



Exhibit 4

OPERATING COSTS



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Exhibit 4: Operating Expenses

4.1 Overview

This Exhibit represents the expenses that KWHI incurs to service its customers and maintain and operate KWHI's distribution assets. This level of expenditures ensures that KWHI is able to achieve performance targets set by the OEB and provide quality service while ensuring safety for both staff and the public. Expenses incurred ensure that KWHI can meet the needs of the public as required by legislation. Costs incurred ensure that KWHI adheres to all relevant codes (Distribution System Code, Retail Settlement Code, Standard Supply Service Code, etc.).

KWHI is proposing to recover through distribution rates for the 2020 Test Year a total of \$34,366,975 for OM&A, depreciation and income taxes as detailed in the [Table 4.1-1](#) below:

(Note: The table below does not include interest).

Table 4.1-1 – Summary of Operating Costs

OM&A Expenses	2014 Board Approved CGAAP	2020 Test MIFRS
Operations	5,661,000	6,707,400
Maintenance	5,619,400	6,454,500
Billing and Collecting	3,841,330	4,981,700
Community Relations	191,300	263,400
Administrative and General Expenses	3,066,230	3,583,700
Total Recoverable OM&A Expenses	18,379,260	21,990,700
Property Taxes	394,800	436,900
Depreciation	7,461,469	11,013,500
PILs	496,900	925,875
Total Recoverable Expenses	26,732,429	34,366,975

Property taxes and PILS are discussed more fully in Section 4.10 and Depreciation is discussed in Section 4.9.

Since KWHI last filed in 2014, many new initiatives have been brought forward by the OEB. There is an increased focus on customer engagement and customer service standards for consumers and the industry.

A continuing theme of an aging workforces has also resulted in cost pressures to recruit and develop a new generation of employees.

KWHI is one of the lowest cost utilities in the province and continues to deliver high reliability and customer value. As can be seen by [Table 4.1-2](#) below, KWHI is the lowest amongst its peers in terms of OM&A per customer and has been for several years.

Table 4.1-2 – OM&A per Customer

	2017		2016		2015	
	Number of Customers	OM&A per Customer	Number of Customers	OM&A per Customer	Number of Customers	OM&A per Customer
Kitchener-Wilmot Hydro Inc.	86,846	191.43	85,248	186.10	83,642	178.78
Burlington Hydro Inc.	60,593	271.52	60,468	272.59	60,366	267.05
Energy+ Inc.	57,573	273.11	56,989	270.80	47,501	270.45
Guelph Hydro Electric Systems Inc.	50,542	274.87	49,793	265.81	49,132	281.14
London Hydro Inc.	143,018	240.22	141,323	233.81	139,861	225.29
Oakville Hydro Electricity Distribution Inc.	64,073	260.79	62,501	261.30	61,231	269.33
Waterloo North Hydro Inc.	50,463	246.42	49,767	236.41	49,094	239.32

Source - 2017 OEB Yearbook

for illustrative purposes the former Cambridge and North Dumfries Hydro results are shown on the Energy + line

KWHI's OM&A costs have been steadily increasing each year, particularly Distribution Operating and Maintenance, due to several reasons including steady growth, additional costs associated with regulatory and legislated requirements, and ongoing maintenance and upgrades to improve the reliability of its distribution system. KWHI believes that it is important to ensure a safe reliable service to its customers. In addition, LDCs have been operating in a dynamic atmosphere since market opening in 2002. This has put



additional cost pressures on all distribution utilities in the province, particularly in the area of regulation and compliance. KWHI has had considerable monetary outlays over the past number of years to comply with regulatory and legislative changes arising from rate applications, RRR reporting, ESA regulations, surveys, etc.

A summary of KWHI's operating costs for the 2014 Board approved, 2014 through 2018 Actuals and the 2019 Bridge and 2020 Test Years is provided in [Table 4.1-3](#) below. Total operating costs will rise from \$18,379,260 as approved by the Board in 2014 to \$21,990,700 in the 2020 Test Year. This is an increase of \$3,611,440 or 19.6%.

Table 4.1-3 – Recoverable OM&A Expenses

	2014 Board Approved CGAAP	2014 Actual CGAAP	2015 Actual MIFRS	2016 Actual MIFRS	2017 Actual MIFRS	2018 Actual MIFRS	2019 Bridge MIFRS	2020 Test MIFRS
Operations	5,661,000	4,503,129	4,198,146	4,499,779	5,143,786	5,813,947	6,123,100	6,707,400
Maintenance	5,619,400	5,613,513	5,179,334	4,998,354	5,480,837	5,996,632	6,453,200	6,454,500
Billing and Collecting	3,841,330	3,415,009	3,775,665	4,468,748	4,296,607	4,615,266	4,210,700	4,981,700
Community Relations	191,300	199,353	238,394	269,179	220,473	241,006	258,300	263,400
Administrative	3,066,230	2,933,596	2,726,825	2,870,878	2,782,195	2,751,118	3,122,000	3,583,700
Total	18,379,260	16,664,600	16,118,364	17,106,937	17,923,897	19,417,969	20,167,300	21,990,700

2020 Test year vs. 2014 Board Approved

3,611,440

% increase 2020 Test Year vs 2014 Board Approved

19.6%

Note also that [Table 4.1-3](#) does not include 6205 Donations that are non-recoverable.

4.1.1 KWHI Total Spend Approach to OM&A

KWHI has long balanced its controllable OM&A with its capital spend – the total spend approach. In budgeting this way, KWHI has seen many years of high capital spend offset by lower OM&A and, in other years, the reverse.

In the use of its total spend approach, KWHI tracks its controllable versus non-controllable OM&A as explained below.

Controllable versus Non-Controllable OM&A

Traditionally in the LDC world, OM&A has been considered to be the controllable expense envelope, although in many cases this is not the reality. Many costs/credits cannot be controlled at all and others can only be mitigated. An example of a costs that can be mitigated would be staffing levels although offset by a reduction in service levels (e.g. answering telephone calls within 40 seconds). An example of a credit that is not controlled by the corporation is administrative credits and other credits applied to invoices for recoverable work. The amount of these credits is contingent on the amount of capital work that is being completed or on recoverable work that is invoiced at any given time.

For the years 2014 through 2017, KWHI had significant cost reductions in the form of these credits due to the construction of the LRT in the City of Kitchener. Prior to 2014, these credits were in the \$2.7M range. During the construction of the LRT, these credits grew significantly as the LRT work was all capital work and much of the work was also mostly recoverable (60%) due to successful cost sharing negotiations with the Region of Waterloo. All credits for the years 2014 through 2018 are shown below along with the 2014 Board approved amount in the table below. The credits significantly affected the income statement for the LRT years, reducing OM&A, which is considered to be controllable within the OEB regime. Departmental managers for these business units were not in any way able to control the application of these credits to their areas of responsibility.

Table 4.1.1-1 OM&A Credits

	2014 Board Approved CGAAP	2014 Actual CGAAP	2015 Actual MIFRS	2016 Actual MIFRS	2017 Actual MIFRS	2018 Actual MIFRS	2019 Bridge MIFRS	2020 Test MIFRS
Administration Credits	553,200	729,655	1,260,556	1,102,086	954,505	842,079	922,600	924,100
Material Overhead Credits	449,200	411,883	477,850	511,575	444,019	429,134	412,000	416,100
Engineering Credits	1,683,800	1,964,018	2,136,772	2,381,732	2,080,633	1,794,277	1,799,300	1,820,600
Total	2,686,200	3,105,556	3,875,178	3,995,393	3,479,157	3,065,490	3,133,900	3,160,800
\$\$ Variance from Board Approved		419,356	1,188,978	1,309,193	792,957	379,290	447,700	474,600
% Variance from Board Approved		15.61%	44.26%	48.74%	29.52%	14.12%	16.67%	17.67%



KWHI's total spend approach removes the "noise" of these credits from the total spend amounts to arrive at a gross spend, rather than a net spend.

[Table 4.1.1-2](#) below compares the net and the gross OM&A after departmental transfers, material inventory and administration credits (in thousands). Note there may be small differences between the departments as reported by program due to reallocation of costs to other departments, but the final totals are the same.

Table 4.1.1-2 Gross OM&A after Transfers

Department	Board Approved 2014	Actual 2014	Actual 2015	Actual 2016	Actual 2017	Actual 2018	Bridge 2019	Test 2020
Engineering - net	716	28	(263)	(230)	241	656	934	1,044
Engineering - gross	2,584	2,235	2,206	2,432	2,540	2,629	2,937	3,068
Operations - net	3,523	3,291	3,381	3,716	3,826	3,944	4,047	4,278
Operations - gross	3,707	3,534	3,765	4,047	4,090	4,164	4,274	4,484
Maintenance - net	4,942	4,953	4,543	4,387	4,780	5,227	5,627	5,585
Maintenance - gross	4,942	4,953	4,543	4,387	4,780	5,227	5,627	5,585
Safety - net	595	613	525	547	588	656	664	674
Safety - gross	889	930	847	916	917	996	1,007	1,025
Customer Service - net	3,402	2,951	3,420	4,119	3,926	4,168	3,829	4,490
Customer Service - gross	3,402	2,951	3,343	4,022	3,855	4,096	4,219	4,269
Administration - net	3,318	3,106	3,068	3,146	3,070	3,026	3,388	3,833
Administration - gross	3,951	3,762	3,903	3,960	3,765	3,675	3,979	4,428
Human Resources - net	134	162	211	170	259	253	337	346
Human Resources - gross	134	162	211	170	259	253	337	346
Information Technology - net	1,751	1,563	1,268	1,252	1,239	1,488	1,347	1,745
Information Technology - gross	1,751	1,563	1,533	1,538	1,530	1,784	2,170	2,344
OM&A - net	18,379	16,667	16,153	17,108	17,928	19,418	20,172	21,994
OM&A - gross	21,359	20,089	20,351	21,472	21,736	22,824	24,550	25,548

It can be clearly seen that KWHI's actual gross OM&A has varied very little over the past rebasing period 2014 through 2018. Some maintenance activities were, in fact, deferred and thus costs were low for the LRT years. In 2018, maintenance activities again began to ramp back up to more appropriate levels as catch-up work is required for the period of deferment.



KWHI's actual capital program has seen more fluctuation over the past rebasing period 2014 through 2018, although KWHI's balancing approach can be seen in the net numbers. In the table below, gross capital expenditures have been adjusted to reflect the same adjustments that have been made to the OM&A accounts (where appropriate) to reach a net CAPEX amount by year (in thousands).

Table 4.1.1-3 CAPEX

	Board Approved 2014	2014	2015	2016	2017	2018	2019	2020
CAPEX	20,936	20,403	21,420	25,524	21,115	20,302	25,201	24,574
CIS Labour Adjustments							(904)	(45)
Safety Adjustments	(294)	(317)	(322)	(369)	(329)	(341)	(343)	(351)
Engineering Credits	(1,684)	(1,964)	(2,137)	(2,382)	(2,081)	(1,794)	(1,799)	(1,821)
Net Capex	18,958	18,123	18,960	22,773	18,705	18,167	22,154	22,357

The net capital spend shows fluctuations due to the non-discretionary spending on LRT construction for the three-year period 2014 through 2017. 2016 was the peak of the construction and the year with the highest capital spend - \$3.8M higher than 2015. Beyond that, the other years, the net capital spend remained fairly constant reflecting KWHI's total spend approach.

These two tables are now brought together to show KWHI's actual total spend in the years 2014 through 2018 and the proposed spend in 2019 Bridge and 2020 Test Years (in thousands).



1

Table 4.1.1-4 Total actual Spend

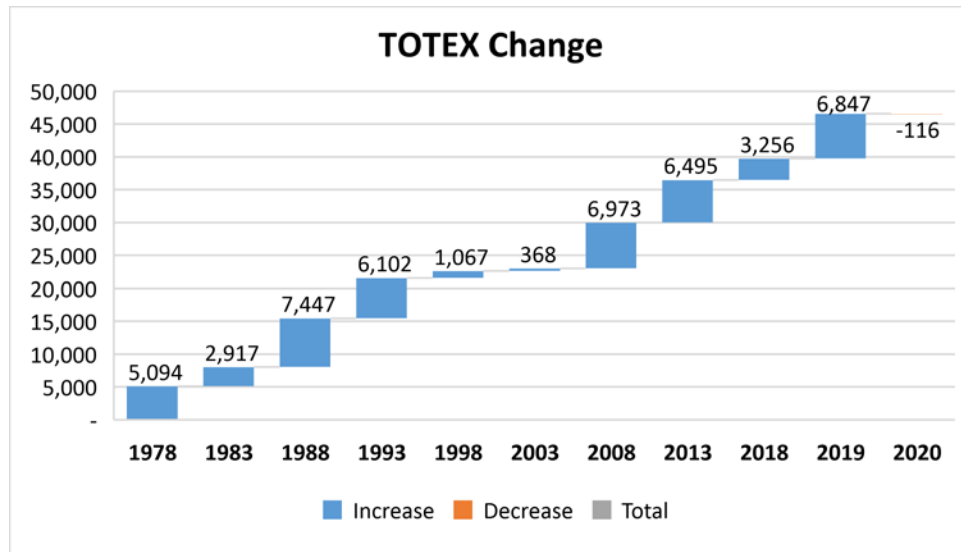
Department	Board Approved 2014	Actual 2014	Actual 2015	Actual 2016	Actual 2017	Actual 2018	Bridge 2019	Test 2020
Gross CAPEX	20,936	20,403	21,420	25,524	21,115	20,302	25,201	24,574
CIS labour adjustments	0	0	0	0	0	0	(904)	(45)
Safety adjustments	(294)	(317)	(322)	(369)	(329)	(341)	(343)	(351)
Engineering Credits	(1,684)	(1,964)	(2,137)	(2,382)	(2,081)	(1,794)	(1,799)	(1,821)
Net Capex	18,958	18,123	18,960	22,773	18,705	18,167	22,154	22,357
OM&A								
Engineering	2,584	2,235	2,206	2,432	2,540	2,629	2,937	3,068
Operations	3,707	3,534	3,765	4,047	4,090	4,164	4,274	4,484
Maintenance	4,942	4,953	4,543	4,387	4,780	5,227	5,627	5,585
Safety	889	930	847	916	917	996	1,007	1,025
Customer Service	3,402	2,951	3,343	4,022	3,855	4,096	4,219	4,269
Administration	3,951	3,762	3,903	3,960	3,765	3,675	3,979	4,428
Human Resources	134	162	211	170	259	253	337	346
Information Technology	1,751	1,563	1,533	1,538	1,530	1,784	2,170	2,344
OM&A	21,359	20,089	20,351	21,472	21,736	22,824	24,550	25,548
Total gross spend	40,318	38,212	39,311	44,245	40,441	40,991	46,704	47,905

2

3 KWHI's total spend during 2014 through 2018 has consistently been in the \$40M range,
 4 with the exception of 2016, the year of excess CAPEX due to the LRT. 2018 actuals
 5 saw a total spend of \$41M.

6 As can be seen by the following graph, KWHI has reset its spending envelope a number
 7 of times in recent years (in thousands).

Chart 4.1.1-5 TOTEX Change



The graph above shows the total cost envelope in five-year increments beginning in 1978 until 2018 and then the proposed envelopes for 2019 and 2020. As needs are identified, it can be seen that the total cost envelope has been historically reset.

Over its existence, KWHI has always had to deal with competing demands, balancing the needs of its customers against rising OM&A costs, inclusive of inflation.

In this Application, KWHI recognizes that it cannot maintain operations within its current spending envelope, given its increased needs in both OPEX and CAPEX. In addition to inflation, KWHI has fully incremental costs such as CIS and HR system fees, OEB cost assessment fees, rising postage costs, increased expenses in HR and Safety and additional maintenance expenses. The cost of these incremental expenses alone equal \$1.4M.

KWHI's Total Spend Approach has seen the LDC through good times and bad; however, it has emerged as a leader in the industry for its steady stream of reliable power, controlled OM&A costs and its focus on the customer. The resetting of its total



1 spend envelope will ensure that it will continue to lead the industry and be an example
2 to others into the future.

3 For additional details of KWHI's Total Spend Approach, see Exhibit 1, Section 1.1.3 and
4 Exhibit 2, Section 2.1.1

5 **4.1.2 Accounting Policy Changes**

6 In accordance with the Board's letter dated July 12, 2012, KWHI adopted capitalization
7 and depreciation policies under CGAAP that were compliant with International Financial
8 Reporting Standards. KWHI adopted the required accounting changes for depreciation
9 and capitalization policies on January 1, 2012, which were included in the KWHI's 2014
10 Cost of Service Application. As a result, there were no additional impacts to the
11 expensing of overheads or amortization expense.

12 **4.1.3 Transition to Modified International Financing Reporting Standards** 13 **(MIFRS)**

14 KWHI followed Canadian Generally Accepting Accounting principles (CGAAP) in 2013
15 and 2014. KWHI adopted International Financial Reporting Standards effective January
16 1, 2015 with restatement to January 1, 2014. KWHI adopted Modified International
17 Financial Reporting Standards (MIFRS) for rate making purposes effective January 1,
18 2015 and follows the OEB's Accounting Procedures Handbook (APH).

19 In this Exhibit, where applicable, 2014 Actuals are presented under the former CGAAP
20 (modified for changes in depreciation and capitalization policies) and the years 2015
21 through 2020 Test Year are presented under MIFRS.

22 In anticipation of its transition to IFRS and, as part of its 2014 Cost of Service, \$1.7M
23 was added to KWHI's OM&A envelope (and \$1.7M removed from capital) to capture the
24 effects of revisions to KWHI's capitalization policy. At that time, account 1576 was

quantified and the amounts were refunded to customers through rate riders over a period of one year.

Upon its transition to IFRS, the year 2014 was restated using IFRS for comparability purposes. The effect on net income for the year 2014 restated was a decrease of \$263,791. The adjustments to income were predominantly from adjustments made to post-retirement benefits (PBO) and non-vested sick leave. The difference between CGAAP and IFRS net income, presented in [Table 4.1.3-1](#) below, did not impact the rate base and revenue requirement but changes to the valuations in later years did and will continue to do so.

Table 4.1.3-1 – Net Income CGAAP and IFRS

	CGAAP 2014	IFRS 2014
Net Income for the Year	10,664,148	10,400,357

The transition to IFRS required that KWHI revalue its PBO using IFRS assumptions as well as record a liability for the non-vested sick leave benefits.

Prior to the conversion to IFRS, PBO was valued using CGAAP assumptions, which are different than the ones used for IFRS. As shown in [Table 4.1.3-2](#) below, the value of the liability changed effective January 1, 2014 reducing the liability by \$1,465,117.

Differences were written to retained earnings having no effect on revenue requirement.

Table 4.1.3-2 – Employee Future Benefit Liability

Account Description	CGAAP January 1, 2014	IFRS January 1, 2014
Employee Future Benefits	5,288,895	4,306,365
Unamort Actuarial Gains/Losses	482,587	-
Total PBO	5,771,482	4,306,365

In addition to the revaluation of PBO, a liability for sick leave adjustments was also recorded effective January 1, 2014, shown in [Table 4.1.3-3](#). Again, adjustments were written to retained earnings with no effect on net income.

Table 4.1.3-3 – Non-Vested Sick Leave Liability

Account Description	CGAAP January 1, 2014	IFRS January 1, 2014
Non-Vested Sick Leave Liability	-	665,500

At year-end 2015, adjustments were made to the financial statements for 2014 to restate to IFRS.

KWHI burdens its PBO expense and the split between capital and OM&A is typically 40% capital and 60% OM&A. For the purposes of the restatement, adjustments were recorded to the income statement only as the amounts were immaterial.

2014 CGAAP PBO expense was low due to the amortization of an actuarial gain of \$61,288. IFRS does not allow amortization of actuarial gains or losses, requiring corporations to recognize them in the year that they are valued. For the 2014 restatement, this amount was removed from PBO expense. In addition, an actuarial loss of \$333,842 was recognized as “Other Comprehensive Income” (OCI). The value of the PBO liability was adjusted to recognize these changes as seen in the [Table 4.1.3-4](#) below:

Table 4.1.3-4 – Post Retirement Benefit Liability

Account Description	CGAAP 2014	IFRS 2014
Employee Future Benefits	4,645,811	4,763,797
Unamort Actuarial Gains/Losses	1,187,704	-
	5,833,515	4,763,797



In addition, an expense shown in [Table 4.1.3-5](#) of the non-vested sick leave liability of \$36,500 was recognized in the restatement as seen in the Table below:

Table 4.1.3-5 – Non-Vested Sick Leave Liability

Account Description	IFRS 2013	IFRS 2014
Non-Vested Sick Leave Liability	665,500	629,000

KWHI had an actuarial valuation completed of its non-vested sick leave liability with an effective date of January 1, 2011. The estimated liability of \$775,000 was not recorded due to subsequent deferrals of the mandatory transition to IFRS. Upon transitioning to IFRS, KWHI had another actuarial valuation completed which estimated KWHI's non-vested sick leave liability to be \$629,000 as of December 31, 2014. Assuming the difference would be expensed equally over four years, a credit of \$36,500 was recorded in the 2014 restated income statement.

Deferred income taxes were also adjusted to recognize the actuarial loss of \$333,842, netted out in OCI.

The total of the adjustments equals the \$263,791 decrease to net income but did not affect the revenue requirement in any way.

As shown in [Table 4.1.3-6](#), following the restatement from CGAAP to IFRS, annual PBO expense was reduced from historical amounts although the difference is immaterial. As previously noted, this amount is burdened and will not impact the revenue requirement.

Table 4.1.3-6 – Post Retirement Benefit Expense

Account Description	CGAAP 2014	IFRS 2014	IFRS 2015	IFRS 2016	IFRS 2017	IFRS 2018
PBO Expense	317,168	317,437	333,565	344,782	360,084	360,898



Non-vested sick leave is also recorded when the actuarial valuation is completed each three-year cycle. In 2017, the non-vested sick leave liability valuation reduced the liability by \$87,000. This reduction was recorded through the burden accounts as seen in the comparison [Table 4.1.3-7](#) below:

Table 4.1.3-7 – Non-Vested Sick Leave Credits

Account Description	IFRS 2014	IFRS 2017
Non-Vested Sick Leave Credit	(36,500)	(87,000)

The liability was adjusted for the same amounts as seen in [Table 4.1.3-8](#) below:

Table 4.1.3-8 – Non-Vested Sick Leave Liability

Account Description	IFRS 2014	IFRS 2017
Non-Vested Sick Leave Liability	629,000	542,000

KWHI has not estimated a sick leave liability or expense adjustment for this Cost of Service Application as the amounts are unknown. Without this estimate, there is no effect on the revenue requirement; however, the adjustments made to date (outside of the opening balance adjustments) and subsequent actuarial reports have or will impact the revenue requirement in an immaterial manner using the estimated 40% capital and 60% OM&A burden split.



4.2 Summary and Cost Driver Tables

4.2.1 Overview of Budgeting Process

OM&A COSTS:

OM&A costs in this Exhibit represent KWHI's integrated set of asset maintenance and customer activity needs to meet public and employee safety objectives; to comply with the Distribution System Code, environmental requirements and government direction; and to maintain distribution business service quality and reliability at targeted performance levels. OM&A costs also include providing services to customers connected to KWHI's distribution system and meeting the requirements of the OEB's Standard Supply Service Code and Retail Settlement Code.

The proposed OM&A cost expenditures for the 2020 Test Year are the result of a business planning and work prioritization process that ensures that the most appropriate, cost effective solutions are put in place.

OM&A Budgeting Process Used by KWHI

The operating budget is prepared annually by Management and is reviewed and approved by the KWHI's Board of Directors. The official budget is prepared before the start of each fiscal year. The operating budget is adjusted in September of the operating year and is then considered to be a forecast for the remainder of the year.

KWHI reviews its budgets using different methodologies to ensure its proposed budgets are reasonable before asking its Board of Directors for approval. Methodologies employed include the Bottom Up Approach, the Top Down Approach and the Total Spend Envelope.



Bottom Up Approach

The bottom up approach is performed at the detail level, employing the expertise of each responsible manager to create departmental budgets by expense type. These detailed budgets are provided to Senior Management and checked for reasonability. Each department Manager provides input for the preparation of the departmental budget. The following directives are provided to each manager:

- Estimated expenses for all department budgets are built using previous year actual, current year forecast and current year budget as the base;
- Significant variances in spending from prior years must be explained and documented;
- Review the headcount of the department for accuracy and outline any changes;
- Finance/payroll department prepares a total labour budget by department using projected wage and benefit costs. Overtime and account distribution are projected considering previous years actual.

Top Down Approach

The top down approach can be performed in aggregate or at the individual expense level. KWHI employs both strategies. This method tests the proposed expenses and capital expenditures against expected inflation. Outliers are identified and explanations required. Changes can still be made at this time.

Total Spend Approach

As also outlined in Exhibit 1, Exhibit 2 and Exhibit 4, KWHI employs the Total Spend Approach in all of its budgeting and actual spend monitoring throughout the year. KWHI can reasonably estimate what its total envelope will be in any given year. Budgets are then developed using the Total Spend that is allowed in rates, inclusive of both CAPEX



and OPEX. If capital requirements are higher in any given year, KWHI will decrease its OM&A spending, where possible, to accommodate those extra capital requirements. The reverse methodology applies when OPEX requirements are greater in any given year. CAPEX budgets would then be reduced where possible. KWHI's Total Spend Approach has allowed KWHI to have never needed to ask for incremental capital funding or experienced an infrastructure deficit to date.

4.2.2 Summary of Recoverable OM&A Expenses

[Table 4.2.2-1](#) below shows a summary of recoverable OM&A costs for 2014 Board approved, 2014-2018 Actuals and the 2019 Bridge and 2020 Test Years.

Table 4.2.2-1 – Recoverable OM&A Expenses

	2014 Last Rebasing Year Board Approved	2014 Last Rebasing Year Actuals	2015 Actuals	2016 Actuals	2017 Actuals	2018 Actuals	2019 Bridge Year	2020 Test Year
Reporting Basis	CGAAP	CGAAP	MIFRS	MIFRS	MIFRS	MIFRS	MIFRS	MIFRS
Operations	5,661,000	4,503,129	4,198,146	4,499,779	5,143,786	5,813,947	6,123,100	6,707,400
Maintenance	5,619,400	5,613,513	5,179,334	4,998,354	5,480,837	5,996,632	6,453,200	6,454,500
SubTotal	11,280,400	10,116,642	9,377,480	9,498,133	10,624,623	11,810,579	12,576,300	13,161,900
%Change (year over year)		-10.3%	-7.3%	1.3%	11.9%	11.2%	6.5%	4.7%
%Change (Test Year vs Last Rebasing Year)								16.7%
Billing and Collecting	3,841,330	3,415,009	3,775,665	4,468,748	4,296,607	4,615,266	4,210,700	4,981,700
Community Relations	191,300	199,353	238,394	269,179	220,473	241,006	258,300	263,400
Administrative and General	3,066,230	2,933,596	2,726,825	2,870,878	2,782,195	2,751,118	3,122,000	3,583,700
SubTotal	7,098,860	6,547,958	6,740,884	7,608,805	7,299,275	7,607,390	7,591,000	8,828,800
%Change (year over year)		-7.8%	2.9%	12.9%	-4.1%	4.2%	-0.2%	16.3%
%Change (Test Year vs Last Rebasing Year)								24.4%
Total	18,379,260	16,664,600	16,118,364	17,106,938	17,923,898	19,417,969	20,167,300	21,990,700
%Change (year over year)		-9.3%	-3.3%	6.1%	4.8%	8.3%	3.9%	9.0%
								19.6%

Filing requirement Appendix 2-L is reproduced below.


Table 4.2.2-2 – OM&A Costs per Customer and FTE

	2014 Board Approved CGAAP	2014 Actual CGAAP	2015 Actual MIFRS	2016 Actual MIFRS	2017 Actual MIFRS	2018 Actual MIFRS	2019 Bridge MIFRS	2020 Test MIFRS
OM&A Costs								
O&M	11,280,400	10,116,642	9,377,480	9,498,133	10,624,622	11,810,579	12,576,300	13,161,900
Admin Expenses	7,098,860	6,547,958	6,740,884	7,608,805	7,299,275	7,607,390	7,591,000	8,828,800
Total Recoverable OM&A from Appendix 2-JB	18,379,260	16,664,600	16,118,364	17,106,937	17,923,897	19,417,969	20,167,300	21,990,700
Number of Metered Customers	91,353	91,143	92,404	94,058	95,757	96,827	97,623	98,935
Number of FTEs	175	177	176	183	185	180	186	188
Customers/FTEs	522.02	515.14	524.99	513.00	516.71	537.93	524.85	526.25
OM&A Cost per customer								
O&M per customer	123.48	111.00	101.48	100.98	110.95	121.98	128.83	133.04
Admin per customer	77.71	71.84	72.95	80.89	76.23	78.57	77.76	89.24
Total OM&A per customer	201.19	182.84	174.43	181.88	187.18	200.54	206.58	222.27
OM&A cost per FTE								
O&M per FTE	64,459.43	57,178.78	53,278.11	51,803.29	57,331.22	65,614.33	67,614.52	70,010.11
Admin per FTE	40,564.91	37,008.75	38,298.30	41,498.80	39,387.41	42,263.28	40,811.83	46,961.70
Total OM&A per FTE	105,024.34	94,187.53	91,576.41	93,302.09	96,718.63	107,877.60	108,426.34	116,971.81

Table 4.2.2-2, Filing Requirement Appendix 2-L is a summary of the OM&A Cost per Customer and per Full-Time Equivalent (FTE). The FTEs agree to the numbers shown in the Compensation Section 4.4, Table 4.4.3-1. The number of customers is based on the annual average for each rate class of metered customers and is consistent with the load forecast (Exhibit 3).

OM&A per Customer for the 2014 Board approved was \$201.19. In 2014 Actual, OM&A per customer on a consolidated basis was \$182.84. For the 2019 Bridge Year, the OM&A per customer is projected to be \$206.58 or \$23.74 more than the 2014 Actuals. This represents an increase of 13%. Although the 2020 Test Year OM&A per customer is projected to increase to \$222.27 or \$40.03 or 21.9%, KWHI notes that approximately \$4.12 of the increase is due to the required investment in a Customer Information system, \$4.70 is due to the requirement to switch to monthly billing and \$2.67 is due to increased regulatory expenses. According to the 2017 OEB Yearbook, \$222.27 would place KWHI as the third lowest OM&A per customer. This estimate assumes that

KWHI's peers in its cohort are not facing the same increasing cost pressures as KWHI, which is unrealistic.

4.2.3 Summary of Cost Drivers

KWHI has completed Filing Requirement Appendix 2-JB with the year over year cost drivers. [Table 4.2.3-1](#) is a summary of the cost drivers in OM&A for KWHI since it last rebased.

The OM&A opening balance for the last rebasing year of \$18,379,260 represents the 2014 Board approved. The proposed OM&A level of \$21,990,700 for the 2020 Test Year is \$3,611,440 or 19.6% higher than the 2014 Board approved of \$18,379,260.

KWHI has provided the OM&A details and variance analysis on a program basis using the Board's Appendix 2-JB in Section 4.3.

Table 4.2.3-1 – Cost Drivers

OM&A	Last Rebasing Year (2014 Actuals)	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Bridge	2020 Test
Opening Balance	18,379,260	16,664,600	16,118,364	17,106,939	17,923,897	19,417,969	20,167,300
Staffing Changes	(394,000)	85,000		237,180	81,827	601,286	184,934
Collective Agreement increases		154,371	157,999	158,271	140,792	143,608	153,804
Implementation of CIS	(40,000)				42,726	(804,100)	1,176,400
Change Management						100,000	(90,000)
Cost Assessment Variance (Regulatory)							184,200
Cost of Service Preparation costs					(70,288)		150,000
Customer Service - Monthly Billing	(204,500)	97,926	571,844				
Customer Service - Efficiencies				(82,522)		(64,842)	
Customer Service - Outsource Billing				37,610	54,235		
Communications	(35,000)	65,271	65,004	23,079		11,970	
HR Solution						70,000	
Outage Management System	(140,000)		21,600				
Reliability measures	(52,740)	148,866				324,235	
Storm Damages		(96,358)	236,703	(95,031)	155,292	(30,605)	16,500
Cyber Security						180,000	
Maintenance deferrals due to LRT	(155,568)	(192,432)			283,219		
Ontario One Call	73,404						
Admin Credits	(419,356)	(769,621)	(120,216)	516,236	413,668	(68,411)	(26,900)
Other	(346,900)	(39,259)	55,640	22,135	392,600	286,190	74,462
Closing Balance	16,664,600	16,118,364	17,106,938	17,923,897	19,417,968	20,167,300	21,990,700

[Table 4.2.3-2](#) below summarizes the predominant cost trends for KWHI since 2014. A description of the material cost drivers is described below.



1 Following the tables, there is a discussion about each driver (i.e. salary increase above
2 inflation, postage for monthly billing and OEB cost assessment model). As a low-cost
3 provider, KWHI faces additional pressures not faced by other utilities. When new
4 initiatives are announced or introduced, KWHI accommodates these within the envelope
5 that it has been given. This may result in other initiatives being deferred. Examples of
6 deferrals on KWHI's part include, in 2016, KWHI deferred \$110,000 in underground
7 conductor maintenance than years previous, CO2 cleaning of LI switches in customer
8 owned rooms deferred in 2013, 2014, 2015 and underground transformer maintenance
9 deferrals in 2014, 2015 in favour of planned capital works related to the LRT project.

10 Within its current cost structure paired with the mounting costs pressures all LDCs in the
11 province are facing, it has been difficult for KWHI to add necessary requirements that
12 most LDCs already had in place for many years. As an example, KWHI did not have a
13 Human Resource department until 2012 although it had over 180 employees.

14 Department managers were left to perform HR duties, as well as their own functions.
15 The structure of all managers replicating the same work as well as lack of bandwidth to
16 stay current with human resources norms and laws was an unsustainable situation for
17 KWHI. KWHI maintained this structure as long as it could to minimize bill impacts on its
18 customers as it always has in everything that it does. Moving forward, KWHI also
19 added a Communications department in 2015 as previously communications were also
20 the responsibility of senior management and demands for all communications continued
21 to grow. During the clean-up of an ice storm with significant outages in its service
22 territory, it became apparent that KWHI's customers expected better communications
23 from their utility – updates, estimated restoration times. Since KWHI could not
24 accommodate a communications position within its existing workforce, a new position
25 was added to KWHI's workforce complement.

26 Other examples include regulatory changes to the CIS system. In 2017, KWHI had to
27 spend a significant amount of time and effort to modify its custom 30+-year-old CIS
28 program to deliver accurate bills and reports for the Fair Hydro Plan. In an effort to



keep customer bill impacts as low as possible, KWHI underinvested in some technology over the years and its CIS is a good example of that. KWHI must now make these necessary changes and the fully incremental costs must be passed on to the customer.

Table 4.2.3-2 – OM&A Cost Trends

2014 Board Approved OM&A	18,379,260
Monthly Billing	465,270
Staffing Changes	796,227
Collective Agreement Increases	908,845
CIS/HR/Cyber Security	620,606
Reliability Measures	420,361
Regulatory Expenses	263,912
Other	136,219
2020 Test year	21,990,700

CIS Implementation Costs

The operating cost of the new CIS system will be fully incremental. KWHI has a 30+ year CIS system that will be replaced in 2020. See [Section 4.2.4](#) for a full description of the Customer Information System implementation costs.

Increase in OEB Cost Assessment Fees

Effective April 1, 2016, the OEB revised its Cost Assessment Model (CAM), the methodology used to apportion its costs under Section 26 of the *Ontario Energy Board Act, 1998 (Act)*. As a result of this change in the CAM, KWHI experienced a significant increase in its OEB Assessment Fees compared to the amounts previously approved in distribution rates. [Table 4.2.3-3](#) summarizes the Board approved OEB Assessment Fees compared to the 2014 Board approved and 2020 Test Year, and the resulting increase of \$184,200 between the 2014 Board approved amounts and the 2020 Test Year. In accordance with the Board's letter dated February 9, 2016, for 2016 through 2018 Actuals and the 2019 Bridge Year, KWHI has recorded the difference between the actual OEB Assessment amount in each year and the amount of OEB cost assessment



currently built into rates as part of Account 1508, Other Regulatory Assets, Sub-Account OEB Cost Assessment Variance. The request for disposition of this variance account up to December 31, 2018 is included in Exhibit 9.

Table 4.2.3-3 – Increase in OEB Cost Assessment Fees

	2014 Board Approved	2020 Test	\$ Increase	% Increase
Increase in OEB Assessment Fees	237,500	421,700	184,200	78%

Cost of Service preparation costs

In 2014, KWHI's Board approved Cost of Service Preparation costs were \$272,400. These costs were amortized over four years as the rebasing cycle under 3rd Generation IRM was also four years. In 2018, there were no more costs to amortize. In 2020, KWHI has budgeted \$750,000 on its Cost of Service preparation costs, one fifth of which is included each year this Cost of Service covers. Note the 2020 Cost of Service preparation costs are fully incremental as the 2014 Cost of Service preparation costs were fully amortized by the end of the year 2017.

