		March 26, 2009	March 27, 2009	
		(from line 310		(from line 310a	(see note 3 below)	
	750	in Part 3)	77-0	in Part 3)		
	450		452			
1.		10.000 %	13,550	25.000 %		15
2.		10.000 %	13,341	25.000 %		15
3.		10.000 %	14,613	25.000 %		15
4.		10.000 %	11,841	25.000 %		12
5.		10.000 %	12,734	25.000 %		16
6.		10.000 %		25.000 %		

	G Eligible amount (eligible expenditures multiplied by eligible percentage) (see note 2 below)	H Maximum CETC per WP (see note 3 below)	I CETC on eligible expenditures (column G or H, whichever is less)	J CETC on repayment of government assistance (see note 4 below)	K CETC for each WP (column I or column J)
	460	462	470	480	490
1.	3,388	3,000	3,000		3,000
2.	3,335	3,000	3,000		3,000
3.	3,653	3,000	3,000		3,000
4.	2,960	3,000	2,960		2,960
5.	3,184	3,000	3,000		3,000
6.					

or, if the corporation answered yes at line 150 in Part 1, determine the partner's share of amount L: % = x percentage on line 170 in Part 1

Ontario co-operative education tax credit (total of amounts in column K) 500

Enter amount L or M, whichever applies, on line 452 of Schedule 5, Tax Calculation Supplementary - Corporations. If you are filing more than one Schedule 550, add the amounts from line L or M, whichever applies, on all the schedules and enter the total amount on line 452 of Schedule 5.

- Note 1: Reduce eligible expenditures by all government assistance, as defined under subsection 88(21) of the Taxation Act, 2007 (Ontario), that the corporation has received, is entitled to receive, or may reasonably expect to receive, for the eligible expenditures, on or before the filing due date of the T2 Corporation Income Tax Return for the tax year.
- Note 2: Calculate the eligible amount (Column G) using the following formula:

Column G = (column F1 x percentage on line 310) + (column F2 x percentage on line 312)

Note 3: If the WP ends before March 27, 2009, the maximum credit amount for the WP is \$1,000. If the WP begins after March 26, 2009, the maximum credit amount for the WP is \$3,000.

If the WP begins before March 27, 2009, and ends after March 26, 2009, calculate the maximum credit amount using the following formula:

 $($1,000 \times X/Y) + [$3,000 \times (Y - X)/Y]$

where "X" is the number of consecutive weeks of the WP completed by the student before March 27, 2009, and "Y" is the total number of consecutive weeks of the student's WP.

Note 4: When claiming a CETC for repayment of government assistance, complete a separate entry for each repayment and complete columns A to E and J and K with the details for the previous year WP in which the government assistance was received. Include the amount of government assistance repaid in the tax year multiplied by the eligible percentage for the tax year in which the government assistance was received, to the extent that the government assistance reduced the CETC in that tax year.

14,960 L

M

Agence du revenu du Canada

Ontario Apprenticeship Training Tax Credit

Corporation's name	Business number	Tax year-end Year Month Day
London Hydro Inc.	86483 7430 RC0001	2020-12-31

- Use this schedule to claim an Ontario apprenticeship training tax credit (ATTC) under section 89 of the Taxation Act, 2007 (Ontario).
- The ATTC is a refundable tax credit that is equal to a specified percentage (25% to 45%) of the eligible expenditures incurred by a corporation for a qualifying apprenticeship. For eligible expenditures incurred after March 26, 2009 for an apprenticeship program that began before April 24, 2015, the maximum credit for each qualifying apprenticeship is \$10,000 per year to a maximum credit of \$40,000 over the first 48-month period of the qualifying apprenticeship. For an apprenticeship program that began after April 23, 2015, the maximum credit for each qualifying apprenticeship is \$5,000 per year to a maximum credit of \$15,000 over the first 36-month period of the qualifying apprenticeship.
- Eligible expenditures are salaries and wages (including taxable benefits) paid to an apprentice in a qualifying apprenticeship or fees paid to an employment agency for the provision of services performed by the apprentice in a qualifying apprenticeship. These expenditures must be:
 - paid on account of employment or services, as applicable, at a permanent establishment of the corporation in Ontario;
 - for services provided by the apprentice during the first 48 months of the apprenticeship program, if an apprenticeship program began before April 24, 2015; and
 - for services provided by the apprentice during the first 36 months of the apprenticeship program, if an apprenticeship program began after April 23, 2015.
- An expenditure is not eligible for an ATTC if:
 - the same expenditure was used, or will be used, to claim a co-operative education tax credit; or
 - it is more than an amount that would be paid to an arm's length apprentice.
- An apprenticeship must meet the following conditions to be a qualifying apprenticeship:
 - the apprenticeship is in a qualifying skilled trade approved by the Ministry of Training, Colleges and Universities (Ontario) or a person designated by him or her; and
 - the corporation and the apprentice must be participating in an apprenticeship program in which the training agreement has been registered under the Ontario College of Trades and Apprenticeship Act, 2009, or the Apprenticeship and Certification Act, 1998, or in which the contract of apprenticeship has been registered under the Trades Qualification and Apprenticeship Act.
- Do not submit the training agreement or contract of apprenticeship with your T2 Corporation Income Tax Return. Keep a copy of the training agreement or contract of apprenticeship to support your claim.
- File this schedule with your T2 Corporation Income Tax Return.

Part 1 – Corporate information		
110 Name of person to contact for more information	120	Telephone number
XXXXXXXXXXXX		(519) 661-5800
Is the claim filed for an ATTC earned through a partnership? *	150	1 Yes 2 No X
If you answered yes to the question at line 150, what is the name of the partnership? . 160		
Enter the percentage of the partnership's ATTC allocated to the corporation	170	
* When a corporate member of a partnership is claiming an amount for eligible expenditures incurred by a partnership, complete a S partnership as if the partnership were a corporation. Each corporate partner, other than a limited partner, should file a separate ScI the partner's share of the partnership's ATTC. The total of the partners' allocated amounts can never exceed the amount of the partnership's accordance.	hedule	552 to claim

_ 1	Part 2 – Eligibility –		
1.	Did the corporation have a permanent establishment in Ontario in the tax year?	1 Yes X	2 No
2.	Was the corporation exempt from tax under Part III of the <i>Taxation Act</i> , 2007 (Ontario)?	1 Yes	2 No X
	If you answered no to question 1 or yes to question 2, then you are not eligible for the ATTC.		

Part	3 -	Speci	fied	percer	ntage
-------------	-----	-------	------	--------	-------

Corporation's salaries and wages paid in the previous tax year *

300

20,000,000

For eligible expenditures incurred after March 26, 2009 for an apprenticeship program that began before April 24, 2015:

- If line 300 is \$400,000 or less, enter 45% on line 312.
- If line 300 is \$600,000 or more, enter 35% on line 312.
- If line 300 is more than \$400,000 and less than \$600,000, enter the percentage on line 312 using the following formula:

For eligible expenditures incurred for an apprenticeship program that began after April 23, 2015:

- If line 300 is \$400,000 or less, enter 30% on line 314.
- If line 300 is \$600,000 or more, enter 25% on line 314.
- If line 300 is more than \$400,000 and less than \$600,000, enter the percentage on line 314 using the following formula:

* If this is the first tax year of an amalgamated corporation and subsection 89(6) of the *Taxation Act, 2007* (Ontario) applies, enter salaries and wages paid in the previous tax year by the predecessor corporations.

- Part 4 - Ontario apprenticeship training tax credit -

Complete a **separate entry** for each apprentice for each qualifying apprenticeship with the corporation. When claiming an ATTC for repayment of government assistance, complete a **separate entry** for each repayment, and complete columns A to G and M and N with the details for the employment period in the previous tax year in which the government assistance was received.

	A Trade code	B Apprenticeship program/trade name	C Name of apprentice
	400	405	410
1.	434a	Powerline Technician	XXXXXXXXXXXX
2.	434a	Powerline Technician	XXXXXXXXXXXX

	n	F	F	G
	Original contract or training agreement number	Original registration date of apprenticeship contract or training agreement (YYYYMMDD) (see note 1)	Start date of employment as an apprentice in the tax year (YYYYMMDD) (see note 2)	End date of employment as an apprentice in the tax year (YYYYMMDD) (see note 3)
	420	425	430	435
1.	xxxxxxxxxxx	2017-10-05	2020-01-01	2020-10-04
2.	XXXXXXXXXXXX	2017-03-23	2020-01-01	2020-03-22

- Note 1: Enter the original registration date of the apprenticeship contract or training agreement in all cases, even when multiple employers employed the apprentice.
- Note 2: When there are multiple employment periods as an apprentice in the tax year with the corporation, enter the date that is the first day of employment as an apprentice in the tax year with the corporation. When claiming an ATTC for repayment of government assistance, enter the start date of employment as an apprentice for the tax year in which the government assistance was received.
- Note 3: When there are multiple employment periods as an apprentice in the tax year with the corporation, enter the date that is the last day of employment as an apprentice in the tax year with the corporation. When claiming an ATTC for repayment of government assistance, enter the end date of employment as an apprentice for the tax year in which the government assistance was received.

Part 4 – Ontario apprenticeship	training tax credit	(continued) -
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Γ	H1	H2	I
	Number of days in the tax year employed as an apprentice in a qualifying apprenticeship program that began before April 24, 2015 (see note 1)	Number of days in the tax year employed as an apprentice in a qualifying apprenticeship program that began after April 23, 2015 (see note 1)	Maximum credit amount for the tax year (see note 2)
	442	443	445
1.		278	3,798
2.		82	1,120

Note 1: When there are multiple employment periods as an apprentice in the tax year with the corporation, do not include days in which the individual was not employed as an apprentice.

For H1: The days employed as an apprentice must be within 48 months of the registration date provided in column E.

For H2: The days employed as an apprentice must be within 36 months of the registration date provided in column E.

Note 2: Maximum credit = $(\$10,000 \times H1/365^*)$ or $(\$5,000 \times H2/365^*)$, whichever applies.

* 366 days, if the tax year includes February 29

J1 Eligible expenditures incurred after March 26, 2009 for a qualifying apprenticeship program that began before April 24, 2015 (see note 3)	J2 Eligible expenditures incurred for a qualifying apprenticeship program that began after April 23, 2015 (see note 3)	K Eligible expenditures multiplied by specified percentage (see note 4)
452	453	460
	87,361	21,840
	21,005	5,251

Note 3: Reduce eligible expenditures by all government assistance, as defined under subsection 89(19) of the *Taxation Act, 2007* (Ontario), that the corporation has received, is entitled to receive, or may reasonably expect to receive, in respect of the eligible expenditures, on or before the filling due date of the *T2 Corporation Income Tax Return* for the tax year.

For J1: Eligible expenditures must be for services provided by the apprentice to the taxpayer during the first 48 months of the apprenticeship program, and not relating to services performed before the apprenticeship program began or after it ended.

For J2: Eligible expenditures must be for services provided by the apprentice to the taxpayer during the first 36 months of the apprenticeship program, and not relating to services performed before the apprenticeship began or after it ended.

Note 4: Calculate the amount in column K as follows:

1. 2.

Column K = (J1 × line 312) or (J2 × line 314), whichever applies.

	L ATTC on eligible expenditures (lesser of columns I and K)	M ATTC on repayment of government assistance (see note 5)	N ATTC for each apprentice (column L or M, whichever applies)	
	470	480	490	
1.	3,798		3,798	
2.	1,120		1,120	
Onta	ario apprenticeship training tax credit (total of amou	ınts in column N)	500	4,918 o

Or, if the corporation ans	swered yes at line 150 in Part 1, determine the partner's sha	are of amount O:	
Amount O	X percentage on line 170 in Part 1	% =	Р

Enter amount O or P, whichever applies, on line 454 of Schedule 5, *Tax Calculation Supplementary – Corporations*. If you are filing more than one Schedule 552, **add** the amounts from line O or P, whichever applies, on all the schedules, and enter the total amount on line 454 of Schedule 5.

Note 5: Include the amount of government assistance repaid in the tax year multiplied by the specified percentage for the tax year in which the government assistance was received, to the extent that the government assistance reduced the ATTC in that tax year. Complete a **separate entry** for each repayment of government assistance.

See the privacy notice on your return.

Agence du revenu du Canada **SCHEDULE 568**

ONTARIO BUSINESS-RESEARCH INSTITUTE TAX CREDIT

Name of corporation	Business Number	Tax year-end	
		Year Month Day	
London Hydro Inc.	86483 7430 RC0001	2020-12-31	

- Use this schedule to claim the Ontario business-research institute tax credit (OBRITC) under section 97 of the Taxation Act, 2007 (Ontario).
- The OBRITC is a 20% refundable tax credit based on qualified expenditures incurred in Ontario under an eligible contract with an eligible research institute (ERI).
- A list of eligible research institutes and the applicable ERI codes for eligible contracts can be found on our website. Go to www.cra.gc.ca/ctao and select "business-research institute tax credit".
- The criteria for a corporation to be eligible for the OBRITC include the eligibility requirements in Part 1 of this schedule.
- The annual qualified expenditure limit is \$20 million. If a corporation is associated with other corporations at any time in the calendar year, the \$20 million limit must be allocated among the associated corporations.
- Qualifying corporations are defined in subsection 97(3) of the Taxation Act, 2007 (Ontario).
- For each eligible contract, you must complete a separate Schedule 569, Ontario Business-Research Institute Tax Credit Contract Information.
- Keep the eligible contract to support your claim. Do not submit the contract with the T2 Corporation Income Tax Return.
- To claim the OBRITC, include the following with the T2 Corporation Income Tax Return:
 - a completed copy of this schedule; and

¬ Part 1 – Eligibility

 $-\ \mbox{a}$ completed copy of Schedule 569 for each eligible contract.

1. Did the corpor	ration, for the tax year, carry or	n business in Ontario	through a perma	nent establishment in O	ntario?	100	1 Yes X	2 No
2. Was the corpo	oration exempt from tax for the	tax year under Part	III of the Taxation	Act, 2007 (Ontario)?		105	1 Yes	2 No X
If you answere	ed no to question 1 or yes to o	question 2, the corpo	ration is not eligil	ble for the OBRITC.				
– Part 2 – Qua	alified expenditure lin	nit for the tax y	ear ———					
Was the corporati	tion associated at any time in t	he tax year with anoth	ner corporation?			200	1 Yes X	2 No
	answered no at line 200, ente and enter on line 205 the exper							
Qualified expendit	iture limit			205	20,00	<u>0,000</u> A		
If the tax year is 5	51 weeks or more, enter amour	nt A on line 210.						
If the tax year of the	the filing corporation is less tha	an 51 weeks, comple	te the following pr	oration calculation:				
		days in the tax year						
Amount A	20,000,000 ×	366 365	=			В		
Qualified expend	diture limit for the tax year (amount A or amount	B, whichever app	lies)		210 _	20,0	<u>00,000</u> C

Part 3 − Allocation of the \$20 million expenditure limit between associated corporations -

Use this part to allocate the \$20 million expenditure limit to the filing corporation and all its associated corporations for each of their tax years ending in the calendar year. See subsection 38(4) of Ontario Regulation 37/09 for expenditure limit allocation rules for associated corporations. Attach additional schedules if you need more space.