Customer Service - Monthly Billing

During the 2014 Cost of Service application process, KWHI contemplated implementing monthly billing. At the time, it was expected to cost \$401,500 plus \$98,000 more for a postal rate increase that occurred in 2014. Due to the delay in the 2014 Decision (EB-2013-0147) that included a \$301,500 incremental allowance to implement monthly billing (far below actual incremental costs), and other factors, monthly billing was not implemented until December 2015. This resulted in a savings for 2014 and 2015 but generated a significant increase in expenses in 2016.



Customer Service – Efficiencies

KWHI contracted an automated phone service to remind customers that their bills were overdue. This business decision eliminated approximately \$70,000 in postage costs, while only incurring an offsetting expense of \$15,000 for telephone calls.

Customer Service – Outsource billing

KWHI owned its own mailing machine and computer operators (staff members of IT) ran the mailing machine part-time as part of their everyday duties. The IT department was already strained due to lack of staff prior to the introduction of monthly billing. Following the changeover to monthly billing, mailing machine duties became a full-time job and the IT department became even more strained due to lack of resources. In October 2017, KWHI outsourced its billing activities to a third party, freeing up staff resources for IT. The business case is attached as [Appendix 4-7](#).

HR/Payroll Solution

KWHI is implementing a new HR/Payroll system in 2019 estimated to cost \$70,000 annually, which will result in fully incremental licensing and maintenance fees. KWHI does not currently have a HR system at all and its payroll system is home grown. A retirement in the IT department has left KWHI without resources to support its current payroll system, necessitating its replacement.

Reliability Measures

Reliability is important to customers of KWHI (see Exhibit 1, Section 1.6 Customer Engagement). As a result, KWHI is increasing its efforts to improve reliability by increasing the amount spent annually on animal guarding, tree trimming and the drainage of submersible transformer vaults.

KWHI has seen success in reducing the frequency of outages on its worst performing feeders by retrofitting existing overhead switches and equipment on the feeder with



1 animal guarding. Beginning in 2019, KWHI has budgeted additional funds to complete
2 more animal guarding retrofits annually. Additionally, in order to maintain and/or
3 improve reliability statistics, KWHI has increased the staffing level of its Forestry
4 department to assist in staying on target with its tree trimming maintenance schedule.

5 Submersible transformers are highly susceptible to poor operating conditions. Water
6 levels in submersible transformer vaults can be high and the entire transformer can be
7 under water all the time. Water drainage may also collect contaminants and pollutants
8 and deposit them on the submersible transformer. While the secondary connectors are
9 taped to be watertight, over time, the insulation around the secondary connectors can
10 fail prematurely and create operational hazards. Every year, there are on average 47
11 submersible transformer failures in the KWHI service area. This average failure rate of
12 1.3% is four (4) times higher than all other transformer types (0.33%). Most often these
13 transformers fail outside of normal working hours interrupting the supply of power to a
14 group of 10-12 customers supplied from the transformer. Outages are typically 6-8
15 hours in duration and transformer replacement costs are high as most replacements are
16 completed outside of normal working hours on premium time. To improve reliability and
17 reduce costs, KWHI has piloted a program to install a drainage system in the
18 transformer vaults that removes the excess water from the vault. The pilot has proven
19 to be effective at draining water from the vaults and KWHI is planning to retrofit
20 approximately 35 existing transformer vaults a year with the drainage system starting in
21 2019.

Maintenance Deferrals - Light Rail Transit (LRT)

Beginning in 2013, the Region of Waterloo embarked on building an LRT through

Kitchener and Waterloo. The LRT project

was the largest road and relocation project

that KWHI has ever undertaken. Significant

pole line rebuilds and plant was moved in

preparation for the build of the LRT. KWHI

has one workforce. As pressures mounted to

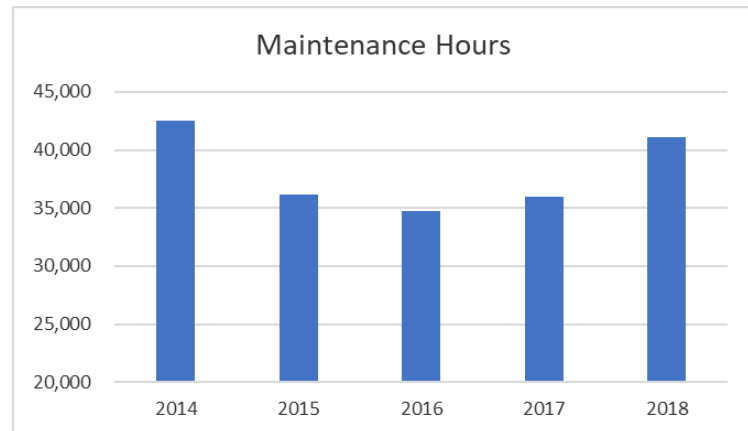
complete the LRT, KWHI's deferred certain

maintenance and capital projects to

accommodate the trains. Man-hours were

moved from maintenance to capital. The project was completed in 2017 and KWHI

could once again resume normal operations.



Storms and Major Events

In 2013, KWHI experienced two major storm events. Included in the 2014 Board

approved amount for storm damage is an amount of \$147,000. Since those major

events in 2013, KWHI has also experienced major storms in 2014, 2016 and again in

2018. Note that not all these storms were classified as major events. In 2018, KWHI

had three (3) major events – two storms, and a motor vehicle accident. The two storms,

in April and May, cost KWHI close to \$280,000, more than the \$147,000 in rates.

Administration, Engineering and Material Credits

As previously mentioned, Waterloo Region built an LRT during the period 2012 – 2017.

During this time, KWHI invoiced the Region far in excess of 2014 Board approved

anticipated administration credits for this project. In addition, many hours of engineering

were billed to the Region in excess of the planned engineering costs for the project. As

the LRT is now complete, administration, engineering and material credits will return to

more typical levels. [Table 4.2.3-4](#) illustrates the below noted credits.


Table 4.2.3-4 – Administration, Engineering and Material Credits

	2014 Board Approved CGAAP	2014 Actual CGAAP	2015 Actual MIFRS	2016 Actual MIFRS	2017 Actual MIFRS	2018 Actual MIFRS	2019 Bridge MIFRS	2020 Test MIFRS
Administration Credits	553,200	729,655	1,260,556	1,102,086	954,505	842,079	922,600	924,100
Engineering Credits	1,683,800	1,964,018	2,136,772	2,381,732	2,080,633	1,794,277	1,799,300	1,820,600
Material Credits	449,200	411,883	477,849	511,575	444,019	429,134	412,000	416,100
	2,686,200	3,105,556	3,875,177	3,995,393	3,479,157	3,065,490	3,133,900	3,160,800
Less LRT Credits		799,399	1,252,109	1,352,596	485,153	-	-	-
Total	2,686,200	2,306,156	2,623,068	2,642,797	2,994,004	3,065,490	3,133,900	3,160,800

Cyber Security

With the advance in technology comes advanced threats from intentional and unintentional cyber activities that threatens the privacy of customer information and the security and reliability of the company's operations. In February 2016, the OEB launched "*Protecting Privacy of Personal Information and the Reliable Operation of the Smart Grid in Ontario*" (EB- 2016-0032). KWHI is expected to incorporate cyber security investments into its distribution system plans.

The estimated incremental cost to bolster KWHI's cyber security posture and provide the ability to monitor, detect, respond and recover from cyber events is \$180,000 annually. A significant portion (\$85,000) of this amount has been allocated to the provision of continuous monitoring of KWHI's network by a third-party vendor who has the expertise and tools required to provide 24x7 monitoring, detection and response to cyber security events. Also included in this total is an estimated \$20,000 annually for ongoing cyber security awareness training for staff and the Board of Directors and \$25,000 for annual security audits which include penetration testing.

KWHI opted to use a managed cyber security provider as opposed to an in-house resource because of the efforts and cost associated with staffing an internal security operation centre (SOC) to provide the same level of service. Approximately 3 FTE would be required to staff a 24x7 SOC.



4.2.4 Customer Information System

KWHI will be replacing its in-house Customer Information System (CIS) through the period 2019 and 2020. The full business case is included in Exhibit 2, Appendix 2.3 DSP, Appendix P. The replacement of the CIS has been approved by KWHI's Board of Directors. Senior staff are in final contract negotiations and, subject to approval by KWHI's Board of Directors in May of 2019, the project will move forward imminently.

KWHI acknowledged during its oral hearing in 2014 that it had plans to pursue the replacement of its CIS. The journey for KWHI's business decision has been long as KWHI has pursued every avenue to keep costs and any resulting customer bill impacts as low as possible. Since its current CIS is an in-house system maintained by its own programmers, KWHI was cognizant that moving to a system that was not maintained in-house would result in fully incremental costs. A decision had to be made; however, as the state of KWHI's current CIS is not sustainable.

State of Current CIS

- 30+ years old
- Written in COBOL, an obsolete language
- Two recent retirements over the last three years has left only one programmer with the skills to maintain system
- Lack of relational database requires programming & reprogramming of same thing in many different places
- Many manual workarounds required
- Distribution industry billing becoming more complex

Moving Forward

KWHI was part of a consortium of three LDCs that worked together to try to find an affordable CIS solution together to control costs beginning in November 2016. This

- 1 two-year initiative resulted in vendor proposals with higher costs (both capital and
- 2 operating) than were expected and the consortium disbanded in May 2018.
- 3 Following the breakdown of a consortium, KWHI moved forward on its own. KWHI had
- 4 the following options:

Options		Status
1	Restart a consortium (try again)	KWHI did speak to other LDCs to see if restarting a consortium was possible
2	Use another utility's billing platform	Would entail using an instance of another LDCs billing platform Offer was received from another LDC using Oracle CC&B While capital costs manageable, operating costs much too high Risk of host LDC upgrading or moving to another CIS would leave KWHI forced to incur costs again unexpectedly
3	Reissue RFP on a go-alone basis	Reissuing the RFP to the same vendors would likely mean they would answer the RFP twice Additional time lag
4	Ask vendors to resubmit proposals based on a go-alone basis	Asked for offers based on going alone Used consortium RFP excluding gas & water One new vendor made offer

- 5
- 6 KWHI inquired at other LDC's to see if restarting a consortium was feasible. This option
- 7 was ultimately rejected as too much time had passed and the risks to KWHI were
- 8 mounting.
- 9 KWHI worked with two other LDC's to see if sharing their platforms was an option for
- 10 KWHI's CIS solution. An offer was received and rejected as the operating costs were
- 11 deemed to be too high and other uncontrollable risks were identified such as the hosting
- 12 LDC discontinuing the software solution which would leave KWHI without a CIS at all.
- 13 KWHI considered reissuing the original RFP as a stand-alone customer but rejected
- 14 option as there would be additional time lag and the same vendors would be involved.
- 15 The final option, and the option KWHI selected, is to ask the vendors to resubmit their
- 16 proposals based on KWHI going it alone.



1 KWHI received bids from four vendors using six different configurations. One new
2 vendor submitted a proposal. Following KWHI's final decision to pursue a Tier 1
3 solution, KWHI was left with three vendors. The lowest cost vendor lacks experience in
4 this space but is a trusted solution for KWHI for its JD Edwards installation. To find a
5 way to mitigate the risk due to the lack of experience associated with the project, the
6 system integrator (SI) with the least experience has partnered with another SI with
7 extensive experience to implement Oracle CC&B.

8 The operating cost included in KWHI's budgets for its CIS is \$407,400 annually
9 inclusive of licensing and managed services costs. Due to KWHI having an in-house
10 CIS system, these costs are fully incremental to KWHI. The incremental revenue
11 requirement is estimated to be \$910,000 annually, resulting in a monthly cost per
12 customer of \$0.92 or \$11.04 per year.

13 KWHI believes that the benefits of the Tier 1 system (Oracle CC&B) will assist KWHI in
14 meeting the expectations of its customers. Base expectations today include, at a
15 minimum, timely, accurate access to data. With its current CIS, KWHI is unable to
16 provide this level of service without difficulty, using many manual work arounds.
17 Implementation of the new CIS will allow KWHI to avoid a potential failure of its legacy
18 CIS and provide customer satisfaction. Further, KWHI will be able to build on its core
19 CIS installation and provide even greater benefits to its customers in time, including
20 outage notifications and a customer portal with self-service options.

21 KWHI consulted with its customers on this important decision. (Exhibit 1, Section 1.6
22 and Exhibit 2, Appendix 2-3-DSP) When presented with the costs of a CIS, KWHI
23 customers supported a core CIS system without the additional costs required to include
24 enhancements such as IVR, customer portal, et. al. KWHI decided to move ahead with
25 a core CIS implementation that has the capability to provide some of the advanced
26 features that customers were not willing to pay for. These enhanced features will not be
27 implemented as part of the project but will be evaluated at a later date and possibly
28 implemented as phase 2 project is bill impacts are minimal. KWHI believes that



customers expect the enhancements to be part of a basic/core system without the extra cost. This is evident from other customer feedback gather where customers ask for the availability of online bill payments, outage notifications and 24x7 access to their account. KWHI's decision to move forward with its chosen solution was based on several factors including: minimum customer expectations are growing, and a basic billing system would not meet its customer needs. KWHI notes that its home-grown CIS is highly customized and, although it lacks a number of enhancements other off-the-shelf systems provides, it also delivers some items that a base Tier 2 system cannot due to its lack of flexibility and scalability. KWHI would have to pay additional costs to "tack on" to a basic billing system, likely ending up with the same operating costs as the Tier 1 in the long run. Additionally, the industry within which KWHI operates is high complex and a Tier 1 system can be configured to meet the mounting regulatory requirements and reduce the many manual workarounds that a Tier 2 would require. Inquiry at other LDCs running Tier 2 systems gleaned helpful information in KWHI's decision as the operations of Tier 2 systems with their limited functionality meant adding staff in some cases to accommodate their shortcomings.

4.3 Program Delivery Costs with Variance Analysis

4.3.1 Materiality Threshold

The materiality threshold used by KWHI to determine the OM&A accounts requiring analysis was computed based on the Chapter 2 Filing Requirements as 0.5% of the proposed distribution revenue requirement. KWHI has adopted a threshold of \$225,000 for variance analysis. The calculation of materiality is set out in [Table 4.3.1-1](#).

**Table 4.3.1-1 – Variance Analysis Threshold**

Variance Analysis Threshold	2020 Test
Estimated Distribution Revenue Requirement	45,527,270
0.5% of proposed Distribution Revenue Requirement	227,636
Materiality Threshold for Variance Analysis	225,000

4.3.2 Overview

As part of the overall financial management of its operating costs, KWHI produces monthly financial statements and operating variance analysis in comparison to the approved budget. The operating variance analysis, which reports significant variances by department, is distributed to the KWHI Leadership Team on a monthly basis. Comparative financial statements, with narrative, are also provided to the Board of Directors on a monthly basis. As KWHI manages and reports its operating costs based on departments, program costs and related variance analysis in this Exhibit align to KWHI department structures and the accountability of its management team.

In [Table 4.3.2-1](#) below, Filing Requirement Appendix 2-JC, provides a summary of Operations, Maintenance, and Administration expenses for the 2014 Board approved, 2014 through 2018 Actuals and the 2019 Bridge and 2020 Test Years by program. An analysis is provided on all material variances that exceed the materiality threshold for the 2020 Test Year versus 2018 Actual and 2020 Test Year versus 2014 Board approved. All highlighted items in yellow in [Table 4.3.2-1](#) exceed the materiality threshold and an explanation is provided.



Table 4.3.2-1 – OM&A Costs by Program

Program	2014 Board Approved	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Bridge	2020 Test	2020 Test Versus 2014 Board Approved	2020 Test Versus 2018 Actual
Engineering & Operations	3,401,400	2,921,513	2,997,966	3,283,652	3,463,682	3,496,376	3,811,900	3,974,700	573,300	478,324
Control Room & Stations Operations	1,308,500	1,285,178	1,412,950	1,560,921	1,457,249	1,451,392	1,655,100	1,767,700	459,200	316,308
Distribution Operations	672,900	735,003	826,113	871,662	874,527	961,168	903,300	919,500	246,600	(41,668)
Metering	572,000	546,730	567,295	646,749	632,052	554,289	600,000	629,900	57,900	75,611
Stations Maintenance	797,800	885,372	856,286	821,750	777,449	791,122	888,600	746,600	(51,200)	(44,522)
Overhead Maintenance	2,478,300	2,788,616	2,405,494	2,584,213	2,543,411	2,663,680	3,020,700	3,072,600	594,300	408,920
Underground Maintenance	1,079,600	764,425	831,073	576,499	917,467	1,162,348	1,231,700	1,253,100	173,500	90,752
Service Centre Operations	1,342,600	1,145,457	1,050,828	903,320	1,143,674	1,289,093	1,132,200	1,183,800	(158,800)	(105,293)
Customer Service	3,251,830	2,898,641	3,072,181	3,798,777	3,562,079	3,815,385	3,376,700	3,892,700	640,870	77,315
Communications	55,000	53,093	174,567	151,011	174,089	172,530	185,000	189,500	134,500	16,970
Bad Debts	187,000	116,143	147,190	127,583	155,399	126,945	177,500	180,000	(7,000)	53,055
Administration & Finance	1,426,560	1,325,652	1,369,423	1,411,293	1,348,268	1,347,941	1,501,400	1,548,600	122,040	200,659
Regulatory	666,000	641,074	676,914	817,841	846,056	775,455	850,800	1,026,300	360,300	250,845
Information Technology	1,744,300	1,494,658	1,502,625	1,500,254	1,497,145	1,754,295	1,720,500	2,281,800	537,500	527,505
Human Resources & Safety	695,300	770,111	736,033	717,696	846,969	908,382	930,700	949,900	254,600	41,518
Supply Chain Management	663,200	609,757	686,580	687,818	672,056	681,072	732,800	756,700	93,500	75,628
Insurance	529,500	524,196	483,756	481,693	465,466	429,758	462,200	471,300	(58,200)	41,542
Community & Customer Relations	175,700	186,974	229,243	260,155	211,561	230,541	248,600	250,800	75,100	20,259
LEAP	46,000	47,475	49,000	49,000	49,000	49,000	49,700	55,000	9,000	6,000
Administration Credit	(2,686,200)	(3,105,556)	(3,875,178)	(3,995,393)	(3,479,158)	(3,065,489)	(3,133,900)	(3,160,800)	(474,600)	(95,311)
Miscellaneous	(28,030)	30,088	(81,978)	(149,556)	(234,544)	(177,314)	(178,200)	1,000	29,030	178,314
Total OM&A	18,379,260	16,664,600	16,118,364	17,106,937	17,923,897	19,417,969	20,167,300	21,990,700	3,611,440	2,572,731

4.3.3 Program Descriptions

Engineering and Operations - The Engineering and Operations program include the day to day tasks and procedures necessary to design, build, operate and maintain KWHI's entire distribution system including transformer stations. The Operations department is also responsible for the tracking and monitoring of system reliability, responding to customer complaints, and managing equipment damage claim requests. These services help to ensure that KWHI is meeting its obligations of providing safe and reliable power while being customer focused.

Control Room and Stations Operations – KWHI monitor and controls eight (8) transformer stations and seven (7) distribution stations including over thirty (30) remote operable field devices (mainly reclosers). The Control Room is responsible for overseeing the entire operation including reacting to real-time information and working primarily with Supervisory Control and Data Acquisition (SCADA) and Outage Management Systems (OMS). The unit is responsible for management of power



1 outages (outage planning, dispatching, tracking of events and restoration), monitoring of
2 security camera feeds, preparation and issuing of work permits to establish safe work
3 areas for all crews, preparing switching orders for load transfers and isolation, and
4 providing supporting guarantees for third parties. The Control Room is also responsible
5 for keeping the “as-operated” model of the distribution system up to date with current
6 field conditions.

7 The benefits of system monitoring, and control improves customer service, increase
8 reliability, increase efficiency of asset utilization and improve power quality.

9 This unit is also responsible for daily station inspections including customer-owned
10 substations with KWHI’s high voltage equipment (switchgear and transformers). These
11 inspections ensure that station equipment is operating as designed and if not,
12 maintenance activities are scheduled to bring the equipment back into suitable
13 operating condition.

14 **Distribution Operations** – Distribution Operations encompasses the cost of labour,
15 materials and expenses for the on-going operation of the overhead and underground
16 distribution system. For KWHI, this includes its Underground Cable Locate Service and
17 related costs as well as distribution system survey programs such as overhead and
18 underground infra-red thermography, wood pole testing, concrete pole survey,
19 underground vault and pullbox survey, and overhead and underground equipment
20 condition assessments.

21 **Metering** - Metering encompasses the cost of labour, materials and expenses for the
22 on-going operation and maintenance of existing single-phase and poly-phase meters
23 and metering installations. This includes the reverification and sample testing of meters
24 and the testing and verification of metering installations to meet regulatory requirements
25 and ensure the accuracy of the installation for revenue billing purposes.



1 Metering also proactively investigates potential diversion and/or theft of power that may
2 give rise to unsafe conditions or the risk of other customers being held financially
3 responsible for costs.

4 **Stations Maintenance** - KWHI owns and operates eight (8) transformer stations and
5 seven (7) distribution stations. Stations Maintenance encompasses the cost of labour,
6 materials and expenses for the ongoing maintenance of these stations to ensure that
7 the stations can effectively and reliably operate under all system conditions. This
8 includes protection systems reverifications, circuit breaker maintenance, transformer
9 tapchanger maintenance, standard oil testing and analysis, circuit switcher maintenance
10 and other related maintenance activities at the stations.

11 **Overhead Maintenance** - Overhead Maintenance encompasses the cost of labour,
12 materials and expenses for the on-going preventive and reactive maintenance of
13 overhead distribution poles, conductors, transformers, services and other overhead
14 equipment.

15 Preventive maintenance programs, such as tree trimming, switch maintenance,
16 insulator washing, repairs identified through system surveys. including infra-red
17 thermography, and the installation of animal guarding, helps to minimize customer
18 outages and avoids potentially costly repairs or replacement should equipment fail
19 catastrophically.

20 Reactive maintenance includes unplanned equipment failures and emergency repairs
21 required due to inclement weather events and vehicle accidents. This work is often
22 performed outside normal working hours at considerably more cost.

23 **Underground Maintenance** - Underground Maintenance encompasses the cost of
24 labour, materials and expenses for the on-going preventive and reactive maintenance of
25 underground distribution cables, transformers, services, ductwork, vaults, pullboxes and
26 other underground equipment. This includes a complex downtown core network system



1 comprised of paper insulated lead covered (PILC) conductors, live secondary
2 conductors and an extensive vault and duct system, which is unique to Kitchener and a
3 few other Ontario Utilities.

4 Preventive maintenance programs, such as infra-red thermography, network system
5 maintenance, vault cleaning, standard oil testing and analysis and repairs identified
6 through system surveys, including infra-red thermography, helps to minimize customer
7 outages and avoids potentially costly repairs or replacement should equipment fail
8 catastrophically.

9 Reactive maintenance includes unplanned equipment failures and emergency repairs
10 required due to inclement weather events and third-party excavators. This work is often
11 performed outside normal working hours at considerably more cost.

12 **Service Centre Operations** – The Service Centre Operations program encompasses
13 the cost of labour, materials and expenses related to the operation and maintenance of
14 KWHI's main office and service centre complex, including janitorial, repairs,
15 maintenance, and security.

16 **Customer Service** –The Customer Services program conducts the majority of
17 interactions between KWHI and its 96,000 customers. Efforts to support these
18 interactions include customer call centre management, meter reading and billing, and
19 payment and collections functions. KWHI maintains office hours that allow its customers
20 to pay their bills in person should they wish to do so.

21 The Customer Service Program is comprised of the following main functions
22 deliverables:

- 23 • customer call centre management
- 24 • meter reading and billing
- 25 • payment and collections



1 **Communications** - Communications is responsible for external and internal
2 communications. This department develops communication plans and strategies to
3 inform and educate customers on changes or new developments that may affect the
4 services that they receive from KWHI. Similarly, internal communications and programs
5 are communicated to employees to ensure they have the most recent information
6 regarding changes in the industry, safety issues and programs to ensure they have the
7 information required to assist KWHI's customers, when required, and to provide a safe
8 and healthy work environment.

9 **Administration and Finance** - Administration and Finance includes the salaries and
10 other related costs of KWHI's Board of Directors, CEO, CFO, Executive Assistant and
11 the full accounting department. The executive members are responsible for the
12 strategic and financial leadership of the Corporation. The Accounting department is
13 responsible for the financial aspects of the company, ensuring that items are recorded
14 and reported properly in the financial statements that are shared with the Boards of
15 Directors (KWHI, KPC), the shareholders and the public.

16 **Regulatory** – The Regulatory program is responsible for all regulatory reporting and
17 compliance with applicable codes and legislation governing KWHI. Regulatory reporting
18 includes development and preparation of OEB rate filings, settlement reporting,
19 regulatory reporting and compliance. Costs included in this program include OEB Cost
20 Assessments, OEB Cost Awards, three (3) staff and professional fees. The cost of
21 preparing a cost of service application is spread over the term of the Cost of Service.

22 **Information Technology** – KWHI has an Information Technology department on site
23 with a staff of ten including two Managers, an Applications team consisting of three
24 Systems Analysts and one Business Analyst, and an Infrastructure team consisting of
25 two Computer Operators, a Network Support Analyst and an IT Systems Administrator.

26 The IT department is responsible for providing the applications and infrastructure
27 required for the day to day operation of the business. It builds and maintains KWHI's



1 extensive network and operating systems and it assists the operational units by
2 facilitating the flow of information and providing staff with the functionality they need.

3 The IT department plans, operates and supports the organization's IT systems and
4 infrastructure requirements, enabling business users to carry out their roles efficiently,
5 productively and securely. The department is responsible for developing and
6 implementing the organization's cyber security policies, standards and procedures
7 required to keep the network and its associated data safe and secure.

8 The IT department supports a mix of virtual (125) and physical servers (6) and about
9 167 workstations and laptops and 67 mobile devices. These numbers change as new
10 staff are added and software requirements change.

11 Supported software includes operating systems, KWHI's in-house developed CIS
12 application and payroll system, and various third-party software packages including an
13 ERP system, Geographic Information System (GIS), SCADA system, Outage
14 Management System (OMS), Microsoft Office Suite, web-based collaborative platform,
15 document management system and many more.

16 **Human Resources and Safety and Wellness** – KWHI's Safety and Wellness
17 department includes two full time employees. The Safety and Wellness department is
18 responsible for the strategic planning and administration of all safety, health and
19 wellness programs in the utility including ergonomics. This includes orientation, safety
20 training, written procedure training, apprenticeship training, and proficiency training
21 meeting the legally mandated Electrical Utility Safety Rules. It also includes the various
22 legally required training items from various pieces of legislations and their regulations
23 e.g. Highway Traffic Act (HTA), Occupation Health and Safety Act of Ontario (OHSA),
24 Technical Standards and Safety Act (TSSA).

25 KWHI's Human Resources (HR) department includes two full time employees, the
26 Manager of Human Resources and the Payroll/HR Administrator with clerical support



1 primarily from the Executive Assistant. The HR Department is responsible for ensuring
2 that the organization stays compliant with Employment Standards regulations and any
3 other legal requirements which includes policies and procedures to address these
4 issues. Other responsibilities include succession planning, performance reviews,
5 workplace conflict, compensation and benefit administration, employee retention,
6 employee files, labour relations and negotiations, employer branding inclusive of core
7 values and promoting the company as an employer of choice within a collaborative
8 environment.

9 The HR department also assists in developing core training platforms for new and
10 emerging leaders. Lastly, with the rapid changes taking place in the workplace, it's
11 important for HR to stay current on industry trends.

12 **Supply Chain Management** - The Purchasing/Warehouse department is responsible
13 for all the purchasing activities at KWHI as well as the care and control of all inventoried
14 items.

15 **Insurance** - To protect itself, its assets and its customers from large bill impacts
16 resulting from catastrophic loss, KWHI purchases the following types of insurance each
17 year:

- 18 • Liability
- 19 • Privacy/Cyber/Network Security
- 20 • Property
- 21 • Vehicle

22 This insurance is purchased through MEARIE (Municipal Electric Association
23 Reciprocal Insurance Exchange) which has provided comprehensive liability insurance
24 coverage since its inception in 1987. It is the leading property and casualty insurer for
25 local electricity companies in the province.



1 Through the establishment of a Subscribers Agreement, MEARIE allows LDCs to pool
2 their resources to meet their specific insurance needs. MEARIE is a co-operative
3 concept with premiums designed to bear a direct relationship to actual member claims
4 experience and exposures. There is no pooling of risk with other industries or
5 economies and MEARIE has a history of stable premiums, premium reductions and no
6 retro-assessments.

7 Reciprocals are not-for-profit and not subject to income tax and as such, surplus funds
8 in excess of those required for claims, or reserved for future claims, may be returned to
9 its members.

10 MEARIE is regulated by the Financial Services Commission of Ontario (FSCO) which
11 requires that reciprocal insurance exchanges offer coverage via underwriting periods of
12 no less than three years. A member LDC; therefore, must continue to subscribe to
13 MEARIE for the entirety of the three-year underwriting period in order to benefit should
14 a premium rebate occur.

15 **Community and Customer Relations** – The Safety and Wellness Department
16 arranges public safety initiatives including a Grade School Education program with
17 many volunteer presenters from KWHI's staff. KWHI also provides electrical safety
18 education to contractors, fire departments (City of Kitchener, Township of Wilmot), the
19 Waterloo Regional Emergency Medical Services (EMS) and the Police Department.

20 This program also promotes KWHI in the community through various sponsorships and
21 community reforestation grants.

22 **LEAP** – The LEAP program is an OEB mandated program to provide Emergency
23 Financial Assistance help customers avoid disconnection. KWHI has partnered with
24 Waterloo Regional Social Services to assist in the LEAP program.



Property Taxes – KWHI pays property taxes to the City of Kitchener and the Township of Wilmot. In addition, KWHI makes annual payments to the Ontario Electricity Financial Corporation for Payments in Lieu of Property Taxes.

Administration Credits – Administration credits is the amount collected from developers and others to collect the administration charges incurred for recoverable work.

Miscellaneous – These expenses include all costs that are approved for deferral by the OEB.

4.3.4 Variance Analysis Programs

4.3.4.1 – 2020 Test Year vs 2014 Board Approved

Engineering and Operations – Increase of \$573,300

In addition to estimated inflation on both labour and non-labour components of \$413,300 for the six-year period 2014 through 2020, \$160,000 remains to be explained.

KWHI has added a part-time Designer in 2018 and will be hiring an Asset Manager in mid-2019.

The Asset Manager's role – This role will facilitate the proactive management of the physical infrastructure to improve grid resiliency and reliability directly aligned with KWHI's Business Plan. As a result of hiring an Asset Manager, KWHI expects that customers will experience increased reliability, greater public safety and extended equipment lives for KWHI's plant. This role will ensure the continued pacing and prioritizing of capital investments at an "acceptable" pace – a cornerstone of KWHI's capital asset management program and as expressed by KWHI's customer base through Customer Engagement.



1 Part-time Designer - Consideration was given to outsourcing overflow of design work to
2 a third-party consultant, however the decision to go with a temporary part-time designer
3 was proven to be the more cost-effective decision.

4 **Control Room and Stations Operations – Increase of \$459,200**

5 In addition to estimated inflation on both labour and non-labour components of
6 \$159,000 for the six-year period 2014 through 2020, \$300,200 remains to be explained.

7 The increase is due to the addition of a control room operator hired in 2015 as well as
8 another to be hired in 2019. In addition, there has been an increase in the amount of
9 overtime charged to the Control Room during busy periods.

10 The staff complement of the Control Room has varied between six (6) and seven (7)
11 employees plus one supervisor depending on the availability of trained operators and
12 timing of replacement operators following a position left vacant. In 2014, the Board
13 approved budget did not include an estimate for the seventh operator's position left
14 open since 2011 but was later filled in 2015. KWHI has provided 24x7 Control Room
15 services since the 1950's that includes the monitoring and control of KWHI-owned
16 transformer stations (8), distribution stations (7) and over thirty (30) remote operable
17 field devices. The Control Room is also responsible for the day to day short-term outage
18 planning with KWHI's field crews and contractors as well as long-term outage planning
19 with Hydro One and the IESO.

20 The optimum complement to operate a 24x7 Control Room and to provide consistent
21 quality for outage planning, scenarios, relief for holiday/illness and overtime
22 management during busy periods is to maintain the compliment at seven (7). In 2019,
23 the plan is to replace a vacancy left behind in 2018 with a seventh control room
24 operator.

1 **Distribution Operations – Increase of \$246,600**

2 Distribution Operations encompasses the cost of labour, materials and expenses for the
3 ongoing operation of the of the overhead and underground distribution system. For
4 KWHI, this includes its underground cable locate services and related costs as well as
5 distribution system survey programs. Distribution system survey programs include (but
6 are not limited to) overhead and underground infra-red thermography, wood pole
7 testing, concrete pole surveys, underground vault and pullbox surveys, and overhead
8 and underground equipment condition assessments.

9 In addition to estimated inflation on both labour and non-labour components of \$81,800
10 for the six-year period 2014 through 2020, \$164,800 remains to be explained.

11 KWHI joined Ontario OneCall and locates requests have increased 50% since that time.
12 In order to maintain the quality service that customers have come to expect and to meet
13 performance standards set by the OEB, it became necessary to contract out some of
14 the work at an annual incremental cost of \$100,000.

15 KWHI has increased its activity in wood pole testing. Blocks of poles are tested when
16 poles approach end of life. This wood pole survey assists with KWHI's asset
17 management plan, proactively identifying future system renewal investments required.

18 **Overhead Maintenance – Increase of \$594,300**

19 In addition to estimated inflation on both labour and non-labour components of
20 \$301,100 for the six-year period 2014 through 2020, \$293,200 remains to be explained.

21 KWHI has increased its outside contracting expenditures on its overhead maintenance
22 program in several areas by \$217,000:

23 **Tree trimming** – KWHI hired an additional resource in the forestry department to
24 increase its cycle of tree trimming.



1 **Animal Proofing** – certain areas of KWHI’s service territory have more outages based
2 on animal contact. KWHI is selectively targeting these areas to increase reliability in
3 neighbourhoods where animal contact is a major cause of outages.

4 In addition, KWHI has also increased its budget for storm damage to \$297,700 based
5 on the average storm damage over the last six years. This is a non-inflationary
6 incremental cost of \$132,300. KWHI has experienced several major storms during this
7 period resulting in major storm expenses; however, KWHI has not sought additional rate
8 riders to cover the damages.

9 **Customer Service – Increase of \$640,870**

10 In addition to estimated inflation on both labour and non-labour components of
11 \$395,100 for the six-year period 2014 through 2020, \$245,800 remains to be explained.

12 In December 2015, KWHI implemented monthly billing. This resulted in a doubling of
13 KWHI’s postage and paper expense. Prior to the implementation of monthly billing, only
14 demand customers were billed monthly (less than 2% of the total customers).

15 KWHI owned its own mailing machine and computer operators (staff members of IT) ran
16 the mailing machine part-time as part of their everyday duties. The IT department was
17 already strained due to lack of staff prior to the introduction of monthly billing. Following
18 the changeover to monthly billing, mailing machine duties became a full-time job and
19 the IT department became even more strained due to lack of resources. In October
20 2017, KWHI outsourced its billing activities to a third party, freeing up staff resources for
21 IT. The annual incremental cost in 2020 is \$95,600. The business case is attached as
22 [Appendix 4-7](#).

23 KWHI’s monthly billing costs are shown in the table below. Note that KWHI prepays its
24 postage and the increase in 2016 was a timing issue (there was a credit on the Canada
25 Post account at year end 2016) which was trued up in 2017. The average of the two
26 years is \$946,275. KWHI has budgeted a reduction to its monthly billing costs through



efficiency measures as it continues to encourage customers to switch to e-billing. KWHI has already reduced its postage costs over this rebasing period by outsourcing its reminder telephone calls, reducing postage annually by \$70,000.

	2014 Board Approved	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Bridge	2020 Test
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Monthly Billing	735,500	527,014	597,633	1,116,940	836,010	1,011,601	907,300	907,200
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The incremental costs of outsourcing the billing activities are shown below:

	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Bridge	2020 Test
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Costs of Outsourcing Billing	-	-	-	37,518	91,845	93,700	95,600
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At the beginning of 2015, KWHI instituted a reorganization of the Customer Services department to better serve its customers which generated an increase in training and compensation expense of approximately \$35,000 annually. The initiative, which merged two departments and created the CSR position requiring more expertise, was highly successful in that it led to empowerment of customer service staff to handle a wider range of customer inquiries lending itself to first contact resolution in a single call and an overall reduction in calls transferred.

KWHI has been able to maintain a high ranking in its First Call Resolution score as reported on the OEB Scorecard.

KWHI is planning on replacing its CIS over the two-year period 2019/2020 from its current 30+ years-old home-grown system. This replacement will result in increased costs due to a managed service agreement of \$200,000 annually, of which \$180,000 is allocated to Customer Service. See [Section 4.2.4](#) for a full discussion of the CIS project.



1 In 2014, KWHI hired a Communications Specialist. The Board approved amount for this
2 department was \$55,000 which included recovery for the costs for half a year for this
3 department. The demands on this department have continued to grow – both internally
4 and externally – and the Communications department will grow to include two
5 employees in 2019, rather than the existing one staff.

6 **Regulatory – Increase of \$360,300**

7 In addition to estimated inflation on both labour and non-labour components of \$81,000
8 for the six-year period 2014 through 2020, \$279,300 remains to be explained.

9 Costs in regulatory are increasing, in part, as a result of the changes to the OEB Cost
10 Assessment model. The 2014 Board approved amount for the Cost Assessment model
11 was \$237,500. KWHI's cost assessments increased over 70% in 2016. The OEB
12 authorized the use of a variance account for these incremental costs until an LDC's next
13 rebasing was completed. For KWHI, these costs were deferred until 2020 at which time
14 an incremental \$184,200 is budgeted for OEB Cost Assessment expenses.

15 In addition to the OEB Cost Assessment Model impacts, the cost of preparing the 2020
16 Cost of Service Application is estimated to be \$750,000, a budgeted increase of
17 \$477,600 over the cost of preparing the 2014 Cost of Service Application. One fifth of
18 this cost or \$150,000, is included in the 2020 OM&A request.

19 More information about Regulatory expenses can be found in [Section 4.7.2](#)

20 **Information Technology – Increase of \$537,500**

21 In addition to estimated inflation on both labour and non-labour components of
22 \$212,000 for the six-year period 2014 through 2020, \$325,500 remains to be explained.

23 The IT department increases over 2014 are primarily attributed to an infrastructure
24 deficit in KWHI's information technology programs and the need to bolster the
25 organization's cyber security posture. With the advance in technology comes advanced



1 threats from intentional and unintentional cyber activities that threatens the privacy of
2 customer information and the security and reliability of the company's operations.

3 **Cyber security monitoring** - KWHI opted to use a managed cyber security provider as
4 opposed to in-house resource because of the efforts and cost associated with staffing
5 an internal security operation centre (SOC) to provide the same level of service.
6 Approximately 3 FTE would be required to staff a 24x7 SOC. As a result of the cyber
7 security initiatives implemented by the OEB, KWHI is investing \$180,000 annually in
8 additional resources to ensure that the existing network is safe and secure. This
9 includes continuous monitoring, OEB Framework and Awareness Training.

10 **HR/Payroll Application** – KWHI is implementing a new HR/Payroll system in 2019
11 estimated to cost \$70,000 annually, which will result in fully incremental licensing and
12 maintenance fees. KWHI does not currently have a HR system at all and its payroll
13 system is home grown. A retirement in the IT department has left KWHI without
14 resources to support its current payroll system, necessitating its replacement.

15 **CIS license fees** – KWHI currently has a 30+ year-old CIS that is home grown. This
16 system needs to be replaced. The incremental estimated CIS licensing fees are
17 \$207,500. For more information on CIS costs please see [Section 4.2.4.](#)

18 **Human Resources and Safety and Wellness – Increase of \$254,600**

19 In addition to estimated inflation on both labour and non-labour components of \$84,500
20 for the six-year period 2014 through 2020, \$170,100 remains to be explained.

21 The 2014 Board approved amount for Human Resources included only one employee –
22 a Human Resources Specialist. Prior to 2012, KWHI did not have a Human Resources
23 department. In 2015, the Human Resources Specialist was promoted to Manager of
24 Human Resources. In addition, following the retirement of the previous Payroll
25 Administrator, whose salary was included in the Administration and Finance program, a
26 new Payroll Administrator was hired, reporting to the Human Resources department.



1 This increased costs in the Human Resources area but was more of a transfer of costs
2 from one department to another.

3 Additionally, in 2014, the Safety department only had one employee as well. Over this
4 period, the Safety department has expanded to be the Safety and Wellness Department
5 and has added one permanent staff member to deal with the increased workload.

6 The incremental cost of these two positions is \$127,000.

7 2020 shows a considerable increase in training expenses and this is representative, in
8 part, due to a new training platform with Mohawk College Enterprise (MCE) that will be
9 delivered to all new and emerging leaders. It is a joint effort within the HR Gridsmart
10 City initiative to share resources and expenses. KWHI's training philosophy has also
11 undergone changes as more training is required for all employees due to evolution of
12 the sector and other regulatory and legal changes/requirements. The incremental cost
13 of extra training is \$29,000.

14 Finally, the Human Resources department implemented FileNexus as the electronic
15 retention system for all employee records over the rebasing period. While it has
16 incurred some additional upfront expenses for consultant work and training, long term
17 benefits include less reliance on paper and time saving efficiencies.

18 **Administration Credits – Increase of \$474,600**

19 Administration credits are directly tied to the amount of billable work that is performed
20 by KWHI staff. While these administration credits increased significantly during the LRT
21 construction years, they have levelled off again; however, they are estimated to be
22 higher than the 2014 Board approved amount as billable work remains higher than at
23 that time.



4.3.4.2 – 2020 Test Year vs 2018 Actual

Engineering and Operations – Increase of \$478,324

In addition to estimated inflation on both labour and non-labour components of \$141,300 for the period 2018 through 2020, \$337,000 remains to be explained.

This program has a plan to hire an Asset Manager in 2019 who will provide the necessary oversight and direction of KWHI's strategy and policy to manage the distribution assets. This role will also be responsible for system reliability and assists with the smooth running of engineering and operations. The Asset Manager will facilitate the proactive management of the physical infrastructure to improve grid resiliency and reliability directly aligned with KWHI's Business Plan.

In addition, a part-time designer will be hired in 2019. Consideration was given to outsourcing overflow of design work to a third-party consultant, however the decision to go with a temporary part-time designer was proven to be the more cost-effective decision.

Labour credits in this department have been reduced by \$35,000 due to the discontinuation of recording incremental renewable generation labour to a deferral account.

Professional fees and outside contracting have also been increased by \$45,500 due to CIS managed services, civil engineering fees and other miscellaneous contracted services.

Control Room and Stations Operations – Increase of \$316,308

In addition to estimated inflation on both labour and non-labour components of \$58,600 for the period 2018 through 2020, \$257,700 remains to be explained.



1 The years 2017 and 2018 had reduced control room costs due to vacancies in the
2 department that are planned to be filled in 2019. The reduction from 2016 was around
3 \$100,000. The filling of these vacant positions accounts for the increased costs in this
4 program.

5 KWHI has provided 24x7 control room services since the 1950's that includes the
6 monitoring and control of KWHI-owned transformer stations (8), distribution stations (7)
7 and over thirty (30) remote operable field devices. The staff complement of the control
8 room has varied between six (6) and seven (7) employees plus one supervisor
9 depending on the availability of trained operators and timing of replacement operators
10 following a position left vacant.

11 **Overhead Maintenance – Increase of \$408,920**

12 In addition to estimated inflation on both labour and non-labour components of
13 \$107,600 for the period 2018 through 2020, \$301,300 remains to be explained.

14 Incremental outside labour in this department in increasing \$59,800 due to the hiring of
15 an arborist partway through the year 2018.

16 KWHI plans on a 50% increase in its animal proofing program between 2018 and 2020.
17 Animal proofing will give customers better reliability in areas where animals are a
18 significant source of outages (\$100,000).

19 KWHI also plans to increase its tree trimming budget in 2020 by 20% over 2018 levels.
20 Trimming trees avoids contact with overhead plant, which will increase reliability in
21 areas where tree cover is prevalent.

22 In addition, KWHI has also increased its budget for storm damage to \$297,700 based
23 on the average storm damage over the last six years. This is a non-inflationary
24 incremental cost of \$132,300. KWHI has experienced several major storms during this



1 period resulting in major storm expenses; however, KWHI has not sought additional rate
2 riders to cover the damages.

3 Maintenance of LI Switches is increasing in the period. Investment in LI switches
4 decrease the length of power outages and improves reliability. Although more switches
5 in the distribution system requires additional maintenance, customers can expect
6 increased reliability.

7 **Administration and Finance – Increase of \$200,659**

8 In addition to estimated inflation on both labour and non-labour components of \$54,500
9 for the period 2018 through 2020, \$146,200 remains to be explained. 2018 actuals were
10 particularly low when compared to historical balances for the accounts in question. The
11 labour credit reductions relate to the discontinuation of the Retail Cost Variance
12 Accounts (RCVAs). Staff time was previously transferred to a business unit that held
13 retailer-related costs. This practice will now be discontinued due to the RCVAs
14 (\$18,600). For training, of which 2018 was also a low year, will also rise as there is
15 increased need for skillset improvements as staff continue to need to do more with less
16 (\$18,400). 2018 was also low for audit fees and the Bridge and Test Years reflect the
17 agreed upon rates with KWHI's auditor (\$12,700). EDA membership fees are estimated
18 to rise as the number of memberships go down due to fewer LDCs. (\$11,600). Finally,
19 legal, professional and outside contracting – which again were low in 2018, are
20 expected to increase as more typical levels will be experienced going forward
21 (\$92,700). These are accounts that do fluctuate, as a rule, due to on demand usage.

22 **Regulatory – Increase of \$250,845**

23 In addition to estimated inflation on both labour and non-labour components of \$31,300
24 for the period 2018 through 2020, \$219,500 remains to be explained.

25 Regulatory costs increased 2020 over 2018 due in part to the 2018 Cost of Service
26 deferral. The cost of preparing the 2014 Cost of Service Application was expensed over



a period of 4 years ending in December 2017 as rebasing periods were four years in length at that time. The resulting expense for the 2014 Cost of Service Application in 2018 and 2019 was therefore zero. The planned expenditure for the Cost of Service is \$750,000, one fifth of which is included in the regulatory budget for 2020 (\$150,000).

OEB Cost Assessment fees are estimated to increase over the period by \$184,200.

In addition, there is an increase in salary costs over 2018 actual. For some time, it was recognized that the skillset of KWHI's Regulatory staff needed to be improved as the demands of regulatory affairs continue to grow. Following the resignation of a unionized Junior Financial Analyst, KWHI discontinued the Financial Analyst position and created a new non-union position of Regulatory Accountant. This position's increased skillset also increased the wages associated with it.

Information Technology – Increase of \$527,505

In addition to estimated inflation on both labour and non-labour components of \$70,900 for the period 2018 through 2020, \$456,600 remains to be explained.

One of the fastest growing costs centers is the IT department. Software service contracts and maintenance account for the bulk of IT's increasing costs. Service contracts are budgeted to increase by \$340,600, of which \$207,500 has been budgeted to maintain KWHI's new Oracle CIS system, \$70,000 for a payroll/human resources system, ongoing application and infrastructure maintenance and incremental increases (e.g. Microsoft Office Enterprise Agreement (\$20,000) and Google Maps for GIS (\$11,000).

Inside salaries are budgeted to increase by \$26,800 due to a hiring delay in 2018.

Professional fees are also expected to increase by \$31,600 for CIS application management support and increased training costs of \$19,800.



1 Finally, labour credits are budgeted to decrease by \$44,400 due to less capitalization of
2 IT staff labour. Internal labour costs to make changes to its home-grown CIS are
3 currently capitalized; however, with the implementation of the new CIS in 2020,
4 capitalization of IT labour will no longer be required.

5 **4.4 Workforce Planning and Employee Compensation**

6 **4.4.1 New Positions**

7 **4.4.1.1 Human Resources**

8 Prior to 2012, responsibility for employee labour relations, compensation, consistent
9 practices, Employment Standards and Human Rights compliance, recruitment, etc. was
10 performed by the employee's manager. This model became unsustainable as the
11 organization grew in size and issues became more complex. Duplication of
12 responsibilities and an already stretched management team meant that it was time to
13 hire a Human Resource person.

14 The Human Resource (HR) department now includes 2 full-time staff members. The
15 benefit to the organization can be seen in the following successes of the department:

- 16 • Improved attendance statistics due to the on-going monitoring and administration
17 of the attendance policy/program.
- 18 • The senior teams have seen efficiency gains in the recruitment/onboarding
19 processes as it is now all filtered through HR.
- 20 • Lead times on the recruitment to hiring stage and the time to hire has been
21 shortened, inclusive of ongoing consistency in hiring practices.
- 22 • Labour/legal updates are now handled in HR and communicated accordingly.
23 with written policies as required.
- 24 • A decrease in grievances.



- 1 • Information is collected and analyzed to assist with Collective Agreement
- 2 negotiations
- 3 • Assistance is provided by HR to assist managers with employee
- 4 concerns/issues/complaints.

5 Accomplishments by HR include:

- 6 • Development of KWHI's Corporate Core Values which were approved by the
- 7 Board of Directors in 2018. Currently, a plan is being developed to assist in the
- 8 deployment and communication of the Core Values to all employees.
- 9 • Several initiatives through the HR GridSmart City Cooperative (GSC) consisting
- 10 of shared resources and insights have provided KWHI with cost efficiencies and
- 11 benefits of collaboration.
- 12 • Employee Engagement Committee established (2012) to assist in strengthening
- 13 KWHI's workplace culture. An Employee Engagement survey was developed in
- 14 2014 and released as an on-line tool to hear from employees on what the
- 15 company is doing well and where it needs to improve. An action plan was
- 16 created from the results and initiatives were acted upon. A second survey was
- 17 released in late 2018 and KWHI has seen considerable improvements to its
- 18 workplace culture. Several improvements have been made since the first survey
- 19 as follows:
 - 20 ○ Regular departmental meetings to foster and enhance improved
 - 21 communications
 - 22 ○ The employees are addressed bi-annually by the President and CEO to
 - 23 provide updates and visions for the organization
 - 24 ○ Team successes are now celebrated
 - 25 ○ Good union relations
 - 26 ○ Employees now feel that they are being heard, feel valued and are happy
 - 27 to be here as the morale has increased



1 ○ A Sharepoint intranet site and portal was developed for staff so all
2 communications can be found in one spot

- 3 • Succession Planning tools have been developed and a formal corporate
4 succession plan is being developed by year-end 2019
- 5 • File Nexus has been fully implemented. This system is being used as KWHI's
6 electronic employee file archival system. No longer will there be manual
7 employee files.

8 **4.4.1.2 Communications**

9 Prior to 2014, responsibility for internal and external communications was the
10 responsibility of the Management team. The CEO was responsible for making major
11 announcements which were posted on bulletin boards throughout the building. Other
12 communications were filtered through the senior management team through the various
13 levels of staff. Often, communications were slow. External communications would
14 occasionally be sent to the media, but generally external communications were posted
15 on KWHI's website albeit infrequently. As the expectations for better and more frequent
16 communications on the part of both the public and staff grew, it became apparent that
17 KWHI needed to hire a Communications Specialist. The lack of good communications
18 became apparent during the year 2013.

19 The year 2013 will long be remembered by KWHI as the year of the storms with four
20 major events occurring during the year. Ice storms in April and December and two
21 wind storms on back-to-back weekends in July caused over \$1M in damage to the
22 distribution system. In addition, hundreds of customer services were damaged by
23 falling tree branches requiring further repairs. Such widespread damage and
24 extensive restoration efforts were not experienced in decades. There were numerous
25 outages that took significant time to restore.



1 At that time, KWHI did not have an operational outage management system nor was
2 it particularly active on its website or social media (Facebook, Twitter, etc.). There
3 simply were not enough resources to do so.

4 Following these outages, particularly the December 2013 ice storm, KWHI received
5 numerous complaints from its customers regarding its lack of communications on
6 outage restoration times. Both the City of Kitchener and the Township of Wilmot
7 received complaints as well. A solution to the lack of communications immediately
8 became a priority to KWHI's Board of Directors and senior management team.

9 Beginning in 2014, the Communications Specialist hired through the CDM branch of
10 the utility worked part-time for KWHI developing both internal and external
11 communications strategies and channels. In addition, KWHI became more active on
12 its website, other social media channels and began issuing media releases. An
13 outage management system with a public outage map with estimated restoration
14 times was introduced in 2016.

15 In 2016, due to increasing demands, it was decided that a full-time Communications
16 Specialist was needed on KWHI's staff. The position was increased to full time that
17 year.

18 Since the position was added, KWHI has seen numerous benefits including:

- 19 • Much more timely and targeted communications with the general public and
20 internal staff.
- 21 • Reduced complaints regarding lack of communications during outage times.
- 22 • Development of a Communications Plan.
- 23 • More timely updates to the Crisis Communication Plan.
- 24 • Increased support for safety messaging and awareness
- 25 • Increased employee satisfaction as staff feel more informed.



- Development and delivery of the Customer Engagement initiative undertaken in 2018.
- Continued delivery of Customer Engagement activities.

In 2019, the existing Manager of Conservations and Communications is planned to be hired full-time as Manager of Communications to assist the Communications Specialist and effectively engage customers and support customer service initiatives going forward. This hire will help the Communications department to move forward with strong front-line leadership as the department also increases its involvement in Sustainable Waterloo Region, of which KWHI is a member, to help reduce its carbon footprint as part of a local climate change initiative. The Manager of Communications will spearhead this initiative as KWHI moves from an observing organization to a pledging organization (with a target), in addition to managing internal and external corporate communications. Further, an additional full-time member of the Communications team will allow for back-up staff for particularly hectic times (i.e. following storms with numerous outages) when communications are most critical.

4.4.2 Overview of Compensation Strategy

The goal of KWHI's workforce philosophy is to attract, retain and motivate good people. To accomplish this goal, KWHI recognizes that it must offer salaries that are competitive in the local market and LDC environment, but also be reflective of the budgetary and business constraints of operating in a regulated environment.

KWHI believes that its overall compensation package is competitive and reasonable. It acknowledges that it is becoming increasingly difficult to hire experienced top talent, particularly in some trade's classifications; thus, the reason KWHI recognizes the value in maintaining competitive employee compensation package. KWHI's workforce is comprised of both unionized and non-unionized/management employees.



KWHI is facing challenges with an aging workforce as can be seen by [Table 4.4.2-1](#) below and, in conjunction with succession planning, has been actively recruiting Powerline Technicians and Apprentices in order to prepare for retiring Crew Foremen.

Table 4.4.2-1 – Average Age

Department	Weighted Average
Crew Foreman	54.3
Inside	42.8
Management	47.3
Outside	41.8
KWHI Employees' Average Age	44.7

4.4.2.1 Unionized Employees

KWHI's workforce is comprised of two different unions. The inside workers consist of Customer Care Representatives, Billing Representatives, Clerical, Finance, Stockkeepers, Locators, Collections Officers and Engineering staff. The inside workers are represented by the International Brotherhood of Electrical Workers (IBEW), Local 636.

The outside workers consist of Power Line Technicians, Substation Maintenance Electricians, Line Truck Drivers, Utility Arborists, Meter Technicians, Protection and Control Technologists, Station Operators, Carpenters, Utilities Installers, Equipment Operator/Crane Operators, Vehicle Mechanics and Custodians. The outside workers are represented by the Power Workers' Union (PWU), Local 1000. The previous Collective Agreement for both the IBEW and PWU expired on March 31, 2018.

KWHI recently completed bargaining and now has new three-year (3) Collective Agreements with the IBEW and PWU, covering the period April 1, 2018 to March 31, 2021. Labour wages are the result of the negotiation process with a focus on other

recent settlements reached in neighbouring LDC areas and current and trending CPI statistics.

See [Table 4.4.2.1-1](#) below, which summarizes the annual wage adjustments under the Collective Agreements for the historical years of 2014 – 2018 and the negotiated rates for 2018 – 2021. The negotiated wage increases are competitive within this labour market.

Table 4.4.2.1-1 – Annual Percentage Adjustment for all Employees

% Annual Salary Adjustment	
2014	2.85%
2015	2.35%
2016	2.35%
2017	2.30%
2018	2.00%
2019	2.00%
2020	2.10%

2014	2.85%
2015	2.35%
2016	2.35%
2017	2.30%
2018	2.00%
2019	2.00%
2020	2.10%

Every job classification within the organization has been reviewed under the Hays Job Evaluation Program and points have been assigned to each position. The methodology used in determining the points is based upon each position's Know-How, Problem Solving, Accountability and Working Conditions. The results the job evaluations are used to place each job at an appropriate rate within the pay grade and wage rate. They are then reviewed again every 3 – 5 years or sooner, if needed.



4.4.2.2 Executive/Management/Non-Union Employees

Salaries

KWHI's compensation program is comprised of 14 Pay Grades. These grades are for all levels of the management team which consist of Administrative, Technical, Supervisory, Managerial and Vice-President roles.

Each pay grade has five steps in it and an incumbent is placed in a step based on their experience coming into the role. Upon a successful performance review which evaluates employee performance based on their competencies, goals and objectives, an annual increase is provided within their pay grade until they reach step 5. Each step is approximately a 5.0% increase per annum. Additionally, every April, the management team is provided a cost of living increase that is equal to that provided to unionized staff which also helps to minimize compression issues. See Table 4.4.2.2-1 above. Once an employee has reached step 5, the only increase that is provided on an annual basis is the cost of living increase.

KWHI's compensation plan is reviewed regularly and analyzed for its competitiveness against two market comparators:

- Broader Public Sector (BPS) Ontario – Excluding GTA
 - Includes public sector and non-profit organizations
- LDC Sector
 - This includes all LDC's. Comparisons are based on LDC's of similar size and geographic area

Incentive Pay

There are less than three employees that receive incentive pay at KWHI and this information has been included in Filing Requirement Appendix 2-K in aggregate. The performance is reviewed annually by the Board of Directors each year.



1 Pay for executives and management is reviewed annually by the President and CEO,
2 Human Resources, and by the Human Resources Committee of the Board of Directors.

3 **4.4.2.3 Employee Benefits Program**

4 A comprehensive and competitive benefits package exists which includes health and
5 dental benefits, life insurance, paid sick leave, vacation, and OMERS retirement plan
6 contributions. The plans are designed to address the health and welfare needs of
7 employees, with similar plans for both union and management employees. KWHI's
8 Collective Agreements with its unionized staff provides benefits which are a result of a
9 collaborative and negotiated process, based on factors such as recent settlements in
10 the LDC sector including neighbouring LDC's.

11 Refer to [Section 4.4.3.3](#) for further analysis of Employee Benefits.

12 **4.4.3 Employee Costs and Variance Analysis**

13 [Table 4.4.3-1](#) below replicates Appendix 2-K of the Chapter 2 Filing Requirements. The
14 table summarizes the employee complement, compensation and benefits for 2014
15 Board approved, 2014-2018 Actual and 2019 Bridge and 2020 Test Years. All
16 compensation is included whether expensed or capitalized. The number of employees
17 is based on the computation of the number of full-time equivalent (FTEs) positions
18 throughout each of the fiscal years. Employees that were hired during the year or
19 employees that left the organization were pro-rated based on the start or end date
20 month. FTEs exclude Board of Directors and those employees who are funded through
21 the IESO's Conservation First Framework.

Table 4.4.3-1 – Employee Costs

	2014 Board Approved	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Bridge	2020 Test
Number of Employees (FTEs including Part-Time)								
Management (including executive)	34	34	31	30	29	28	30	31
Non-Management (union and non-union)	141	141	145	153	157	152	156	157
Total	175	177	176	183	185	180	186	188
Total Salary and Wages including overtime and incentive pay								
Management (including executive)	\$ 3,610,775	\$ 3,734,214	\$ 3,575,959	\$ 3,633,300	\$ 3,535,632	\$ 3,499,556	\$ 3,672,100	\$ 3,736,799
Non-Management (union and non-union)	\$ 10,817,928	\$ 11,412,143	\$ 11,795,569	\$ 12,721,511	\$ 12,802,464	\$ 12,985,966	\$ 13,309,825	\$ 13,788,574
Total	\$ 14,428,703	\$ 15,146,357	\$ 15,371,528	\$ 16,354,811	\$ 16,338,096	\$ 16,485,522	\$ 16,981,925	\$ 17,525,372
Total Benefits (Current + Accrued)								
Management (including executive)	\$ 859,641	\$ 875,986	\$ 845,597	\$ 828,795	\$ 813,172	\$ 785,567	\$ 839,982	\$ 847,125
Non-Management (union and non-union)	\$ 2,773,109	\$ 2,753,539	\$ 2,896,444	\$ 3,087,435	\$ 3,148,125	\$ 3,343,268	\$ 3,351,218	\$ 3,472,675
Total	\$ 3,632,750	\$ 3,629,526	\$ 3,742,041	\$ 3,916,231	\$ 3,961,296	\$ 4,128,835	\$ 4,191,200	\$ 4,319,800
Total Compensation (Salary, Wages, & Benefits)								
Management (including executive)	\$ 4,470,416	\$ 4,610,200	\$ 4,421,556	\$ 4,462,096	\$ 4,348,804	\$ 4,285,123	\$ 4,512,082	\$ 4,583,924
Non-Management (union and non-union)	\$ 13,591,037	\$ 14,165,683	\$ 14,692,014	\$ 15,808,946	\$ 15,950,589	\$ 16,329,234	\$ 16,661,043	\$ 17,261,249
Total	\$ 18,061,453	\$ 18,775,883	\$ 19,113,570	\$ 20,271,042	\$ 20,299,392	\$ 20,614,357	\$ 21,173,125	\$ 21,845,172

4.4.3.1 Full Time Employees

Table 4.4.3.1-1 summarizes the headcount at year end since 2014 by department level. The total number of employees at year end may differ from the full-time equivalents presented in Table 4.4.3-1 above due to the timing of new hires, temporary employees omitted from the above table, vacancies during the year and the timing of retirements. Additionally, hires identified in the variance commentary that follows the tables, do not reflect inter-departmental transfers.

Table 4.4.3.1-1 – Headcount at Year End

Department	2014 Board Approved	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Bridge	2020 Test
Executive	4	5	5	4	4	4	4	4
General Administration (Finance, HR and Safety)	11	11	11	11	11	12	12	12
Customer Service (Customer Service Administration, Billing, Collection and Meter Reading)	24	21	22	25	25	25	26	27
Engineering	21	19	20	20	21	21	22	22
Operations & Maintenance	98	97	98	99	97	96	100	101
Purchasing/Stores	7	7	7	7	7	7	7	7
Information Technology	10	10	10	10	9	10	10	10
Total Headcount	175	170	173	176	174	175	181	183

KWHI notes that its 2014 Board approved headcount showed 177 staff. Two CDM employees were inadvertently included in the headcount table in the 2014 Application. KWHI has revised the headcount downward to 175 to reflect this. Note that the costs for these employees were not included in the 2014 Board approved compensation, only the headcount.

[Table 4.4.3.1-2](#), for the purpose of the variance analysis, highlights changes in headcount by year between the 2014 Board approved and 2020.

Table 4.4.3.1-2 – Changes in Headcount

Department	2014 Actual vs 2014 Board Approved	2015 vs 2014 Actual	2016 vs 2015 Actual	2017 vs 2016 Actual	2018 vs 2017 Actual	2019 Bridge vs 2018 Actual	2020 Test vs 2019 Bridge
Executive	1	0	-1	0	0	0	0
General Administration (Finance, HR and Safety)	0	0	0	0	1	0	0
Customer Service (Customer Service Administration, Billing, Collection and Meter Reading)	-3	1	3	0	0	1	1
Engineering	-2	1	0	1	0	1	0
Operations & Maintenance	-1	1	1	-2	-1	4	1
Purchasing/Stores	0	0	0	0	0	0	0
Information Technology	0	0	0	-1	1	0	0
Headcount Variance	-5	3	3	-2	1	6	2

2014 Board Approved versus 2014 Actual (-5)

The 2014 Board approved budget of 175 employees included five (5) positions that were not filled in 2014 leaving total headcount at the end of the year at 170 FTEs. These five (5) vacancies were gradually filled throughout 2014-2016 in Customer Service, Operations & Maintenance and in Engineering. It also included the promotion of the Engineering Manager to Vice-President Engineering.

Vacancies at year end: Three (3) in Operations & Engineering.



1 **2015 vs 2014 (+3)**

2 In 2015, there were three (3) new hires: A Control Room Operator in Operations and
3 Maintenance, an Engineering Technician in Engineering and a third position from
4 Operations and Maintenance that was vacant at year end 2014.

5 Vacancies at year end: Two (2) in Operations and Maintenance.

6 **2016 vs 2015 (+3)**

7 During 2016, KWHI underwent a re-organization of its Customer Service Department
8 and hired three new employees: A Business Analyst, Communications Specialist and a
9 Customer Service Representative.

10 A fourth person was hired in Operations to fill a vacancy from 2015. A Vice President
11 role was eliminated following a retirement and related responsibilities spread among the
12 remaining Vice Presidents.

13 Vacancies at year end: One (1) in Operations and Maintenance

14 **2017 vs 2016 (-2)**

15 There were no new positions in 2017. However, vacancies increased by two (2) due to
16 a retirement of a Systems Analyst in Information Technology that was not replaced until
17 2018 and a Control Room Supervisor in Operations and Maintenance.

18 Vacancies at year end: One (1) Operations and Maintenance, one in the Control Room
19 and one in Information Technology.

20 **2018 vs 2017 (+1)**

21 One (1) Health and Safety Coordinator was hired in 2018 precipitated by increased
22 legislation safety training requirements.



1 Additionally, Information Technology hired one (1) System Analyst Programmer to fill
2 the vacancy left open from year end 2017. In Operations and Maintenance, there was a
3 retirement that was not replaced by year end. During the year, Operations and
4 Maintenance experienced a total of nine retirements/resignations in which eight
5 replacements were hired, leaving one additional open position.

6 Vacancies at year end: Two (2) in Operations and Maintenance and one in the Control
7 Room.

8 **2019 Bridge vs 2018 (+6)**

9 Engineering is planning to hire of one (1) Asset Manager mid-2019 to manage the
10 distribution system assets.

11 In Customer Service, the existing Manager of Conservation and Communications is
12 planned to be hired full-time as Manager of Communications to assist the
13 Communications Specialist and to effectively engage customers and support customer
14 service initiatives going forward.

15 Operations and Maintenance plans to hire four (4) employees including a Control Room
16 Operator, two Powerline Technician (PLT) positions and a Substation Electrician to fill
17 three open positions and one new PLT.

18 **2020 Test vs 2019 Bridge (+2)**

19 Customer Service plans to add one (1) full time employee - a Key Accounts
20 Representative to provide support for customers including customer load forecasting,
21 customer billing support and provide ongoing key account support in line with feedback
22 from the Customer Engagement Initiative.

23 Operations plans to add one (1) PLT position to assist with its capital programs as its
24 customer base continues to grow.



KWHI has a formal process in place prior to hiring, whether it be a new position and/or a replacement for a retiree, etc. At that time, KWHI will reassess the role and review the corporation's needs to ensure that the position is still required. The supervisor must document and justify the position again for the approval process. All new hires are approved by the President and CEO. Any new positions are evaluated and assigned the Hay points by an evaluation committee which will determine the pay scale.

[Table 4.4.3.1-3](#) below shows the cost variances as per Appendix 2-K of the Filing Requirements

Table 4.4.3.1-3 – Employee Cost Variances

	2015 vs 2014 Actual	2016 vs 2015 Actual	2017 vs 2016 Actual	2018 vs 2017 Actual	2019 Bridge vs 2018 Actual	2020 Test vs 2019 Bridge
Total Salary and Wages including overtime and incentive pay						
Management (including executive)	\$ (158,255)	\$ 57,341	\$ (97,668)	\$ (36,076)	\$ 172,544	\$ 64,699
Non-Management (union and non-union)	\$ 383,426	\$ 925,942	\$ 80,953	\$ 183,502	\$ 323,859	\$ 478,749
Total	\$ 225,171	\$ 983,283	\$ (16,715)	\$ 147,426	\$ 496,402	\$ 543,448
Total Benefits (Current + Accrued)						
Management (including executive)	\$ (30,389)	\$ (16,801)	\$ (15,624)	\$ (27,605)	\$ 54,415	\$ 7,143
Non-Management (union and non-union)	\$ 142,905	\$ 190,991	\$ 60,689	\$ 195,143	\$ 7,950	\$ 121,457
Total	\$ 112,516	\$ 174,189	\$ 45,065	\$ 167,539	\$ 62,365	\$ 128,600
Total Compensation (Salary, Wages, & Benefits)						
Management (including executive)	\$ (188,644)	\$ 40,540	\$ (113,292)	\$ (63,681)	\$ 226,959	\$ 71,842
Non-Management (union and non-union)	\$ 526,331	\$ 1,116,933	\$ 141,642	\$ 378,646	\$ 331,808	\$ 600,206
Total	\$ 337,687	\$ 1,157,472	\$ 28,350	\$ 314,965	\$ 558,768	\$ 672,048

2015 Actual vs 2014 Actual

The overall increase of \$337K was primarily impacted by the 2.35% negotiated wage increase and three (3) new hires in 2015: A Control Room Operator in Operations and an Engineering Technician in Engineering and a third position from Operations and Maintenance.



2016 Actual vs 2015 Actual

In 2016, KWHL hired four (4) new employees during the year, combined with the negotiated wage increase of 2.35%. The LRT project generated a significant amount of overtime, which increased compensation by over \$400K.

The increase in management's costs was slightly offset by the retirement of one Vice President during the year, a position that was not replaced. Non-management costs were the main contributor to the \$1.1M increase as indicated above.

KWHL instituted a reorganization of the Customer Services department to better serve its customers at a slightly higher compensation rate which is also reflected in the increased costs.

2017 Actual vs 2016 Actual

Compensation remained almost flat with no new hires (\$28K increase). There were several retirements during 2017 in Operations and the timing of their replacements generated sufficient cost-savings to offset the wage and cost of living increases for 2017. By end of the year, there were two new vacancies added. Management's decrease in salary and wages reflect the elimination of the Vice-President position following a retirement part-way through 2016.

2018 Actual vs 2017 Actual

The overall increase of \$315K in 2018 is primarily driven by non-management compensation after considering a 2.0% Collective Agreement wage increase.

There were two (2) hires during the year: one in Safety and Wellness and the second in Information Technology to fill an open position carried over from the prior year. The hiring of a Health and Safety Coordinator was precipitated by increased legislation and safety training requirements.



2019 Bridge vs 2018 Actual

Overall increase of \$559K was driven by the 2% rate negotiated in the Collective Agreement, timing of new hires to replace the nine (9) employees who retired/resigned in 2018 and the plan to hire two new positions briefly explained below.

Engineering is anticipating the hiring of an Asset Manager in 2019. Operations plans to hire at PLT. As well, KWHI plans to hire a Manager of Communications during the year to effectively engage customers and support customer service initiatives.

2020 Test vs 2019 Bridge

The increase in compensation of \$672K in 2020, includes a 2.1% negotiated wage increase and reflects a full year of all three (3) open positions filled during 2019. In addition, the 2020 Plan includes the hire of two new positions: A Key Accounts Representative in Customer Service and a PLT.

4.4.3.2 Employee Benchmarking

[Table 4.4.3.1-4](#) below compares KWHI to other similarly sized LDC's using the 2017 OEB Yearbook, the last year that is available. It also compares KWHI to its 2014 Board approved levels and 2020 forecasted levels. The increasing customer to FTE ratio demonstrates the efficiencies that KWHI is finding in staffing levels.

Table 4.4.3.1-4 – Benchmarking

	Kitchener-Wilmot Hydro Inc.		Kitchener-Wilmot Hydro Inc.	Burlington Hydro Inc.	Energy+ Inc.	Guelph Hydro Electric Systems Inc.	London Hydro Inc.	Oakville Hydro Electricity Distribution Inc.	Waterloo North Hydro Inc.
	2020 Test	2014 Board Approved	2017 Actual	2017 Actual	2017 Actual	2017 Actual	2017 Actual	2017 Actual	2017 Actual
Number of Customers	98,935	91,353	95,757	67,122	64,724	55,239	157,188	70,491	57,041
Number of FTE	188	175	190	90	126	126	325	110	127
Customer/FTE	526.25	522.02	503.98	745.80	513.68	438.40	483.66	640.83	449.14

4.4.3.2.1 On-going Efficiency Projects

Human Resources at KWHI is currently working with the GridSmart City Cooperative which consists of 14 LDCs. This Co-operative was created to improve service to electricity customers by increasing the efficiencies of scale within the partnership and to assist in reducing the members' operating, maintenance and administration costs.