	Name of all associated corporations, including the filing corporation (include the associated corporations that have a tax year that ends in the calendar year)	Business Number (enter "NR" if corporation is not registered)	Expenditure limit allocated
	300	305	310
1.	London Hydro Inc.	86483 7430 RC0001	20,000,000
2.	The Corporation of the City of London	NR	
	Total expenditure limit	(cannot exceed \$20 million) 315	20,000,000

Enter the expenditure limit allocated to the corporation on line 205 in Part 2.

Part 4 – Calculation of the Ontario business-research institute tax credit		
Total number of eligible contracts used to determine the OBRITC for this tax year	400	1
Total qualified expenditures for all eligible contracts identified on line 400 for this tax year (total of amounts on line 310 in Part 3 of each Schedule 569)	<u>000</u> E	
Qualified expenditure limit for the tax year (amount C in Part 2)	<u>000</u> F	
Qualified expenditures for the OBRITC for the tax year (amount E or F, whichever is less)	410	16,000
Ontario business-research Institute tax credit (line 410 x 20 %)	· · · · · · · <u> </u>	3,200 G

Agence du revenu du Canada **SCHEDULE 569**

ONTARIO BUSINESS-RESEARCH INSTITUTE TAX CREDIT CONTRACT INFORMATION

Name of corporation	Business Number	Tax year-end Year Month Dav	
London Hydro Inc.	86483 7430 RC0001	2020-12-31	

- Use this schedule to support your claim for the Ontario business-research institute tax credit (OBRITC), which is made on Schedule 568, Ontario Business-Research Institute Tax Credit. Complete a separate Schedule 569 for each eligible contract.
- The OBRITC is a 20% refundable tax credit based on qualified expenditures incurred in Ontario under an eligible contract with an eligible research institute (ERI). An ERI, for purposes of the OBRITC, is defined in subsection 97(27) of the *Taxation Act*, 2007 (Ontario).
- A list of eligible research institutes and the applicable ERI codes for eligible contracts can be found on our web site. Go to www.cra.gc.ca/ctao and select "business-research institute tax credit".
- The eligibility requirements in Part 2 of this schedule must be met for the qualifying corporation to claim an OBRITC for this contract.
- Eligible contracts entered into before August 10, 2007 were subject to advanced ruling legislation. OBRITC claims relating to one of these contracts must have the corresponding Ontario Ministry of Revenue ruling reference number entered at line 130 in Part 1 of this schedule.
- Corporations can only claim the OBRITC for the number of days in the tax year that the corporation was not connected to the ERI. Connected corporations, for the purposes of the OBRITC, are defined in subsection 97(4) of the *Taxation Act*, 2007 (Ontario).
- Eligible contracts and qualified expenditures are defined in subsections 97(6) and 97(8), respectively, of the Taxation Act, 2007 (Ontario).
- According to subsections 97(16) and (19) of the Taxation Act, 2007 (Ontario), qualified expenditures must be reduced by contributions the corporation received, is entitled to receive or may reasonably expect to receive. Qualified expenditures include repayment of government assistance made by the corporation during the year. Contribution and government assistance are defined in subsection 97(27) of the Taxation Act, 2007 (Ontario).

┌ Part 1 - Contract details	
100 Name of person to contact for more information	105 Telephone number including area code
xxxxxxxxxxxx	(519) 661-5800
110 Name of the ERI on the contract	
Western University	
	120 Date of contract Year Month Day 2020-04-03
If the date on line 120 is before August 10, 2007, was the contract subject to an advanced ruling?	125 1 Yes 2 No
For all contracts entered into before August 10, 2007, enter the Ontario Ministry of Revenue ruling reference number	130 –
Is the claim filed for an OBRITC earned through a partnership?*	135 1 Yes 2 No X
If the answer on line 135 is yes , are you a specified member?	140 1 Yes 2 No
If the answer on line 135 is yes , what is the name of the partnership?	145
Enter the corporation's percentage share of the income or loss of the partnership's fiscal period ending in the corporation's tax year	150 %
* When a corporate member of a partnership is claiming an amount for qualified expenditures incurred dure the partnership, complete Schedule 569 as if the partnership were a corporation. Each corporate member Schedule 569 as if it, instead of the partnership, had entered into the contract with the ERI and can claim qualified expenditures. Specified members of a partnership cannot claim an OBRITC. A definition of "specified to the federal <i>Income Tax Act</i> .	er, other than a specified member, should file a n the corporation's share of the partnership's

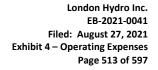


┌ Part 2 – Eligibility ————————————————————————————————————		
Contract:		
1. Did the corporation enter into a contract with an ERI?	1 Yes X	2 No
Do the terms of the contract state that the ERI agrees to perform, in Ontario, scientific research and experimental development (SR&ED) related to the business carried on in Canada by the corporation?	1 Yes X	2 No
3. Was the corporation entitled to exploit the results of the SR&ED carried out under the contract?	1 Yes X	2 No
If you answered no to question 1, 2, or 3, the contract is not an eligible contract for the purposes of an OBRITC.		
Expenditures:		
4. Were the expenditures made by a payment of money by the corporation to the ERI or by a prescribed payment?	1 Yes X	2 No
5. Were the expenditures incurred in respect of SR&ED carried on in Ontario by the ERI?	1 Yes X	2 No
6. Are the expenditures identified in subparagraph 37(1)(a)(i), (i.1) or (ii) of the federal <i>Income Tax Act</i> and would they also qualify as qualified expenditures, as defined in subsection 127(9) of the federal Act, other than prescribed types of expenditures and certain salaries or wages?	1 Yes X	2 No
7. Were the expenditures incurred by the corporation for purposes of SR&ED related to the business carried on in Canada by the corporation?	1 Yes X	2 No
If you answered no to question 4, 5, 6, or 7, the expenditures are not eligible expenditures for the purposes of an OBRITC.		
- Part 2 Qualified expanditures for this contract for the tax year		
Part 3 – Qualified expenditures for this contract for the tax year Qualified expenditures incurred in the tax year		
If the corporation answered yes at line 135 in Part 1, and no at line 140 in Part 1, determine the partnerships' share of qualified expenditures available to claim in the tax year:		
Line 300 16,000 × percentage on line 150 in Part 1		
Number of days in this tax year that the corporation was not connected to the ERI identified on line 110 in Part 1		
Qualified expenditures for this contract for the tax year:		
(Line 300 or amount A, whichever applies) x line 305	l	<u>16,000</u> B
Enter amount B on line 405 of Schedule 568 , <i>Ontario Business-Research Institute Tax Credit</i> .		



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Appendix 4-4:
Post-Retirement Obligation
Actuarial Valuation Report for 2020



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IAS 19 Actuarial Valuation Report as at December 31, 2020

Non-Pension Post Retirement Benefit Plan

London Hydro Inc. 5 February 2021

Contents

1 Report highlights

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2.	Basis of valuation

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Appendix D. Actuarial assumptions

Appendix E. Actuarial methods

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Appendix G. Additional information

Appendix H. Employer certification

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Report highlights

Mercer has prepared this report for London Hydro Inc. ("London Hydro") to (i) present actuarial estimates of liabilities as at 31 December 2020 for the following plans ("the Plans"):

- Non-pension post retirement benefits ("Post Retirement")
- Post employment retirement gift/bonus ("Retirement Allowance")
- Medical/dental benefits paid while on long term disability ("Medical/Dental on LTD")
- Long Term Service Awards ("Service Awards")

for London Hydro to incorporate, as London Hydro deems appropriate, in its financial statements under international financial reporting standards, and to (ii) provide an actuarial estimate of the defined benefit cost for the fiscal year ending 31 December 2021.

All figures in this report are expressed in Canadian dollars and rounded to hundreds, unless otherwise stated.

Please see Section 3 of this report for further explanation as to the purposes and limitations of this report.

Summary of results

Below are highlights of the results as at 31 December 2020 compared to the corresponding figures as at 31 December 2019.

	31 December 2020						
	Post Retirement	Retirement Allowance	Medical/Dental on LTD	Service Awards	Total		
P&L charge/(credit)	\$1,045,100	\$3,900	\$48,300	\$10,700	\$1,108,000		
Other comprehensive (income)/loss	\$244,400	(\$2,500)	\$0	\$3,700	\$245,600		
Defined benefit cost	\$1,289,500	\$1,400	\$48,300	\$14,400	\$1,353,600		
Benefit obligation	\$15,837,700	\$58,700	\$109,800	\$93,900	\$16,100,100		
Fair value of assets	\$0	\$0	\$0	\$0	\$0		
Net liability/(asset) at the end of the year	\$15,837,700	\$58,700	\$109,800	\$93,900	\$16,100,100		
Discount rate at year-end1	2.50% per year	2.50% per year	2.50% per year	2.50% per year	2.50% per year		
Assumed health care trend rates at year-end							
Immediate trend rate	5.00% per year	N/A	5.00% per year	N/A	5.00% per year		
Ultimate trend rate	4.00% per year	N/A	4.00% per year	N/A	4.00% per year		
Year the rate reaches ultimate trend rate	2040	N/A	2040	N/A	2040		

¹ Based on the CIA discount rate model as at 31 December 2020

	31 December 2019						
	Post Retirement	Retirement Allowance	Medical/Dental on LTD	Service Awards	Total		
P&L charge/(credit)	\$911,400	\$2,700	\$1,400	\$6,900	\$922,400		
Other comprehensive (income)/loss	\$1,581,300	\$0	\$0	\$0	\$1,581,300		
Defined benefit cost	\$2,492,700	\$2,700	\$1,400	\$6,900	\$2,503,700		
Benefit obligation	\$15,324,700	\$57,300	\$61,500	\$91,100	\$15,534,600		
Fair value of assets	\$0	\$0	\$0	\$0	\$0		
Net liability/(asset) at the end of the year	\$15,324,700	\$57,300	\$61,500	\$91,100	\$15,534,600		
Discount rate at year-end ²	3.10% per year	3.10% per year	3.10% per year	3.10% per year	3.10% per year		
Assumed health care trend rates at year-end				• • •			
Immediate trend rate	5.30% per year	N/A	5.30% per year	N/A	5.30% per year		
Ultimate trend rate	4.00% per year	N/A	4.00% per year	N/A	4.00% per year		
Year the rate reaches ultimate trend rate	2040	N/A	2040	N/A	2040		

² Based on the CIA discount rate model as at 31 December 2019

Please refer to Appendix A and Appendix G for more details about these summary numbers.

The defined benefit cost for the fiscal year ending 31 December 2020 includes no charges/credits due to special events.

The total estimated defined benefit cost included in P&L for the Post Retirement plan for the fiscal year ending 31 December 2021 is \$968,400. Please refer to Appendix B for more details. The estimated defined benefit cost for Retirement Allowance, Medical/Dental on LTD and Service Awards depend on claims and re-measurements in 2021 and will be determined at the end of the year.

We have not been notified by London Hydro nor are we aware of any events subsequent to 31 December 2020 which, in our opinion, would have a material impact on the results of the valuation.

Changes in plan provisions

There were changes in plan provisions since the previous reporting period. A summary of the plan provisions can be found in Appendix F. The changes in plan provisions were reflected in the P&L, under Prior Service Cost of \$90,500.

Changes in actuarial assumptions

The actuarial assumptions changed since the last actuarial valuation as at December 31, 2019. Details are shown in Appendix D. The approach used for setting the assumptions is similar to the prior year.

Impact of COVID-19

In light of COVID-19, the claims experience for some benefits in 2020 has generally been lower than expected (e.g. dental, certain paramedical benefits). While it remains unknown how COVID-19 will continue to impact claims experience in 2021, it is not expected to be long-term in nature. Consequently, no adjustments to future benefit payment expectations have been made.

Changes in actuarial methods

There have been no changes to the actuarial methods and accounting policies since the prior disclosure. Details regarding the actuarial methods and accounting policies are shown in Appendix E.

Changes in data

We have incorporated new census data as at August 31, 2020 in the actuarial valuation at December 31, 2020. This increased the benefit obligation by \$106,900.

2

Basis of valuation

Plan data

Mercer has used and relied on membership data as at August 31, 2020 for the Post Retirement, Retirement Allowance, Service Award and Medical/Dental on LTD valuations, as provided by London Hydro. The membership data are summarized in Appendix C.

London Hydro is responsible for ensuring that such membership data provides an accurate description of all persons who are members under the terms of the Plans or otherwise entitled to benefits that is sufficiently comprehensive and accurate for the purposes of this report. If the data supplied are not sufficiently comprehensive and accurate for the purposes of this report, the valuation results may differ significantly from the results that would be obtained with such data; this may require a later revision of this report. We have applied tests for internal consistency, as well as for consistency with the data from the previous valuation. Although Mercer has reviewed the data for internal consistency and general reasonableness Mercer has not verified or audited any of the data or information provided.

Actuarial assumptions

To prepare the valuation report, assumptions are used in a forward looking financial and demographic model to present a single scenario from a wide range of possibilities; the results based on that single scenario are included in the valuation. The future is uncertain and the Plan's actual experience will differ from those assumptions; these differences may be significant or material because these results are very sensitive to the assumptions made and, in some cases, to the interaction between the assumptions.

Different assumptions or scenarios within the range of possibilities may also be reasonable and results based on those assumptions would be different. As a result of the uncertainty inherent in a forward looking projection over a very long period of time, no one projection is uniquely 'correct' and many alternative projections of the future could also be regarded as reasonable. Two different actuaries could, quite reasonably, arrive at different results based on the same data and different views of the future. A 'sensitivity analysis' shows the degree to which results would be different if you substitute alternative assumptions within the range of possibilities for those utilized in this report.

A "sensitivity analysis" shows the degree to which results would be different if you substitute alternative assumptions within the range of possibilities for those utilized in this report. An indication of the sensitivity of the results to changes in the most material assumptions is included in Appendix A. At London Hydro's request, Mercer is available to perform additional sensitivity or scenario analysis.

Assumptions may also be changed from one valuation to the next because of changes in mandated requirements, plan experience, changes in expectations about the future and other factors. A change in assumptions is not an indication that prior assumptions were unreasonable when made.