To date, several initiatives have been introduced. A new software program (HR Downloads) was purchased collaboratively with a 15% net savings to all. Secondly, a sub-committee from the HR GridSmart City group (GSC) has been working together with Mohawk College Enterprise (MCE) to develop a training platform for new emerging leaders as the LDC positions are all very similar in nature and have the same needs. The program can be tailored to meet LDC's expectations and again, with a savings to all members of the GSC group. Lastly, the GSC group negotiated a group training session on workplace harassment investigation at a discount. This will now allow LDCs to assist each other in the event that a utility is unable to do a timely workplace harassment investigation either it be because of other commitments or because the nature of the incident will not allow for an impartial investigation to be done internally. Collective training will now make it possible for a member from another GSC LDC to assist with the investigation at no cost to the LDC as this effort could be reciprocated in the future. Therefore, efficiencies are attained with no additional cost.

The HR GSC committee is focused on identifying synergies for employee engagement, labour relations, Employment Standards Act changes, Disability Management and assessing benefits and taking benefit plans to market to ensure members remain competitive.



4.4.3.3 Benefits Variances

4.4.3.3.1 Year over Year Analysis Benefits

The following [Table 4.4.3.3.1-1](#) summarizes the OMERS, CPP, EI and EHT contribution rates that have been used for the 2020 Test Year as well as a comparison to 2019 Actual rates:

Table 4.4.3.3.1-1 – Benefit Expense Rates

Benefit Contribution Rates	Actual Maximum	2019 Rates	2020 Test Maximum	Test Year Rates
OMERS Tier 1 Up to CPP Max	57,400	9.00%	57,600	9.00%
OMERS Tier 2/3 Over CPP Max	>57,400	14.60%	>57,600	14.60%
EHT		1.95%		1.95%
WSIB	92,600	1.09%	93,300	1.12%
CPP Employer Portion		5.10%		5.35%
EI Employer Portion		1.269%		1.279%

A detailed summary of KWHI's actual benefit program costs are presented in [Table 4.4.3.3.1-2](#) below:



Table 4.4.3.3.1-2 – Benefit Expense

Benefit Expense	2014 Board Approved	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Bridge	2020 Test
CPP - Employer Portion	418,600	438,523	452,043	485,082	492,460	488,952	505,400	531,300
EI - Employer Portion	199,900	211,812	222,893	238,676	208,004	208,375	205,600	207,600
Employee Health Tax	271,700	304,754	309,734	329,341	329,584	331,714	317,600	324,800
WSIB	135,700	166,639	158,859	160,430	144,157	172,108	167,300	170,800
Total Statutory	1,025,900	1,121,728	1,143,529	1,213,529	1,174,205	1,201,149	1,195,900	1,234,500
OMERS	1,415,750	1,493,840	1,492,834	1,528,396	1,581,864	1,600,836	1,730,600	1,785,000
Health & Dental	608,600	631,097	629,925	699,185	771,782	796,588	742,000	764,400
LTD Insurance	155,500	167,246	178,455	181,490	199,125	198,102	182,200	187,700
Life Insurance	58,400	59,825	61,586	63,402	58,518	53,796	68,200	70,300
Employee Future Benefits	318,846	255,881	333,565	344,781	360,084	360,898	373,000	381,700
Other	49,754	43,093	43,645	41,378	(17,991)	83,066	55,900	57,000
Total Company	2,606,850	2,650,984	2,740,010	2,858,632	2,953,382	3,093,286	3,151,900	3,246,100
Total Benefits	3,632,750	3,772,712	3,883,538	4,072,161	4,127,587	4,294,435	4,347,800	4,480,600
CDM allocated amounts	-	(143,186)	(141,497)	(155,931)	(166,291)	(165,600)	(156,600)	(160,800)
Total Benefits Net of CDM	3,632,750	3,629,526	3,742,041	3,916,231	3,961,296	4,128,835	4,191,200	4,319,800

The following [Table 4.4.3.3.1-3](#) below summarizes the year over year variance analysis with respect to benefit expenses. There are no variances that exceed KWHI's materiality threshold of \$225,000.


Table 4.4.3.3.1-3 – Benefit Expense Variance

	2015 vs 2014 Actual	2016 vs 2015 Actual	2017 vs 2016 Actual	2018 vs 2017 Actual	2019 Bridge vs 2018 Actual	2019 Test vs 2019 Bridge
CPP - Employer Portion	13,521	33,039	7,378	(3,507)	16,448	25,900
EI - Employer Portion	11,081	15,783	(30,671)	370	(2,775)	2,000
Employee Health Tax	4,980	19,608	243	2,129	(14,114)	7,200
WSIB	(7,780)	1,571	(16,273)	27,951	(4,808)	3,500
Total Statutory	21,800	70,000	(39,324)	26,944	(5,249)	38,600
OMERS	(1,006)	35,562	53,469	18,972	129,764	54,400
Health & Dental	(1,172)	69,260	72,597	24,806	(54,588)	22,400
LTD Insurance	11,209	3,036	17,635	(1,024)	(15,902)	5,500
Life Insurance	1,761	1,816	(4,885)	(4,722)	14,404	2,100
Employee Future Benefits	77,684	11,216	15,303	814	12,102	8,700
Other	552	(2,267)	(59,369)	101,058	(27,166)	1,100
Total Company	89,026	118,622	94,750	139,904	58,614	94,200
Total Benefits	110,827	188,623	55,426	166,847	53,365	132,800
CDM allocated amounts	1,689	(14,433)	(10,361)	691	9,000	(4,200)
Total Benefits net of CDM	112,516	174,189	45,065	167,539	62,365	128,600

4.4.3.3.2 OMERS and Post-Employment Benefits

OMERS Pension Plan

KWHI's employees are members of the Ontario Municipal Employees Retirement System (OMERS). OMERS is a multi-employer pension plan that most LDCs participate in; therefore, the pension benefit provided to KWHI employees is consistent with that of other LDCs. The plan is a contributory defined pension plan which is financed by equal contributions from the employer and employee based on the employee's contributory earnings. For the 2020 Test Year, KWHI assumed OMERS rates of 9% on earnings up to CPP earning limits; and 14.6% on earnings over CPP earnings limit as per the OMERS website. [Table 4.4.3.3.2-1](#) provides a summary of the annual OMERS contributions for the actuals for the 2014 Board approved, the actuals 2014 through 2018 and the 2019 Bridge and 2020 Test Years.

Table 4.4.3.3.2-1 – OMERS Contribution Costs

OMERS Contribution Costs	2014 Board Approved	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Bridge	2020 Test
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OMERS	1,415,750	1,493,840	1,492,834	1,528,396	1,581,864	1,600,836	1,730,600	1,785,000
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Post-employment and other actuarial defined benefits (PBO)

KWHI pays certain health, dental, and life insurance benefits under defined benefits plans on behalf of its retired employees. The cost of these benefits are burdened as earned by employees through employment service. The accrued benefit obligations and current service cost are actuarially determined by applying the projected benefits method pro-rated on service and based on assumptions that reflect management's best estimates. The amount of the obligation is determined from actuarial valuations performed every three years. In the years between valuations, an extrapolation is used. Actuarial gains and losses on the PBO liability are recorded to the income statement in the year that they arise (the year of the actuarial report). [Table 4.4.3.3.2-2](#) below summarizes the amount of PBO that is included in benefit costs for the 2014 Board approved, the actuals 2014 through 2018 and the 2019 Bridge and 2020 Test Years.

Table 4.4.3.3.2-2 – Post-Retirement and Other Benefits – Actuarial Expense

Post Retirement/ Other Benefits Expense	2014 Board Approved	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Bridge	2020 Test
Actuarial Expense:								
Post Retirement Benefits	318,846	317,169	333,565	344,781	360,084	360,898	373,000	381,700
Actuarial Gains/Losses		(61,288)						
	318,846	255,881	333,565	344,781	360,084	360,898	373,000	381,700

[Table 4.4.3.3.2-3](#) below details the movements of the balances of the PBO liability accounts on the Statement of Financial Position for the 2014 Board approved, the Actuals 2014 through 2018 and the 2019 Bridge and 2020 Test Years. Note that the large adjustment in 2014 relates to the transition to IFRS. PBO liabilities are typically lower amounts under IFRS than with GAAP.

Table 4.4.3.3.2-3 – Post-Employment and Other Benefits Liability

Post Retirement/ Other Benefits Expense	2014 Board Approved	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Bridge	2020 Test
Opening Balance								
Post Retirement Benefits	5,755,680	5,771,482	4,763,797	4,899,532	5,034,988	5,213,339	5,304,769	5,449,664
	5,755,680	5,771,482	4,763,797	4,899,532	5,034,988	5,213,339	5,304,769	5,449,664
Actuarial Expense								
Post Retirement Benefits	318,846	317,169	333,565	344,781	360,084	360,898	373,000	381,700
Actuarial Gains/Losses		(61,288)						
	318,846	255,881	333,565	344,781	360,084	360,898	373,000	381,700
Premiums Paid	(193,847)	(193,847)	(197,830)	(209,325)	(226,807)	(269,468)	(228,105)	(234,273)
Adjustments - OCI/IFRS	-	(1,069,719)			45,074	-	-	-
Closing Balance	5,880,680	4,763,797	4,899,532	5,034,988	5,213,339	5,304,769	5,449,664	5,597,091

KWHI also provides a short-term non-vesting sick leave benefit to its employees. Under IFRS, an entity must recognize this non-vested sick leave as a potential liability on its Statement of Financial Position. Beginning at the effective date of IFRS adoption, KWHI had an actuary calculate the potential balance of its sick leave liability; thus, there was no 2014 Board approved balance. The full balance was written to retained earnings; however, for the 2014 restatement to IFRS, an additional credit of \$36,500 was recognized. Another valuation was completed in 2017 further reducing the balance of the non-vested sick leave liability to \$542,000.

[Table 4.4.3.3.2-3](#) details the transactions to the non-vested sick leave liability:

Table 4.4.3.3.2-3 – Non-Vested Sick Leave

Non-Vested Sick Leave	2014 Board Approved	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Bridge	2020 Test
Opening Balance		665,500	629,000	629,000	629,000	542,000	542,000	542,000
Non-Vested Sick Leave Adjustments	-	(36,500)	-	-	(87,000)	-	-	-
Non-Vested Sick Leave	-	629,000	629,000	629,000	542,000	542,000	542,000	542,000



Accounting for PBO and non-vested sick leave is on an accrual basis and the approach has not changed since KWHI's last rebasing. KWHI confirms that the Pension and Other Post-Employment Benefits (OPEBs) costs treatment proposed in the Application is consistent with the Report of the Board: Regulatory Treatment of Pension and Other Post-Employment Benefits (OPEBs) Costs (EB-2015-0040 issued September 14, 2017).

4.4.3.3.3 Allocation of Benefits to OM&A and Capital

Please refer to Exhibit 2 Section 2.6 for a description of KWHI's capitalization of overhead policy, including the allocation of payroll burden, which includes benefits. Table 4.4.3.3.3-1, which is the OEB's Appendix 2-D, and is also included in Exhibit 2 as Table 2.6.1-2 provides the amount of direct labour, including benefits, that is allocated to capital.

Table 4.4.3.3.3-1 Capitalized OM&A

Capitalized OM&A	2014	2015	2016	2017	2018	2019 Bridge	2020 Test
Labour Burdens	1,803,365	2,104,810	2,404,088	2,130,424	1,988,910	2,178,200	2,215,800
Fleet Burdens	758,816	858,936	971,570	898,799	849,760	1,021,000	1,038,400
Engineering	1,880,863	2,267,788	2,519,573	1,999,476	1,740,180	1,799,300	1,820,600
Materials	292,392	363,420	399,774	314,778	289,957	325,500	328,700
Total OM&A Capitalized	4,735,436	5,594,954	6,295,005	5,343,477	4,868,806	5,324,000	5,403,500

4.5 Shared Services and Corporate Cost Allocation

KWHI provides accounting services to its parent, Kitchener Power Corp. (KPC) as well as to Kitchener Energy Services Inc. (KESI) for a fixed annual fee. KESI is 100% owned by KPC and was an inactive corporation without revenues or expenses prior to March 2017; thus, charges from KWHI to KESI for accounting services commenced in the year 2017.

KPC is a holding company with a limited number of transactions every year. KWHI staff record the transactions, prepare the financial statements for KPC and submit the results

to the auditing firm. There is no incremental labour cost for this activity as the staff responsible for preparing the financial statements is senior staff not paid overtime.

KESI performs streetlight maintenance services for the Region of Waterloo, City of Kitchener and the Township of Wilmot. KWHI provides the coordination and material relating to street light maintenance to KESI on a full cost recovery basis which includes labour, benefits, materials, overhead and all other identifiable costs. Prior to March 2017, KWHI directly performed the street light maintenance activities within the LDC. These activities were moved in KESI during Q1 2017.

All direct costs incurred by KWHI, KPC and KESI have been recorded directly into the accounting records of the respective company responsible for the cost. KPC pays its own Board of Directors fees without sharing of costs.

[Table 4.5-1](#) provides a summary of the Shared Services and Corporate Cost Allocations for the 2014 Board approved, 2019 Bridge Year and the 2020 Test Year.

Table 4.5-1 – Shared Services and Corporate Cost Allocation

Service Provided		2014 Board Approved		2019 Bridge		2020 Test	
		Price	Cost	Price	Cost	Price	Cost
Shared Services - Provided to							
KESI	Board of Directors	-	-	3,600	3,600	3,700	3,700
KESI	Street Light Maintenance	-	-	290,400	290,400	293,300	293,300
City of Kitchener	Street Light Maintenance	418,300	418,300	-	-	-	-
Township of Wilmot	Street Light Maintenance	18,600	18,600	-	-	-	-
Corporate Cost Allocations							
KESI	Accounting	-	-	1,000	1,000	1,000	1,000
KPC	Accounting	10,800	10,800	11,800	11,800	12,000	12,000

Note that the shifting of street light maintenance activities is a movement to KESI from direct billing to the City of Kitchener and the Township of Wilmot. Also note that KESI was inactive until 2017 and thus there were no corporate cost allocations charged to it in prior to that year.



1 Street light maintenance activities are the only item showing a material change since
2 the 2014 Board approved was established. These activities are expected to decrease
3 \$143,600 in the 2020 Test Year versus the 2014 Board approved. From the 2019
4 Bridge Year and 2020 Test Year period; however, KWHI is expecting a 1% increase in
5 street light maintenance revenues and expenses. The conversion of street lights to
6 LED lighting in 2016/2017/2018 by the Region of Waterloo and the City of Kitchener has
7 resulted in a reduction in the maintenance services projected to be provided by KWHI to
8 KESI.

9 For Filing Requirement Appendix 2-N, KWHI has calculated the percentage of corporate
10 cost allocation as the total of the expenses in its Administration costs directly related to
11 the Accounting department. Indirect costs (such as Information Technology) allocated
12 to the Accounting department have been removed.

13 KWHI notes that Appendix 2-N shows that the corporate cost allocation of 1.62% has
14 not changed very much and has remained close to the historical average of 1.67%

15 Appendix 2-N is filed in [Appendix 4-1](#) to this Exhibit.

16 **4.6 Purchases of Non-Affiliate Services**

17 Like other distributors, KWHI purchases many services and products from third parties.
18 To ensure that the Corporation receives the value for its money when purchasing a
19 product or service, KWHI has developed a purchasing policy which outlines the
20 procedures to be followed by all employees of KWHI. The Purchasing Policy is attached
21 as [Appendix 4-2](#) Purchasing Policy.

22 The Purchasing policy includes signing authority levels and identifies which purchases
23 that must go to tender. KWHI is fully compliant with its purchasing policy.

24 KWHI has also joined the Gridsmart City Cooperative (GSC) group which helps bridge
25 the need for innovation and infrastructure renewal with the benefits of collaboration and



1 cost efficiency. GSC provides an economy of scale that otherwise might not be
2 achieved. Combined, the GSC customer base is close to 737,500 customers -
3 equivalent to the 4th biggest LDC in Ontario. Since 2016, KWHI has participated in
4 various joint RFP's, RFQ's, information sharing and networking session towards
5 obtaining the best total costs for the company. Benefits of working as a purchasing team
6 under the GSC banner includes:

- 7 • Leverage best practices;
- 8 • Shared resources and networking leads to increased efficiencies;
- 9 • Supports each other when short on supplies or sourcing new or hard to find
10 products or services;
- 11 • Provides a level a high level of transparency towards market pricing, material
12 availability.

13 GSC is currently working together on material standardization which will help reduce
14 inventories and drive costs down with our distributors and manufactures.

15 For 2019 and 2020, KWHI anticipates that many of the same vendors will be used as in
16 prior years although it will continually search for new suppliers and materials to stay as
17 cost efficient as possible to ultimately benefit its customers.

18 **4.7 One Time Costs and Regulatory Expenses**

19 **4.7.1 One-time Costs**

20 KWHI considers the cost of preparing its Cost of Service Application as a one-time
21 (albeit recurring) cost. This cost is incurred in the period prior to filing and is expensed
22 over five years.

23 KWHI estimates the incremental cost for filing its Cost of Service Application is
24 \$750,000. Details are provided in the Regulatory Cost [Section 4.7.2](#) below.



An additional one-time expense is a planned change management program. As part of the planned implementation of the new CIS, KWHI has implemented a change management program to ensure a successful installation. The cost of this program for this rebasing period is \$50,000, one fifth of which will be expensed in 2020. Costs for temporary labour of \$28,600 is expected to backfill for staff who are fully engaged on the CIS project, one fifth of which will be expensed in 2020.

4.7.2 Regulatory Costs

KWHI has a Regulatory department consisting of a Manager, a Regulatory Accountant and a Senior Regulatory Analyst. The department is primarily responsible for rate applications, regulatory filings, audits and ensuring regulatory compliance. Due to the complexity of rate filings, other members of the management team are often involved with the preparation and analysis for the Cost of Service Application.

Regulatory costs include staffing costs, OEB Cost Assessments and Cost of Service expenses. The costs for the regulatory department are presented in [Table 4.7.2-1](#)

Table 4.7.2-1 – Regulatory Costs

	2014 Board Approved	2014 Actual	2020 Test
OEB Annual Assessment	237,500	247,249	421,700
OEB Section 30 Costs	17,000	12,186	35,000
Staffing Costs	333,700	321,870	425,000
Legal Costs		23,869	35,000
Consultants Costs	40,800	10,711	79,600
Other operating costs	50,600	38,534	40,500
Regulatory Fees	800	800	11,800
Intervenor costs	17,500	25,766	22,000
	697,900	680,985	1,070,600

The filing requirement Appendix 2-M is included as [Appendix 4 - 1](#) to this Exhibit.



4.7.2.1 OEB Cost Assessments

Regulatory expenses include annual cost assessment fees paid to the OEB for hearings, proceedings and other matters before the regulatory body. These costs have increased dramatically from the Board approved amount of \$237,500 in KWHI's last COS Application EB-2013-0147. Since the increase to the Cost Assessment Model was announced in 2016, the excess fees have been included in a deferral account as permitted by the OEB. In 2020, the OEB Cost Assessment fee is now included in OM&A.

The Regulatory costs are included as per the OEB Appendix 2-M, which can be found in [Appendix 4 - 1.](#)

4.7.2.2 Cost of Service Application

As part of this Application, KWHI will incur an additional \$750,000 of incremental expenses in its preparation. [Table 4.7.2.2-1](#) compares the cost of preparing the 2020 application to the 2014 application. These costs include the preparation of a Distribution System Plan, customer engagement initiatives, and regulatory and legal support required for the complexities involved in preparing an application.

Regulatory expenses for 2020 include \$150,000 for KWHI's 2020 rate application, which is one fifth of the total cost to prepare the application. The rebasing budget for 2020 is a one-time expense of \$750,000 that is or will be incurred in 2017-2019. The one-time expense will be amortized over the five years, beginning in 2020.

Table 4.7.2.2-1 – One-time Costs-Cost of Service Application

	2014 Board Approved	2014 Actual	2020 Test
Legal Costs		95,476	150,000
Consultants Costs	107,000	40,843	348,000
Incremental Staff Resources	67,000	11,368	50,000
Incremental Operating Expenses	28,400	12,235	12,000
Intervenor Costs	70,000	103,063	110,000
OEB Costs		19,722	25,000
Other Regulatory fees			55,000
Total	272,400	282,706	750,000

4.8 Donations

4.8.1 Low-Income Energy Assistance Programs (LEAP)

In 2008, the Ontario Energy Board started consultation with stakeholders to consider the need for, and the nature of, policies that could assist low-income energy consumers. Through that consultation, the OEB identified three components of a “Low-Income Energy Assistance Program”, that could assist low-income energy customers better manage their bill payments and energy costs. These components are: (1) emergency financial assistance; (2) customer service rules; and, (3) targeted conservation and demand management programs. The LEAP EFA was last reviewed in 2014, but due to the planned implementation of the Ontario Energy Support Program (OESP), only administrative changes were made. On October 1, 2018, the OEB announced that the program is again up for review.

The delivery of LEAP relies heavily on the cooperation between utilities and social service agencies. It is expected that as agencies screen, and assess applicants in need, that they may refer customers not only for LEAP, but also for customer service measures such as arrears management and/or conservation programs. KWHI has partnered with Waterloo Regional Social Services to assist in the LEAP program and is



1 intended to provide emergency relief to eligible low-income customers who may be
2 experiencing difficulty paying current arrears to KWHI.

3 KWHI acknowledges that Account 6205 Donations is generally non-recoverable. KWHI
4 has included LEAP donations in a sub account of 6205. Since 2014, KWHI has
5 provided \$49,000 per year to the Region of Waterloo for LEAP funding. KWHI has
6 included \$49,000 in its 2019 Bridge Year and \$55,000 in the 2020 Test Year for LEAP
7 funding and has included it as an OM&A recoverable expense.

8 **4.8.2 Charitable and Political Donations**

9 KWHI confirms that it has not included the recovery of charitable donations for the
10 purpose of setting rates, apart from the LEAP program, summarized above in Section
11 4.8.1. KWHI has not historically made political donations and therefore confirms that no
12 political donations are included for recovery.

13 **4.9 Depreciation, Amortization and Depletion**

14 **4.9.1 Overview**

15 KWHI amortizes its capital assets available for use on a straight-line basis over the
16 estimated useful lives of each significant component. Amortization is recorded at one-
17 half of the annual rate for assets placed into service or acquired in the current year, in
18 accordance with Section 2.4.4 of Chapter 2 of the Filing Requirements for Electricity
19 Distribution Rate Applications. Depreciation of an asset begins in the year when it is
20 available for use, i.e. when it is in the location and condition necessary for it to be
21 capable of operating in the manner intended.

22 Construction in progress assets are not amortized until projects are complete and the
23 asset is available for use.



- 1 KWHI does not have any Asset Retirement Obligations and therefore no associated
- 2 depreciation has been recorded.

- 3 KWHI's accounting policy is to expense borrowing costs. KWHI does not capitalize
- 4 interest on capital projects. KWHI does not have any capitalized borrowing costs
- 5 forecast in its 2019 Bridge or 2020 Test Year.

- 6 KWHI's Capitalization Policy is fully described in Exhibit 2, Section 2.6.

- 7 [Table 4.9.1-1](#) is a summary of KWHI's depreciation expense for 2014 Board approved,
- 8 2014-2018 Actuals, 2019 Bridge and 2020 Test Years.



1 **Table 4.9.1-1 – Summary of Depreciation Expense**

USoA	Description	2014 Board Approved	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Bridge	2020 Test
1611	Computer Software (Formally known as Account 1925)	545,300	443,394	273,938	397,815	419,965	450,463	445,400	1,194,200
1612	Land Rights	2,700	2,653	2,653	2,269	-	-	-	-
1808	Buildings	210,000	210,808	211,049	210,295	189,033	197,576	197,400	196,400
1815	Transformer Station Equipment >50 kV	1,576,900	1,579,813	1,583,700	1,576,757	1,520,336	1,561,997	1,600,000	1,635,500
1820	Distribution Station Equipment <50 kV	43,600	49,381	48,787	48,224	44,883	45,139	45,500	45,300
1830	Poles, Towers & Fixtures	703,585	681,835	731,757	836,577	899,198	971,034	1,059,200	1,102,200
1835	Overhead Conductors & Devices	457,970	451,141	490,132	542,946	586,226	640,541	683,100	731,800
1840	Underground Conduit	347,614	344,750	406,761	465,193	506,681	548,637	568,700	619,700
1845	Underground Conductors & Devices	760,362	762,311	838,202	933,328	1,005,936	1,065,171	1,104,500	1,148,600
1850	Line Transformers	1,047,607	754,220	825,114	1,710,860	1,378,915	1,467,280	1,494,100	1,570,500
1855	Services (Overhead & Underground)	897,089	896,802	960,945	1,040,794	1,099,297	1,178,946	1,202,400	1,269,500
1860	Meters	928,842	971,439	935,823	1,000,175	1,037,634	1,092,403	1,107,600	1,140,700
1908	Buildings & Fixtures	552,600	613,604	608,466	613,557	466,747	465,838	512,500	549,700
1915	Office Furniture & Equipment	75,800	70,928	67,374	70,563	68,483	62,256	61,500	57,900
1920	Computer Equipment - Hardware	191,500	229,493	224,629	211,185	193,472	191,468	267,600	260,200
1930	Transportation Equipment	742,400	609,430	661,498	664,632	673,162	685,883	712,200	770,100
1935	Stores Equipment	4,000	4,724	5,711	3,215	276	255	300	300
1940	Tools, Shop & Garage Equipment	72,200	66,746	69,762	72,734	77,532	75,614	70,000	69,200
1945	Measurement & Testing Equipment	34,100	34,426	37,576	36,709	37,560	37,167	35,200	34,800
1950	Power Operated Equipment	54,600	55,442	62,365	66,839	69,566	68,938	83,900	84,751
1955	Communications Equipment	89,800	80,088	84,461	80,930	84,635	85,611	40,000	22,149
1960	Miscellaneous Equipment	11,300	13,393	2,031	2,031	2,114	2,195	1,300	1,300
1980	System Supervisor Equipment	4,100	4,059	4,059	1,943	2,204	2,204	-	-
1995	Contributions & Grants	(1,150,100)	(1,153,287)	(1,182,464)	(1,188,123)	(1,099,731)	(1,094,260)	(1,092,100)	(1,089,400)
2440	Deferred Revenue		(105,658)	(250,078)	(480,409)	(658,473)	(781,552)	(857,100)	(939,700)
Total		8,203,869	7,671,937	7,704,251	8,921,037	8,605,650	9,020,804	9,343,200	10,475,700
Less: Fully Allocated Depreciation									
	Transportation Equipment	742,400	609,430	661,498	664,632	673,162	685,883	712,200	(401,900)
	Deferred Revenue	-	105,658	250,078	480,409	658,473	781,552	857,100	939,700
Total Depreciation		8,946,269	8,387,025	8,615,827	10,066,078	9,937,285	10,488,239	10,912,500	11,013,500



Required Filing Appendix 2-C is attached in [Appendix 4-1](#). KWHI confirms that the depreciation shown on Appendix 2-C and the above table is the same as shown in Required Filing Appendix 2-BA.

4.9.2 Depreciation Rates and Methodology

4.9.2.1 Useful Lives and Componentization

The following outlines the depreciation practices used by KWHI in this Application and provides a summary of changes since the last Cost of Service Application.

As indicated previously, KWHI adopted the required accounting changes for depreciation and capitalization policies on January 1, 2012, which were included in the KWHI's 2014 Cost of Service Application.

KWHI's estimated useful lives (UL) were determined using the Kinectrics Useful Life Study (KWHI Kinectrics Study) that was conducted on behalf of KWHI, the former CND and Guelph Hydro, which was incorporated into KWHI's 2014 Cost of Service Application (EB-2013-00147, Exhibit 4). A copy of the KWHI Kinectrics Study is provided in [Appendix 4-6](#). KWHI has not made any changes to its depreciation policy or changes in useful assets services lives.

In selecting the typical useful life (TUL) for equipment, KWHI utilized the following principles:

- Range for asset life expectancy based on the study completed by Kinectrics for KWHI
- Local conditions experiences and practices
- Practical replacement strategy, example, if an asset with a longer life (e.g. duct structure) supports an asset with a shorter life (e.g. cable), then the typical life



1 chosen for both assets will be based on the typical life of the asset with a shorter
2 life expectancy

- 3 • Additional factors that may shorten an asset's TUL such as frequency of road
4 rebuilding projects.

5 [Table 4.9.2.1-1](#) summarizes the fixed asset typical useful lives and depreciation rates
6 for KWHI for the year 2014 – 2020. Required Filing Appendix 2-BB is filed in [Appendix](#)
7 [4-1](#).

1

Table 4.9.2.1-1 Typical Useful Life and Depreciation Rates

Parent*	#	Asset Details			Useful Life			USoA Account Number	USoA Account Description	Current		Proposed		Outside Range	
		Category| Component | Type			MIN UL	TUL	MAX UL			Years	Rate	Years	Rate	Below Min TUL	Above Max TUL
OH	1	Fully Dressed Wood Poles	Overall		35	45	75	1830	Poles Towers and fixtures	40	3%	40	3%	No	No
			Cross Arm	Wood	20	40	55								
				Steel	30	70	95								
	2	Fully Dressed Concrete Poles	Overall		50	60	80								
			Cross Arm	Wood	20	40	55								
				Steel	30	70	95								
	3	Fully Dressed Steel Poles	Overall		60	60	80								
			Cross Arm	Wood	20	40	55								
				Steel	30	70	95								
	4	OH Line Switch			30	45	55	1835	Overhead Conductors and Devices	40	3%	40	3%	No	No
	5	OH Line Switch Motor			15	25	25								
TS & MS	6	OH Line Switch RTU			15	20	20								
	7	OH Integral Switches			35	45	60								
	8	OH Conductors			50	60	75	1835	Overhead Conductors and Devices	60	2%	60	2%	No	No
	9	OH Transformers & Voltage Regulators			30	40	60	1835	Overhead Conductors and Devices	30	3%	30	3%	No	No
	10	OH Shunt Capacitor Banks			25	30	40	1835	Overhead Conductors and Devices	25	4%	25	4%	No	No
	11	Reclosers			25	40	55	1835	Overhead Conductors and Devices	25	4%	25	4%	No	No
	12	Power Transformers	Overall		30	45	60	1815	TS Equipment						
			Bushing		10	20	30								
			Tap Changer		20	30	60								
	13	Station Service Transformer			30	45	55	1815	TS Equipment	40	3%	40	3%	No	No
	14	Station Grounding Transformer			30	40	40								
UG	15	Station DC System	Overall		10	20	30								
			Battery Bank		10	15	15								
			Charger		20	20	30								
	16	Station Metal Clad Switchgear	Overall		30	40	60	1815	TS Equipment	50	2%	50	2%	No	No
			Removable Breaker		25	40	60								
	17	Station Independent Breakers			35	45	65								
	18	Station Switch			30	50	60								
	19	Electromechanical Relays			25	35	50	1815	TS Equipment	25	4%	25	4%	No	No
	20	Solid State Relays			10	30	45	1815	TS Equipment	25	4%	25	4%	No	No
	21	Digital & Numeric Relays			15	20	20	1815	TS Equipment	15	7%	15	7%	No	No
	22	Rigid Busbars			30	55	60								
S	23	Steel Structure			35	50	90	1815	TS Equipment	50	2%	50	2%	No	No
	24	Primary Paper Insulated Lead Covered (PILC) Cables			60	65	75	1845	UG Conductors and Devices	60	2%	60	2%	No	No
	25	Primary Ethylene-Propylene Rubber (EPR) Cables			20	25	25	1845	UG Conductors and Devices	40	3%	40	3%	No	Yes
	26	Primary Non-Tree Retardant (TR) Cross Linked			20	25	30	1845	UG Conductors and Devices	40	3%	40	3%	No	Yes
	27	Primary Non-TR XLPE Cables in Duct			20	25	30	1845	UG Conductors and Devices	40	3%	40	3%	No	Yes
	30	Secondary PILC Cables			70	75	80								
	31	Secondary Cables Direct Buried			25	35	40	1845	UG Conductors and Devices	40	3%	40	3%	No	No
	32	Secondary Cables in Duct			35	40	60	1845	UG Conductors and Devices	40	3%	40	3%	No	No
	33	Network Transformers	Overall		20	35	50	1850	Line Transformers	40	3%	40	3%	No	No
			Protector		20	35	40	1850	Line Transformers	40	3%	40	3%	No	No
	34	Pad-Mounted Transformers			25	40	45	1850	Line Transformers	40	3%	40	3%	No	No
	35	Submersible/Vault Transformers			25	35	45			30	3%	30	3%	No	No
	36	UG Foundation			35	55	70	1850	Line Transformers	60	2%	60	2%	No	No
	37	UG Vaults	Overall		40	60	80	1850	Line Transformers	60	2%	60	2%	No	No
			Roof		20	30	45	1850	Line Transformers	30	3%	30	3%	No	No
	38	UG Vault Switches			20	35	50	1840	UG Conduit	40	3%	40	3%	No	No
	39	Pad-Mounted Switchgear			20	30	45	1840	UG Conduit	40	3%	40	3%	No	No
	40	Ducts			30	50	85	1840	UG Conduit	60	2%	60	2%	No	No
	41	Concrete Encased Duct Banks			35	55	80								
	42	Cable Chambers			50	60	80								
	43	Remote SCADA			15	20	30								

Table F-2 from Kinetics Report¹

#	Asset Details			Useful Life Range	USoA Account Number	USoA Account Description	Current		Proposed		Outside Range	
	Category| Component | Type						Years	Rate	Years	Rate	Below Min Range	Above Max Range
1	Office Equipment			5 15	1915	Office Furniture and Equipment	10	10%	10	10%	No	No
2	Vehicles	Trucks & Buckets		5 15	1930	Transportation Equipment	10	10%	10	10%	No	No
		Trailers		5 20	1930	Transportation Equipment	8	13%	8	13%	No	No
		Vans		5 10	1930	Transportation Equipment	8	13%	8	13%	No	No
3	Administrative Buildings			50 75	1908	Buildings and Fixtures	50	2%	50	2%	No	No
4	Leasehold Improvements			Lease dependent								
5	Station Buildings	Station Buildings		50 75	1808	Buildings and Fixtures	50	2%	50	2%	No	No
		Parking		25 30								
		Fence		25 60								
		Roof		20 30	1808	Buildings and Fixtures	20	5%	20	5%	No	No
6	Computer Equipment	Hardware		3 5	1920	Computer Hardware	4	25%	4	25%	No	No
		Software		2 5	1611	Computer Software	3	33%	3	33%	No	No
7	Equipment	Power Operated		5 10								
		Stores		5 10								
		Tools, Shop, Garage E		5 10								
		Measurement & Testin		5 10								
8	Communication	Towers		60 70								
		Wireless		2 10								
9	Residential Energy Meters			25 35	1860	Meters	25	4%	25	4%	No	No
10	Industrial/Commercial Energy Meters			25 35	1860	Meters	25	4%	25	4%	No	No
11	Wholesale Energy Meters			15 30	1860	Meters	25	4%	25	4%	No	No
12	Current & Potential Transformer (CT & PT)			35 50								
13	Smart Meters			5 15	1860	Meters	15	7%	15	7%	No	No
14	Repeaters - Smart Metering			10 15								
15	Data Collectors - Smart Metering			15 20								

2



4.9.2.2 Depreciation Expense

In accordance with the Filing Requirements, KWHI has completed depreciation and amortization expense tables in accordance with Appendix 2-C: Depreciation and Amortization Expense for the following years:

- 2014 Revised CGAAP, which accounts for the changes to service lives and componentization.
- 2015 Actuals MIFRS
- 2016 Actuals MIFRS
- 2017 Actuals MIFRS
- 2018 Actuals MIFRS
- 2019 Bridge Year MIFRS
- 2020 Test Year MIFRS

These schedules are attached in [Appendix 4-1](#).

KWHI does not have any material differences on the transition to MIFRS from revised CGAAP and therefore a 2014 MIFRS Appendix 2-C was not required.

There are two variances on Appendix 2-C that should be explained. Prior to 2017, Excel spreadsheets were used to calculate depreciation expense. Unfortunately, underground transformers were not depreciated in the years 2014 and 2015. This error was corrected in 2016.

The second large variance is in 2017. Prior to 2017, all transformers were pooled. In 2012, it was determined that submersible transformers had a 30-year life and other transformers had a 40-year life. In 2017, the pool was reallocated based on actual transformer counts rather than the percentage split used in 2012 for the transition to New GAAP. The purpose of the exercise was to have more control over this significant class of asset. The total costs remained the same but split between 30 and 40-year life



assets changed. The variance identified in Appendix 2-C is a result of the change in methodologies used for valuing this class of asset.

4.10 Taxes or Payments in Lieu of Taxes (PILs) and Property Taxes

4.10.1 Property Taxes

KWHI pays property taxes to the City of Kitchener and the Township of Wilmot. In addition, KWHI makes annual payments to the Ontario Electricity Financial Corporation for Payments in Lieu of Property Taxes. Property taxes for the 2014 Board approved, 2014 Actual to 2018 Actuals and the 2019 Bridge and 2020 Test Years are provided in [Table 4.10.1-1](#) below.



1 **Table 4.10.1-1 - List of Property Taxes by property**

Property Location	2014 Board Approved	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Bridge	2020 Test
OLD #2 & #5 H.T. - 59 GRABER PLACE	44,713	39,519	38,955	38,904	41,112	43,691	46,104	46,756
#6 H.T. - 1425 OTTAWA ST. S.	14,893	13,163	12,133	13,686	13,779	14,034	14,809	15,019
#7 H.T. - 75 FAIRWAY RD. S.	9,190	8,122	9,503	8,521	8,609	8,798	9,284	9,415
#3 H.T.- BLEAMS ROAD & #2 H.T.194 BLEAMS	21,704	19,183	18,909	19,044	19,443	20,056	21,163	21,463
WESTHEIGHTS DRIVE (TRANSFORMER VAULT)	186	165	162	160	184	208	219	223
HALL'S LANE W. (TRANSFORMER VAULT)	75	67	81	96	93	92	97	98
CHARLES ST. E. (TRANSFORMER VAULT)	91	81	99	116	113	111	117	119
#8 H.T. - 665 HURON ROAD	13,741	12,145	12,008	12,014	13,343	14,756	15,571	15,791
301 VICTORIA STREET S.	215,682	190,631	345,051	247,753	250,814	251,879	265,789	269,553
FAIRWAY RD. S.	13,775	12,175	12,763	12,906	13,462	13,918	14,687	14,895
5 VICTORIA ST. TWP OF WILMOT #2 DS	5,656	4,999	5,189	5,379	5,468	5,629	5,939	6,024
TOWNSHIP RD 2 TWP OF WILMOT #5 DS - 1766 BERLETT'S RD	2,003	1,770	1,954	2,133	2,144	2,184	2,305	2,337
REGIONAL RD 12 TWP OF WILMOT #3 DS - 1452 QUEEN ST.	1,915	1,692	1,870	2,043	2,050	2,086	2,201	2,233
81 MILL ST. TWP OF WILMOT #6 DS (BUILDING)	1,801	1,591	1,744	1,893	1,849	1,834	1,935	1,963
25 PEEL ST. TWP (N.H. SERV.CENTRE & # 1DS)	3,548	3,136	3,266	3,395	3,453	3,556	3,753	3,806
HERITAGE DR. NEW HAMBURG #7DS PLAN 885 PT LOT 9	1,405	1,242	1,221	1,202	1,259	1,330	1,404	1,423
REGIONAL RD 5, SOUTH OF ERB #8 DS - 2174 NAFZIGER RD.	2,494	2,205	2,396	2,584	2,619	2,688	2,837	2,877
1805 WILMOT CENTRE RD. NORTH OF BLEAMS RD (#9 DS)	24,542	21,692	13,205	11,880	12,412	13,036	13,756	13,951
Payments in lieu of Property Taxes	17,385	15,366	14,088	12,207	10,156	8,367	8,829	8,954
	394,800	348,945	494,597	395,917	402,362	408,253	430,800	436,900



4.10.2 Payments in Lieu of Taxes (PILs)

4.10.2.1 Overview

KWHI is subject to the payment of PILs under Section 93 of the *Electricity Act, 1998*, as amended. KWHI does not pay Section 89 proxy taxes and is exempt from the payment of income and capital taxes under the *Income Tax Act (Canada)* and the Ontario *Corporations Tax Act*. [Table 4.10.2.1-1](#) below provides a summary of 2014 Board approved, 2014 through 2018 Actual income taxes included in audited statements, 2019 Bridge Year estimate using current rates, and 2020 Test Year income taxes based on revised rates. In this Application, KWHI is forecasting a taxable income of \$2,801,956 and is requesting \$925,875 for recovery.

KWHI notes that it pays dividends each year to its shareholders; however, since the shareholders are municipalities and not subject to income taxes, the dividends are treated as non-taxable and do not affect the PILs return.

[Table 4.10.2.1-1](#) below provides a summary of the 2014 through 2017 Actuals, 2018 Forecast and the 2019 Bridge and 2020 Test Year PILs estimates. The historical years balance represents the actual numbers per the general ledger which are a mix of year end provision estimates and prior year adjustments made when the tax returns were actually filed. The 2018 through 2020 estimates are based on the rates prescribed by the Board in the Board's Income Tax/PILs Work form for 2019 Filers (the 2020 Workform was not available at time of completing this Application) and as provided in [Appendix 4-8](#). The 2020 Test Year PILs have been determined by applying substantively enacted 2018 rates against taxable regulatory income.

Table 4.10.2.1-1 - Summary of PILs

Description	2014 Board Approved	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Bridge	2020 Test (Grossed up)
Income Taxes (current)	496,900	1,702,105	1,848,266	2,029,184	1,895,470	2,114,508	1,529,867	925,875
Income Taxes (prior years)	0	(177,258)	46,397	8,674	(54,773)	(155,052)	0	0
Total Taxes per G/L	496,900	1,524,847	1,894,663	2,037,858	1,840,697	1,959,456	1,529,867	925,875

A copy of the 2017 Federal and Provincial (Ontario) tax return (with Notice of Assessment) has been provided in [Appendix 4-5](#). PILS amounts included in the 2018 financial statements are based on the estimates in the audited year-end financial statements and will differ from the actual PILS return. The difference between actual and estimate will be recorded in 2019 financial statements.

At the time of filing this Application, KWHI has not filed its 2018 corporate income tax returns. KWHI does not expect significant changes between the final 2018 corporate income tax returns and the 2018 forecast income tax provision. KWHI will provide a copy of the final 2018 tax returns as soon as they are available and update the Board's Income Tax/PILs work form model for the 2018 Actuals.

A summary of the variances between the recorded amounts in the General Ledger and the actual tax returns is shown below in [Table 4.10.2.1-2](#).

Table 4.10.2.1-2 - Variance of PILs to the General Ledger

Description	2014 Actual	2015 Actual	2016 Actual	2017 Actual
Income Taxes (actual)	1,706,064	1,826,090	2,047,699	1,739,264
Income Taxes (per G/L)	1,702,105	1,848,266	2,029,184	1,895,470
Variance Return to G/L	3,959	(22,176)	18,515	(156,206)



Most of the variances are due to miscellaneous tax credits. The 2017 variance is due predominantly to a SR&ED credit taken in 2017 in addition to deducting OMERS capitalized from Schedule 1 and removing the capitalized OMERS from the CCA Schedule.

KWHI has used the most recent tax rates available at present, which are provided in [Table 4.10.2.1-3](#).

Table 4.10.2.1-3 - Corporate Tax Rates for Tax Year

Corporate Tax Rates for Tax Year	2019 Bridge	2020 Test
Small Business Deduction	7.00%	7.00%
Federal Income Tax	15.00%	15.00%
Ontario Income Tax	11.50%	11.50%
Combined Income Tax	26.50%	26.50%

KWHI has calculated PILS using the Board approved model – “Income Tax/PILs Work Form – Version 1.1” and has attached it as a live spreadsheet to this Application. A summary of the calculation of Regulatory Taxable Income is provided in [Table 4.10.2.1-4](#) below:

Table 4.10.2.1-4 - Taxable Income Calculation

Description	T2 S1 line #	2020
Determination of Taxable Income		
Utility Income Before Taxes		8,598,090
Additions to Accounting Income:		
Amortization of tangible assets	104	10,463,000
Non-deductible meals and entertainment expense	121	32,950
Reserves from financial statements - balance at end of year	126	75,800
Prior year tax credits to income	239	85,000
Total Additions		10,656,750
Deductions from Accounting Income:		
Gain on disposal of assets per financial statements	401	15,000
Capital cost allowance from Schedule 8	403	16,437,884
Total Deductions		16,452,884
Regulatory Taxable Income		2,801,956

The table presents the calculation of taxable income for the 2020 Test Year. Tax adjustments are made for both temporary and permanent differences and reserves.

The most significant temporary differences included are:

- The difference between depreciation for accounting purposes versus capital cost allowance (CCA) for tax purposes; and
- The difference between accrual accounting and actual expenses from the financial statements. The two items trued up in this manner are bad debt and PBO expense.

4.10.2.2 Loss Carry forwards

KWHI does not have any loss carry forwards for regulatory purposes.

4.10.2.3 Other Additions and Deductions

In accordance with the filing requirements, KWHI has excluded Regulatory Assets and Liabilities balances from the reserve balances for 2019 Bridge and 2020 Test Years.

KWHI has made an adjustment to the CCA schedule for the its new CIS, expected to come into service in 2020. The budgeted capital cost is \$6,700,000 and it will be subject to the half-year rule per the Income Tax Rules. The CCA deductions over the five-year rebasing period would be lower in year 1 and then would peak in 2021, declining each year, resulting in a volatile CCA adjustment each year. KWHI has smoothed the effects of the CCA adjustment for the five-year period as seen in the [Table 4.10.2.3-1](#) below:

Table 4.10.2.3-1 - CIS CCA adjustment

Item	Total Capital	CCA Rate	2020	2021	2022	2023	2024	Total 5 Year CCA	Annual Smoothed
CIS - Class 50	\$6,700,000	55%	\$ 1,842,500	\$ 2,671,625	\$ 1,202,231	\$ 541,004	\$ 243,452	\$ 6,500,812	\$ 1,300,162

4.10.2.4 Tax Credits

KWHI takes advantage of tax credits where available to minimize taxes payable. [Table 4.10.2.4-1](#) summarizes the tax credits for the historical years 2014-2017 Actuals, and 2018 Forecast. KWHI has forecasted tax credits of \$62,000 for the 2020 Test Year. Every year, KWHI claims tax credits for co-op students and apprentices (both federal and provincial, where applicable). Each year, KWHI budgets for these tax credits. In addition, KWHI also claims tax credits for SR&ED in years where there are expenditures of that type. KWHI does not budget for the SR&ED tax credits as they are sporadic and immaterial.

There are slight differences in the amount of credit for the years 2013 through 2015 (the tax returns to the general ledger) as:

- A temporary employee was claimed as a co-op in 2013 and it was discovered that the employee was not actually on a co-op term as a result of an audit. This tax credit was adjusted in 2018.
- In 2014 and 2015, some apprentices were missed for the purposes of the federal apprentice tax credit. The PILs return was refiled in 2016 to include the missed apprentices.

Table 4.10.2.4-1 - Tax Credits

Tax Credit Type	2014 Board Approved	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Estimated	2019 Bridge	2020 Test
Federal Apprentice Tax Credit	4,000	12,000	13,645	14,000	8,000	12,532	4,000	4,000
Co-op Tax Credit	18,000	17,286	19,992	29,258	45,922	15,000	21,000	18,000
Provincial Apprentice Tax Credit	20,000	76,274	78,383	65,853	30,931	29,848	60,000	40,000
SR&ED	-	-	36,789	25,942	26,127	-	-	-
Total Tax Credits	42,000	105,560	148,809	135,053	110,980	57,380	85,000	62,000

4.10.2.5 Non-recoverable and Disallowed Expenses

KWHI has not included donations, other than LEAP, in the calculation of the revenue requirement. KWHI does not have any additional expenses that are deductible for general tax purposes, but for which recovery in 2020 distribution rates would be partially or fully disallowed.

4.10.2.6 Detailed Tax Calculations

[Table 4.10.2.6-1](#) below summarizes the detailed tax calculation for the 2014 Board approved, 2014 to 2017 Actuals, 2018 Forecast, 2019 Bridge and 2020 Test Year.



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Table 4.10.2.6-1 - Detailed Tax Calculations

	Board Approved 2014	Actuals 2014	2015	2016	2017	2018	Bridge 2019	Test 2020
Net Income before/after Taxes	8,399,755	10,664,148	11,024,335	10,488,256	10,176,952	11,084,896	11,178,081	8,598,090
Additions:								
Amortization of tangible assets	8,203,869	7,667,935	7,815,245	8,930,747	9,251,439	9,789,672	10,187,600	11,402,700
Provision for income taxes	-	1,508,408	1,858,693	2,001,962	1,828,434	1,974,215	-	-
Provision for bad debts	-	-	-	127,583	155,399	126,945	177,500	180,000
Reserves from financial statements	-	-	-	-	-	-	-	-
Non-deductible meals & entertainment	22,000	23,398	27,625	30,502	26,023	27,419	33,000	32,950
Other	-	-	-	-	-	-	-	-
Charitable donations	1,000	3,604	1,304	1,550	4,500	6,300	-	-
Recapture of SR&ED expenditures from Form T661	-	80,633	-	4,089	-	-	-	-
R&D expenditures deducted per F/S	-	-	165,963	117,524	139,579	-	-	-
Accrued pension obligations	-	317,169	333,565	344,782	360,084	360,900	373,000	381,700
Apprenticeship training tax credit	24,000	83,842	63,122	49,178	75,753	65,058	24,000	64,000
Cooperative education tax credit	18,000	8,702	-	19,992	29,258	44,768	30,000	21,000
Interest and penalties on taxes	-	-	2,751	7,112	8,691	10,641	-	-
Other additions and deductions	-	-	-	-	33,131	-	-	-
Total Additions	8,268,869	9,693,691	10,268,268	11,635,020	11,912,291	12,405,917	10,825,100	12,082,350
Deductions:								
Capital cost allowance from Schedule 8	14,394,570	13,086,428	13,047,964	13,085,510	13,192,119	13,652,773	14,557,445	16,437,884
Contributed Capital	-	-	-	-	658,473	781,552	857,100	939,700
Gain on disposal of assets	30,000	25,542	42,560	53,832	28,575	128,387	15,000	15,000
Other	-	-	-	-	-	-	-	-
SR&ED expenditures claimed in the year from Form T661 (line 460)	-	-	158,495	-	109,084	-	-	-
SR&ED cost capitalized for accounting	-	-	165,963	-	126,923	-	-	-
SR&ED ITC's in F/A	-	-	-	117,524	-	-	-	-
R&D tax credits in F/S	-	-	-	76,153	-	-	-	-
Accrued pension obligations	-	193,847	197,830	209,325	226,087	269,468	229,800	235,900
OMERS capitalized	-	-	-	-	400,000	364,243	-	-
Pension payments not recoded against P&L	-	-	-	-	997	-	-	-
Actual Bad Debts	-	123,833	113,594	239,838	258,176	277,229	250,000	250,000
Other additions and deductions	40,000	-	-	-	-	-	-	-
Total Deductions	14,464,570	13,429,650	13,726,406	13,782,182	15,000,434	15,473,653	15,909,345	17,878,484
Taxable Income	2,204,053	6,928,188	7,566,197	8,341,094	7,088,809	8,017,160	6,093,836	2,801,956
Tax rate	24.45%	26.50%	26.50%	26.50%	26.50%	26.50%	26.50%	26.50%
Income taxes	538,900	1,835,970	2,005,042	2,210,390	1,878,534	2,124,547	1,614,867	742,518
Tax credits	(42,000)	(105,560)	(148,809)	(135,053)	(110,980)	(57,380)	(85,000)	(62,000)
Other adjustments	-	(24,346)	(7,967)	(27,638)	(28,290)	47,341	-	-
PILS gross up	-	-	-	-	-	-	-	245,357
Total Income Taxes	496,900	1,706,064	1,848,266	2,047,699	1,739,264	2,114,508	1,529,867	925,875

2



4.10.2.7 Integrity Checks

KWHI has completed the integrity checks for the following information as details in the filing requirements:

- The depreciation and amortization added back in the PILs model agree with the numbers disclosed in the rate base section of the Application.
- The capital additions and deductions in the USS/CCA Schedule 8 agree with the rate base section for Historical, Bridge and Test Years.
- Schedule 8 of the most recent federal T2 tax return filed as a closing December 31, 2017 agrees with the opening 2018 Forecast Year UCC. KWHI confirms that there were no non-distribution tax amounts on Schedule 8 on the December 31, 2017 tax return.
- The CCA deductions in the PILs tax model for Historic, Bridge and Test Years agree with the numbers in the UCC schedules for the same years filed in the Application.
- KWHI does not have any loss carry-forwards.
- CCA is maximized since KWHI does not have any loss carry forwards.
- Post-retirement benefit obligations added back on Schedule 1, the reconciliation of accounting income to net income for tax purposes, agree with the amounts provided in the OM&A analysis for compensation.
- The income tax rate used to calculate the tax expense is consistent with KWHI's actual tax facts and the evidence filed in the Application.

4.11 Conservation and Demand Management

KWHI's CDM activity is funded through programs contracted with the IESO. KWHI has not included any costs directly attributable to these CDM programs in its revenue requirement. CDM revenues and expenses are included in 4375 and 4380 and net to



1 zero. The announcement by the Minister of Energy on March 22, 2019 to centralize
2 CDM delivery in the province of Ontario is not reflected in this Application.

3 **4.11.1 Lost Revenue Adjustment Mechanism**

4 On March 31, 2011, the Minister of Energy and Infrastructure issued a directive (the
5 Directive) to the OEB regarding electricity Conservation and Demand Management
6 (CDM) targets to be met by licensed electricity distributors. The Directive required that
7 the OEB amend the licenses of distributors to add, as a condition of license, the
8 requirement for distributors to achieve reductions in electricity demand through the
9 delivery of CDM programs over a four-year period beginning January 1, 2011.

10 Section 12 of the Directive required that the OEB have regard to the objective that lost
11 revenues that result from CDM Programs should not act as a disincentive to a
12 distributor.

13 On April 26, 2012, the OEB issued Guidelines for Electricity Distributor Conservation
14 and Demand Management (CDM Guidelines). In keeping with the Directive, the OEB
15 adopted a mechanism to capture the difference between the results of actual, verified
16 impacts of authorized CDM activities undertaken by distributors between 2011 and 2014
17 and the level of activities embedded into rates through the distributors load forecast in
18 an LRAM variance account.

19 On May 19, 2016, the OEB issued the "Report of the OEB: *Updated Policy for the Lost*
20 *Revenue Adjustment Mechanism Calculation: Lost Revenues and Peak Demand*
21 *Savings from Conservation and Demand Management Programs*" to update its policy on
22 how peak demand savings from energy efficiency and demand response programs
23 should be treated for LRAM Variance Account (LRAMVA) purposes.



In July 2016, the OEB developed a generic LRAMVA work form to calculate the LRAMVA. KWHI has completed this work form and is included in this Application as a live Excel workbook.

4.11.2 Disposition of LRAMVA

In accordance with the Filing Guidelines, a distributor must apply for the clearance of its LRAMVA balances attributable to energy efficiency programs in a Cost of Service Application. The OEB established Account 1568 as the LRAMVA to capture the variance between the Board approved CDM forecast and the actual CDM results at the customer rate class level. Distributors must continue to track the variances between the Board approved LRAMVA threshold and actual CDM results in the LRAMVA for the 2015-2020 period, as noted in the OEB's *"Conservation and Demand Management Requirement Guidelines for Electricity Distributors"* issued December 19, 2014 (EB-2014-0278).

KWHI is requesting approval with this Application a claim for the recovery of the balance in its LRAMVA account (USoA Account 1568), as at December 31, 2016 (and associated carrying charges). This includes persisting lost revenues from programs implemented in 2011 – 2014, and lost revenues associated with programs from 2015 and 2016, and the related persistence to the end of 2016. KWHI's claim is based on the most recent input assumptions available at the time of program evaluation.

KWHI submitted a Cost of Service Application in 2013 for rate year 2014 (EB-2013-0147) that accounted for CDM programs offered in 2014, and that the load forecast applied through 2018. Prior to 2014, load forecasts for KWHI did not account for CDM.

KWHI submitted a claim for lost revenues in the former KWHI 2016 IRM Rate Application (EB-2015-0088) for CDM programs offered in 2011 through 2014 (including persistence of 2011 through to 2013 results).



The claim for LRAM is supported by IESO issued Annual Verified Results report (2015 and 2016), and the 2011 – 2015 Persistence report as prepared by the IESO. The following reports, are included in pdf format in [Appendix 4-4](#) to this Exhibit, and in working Microsoft Excel format as part of this Application:

- Final 2016 Annual Verified Results Report – KWHI
- Final 2015 Annual Verified Results Report – KWHI
- 2011-2015 KWHI CDM Program Persistence Results

KWHI has completed the OEB's LRAMVA work form as part of the Application material filed.

EB-2019-0049_KWHI_Appl_LRAMVA_Workform_20190430

The tables and calculations by rate class required under the Filing Requirements can be found in the supporting calculations in the LRAMVA work form. Please refer to Exhibit 9 for the calculation of KWHI recovery of its LRAMVA balance, and corresponding rate riders. The amounts requested for recovery have been included in the EDDVAR model and summarized in [Table 4.11.2-1](#) below by rate class.

Table 4.11.2-1 – Summary of 2020 LRAM Amounts

	LRAMVA	Carrying Charges	Total
Residential	387,884	25,101	412,985
GS < 50	193,061	12,594	205,655
GS > 50	565,612	36,490	602,102
	1,146,557	74,185	1,220,742

In KWHI's last Cost of Service Application, the LRAMVA allocation by class was:

**Table 4.11.2-2 – Summary of 2014 LRAM Amounts**

	Residential	GS<50	GS>50	Total
kWh	3,348,102	3,280,740	11,994,546	18,623,388
kW			31,326	31,326

Each program has its results evaluated to determine the proper allocation by rate class.

The allocation of each program by rate class is given on Tab 3a in the LRAMVA
workform.



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Exhibit: 4

Filed: April 30, 2019

Appendix 4-1: Required OEB Filing Appendices

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Appendix 2-L

Recoverable OM&A Cost per Customer and per FTE ¹

	Last Rebasing Year - 2014- Board Approved	Last Rebasing Year - 2014- Actual	2015 Actuals	2016 Actuals	2017 Actuals	2018 Actuals	2019 Bridge Year	2020 Test Year
Reporting Basis	CGAAP	CGAAP	MIFRS	MIFRS	MIFRS	MIFRS	MIFRS	MIFRS
OM&A Costs								
O&M	\$ 11,280,400	\$ 10,116,642	\$ 9,377,480	\$ 9,498,133	\$ 10,624,623	\$ 11,810,579	\$ 12,576,300	\$ 13,161,900
Admin Expenses	\$ 7,098,860	\$ 6,547,958	\$ 6,740,884	\$ 7,608,805	\$ 7,299,275	\$ 7,607,390	\$ 7,591,000	\$ 8,828,800
Total Recoverable OM&A from Appendix 2-JB ⁵	\$ 18,379,260	\$ 16,664,600	\$ 16,118,364	\$ 17,106,938	\$ 17,923,898	\$ 19,417,969	\$ 20,167,300	\$ 21,990,700
Number of Customers ^{2,4}	91,353	91,143	92,404	94,058	95,757	96,827	97,623	98,935
Number of FTEs ^{3,4}	177	177	176	183	185	181	184	184
Customers/FTEs	516.12	515.14	524.99	513.00	516.71	534.31	530.56	537.69
OM&A cost per customer								
O&M per customer	123.48	111.00	101.48	100.98	110.95	121.98	128.83	133.04
Admin per customer	77.71	71.84	72.95	80.89	76.23	78.57	77.76	89.24
Total OM&A per customer	201.19	182.84	174.43	181.88	187.18	200.54	206.58	222.27
OM&A cost per FTE								
O&M per FTE	63,731.07	57,178.78	53,278.11	51,803.29	57,331.23	65,172.60	68,349.46	71,532.07
Admin per FTE	40,106.55	37,008.75	38,298.30	41,498.80	39,387.41	41,978.75	41,255.43	47,982.61
Total OM&A per FTE	103,837.63	94,187.53	91,576.41	93,302.09	96,718.64	107,151.35	109,604.89	119,514.67

Notes:

- 1 If it has been more than four years since the applicant last filed a cost of service application, additional years of historical actuals should be incorporated into the table, as necessary, to go back to the last cost of service application. If the applicant last filed a cost of service application less than four years ago, a minimum of three years of actual information is required.
- 2 The method of calculating the number of customers must be identified. Should correspond with data provided in Appendix 2-IB.
- 3 The method of calculating the number of FTEs must be identified. See also Appendix 2-K.
- 4 The number of customers and the number of FTEs should correspond to mid-year or average of January 1 and December 31 figures.
- 5 For the test year, the applicant should take into account the system O&M (line 22 of Appendix 2-AB) in developing its forecasted OM&A.

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Appendix 2-JB Recoverable OM&A Cost Driver Table^{1,3}

OM&A	Last Rebasing Year (2014 Actuals)	2015 Actuals	2016 Actuals	2017 Actuals	2018 Actuals	2019 Bridge Year	2020 Test Year
Reporting Basis	CGAAP	MIFRS	MIFRS	MIFRS	MIFRS	MIFRS	MIFRS
Opening Balance ²	\$ 18,379,260	\$ 16,664,600	\$ 16,118,364	\$ 17,106,938	\$ 17,923,896	\$ 19,417,967	\$ 20,167,300
Staffing Changes	-\$ 394,000	\$ 85,000		\$ 237,180	\$ 81,827	\$ 601,286	\$ 184,934
Collective Agreement increases		\$ 154,371	\$ 157,999	\$ 158,271	\$ 140,792	\$ 143,608	\$ 153,804
Implementation of CIS	-\$ 40,000				\$ 42,726	-\$ 804,100	\$ 1,176,400
Change Management						\$ 100,000	-\$ 90,000
Cost Assessment Variance (Regulatory)							\$ 184,200
Cost of Service Preparation costs					-\$ 70,288		\$ 150,000
Customer Service - Monthly Billing	-\$ 204,500	\$ 97,926	\$ 571,844				
Customer Service - Efficiencies				-\$ 82,522		-\$ 64,842	
Customer Service - Outsource Billing				\$ 37,610	\$ 54,235		
Communications	-\$ 35,000	\$ 65,271	\$ 65,004	\$ 23,079		\$ 11,970	
HR Solution						\$ 70,000	
Outage Management System	-\$ 140,000		\$ 21,600				
Reliability measures	-\$ 52,740	\$ 148,866				\$ 324,235	
Storm Damages		-\$ 96,358	\$ 236,703	-\$ 95,031	\$ 155,292	-\$ 30,605	\$ 16,500
Cyber Security						\$ 180,000	
Maintenance deferrals due to LRT	-\$ 155,568	-\$ 192,432			\$ 283,219		
Ontario One Call	\$ 73,404						
Admin Credits	-\$ 419,356	-\$ 769,621	-\$ 120,216	\$ 516,236	\$ 413,668	-\$ 68,411	-\$ 26,900
Other	-\$ 346,900	-\$ 39,259	\$ 55,640	\$ 22,135	\$ 392,600	\$ 286,190	\$ 74,462
Closing Balance ²	\$ 16,664,600	\$ 16,118,364	\$ 17,106,938	\$ 17,923,896	\$ 19,417,967	\$ 20,167,300	\$ 21,990,700

Notes:

- 1 For each year, a detailed explanation for each cost driver and associated amount is required in Exhibit 4.
- 2 Opening Balance for "Last Rebasing Year" (cell B15) should be equal to the Board-Approved amount. For purposes of assessing incremental cost drivers, the closing balance for each year becomes the opening balance for the next year.
- 3 If it has been more than four years since the applicant last filed a cost of service application, additional years of historical actuals should be incorporated into the table, as necessary, to go back to the last cost of service application. If the applicant last filed a cost of service application less than four years ago, a minimum of three years of actual information is required.

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Appendix 2-JC OM&A Programs Table

Programs	Last Rebasing Year (2014 Board- Approved)	Last Rebasing Year (2014 Actuals)	2015 Actuals	2016 Actuals	2017 Actuals	2018 Actuals	2019 Bridge Year	2020 Test Year	Variance (Test Year vs. 2018 Actuals)
Reporting Basis	CGAAP	CGAAP	MIFRS	MIFRS	MIFRS	MIFRS	MIFRS	MIFRS	
Engineering and Operations	3,401,400	2,921,513	2,997,966	3,283,652	3,463,682	3,496,376	3,811,900	3,974,700	478,324
Control Room & Stations Operations	1,308,500	1,285,178	1,412,950	1,560,921	1,457,249	1,451,392	1,655,100	1,767,700	316,308
Distribution Operations	672,900	735,003	826,113	871,662	874,527	961,168	903,300	919,500	-41,668
Metering	572,000	546,730	567,295	646,749	632,052	554,289	600,000	629,900	75,611
Stations Maintenance	797,800	885,372	856,286	821,750	777,449	791,122	888,600	746,600	-44,522
Overhead Maintenance	2,478,300	2,788,616	2,405,494	2,584,213	2,543,411	2,663,680	3,020,700	3,072,600	408,920
Underground Maintenance	1,079,600	764,425	831,073	576,499	917,467	1,162,348	1,231,700	1,253,100	90,752
Service Centre Operations	1,342,600	1,145,457	1,050,828	903,320	1,143,674	1,289,093	1,132,200	1,183,800	-105,293
Customer Service	3,251,830	2,919,376	3,087,765	3,834,307	3,560,610	3,815,385	3,376,700	3,892,700	77,315
Communications	55,000	32,358	174,567	151,011	175,558	172,530	185,000	189,500	16,970
Bad Debts	187,000	116,143	147,190	128,978	155,399	126,945	177,500	180,000	53,055
Administration & Finance	1,426,560	1,325,652	1,369,423	1,411,293	1,348,268	1,347,941	1,501,400	1,548,600	200,659
Regulatory	666,000	641,074	676,914	817,841	846,056	775,455	850,800	1,026,300	250,845
Information Technology	1,744,300	1,494,658	1,487,041	1,463,330	1,497,145	1,754,295	1,720,500	2,281,800	527,505
Human Resources & Safety	695,300	770,111	736,033	717,696	846,969	908,382	930,700	949,900	41,518
Supply Chain Management	663,200	609,757	686,580	687,818	672,056	681,072	732,800	756,700	75,628
Insurance	529,500	524,196	483,756	481,693	465,466	429,758	462,200	471,300	41,542
Community & Customer Relations	175,700	186,974	229,243	260,155	211,561	230,541	248,600	250,800	20,259
LEAP	46,000	47,475	49,000	49,000	49,000	49,000	49,700	55,000	6,000
Administration Credit	-2,686,200	-3,105,556	-3,875,178	-3,995,393	-3,479,158	-3,065,489	-3,133,900	-3,160,800	-95,311
Sub-Total	18,407,290	16,634,512	16,200,339	17,256,495	18,158,441	19,595,283	20,345,500	21,989,700	2,394,417
Miscellaneous	-28,030	30,088	-47,783	-149,556	-234,544	-177,314	-178,200	1,000	178,314
Total	18,379,260	16,664,600	16,152,556	17,106,939	17,923,897	19,417,969	20,167,300	21,990,700	2,572,731

Notes:

- 1 Please provide a breakdown of the major components of each OM&A Program undertaken in each year. Please ensure that all Programs below the materiality threshold are included in the miscellaneous line. Add more Programs as required.
- 2 The applicant should group projects appropriately and avoid presentations that result in classification of significant components of the OM&A budget in the miscellaneous category

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Appendix 2-D Overhead Expense

Applicants are to provide a breakdown of OM&A before capitalization in the below table. OM&A before capitalization may be broken down by cost center, program, drivers or another form: best suited to focus on capitalized vs. uncapitalized OM&A.

OM&A Before Capitalization	2014 Historical Year	2015 Historical Year	2016 Historical Year	2017 Historical Year	2018 Historical Year	2019 Bridge Year	2020 Test Year
Operating and Maintenance	\$ 12,756,321	\$ 12,504,204	\$ 12,989,276	\$ 13,522,898	\$ 14,400,518	\$ 15,396,600	\$ 16,020,900
Billing and collecting	\$ 3,415,009	\$ 3,775,665	\$ 4,468,748	\$ 4,296,607	\$ 4,615,266	\$ 4,210,700	\$ 4,981,700
Community Relations	\$ 199,353	\$ 238,394	\$ 269,179	\$ 220,473	\$ 241,006	\$ 258,300	\$ 263,400
General and Administrative	\$ 5,029,353	\$ 5,195,055	\$ 5,674,740	\$ 5,227,397	\$ 5,029,985	\$ 5,625,700	\$ 6,128,200
Total OM&A Before Capitalization (B)	\$ 21,400,036	\$ 21,713,318	\$ 23,401,943	\$ 23,267,375	\$ 24,286,775	\$ 25,491,300	\$ 27,394,200

Applicants are to provide a breakdown of capitalized OM&A in the below table. Capitalized OM&A may be broken down using the categories listed in the table below if possible. Otherwise, applicants are to provide its own break down of capitalized OM&A.

Capitalized OM&A	2014 Historical Year	2015 Historical Year	2016 Historical Year	2017 Historical Year	2018 Historical Year	2019 Bridge Year	2020 Test Year	Directly Attributable? (Yes/No)	Explanation for Change in Overhead Capitalized
Employee Benefits	\$ 1,803,365	\$ 2,104,810	\$ 2,404,088	\$ 2,130,424	\$ 1,988,910	\$ 2,178,200	\$ 2,215,800	Yes	Directly attributable to labour costs charged to capital
Cost of Site Preparation									
Initial Delivery and Handling Costs	\$ 292,392	\$ 363,420	\$ 399,774	\$ 314,778	\$ 289,957	\$ 325,500	\$ 328,700	Yes	Directly attributable to labour costs charged to capital
Cost of testing whether the asset is functioning properly									
Professional Fees									
Fleet Costs	\$ 758,816	\$ 858,936	\$ 971,570	\$ 898,799	\$ 849,760	\$ 1,021,000	\$ 1,038,400	Yes	Directly attributable to labour costs charged to capital
Costs of opening a new facility									
Cost of introducing a new product or service (including costs of advertising and promotional activities)									
Cost of conducting business in a new location or with a new class of customer (including costs of staff training)									
Administration and other general overhead costs	\$ 1,880,863	\$ 2,267,788	\$ 2,519,573	\$ 1,999,476	\$ 1,740,180	\$ 1,799,300	\$ 1,820,600	Yes	Directly attributable to labour costs charged to capital
Insert description of additional item(s) and new rows if needed									
Total Capitalized OM&A (A)	\$ 4,735,436	\$ 5,594,954	\$ 6,295,005	\$ 5,343,477	\$ 4,868,806	\$ 5,324,000	\$ 5,403,500		
% of Capitalized OM&A (=A/B)	22%	26%	27%	23%	20%	21%	20%		

Appendix 2-N

Shared Services and Corporate Cost Allocation ¹

Year:

Shared Services

Name of Company		Service Offered	Pricing Methodology	Price for the Service	Cost for the Service
From	To			\$	\$
KWHI	KESI	Board of Directors	Actual cost	3,700	3,700
KWHI	KESI	Streetlight Maintenance	Actual cost	293,300	293,300

Corporate Cost Allocation

Name of Company		Service Offered	Pricing Methodology	% of Corporate Costs Allocated	Amount Allocated
From	To			%	\$
KWHI	KPC	Accounting Services	Estimated actual	1.62%	12,000
KWHI	KESI	Accounting Services	Estimated actual	0.13%	1,000

Year:

Shared Services

Name of Company		Service Offered	Pricing Methodology	Price for the Service	Cost for the Service
From	To			\$	\$
KWHI	KESI	Board of Directors	Actual cost	3,600	3,600
KWHI	KESI	Streetlight Maintenance	Actual cost	290,400	290,400

Appendix 2-N Shared Services and Corporate Cost Allocation ¹

Corporate Cost Allocation

Name of Company		Service Offered	Pricing Methodology	% of Corporate Costs Allocated	Amount Allocated
From	To			%	\$
KWHI	KPC	Accounting Services	Estimated actual	1.65%	11,800
KWHI	KESI	Accounting Services	Estimated actual	0.14%	1,000

Year: 2018

Shared Services

Name of Company		Service Offered	Pricing Methodology	Price for the Service	Cost for the Service
From	To			\$	\$
KWHI	KESI	Board of Directors	Actual cost	3,500	3,500
KWHI	KESI	Streetlight Maintenance	Actual cost	287,483	287,483

Corporate Cost Allocation

Name of Company		Service Offered	Pricing Methodology	% of Corporate Costs Allocated	Amount Allocated
From	To			%	\$
KWHI	KPC	Accounting Services	Estimated actual	1.85%	10,800
KWHI	KESI	Accounting Services	Estimated actual	0.17%	1,000

Appendix 2-N

Shared Services and Corporate Cost Allocation ¹

Year: 2017

Shared Services

Name of Company		Service Offered	Pricing Methodology	Price for the Service \$	Cost for the Service \$
From	To				
KWHI	KESI	Board of Directors	Actual cost	3,500	3,500
KWHI	KESI	Streetlight Maintenance	Actual cost	469,142	469,142

Corporate Cost Allocation

Name of Company		Service Offered	Pricing Methodology	% of Corporate Costs Allocated %	Amount Allocated \$
From	To				
KWHI	KPC	Accounting Services	Estimated actual	1.76%	10,800
KWHI	KESI	Accounting Services	Estimated actual	0.16%	1,000

Year: 2016

Shared Services

Name of Company		Service Offered	Pricing Methodology	Price for the Service \$	Cost for the Service \$
From	To				
KWHI	City of Kitchener	Streetlight Maintenance	Actual cost	350,053	350,053
KWHI	Township of Wilmot	Streetlight Maintenance	Actual cost	12,412	12,412

Corporate Cost Allocation

[illegible]Year: 2015

Shared Services

Name of Company		Service Offered	Pricing Methodology	Price for the Service	Cost for the Service
From	To			\$	\$
KWHI	City of Kitchener	Streetlight Maintenance	Actual cost	435,604	435,604
KWHI	Township of Wilmot	Streetlight Maintenance	Actual cost	12,313	12,313

Corporate Cost Allocation

[illegible]

Appendix 2-N Shared Services and Corporate Cost Allocation ¹

Year: 2014

Shared Services

Name of Company		Service Offered	Pricing Methodology	Price for the Service	Cost for the Service
From	To			\$	\$
KWHI	City of Kitchener	Streetlight Maintenance	Actual cost	355,766	355,766
KWHI	Township of Wilmot	Streetlight Maintenance	Actual cost	12,194	12,194

Corporate Cost Allocation

Name of Company		Service Offered	Pricing Methodology	% of Corporate Costs Allocated	Amount Allocated
From	To			%	\$
KWHI	KPC	Accounting Services	Estimated actual	1.5%	10,800

Note:

1 This appendix must be completed in relation to each service provided or received for the Historical (actuals), Bridge and Test years. The required information includes:

- **Type of Service:**
Services such as billing, accounting, payroll, etc. The applicant must identify any costs related to the Board of Directors of the parent company that are allocated to the applicant.
- **Pricing Methodology:**
Pricing Methodology includes approaches such as cost-base, market-base, tendering, etc. The applicant must provide evidence demonstrating the pricing methodology used. The applicant must also provide a description of why that pricing methodology was chosen, whether or not it is in conformity with ARC, and why it is appropriate.
- **% Allocation:**
The applicant must provide the percentage of the costs allocated to the entity for the service being offered. The Applicant must also provide a description of the allocator and why it is an appropriate allocator.