Actuarial methods

A valuation report is only a snapshot of a plan's estimated financial condition at a particular point in time; it does not predict a plan's future financial condition or its ability to pay benefits in the future and does not provide any guarantee of future financial soundness of a plan. Over time, a plan's total cost will depend on a number of factors, including the amount of benefits a plan pays, the number of people paid benefits, the period of time over which benefits are paid. These amounts and other variables are uncertain and unknowable at the valuation date.

Because modelling all aspects of a situation is not possible or practical, we may use summary information, estimates, or simplifications of estimates to facilitate the modelling of future events in an efficient and cost-effective manner. We may also exclude factors or data that, if used, in our judgment, would not have significantly affected our results. Use of such simplifying techniques does not, in our judgment, affect the reasonableness of valuation results for the Plan.

Valuations do not affect the ultimate cost of a plan, only the timing of when benefit costs are recognized. Cost recognition occurs over time. If the costs recognized over a period of years are lower or higher than necessary, for whatever reason, normal and expected practice is to adjust future expense levels with a view to recognizing the entire cost of a plan over time.

As instructed, Mercer has prepared the accounting disclosures in this report based on London Hydro's accounting policies.

A summary of the actuarial methods, accounting policies and valuation procedures is provided in Appendix E.

Plan provisions

Mercer has used and relied on the plan documents, including amendments, and interpretations of plan provisions, supplied by London Hydro as summarized in Appendix F. London Hydro is solely responsible for the validity, accuracy and comprehensiveness of this information. If any plan provisions supplied are not accurate and complete, the valuation results may differ significantly from the results that would be obtained with accurate and complete information. Moreover, plan documents may be subject to different interpretations, each of which could be reasonable, and the results under each of the different interpretations could vary. These plan provisions have been certified by London Hydro under the Employer Certification in Appendix H.

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Notices and statement of opinion

Mercer has prepared this report exclusively for London Hydro Inc.; subject to this limitation, London Hydro may direct that this report be provided to its auditors in connection with the audit of its financial statements. Mercer is not responsible for use of this report by any other party.

The only purposes of this report are to present actuarial estimates of liabilities as at 31 December 2020 for the following plans of London Hydro:

- Non-pension post retirement benefits ("Post Retirement")
- Post employment retirement allowances ("Retirement Allowance")
- Medical/dental benefits paid while on long term disability ("Medical/Dental on LTD")
- Long Term Service Awards ("Service Award")

for London Hydro to incorporate, as London Hydro deems appropriate, in its financial statements under international financial reporting standards, and to provide an actuarial estimate of the defined benefit cost for the fiscal year ending 31 December 2021.

This report may not be used for any other purpose. Mercer is not responsible for the consequences of any unauthorized use. Its content may not be modified, incorporated into or used in other material, sold or otherwise provided, in whole or in part, to any other person or entity, without Mercer's permission.

All parts of this report, including any documents incorporated by reference, are integral to understanding and explaining its contents; no part may be taken out of context, used or relied upon without reference to the report as a whole.

Decisions about benefit changes, granting new benefits, benefit security and/or benefit-related issues should not be made solely on the basis of this valuation, but only after careful consideration of alternative economic, financial, demographic and societal factors.

London Hydro is ultimately responsible for selecting the accounting policies, methods and assumptions. This information is referenced or described in section 2 of this report. The plan sponsor is solely responsible for communicating to Mercer any changes required to those policies, methods and assumptions.

Mercer is providing the valuation report in its capacity as actuary and as such, the report is not a substitute for advice from an accountant or lawyer. Mercer is not a law firm, and the analysis presented in this report is not intended to be a legal opinion. You should consider securing the advice of legal counsel with respect to any legal matters related to this report.

The calculations have been made in accordance with our understanding of applicable laws and regulations.

London Hydro should notify Mercer promptly after receipt of this valuation report if London Hydro disagrees with anything contained herein or is aware of any information that would affect the results of this report that has not been communicated to Mercer or incorporated therein. The valuation report will be deemed final and acceptable to London Hydro unless London Hydro promptly provides such notice to Mercer.

Statement of opinion

The preparers of the financial statements have selected the assumptions and methods used in the valuations of the plan obligations and determination of plan costs. The assumptions are Management's best estimate assumptions, selected for accounting purposes, in accordance with international financial reporting standards.

In our opinion, for the purposes of the valuations:

- The membership data on which the valuations are based are sufficient and reliable.
- The assumptions are appropriate.
- The calculations have been made in accordance with our understanding of the requirements of the international financial reporting standards, reflecting application of London Hydro's accounting policies described in this report.

This report has been prepared and our opinions given, in accordance with accepted actuarial practice in Canada.

Respectfully submitted,

Lois Paylich

Fellow of the Society of Actuaries

Fellow of the Canadian Institute of Actuaries

February 5, 2021

Date

Patrick Diep

Fellow of the Society of Actuaries

Fellow of the Canadian Institute of Actuaries

February 5, 2021

Date

Appendix A Disclosure information

Please see the following pages.

Mercer

	Post Retirement 12/31/2020 12/31/2019		Retirement Allowance 12/31/2020 12/31/2019		Medical/Dental on LTD 12/31/2020 12/31/2019		Service Award 12/31/2020 12/31/2019		All Plans 12/31/2020 12/31/2019	
Financial year ending on										
A. Change in defined benefit obligation										
Defined benefit obligation at end of prior year	15,324,700	13,695,800	57.000						Maria Maria	
2. Service cost	10,024,100	13,033,000	57,300	54,600	61,500	60,100	91,100	84,200	15,534,600	13,894,700
a. Current service cost	492,800	393.300	0.000							
b. Past service cost	90,500		2,200				8,000		503,000	393,300
c. (Gain) / loss on settlements	30,300		-		-				90,500	-
3. Interest expense	461,800	518,100	4 700		-	-	*		-	-
4. Cash flows	401,800	310,100	1,700		-	-	2,700		466,200	518,100
a. Benefit payments from plan assets		-								
b. Benefit payments from employer	(776,500)	(863,800)			-		-			
c. Settlement payments from plan assets	(110,500)	(003,000)	(5,100)				(11,600)		(793,200)	(863,800
d. Settlement payments from employer	-	-		-		-			-	-
e. Participant contributions			•				1.4.1			*
f. Administrative expenses included in the DBO			-							-
g. Taxes included in the DBO							-	-		-
h. Insurance premiums for risk benefits		-		*	-		4.0	- 5		+
Other significant events			-	-						-
a. Increase (decrease) due to effect of any business										
combinations / divestitures / transfers										
b. Increase (decrease) due to plan combinations										
Remeasurements		•			-		-	-		
a. Effect of changes in demographic assumptions									1.4	
	(1,256,400)	The state of the s			(10,700)			-	(1,267,100)	-
b. Effect of changes in financial assumptions	1,464,900	1,539,600	2,700	3,300	3,300	1,400	3,700	4,300	1,474,600	1,548,600
c. Effect of experience adjustments	35,900	41,700	(100)	(600)	55,700			2,600	91,500	43,700
Effect of changes in foreign exchange rates	-	-			-	-	-			-
Defined benefit obligation at end of year	15,837,700	15,324,700	58,700	57,300	109,800	61,500	93,900	91,100	16,100,100	15,534,600
Change in fair value of plan assets			-							
Fair value of plan assets at end of prior year		-		_						
2. Interest income		-								
3. Cash flows										-
a. Total employer contributions										
(i) Employer contributions		4								
(ii) Employer direct benefit payments	776,500	863,800	5,100		-		44.000		******	
(iii) Employer direct settlement payments		-	3,100	-			11,600		793,200	863,800
b. Participant contributions						-				-
c. Benefit payments from plan assets								~		-
d. Benefit payments from employer	(776,500)	(863,800)	(5,100)							
e. Settlement payments from plan assets	(110,500)	(003,000)	(5,100)				(11,600)		(793,200)	(863,800)
f. Settlement payments from employer										-
g. Administrative expenses paid from plan assets										
h. Taxes paid from plan assets										
i. Insurance premiums for risk benefits	-		-					-		-
Other significant events	•		•		-	1.0	9-	*.		-
a. Increase (decrease) due to effect of any business										
combinations / divestitures / transfers	-	-								-
b. Increase (decrease) due to plan combinations										
Remeasurements		-			•	*	-	-	1.7	-
Return on plan assets (excluding interest income)										
Effect of changes in foreign exchange rates			-							
		*				-				
Fair value of plan assets at end of year										

Plan Name	Post Reti	rement	Retirement	Allowance	Medical/Dental	on LTD	Service Av		-	
Financial year ending on	12/31/2020	12/31/2019	12/31/2020	12/31/2019	12/31/2020	12/31/2019	12/31/2020	12/31/2019	All Pla 12/31/2020	12/31/2019
Change in reimbursement rights										120112013
Reimbursement rights at end of prior year	-									
Reimbursement service cost			•	-						
3. Gain / (loss) on settlements			-	-						-
4. Interest income								-	-	
5. Cash flows								-		-
a. Employer contributions to reimburs ement rights										
b. Reimbursements to employer			•	-	-	-			-	
6. Other significant events						-			-	
Increase (decrease) due to effect of any business combinations / divestitures / transfers	1.2	-	-							-
 b. Increase (decrease) due to plan combinations 	-									
7. Remeasurements			-	-		-				
 a. Return on reimbursement rights (excluding interest income) 	-	-				-				
Effect of changes in foreign exchange rates										
9. Reimbursement rights at end of year	-			-		-				
Change in asset ceilling/onerous liability										
Asset ceiling/onerous liability at end of prior year										-1
2. Interest income								-		
3. Remeasurements					-			-	160	-
 a. Changes in asset ceiling/onerous liability (excluding interest income) 									4	
Effect of changes in foreign exchange rates										
Asset ceiling/onerous liability at end of year		-				-				4
		•								
Amounts recognized in the statement of financial position		1								
Defined benefit obligation	15,837,700	15,324,700	58,700	57,300	109,800	61,500	93,900	91,100	16,100,100	15,534,600
Fair value of plan assets		V.				-	30,300	31,100	10,100,100	10,534,600
3. Funded status	15,837,700	15,324,700	58,700	57,300	109,800	61,500	93,900	91,100		45.501.00
Effect of asset ceiling/onerous liability				57,000	103,000	01,300	93,900	31,100	16,100,100	15,534,600
5. Net defined benefit liability (asset)	15.837.700	15,324,700	58,700	57,300	109,800	61.500	93,900	91,100	16,100,100	15,534,600

Plan Name Financial year ending on	Post Reti		Retirement		Medical/Den	ital on LTD	Service	Award	All Plan	ns
risaricial year ending on	12/31/2020	12/31/2019	12/31/2020	12/31/2019	12/31/2020	12/31/2019	12/31/2020	12/31/2019	12/31/2020	12/31/2019
omponents of defined benefit cost										
Service cost										
a. Current service cost	492,800	393,300	2,200							
b. Reimbursement service cost		000,000	2,200			-	8,000		503,000	393,3
c. Past service cost	90,500						-	-		
d. (Gain) / loss on settlements	-								90,500	
e. Total service cost	583,300	393,300	2,200			-		*	-	
2. Net interest cost	303,300	353,300	2,200	•			8,000		593,500	393,3
a. Interest expense on DBO	461,800	518,100	4 700							
b. Interest (income) on plan assets	401,000	510,100	1,700				2,700		466,200	518,1
c. Interest (income) on reimbursement rights				-			•			-
d. Interest expense on effect of (asset ceiling)/onerous liability		*		*	-			51	-	
e. Total net interest cost		-		•		1.0				
	461,800	518,100	1,700				2,700		466,200	518,1
Remeasurements of Other Long Term Benefits				2,700	48,300	1,400		6,900	48,300	11,0
Administrative expenses and/or taxes (not reserved within DBO)			-	-				•		
5. Defined benefit cost included in P&L	1,045,100	911,400	3,900	2,700	48,300	1,400	10,700	6,900	1,108,000	922,4
6. Remeasurements (recognized in other comprehensive income)										
a. Effect of changes in demographic assumptions	(1,256,400)									
b. Effect of changes in financial assumptions	1,464,900	1.539.600	2,800				3.700	-	(1,256,400)	
c. Effect of experience adjustments	35,900	41,700	(5,300)				3,700	-	1,471,400	1,539,6
d. (Return) on plan assets (excluding interest income) *		41,100	(0,000)		-			-	30,600	41,7
e. (Return) on reimbursement rights (excluding interest income)					-					
f. Changes in asset ceiling/onerous liability (excluding interest income)		•						- :		
g. Total remeasurements included in OCI	244,400	1,581,300	(2,500)	-		7.4	3,700		245,600	1,581,3
7. Total defined benefit cost recognized in P&L and OCI	1,289,500	2,492,700	1,400	2,700	48,300	1,400	14,400	6,900	1,353,600	2,503,7
et defined benefit liability (asset) reconciliation										
Net defined benefit liability (asset)	15,324,700	13,695,800	57,300	54,600	61,500	60,100	91,100	84,200	15,534,600	13.894.7
Defined benefit cost included in P&L	1,045,100	911,400	3,900	2,700	48,300	1,400	10,700	6.900	1,108,000	
Total remeasurements included in OCI	244,400	1,581,300	(2,500)	2,700	40,000	1,400	3.700	0,900		922,4
Other significant events	27.71.00	1,001,000	(2,000)				3,700		245,600	1,581,3
Net transfer in/(out) (including the effect of any business combinations/divestitures)		2		-				-	2.5	
b. Amounts recognized due to plan combinations										
5. Cash flows				•					-	
a. Employer contributions	-					440				
b. Employer direct benefit payments	(776,500)	(863,800)	(5,100)				(11,600)		(793,200)	(863,
c. Employer direct settlement payments			(-,,				(,500)		(100,200)	1003
6. Credit to reimbursements										
7. Effect of changes in foreign exchange rates										
8. Net defined benefit liability (asset) as of end of year	15,837,700	15,324,700	58.700	57,300	109.800	61,500	93,900	91,100		