TO BE UPDATED AT THE DRAFT RATE ORDER STAGE

Appendix 2-M
Regulatory Cost Schedule

Regulatory Cost Category	USoA Account	USoA Account Balance	Last Rebasing Year (2014 Board Approved)	Last Rebasing Year (2014 Actual)	Most Current Actuals Year 2018	2019 Bridge Year	Annual % Change	2020 Test Year	Annual % Change
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)=[(G)-(F)]/(F)	(I)	(J) = [(I)-(G)]/(G)
Regulatory Costs (Ongoing)									
1 OEB Annual Assessment	5655		\$ 237,500	\$ 247,241	\$ 236,695	\$ 237,500	0.34%	\$ 421,700	77.56%
2 OEB Section 30 Costs (OEB-initiated)	5655		\$ 17,000	\$ 7,256	\$ 7,914	\$ 30,000	279.08%	\$ 30,000	0.00%
3 Expert Witness costs for regulatory matters	5655								
4 Legal costs for regulatory matters	5655				\$ 24,564	\$ 5,000	-79.65%	\$ 5,000	0.00%
5 Consultants' costs for regulatory matters	5655		\$ 40,800	\$ 500	\$ 6,746		-100.00%	\$ 10,000	
6 Operating expenses associated with staff resources allocated to regulatory matters	5655		\$ 333,700	\$ 319,028	\$ 350,166	\$ 421,300	20.31%	\$ 430,900	2.28%
7 Operating expenses associated with other resources allocated to regulatory matters ¹	5655		\$ 50,600	\$ 35,475	\$ 32,743		-100.00%	\$ 22,200	
8 Other regulatory agency fees or assessments	5655		\$ 800	\$ 800	\$ 800	\$ 800	0.00%	\$ 800	0.00%
9 Any other costs for regulatory matters (please define)	5655								
10 Intervenor costs	5655		\$ 17,500						
11 Include other items in green cells, as applicable	5655								
12	5655								
13	5655								
14	5655								
15	5655								
16	5655								
17	5655								
18	5655								
19	5655								
20	5655								
Regulatory Costs (One-Time)									
1 Expert Witness costs	5655								
2 Legal costs	5655			\$ 95,476				\$ 150,000	
3 Consultants' costs	5655		\$ 107,000	\$ 40,843				\$ 348,000	
4 Incremental operating expenses associated with staff resources allocated to this application.	5655		\$ 67,000	\$ 11,368				\$ 50,000	
5 Incremental operating expenses associated with other resources allocated to this application. ¹	5655		\$ 28,400	\$ 12,235				\$ 12,000	
6 Intervenor costs	5655		\$ 70,000	\$ 103,063				\$ 110,000	
7 OEB Section 30 Costs (application-related)	5655							\$ 25,000	
8 Include other items in green cells, as applicable	5655								
9 Other regulatory agency fees or assessments	5655			\$ 19,722				\$ 55,000	
10									
11									
12									
13									
14									
15									
1 Sub-total - Ongoing Costs ²		\$ -	\$ 697,900	\$ 610,300	\$ 659,628	\$ 694,600	5.30%	\$ 920,600	32.54%
2 Sub-total - One-time Costs ³		\$ -	\$ 272,400	\$ 282,707	\$ -	\$ -		\$ 750,000	
3 Total		\$ -	\$ 970,300	\$ 893,007	\$ 659,628	\$ 694,600	5.30%	\$ 1,070,600	54.13%

Application-Related One-Time Costs	Total
Total One-Time Costs Related to Application to be Amortized over IRM Period	\$ 750,000
1/5 of Total One-Time Costs	150000

Notes:

- ¹ Please identify the resources involved.
² Sum of all ongoing costs.
³ Sum of all one-time costs.

**Appendix 2-C
Depreciation and Amortization Expense**

This appendix is to be completed in conjunction with the accounting instructions in Appendix 2-B

Scenario that applies	Applicable Years and Accounting Standard	Year Reflected in Schedule Below	Accounting Standard Reflected in Schedule Below
Rebasing for the first time with depreciation policy changes made in 2012. <input checked="" type="checkbox"/>	This appendix must be duplicated and completed for the years 2012 to 2018. The appendix for 2012 is to be completed under CGAAP (prior to changes in depreciation policies). The appendix for 2012 to 2014 must be completed under Revised CGAAP (after changes in depreciation policies). The appendix for 2014 to 2018 is to be completed under MIFRS (2014 if changes to MIFRS are material).		
Rebasing for the first time with depreciation policy changes made in 2013. <input type="checkbox"/>	This appendix must be duplicated and completed for the years 2013 to 2018. The appendix for 2013 is to be completed under CGAAP (prior to changes in depreciation policies). The appendix for 2013 to 2014 must be completed under Revised CGAAP (after changes in depreciation policies). The appendix for 2014 to 2018 is to be completed under MIFRS (2014 if changes to MIFRS are material).		
Already rebased with depreciation policy changes in a prior rate application <input checked="" type="checkbox"/>	This appendix must be completed for 2014 to 2018. The appendix for 2014 is to be completed under Revised CGAAP (after changes in depreciation policies). The appendix for 2014 to 2018 is to be completed under MIFRS (2014 if changes to MIFRS are material).	2014	MIFRS

2014		Book Values							Service Lives				Depreciation Expense					
Account	Description	Opening Net Book Value of Existing Assets as at Date of Policy Change (Jan. 1) 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 ⁸	Net Amount of Assets Acquired After Policy Change to be Depreciated	Current Year Additions	Average Remaining Life of Assets Existing Before Policy Change ³	Depreciation Rate Assets Acquired After Policy Change	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	Variance ⁶
		a	b	c = a-b	d	e	f = d - e	g	h	i = 1/h	j	k = 1/j	l = c/h	m = t/j	n = g*0.5/j	o = l+m+n	p	q = p-o
1611	Computer Software (Formally known as Account 1925)	928,634	\$ 484,030	\$ 444,604	\$ 437,818		\$ 437,818	\$ 288,888	2.25	44.44%	5.00	20.00%	\$ 197,602	\$ 87,564	\$ 28,889	\$ 314,054	\$ 331,209	\$ 17,154
1611	Computer Software (Formally known as Account 1925)			\$ -			\$ -	\$ 88,614	-	0.00%	3.00	33.33%	\$ -	\$ -	\$ 14,769	\$ 14,769	\$ 86,741	\$ 71,972
1611	Computer Software (Formally known as Account 1925) - Smart Meters	-		\$ -	\$ 591,890	\$ 518,014	\$ 73,876	\$ 6,791	-	0.00%	3.00	33.33%	\$ -	\$ 24,625	\$ 1,132	\$ 25,757	\$ 25,445	\$ 312
1612	Land Rights (Formally known as Account 1906)	12,881		\$ 12,881			\$ -		4.86	20.60%	50.00	2.00%	\$ 2,653	\$ -	\$ -	\$ 2,653	\$ 2,653	\$ -
1905	Land	2,339,958		\$ 2,339,958			\$ -		0.00%			0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1808	Buildings - Structure	7,099,490		\$ 7,099,490	\$ 585,080		\$ 585,080	\$ -	38.08	2.63%	50.00	2.00%	\$ 186,429	\$ 11,702	\$ -	\$ 198,131	\$ 198,131	\$ -
1808	Buildings - Roof	144,989	\$ 34,742	\$ 110,247	\$ -		\$ -	\$ -	11.44	8.74%	20.00	5.00%	\$ 9,638	\$ -	\$ -	\$ 9,638	\$ 12,676	\$ 3,037
1810	Leasehold Improvements			\$ -			\$ -			0.00%		0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1815	Transformer Station Equipment >50 kV 50 yrs	15,658,085	\$ 12,312	\$ 15,645,773	\$ 1,531,177		\$ 1,531,177	\$ 423,640	41.16	2.43%	50.00	2.00%	\$ 380,092	\$ 30,624	\$ 4,236	\$ 414,952	\$ 415,251	\$ 299
1815	Transformer Station Equipment >50 kV 40 yrs	24,475,179		\$ 24,475,179	\$ 1,080,100		\$ 1,080,100	\$ 164,079	28.76	3.48%	40.00	2.50%	\$ 851,073	\$ 27,003	\$ 2,051	\$ 880,127	\$ 880,127	\$ -
1815	Transformer Station Equipment >50 kV 30 yrs			\$ -			\$ -			0.00%		0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1815	Transformer Station Equipment >50 kV 25 yrs	887,028	\$ 25,692	\$ 861,336	\$ -		\$ -	\$ -	12.07	8.28%	25.00	4.00%	\$ 71,350	\$ -	\$ -	\$ 71,350	\$ 73,478	\$ 2,128
1815	Transformer Station Equipment >50 kV 20 yrs	392,015	\$ 45,826	\$ 346,189	\$ 23,880		\$ 23,880	\$ 389	9.76	10.24%	20.00	5.00%	\$ 35,455	\$ 1,194	\$ 10	\$ 36,840	\$ 41,333	\$ 4,693
1815	Transformer Station Equipment >50 kV 15 yrs	1,087,574		\$ 1,087,574	\$ 367,520		\$ 367,520	\$ 505,667	8.48	11.79%	15.00	6.67%	\$ 128,268	\$ 24,501	\$ 16,856	\$ 169,625	\$ 169,625	\$ -
1820	Distribution Station Equipment <50 kV 50 yrs	200,427		\$ 200,427	\$ -		\$ -	\$ -	22.74	4.40%	50.00	2.00%	\$ 8,813	\$ -	\$ -	\$ 8,813	\$ 8,813	\$ -
1820	Distribution Station Equipment <50 kV 40 yrs	649,832		\$ 649,832	\$ -		\$ -	\$ -	25.47	3.93%	40.00	2.50%	\$ 25,509	\$ -	\$ -	\$ 25,509	\$ 25,509	\$ -
1820	Distribution Station Equipment <50 kV 25 yrs	13,287		\$ 13,287	\$ -		\$ -	\$ -	5.93	16.87%	25.00	4.00%	\$ 2,242	\$ -	\$ -	\$ 2,242	\$ 2,242	\$ -
1820	Distribution Station Equipment <50 kV 20 yrs	6,078	\$ 6,078	\$ -	\$ -		\$ -	\$ -	5.66	17.66%	20.00	5.00%	\$ -	\$ -	\$ -	\$ -	\$ 1,074	\$ 1,074
1820	Distribution Station Equipment <50 kV 15 hrs	17,551	\$ 17,551	\$ -	\$ 144,060		\$ 144,060	\$ 9,576	9.64	10.37%	15.00	6.67%	\$ -	\$ 9,604	\$ 319	\$ 9,923	\$ 11,743	\$ 1,820
1825	Storage Battery Equipment			\$ -			\$ -			0.00%		0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1830	Poles, Towers & Fixtures	17,028,402		\$ 17,028,402	\$ 4,831,550		\$ 4,831,550	\$ 2,044,655	32.16	3.11%	40.00	2.50%	\$ 529,490	\$ 120,789	\$ 25,558	\$ 675,837	\$ 681,835	\$ 5,998
1835	Overhead Conductors	14,319,062		\$ 14,319,062	\$ 3,391,666		\$ 3,391,666	\$ 1,108,823	51.16	1.95%	60.00	1.67%	\$ 279,881	\$ 56,528	\$ 9,240	\$ 345,649	\$ 345,649	\$ -
1835	Overhead Devices	1,591,007		\$ 1,591,007	\$ 419,494		\$ 419,494	\$ 129,915	30.57	3.27%	40.00	2.50%	\$ 52,051	\$ 10,487	\$ 1,624	\$ 64,162	\$ 64,162	\$ -
1835	Voltage Regulators	163,109		\$ 163,109	\$ -		\$ -	\$ -	20.00	5.00%	30.00	3.33%	\$ 8,155	\$ -	\$ -	\$ 8,155	\$ 8,155	\$ -
1835	Capacitor Banks	618,096		\$ 618,096	\$ 4,080		\$ 4,080	\$ 89,387	19.80	5.05%	25.00	4.00%	\$ 31,224	\$ 163	\$ 1,788	\$ 33,175	\$ 33,175	\$ -
1840	Underground Conduit	12,527,558		\$ 12,527,558	\$ 4,604,937		\$ 4,604,937	\$ 3,084,780	51.70	1.93%	60.00	1.67%	\$ 242,295	\$ 76,749	\$ 25,707	\$ 344,750	\$ 344,750	\$ -
1845	Underground Conductors & Devices - PILC	414,000		\$ 414,000	\$ 465,861		\$ 465,861	\$ -	58.00	1.72%	60.00	1.67%	\$ 7,138	\$ 7,764	\$ -	\$ 14,902	\$ 14,902	\$ -
1845	Underground Cables	15,726,653		\$ 15,726,653	\$ 3,513,152		\$ 3,513,152	\$ 2,778,593	28.66	3.49%	40.00	2.50%	\$ 548,637	\$ 87,829	\$ 34,732	\$ 671,198	\$ 671,198	\$ -
1845	Underground Devices	1,747,406		\$ 1,747,406	\$ 451,452		\$ 451,452	\$ 317,137	28.66	3.49%	40.00	2.50%	\$ 60,960	\$ 11,286	\$ 3,964	\$ 76,210	\$ 76,210	\$ -
1850	Line Transformers - Overhead	15,713,833	\$ 307,197	\$ 15,406,636	\$ 1,548,214		\$ 1,548,214	\$ 825,759	27.98	3.57%	40.00	2.50%	\$ 550,545	\$ 38,705	\$ 10,322	\$ 599,572	\$ 610,549	\$ 10,977
1850	Line Transformers - Network	5,503		\$ 5,503	\$ 202,577		\$ 202,577	\$ 99,626	9.38	10.66%	40.00	2.50%	\$ 587	\$ 5,064	\$ 1,245	\$ 6,896	\$ 6,896	\$ -
1850	Line Transformers - Vault	-		\$ -	\$ 5,849		\$ 5,849	\$ -	-	0.00%	60.00	1.67%	\$ -	\$ 97	\$ -	\$ 97	\$ 97	\$ -
1850	Line Transformers - Roof	497,948		\$ 497,948	\$ -		\$ -	\$ -	23.84	4.19%	30.00	3.33%	\$ 20,885	\$ -	\$ -	\$ 20,885	\$ 20,885	\$ -
1850	Line Transformers - Network Protectors	91,592		\$ 91,592	\$ 234,492		\$ 234,492	\$ 81,112	39.50	2.53%	40.00	2.50%	\$ 2,319	\$ 5,862	\$ 1,014	\$ 9,195	\$ 9,129	\$ 66
1850	Line Transformers - Padmount	3,991,872		\$ 3,991,872	\$ 1,590,190		\$ 1,590,190	\$ 551,107	36.77	2.72%	40.00	2.50%	\$ 108,567	\$ 39,755	\$ 6,889	\$ 155,210	\$ 41,687	\$ 113,523
1850	Line Transformers - Submersible	3,195,923		\$ 3,195,923	\$ 1,117,616		\$ 1,117,616	\$ 705,781	24.09	4.15%	30.00	3.33%	\$ 132,669	\$ 37,254	\$ 11,763	\$ 181,686	\$ 54,134	\$ 127,552
1850	Line Transformers - Foundation	1,427,416		\$ 1,427,416	\$ 580,905		\$ 580,905	\$ 66,370	58.08	1.72%	60.00	1.67%	\$ 24,575	\$ 9,682	\$ 553	\$ 34,810	\$ 10,839	\$ 23,971
1855	Services - Overhead	1,887,728		\$ 1,887,728	\$ 1,009,574		\$ 1,009,574	\$ 213,550	52.20	1.92%	60.00	1.67%	\$ 36,164	\$ 16,826	\$ 1,780	\$ 54,770	\$ 54,770	\$ -
1855	Services - Underground	22,543,287		\$ 22,543,287	\$ 4,063,210		\$ 4,063,210	\$ 1,801,118	31.40	3.18%	40.00	2.50%	\$ 717,938	\$ 101,580	\$ 22,514	\$ 842,032	\$ 842,032	\$ -
1860	Commercial Meters	1,327,802	\$ 158,636	\$ 1,169,166	\$ 583,615		\$ 583,615	\$ 311,805	20.97	4.77%	25.00	4.00%	\$ 55,753	\$ 23,345	\$ 6,236	\$ 85,333	\$ 92,898	\$ 7,565
1860	Smart Meters - Non-Qualifying	108,222		\$ 108,222	\$ -		\$ -	\$ 240,153	12.00	8.33%	15.00	6.67%	\$ 9,018	\$ -	\$ 8,005	\$ 17,023	\$ 17,023	\$ -
1860	Meters - Renewable Connection			\$ -	\$ -		\$ -	\$ 154,427	-	0.00%	15.00	6.67%	\$ -	\$ -	\$ 5,148	\$ 5,148	\$ 32,983	\$ 27,835
1860	Smart Meters			\$ -	\$ -		\$ -	\$ -	-	0.00%	15.00	6.67%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1860	Smart Meters	-		\$ -	\$ 12,361,937		\$ 12,361,937	\$ 132,171	-	0.00%	15.00	6.67%	\$ -	\$ 824,129	\$ 4,406	\$ 828,535	\$ 828,535	\$ -
1905	Land	1,395,300		\$ 1,395,300	\$ -		\$ -	\$ -	-	0.00%		0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1908	Buildings & Fixtures - Building	5,262,681		\$ 5,262,681	\$ 4,795,255		\$ 4,795,255	\$ 82,660	28.71	3.48%	50.00	2.00%	\$ 183,326	\$ 95,905	\$ 827	\$ 280,058	\$ 280,058	\$ -
1908	Buildings & Fixtures - Roof	1,567,291		\$ 1,567,291	\$ 1,504,780		\$ 1,504,780	\$ 724,628	6.53	15.33%	20.00	5.00%	\$ 240,192	\$ 75,239	\$ 18,116	\$ 333,546	\$ 333,546	\$ -
1910	Leasehold Improvements			\$ -	\$ -		\$ -	\$ -	-	0.00%		0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1915	Office Furniture & Equipment (10 years)	340,212	\$ 54,324	\$ 285,888	\$ 187,702		\$ 187,702	\$ 57,713	5.10	19.61%	10.00	10.00%	\$ 56,056	\$ 18,770	\$ 2,886	\$ 77,712	\$ 70,928	\$ 6,784
1915	Office Furniture & Equipment (5 years)			\$ -	\$ -		\$ -	\$ -	-	0.00%	5.00	20.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1920	Computer Equipment - Hardware	350,464		\$ 350,464	\$ 123,375		\$ 123,375	\$ 175,363	2.12	47.12%	5.00	20.00%	\$ 165,155	\$ 24,675	\$ 17,536	\$ 207,367	\$ 207,367	\$ -
1920	Computer Equip.-Hardware - Smart Meters	-		\$ -	\$ 569,286	\$ 437,864	\$ -	\$ 131,422	\$ -	0.00%	5.00	20.00%	\$ -	\$ 26,284	\$ -	\$ 26,284	\$ 22,126	\$ 4,158
1920	Computer Equip.-Hardware(Post Mar. 19/07)	-		\$ -	\$ -		\$ -	\$ -	-	0.00%		0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1930	Transportation Equipment	2,781,086		\$ 2,781,086	\$ 2,066,571		\$ 2,066,571	\$ 767,172	7.19	13.90%	11.00	9.09%	\$ 386,688	\$ 187,870	\$ 34,871	\$ 609,430	\$ 609,430	\$ -

Appendix 2-C
Depreciation and Amortization Expense

1935	Stores Equipment	21,484		\$ 21,484	\$ -		\$ -	\$ -	4.55	21.99%	10.00	10.00%	\$ 4,724	\$ -	\$ -	\$ 4,724	\$ 4,724	\$ -
1940	Tools, Shop & Garage Equipment	324,953		\$ 324,953	\$ 140,421		\$ 140,421	\$ 76,230	6.70	14.93%	10.00	10.00%	\$ 48,520	\$ 14,042	\$ 3,812	\$ 66,374	\$ 66,374	\$ -
1940	Tools - Smart Meters	-		\$ -	\$ -		\$ -	\$ -	-	0.00%	10.00	10.00%	\$ -	\$ -	\$ -	\$ -	\$ 373	\$ 373
1945	Measurement & Testing Equipment	163,014		\$ 163,014	\$ 105,845		\$ 105,845	\$ 56,975	7.77	12.88%	10.00	10.00%	\$ 20,993	\$ 10,585	\$ 2,849	\$ 34,426	\$ 34,426	\$ -
1950	Power Operated Equipment	306,812		\$ 306,812	\$ 54,068		\$ 54,068	\$ 94,765	6.77	14.76%	10.00	10.00%	\$ 45,297	\$ 5,407	\$ 4,738	\$ 55,442	\$ 55,442	\$ -
1955	Communications Equipment	58,880		\$ 58,880	\$ 1,251		\$ 1,251	\$ 31,176	6.76	14.80%	10.00	10.00%	\$ 8,715	\$ 125	\$ 1,559	\$ 10,399	\$ 10,399	\$ -
1955	Communication Equipment (Smart Meters)	-		\$ -	\$ 696,896		\$ 696,896	\$ -	-	0.00%	10.00	10.00%	\$ -	\$ 69,690	\$ -	\$ 69,690	\$ 69,690	\$ 0
1960	Miscellaneous Equipment	40,970		\$ 40,970	\$ 10,150		\$ 10,150	\$ -	3.61	27.74%	5.00	20.00%	\$ 11,363	\$ 2,030	\$ -	\$ 13,393	\$ 13,393	\$ -
1975	Load Management Controls Utility Premises	-		\$ -	\$ -		\$ -	\$ -	-	0.00%		0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1980	System Supervisor Equipment	115,075	\$ 91,860	\$ 23,215	\$ -		\$ -	\$ -	6.15	16.26%	10.00	10.00%	\$ 3,775	\$ -	\$ -	\$ 3,775	\$ 4,059	\$ 285
1985	Miscellaneous Fixed Assets			\$ -			\$ -	\$ -	-	0.00%		0.00%	\$ -	\$ -	\$ -	\$ -		\$ -

**Appendix 2-C
Depreciation and Amortization Expense**

1995	Contributions & Grants			\$ -		\$ -		-	0.00%		0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
1995	Contributed Capital - Poles, Towers & Fixtures	-	1,626,853	-\$ 1,626,853	-\$ 1,146,161		-\$ 1,146,161	\$ -	34.50	2.90%	40.00	2.50%	-\$ 47,155	-\$ 28,654	\$ -	-\$ 75,809	-\$ 75,299	\$ 510
1995	Contributed Capital - Overhead Conductors	-	1,246,129	-\$ 1,246,129	-\$ 969,095		-\$ 969,095	\$ -	54.55	1.83%	60.00	1.67%	-\$ 22,844	-\$ 16,152	\$ -	-\$ 38,996	-\$ 38,996	\$ -
1995	Contributed Capital - Overhead Devices	-	138,459	-\$ 138,459	-\$ 109,089		-\$ 109,089	\$ -	34.39	2.91%	40.00	2.50%	-\$ 4,026	-\$ 2,727	\$ -	-\$ 6,753	-\$ 6,753	\$ -
1995	Contributed Capital - Overhead Services	-	1,195,490	-\$ 1,195,490	-\$ 119,872		-\$ 119,872	\$ -	40.18	2.49%	60.00	1.67%	-\$ 29,750	-\$ 1,998	\$ -	-\$ 31,748	-\$ 31,748	\$ -
1995	Contributed Capital - Underground Trenching & Ductwork	-	5,566,404	-\$ 5,566,404	-\$ 2,609,506		-\$ 2,609,506	\$ -	54.02	1.85%	60.00	1.67%	-\$ 103,051	-\$ 43,492	\$ -	-\$ 146,543	-\$ 146,543	\$ -
1995	Contributed Capital - Underground Cables	-	2,292,136	-\$ 2,292,136	-\$ 2,370,201		-\$ 2,370,201	\$ -	30.81	3.25%	40.00	2.50%	-\$ 74,387	-\$ 59,255	\$ -	-\$ 133,642	-\$ 133,642	\$ -
1995	Contributed Capital - Underground Devices	-	254,682	-\$ 254,682	-\$ 167,703		-\$ 167,703	\$ -	-	0.00%	40.00	2.50%	\$ -	-\$ 4,193	\$ -	-\$ 4,193	-\$ 4,193	\$ -
1995	Contributed Capital - Overhead Transformer	-	2,734,282	-\$ 2,734,282	-\$ 169,874		-\$ 169,874	\$ -	34.03	2.94%	40.00	2.50%	-\$ 80,349	-\$ 4,247	\$ -	-\$ 76,102	-\$ 76,102	\$ -
1995	Contributed Capital - Underground Padmount Transformer	-	1,858,357	-\$ 1,858,357	-\$ 7,920		-\$ 7,920	\$ -	32.33	3.09%	40.00	2.50%	-\$ 57,473	-\$ 198	\$ -	-\$ 57,671	-\$ 57,671	\$ -
1995	Contributed Capital - Underground Submersible Transformer	-	1,955,810	-\$ 1,955,810	-\$ 675,874		-\$ 675,874	\$ -	25.19	3.97%	30.00	3.33%	-\$ 77,649	-\$ 22,529	\$ -	-\$ 100,178	-\$ 100,178	\$ -
1995	Contributed Capital - Underground Services	-	13,453,846	-\$ 13,453,846	-\$ 953,639		-\$ 953,639	\$ -	33.74	2.96%	40.00	2.50%	-\$ 398,729	-\$ 23,841	\$ -	-\$ 422,570	-\$ 422,570	\$ -
1995	Contributed Capital - Transformer Foundations	-	798,352	-\$ 798,352	-\$ 558,073		-\$ 558,073	\$ -	54.11	1.85%	60.00	1.67%	-\$ 14,753	-\$ 9,301	\$ -	-\$ 24,054	-\$ 24,054	\$ -
1995	Contributed Capital - Meters	-	166,183	-\$ 166,183	-\$ 132,547		-\$ 132,547	\$ -	6.15	16.25%	15.00	6.67%	-\$ 27,003	-\$ 8,836	\$ -	-\$ 35,839	-\$ 35,839	\$ -
	Contributed Capital - Meters SOLAR	-	-	\$ -	-\$ 152,011		-\$ 152,011	\$ -	-	0.00%	15.00	6.67%	\$ -	-\$ 10,134	\$ -	-\$ 10,134	-\$ 10,134	\$ -
1995	Contributed Capital - OEB Clearing	-	68,538	\$ 68,538	\$ 259,328		\$ 259,328	\$ -	10.00	-10.00%	15.00	6.67%	-\$ 6,854	\$ 17,289	\$ -	\$ 10,435	\$ 10,435	\$ -
2440	Deferred Revenue			\$ -			\$ -		-	0.00%		0.00%	\$ -	\$ -	\$ -	\$ -		\$ -
2440	Contributed Capital - Poles, Towers & Fixtures	-	-	\$ -			\$ -	-\$ 480,870	-	0.00%	40.00	2.50%	\$ -	\$ -	-\$ 6,011	-\$ 6,011	-\$ 6,011	\$ -
2440	Contributed Capital - Overhead Conductors	-	-	\$ -			\$ -	-\$ 311,681	-	0.00%	60.00	1.67%	\$ -	\$ -	-\$ 2,597	-\$ 2,597	-\$ 2,597	\$ -
2440	Contributed Capital - Overhead Devices	-	-	\$ -			\$ -	-\$ 34,631	-	0.00%	40.00	2.50%	\$ -	\$ -	-\$ 433	-\$ 433	-\$ 433	\$ -
2440	Contributed Capital - Overhead Services	-	-	\$ -			\$ -	-\$ 26,848	-	0.00%	60.00	1.67%	\$ -	\$ -	-\$ 224	-\$ 224	-\$ 224	\$ -
2440	Contributed Capital - Underground Trenching & Ductwork	-	-	\$ -			\$ -	-\$ 1,815,028	-	0.00%	60.00	1.67%	\$ -	\$ -	-\$ 15,125	-\$ 15,125	-\$ 15,125	\$ -
2440	Contributed Capital - Underground Cables	-	-	\$ -			\$ -	-\$ 1,714,066	-	0.00%	40.00	2.50%	\$ -	\$ -	-\$ 21,426	-\$ 21,426	-\$ 21,426	\$ -
2440	Contributed Capital - Underground Devices	-	-	\$ -			\$ -	-\$ 190,357	-	0.00%	40.00	2.50%	\$ -	\$ -	-\$ 2,379	-\$ 2,379	-\$ 2,379	\$ -
2440	Contributed Capital - Overhead Transformer	-	-	\$ -			\$ -	-\$ 24,194	-	0.00%	40.00	2.50%	\$ -	\$ -	-\$ 302	-\$ 302	-\$ 302	\$ -
2440	Contributed Capital - Underground Padmount Transformer	-	-	\$ -			\$ -	-\$ 50,168	-	0.00%	40.00	2.50%	\$ -	\$ -	-\$ 627	-\$ 627	-\$ 627	\$ -
2440	Contributed Capital -Underground Submersible Transformer	-	-	\$ -			\$ -	-\$ 328,568	-	0.00%	30.00	3.33%	\$ -	\$ -	-\$ 5,476	-\$ 5,476	-\$ 5,476	\$ -
2440	Contributed Capital - Underground Services	-	-	\$ -			\$ -	-\$ 1,019,308	-	0.00%	40.00	2.50%	\$ -	\$ -	-\$ 12,741	-\$ 12,741	-\$ 12,741	\$ -
2440	Contributed Capital - Transformer Foundations	-	-	\$ -			\$ -	-\$ 119,509	-	0.00%	60.00	1.67%	\$ -	\$ -	-\$ 996	-\$ 996	-\$ 996	\$ -
2440	Contributed Capital - Meters	-	-	\$ -			\$ -	-\$ 44,356	-	0.00%	15.00	6.67%	\$ -	\$ -	-\$ 1,479	-\$ 1,479	-\$ 1,479	\$ -
2440	Contributed Capital - Meters Solar	-	-	\$ -			\$ -	-\$ 152,348	-	0.00%	15.00	6.67%	\$ -	\$ -	-\$ 5,078	-\$ 5,078	-\$ 5,078	\$ -
2440	Contributed Capital - OEB Clearing	-	-	\$ -			\$ -	-\$ 243,274	-	0.00%	15.00	6.67%	\$ -	\$ -	-\$ 8,109	-\$ 8,109	-\$ 8,109	\$ -
2440	Meters - Renewable Connection - Direct Benefit	-	-	\$ -			\$ -	-\$ 143,107	-	0.00%	15.00	6.67%	\$ -	\$ -	-\$ 4,770	-\$ 4,770	-\$ 22,654	-\$ 17,884
				\$ -			\$ -		-	0.00%		0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Total	\$ 148,349,204	\$ 1,238,248	\$ 147,110,956	\$ 46,455,008	\$ 955,878	\$ 45,499,130	\$ 11,591,504					\$ 5,548,758	\$ 2,011,559	\$ 250,148	\$ 7,810,465	\$ 7,671,936	\$ 138,530

Appendix 2-C
Depreciation and Amortization Expense

2015		Book Values							Service Lives				Depreciation Expense					Depreciation Expense per Appendix 2-B A Fixed Assets, Column J	Variance ⁶
Account	Description	Opening Net Book Value of Existing Assets as at Date of Policy Change (Jan. 1) 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 ⁸	Net Amount of Assets Acquired After Policy Change to be Depreciated	Current Year Additions	Average Remaining Life of Assets Existing Before Policy Change ³	Depreciation Rate Assets Acquired After Policy Change	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			
		a	b	c = a-b	d	e	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			
																	p	q = p-o	
1611	Computer Software (Formally known as Account 1925)	928,634	\$ 706,332	\$ 222,302	\$ 726,706	\$ 134,165	\$ 592,541	\$ 523,099	2.25	44.44%	5.00	20.00%	\$ 98,801	\$ 118,508	\$ 52,310	\$ 269,619	\$ 264,294	\$ 5,325	
1611	Computer Software (Formally known as Account 1925)	-	-	\$ -	\$ 88,614	\$ 79,996	\$ 8,618	-	-	0.00%	3.00	33.33%	\$ -	\$ 2,873	\$ -	\$ 2,873	\$ -	\$ 2,873	
1611	Computer Software (Formally known as Account 1925) - Smart Meters	-	\$ -	\$ -	\$ 598,681	\$ 558,314	\$ 40,367	\$ -	-	0.00%	3.00	33.33%	\$ -	\$ 13,456	\$ -	\$ 13,456	\$ 9,644	\$ 3,812	
1612	Land Rights (Formally known as Account 1906)	12,881	\$ -	\$ 12,881	\$ -	\$ -	\$ -	-	4.86	20.60%	50.00	2.00%	\$ 2,653	\$ -	\$ -	\$ 2,653	\$ 2,653	\$ -	
1805	Land	2,339,958	\$ -	\$ 2,339,958	\$ -	\$ -	\$ -	-	-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
1808	Buildings - Structure	7,099,490	\$ -	\$ 7,099,490	\$ 585,080	\$ -	\$ 585,080	\$ 121,526	38.08	2.63%	50.00	2.00%	\$ 186,429	\$ 11,702	\$ 1,215	\$ 196,916	\$ 199,177	\$ 2,261	
1808	Buildings - Roof	144,989	\$ 38,113	\$ 106,876	\$ -	\$ -	\$ -	\$ 2,480	11.44	8.74%	20.00	5.00%	\$ 9,344	\$ -	\$ 62	\$ 9,282	\$ 11,872	\$ 2,590	
1810	Leasehold Improvements	-	\$ -	\$ -	\$ -	\$ -	\$ -	-	-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
1815	Transformer Station Equipment >50 kV 50 yrs	15,658,085	\$ 12,312	\$ 15,645,773	\$ 1,954,817	\$ -	\$ 1,954,817	\$ 452,443	41.16	2.43%	50.00	2.00%	\$ 380,092	\$ 39,096	\$ 4,524	\$ 414,663	\$ 414,963	\$ 299	
1815	Transformer Station Equipment >50 kV 40 yrs	24,475,179	\$ -	\$ 24,475,179	\$ 1,244,179	\$ -	\$ 1,244,179	\$ 28,76	3.48%	28.76	40.00	2.50%	\$ 851,073	\$ 31,104	\$ -	\$ 882,178	\$ 882,178	\$ -	
1815	Transformer Station Equipment >50 kV 30 yrs	-	\$ -	\$ -	\$ -	\$ -	\$ -	-	-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
1815	Transformer Station Equipment >50 kV 25 yrs	887,028	\$ 168,084	\$ 718,944	\$ -	\$ -	\$ -	\$ -	12.07	8.25%	25.00	4.00%	\$ 59,555	\$ -	\$ -	\$ 59,555	\$ 58,000	\$ 1,554	
1815	Transformer Station Equipment >50 kV 20 yrs	392,015	\$ 47,127	\$ 344,888	\$ 23,491	\$ -	\$ 23,491	\$ -	9.76	10.24%	20.00	5.00%	\$ 35,322	\$ 1,175	\$ -	\$ 36,497	\$ 41,142	\$ 4,645	
1815	Transformer Station Equipment >50 kV 15 yrs	1,087,574	\$ 27,010	\$ 1,060,564	\$ 873,187	\$ -	\$ 873,187	\$ 144,833	8.48	11.79%	15.00	6.67%	\$ 125,082	\$ 58,212	\$ 4,828	\$ 188,122	\$ 187,417	\$ 705	
1820	Distribution Station Equipment <50 kV 50 yrs	200,427	\$ -	\$ 200,427	\$ -	\$ -	\$ -	\$ -	22.74	4.40%	50.00	2.00%	\$ 8,813	\$ -	\$ -	\$ 8,813	\$ 8,813	\$ -	
1820	Distribution Station Equipment <50 kV 40 yrs	649,832	\$ -	\$ 649,832	\$ -	\$ -	\$ -	\$ -	25.47	3.93%	40.00	2.50%	\$ 25,509	\$ -	\$ -	\$ 25,509	\$ 25,509	\$ -	
1820	Distribution Station Equipment <50 kV 25 yrs	13,287	\$ -	\$ 13,287	\$ -	\$ -	\$ -	\$ -	5.93	16.87%	25.00	4.00%	\$ 2,242	\$ -	\$ -	\$ 2,242	\$ 1,941	\$ 301	
1820	Distribution Station Equipment <50 kV 20 yrs	6,078	\$ 6,078	\$ -	\$ -	\$ -	\$ -	\$ -	5.66	17.66%	20.00	5.00%	\$ -	\$ -	\$ -	\$ -	\$ 461	\$ 461	
1820	Distribution Station Equipment <50 kV 15 hrs	17,551	\$ 17,551	\$ -	\$ 153,636	\$ -	\$ 153,636	\$ -	9.64	10.37%	15.00	6.67%	\$ -	\$ 10,242	\$ -	\$ 10,242	\$ 12,063	\$ 1,820	
1825	Storage Battery Equipment	-	\$ -	\$ -	\$ -	\$ -	\$ -	-	-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
1830	Poles, Towers & Fixtures	17,028,402	\$ -	\$ 17,028,402	\$ 6,876,205	\$ -	\$ 6,876,205	\$ 3,374,648	32.16	3.11%	40.00	2.50%	\$ 529,490	\$ 171,905	\$ 42,183	\$ 743,578	\$ 731,757	\$ 11,821	
1835	Overhead Conductors	14,319,062	\$ -	\$ 14,319,062	\$ 4,500,489	\$ -	\$ 4,500,489	\$ 2,501,827	51.16	1.95%	60.00	1.67%	\$ 279,881	\$ 75,008	\$ 20,849	\$ 375,738	\$ 375,738	\$ -	
1835	Overhead Devices	1,591,007	\$ -	\$ 1,591,007	\$ 549,409	\$ -	\$ 549,409	\$ 293,766	30.57	3.27%	40.00	2.50%	\$ 52,051	\$ 13,735	\$ 3,672	\$ 69,458	\$ 69,458	\$ -	
1835	Voltage Regulators	163,109	\$ -	\$ 163,109	\$ -	\$ -	\$ -	\$ -	20.00	5.00%	30.00	3.33%	\$ 8,155	\$ -	\$ -	\$ 8,155	\$ 8,155	\$ -	
1835	Capacitor Banks	618,096	\$ -	\$ 618,096	\$ 93,467	\$ -	\$ 93,467	\$ 199,837	19.80	5.05%	25.00	4.00%	\$ 31,224	\$ 3,739	\$ 3,997	\$ 38,959	\$ 36,780	\$ 2,179	
1840	Underground Conduit	12,527,558	\$ -	\$ 12,527,558	\$ 7,689,717	\$ -	\$ 7,689,717	\$ 4,356,442	51.70	1.93%	60.00	1.67%	\$ 242,295	\$ 128,162	\$ 36,304	\$ 406,761	\$ 406,761	\$ -	
1845	Underground Conductors & Devices - PLC	414,000	\$ -	\$ 414,000	\$ 465,861	\$ -	\$ 465,861	\$ 48,503	58.00	1.72%	60.00	1.67%	\$ 7,138	\$ 7,764	\$ 404	\$ 15,306	\$ 15,306	\$ -	
1845	Underground Cables	15,726,653	\$ -	\$ 15,726,653	\$ 6,291,745	\$ -	\$ 6,291,745	\$ 2,637,426	28.66	3.49%	40.00	2.50%	\$ 548,637	\$ 157,294	\$ 32,968	\$ 738,899	\$ 738,899	\$ -	
1845	Underground Devices	1,747,406	\$ -	\$ 1,747,406	\$ 768,589	\$ -	\$ 768,589	\$ 305,782	28.66	3.49%	40.00	2.50%	\$ 60,960	\$ 19,215	\$ 3,822	\$ 83,997	\$ 83,997	\$ -	
1850	Line Transformers - Overhead	15,713,833	\$ 314,720	\$ 15,399,113	\$ 2,373,973	\$ -	\$ 2,373,973	\$ 1,050,382	27.98	3.57%	40.00	2.50%	\$ 550,276	\$ 59,349	\$ 13,130	\$ 622,755	\$ 629,798	\$ 7,043	
1850	Line Transformers - Network	5,503	\$ -	\$ 5,503	\$ 302,203	\$ -	\$ 302,203	\$ 95,759	9.38	10.66%	40.00	2.50%	\$ 587	\$ 7,555	\$ 1,197	\$ 9,339	\$ 9,198	\$ 141	
1850	Line Transformers - Vault	-	\$ -	\$ -	\$ 5,849	\$ -	\$ 5,849	\$ -	-	0.00%	60.00	1.67%	\$ -	\$ 97	\$ -	\$ 97	\$ 97	\$ -	
1850	Line Transformers - Roof	497,948	\$ -	\$ 497,948	\$ -	\$ -	\$ -	\$ -	23.84	4.19%	30.00	3.33%	\$ 20,885	\$ -	\$ -	\$ 20,885	\$ 20,683	\$ 203	
1850	Line Transformers - Network Protectors	91,592	\$ -	\$ 91,592	\$ 315,604	\$ -	\$ 315,604	\$ 115,455	39.50	2.53%	40.00	2.50%	\$ 2,319	\$ 7,890	\$ 1,443	\$ 11,652	\$ 11,586	\$ 66	
1850	Line Transformers - Padmount	3,991,872	\$ -	\$ 3,991,872	\$ 2,141,297	\$ -	\$ 2,141,297	\$ 1,000,402	36.77	2.72%	40.00	2.50%	\$ 108,567	\$ 53,532	\$ 12,505	\$ 174,604	\$ 56,125	\$ 118,479	
1850	Line Transformers - Submersible	3,195,923	\$ -	\$ 3,195,923	\$ 1,823,397	\$ -	\$ 1,823,397	\$ 745,901	24.09	4.15%	30.00	3.33%	\$ 132,669	\$ 60,780	\$ 12,432	\$ 205,881	\$ 83,446	\$ 122,435	
1850	Line Transformers - Foundation	1,427,416	\$ -	\$ 1,427,416	\$ 647,275	\$ -	\$ 647,275	\$ 228,293	58.08	1.72%	60.00	1.67%	\$ 24,575	\$ 10,788	\$ 1,902	\$ 37,266	\$ 14,182	\$ 23,084	
1855	Services - Overhead	1,887,728	\$ -	\$ 1,887,728	\$ 1,223,124	\$ -	\$ 1,223,124	\$ 441,553	52.20	1.92%	60.00	1.67%	\$ 36,164	\$ 20,385	\$ 3,680	\$ 60,229	\$ 60,229	\$ -	
1855	Services - Underground	22,543,287	\$ -	\$ 22,543,287	\$ 5,864,328	\$ -	\$ 5,864,328	\$ 2,893,603	31.40	3.18%	40.00	2.50%	\$ 717,938	\$ 146,608	\$ 36,170	\$ 900,716	\$ 900,716	\$ -	
1860	Commercial Meters	1,327,802	\$ 158,636	\$ 1,169,166	\$ 895,420	\$ -	\$ 895,420	\$ 87,170	20.97	4.77%	25.00	4.00%	\$ 55,753	\$ 35,817	\$ 1,743	\$ 93,313	\$ 97,667	\$ 4,355	
1860	Smart Meters - Non-Qualifying	108,222	\$ -	\$ 108,222	\$ 240,153	\$ -	\$ 240,153	\$ -	12.00	8.33%	15.00	6.67%	\$ 9,018	\$ 16,010	\$ -	\$ 25,028	\$ -	\$ 25,028	
1860	Meters - Renewable Connection	-	\$ -	\$ -	\$ 154,427	\$ -	\$ 154,427	\$ -	-	0.00%	15.00	6.67%	\$ -	\$ 10,295	\$ -	\$ 10,295	\$ -	\$ 10,295	
1860	Smart Meters	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	0.00%	15.00	6.67%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
1860	Smart Meters	-	\$ -	\$ -	\$ 12,494,108	\$ -	\$ 12,494,108	\$ 156,433	-	0.00%	15.00	6.67%	\$ -	\$ 832,941	\$ 5,214	\$ 838,155	\$ 838,155	\$ -	
1905	Land	1,395,300	\$ -	\$ 1,395,300	\$ -	\$ -	\$ -	\$ -	-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
1908	Buildings & Fixtures - Building	5,262,681	\$ -	\$ 5,262,681	\$ 4,877,915	\$ -	\$ 4,877,915	\$ 32,479	28.71	3.48%	50.00	2.00%	\$ 183,326	\$ 97,558	\$ 325	\$ 281,209	\$ 274,582	\$ 6,627	
1908	Buildings & Fixtures - Roof	1,567,291	\$ -	\$ 1,567,291	\$ 2,229,408	\$ -	\$ 2,229,408	\$ 55,888	6.53	15.33%	20.00	5.00%	\$ 240,192	\$ 111,470	\$ 1,397	\$ 353,059	\$ 333,884	\$ 19,175	
1910	Leasehold Improvements	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
1915	Office Furniture & Equipment (10 years)	340,212	\$ 54,324	\$ 285,888	\$ 245,415	\$ -	\$ 245,415	\$ 64,368	5.10	19.61%	10.00	10.00%	\$ 56,056	\$ 24,542	\$ 3,218	\$ 83,816	\$ 67,374	\$ 16,443	
1915	Office Furniture & Equipment (5 years)	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
1920	Computer Equipment - Hardware	350,464	\$ 86,058	\$ 264,406	\$ 298,738	\$ -	\$ 298,738	\$ 174,117	2.12	47.12%	5.00	20.00%	\$ 124,601	\$ 59,748	\$ 17,412	\$ 201,760	\$ 202,503	\$ 743	
1920	Computer Equip.-Hardware (Smart Meters)	-	\$ -	\$ -	\$ 569,286	\$ 437,864	\$ 131,422	\$ -	-	0.00%	5.00	20.00%	\$ -	\$ 26,284	\$ -	\$ 26,284	\$ 22,126	\$ 4,158	
1920	Computer Equip.-Hardware(Post Mar. 19/07)	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
1930	Transportation Equipment	2,781,086	\$ 3,097	\$ 2,777,989	\$ 2,833,743	\$ -	\$ 2,833,743	\$ 482,300	7.19	13.90%	11.00	9.09%	\$ 386,258	\$ 257,613	\$ 21,923	\$ 665,794	\$ 661,498	\$ 4,295	
1935	Stores Equipment	21,484	\$ -	\$ 21,484	\$ -	\$ -	\$ -	\$ -	4.55	21.99%	10.00	10.00%	\$ 4,724	\$ -	\$ -	\$ 4,724	\$ 5,711	\$ 987	
1940	Tools, Shop & Garage Equipment	324,953	\$ -	\$ 324,953	\$ 216,651	\$ -	\$ 216,651	\$ 67,712	6.70	14.93%	10.00	10.00%	\$ 48,520	\$ 21,665	\$ 3,386	\$ 73,571	\$ 69,390	\$ 4,181	
1940	Tools - Smart Meters	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	0.00%	10.00	10.00%	\$ -	\$ -	\$ -	\$ -	\$ 373	\$ 373	
1945	Measurement & Testing Equipment	163,014	\$ -	\$ 163,014	\$ 162,820	\$ -	\$ 162,820	\$ 18,213	7.77	12.88%	10.00	10.00%	\$ 20,993	\$ 16,282	\$ 911	\$ 38,185	\$ 37,576	\$ 609	
1950	Power Operated Equipment	306,812	\$ -	\$ 306,812	\$ 148,833	\$ -	\$ 148,833	\$ 179,117	6.77	14.76%	10.00	10.00%	\$ 45,297	\$ 14,883	\$ 8,956	\$ 69,136	\$ 62,365	\$ 6,771	
1955	Communications Equipment	58,880	\$ -	\$ 58,880	\$ 32,427	\$ -	\$ 32,427	\$ 55,700	6.76	14.80%	10.00	10.00%	\$ 8,715	\$ 3,423	\$ 2,785	\$ 14,743	\$ 14,772	\$ 29	
19																			

**Appendix 2-C
Depreciation and Amortization Expense**

1995	Contributions & Grants		\$	-	\$	-	\$	-	\$	-		0.00%		0.00%	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-				
1995	Contributed Capital - Poles, Towers & Fixtures	-	1,626,853	\$	-	\$- 1,626,853	\$-	1,146,161	\$	-	\$- 1,146,161	\$	-	34.50	2.90%	40.00	2.50%	\$-	47,155	\$-	28,654	\$	-	\$-	75,809	\$-	76,140	\$-	331	
1995	Contributed Capital - Overhead Conductors	-	1,246,129	\$	-	\$- 1,246,129	\$-	969,095	\$	-	\$- 969,095	\$	-	54.55	1.83%	60.00	1.67%	\$-	22,844	\$-	16,152	\$	-	\$-	38,996	\$-	38,983	\$	13	
1995	Contributed Capital - Overhead Devices	-	138,459	\$	-	\$- 138,459	\$-	109,089	\$	-	\$- 109,089	\$	-	34.39	2.91%	40.00	2.50%	\$-	4,026	\$-	2,727	\$	-	\$-	6,753	\$-	6,773	\$	20	
1995	Contributed Capital - Overhead Services	-	1,195,490	\$	-	\$- 1,195,490	\$-	119,872	\$	-	\$- 119,872	\$	-	40.18	2.49%	60.00	1.67%	\$-	29,750	\$-	1,998	\$	-	\$-	31,748	\$-	27,445	\$	4,303	
1995	Contributed Capital - Underground Trenching & Ductwork	-	5,566,404	\$	-	\$- 5,566,404	\$-	2,609,506	\$	-	\$- 2,609,506	\$	-	54.02	1.85%	60.00	1.67%	\$-	103,051	\$-	43,492	\$	-	\$-	146,543	\$-	146,667	\$	124	
1995	Contributed Capital - Underground Cables	-	2,292,136	\$	-	\$- 2,292,136	\$-	2,370,201	\$	-	\$- 2,370,201	\$	-	30.81	3.25%	40.00	2.50%	\$-	74,387	\$-	59,255	\$	-	\$-	133,642	\$-	126,452	\$	7,190	
1995	Contributed Capital - Underground Devices	-	254,682	\$	-	\$- 254,682	\$-	167,703	\$	-	\$- 167,703	\$	-	-	0.00%	40.00	2.50%	\$	-	\$-	4,193	\$	-	\$-	4,193	\$-	11,693	\$-	7,500	
1995	Contributed Capital - Overhead Transformer	-	2,734,282	\$	-	\$- 2,734,282	\$-	169,874	\$	-	\$- 169,874	\$	-	34.03	2.94%	40.00	2.50%	\$-	80,349	\$	4,247	\$	-	\$-	76,102	\$-	81,825	\$	5,723	
1995	Contributed Capital - Underground Padmount Transformer	-	1,858,357	\$	-	\$- 1,858,357	\$-	7,920	\$	-	\$- 7,920	\$	-	32.33	3.09%	40.00	2.50%	\$-	57,473	\$	198	\$	-	\$-	57,671	\$	64,413	\$	6,742	
1995	Contributed Capital -Underground Submersible Transformer	-	1,955,810	\$	-	\$- 1,955,810	\$-	675,874	\$	-	\$- 675,874	\$	-	25.19	3.97%	30.00	3.33%	\$-	77,649	\$	22,529	\$	-	\$-	100,178	\$	100,178	\$	-	
1995	Contributed Capital - Underground Services	-	13,453,846	\$	-	\$- 13,453,846	\$-	953,639	\$	-	\$- 953,639	\$	-	33.74	2.96%	40.00	2.50%	\$-	398,729	\$	23,841	\$	-	\$-	422,570	\$	456,306	\$	33,736	
1995	Contributed Capital - Transformer Foundations	-	798,352	\$	-	\$- 798,352	\$-	558,073	\$	-	\$- 558,073	\$	-	54.11	1.85%	60.00	1.67%	\$-	14,753	\$	9,301	\$	-	\$-	24,054	\$	24,054	\$	-	
1995	Contributed Capital - Meters	-	166,183	\$	-	\$- 166,183	\$-	132,547	\$	-	\$- 132,547	\$	-	6.15	16.25%	15.00	6.67%	\$-	27,003	\$	8,836	\$	-	\$-	35,839	\$	26,572	\$	9,267	
	Contributed Capital - Meters SOLAR	-	-	\$	-	\$ -	\$-	152,011	\$	-	\$- 152,011	\$	-	-	0.00%	15.00	6.67%	\$	-	\$-	10,134	\$	-	\$-	10,134	\$	13,644	\$	3,509	
1995	Contributed Capital - OEB Clearing	-	68,538	\$	-	\$- 68,538	\$-	259,328	\$	-	\$- 259,328	\$	-	10.00	-10.00%	15.00	6.67%	\$-	6,854	\$	17,289	\$	-	\$	10,435	\$	18,682	\$	8,247	
2440	Deferred Revenue	-	-	\$	-	\$ -	\$-	-	\$	-	\$ -	\$-	-	-	0.00%	-	0.00%	\$	-	\$	-	\$	-	\$	-	-	\$	-	-	
2440	Contributed Capital - Poles, Towers & Fixtures	-	-	\$	-	\$ -	\$-	480,870	\$	-	\$- 480,870	\$	-	1,357,297	-	0.00%	40.00	2.50%	\$	-	\$-	12,022	\$-	16,966	\$	28,988	\$	-	-	
2440	Contributed Capital - Overhead Conductors	-	-	\$	-	\$ -	\$-	311,681	\$	-	\$- 311,681	\$	-	1,127,219	-	0.00%	60.00	1.67%	\$	-	\$-	5,195	\$-	9,393	\$	14,588	\$	14,588	\$	-
2440	Contributed Capital - Overhead Devices	-	-	\$	-	\$ -	\$-	34,631	\$	-	\$- 34,631	\$	-	125,246	-	0.00%	40.00	2.50%	\$	-	\$-	866	\$	1,566	\$	2,431	\$	2,431	\$	-
2440	Contributed Capital - Overhead Services	-	-	\$	-	\$ -	\$-	26,848	\$	-	\$- 26,848	\$	-	175,586	-	0.00%	60.00	1.67%	\$	-	\$-	447	\$	1,463	\$	1,911	\$	1,911	\$	-
2440	Contributed Capital - Underground Trenching & Ductwork	-	-	\$	-	\$ -	\$-	1,815,028	\$	-	\$- 1,815,028	\$	-	3,410,836	-	0.00%	60.00	1.67%	\$	-	\$-	30,250	\$	28,424	\$	58,674	\$	58,674	\$	-
2440	Contributed Capital - Underground Cables	-	-	\$	-	\$ -	\$-	1,714,066	\$	-	\$- 1,714,066	\$	-	1,216,363	-	0.00%	40.00	2.50%	\$	-	\$-	42,852	\$	15,205	\$	58,056	\$	58,056	\$	-
2440	Contributed Capital - Underground Devices	-	-	\$	-	\$ -	\$-	190,357	\$	-	\$- 190,357	\$	-	135,418	-	0.00%	40.00	2.50%	\$	-	\$-	4,759	\$	1,693	\$	6,452	\$	6,452	\$	-
2440	Contributed Capital - Overhead Transformer	-	-	\$	-	\$ -	\$-	24,194	\$	-	\$- 24,194	\$	-	9,183	-	0.00%	40.00	2.50%	\$	-	\$-	605	\$	115	\$	720	\$	720	\$	-
2440	Contributed Capital - Underground Padmount Transformer	-	-	\$	-	\$ -	\$-	50,168	\$	-	\$- 50,168	\$	-	134,178	-	0.00%	40.00	2.50%	\$	-	\$-	1,254	\$	1,677	\$	2,931	\$	2,931	\$	-
2440	Contributed Capital -Underground Submersible Transformer	-	-	\$	-	\$ -	\$-	328,568	\$	-	\$- 328,568	\$	-	605,194	-	0.00%	30.00	3.33%	\$	-	\$-	10,952	\$	10,087	\$	21,039	\$	21,039	\$	-
2440	Contributed Capital - Underground Services	-	-	\$	-	\$ -	\$-	1,019,308	\$	-	\$- 1,019,308	\$	-	879,364	-	0.00%	40.00	2.50%	\$	-	\$-	25,483	\$	10,992	\$	36,475	\$	36,475	\$	-
2440	Contributed Capital - Transformer Foundations	-	-	\$	-	\$ -	\$-	119,509	\$	-	\$- 119,509	\$	-	250,622	-	0.00%	60.00	1.67%	\$	-	\$-	1,992	\$	2,089	\$	4,080	\$	4,173	\$	93
2440	Contributed Capital - Meters	-	-	\$	-	\$ -	\$-	44,356	\$	-	\$- 44,356	\$	-	50,223	-	0.00%	15.00	6.67%	\$	-	\$-	2,957	\$	1,674	\$	4,631	\$	4,631	\$	-
2440	Contributed Capital - Meters Solar	-	-	\$	-	\$ -	\$-	152,348	\$	-	\$- 152,348	\$	-	117,859	-	0.00%	15.00	6.67%	\$	-	\$-	10,157	\$	3,929	\$	14,085	\$	14,085	\$	-
2440	Contributed Capital - OEB Clearing	-	-	\$	-	\$ -	\$-	243,274	\$	-	\$- 243,274	\$	-	-	-	0.00%	15.00	6.67%	\$	-	\$-	16,218	\$	-	\$	16,218	\$	16,218	\$	-
2440	Meters - Renewable Connection - Direct Benefit	-	-	\$	-	\$ -	\$-	143,107	\$	-	\$- 143,107	\$	-	134,602	-	0.00%	15.00	6.67%	\$	-	\$-	9,540	\$	4,487	\$	5,054	\$	21,295	\$	26,348
		-	-	\$	-	\$ -	\$-	-	\$	-	\$ -	\$-	-	-	0.00%	-	0.00%	\$	-	\$	-	\$	-	\$	-	-	\$	-	-	
	Total		\$ 148,349,204	\$	1,731,302	\$ 146,617,902	\$	58,046,512	\$	1,210,339	\$ 56,836,173	\$ 12,294,573						\$	5,393,295	\$	2,444,923	\$	244,478	\$	8,082,696	\$	7,704,252	\$	378,444	

**Appendix 2-C
Depreciation and Amortization Expense**

2016		Book Values							Service Lives				Depreciation Expense				Depreciation Expense per Appendix 2-BA Fixed Assets, Column J	Variance ⁶
Account	Description	Opening Net Book Value of Existing Assets as at Date of Policy Change (Jan. 1) 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 ⁸	Net Amount of Assets Acquired After Policy Change to be Depreciated	Current Year Additions	Average Remaining Life of Assets Existing Before Policy Change ³	Depreciation Rate Assets Acquired After Policy Change	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		
		a	b	c = a-b	d	e	f = d-e	g	h	i = 1/h	j	k = 1/j	l = c/h	m = f/j	n = g*5.5/j	o = l+m+n	p	q = p-o
1611	Computer Software (Formally known as Account 1925)	928,634	\$ 706,332	\$ 222,302	\$ 1,249,805	\$ 135,165	\$ 1,114,640	\$ 710,078	2.25	44.44%	5.00	20.00%	\$ 98,801	\$ 222,928	\$ 71,008	\$ 392,737	\$ 390,186	\$ 2,551
1611	Computer Software (Formally known as Account 1925)			\$ -	\$ 88,614	\$ 79,996	\$ 8,618		-	0.00%	3.00	33.33%	\$ -	\$ 2,873	\$ -	\$ 2,873		\$ 2,873
1611	Computer Software (Formally known as Account 1925) - Smart Meters	-	\$ -	\$ -	\$ 598,681	\$ 598,681	\$ -	\$ -	-	0.00%	3.00	33.33%	\$ -	\$ -	\$ -	\$ -	\$ 7,629	\$ 7,629
1612	Land Rights (Formally known as Account 1906)	12,881	\$ -	\$ 12,881	\$ -	\$ -	\$ -		4.86	20.60%	50.00	2.00%	\$ 2,653	\$ -	\$ -	\$ 2,653	\$ 2,269	\$ 384
1805	Land	2,339,958	\$ -	\$ 2,339,958	\$ -	\$ -	\$ -		-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1808	Buildings - Structure	7,099,490	\$ -	\$ 7,099,490	\$ 463,554	\$ -	\$ 463,554	\$ -	38.08	2.63%	50.00	2.00%	\$ 186,429	\$ 9,271	\$ -	\$ 195,700	\$ 200,222	\$ 4,521
1808	Buildings - Roof	144,989	\$ 47,270	\$ 97,719	\$ 2,480	\$ -	\$ 2,480	\$ -	11.44	8.74%	20.00	5.00%	\$ 8,543	\$ 124	\$ -	\$ 8,419	\$ 10,073	\$ 1,654
1810	Leasehold Improvements		\$ -	\$ -	\$ -	\$ -	\$ -		-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1815	Transformer Station Equipment >50 kV 50 yrs	15,658,085	\$ 12,312	\$ 15,645,773	\$ 1,502,374	\$ -	\$ 1,502,374	\$ 32,364	41.16	2.43%	50.00	2.00%	\$ 380,092	\$ 30,047	\$ 324	\$ 409,815	\$ 410,477	\$ 661
1815	Transformer Station Equipment >50 kV 40 yrs	24,475,179	\$ -	\$ 24,475,179	\$ 1,244,179	\$ -	\$ 1,244,179	\$ -	28.76	3.48%	40.00	2.50%	\$ 851,073	\$ 31,104	\$ -	\$ 882,178	\$ 882,178	\$ -
1815	Transformer Station Equipment >50 kV 30 yrs		\$ -	\$ -	\$ -	\$ -	\$ -		-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1815	Transformer Station Equipment >50 kV 25 yrs	887,028	\$ 171,854	\$ 715,174	\$ -	\$ -	\$ -	\$ -	12.07	8.28%	25.00	4.00%	\$ 59,242	\$ -	\$ -	\$ 59,242	\$ 57,553	\$ 1,690
1815	Transformer Station Equipment >50 kV 20 yrs	392,015	\$ 66,888	\$ 325,127	\$ 23,491	\$ -	\$ 23,491	\$ 164,946	9.76	10.24%	20.00	5.00%	\$ 33,298	\$ 1,175	\$ 4,124	\$ 38,596	\$ 40,648	\$ 2,051
1815	Transformer Station Equipment >50 kV 15 yrs	1,087,574	\$ 42,304	\$ 1,045,270	\$ 1,018,020	\$ -	\$ 1,018,020	\$ 57,657	8.48	11.79%	15.00	6.67%	\$ 123,278	\$ 67,868	\$ 1,922	\$ 193,068	\$ 185,902	\$ 7,166
1820	Distribution Station Equipment <50 kV 50 yrs	200,427	\$ -	\$ 200,427	\$ -	\$ -	\$ -	\$ -	22.74	4.40%	50.00	2.00%	\$ 8,813	\$ -	\$ -	\$ 8,813	\$ 8,813	\$ -
1820	Distribution Station Equipment <50 kV 40 yrs	649,832	\$ -	\$ 649,832	\$ -	\$ -	\$ -	\$ -	25.47	3.93%	40.00	2.50%	\$ 25,509	\$ -	\$ -	\$ 25,509	\$ 25,509	\$ -
1820	Distribution Station Equipment <50 kV 25 yrs	13,287	\$ -	\$ 13,287	\$ -	\$ -	\$ -	\$ -	5.93	16.87%	25.00	4.00%	\$ 2,242	\$ -	\$ -	\$ 2,242	\$ 1,575	\$ 667
1820	Distribution Station Equipment <50 kV 20 yrs	6,078	\$ 6,078	\$ -	\$ -	\$ -	\$ -	\$ -	5.66	17.66%	20.00	5.00%	\$ -	\$ -	\$ -	\$ -	\$ 264	\$ 264
1820	Distribution Station Equipment <50 kV 15 hrs	17,551	\$ 17,551	\$ -	\$ 153,636	\$ -	\$ 153,636	\$ -	9.64	10.37%	15.00	6.67%	\$ -	\$ 10,242	\$ -	\$ 10,242	\$ 12,063	\$ 1,820
1825	Storage Battery Equipment		\$ -	\$ -	\$ -	\$ -	\$ -		-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1830	Poles, Towers & Fixtures	17,028,402	\$ -	\$ 17,028,402	\$ 10,250,853	\$ -	\$ 10,250,853	\$ 3,525,628	32.16	3.11%	40.00	2.50%	\$ 529,490	\$ 256,271	\$ 44,070	\$ 829,832	\$ 836,577	\$ 6,745
1835	Overhead Conductors	14,319,062	\$ -	\$ 14,319,062	\$ 7,002,316	\$ -	\$ 7,002,316	\$ 2,302,680	51.16	1.95%	60.00	1.67%	\$ 279,881	\$ 116,705	\$ 19,189	\$ 415,775	\$ 415,775	\$ -
1835	Overhead Devices	1,591,007	\$ -	\$ 1,591,007	\$ 843,175	\$ -	\$ 843,175	\$ 305,490	30.57	3.27%	40.00	2.50%	\$ 52,051	\$ 21,079	\$ 3,819	\$ 76,949	\$ 77,834	\$ 885
1835	Voltage Regulators	163,109	\$ -	\$ 163,109	\$ -	\$ -	\$ -	\$ -	20.00	5.00%	30.00	3.33%	\$ 8,155	\$ -	\$ -	\$ 8,155	\$ 8,155	\$ -
1835	Capacitor Banks	618,096	\$ -	\$ 618,096	\$ 293,304	\$ -	\$ 293,304	\$ 149,116	19.80	5.05%	25.00	4.00%	\$ 31,224	\$ 11,732	\$ 2,982	\$ 45,938	\$ 41,182	\$ 4,757
1840	Underground Conduit	12,527,558	\$ -	\$ 12,527,558	\$ 12,046,159	\$ -	\$ 12,046,159	\$ 2,655,417	51.70	1.93%	60.00	1.67%	\$ 242,295	\$ 200,769	\$ 22,128	\$ 465,193	\$ 465,193	\$ -
1845	Underground Conductors & Devices - PILC	414,000	\$ -	\$ 414,000	\$ 514,364	\$ -	\$ 514,364	\$ 920,319	58.00	1.72%	60.00	1.67%	\$ 7,138	\$ 8,573	\$ 7,669	\$ 23,380	\$ 23,380	\$ -
1845	Underground Cables	15,726,653	\$ -	\$ 15,726,653	\$ 8,929,171	\$ -	\$ 8,929,171	\$ 3,436,932	28.66	3.49%	40.00	2.50%	\$ 548,837	\$ 223,229	\$ 42,962	\$ 814,828	\$ 814,828	\$ -
1845	Underground Devices	1,747,406	\$ -	\$ 1,747,406	\$ 1,074,371	\$ -	\$ 1,074,371	\$ 584,071	28.66	3.49%	40.00	2.50%	\$ 60,960	\$ 26,859	\$ 7,301	\$ 95,120	\$ 95,120	\$ -
1850	Line Transformers - Overhead	15,713,833	\$ 323,443	\$ 15,390,390	\$ 3,424,355	\$ -	\$ 3,424,355	\$ 1,337,162	27.98	3.57%	40.00	2.50%	\$ 549,964	\$ 85,609	\$ 16,715	\$ 652,287	\$ 659,533	\$ 7,246
1850	Line Transformers - Network	5,503	\$ -	\$ 5,503	\$ 397,962	\$ -	\$ 397,962	\$ 362,302	9.38	10.66%	40.00	2.50%	\$ 587	\$ 9,949	\$ 4,529	\$ 15,065	\$ 10,766	\$ 4,298
1850	Line Transformers - Vault	-	\$ -	\$ -	\$ 5,849	\$ -	\$ 5,849	\$ 192	-	0.00%	60.00	1.67%	\$ -	\$ 97	\$ 2	\$ 99	\$ 112	\$ 13
1850	Line Transformers - Roof	497,948	\$ 16,586	\$ 481,362	\$ -	\$ -	\$ -	\$ -	23.84	4.19%	30.00	3.33%	\$ 20,190	\$ -	\$ -	\$ 20,190	\$ 20,686	\$ 496
1850	Line Transformers - Network Protectors	91,592	\$ -	\$ 91,592	\$ 431,059	\$ -	\$ 431,059	\$ 29,745	39.50	2.53%	40.00	2.50%	\$ 2,319	\$ 10,776	\$ 372	\$ 13,467	\$ 13,401	\$ 66
1850	Line Transformers - Padmount	3,991,872	\$ -	\$ 3,991,872	\$ 3,141,699	\$ -	\$ 3,141,699	\$ 1,107,226	36.77	2.72%	40.00	2.50%	\$ 108,567	\$ 78,542	\$ 13,840	\$ 200,949	\$ 423,041	\$ 222,091
1850	Line Transformers - Submersible	3,195,923	\$ -	\$ 3,195,923	\$ 2,569,298	\$ -	\$ 2,569,298	\$ 709,291	24.09	4.15%	30.00	3.33%	\$ 132,669	\$ 85,643	\$ 11,822	\$ 230,134	\$ 490,358	\$ 260,224
1850	Line Transformers - Foundation	1,427,416	\$ -	\$ 1,427,416	\$ 875,568	\$ -	\$ 875,568	\$ 595,820	58.08	1.72%	60.00	1.67%	\$ 24,575	\$ 14,593	\$ 4,965	\$ 44,133	\$ 92,964	\$ 48,830
1855	Services - Overhead	1,887,728	\$ -	\$ 1,887,728	\$ 1,664,677	\$ -	\$ 1,664,677	\$ 360,635	52.20	1.92%	60.00	1.67%	\$ 36,164	\$ 27,745	\$ 3,005	\$ 66,914	\$ 66,914	\$ -
1855	Services - Underground	22,543,287	\$ -	\$ 22,543,287	\$ 8,757,931	\$ -	\$ 8,757,931	\$ 2,959,538	31.40	3.18%	40.00	2.50%	\$ 717,938	\$ 218,948	\$ 36,994	\$ 973,880	\$ 973,880	\$ -
1860	Commercial Meters	1,327,802	\$ 158,636	\$ 1,169,166	\$ 982,590	\$ -	\$ 982,590	\$ 265,312	20.97	4.77%	25.00	4.00%	\$ 55,753	\$ 39,304	\$ 5,306	\$ 100,362	\$ 143,229	\$ 42,866
1860	Smart Meters - Non-Qualifying	108,222	\$ -	\$ 108,222	\$ 240,153	\$ -	\$ 240,153	\$ -	12.00	8.33%	15.00	6.67%	\$ 9,018	\$ 16,010	\$ -	\$ 25,028	\$ -	\$ 25,028
1860	Meters - Renewable Connection		\$ -	\$ -	\$ 154,427	\$ -	\$ 154,427	\$ -	-	0.00%	15.00	6.67%	\$ -	\$ 10,295	\$ -	\$ 10,295	\$ -	\$ 10,295
1860	Smart Meters		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	0.00%	15.00	6.67%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1860	Smart Meters	-	\$ -	\$ -	\$ 12,650,541	\$ -	\$ 12,650,541	\$ 407,305	-	0.00%	15.00	6.67%	\$ -	\$ 843,369	\$ 13,577	\$ 856,946	\$ 856,947	\$ -
1905	Land	1,395,300	\$ -	\$ 1,395,300	\$ -	\$ -	\$ -	\$ -	-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1908	Buildings & Fixtures - Building	5,262,681	\$ -	\$ 5,262,681	\$ 4,910,394	\$ -	\$ 4,910,394	\$ 101,092	28.71	3.48%	50.00	2.00%	\$ 183,326	\$ 98,208	\$ 1,011	\$ 282,545	\$ 275,191	\$ 7,354
1908	Buildings & Fixtures - Roof	1,567,291	\$ -	\$ 1,567,291	\$ 2,285,296	\$ -	\$ 2,285,296	\$ 120,678	6.53	15.33%	20.00	5.00%	\$ 240,192	\$ 114,265	\$ 3,017	\$ 357,473	\$ 338,366	\$ 19,107
1910	Leasehold Improvements	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1915	Office Furniture & Equipment (10 years)	340,212	\$ 54,324	\$ 285,888	\$ 309,783	\$ -	\$ 309,783	\$ 36,970	5.10	19.61%	10.00	10.00%	\$ 56,056	\$ 30,978	\$ 1,849	\$ 88,883	\$ 70,563	\$ 18,320
1915	Office Furniture & Equipment (5 years)		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	0.00%	5.00	20.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1920	Computer Equipment - Hardware	350,464	\$ 180,516	\$ 169,948	\$ 472,855	\$ 19,504	\$ 453,351	\$ 90,770	2.12	47.12%	5.00	20.00%	\$ 80,088	\$ 90,670	\$ 9,077	\$ 179,835	\$ 189,058	\$ 9,224
1920	Computer Equip.-Hardware - Smart Meters	-	\$ -	\$ -	\$ 569,286	\$ 437,864	\$ 131,422	\$ -	-	0.00%	5.00	20.00%	\$ -	\$ 26,284	\$ -	\$ 26,284	\$ 22,126	\$ 4,158
1920	Computer Equip.-Hardware(Post Mar. 19/07)		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1930	Transportation Equipment	2,781,086	\$ 359,331	\$ 2,421,755	\$ 3,316,043	\$ -	\$ 3,316,043	\$ 733,066	7.19	13.90%	11.00	9.09%	\$ 336,726	\$ 301,458	\$ 33,321	\$ 671,506	\$ 664,632	\$ 6,874
1935	Stores Equipment	21,484	\$ -	\$ 21,484	\$ -	\$ -	\$ -	\$ 2,552	4.55	21.99%	10.00	10.00%	\$ 4,724	\$ -	\$ 128	\$ 4,852	\$ 3,215	\$ 1,637
1940	Tools, Shop & Garage Equipment	324,953	\$ -	\$ 324,953	\$ 284,363	\$ -	\$ 284,363	\$ 95,003	6.70	14.93%	10.00	10.00%	\$ 48,520	\$ 28,436	\$ 4,750	\$ 81,707	\$ 72,361	\$ 9,346
1940	Tools - Smart Meters	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	0.00%	10.00	10.00%	\$ -	\$ -	\$ -	\$ -	\$ 373	\$ 373
1945	Measurement & Testing Equipment	163,014	\$ -	\$ 163,014	\$ 181,033	\$ -	\$ 181,033	\$ 3,849	7.77	12.88%	10.00	10.00%	\$ 20,993	\$ 18,103	\$ 192	\$ 39,289	\$ 36,709	\$ 2,579
1950	Power Operated Equipment	306,812	\$ -	\$ 306,812	\$ 327,950	\$ -	\$ 327,950	\$ 126,680	6.77	14.76%	10.00	10.00%	\$ 45,297	\$ 32,795	\$ 6,334	\$ 84,426	\$ 66,839	\$ 17,587
1955	Communications Equipment	58,880	\$ -	\$ 58,880	\$ 88,127	\$ -	\$ 88,127	\$ 61,266	6.76	14.80%	10.00	10.00%	\$ 8,715	\$ 8,813	\$ 3,063	\$ 20,591	\$ 11,241	\$ 9,350
1955	Communication Equipment (Smart Meters)	-	\$ -	\$ -	\$ 696,896	\$ -	\$ 696,896	\$ -	-	0.00%	10.00	10.00%	\$ -	\$ 69,690				