Plan Name Country		tirement		Allowance	Medical/Dental Canada	on LTD	Service		All Pia	ins
Financial year ending on	12/31/2020	12/31/2019	12/31/2020	12/31/2019		12/31/2019	12/31/2020	12/31/2019	12/31/2020	12/31/2019
H. Defined benefit obligation										
Defined benefit obligation by participant status										
a. Actives	8,522,900	8,096,600	58,700	57,300	109.800	61,500	00.000			
b. Vested deferreds			50,100	07,000	103,000	01,500	93,900	91,100	8,785,300	8,306,50
c. Retirees	7,314,800	7,228,100			-					*
d. Total	15,837,700	15,324,700	58,700	57,300	109,800	61,500	93,900	91,100	7,314,800	7,228,100
I. Significant actuarial assumptions		-								10,004,001
Weighted-average assumptions to determine defined benefit obligation			E-							
Discount rate	2.50%	3.10%	2.50%	3.10%	2.50%	3.10%		112000		
Effect on total SC & IC trend	N/A	N/A	N/A	N/A	2.50% N/A	3.10% N/A	2.50%	3.10%	2.50%	3.10
Health care cost trend rates	14074	INIA	NA	NA	N/A	N/A	N/A	N/A	0.00%	0.009
Immediate trend rate	5.00%	5.30%	N/A	N/A	AU A					
Ultimate trend rate	4.00%	4.00%	N/A	N/A	N/A	N/A	N/A	N/A	5.00%	5.309
Year rate reaches ultimate trend rate	2040		N/A N/A		N/A	N/A	N/A	N/A	4.00%	4.00
Mortality assumption	CPM-RPP2014	CPM-RPP2014		N/A	N/A	N/A	N/A	N/A	2040	204
	Private with scale	Private with scale	CPM-RPP2014 Private with scale	CPM-RPP2014 Private with scale	GLTD	GLTD	CPM-RPP2014	CPM-RPP2014		
	CPM-B	CPM-B	CPM-B	CPM-B			Private with scale CPM-B	Private with scale CPM-B		
Duration (in years)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00	0.0
Weighted-average assumptions to determine defined benefit cost										
Discount rate	3.10%	3.90%	3.10%	3.90%	3.10%	3.90%	3.10%		7.55	
Effect on total SC & IC trend	N/A	N/A	N/A	N/A	3. 10% N/A			3.90%	3.10%	3.909
Health care cost trend rates	1411		140	INA	NA	N/A	N/A	N/A	0.00%	0.009
Immediate trend rate	5.30%	5.40%	N/A	N/A	N/A	N/A				
Ultimate trend rate	4.00%	4.00%	N/A	N/A	N/A	N/A	N/A	N/A	5.30%	5.409
Year rate reaches ultimate trend rate	2040	2040	N/A	N/A	N/A		N/A	N/A	4.00%	4.009
Mortality assumption	CPM-RPP2014	CPM-RPP2014	CPM-RPP2014	CPM-RPP2014	GLTD	N/A GLTD	N/A	N/A	2040	204
	Private with scale CPM-B	Private with scale CPM-B	Private with scale CPM-B	Private with scale CPM-B	GLID	GLID	CPM-RPP2014 Private with scale	CPM-RPP2014 Private with scale		
	GI MI-D	CFM-B	СРМ-В	СРМ-В			СРМ-В	СРМ-В		
J. Sensitivity analysis Present value of defined benefit obligation										
Discount rate - 100 basis points	18,656,100	47 700 000		14240						
Discount rate + 100 basis points		17,739,000	63,800	62,000	N/A	N/A	N/A	N/A	18,719,900	17,801,000
Effect on total SC & IC trend - 100 basis points	13,691,600	13,443,800	54,300	53,200	N/A	N/A	N/A	N/A	13,745,900	13,497,000
Effect on total SC & IC trend + 100 basis points	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Health care cost trend rates - 100 basis points	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		-
Health care cost trend rates + 100 basis points	14,087,600	13,880,700	N/A	N/A	N/A	N/A	N/A	N/A	14,087,600	13,880,700
Mortality assumption - 1 year life expectancy	18,119,300	17,163,700	N/A	N/A	N/A	N/A	N/A	N/A	18,119,300	17,163,700
Mortality assumption + 1 year life expectancy Mortality assumption + 1 year life expectancy	15,515,500 16,167,600	15,101,800 15,551,600	57,500 59,900	57,200 57,400	N/A N/A	N/A N/A	N/A N/A	N/A N/A	15,573,000 16,227,500	15,159,000
K. Expected cash flows for following year									,	.5,000,000
Expected employer contributions	821,400		5.000							
Expected contributions to reimbursement rights	821,400		5,800				17,100		844,300	
Expected contributions to reimbursement rights Expected total benefit payments			-				-		•	
Year 1	204 400									
Year 2	821,400		5,800				17,100		844,300	
Year 3	811,200		TBD				TBD		811,200	
Year 4	808,900		TBD				TBD		808,900	
Year 5	813,000		TBD				TBD		813,000	
	829,200		TBD				TBD		829,200	
Next 5 years	3.847.600		TBD				TBD		3,847,600	

Appendix B

Estimated defined benefit cost information³

Please see the following page.

³ The total defined benefit cost will not be known until the plan is re-measured at the end of the 2021. The total expense to be recognized for the next year may be significantly different from this projection once the re-measurement amounts are determined.

Plan Name	Post Retirement	Retirement Allowance	Medical/Dental on LTD	Service Award	All plans
Country	Canada	Canada	Canada	Canada	
Components of projected defined benefit cost					
Service cost					
Current service cost	568,200	2,600	-	8,400	579.20
b. Reimbursement service cost					
c. Past service cost					-
d. (Gain) / loss on settlements	-				
e. Total service cost	568,200	2,600	(7-1)	8,400	579,20
Net interest cost					
a. Interest expense on DBO	385,700	1,400		2,100	389,20
b. Interest (income) on plan assets	-	-			
 c. Interest (income) on reimbursement rights 	2			-2	-
 d. Interest expense on effect of (asset ceiling)/onerous liability 	-				
e. Total net interest cost	385,700	1,400		2,100	389,20
Remeasurements of Other Long Term Benefits		-			-
 Administrative expenses and/or taxes (not reserved within DBO) 		-	-	5 Table 1	
5. Defined benefit cost included in P&L	953,900	4,000	(41)	10,500	968.40
Remeasurements (recognized in other comprehensive income)		-			
7. Total defined benefit cost recognized in P&L and OCI	953,900	4,000	TBD	10,500	968,40
Expected cash flows used to determine defined benefit cost					
Employer contributions	-	•		-	
Participant contributions				2	-
Benefit payments from plan assets					
Benefit payments from employer	821,400	5,800		17,100	844.30
Settlement payments from plan assets				.,	
Settlement payments from employer					
7. Administrative expenses					
8. Taxes	-				
Insurance premiums for risk benefits		-			
Employer contributions to reimbursement rights					
11. Reimbursements to employer	2		-		-
Veighted-average assumptions to determine defined benefit co					
Discount rate	2.50%	2.50%	2.50%	2.50%	2.50
Effect on total SC & IC trend	N/A	N/A	N/A	N/A	0.00
Health care cost trend rates					
Immediate trend rate	5.00%	N/A	N/A	N/A	5.00
Ultimate trend rate	4.00%	N/A	N/A	N/A	4.00
Year rate reaches ultimate trend rate	2040	N/A	N/A	N/A	204
Mortality assumption	CPM-RPP2014 Private with scale CPM-B	CPM-RPP2014 Private with scale	GLTD	CPM-RPP2014 Private with scale	

Appendix C

Membership data

The actuarial valuations for the non-pension post retirement and post employment retirement allowance benefit plans are based on membership data as at 31 August 2020 provided by London Hydro. Plan membership data are summarized below. For comparison, we have also summarized corresponding data from the previous valuation.

Please see the following pages.

Analysis of membership data

Non-Pension Post Retirement, Post Employment Retirement Allowance Benefits and Long Term Service Awards

	31.08.20	31.10.17
Active Members – Not Fully Eligible		
Number	220	234
Average years of service	9.2 years	10.9 years
Average age	39.3	40.2
Active Members – Fully Eligible		
Number	82	69
Average years of service	24.7 years	22.9 years
Average age	59.0	59.0
Active Members – Total		
Number	302	303
Average years of service	13.4 years	13.6 years
Average age	44.6	44.5

	31.08.20	31.10.17
Retirees and Surviving Spouses (Post Retirement Benefits only)		
Total number		
Pre-65	57	54
Post-65	180	176
Average age		
Pre-65	60.4	60.6
Post-65	77.9	78.1
Number with life insurance		
Pre-65	0	1
Post-65	80	96
Number with a medical or dental coverage		
Pre-65	57	54
Post-65	126	126
Number with family coverage		
Pre-65	44	45
Post-65	61	61
Average age of spouse		
Pre-65	60.2	60.8
Post-65	73.4	73.9

	31.08.20	31.10.17
Retired Members with Pre 65 Hospital, Drug, EHC, Vision, OOC and Dental		
Single Enrolment	13	9
Family Enrolment	44	45
Total	57	54
Average age of retiree + widow	60.4	60.6
Average age of spouses	60.2	60.8
Retired Members with Post 65 Hospital		
Single Enrolment	19	20
Family Enrolment	13	17
Total	32	37
Average age of retiree + widow	81.6	80.9
Average age of spouses	72.9	76.1
Retired Members with Post 65 Drug, EHC, OOC		
Single Enrolment	68	64
Family Enrolment	58	58
Total	126	122
Average age of retiree + widow	78.3	78.3
Average age of spouses	74.4	73.9

	31.08.20	31.10.17
Retired Members with Post 65 Vision		
Single Enrolment	26	24
Family Enrolment	19	18
Total	45	42
Average age of retiree + widow	78.6	77.5
Average age of spouses	69.5	70.5
Retired Members with Post 65 Dental		
Single Enrolment	33	28
Family Enrolment	38	35
Total	71	63
Average age of retiree + widow	76.7	76.0
Average age of spouses	70.8	71.2
Retired Members with Pre 65 Life		
Number	0	1
Average age	n/a	64.9
Average insurance amount	n/a	\$22,100
Retired Members with Post 65 Life		
Number	80	96
Average age	82.2	80.7
Average insurance amount	\$36,019	\$36,994

Medical/Dental Benefits paid while on Long Term Disability

The actuarial valuations for the medical/dental benefits paid while on long term disability benefit plans are based on membership data as at 31 August 2020 with an effective date of 31 December 2020 and adjusted by prorating the number of disabled participants provided by London Hydro. Plan membership data are summarized below.

Total Disabled Members	31.12.20	31.12.17
Number of disabled members	11	9
Number receiving continuation of Medical and Dental Benefits	5	2
Average Age	45.0	53.5
Average disability duration	2.1 years	1.9 years
Average remaining benefit period	4.7 years	5.1 years

Appendix D

Actuarial assumptions

These assumptions as at the reporting date are used to determine the present value of the benefit obligation at that date and the defined benefit cost for the following year. We have used actuarial assumptions selected by London Hydro. The principal financial and demographic assumptions used at 31 December 2020 and 31 December 2019 are shown in the table below.

Non-Pension Post Retirement Benefits Plan

The following assumptions were used in valuing the benefit obligations under the non-pension post-retirement benefits plan.

Discount rate		3.10% per annum for 31 December 2019 disclosure and 2020 benefit cost determination 2.50% per annum for 31 December 2020 disclosure and estimated 2021 benefit cost determination					
Increases in pensionable earnings	4.00% per annum	4.00% per annum					
Health care cost trend rates	Hospital	4.00% per annum					
	Prescription drugs	6.59% per annum in 2020 grading down to 4.00% per annum in and after 2040					
	Other Medical	4.00% per annum					
	Vision Care	4.00% per annum					
	Dental	4.00% per annum					
Mortality	CPM-RPP2014 Private S	Sector Table with generational improvement scale CPM-B					

Withdrawal	Mercer "Ontario Light" Termination table Rates at sample ages are shown below:						
	Age	Male	Female				
	20	18.8%	18.8%				
	30	5.6%	5.6%				
	40	2.2%	2.2%				
	50	1.2%	1.2%				
	60	0.0%	0.0%				
	No withdrawal assumed after attainment of eligibility for retirement.						
Retirement rates	Age	Rate					
	55 – 59	7%					
	60 – 62	11%					
	63	12%					
	64	13%					
	65+	100%					
Dependent coverage	80% of active members are assumed to elect dependant coverage upon retirement.						
	Actual coverage data provided by the client is used for	or retired members.					
Age difference	For active members, a male is assumed to be 3 year Actual data provided by the client is used for retired r						

Age 65 per capita claims costs		Pre-65 Plan	Post-65 Plan
without administrative expenses and taxes for the 31 December 2019	Semi-private hospital	\$60	\$90
disclosure and 2020 benefit cost	Prescription drugs	1,670	750
determination	Other medical	320	190
	Prescription drugs Other medical Vision care Out of Province Dental care Total Semi-private hospital Prescription drugs Other medical Vision care Out of Province Dental care	120	150
	Out of Province	530	370
	Dental care	640	760
	Total	\$3,440	\$2,350
Age 65 per capita claims costs		Pre-65 Plan	Post-65 Plan
	Semi-private hospital	\$80	\$80
disclosure and estimated 2021	Prescription drugs	1,200	800
benefit cost determination 4	Other medical	400	300
	Vision care	150	80
	Out of Province	590	590
	Dental care	720	780
	Prescription drugs Other medical Vision care Out of Province Dental care Total 65 per capita claims costs but administrative expenses and a for the 31 December 2020 Desure and estimated 2021 fit cost determination 4 Prescription drugs Semi-private hospital Prescription drugs Other medical Vision care Out of Province	\$3,140	\$2,630

⁴ 2020 claim cost (31 March 2021 mid-point). Post-65 claims cost is before adjustment for 15% company cost sharing.

Claims cost development	The 2020 age 65 per capita claim costs are based on the group's claims experience from 01 October 2017 to 28 February 2020 trended to 31 March 2021, the mid-point of the valuation period, adjusted to age 65 and loaded for administrative expenses and taxes.					
	Claims costs were developed separately for Pre-65 and Post-65 retirees based on all divisions experience but separated for post and pre 65 benefits					
	The Out of Province	rates were develop	ed using 01 January 2	020 premium rates.		
Aging factors	The change in claimi	ng levels from one	age to the next are she	own below for samp	le ages:	
	Age	Prescription Drugs	Semi Private Hospital	Other Medical	Vision	Dental
	55	3.8%	7.0%	(0.2%)	(0.5%)	(0.4%)
	60	2.8%	7.8%	(0.6%)	(0.6%)	(0.7%)
	65	2.1%	10.0%	(0.5%)	(0.6%)	(0.9%)
	70	1.1%	9.5%	1.2%	(0.5%)	(1.1%)
	75	0.5%	9.3%	1.7%	1,-9 %	(1.3%)
	80	(0.2%)	8.2%	2.2%	(0.6%)	(1.8%)
	85	(0.3%)	6.8%	2.3%	(0.7%)	(2.9%)
Administrative expenses as a	Medical	7.7% (not	applied to Out of Prov	rince as valuing fully	pooled premium)	
percentage of paid claims as at	Dental	7.7%5				
December 31, 2019	Life insurance	18.8%				
Administrative expenses as a	Medical	9.3% (not	applied to Out of Prov	ince as valuing fully	pooled premium)5	
percentage of paid claims as at	Dental	8.4%5				
December 31, 2020	Life insurance	18.8%				

⁵ Exclusive of 2% premium tax

Taxes	8% of claims and administrative expenses for all medical and dental benefits.2% premium tax on claims and administration expenses.
	10% sales tax on claims, administration expenses and premium tax for life insurance.
Participation – Pre-65	100% of members assumed to participate in the pre-65 retiree health plan
Participation – Post-65	 100% for drugs, OOP and other medical 50% for hospital, vision and dental

Post Employment Retirement Allowances

The following assumptions were used in valuing the benefit obligations for the post-employment retirement allowances.

Option to choose Retirement Allowance vs. Paid up Life	100% of participants choose Retirement Allowance		
Taxes	No load used		
	65+	100%	
	64	13%	
	63	12%	
	60 – 62	11%	
	55 – 59	7%	
Retirement rates	Age	Rate	
	No withdrawal assumed after attainment of eligibility for	or retirement.	
	60	0.0%	0.0%
	50	1.2%	1.2%
	40	2.2%	2.2%
	30	5.6%	5.6%
	20	18.8%	18.89
	Age	Male	Female
Withdrawal	Mercer "Ontario Light" Termination table. Rates at sa	mple ages are shown below:	
Mortality	CPM-RPP2014 Private Sector Table with generation	al improvement scale CPM-B	
Discount rate	2.50% per annum for 31 December 2020 disclosion	ure and 2020 benefit cost determination ure and estimated 2021 benefit cost determina	tion
Discount rate	 3.10% per annum for 31 December 2019 disclosi 2.50% per annum for 31 December 2020 disclosi 	ure and 2020 benefit cost determination	tion

Other Long Term Benefits

The following assumptions were used in valuing the benefit obligations for other long term benefits (medical/dental benefits while on long term disability).

Discount rate	 3.10% per anni 2.50% per anni 	um for 31 December 2019 disclosure and 2020 benefit cost determination um for 31 December 2020 disclosure and estimated 2021 benefit cost dete	armination
2019 premiums		Single	Family
	Medical	\$3,451	\$5,517
	Dental care	633	1,464
	Total	\$4,084	\$6,981
Health care cost trend rates for	rates for Medical 6.62% per annum in 2020 grading down to 4.00%	6.62% per annum in 2020 grading down to 4.00% per annum ir	
31 December 2020 disclosure	Dental	4.00% per annum	
Premium development	The per capita claim costs are based on the group's healthy premium rates multiplied by a disabled factor of 3 for all medical benefits (except vision)		
Taxes	8% of claims and administrative expenses for all medical and dental benefits. 2% premium tax (included in premiums)		
Termination of benefits	Age 65		
Recovery assumption for 31 December 2019 disclosure and	on Canadian Group	ery rate assumptions for medical and dental benefits provided to disabled a LTD Termination Experience 1988-1997.	employees are based
2020 benefit cost determination	Modification factors	vary by age and time since disability and are available upon request.	
Recovery assumption for 31 December 2020 disclosure and		ery rate assumptions for medical and dental benefits provided to disabled experience 2009-2015.	employees are based
estimated 2021 benefit cost determination	Modification factors	vary by age and time since disability and are available upon request.	

Long Term Service Awards

The following assumptions were used in valuing the benefit obligations for the service awards.

Discount rate	3.10% per annum for 31 December 2019 disclos2.50% per annum for 31 December 2020 disclos	ure and 2020 benefit cost determination	n etermination
Mortality	CPM-RPP2014 Private Sector Table with generation		
Withdrawal	Mercer "Ontario Light" Termination table. Rates at sa		
	Age	Male	Female
	20	18.8%	18.8%
	30	5.6%	5.6%
	40	2.2%	2.2%
	50	1.2%	1.2%
	60	0.0%	0.0%
	No withdrawal assumed after attainment of eligibility f	or retirement.	
Retirement rates	Age	Rate	
	55 – 59	7%	
	60 – 62	11%	
	63	12%	
	64	13%	
	65+	100%	
Taxes	Award amount is inclusive of tax		

Claims cost development - Non-Pension Post Retirement Benefits Plan

The 2020 age 65 per capita claim costs are based on the group's claims experience from 01 October 2017 to 28 February 2020 trended to the mid-point of the valuation period, adjusted to age 65 and loaded for administrative expenses and taxes. Claims costs were developed separately for Pre-65 and Post-65 retirees based on the experience for each of these groups.

This claims experience was collected and analysed separately for Semi-Private Hospital, Prescription Drugs, Other Medical, Vision Care, Out of Province and Dental benefits.

A description of the process used to set the "Age 65 per capita claims costs" (shown in Appendix D - Actuarial Assumptions) is as follows:

- For each calendar year of claims, a cost per covered member was developed by dividing the total annual claims by the total number of eligible retirees, and dependents covered during the year.
- This cost per person has been adjusted to the cost per covered member at age 65 based on the individual ages of the covered members
 using the "Aging factors" assumptions shown in Appendix D Actuarial Assumptions).
- These costs have been increased to include the cost of insurance company administrative expenses and provincial taxes charged on the claims.
- The costs are then increased with assumed health care cost trend rates from the claims experience year to the midpoint of the valuation year (31 March 2021).
- Claims costs are developed with retiree claims experience from all 4 billing divisions (7998, 7999, 3282 and 1983) combined. Although
 there are some minor difference in plan design dependent on retirement date and collective agreement, the average is used to determine
 claims costs for all retirees. Due to the credibility of experience in each collective agreement, the different plan provisions in the claims
 experience as a whole is expected to be accounted for by applying the average to all retirees.
- For any members who are pre-65, their post-65 claims costs are modified by 50%, as 50% of members are expected to elect hospital, vision and, dental. Members who are post-65 are valued based on their actual elections.

As indicated, this analysis was performed for each experience period. The assumed cost per covered member for the 31 August 2020 valuation was based on a weighted average of the costs for the three years, as follows:

Percentage Contribution to Valuation Assumed 2020 Claim Cost	All Benefits	
2017/18 claims experience	33%	
2018/19 claims experience	33%	
2019/20 claims experience	33%	
Total	100%	

Out of province claim costs are based on January 1, 2020 premium rates.

Appendix E

Actuarial methods

Valuations and extrapolations for Non-Pension Post Retirement Benefits Plan

We have prepared an actuarial valuation of London Hydro's non-pension post retirement benefit obligations for accounting purposes as at 31 October 2017 and extrapolated those results to 31 December 2019. In accordance with our mandate, the purpose of this valuation and extrapolation is to determine 2020 benefit cost.

In addition, we have prepared an actuarial valuation of London Hydro's non-pension post retirement benefit obligations for accounting purposes as at 31 August 2020 and extrapolated those results to 31 December 2020. In accordance with our mandate, the purpose of this valuation and extrapolation is to determine the obligations and projected 2021 benefit cost of the non-pension post retirement benefit plan in accordance with international financial reporting standards.

The benefit obligations at the year-end have been based on a projection of the results of a valuation for accounting purposes as of 31 August 2020. This projection involves rolling forward the results at the earlier date allowing for interest on the liabilities, the accrual of further benefits by active members, the expected benefits payments paid out and an estimate of the effect of any changes in the actuarial assumptions. We have assumed that all other experience during the projection, apart from benefit payments, has been in line with the assumptions made at the start of the year.

Cost method

Non-Pension Post Retirement Benefits, Post Employment Retirement Allowance Benefits and Long Term Service Award Benefits

Defined Benefit Obligation (DBO) numbers shown in this report are computed using the Projected Benefit Method Pro Rated on Service, as defined in international financial reporting standards. The objective under this method is to expense each member's benefits under the plan as

they accrue, taking into consideration projections of benefit costs to and during retirement. The DBO is determined under this method as follows:

Under the Projected Benefit Method Pro Rated on Service, an equal portion of the total estimated future benefit is attributed to each year of service.

The DBO is the actuarial present value of the accrued benefit as of the valuation date and the current service cost is the actuarial present value of the benefit deemed to accrue in the fiscal year.

For retirees, spouses and surviving spouses, the DBO is the present value of all future projected benefits.

For each active member, a "full eligibility" date is determined as the first date the member has or will have met the age and service requirements to qualify for all benefits after retirement.

Full eligibility is age 55.

For active members who have reached "full eligibility", the DBO is the present value as of the valuation date of all future projected benefits. For these members, the service cost is zero.

For active members who have not yet reached "full eligibility", the DBO is the present value of all future projected benefits, multiplied by the ratio of service at the valuation date to projected service at "full eligibility". For these members, the current service cost is the present value of benefits as of the valuation date deemed to accrue in the fiscal year, and is determined as the present value of all future projected benefits divided by the projected service at "full eligibility".

The plan's current service cost is the sum of the individual current service costs, and the plan's DBO is the sum of the individual DBO for all members under the plan.

Medical/Dental Benefits paid while On Long Term Disability

The ABO for Post-Employment benefits is determined on a terminal accounting basis. For each disabled employee on long-term disability, the ABO is equal to the present value of future benefit payments (continuation of life insurance, health, and dental coverage) until the earlier of recovery, death or age 65.

Funding policy

The non-pension post retirement benefits, retirement allowance benefits and medical/dental benefits while on LTD are funded on a pay-as-you-go basis. London Hydro funds on a cash basis as benefits are paid. No assets have been segregated and restricted to provide the non-pension post retirement benefits.

Accounting policies

Non-Pension Post Retirement Benefits, Post Employment Retirement Allowance Benefits and Long Term Service Award Benefits

In accordance with IAS 19, past service costs/(credits) will be recognized immediately in the P&L defined benefit cost and gains and losses are recognized immediately in OCI.

Obligations are attributed to the period beginning on the member's date of hire and ending on the date the member reaches first full eligibility for benefits.

London Hydro's fiscal year-end date is 31 December.

We have used claims and expense data submitted by the London Hydro's insurer without further audit and membership data as supplied by London Hydro. We have reviewed the information for internal consistency, and we have no reason to doubt its substantial accuracy.

Medical/Dental Benefits paid while on Long Term Disability

The liabilities for medical/dental benefits while on LTD are determined on a terminal accounting basis. On this basis, the liability is triggered by each employee's absence, and there is no accrual during active service.

The benefit obligation with respect to the continuation of life insurance coverage, medical and dental benefits and self-insured income replacement benefits during disability has been determined as the present value of expected future benefit payments and expenses as of a particular date.

London Hydro recognizes the full change in this benefit obligation during the period as the benefit cost for the period. Our report does not address actual benefit payments as we do not have information on these amounts. This method of accounting assumes that the actual payments are expensed outside of the accounting shown in this report.

Appendix F

Plan provisions

Non-Pension Post Retirement Benefits Plan

Hourly and Salaried employees who retire from active service after age 55 are entitled to paid-up life insurance and continued health and dental benefit coverage for themselves and their eligible family for life.

In general, retirees are entitled to \$10,000 paid-up life insurance. However, there are certain grandfathered active employees (0 as at 31 August 2020 and 1 as of 31 October 2017) who are entitled to retiree life insurance equal to 50% of their pre-retirement annual base earnings. Also, the majority of current retirees are entitled to non-paid up life insurance amounts under previous plan provisions equal to flat dollar amounts, 50% of their pre-retirement annual base earnings, or 70% of their pre-retirement life benefit.

Additionally, as of 01 January 2016, salaried employees have the option for \$10,000 retiring allowance in lieu of \$15,000 in paid up life and unionized employees have the option for \$5,000 retiring allowance in lieu of \$10,000 in paid up life. Most employees are choosing the retiring allowance option so we have valued this benefit as an allowance, rather than as a paid up life benefit. This benefit is still included the Post Retirement benefit plan.

Retiree divisions

Upon retirement, pre-age 65 hourly retirees are placed in Division 7999 and salaried retirees are placed in Division 7998. Upon the attainment of age 65, hourly and salaried retirees are classified as Division 1983 and 3282 respectively.

Please note that the plan provisions below are a sample of all plan provisions for specific subdivisions. Plan provisions within the same Billing Divisions are generally similar, with the exception to some maximums under paramedical, vision and dental. When a new contract is negotiated, the plan provisions for those that retire under that subdivision will receive the maximums applicable to the benefits applicable at that time. Due to the many different benefit amounts, claim costs are based on the entire subdivision at that time and used as an average for all retiree's. The plan provisions for all divisions are summarized below.

Division 7999-00 - 100% Company Paid Benefits

Benefit	Coverage Summary	
Life/ Retirement Allowance	Option of \$10,000 Paid Up Life (100% paid for by Company) or \$5,000 Retirement Allowance	
Extended Health Care	\$10 Single Annual Deductible	
	\$20 Family Annual Deductible	
Paramedical	Chiropractor: \$350/calendar year	
	All other practitioners (including physiotherapy): \$500/calendar year combined	
Hospital	100% Semi-Private coverage, unlimited maximum	
	100% Private coverage, \$5,000 / 5 years maximum (subject to Extended Health Care deductible)	
Drugs	100% coverage, Paid Direct Drug Card - prescription drugs	
	Coverage limited to lowest priced generic alternative	
	\$7.00 dispensing fee cap	
Vision Care	100% coverage to \$250 maximum every 24 months per person	
Out of Country	100% coverage for Emergency Care to a maximum \$1,000,000	
	180 day trip maximum	
	Referral coverage to maximum of \$50,000	
Basic Dental	100% coverage to \$1,000 / year maximum per person	
Major Restorative	50% coverage to \$1,000 / year maximum per person	
Orthodontia	50% coverage to \$1,250 / lifetime maximum per person	

Division 7999-01 - 100% Company Paid Benefits

Benefit	Coverage Summary	
Life/ Retirement Allowance	Option of \$10,000 Paid Up Life (100% paid for by Company) or \$5,000 Retirement Allowance	
Extended Health Care	\$10 Single Annual Deductible	
	\$20 Family Annual Deductible	
Paramedical	Chiropractor: \$350/calendar year	
	Physiotherapist: \$750/calendar year	
	All other practitioners: \$500/calendar year combined	
Hospital	100% Semi-Private coverage, unlimited maximum	
	100% Private coverage, \$5,000 / 5 years maximum (subject to Extended Health Care deductible)	
Drugs	100% coverage, Paid Direct Drug Card - prescription drugs	
	Coverage limited to lowest priced generic alternative	
	\$7.00 dispensing fee cap	
Vision Care	100% coverage to \$300 maximum every 24 months per person	
Out of Country	100% coverage for Emergency Care to a maximum \$1,000,000	
	180 day trip maximum	
	Referral coverage to maximum of \$50,000	
Basic Dental	100% coverage to \$1,000 / year maximum per person	
Major Restorative	50% coverage to \$1,200 / year maximum per person	
Orthodontia	50% coverage to \$1,500 / lifetime maximum per person	

Division 7999-05 - 100% Company Paid Benefits

Benefit	Coverage Summary	
Life/ Retirement Allowance	Option of \$10,000 Paid Up Life (100% paid for by Company) or \$5,000 Retirement Allowance	
Extended Health Care	\$10 Single Annual Deductible	
	\$20 Family Annual Deductible	
Paramedical	Chiropractor: \$350/calendar year	
	Physiotherapist: \$750/calendar year	
	All other practitioners: \$500/calendar year combined	
Hospital	100% Semi-Private coverage, unlimited maximum	
	100% Private coverage, \$5,000 / 5 years maximum (subject to Extended Health Care deductible)	
Drugs	100% coverage, Paid Direct Drug Card - prescription drugs	
	Coverage limited to lowest priced generic alternative	
	\$7.00 dispensing fee cap	
Vision Care	100% coverage to \$350 maximum every 24 months per person	
Hearing Aids	100% standard coverage to a maximum of \$500 every 3 years	
Out of Country	100% coverage for Emergency Care to a maximum \$1,000,000	
	180 day trip maximum	
	Referral coverage to maximum of \$50,000	
Basic Dental	100% coverage to \$1,275 / year maximum per person	
Major Restorative	50% coverage to \$1,350 / year maximum per person	
Orthodontia	50% coverage to \$2,000 / lifetime maximum per person	

Division 7999-91 - 100% Company Paid Benefits

Benefit	Coverage Summary
Life/ Retirement Allowance	Option of \$10,000 Paid Up Life (100% paid for by Company) or \$5,000 Retirement Allowance
Extended Health Care	\$10 Single Annual Deductible
	\$20 Family Annual Deductible
Paramedical	Chiropractor: \$350/calendar year
	Physiotherapist: \$750/calendar year
	All other practitioners: \$500/calendar year combined
Hospital	100% Semi-Private coverage, unlimited maximum
	100% Private coverage, \$5,000 / 5 years maximum (subject to Extended Health Care deductible)
Drugs	100% coverage, Paid Direct Drug Card - prescription drugs
	Coverage limited to lowest priced generic alternative
	\$7.00 dispensing fee cap
Vision Care	100% coverage to \$300 maximum every 24 months per person includes eye exam
Out of Country	100% coverage for Emergency Care to a maximum \$1,000,000
	180 day trip maximum
	Referral coverage to maximum of \$50,000
Basic Dental	100% coverage to \$1,250 / year maximum per person
Major Restorative	50% coverage to \$1,350 / year maximum per person
Orthodontia	50% coverage to \$2,000 / lifetime maximum per person

Division 7999-92 - 100% Company Paid Benefits

Benefit	Coverage Summary	
Life/ Retirement Allowance	Option of \$10,000 Paid Up Life (100% paid for by Company) or \$5,000 Retirement Allowance	
Extended Health Care	\$10 Single Annual Deductible	
	\$20 Family Annual Deductible	
Paramedical	Chiropractor: \$300/calendar year	
	Physiotherapist: No maximum	
	All other practitioners: Various cost per visit and/or calendar year maximums	
Hospital	100% Semi-Private coverage, unlimited maximum	
	100% Private coverage, \$5,000 / 5 years maximum (subject to Extended Health Care deductible)	
Drugs	100% coverage, Paid Direct Drug Card - prescription drugs	
	Coverage limited to lowest priced generic alternative	
	No dispensing fee cap	
Vision Care	100% coverage to \$200 maximum every 24 months per person	
Out of Country	100% coverage for Emergency Care to a maximum \$1,000,000	
	180 day trip maximum	
	Referral coverage to maximum of \$50,000	
Basic Dental	100% coverage to \$1,000 / year maximum per person	
Major Restorative	50% coverage to \$1,000 / year maximum per person	
Orthodontia	50% coverage to \$1,000 / lifetime maximum per person	

Division 7999-96 - 100% Company Paid Benefits

Benefit	Coverage Summary	
Life/ Retirement Allowance	Option of \$10,000 Paid Up Life (100% paid for by Company) or \$5,000 Retirement Allowance	
Extended Health Care	\$10 Single Annual Deductible	
	\$20 Family Annual Deductible	
Paramedical	Chiropractor: \$300/calendar year	
	Physiotherapist: No maximum	
	All other practitioners: Various cost per visit and/or calendar year maximums	
Hospital	100% Semi-Private coverage, unlimited maximum	
	100% Private coverage, \$5,000 / 5 years maximum (subject to Extended Health Care deductible)	
Drugs	100% coverage, Paid Direct Drug Card - prescription drugs	
	Coverage limited to lowest priced generic alternative	
	\$7.00 dispensing fee cap	
Vision Care	100% coverage to \$200 maximum every 24 months per person	
Out of Country	100% coverage for Emergency Care to a maximum \$1,000,000	
	180 day trip maximum	
	Referral coverage to maximum of \$50,000	
Basic Dental	100% coverage to \$1,000 / year maximum per person	
Major Restorative	50% coverage to \$1,000 / year maximum per person	
Orthodontia	50% coverage to \$1,000 / lifetime maximum per person	

Division 7998-02 - 100% Company Paid Benefits

Benefit	Coverage Summary
Life/ Retirement Allowance	Option of \$10,000 Paid Up Life (100% paid for by Company) or \$5,000 Retirement Allowance
Extended Health Care	\$10 Single Annual Deductible
	\$20 Family Annual Deductible
Paramedical	Chiropractor: \$350/calendar year
	Physiotherapist: \$750/calendar year
	All other practitioners: \$575/calendar year combined
Hospital	100% Semi-Private coverage, unlimited maximum
	100% Private coverage, \$5,000 / 5 years maximum (subject to Extended Health Care deductible)
Drugs	100% coverage, Paid Direct Drug Card - prescription drugs
	Coverage limited to lowest priced generic alternative
	\$7.00 dispensing fee cap
Vision Care	100% coverage to \$525 maximum every 24 months per person
Hearing Aids	100% standard coverage every 5 years
Out of Country	100% coverage for Emergency Care to a maximum \$1,000,000
	180 day trip maximum
	Referral coverage to maximum of \$50,000
Basic Dental	100% coverage to \$1,500 / year maximum per person
Major Restorative	50% coverage to \$1,500 / year maximum per person
Orthodontia	50% coverage to \$2,500 / lifetime maximum per person

Division 7998-04 - 100% Company Paid Benefits

Benefit	Coverage Summary
Life/ Retirement Allowance	Option of \$10,000 Paid Up Life (100% paid for by Company) or \$5,000 Retirement Allowance
Extended Health Care	\$10 Single Annual Deductible
	\$20 Family Annual Deductible
Paramedical	Chiropractor: \$350/calendar year
	Physiotherapist: \$750/calendar year
	All other practitioners: \$575/calendar year combined
Hospital	100% Semi-Private coverage, unlimited maximum
	100% Private coverage, \$5,000 / 5 years maximum (subject to Extended Health Care deductible)
Drugs	100% coverage, Paid Direct Drug Card - prescription drugs
	Coverage limited to lowest priced generic alternative
	\$7.00 dispensing fee cap
Vision Care	100% coverage to \$525 maximum every 24 months per person includes eye exams
Hearing Aids	100% standard coverage every 5 years
Out of Country	100% coverage for Emergency Care to a maximum \$1,000,000
	180 day trip maximum
	Referral coverage to maximum of \$50,000
Basic Dental	100% coverage to \$1,600 / year maximum per person
Major Restorative	50% coverage to \$1,600 / year maximum per person
Orthodontia	50% coverage to \$2,500 / lifetime maximum per person

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Division 7998-10 - 100% Company Paid Benefits

Benefit	Coverage Summary
Life/ Retirement Allowance	Option of \$10,000 Paid Up Life (100% paid for by Company) or \$5,000 Retirement Allowance
Extended Health Care	\$10 Single Annual Deductible
	\$20 Family Annual Deductible
Paramedical	Chiropractor: \$350/calendar year
	Physiotherapist: \$750/calendar year
	All other practitioners: \$575/calendar year combined
Hospital	100% Semi-Private coverage, unlimited maximum
	100% Private coverage, \$5,000 / 5 years maximum (subject to Extended Health Care deductible)
Drugs	100% coverage, Paid Direct Drug Card - prescription drugs
	Coverage limited to lowest priced generic alternative
	\$7.00 dispensing fee cap
Vision Care	100% coverage to \$525 maximum every 24 months per person includes eye exams
Hearing Aids	100% standard coverage every 3 years
Out of Country	100% coverage for Emergency Care to a maximum \$1,000,000
	180 day trip maximum
	Referral coverage to maximum of \$50,000
Basic Dental	100% coverage to \$1,625 / year maximum per person
Major Restorative	50% coverage to \$1,600 / year maximum per person
Orthodontia	50% coverage to \$2,500 / lifetime maximum per person

Division 7998-82 - 100% Company Paid Benefits

Benefit	Coverage Summary
Life/ Retirement Allowance	Option of \$10,000 Paid Up Life (100% paid for by Company) or \$5,000 Retirement Allowance
Extended Health Care	\$10 Single Annual Deductible
	\$20 Family Annual Deductible
Paramedical	Chiropractor: \$300/calendar year
	Physiotherapist: No maximum
	All other practitioners: Various cost per visit and/or calendar year maximums
Hospital	100% Semi-Private coverage, unlimited maximum
	100% Private coverage, \$5,000 / 5 years maximum (subject to Extended Health Care deductible)
Drugs	100% coverage, Paid Direct Drug Card - prescription drugs
	Coverage limited to lowest priced generic alternative
Vision Care	100% coverage to \$525 maximum every 24 months per person
Hearing Aids	100% standard coverage every 5 years
Out of Country	100% coverage for Emergency Care to a maximum \$1,000,000
	180 day trip maximum
	Referral coverage to maximum of \$50,000
Basic Dental	100% coverage to \$1,500 / year maximum per person
Major Restorative	50% coverage to \$1,500 / year maximum per person
Orthodontia	50% coverage to \$2,000 / lifetime maximum per person

Division 7998-86 - 100% Company Paid Benefits

Benefit	Coverage Summary
Life/ Retirement Allowance	Option of \$10,000 Paid Up Life (100% paid for by Company) or \$5,000 Retirement Allowance
Extended Health Care	\$10 Single Annual Deductible
	\$20 Family Annual Deductible
Paramedical	Chiropractor: \$300/calendar year
	Physiotherapist: No maximum
	All other practitioners: Various cost per visit and/or calendar year maximums
Hospital	100% Semi-Private coverage, unlimited maximum
	100% Private coverage, \$5,000 / 5 years maximum (subject to Extended Health Care deductible)
Drugs	100% coverage, Paid Direct Drug Card - prescription drugs
	Coverage limited to lowest priced generic alternative
	\$7.00 dispensing fee cap
Vision Care	100% coverage to \$525 maximum every 24 months per person
Hearing Aids	100% standard coverage every 5 years
Out of Country	100% coverage for Emergency Care to a maximum \$1,000,000
	180 day trip maximum
	Referral coverage to maximum of \$50,000
Basic Dental	100% coverage to \$1,500 / year maximum per person
Major Restorative	50% coverage to \$1,500 / year maximum per person
Orthodontia	50% coverage to \$2,000 / lifetime maximum per person

Division 7998-90 - 100% Company Paid Benefits

Benefit	Coverage Summary
Life/ Retirement Allowance	Option of \$10,000 Paid Up Life (100% paid for by Company) or \$5,000 Retirement Allowance
Extended Health Care	\$10 Single Annual Deductible
	\$20 Family Annual Deductible
Paramedical	Chiropractor: \$350/calendar year
	All other practitioners (including physiotherapy): \$575/calendar year combined
Hospital	100% Semi-Private coverage, unlimited maximum
	100% Private coverage, \$5,000 / 5 years maximum (subject to Extended Health Care deductible)
Drugs	100% coverage, Paid Direct Drug Card - prescription drugs
	Coverage limited to lowest priced generic alternative
	\$7.00 dispensing fee cap
Vision Care	100% coverage to \$525 maximum every 24 months per person
Hearing Aids	100% standard coverage every 5 years
Out of Country	100% coverage for Emergency Care to a maximum \$1,000,000
	180 day trip maximum
	Referral coverage to maximum of \$50,000
Basic Dental	100% coverage to \$1,500 / year maximum per person
Major Restorative	50% coverage to \$1,500 / year maximum per person
Orthodontia	50% coverage to \$2,500 / lifetime maximum per person

Division 7998-SL3 - 100% Company Paid Benefits

Benefit	Coverage Summary
Life/ Retirement Allowance	Option of \$10,000 Paid Up Life (100% paid for by Company) or \$5,000 Retirement Allowance
Extended Health Care	\$10 Single Annual Deductible
	\$20 Family Annual Deductible
Paramedical	Chiropractor: \$450/calendar year
	Physiotherapist: \$750/calendar year
	Psychologist/Counsellor of Social Work/Psychotherapist: \$650/calendar year
	All other practitioners: \$575/calendar year combined
Hospital	100% Semi-Private coverage, unlimited maximum
	100% Private coverage, \$5,000 / 5 years maximum (subject to Extended Health Care deductible)
Drugs	100% coverage, Paid Direct Drug Card - prescription drugs
	Coverage limited to lowest priced generic alternative
	\$7.00 dispensing fee cap
Vision Care	100% coverage to \$550 maximum every 24 months per person, excluding eye exams
	100% coverage to \$100 maximum every 24 months per person for eye exams
Hearing Aids	100% standard coverage every 5 years
Out of Country	100% coverage for Emergency Care to a maximum \$1,000,000
	180 day trip maximum
	Referral coverage to maximum of \$50,000
Basic Dental	100% coverage to \$1,500 / year maximum per person
Major Restorative	50% coverage to \$2,000 / year maximum per person
Orthodontia	50% coverage to \$3,000 / lifetime maximum per person

Division 1983-00 - 15% Company Paid Benefits

Benefit	Coverage Summary
Life/ Retirement Allowance	Option of \$10,000 Paid Up Life (100% paid for by Company) or \$5,000 Retirement Allowance
Extended Health Care	\$10 Single Annual Deductible
	\$20 Family Annual Deductible
Paramedical	Chiropractor: \$350/calendar year
	All other practitioners (including physiotherapy): \$575/calendar year combined
Hospital	100% Semi-Private coverage, unlimited maximum
	100% Private coverage, \$5,000 / 5 years maximum (subject to Extended Health Care deductible)
Drugs	100% coverage, Paid Direct Drug Card - prescription drugs
	Coverage limited to lowest priced generic alternative
	\$7.00 dispensing fee cap
Vision Care	100% coverage to \$450 maximum every 24 months per person
Out of Country	100% coverage for Emergency Care to a maximum \$1,000,000
	180 day trip maximum
	Referral coverage to maximum of \$50,000
Basic Dental	100% coverage to \$1,000 / year maximum per person
Major Restorative	50% coverage to \$1,000 / year maximum per person
Orthodontia	50% coverage to \$1,250 / lifetime maximum per person

Division 1983-01 - 15% Company Paid Benefits

Benefit	Coverage Summary
Life/ Retirement Allowance	Option of \$10,000 Paid Up Life (100% paid for by Company) or \$5,000 Retirement Allowance
Extended Health Care	\$10 Single Annual Deductible
	\$20 Family Annual Deductible
Paramedical	Chiropractor: \$350/calendar year
	Physiotherapist: \$750/calendar year
	All other practitioners: \$575/calendar year combined
Hospital	100% Semi-Private coverage, unlimited maximum
	100% Private coverage, \$5,000 / 5 years maximum (subject to Extended Health Care deductible)
Drugs	100% coverage, Paid Direct Drug Card - prescription drugs
	Coverage limited to lowest priced generic alternative
	\$7.00 dispensing fee cap
Vision Care	100% coverage to \$450 maximum every 24 months per person
Out of Country	100% coverage for Emergency Care to a maximum \$1,000,000
	180 day trip maximum
	Referral coverage to maximum of \$50,000
Basic Dental	100% coverage to \$1,000 / year maximum per person
Major Restorative	50% coverage to \$1,200 / year maximum per person
Orthodontia	50% coverage to \$1,500 / lifetime maximum per person

Division 1983-11 - 15% Company Paid Benefits

Benefit	Coverage Summary
Life/ Retirement Allowance	Option of \$10,000 Paid Up Life (100% paid for by Company) or \$5,000 Retirement Allowance
Extended Health Care	\$10 Single Annual Deductible
	\$20 Family Annual Deductible
Paramedical	Chiropractor: \$350/calendar year
	Physiotherapist: \$750/calendar year
	All other practitioners: \$575/calendar year combined
Hospital	100% Semi-Private coverage, unlimited maximum
	100% Private coverage, \$5,000 / 5 years maximum (subject to Extended Health Care deductible)
Drugs	100% coverage, Paid Direct Drug Card - prescription drugs
	Coverage limited to lowest priced generic alternative
	\$7.00 dispensing fee cap
Vision Care	100% coverage to \$450 maximum every 24 months per person
Hearing Aids	100% standard coverage to a maximum of \$500 every 3 years
Out of Country	100% coverage for Emergency Care to a maximum \$1,000,000
	180 day trip maximum
	Referral coverage to maximum of \$50,000
Basic Dental	100% coverage to \$1,275 / year maximum per person
Major Restorative	50% coverage to \$1,350 / year maximum per person
Orthodontia	50% coverage to \$2,000 / lifetime maximum per person

Division 1983-94 - 15% Company Paid Benefits

Benefit	Coverage Summary
Life/ Retirement Allowance	Option of \$10,000 Paid Up Life (100% paid for by Company) or \$5,000 Retirement Allowance
Extended Health Care	\$10 Single Annual Deductible
	\$20 Family Annual Deductible
Paramedical	Chiropractor: \$350/calendar year
	Physiotherapist: \$750/calendar year
	All other practitioners: \$575/calendar year combined
Hospital	100% Semi-Private coverage, unlimited maximum
	100% Private coverage, \$5,000 / 5 years maximum (subject to Extended Health Care deductible)
Drugs	100% coverage, Paid Direct Drug Card - prescription drugs
	Coverage limited to lowest priced generic alternative
	\$7.00 dispensing fee cap
Vision Care	100% coverage to \$450 maximum every 24 months per person includes eye exam
Out of Country	100% coverage for Emergency Care to a maximum \$1,000,000
	180 day trip maximum
	Referral coverage to maximum of \$50,000
Basic Dental	100% coverage to \$1,250 / year maximum per person
Major Restorative	50% coverage to \$1,350 / year maximum per person
Orthodontia	50% coverage to \$2,000 / lifetime maximum per person

Division 1983-96 - 15% Company Paid Benefits

Benefit	Coverage Summary
Life/ Retirement Allowance	Option of \$10,000 Paid Up Life (100% paid for by Company) or \$5,000 Retirement Allowance
Extended Health Care	\$10 Single Annual Deductible
	\$20 Family Annual Deductible
Paramedical	Chiropractor: \$300/calendar year
	Physiotherapist: No maximum
	All other practitioners: Various cost per visit and/or calendar year maximums
Hospital	100% Semi-Private coverage, unlimited maximum
	100% Private coverage, \$5,000 / 5 years maximum (subject to Extended Health Care deductible)
Drugs	100% coverage, Paid Direct Drug Card - prescription drugs
	Coverage limited to lowest priced generic alternative
	\$7.00 dispensing fee cap
Vision Care	100% coverage to \$450 maximum every 24 months per person
Out of Country	100% coverage for Emergency Care to a maximum \$1,000,000
	180 day trip maximum
	Referral coverage to maximum of \$50,000
Basic Dental	100% coverage to \$1,000 / year maximum per person
Major Restorative	50% coverage to \$1,000 / year maximum per person
Orthodontia	50% coverage to \$1,000 / lifetime maximum per person

Division 1983-98 - 15% Company Paid Benefits

Benefit	Coverage Summary
Life/ Retirement Allowance	Option of \$10,000 Paid Up Life (100% paid for by Company) or \$5,000 Retirement Allowance
Extended Health Care	\$10 Single Annual Deductible
	\$20 Family Annual Deductible
Paramedical	Chiropractor: \$300/calendar year
	Physiotherapist: No maximum
	All other practitioners: Various cost per visit and/or calendar year maximums
Hospital	100% Semi-Private coverage, unlimited maximum
	100% Private coverage, \$5,000 / 5 years maximum (subject to Extended Health Care deductible)
Drugs	100% coverage, Paid Direct Drug Card - prescription drugs
	Coverage limited to lowest priced generic alternative
	No dispensing fee cap
Vision Care	100% coverage to \$450 maximum every 24 months per person
Out of Country	100% coverage for Emergency Care to a maximum \$1,000,000
	180 day trip maximum
	Referral coverage to maximum of \$50,000
Basic Dental	100% coverage to \$1,000 / year maximum per person
Major Restorative	50% coverage to \$1,000 / year maximum per person
Orthodontia	50% coverage to \$1,000 / lifetime maximum per person

Division 3282-88 - 15% Company Paid Benefits

Benefit	Coverage Summary
Life/ Retirement Allowance	Option of \$10,000 Paid Up Life (100% paid for by Company) or \$5,000 Retirement Allowance
Extended Health Care	\$10 Single Annual Deductible
	\$20 Family Annual Deductible
Paramedical	Chiropractor: \$300/calendar year
	Physiotherapist: No maximum
	All other practitioners: Various cost per visit and/or calendar year maximums
Hospital	100% Semi-Private coverage, unlimited maximum
	100% Private coverage, \$5,000 / 5 years maximum (subject to Extended Health Care deductible)
Drugs	100% coverage, Paid Direct Drug Card - prescription drugs
	Coverage limited to lowest priced generic alternative
	No dispensing fee cap
Vision Care	100% coverage to \$525 maximum every 24 months per person
Hearing Aids	100% standard coverage every 5 years
Out of Country	100% coverage for Emergency Care to a maximum \$1,000,000
	180 day trip maximum
	Referral coverage to maximum of \$50,000
Basic Dental	100% coverage to \$1,500 / year maximum per person
Major Restorative	50% coverage to \$1,500 / year maximum per person
Orthodontia	50% coverage to \$2,000 / lifetime maximum per person

Division 3282-86 - 15% Company Paid Benefits

Benefit	Coverage Summary
Life/ Retirement Allowance	Option of \$10,000 Paid Up Life (100% paid for by Company) or \$5,000 Retirement Allowance
Extended Health Care	\$10 Single Annual Deductible
	\$20 Family Annual Deductible
Paramedical	Chiropractor: \$300/calendar year
	Physiotherapist: No maximum
	All other practitioners: Various cost per visit and/or calendar year maximums
Hospital	100% Semi-Private coverage, unlimited maximum
	100% Private coverage, \$5,000 / 5 years maximum (subject to Extended Health Care deductible)
Drugs	100% coverage, Paid Direct Drug Card - prescription drugs
	Coverage limited to lowest priced generic alternative
	\$7.00 dispensing fee cap
Vision Care	100% coverage to \$525 maximum every 24 months per person
Hearing Aids	100% standard coverage every 5 years
Out of Country	100% coverage for Emergency Care to a maximum \$1,000,000
	180 day trip maximum
	Referral coverage to maximum of \$50,000
Basic Dental	100% coverage to \$1,500 / year maximum per person
Major Restorative	50% coverage to \$1,500 / year maximum per person
Orthodontia	50% coverage to \$2,000 / lifetime maximum per person

Division 3282-90 - 15% Company Paid Benefits

Benefit	Coverage Summary
Life/ Retirement Allowance	Option of \$10,000 Paid Up Life (100% paid for by Company) or \$5,000 Retirement Allowance
Extended Health Care	\$10 Single Annual Deductible
	\$20 Family Annual Deductible
Paramedical	Chiropractor: \$350/calendar year
	All other practitioners (including physiotherapy): \$575/calendar year
Hospital	100% Semi-Private coverage, unlimited maximum
	100% Private coverage, \$5,000 / 5 years maximum (subject to Extended Health Care deductible)
Drugs	100% coverage, Paid Direct Drug Card - prescription drugs
	Coverage limited to lowest priced generic alternative
	\$7.00 dispensing fee cap
Vision Care	100% coverage to \$525 maximum every 24 months per person
Hearing Aids	100% standard coverage every 5 years
Out of Country	100% coverage for Emergency Care to a maximum \$1,000,000
	180 day trip maximum
	Referral coverage to maximum of \$50,000
Basic Dental	100% coverage to \$1,500 / year maximum per person
Major Restorative	50% coverage to \$1,500 / year maximum per person
Orthodontia	50% coverage to \$2,500 / lifetime maximum per person

Division 3282-02 - 15% Company Paid Benefits

Benefit	Coverage Summary
Life/ Retirement Allowance	Option of \$10,000 Paid Up Life (100% paid for by Company) or \$5,000 Retirement Allowance
Extended Health Care	\$10 Single Annual Deductible
	\$20 Family Annual Deductible
Paramedical	Chiropractor: \$350/calendar year
	Physiotherapist: \$750/calendar year
	All other practitioners: \$575/calendar year combined
Hospital	100% Semi-Private coverage, unlimited maximum
	100% Private coverage, \$5,000 / 5 years maximum (subject to Extended Health Care deductible)
Drugs	100% coverage, Paid Direct Drug Card - prescription drugs
	Coverage limited to lowest priced generic alternative
	\$7.00 dispensing fee cap
Vision Care	100% coverage to \$525 maximum every 24 months per person
Hearing Aids	100% standard coverage every 5 years
Out of Country	100% coverage for Emergency Care to a maximum \$1,000,000
	180 day trip maximum
	Referral coverage to maximum of \$50,000
Basic Dental	100% coverage to \$1,500 / year maximum per person
Major Restorative	50% coverage to \$1,500 / year maximum per person
Orthodontia	50% coverage to \$2,500 / lifetime maximum per person

Division 3282-10 - 15% Company Paid Benefits

Benefit	Coverage Summary
Life/ Retirement Allowance	Option of \$10,000 Paid Up Life (100% paid for by Company) or \$5,000 Retirement Allowance
Extended Health Care	\$10 Single Annual Deductible
	\$20 Family Annual Deductible
Paramedical	Chiropractor: \$350/calendar year
	Physiotherapist: \$750/calendar year
	All other practitioners: \$575/calendar year combined
Hospital	100% Semi-Private coverage, unlimited maximum
	100% Private coverage, \$5,000 / 5 years maximum (subject to Extended Health Care deductible)
Drugs	100% coverage, Paid Direct Drug Card - prescription drugs
	Coverage limited to lowest priced generic alternative
	\$7.00 dispensing fee cap
Vision Care	100% coverage to \$525 maximum every 24 months per person includes eye exams
Hearing Aids	100% standard coverage every 3 years
Out of Country	100% coverage for Emergency Care to a maximum \$1,000,000
	180 day trip maximum
	Referral coverage to maximum of \$50,000
Basic Dental	100% coverage to \$1,625 / year maximum per person
Major Restorative	50% coverage to \$1,600 / year maximum per person
Orthodontia	50% coverage to \$2,500 / lifetime maximum per person

Division 3282-TBD - 15% Company Paid Benefits

Benefit	Coverage Summary
Life/ Retirement Allowance	Option of \$10,000 Paid Up Life (100% paid for by Company) or \$5,000 Retirement Allowance
Extended Health Care	\$10 Single Annual Deductible \$20 Family Annual Deductible
Paramedical	Chiropractor: \$450/calendar year Physiotherapist: No maximum Psychologist/Counsellor of Social Work/Psychotherapist: \$650/calendar year All other practitioners: Various cost per visit and/or calendar year maximums
Hospital	100% Semi-Private coverage, unlimited maximum 100% Private coverage, \$5,000 / 5 years maximum (subject to Extended Health Care deductible)
Drugs	100% coverage, Paid Direct Drug Card - prescription drugs Coverage limited to lowest priced generic alternative No dispensing fee cap
Vision Care	100% coverage to \$550 maximum every 24 months per person, excluding eye exams 100% coverage to \$100 maximum every 24 months per person for eye exams
Hearing Aids	100% standard coverage every 5 years
Out of Country	100% coverage for Emergency Care to a maximum \$1,000,000 180 day trip maximum Referral coverage to maximum of \$50,000
Basic Dental	100% coverage to \$1,500 / year maximum per person
Major Restorative	50% coverage to \$2,000 / year maximum per person
Orthodontia	50% coverage to \$3,000 / lifetime maximum per person

Post Employment Retirement Allowance provisions

London Hydro will pay bonus amounts upon retirement which include tax.

Service Level Attained	Value of Gift Amount
Retirement	\$500

Medical/Dental Benefits paid while on LTD plan provisions

London Hydro shall continue the payment of medical premiums in Article 24:01 for twelve (12) months after expiration of the Corporation sick leave plan.

After twelve (12) months, further payments shall be prorated according to length of service as determined by the posted seniority list as follows:

- Less than five (5) years of service no further payment
- · For each year of service over five (5) six (6) months payment
- In no case shall payment be continued past age sixty-five (65).

When the employee is no longer eligible for Corporation payment of premiums, they may remain in the Corporation group and make across-the-counter payments to continue these benefits.

If payment of medical premiums can be secured from other sources, such as spouse's employment or premium assistance, the Corporation is not obligated for these payments.

Long Term Service Award Plan provisions

London Hydro Inc. will pay bonus amounts upon the attainment of specific service levels which include tax. Service attainments and the corresponding bonus amounts are shown below:

Service Level Attained	Value of Gift Amount
5 years	\$60
10 years	\$110
15 years	\$150
20 years	\$250
25 years	\$300
30 years	\$400
35 years and above (5 year increments)	\$450

Appendix G

Additional information

Analysis of liability (gain) loss - Non-Pension Post Retirement Benefits

Gains and losses due to:	Fiscal Year Ending 31 December 2020	
Update in census information	\$107,000	
Change in claims cost assumption	(1,256,400)	
Change in administrative expenses and sale taxes	110,900	
Change in discount rate	1,354,000	
Actual benefit payments differing from expected	(71,100)	
Total	\$244,400	

Defined Benefit Obligation as at 31 December 2020

	Medical	Dental	Life	Total
Current retirees	\$3,568,500	\$764,900	\$2,981,400	\$7,314,800
Other members fully eligible	2,762,300	540,700	520,300	,823,300
Other members not fully eligible	3,622,300	747,000	330,300	4,699,600
Total	\$9,953,100	\$2,052,600	\$3,832,000	\$15,837,700

Analysis of liability (gain) loss - Retirement Allowance

Gains and losses due to:	Fiscal Year Ending 31 December 2020	
Update in census information	(\$100)	
Change in discount rate	2,700	
Total	\$2,600	

Analysis of liability (gain) loss - Post-Employment Benefits

Gains and losses due to:	Fiscal Year Ending 31 December 2020	
Update in census information	\$55,000	
Change in claims cost assumption	(6,100)	
Change in trend assumption	1,100	
Change in termination assumption	(4,500)	
Change in discount rate	2,200	
Total	\$48,300	

Appendix H

Employer certification

With respect to the Actuarial Valuation Report for fiscal year ending 31 December 2020 and estimated defined benefit cost for the fiscal year ending 31 December 2021 under international financial reporting standards of London Hydro's Plans, I hereby certify that, to the best of my knowledge and belief:

- The membership data supplied to the actuary provides a complete and accurate description of all persons who are entitled to benefits under the terms of the Plans for service up to the date of the valuations.
- Copies of the official plan documents and of all amendments made up to 31 December 2020 have been supplied to the actuary.
- All substantive commitments (as defined under international financial reporting standards) have been communicated to the actuary.
- Accounting policies as adopted by London Hydro Inc. are those described in this report.
- · The actuarial methods to be used for the purposes of the valuation are those described in this report.
- London Hydro Inc.'s best estimate assumptions for purposes of the valuations and the extrapolation of the financial position of the Plans as
 of 31 December 2020 are those described in this report.

 All events subsequent to the valuation that may have an impact on the results of the valuations or of a future valuation have been communicated to the actuary.

February 5, 2021	Karen Lyons Lyons Date 2021 02 06
DATE	SIGNED
	KAREN LYONS
	NAME
	DIRECTOR, FINANCIAL ACCOUNTING

TITLE

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Mercer (Canada) Limited





Appendix 4-5: Purchasing Department Policies and Procedures



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London Hydro	
Policy Title: Purchase Initiation & Supplier Selection	Policy Number: COR-FIN-100340
Policy Category: Finance and Purchasing	Version Number: V. 07
Approval Authority: Board of Directors	Approval Date: August 25 2020
Review Authority: Finance and Executive Office	Review Date: August 5 2020

Purpose

To outline London Hydro's expectations for purchasing and supplier selection.

Scope

This policy applies to the purchase of products and services initiated by the organization, with the exception of the replenishment or acquisition of certain items that fall into the category of Engineered Products.

This policy applies to all employees. Violation of this policy will result in discipline up to and including discharge.

In certain circumstances, the selection of suppliers as required by this policy is achieved, in whole or in part, by other acceptable procedures. The following supplier selection procedures are considered acceptable and may be utilized in place of the procedures detailed in this policy:

- i. Supplier selection is performed by established organizations or buying groups who ensure adherence to supplier selection criteria similar to and compatible with the principles and policies of this policy. Such organizations can be utilized on the authorization of the Chief Executive Officer (CEO).
- ii. Certain products requiring a high degree of technical specification, such as primary cable, transformers and other Engineered Products, require the supplier to demonstrate technical capabilities and/or performance or quality standards prior to being included on the approved vendor list. All such purchases greater than \$25,000will be subject to either a Request for Quotation or Formal Request for Quotation from suppliers on the approved vendor list. In order to classify a product as an Engineered Product, a Declaration of Engineered Product form must be completed by the requesting department and approved by the Finance Department.

 Maintenance of the approved vendor list will be the responsibility of the Engineering Department.
- iii. The processes detailed in Sections 1.4 and 5.7 will govern the request for and evaluation of quotations.

Policy Statement

Employees shall ensure that the best prices for acceptable products and services are obtained from suppliers in a fair, consistent, and unbiased manner, which promotes participation from eligible suppliers.

Employees shall ensure that purchase transactions are properly initiated and assessed in accordance with the authorization levels detailed in the approved signing authority register.

1. Responsibilities

- 1.1. Department Managers will be responsible for adherence to the approved signing authority register in the initiation of purchases for their department.
- 1.2. Department Managers will be responsible for communication of purchase requests to the Purchasing department for the initiation of supplier selection.
- 1.3. Overall responsibility for supplier selection in accordance with procedures outlined in sections 5.0 to 8.0 will reside with the Chief Financial Officer (CFO).
- 1.4. Where there are unique criteria (e.g. technical specifications, performance requirements) which require specialized knowledge, responsibility for the assessment of such criteria will reside with the applicable Department Manager. Upon receipt of the responses to a request for quotation, the Purchasing department will assess and document pricing and standard selection criteria.

The Department Manager shall provide the assessment of the unique criteria and communicate this information to the Purchasing department for consideration in the completion of the supplier selection.

2. Purchases Less than \$25,000

- 2.1. All purchases less than \$25,000 shall be made from a vendor on the approved vendor list.
- 2.2. If a purchase of less than \$25,000 cannot be made from the approved vendor list, supplier selection will be governed by the supplier selection criteria and the reasons for the supplier selection will be documented in the supplier file.
- 2.3. Vendor evaluation will be made in accordance with the supplier selection criteria prior to the selection of a supplier for inclusion on the approved vendor list.
- 2.4. The vendor list will be reviewed and updated periodically and each vendor reexamined as to its performance in relation to the supplier selection criteria and the results of this review will be documented in the purchase order file.

3. Purchases > \$25,000 and < \$50,000

- 3.1. Except as provided in subsequent paragraphs of this section, all purchases will be subject to a request for quotation and require a minimum of three quotes (e-mail, facsimile or third-party electronic bidding website authorized by London Hydro, acceptable). The preparation of the request for quotation and the aggregation of responses will be conducted by the Purchasing department.
- 3.2. In unique situations where there are reasons to support a lesser number of quotes due to sole source suppliers or other reasons, the circumstances will be documented in the purchase order file accompanied by authorization by the CFO.
- 3.3. Selection of the supplier will be the responsibility of the CFO and will be directed by the supplier selection criteria.
- 3.4. The purchase order file shall include documentation of the request for quotation, the responses from all responding suppliers, and the rationale for the selection of any supplier above the lowest quote, accompanied by authorization of the selection by the CFO.

4. Purchases > \$50,000 and < \$75,000 - Formal Request for Quotation

- 4.1. Except as noted in 4.5 below, the selection of suppliers will be governed by the same procedures as prescribed in Section 3 with the following exceptions and amendments:
- 4.2. Responses will be received through a third-party electronic bidding website authorized by London Hydro. The Financial Administrative Assistant, or an appropriate designate approved by the CEO, will perform the receipt and aggregation of supplier responses and be responsible for ensuring that the responses are received by the due date and for the accumulation and security of these responses prior to closing date of the formal request for quotation. The responses will not be communicated or conveyed to any person prior to the review by the evaluation team.
- 4.3. The purchase of **new** inventory items that have not been previously inventoried on a regular basis, and where the total initial order is in excess of \$50,000, will require the approval of the CEO.
- 4.4. The Department Manager will be responsible for the organization of the evaluation team, which will include members with the appropriate knowledge base to create the Formal Quotation and evaluate the responses received. The evaluation team will consist of an appropriate number of members to conduct the evaluation process and will include members from areas other than the department initiating the request.

4.5. For all non-recurring expenditures related to consulting, professional services and similar expenditures for which there is the potential for high public exposure regarding the selection of the supplier, the nature of the review and its results, or the potential for incremental fees beyond the initial scope of the project, the supplier selection will be governed by the Tender or Request for Proposal process as detailed in Section 5. The responsibility for the identification of qualifying purchases will reside with the Department Manager initiating the request.

5. Purchases > \$75,000

a) <u>Process and Submission Evaluation</u>

For the acquisition of "Engineered Products" and the replenishment of inventory, the Formal Quotation process will be used. For all other goods and services, the Tender or Request for Proposal procedure will be used.

- 5.1. Purchases greater than \$75,000 will be subject to the Formal Quotation, Tender or Request for Proposal process. The responsibility for the identification of qualifying purchases will be the responsibility of the Department Manager.
- 5.2. The Department Manager will be responsible for the organization of the evaluation team, which will include members with the appropriate knowledge base to create the Formal Quotation, Tender or Request for Proposal and evaluate the responses received. The evaluation team will consist of an appropriate number of members to conduct the evaluation process and will include members from areas other than the department initiating the request.
- 5.3. No publicly advertised Tender or Request for Proposal will be released without the prior written authorization of the CEO or designate.
- 5.4. The Purchasing department will be responsible for the co-ordination, control and documentation of the requests distributed.
- 5.5. Responses will be received through a third-party electronic bidding website authorized by London Hydro. The Financial Administrative Assistant, or an appropriate designate approved by the CEO, will perform the receipt and aggregation of supplier responses and be responsible for ensuring that the responses are received by the due date and for the accumulation and security of these responses.
- 5.6. The Purchasing Manager or designate will sign a summary sheet of the responses received , a copy of which will be retained in the Purchasing department.
- 5.7. The evaluation team will be responsible for the evaluation of the responses received in accordance with the criteria established and documented in the Formal Quotation,

Tender or Request for Proposal document. The team will be further responsible for the summarization and communication of the results including the provision of all information to the Purchasing department. The Purchasing department will be responsible for the retention of all information relating to the process.

b) Recommendations for Approval

- 5.8. The evaluation and other information and results will be summarized in the standard format and submitted with sufficient information to allow those in the approval process to make an assessment. The summary will be signed by the VP of the business unit requesting the purchase/award.
- 5.9. In addition to the department supervisor and the Purchasing Manager, the following signatures are required to be obtained for each department requesting approval:
 - 5.9.1. For Engineering and Operations: the Vice President (VP) of Engineering & Operations; the CFO; and the CEO;
 - 5.9.2. For Corporate Services: the CIO; the CFO; and the CEO;
 - 5.9.3. For the Finance Department: a VP other than the CFO; the CFO; and the CEO;
 - 5.9.4. For Executive Services: a VP other than the CFO; the CFO; and the CEO.

c) Approval and Award of Contracts > \$100,000

- 5.10. The approval and award of contracts over \$100,000 will be as follows:
 - a. For contracts representing the replacement of existing contracts (including option years for previously awarded contracts), the Executive Committee has the authority to approve these contracts. There may be situations where the CEO will inform the Board of Directors regarding these contracts.
 - b. Any new contracts valued at over \$100,000 and not budgeted will be presented to the Board of Directors for approval.

Definitions

An Engineered Product is a product requiring a high degree of technical specification, such
as primary cable, transformers, and other electrical inventory products that require the

supplier to demonstrate technical capabilities including performance and/or quality standards prior to being included on an approved vendor list.

- A *Request for Quotation* is a request for suppliers to submit an unsealed bid for the supply of certain goods or services at a particular price to London Hydro. Characteristics:
 - Submitted in an unsealed bid to the Purchasing Department
 - Sent directly to the known suppliers of the product or service from an established vendor list
 - Not advertised in the public media
 - Not opened publicly
 - Results are not submitted to the Board of Directors for approval nor awarding of the contract
 - Process is used for the acquisition of goods or services greater than \$25,000 and less than \$50,000.
- A *Formal Request for Quotation* is a request for suppliers to submit a sealed bid for the supply of certain goods or services at a particular price to London Hydro. Characteristics:
 - Submitted through a third-party electronic bidding website authorized by London Hydro
 - Sent directly to the known suppliers of the product or service from an established vendor list
 - Not advertised in the public media
 - Not opened publicly
 - Process is used for the acquisition of goods or services greater than \$50,000 and less than \$\$75,000 and for the acquisition of Engineered Products greater than \$75,000
 - Results are not submitted to the Board of Directors for approval nor awarding of the contract.
- A Request for Proposal (RFP) is a form of tender document used to purchase complex services where other criteria as well as price will be used to evaluate the bids.
 Characteristics:
 - Submitted through a third-party electronic bidding website authorized by London Hydro
 - Sent directly to the known suppliers of the product or service
 - May be advertised in appropriate public media where other potential suppliers may exist
 - Not opened publicly
 - Awarded on the basis of several criteria as well as price

- o In some situations results are reported to the Board of Directors after awarding of the contract by appropriate Management authorities
- This process is used for the acquisition of goods or services exceeding \$75,000 (excluding Engineered Products and inventory replenishments).
- A *Tender* is a request for suppliers to submit a formal sealed bid that contains a written
 offer made in a specified format for the supply of certain goods or services at a particular
 price to London Hydro. Characteristics:
 - Submitted through a third-party electronic bidding website authorized by London Hydro
 - Sent directly to the known suppliers of the product or service
 - o Always advertised in appropriate public media
 - Not opened publicly
 - Awarded on the basis of the lowest price meeting specifications as defined or described in the tender documents, or by the evaluation criteria listed in the tender document
 - In some situations results are reported to the Board of Directors after awarding of the contract by appropriate Management authorities
 - Process is used for the acquisition of goods or services exceeding \$75,000 (excluding Engineered Products and inventory replenishments).

Related Information

Procedure – Purchase Initiation and Supplier Selection

Guideline- Diversity and Inclusion