Appendix 2-C
Depreciation and Amortization Expense

1995	Contributions & Grants		\$	-	\$	-	\$	-	\$	-		-	0.00%		0.00%	\$	-	\$	-	\$	-	\$	-	\$	-			
1995	Contributed Capital - Poles, Towers & Fixtures	-	1,626,853	\$	-	\$	-	\$	-	\$	-	1,146,161	34.50	2.90%	40.00	2.50%	\$	-	\$	-	\$	-	\$	-	\$	-		
1995	Contributed Capital - Overhead Conductors	-	1,246,129	\$	-	\$	-	\$	-	\$	-	969,095	54.55	1.83%	60.00	1.67%	\$	-	\$	-	\$	-	\$	-	\$	-		
1995	Contributed Capital - Overhead Devices	-	138,459	\$	-	\$	-	\$	-	\$	-	109,089	34.39	2.91%	40.00	2.50%	\$	-	\$	-	\$	-	\$	-	\$	-		
1995	Contributed Capital - Overhead Services	-	1,195,490	\$	-	\$	-	\$	-	\$	-	119,872	40.18	2.49%	60.00	1.67%	\$	-	\$	-	\$	-	\$	-	\$	-		
1995	Contributed Capital - Underground Trenching & Ductwork	-	5,566,404	\$	-	\$	-	\$	-	\$	-	2,609,506	54.02	1.85%	60.00	1.67%	\$	-	\$	-	\$	-	\$	-	\$	-		
1995	Contributed Capital - Underground Cables	-	2,292,136	\$	-	\$	-	\$	-	\$	-	2,370,201	30.81	3.25%	40.00	2.50%	\$	-	\$	-	\$	-	\$	-	\$	-		
1995	Contributed Capital - Underground Devices	-	254,682	\$	-	\$	-	\$	-	\$	-	167,703	-	0.00%	40.00	2.50%	\$	-	\$	-	\$	-	\$	-	\$	-		
1995	Contributed Capital - Overhead Transformer	-	2,734,282	\$	-	\$	-	\$	-	\$	-	169,874	34.03	2.94%	40.00	2.50%	\$	-	\$	-	\$	-	\$	-	\$	-		
1995	Contributed Capital - Underground Padmount Transformer	-	1,858,357	\$	-	\$	-	\$	-	\$	-	7,920	32.33	3.09%	40.00	2.50%	\$	-	\$	-	\$	-	\$	-	\$	-		
1995	Contributed Capital -Underground Submersible Transformer	-	1,955,810	\$	-	\$	-	\$	-	\$	-	675,874	25.19	3.97%	30.00	3.33%	\$	-	\$	-	\$	-	\$	-	\$	-		
1995	Contributed Capital - Underground Services	-	13,453,846	\$	-	\$	-	\$	-	\$	-	953,639	33.74	2.96%	40.00	2.50%	\$	-	\$	-	\$	-	\$	-	\$	-		
1995	Contributed Capital - Transformer Foundations	-	798,352	\$	-	\$	-	\$	-	\$	-	558,073	54.11	1.85%	60.00	1.67%	\$	-	\$	-	\$	-	\$	-	\$	-		
1995	Contributed Capital - Meters	-	166,183	\$	-	\$	-	\$	-	\$	-	132,547	6.15	16.25%	15.00	6.67%	\$	-	\$	-	\$	-	\$	-	\$	-		
	Contributed Capital - Meters SOLAR	-	-	\$	-	\$	-	\$	-	\$	-	152,011	-	0.00%	15.00	6.67%	\$	-	\$	-	\$	-	\$	-	\$	-		
1995	Contributed Capital - OEB Clearing	-	68,538	\$	-	\$	-	\$	-	\$	-	259,328	10.00	-10.00%	15.00	6.67%	\$	-	\$	-	\$	-	\$	-	\$	-		
2440	Deferred Revenue	-	-	\$	-	\$	-	\$	-	\$	-	-	-	0.00%	-	0.00%	\$	-	\$	-	\$	-	\$	-	\$	-		
2440	Contributed Capital - Poles, Towers & Fixtures	-	-	\$	-	\$	-	\$	-	\$	-	1,838,167	-	0.00%	40.00	2.50%	\$	-	\$	-	\$	-	\$	-	\$	-		
2440	Contributed Capital - Overhead Conductors	-	-	\$	-	\$	-	\$	-	\$	-	1,438,900	-	0.00%	60.00	1.67%	\$	-	\$	-	\$	-	\$	-	\$	-		
2440	Contributed Capital - Overhead Devices	-	-	\$	-	\$	-	\$	-	\$	-	159,877	-	0.00%	40.00	2.50%	\$	-	\$	-	\$	-	\$	-	\$	-		
2440	Contributed Capital - Overhead Services	-	-	\$	-	\$	-	\$	-	\$	-	202,434	-	0.00%	60.00	1.67%	\$	-	\$	-	\$	-	\$	-	\$	-		
2440	Contributed Capital - Underground Trenching & Ductwork	-	-	\$	-	\$	-	\$	-	\$	-	5,225,864	-	0.00%	60.00	1.67%	\$	-	\$	-	\$	-	\$	-	\$	-		
2440	Contributed Capital - Underground Cables	-	-	\$	-	\$	-	\$	-	\$	-	2,930,429	-	0.00%	40.00	2.50%	\$	-	\$	-	\$	-	\$	-	\$	-		
2440	Contributed Capital - Underground Devices	-	-	\$	-	\$	-	\$	-	\$	-	325,775	-	0.00%	40.00	2.50%	\$	-	\$	-	\$	-	\$	-	\$	-		
2440	Contributed Capital - Overhead Transformer	-	-	\$	-	\$	-	\$	-	\$	-	33,377	-	0.00%	40.00	2.50%	\$	-	\$	-	\$	-	\$	-	\$	-		
2440	Contributed Capital - Underground Padmount Transformer	-	-	\$	-	\$	-	\$	-	\$	-	184,346	-	0.00%	40.00	2.50%	\$	-	\$	-	\$	-	\$	-	\$	-		
2440	Contributed Capital -Underground Submersible Transformer	-	-	\$	-	\$	-	\$	-	\$	-	933,762	-	0.00%	30.00	3.33%	\$	-	\$	-	\$	-	\$	-	\$	-		
2440	Contributed Capital - Underground Services	-	-	\$	-	\$	-	\$	-	\$	-	1,898,672	-	0.00%	40.00	2.50%	\$	-	\$	-	\$	-	\$	-	\$	-		
2440	Contributed Capital - Transformer Foundations	-	-	\$	-	\$	-	\$	-	\$	-	370,131	-	0.00%	60.00	1.67%	\$	-	\$	-	\$	-	\$	-	\$	-		
2440	Contributed Capital - Meters	-	-	\$	-	\$	-	\$	-	\$	-	94,579	-	0.00%	15.00	6.67%	\$	-	\$	-	\$	-	\$	-	\$	-		
2440	Contributed Capital - Meters Solar	-	-	\$	-	\$	-	\$	-	\$	-	270,207	-	0.00%	15.00	6.67%	\$	-	\$	-	\$	-	\$	-	\$	-		
2440	Contributed Capital - OEB Clearing	-	-	\$	-	\$	-	\$	-	\$	-	243,274	-	0.00%	15.00	6.67%	\$	-	\$	-	\$	-	\$	-	\$	-		
2440	Meters - Renewable Connection - Direct Benefit	-	-	\$	-	\$	-	\$	-	\$	-	8,505	-	0.00%	15.00	6.67%	\$	-	\$	-	\$	-	\$	-	\$	-		
		-	-	\$	-	\$	-	\$	-	\$	-	-	-	0.00%	-	0.00%	\$	-	\$	-	\$	-	\$	-	\$	-		
	Total		\$ 148,349,204	\$	2,304,722	\$	146,044,482	\$	70,341,085	\$	1,271,210	\$	69,069,875	\$	15,335,906		\$	5,280,562	\$	2,916,323	\$	297,138	\$	8,494,023	\$	8,921,037	\$	427,014

2017		Book Values							Service Lives				Depreciation Expense				Depreciation Expense per Appendix 2-BA Fixed Assets, Column J	
Account	Description	Opening Net Book Value of Existing Assets as at Date of Policy Change (Jan. 1) 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 ⁸	Net Amount of Assets Acquired After Policy Change to be Depreciated	Current Year Additions	Average Remaining Life of Assets Existing Before Policy Change ³	Depreciation Rate Assets Acquired After Policy Change	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 Years ⁵	Total Current Year Depreciation Expense	Variance ⁶	
		a	b	c = a-b	d	e	f = d - e	g	h	i = 1/h	j	k = 1/j	l = c/h	m = f/j	n = g*0.5/j	o = i+m+n	p	q = p-o
1611	Computer Software (Formally known as Account 1925)	928,634	\$ 858,332	\$ 70,302	\$ 1,959,883	\$ 135,165	\$ 1,824,718	\$ 136,147	2.25	44.44%	5.00	20.00%	\$ 31,245	\$ 364,944	\$ 13,615	\$ 409,804	\$ 418,460	\$ 8,650
1611	Computer Software (Formally known as Account 1925)	-	-	\$ -	\$ 88,614	\$ 79,996	\$ 8,618	-	-	0.00%	3.00	33.33%	-	\$ 2,873	\$ -	\$ 2,873	\$ -	\$ 2,873
1611	Computer Software (Formally known as Account 1925) - Smart Meters	-	\$ -	\$ -	\$ 598,681	\$ 598,681	\$ -	\$ -	-	0.00%	3.00	33.33%	-	\$ -	\$ -	\$ -	\$ 1,506	\$ 1,506
1612	Land Rights (Formally known as Account 1906)	12,881	\$ -	\$ 12,881	\$ -	\$ -	\$ -	\$ -	4.86	20.60%	50.00	2.00%	\$ 2,653	\$ -	\$ -	\$ 2,653	\$ -	\$ 2,653
1805	Land	2,339,958	\$ -	\$ 2,339,958	\$ -	\$ -	\$ -	\$ -	-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1808	Buildings - Structure	7,099,490	\$ -	\$ 7,099,490	\$ 463,554	\$ -	\$ 463,554	\$ -	38.08	2.63%	50.00	2.00%	\$ 186,429	\$ 9,271	\$ -	\$ 195,700	\$ 190,769	\$ 4,931
1808	Buildings - Roof	144,989	\$ 58,456	\$ 86,533	\$ -	\$ -	\$ -	\$ -	11.44	8.74%	20.00	5.00%	\$ 7,565	\$ 124	\$ -	\$ 7,741	\$ 1,736	\$ 9,178
1810	Leasehold Improvements	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1815	Transformer Station Equipment >50 kv 50 yrs	15,658,085	\$ 12,312	\$ 15,645,773	\$ 1,470,010	\$ -	\$ 1,470,010	\$ 1,196,559	41.16	2.43%	50.00	2.00%	\$ 380,092	\$ 29,400	\$ 11,966	\$ 421,457	\$ 412,340	\$ 9,118
1815	Transformer Station Equipment >50 kv 40 yrs	24,475,179	\$ -	\$ 24,475,179	\$ 1,244,179	\$ -	\$ 1,244,179	\$ 253,651	28.76	3.48%	40.00	2.50%	\$ 851,073	\$ 31,104	\$ 3,171	\$ 885,348	\$ 851,596	\$ 33,752
1815	Transformer Station Equipment >50 kv 30 yrs	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 71,591	-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$ 1,193	\$ 1,193
1815	Transformer Station Equipment >50 kv 25 yrs	887,028	\$ 176,718	\$ 710,310	\$ -	\$ -	\$ -	\$ 233,388	12.07	8.28%	25.00	4.00%	\$ 58,839	\$ -	\$ 4,668	\$ 63,507	\$ 57,640	\$ 5,867
1815	Transformer Station Equipment >50 kv 20 yrs	392,015	\$ 163,703	\$ 228,312	\$ 188,437	\$ -	\$ 188,437	\$ -	9.76	10.24%	20.00	5.00%	\$ 23,383	\$ 9,422	\$ -	\$ 32,805	\$ 33,621	\$ 816
1815	Transformer Station Equipment >50 kv 15 yrs	1,087,574	\$ 439,950	\$ 647,624	\$ 1,075,677	\$ -	\$ 1,075,677	\$ 729,696	8.48	11.79%	15.00	6.67%	\$ 76,380	\$ 71,712	\$ 24,323	\$ 172,415	\$ 163,946	\$ 8,470
1820	Distribution Station Equipment <50 kv 50 yrs	200,427	\$ -	\$ 200,427	\$ -	\$ -	\$ -	\$ -	22.74	4.40%	50.00	2.00%	\$ 8,813	\$ -	\$ -	\$ 8,813	\$ 8,543	\$ 271
1820	Distribution Station Equipment <50 kv 40 yrs	649,832	\$ -	\$ 649,832	\$ -	\$ -	\$ -	\$ -	25.47	3.93%	40.00	2.50%	\$ 25,509	\$ -	\$ -	\$ 25,509	\$ 24,261	\$ 1,248
1820	Distribution Station Equipment <50 kv 25 yrs	13,287	\$ -	\$ 13,287	\$ -	\$ -	\$ -	\$ -	5.93	16.87%	25.00	4.00%	\$ 2,242	\$ -	\$ -	\$ 2,242	\$ 990	\$ 1,252
1820	Distribution Station Equipment <50 kv 20 yrs	6,078	\$ 6,078	\$ -	\$ -	\$ -	\$ -	\$ -	5.66	17.66%	20.00	5.00%	\$ -	\$ -	\$ -	\$ -	\$ 241	\$ 241
1820	Distribution Station Equipment <50 kv 15 hrs	17,551	\$ 17,551	\$ -	\$ 153,636	\$ -	\$ 153,636	\$ -	9.64	10.37%	15.00	6.67%	\$ -	\$ 10,242	\$ -	\$ 10,242	\$ 10,848	\$ 606
1825	Storage Battery Equipment	-	\$ -	\$ -	\$ -	\$ -	\$ -											

**Appendix 2-C
Depreciation and Amortization Expense**

1995	Contributions & Grants	-	\$	-	\$	-	\$	-	\$	-	-	0.00%	-	0.00%	\$	-	\$	-	\$	-	\$	-									
1995	Contributed Capital - Poles, Towers & Fixtures	-	1,626,853	\$	-	-\$	1,626,853	-\$	1,146,161	\$	-	-\$	1,146,161	34.50	2.90%	40.00	2.50%	-\$	47,155	-\$	28,654	\$	-	-\$	75,809	-\$	74,779	\$	1,030		
1995	Contributed Capital - Overhead Conductors	-	1,246,129	\$	-	-\$	1,246,129	-\$	969,095	\$	-	-\$	969,095	54.55	1.83%	60.00	1.67%	-\$	22,844	-\$	16,152	\$	-	-\$	38,996	-\$	38,570	\$	426		
1995	Contributed Capital - Overhead Devices	-	138,459	\$	-	-\$	138,459	-\$	109,089	\$	-	-\$	109,089	34.39	2.91%	40.00	2.50%	-\$	4,026	-\$	2,727	\$	-	-\$	6,753	-\$	6,658	\$	95		
1995	Contributed Capital - Overhead Services	-	1,195,490	\$	-	-\$	1,195,490	-\$	119,872	\$	-	-\$	119,872	40.18	2.49%	60.00	1.67%	-\$	29,750	-\$	1,998	\$	-	-\$	31,748	-\$	24,333	\$	7,415		
1995	Contributed Capital - Underground Trenching & Ductwork	-	5,566,404	\$	-	-\$	5,566,404	-\$	2,609,506	\$	-	-\$	2,609,506	54.02	1.85%	60.00	1.67%	-\$	103,051	-\$	43,492	\$	-	-\$	146,543	-\$	144,784	\$	1,759		
1995	Contributed Capital - Underground Cables	-	2,292,136	\$	-	-\$	2,292,136	-\$	2,370,201	\$	-	-\$	2,370,201	30.81	3.25%	40.00	2.50%	-\$	74,387	-\$	59,255	\$	-	-\$	133,642	-\$	124,494	\$	9,147		
1995	Contributed Capital - Underground Devices	-	254,682	\$	-	-\$	254,682	-\$	167,703	\$	-	-\$	167,703	-	0.00%	40.00	2.50%	\$	-	-\$	4,193	\$	-	-\$	4,193	-\$	11,476	\$	7,284		
1995	Contributed Capital - Overhead Transformer	-	2,734,282	\$	-	-\$	2,734,282	-\$	169,874	\$	-	-\$	169,874	34.03	2.94%	40.00	2.50%	-\$	80,349	\$	4,247	\$	-	-\$	76,102	-\$	79,517	-\$	3,415		
1995	Contributed Capital - Underground Padmount Transformer	-	1,858,357	\$	-	-\$	1,858,357	-\$	7,920	\$	-	-\$	7,920	32.33	3.09%	40.00	2.50%	-\$	57,473	-\$	198	\$	-	-\$	57,671	-\$	62,762	-\$	5,091		
1995	Contributed Capital -Underground Submersible Transformer	-	1,955,810	\$	-	-\$	1,955,810	-\$	675,874	\$	-	-\$	675,874	25.19	3.97%	30.00	3.33%	-\$	77,649	-\$	22,529	\$	-	-\$	100,178	-\$	97,024	\$	3,154		
1995	Contributed Capital - Underground Services	-	13,453,846	\$	-	-\$	13,453,846	-\$	953,639	\$	-	-\$	953,639	33.74	2.96%	40.00	2.50%	-\$	398,729	-\$	23,841	\$	-	-\$	422,570	-\$	399,263	\$	23,307		
1995	Contributed Capital - Transformer Foundations	-	798,352	\$	-	-\$	798,352	-\$	558,073	\$	-	-\$	558,073	54.11	1.85%	60.00	1.67%	-\$	14,753	-\$	9,301	\$	-	-\$	24,054	-\$	23,786	\$	268		
1995	Contributed Capital - Meters	-	166,183	\$	-	-\$	166,183	-\$	132,547	\$	-	-\$	132,547	6.15	16.25%	15.00	6.67%	-\$	27,003	-\$	8,836	\$	-	-\$	35,839	-\$	24,110	\$	11,729		
	Contributed Capital - Meters SOLAR	-	-	\$	-	\$	-	-\$	152,011	\$	-	-\$	152,011	-	0.00%	15.00	6.67%	\$	-	-\$	10,134	\$	-	-\$	10,134	-\$	13,644	-\$	3,509		
1995	Contributed Capital - OEB Clearing	-	68,538	\$	-	-\$	68,538	-\$	259,328	\$	-	-\$	259,328	10.00	-10.00%	15.00	6.67%	-\$	6,854	\$	17,289	\$	-	\$	10,435	\$	25,468	\$	15,033		
2440	Deferred Revenue	-	-	\$	-	\$	-	\$	-	\$	-	-	-	-	0.00%	-	0.00%	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-		
2440	Contributed Capital - Poles, Towers & Fixtures	-	-	\$	-	\$	-	-\$	2,755,073	\$	-	-\$	2,755,073	-\$	510,177	-	0.00%	40.00	2.50%	\$	-	-\$	68,877	-\$	6,377	-\$	75,254	-\$	75,254	\$	-
2440	Contributed Capital - Overhead Conductors	-	-	\$	-	\$	-	-\$	1,949,253	\$	-	-\$	1,949,253	-\$	357,371	-	0.00%	60.00	1.67%	\$	-	-\$	32,488	-\$	2,978	-\$	35,466	-\$	35,466	\$	-
2440	Contributed Capital - Overhead Devices	-	-	\$	-	\$	-	-\$	216,325	\$	-	-\$	216,325	-\$	39,708	-	0.00%	40.00	2.50%	\$	-	-\$	5,408	-\$	496	-\$	5,904	-\$	5,904	\$	-
2440	Contributed Capital - Overhead Services	-	-	\$	-	\$	-	-\$	308,737	\$	-	-\$	308,737	-\$	183,544	-	0.00%	60.00	1.67%	\$	-	-\$	5,146	-\$	1,530	-\$	6,675	-\$	6,675	\$	-
2440	Contributed Capital - Underground Trenching & Ductwork	-	-	\$	-	\$	-	-\$	7,149,549	\$	-	-\$	7,149,549	-\$	1,249,203	-	0.00%	60.00	1.67%	\$	-	-\$	119,159	-\$	10,410	-\$	129,569	-\$	129,569	\$	-
2440	Contributed Capital - Underground Cables	-	-	\$	-	\$	-	-\$	5,377,685	\$	-	-\$	5,377,685	-\$	1,290,807	-	0.00%	40.00	2.50%	\$	-	-\$	134,442	-\$	16,135	-\$	150,577	-\$	150,577	\$	-
2440	Contributed Capital - Underground Devices	-	-	\$	-	\$	-	-\$	597,497	\$	-	-\$	597,497	-\$	141,758	-	0.00%	40.00	2.50%	\$	-	-\$	14,937	-\$	1,772	-\$	16,709	-\$	16,709	\$	-
2440	Contributed Capital - Overhead Transformer	-	-	\$	-	\$	-	-\$	63,615	\$	-	-\$	63,615	-\$	32,870	-	0.00%	40.00	2.50%	\$	-	-\$	1,590	-\$	411	-\$	2,001	-\$	2,001	\$	-
2440	Contributed Capital - Underground Padmount Transformer	-	-	\$	-	\$	-	-\$	310,285	\$	-	-\$	310,285	-\$	44,598	-	0.00%	40.00	2.50%	\$	-	-\$	7,757	-\$	557	-\$	8,315	-\$	8,315	\$	-
2440	Contributed Capital -Underground Submersible Transformer	-	-	\$	-	\$	-	-\$	1,515,233	\$	-	-\$	1,515,233	-\$	347,448	-	0.00%	30.00	3.33%	\$	-	-\$	50,508	-\$	5,791	-\$	56,299	-\$	56,299	\$	-
2440	Contributed Capital - Underground Services	-	-	\$	-	\$	-	-\$	3,390,579	\$	-	-\$	3,390,579	-\$	1,785,365	-	0.00%	40.00	2.50%	\$	-	-\$	84,764	-\$	22,317	-\$	107,082	-\$	107,082	\$	-
2440	Contributed Capital - Transformer Foundations	-	-	\$	-	\$	-	-\$	782,578	\$	-	-\$	782,578	-\$	122,340	-	0.00%	60.00	1.67%	\$	-	-\$	13,043	-\$	1,020	-\$	14,062	-\$	14,440	-\$	378
2440	Contributed Capital - Meters	-	-	\$	-	\$	-	-\$	117,230	\$	-	-\$	117,230	-\$	58,416	-	0.00%	15.00	6.67%	\$	-	-\$	7,815	-\$	1,947	-\$	9,763	-\$	9,763	\$	-
2440	Contributed Capital - Meters Solar	-	-	\$	-	\$	-	-\$	323,399	\$	-	-\$	323,399	-\$	79,253	-	0.00%	15.00	6.67%	\$	-	-\$	21,560	-\$	2,642	-\$	24,202	-\$	24,202	\$	-
2440	Contributed Capital - OEB Clearing	-	-	\$	-	\$	-	-\$	243,274	\$	-	-\$	243,274	\$	-	-	0.00%	15.00	6.67%	\$	-	-\$	16,218	\$	-	-\$	16,218	-\$	16,218	\$	-
2440	Meters - Renewable Connection - Direct Benefit	-	-	\$	-	\$	-	-\$	8,505	\$	-	-\$	8,505	\$	-	-	0.00%	15.00	6.67%	\$	-	-\$	567	\$	-	-\$	567	\$	-	\$	567
		-	-	\$	-	\$	-	-	-	\$	-	-	-	-	-	-	0.00%	-	0.00%	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
	Total	\$	148,349,204	\$	4,142,448	\$	144,206,756	\$	85,676,991	\$	1,710,497	\$	83,966,494	\$	16,166,017					\$	5,037,949	\$	3,422,741	\$	235,671	\$	8,696,361	\$	8,605,650	-\$	90,711

**Appendix 2-C
Depreciation and Amortization Expense**

2018		Book Values												Service Lives				Depreciation Expense				Depreciation Expense per Appendix 2-BA Fixed Assets, Column J	Variance ⁶
Account	Description	Opening Net Book Value of Existing Assets as at Date of Policy Change (Jan. 1) 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 ⁸	Net Amount of Assets Acquired After Policy Change to be Depreciated	Current Year Additions	Average Remaining Life of Assets Existing Before Policy Change ³	Depreciation Rate Assets Acquired After Policy Change	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							
		a	b	c = a-b	d	e	f = d-e	g	h	i = 1/h	j	k = 1/j	l = c/h	m = f/j	n = g*16.5/j	o = l+m+n		p	q = p-o				
1611	Computer Software (Formally known as Account 1925)	928,634	\$ 928,634	\$ -	\$ 2,096,030	\$ 135,165	\$ 1,960,865	\$ 276,227	2.25	44.44%	5.00	20.00%	\$ -	\$ 392,173	\$ 27,623	\$ 419,796	\$	450,463	\$	30,668			
1611	Computer Software (Formally known as Account 1925)	-	-	\$ -	\$ 88,614	\$ 88,614	\$ -	-	-	0.00%	3.00	33.33%	\$ -	\$ -	\$ -	\$ -	\$	-	\$	-			
1611	Computer Software (Formally known as Account 1925) - Smart Meters	-	\$ -	\$ -	\$ 598,681	\$ 598,681	\$ -	\$ -	-	0.00%	3.00	33.33%	\$ -	\$ -	\$ -	\$ -	\$	-	\$	-			
1612	Land Rights (Formally known as Account 1906)	12,881	\$ 12,881	\$ -	\$ -	\$ -	\$ -	-	4.86	20.60%	50.00	2.00%	\$ -	\$ -	\$ -	\$ -	\$	-	\$	-			
1805	Land	2,339,958	\$ -	\$ 2,339,958	\$ -	\$ -	\$ -	-	-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$	-	\$	-			
1808	Buildings - Structure	7,099,490	\$ -	\$ 7,099,490	\$ 463,554	\$ -	\$ 463,554	\$ -	38.08	2.63%	50.00	2.00%	\$ 186,429	\$ 9,271	\$ -	\$ 195,700	\$	190,769	\$	4,931			
1808	Buildings - Roof	144,989	\$ 58,456	\$ 86,533	\$ -	\$ 2,480	\$ -	\$ -	11.44	8.74%	20.00	5.00%	\$ 7,565	\$ -	\$ 124	\$ 7,441	\$	6,806	\$	635			
1810	Leasehold Improvements	-	\$ -	\$ -	\$ -	\$ -	\$ -	-	-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$	-	\$	-			
1815	Transformer Station Equipment >50 kV 50 yrs	15,658,085	\$ 12,312	\$ 15,645,773	\$ 2,666,569	\$ -	\$ 2,666,569	\$ 431,228	41.16	2.43%	50.00	2.00%	\$ 380,092	\$ 53,331	\$ 4,312	\$ 437,735	\$	428,617	\$	9,118			
1815	Transformer Station Equipment >50 kV 40 yrs	24,475,179	\$ -	\$ 24,475,179	\$ 1,497,830	\$ -	\$ 1,497,830	\$ 15,407	28.76	3.48%	40.00	2.50%	\$ 851,073	\$ 37,446	\$ 193	\$ 888,712	\$	852,393	\$	36,319			
1815	Transformer Station Equipment >50 kV 30 yrs	-	\$ -	\$ -	\$ 71,591	\$ -	\$ 71,591	\$ -	-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$	2,386	\$	2,386			
1815	Transformer Station Equipment >50 kV 25 yrs	887,028	\$ 176,718	\$ 710,310	\$ 233,388	\$ -	\$ 233,388	\$ -	12.07	8.28%	25.00	4.00%	\$ 58,839	\$ 9,336	\$ -	\$ 68,175	\$	59,515	\$	8,660			
1815	Transformer Station Equipment >50 kV 20 yrs	392,015	\$ 163,703	\$ 228,312	\$ 188,437	\$ -	\$ 188,437	\$ 27,942	9.76	10.24%	20.00	5.00%	\$ 23,383	\$ 9,422	\$ 699	\$ 33,503	\$	31,357	\$	2,146			
1815	Transformer Station Equipment >50 kV 15 yrs	1,087,574	\$ 439,950	\$ 647,624	\$ 1,805,373	\$ -	\$ 1,805,373	\$ 87,145	8.48	11.79%	15.00	6.67%	\$ 76,380	\$ 120,358	\$ 2,905	\$ 199,643	\$	187,728	\$	11,915			
1820	Distribution Station Equipment <50 kV 50 yrs	200,427	\$ -	\$ 200,427	\$ -	\$ -	\$ -	\$ -	22.74	4.40%	50.00	2.00%	\$ 8,813	\$ -	\$ -	\$ 8,813	\$	8,543	\$	271			
1820	Distribution Station Equipment <50 kV 40 yrs	649,832	\$ -	\$ 649,832	\$ -	\$ -	\$ -	\$ -	25.47	3.93%	40.00	2.50%	\$ 25,509	\$ -	\$ -	\$ 25,509	\$	24,261	\$	1,249			
1820	Distribution Station Equipment <50 kV 25 yrs	13,287	\$ -	\$ 13,287	\$ -	\$ -	\$ -	\$ -	5.93	16.87%	25.00	4.00%	\$ 2,242	\$ -	\$ -	\$ 2,242	\$	990	\$	1,252			
1820	Distribution Station Equipment <50 kV 20 yrs	6,078	\$ 6,078	\$ -	\$ -	\$ -	\$ -	\$ -	5.66	17.66%	20.00	5.00%	\$ -	\$ -	\$ -	\$ -	\$	241	\$	241			
1820	Distribution Station Equipment <50 kV 15 hrs	17,551	\$ 17,551	\$ -	\$ 153,636	\$ -	\$ 153,636	\$ 7,664	9.64	10.37%	15.00	6.67%	\$ -	\$ 10,242	\$ 255	\$ 10,498	\$	11,104	\$	606			
1825	Storage Battery Equipment	-	\$ -	\$ -	\$ -	\$ -	\$ -	-	-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$	-	\$	-			
1830	Poles, Towers & Fixtures	17,028,402	\$ -	\$ 17,028,402	\$ 16,599,529	\$ -	\$ 16,599,529	\$ 2,923,851	32.16	3.11%	40.00	2.50%	\$ 529,490	\$ 414,988	\$ 36,548	\$ 981,026	\$	971,034	\$	9,992			
1835	Overhead Conductors	14,319,062	\$ -	\$ 14,319,062	\$ 11,178,836	\$ -	\$ 11,178,836	\$ 2,223,728	51.16	1.95%	60.00	1.67%	\$ 279,881	\$ 186,314	\$ 18,531	\$ 484,726	\$	479,580	\$	5,146			
1835	Overhead Devices	1,591,007	\$ -	\$ 1,591,007	\$ 1,469,022	\$ -	\$ 1,469,022	\$ 151,905	30.57	3.27%	40.00	2.50%	\$ 52,051	\$ 36,726	\$ 1,899	\$ 90,675	\$	88,905	\$	1,770			
1835	Voltage Regulators	163,109	\$ -	\$ 163,109	\$ -	\$ -	\$ -	\$ -	20.00	5.00%	30.00	3.33%	\$ 8,155	\$ -	\$ -	\$ 8,155	\$	7,767	\$	388			
1835	Capacitor Banks	618,096	\$ -	\$ 618,096	\$ 1,124,214	\$ -	\$ 1,124,214	\$ 459,129	19.80	5.05%	25.00	4.00%	\$ 31,224	\$ 44,969	\$ 9,183	\$ 85,375	\$	64,289	\$	21,086			
1840	Underground Conduit	12,527,558	\$ -	\$ 12,527,558	\$ 17,551,725	\$ -	\$ 17,551,725	\$ 2,184,528	51.70	1.93%	60.00	1.67%	\$ 242,295	\$ 292,529	\$ 18,204	\$ 553,028	\$	548,637	\$	4,391			
1845	Underground Conductors & Devices - PILC	414,000	\$ -	\$ 414,000	\$ 1,556,539	\$ -	\$ 1,556,539	\$ -	58.00	1.72%	60.00	1.67%	\$ 7,138	\$ 25,942	\$ -	\$ 33,080	\$	32,959	\$	121			
1845	Underground Cables	15,726,653	\$ -	\$ 15,726,653	\$ 14,958,391	\$ -	\$ 14,958,391	\$ 1,457,275	28.66	3.49%	40.00	2.50%	\$ 548,637	\$ 373,960	\$ 18,216	\$ 940,813	\$	921,501	\$	19,312			
1845	Underground Devices	1,747,406	\$ -	\$ 1,747,406	\$ 1,886,043	\$ -	\$ 1,886,043	\$ 380,437	28.66	3.49%	40.00	2.50%	\$ 60,960	\$ 47,151	\$ 4,755	\$ 112,866	\$	110,711	\$	2,155			
1850	Line Transformers - Overhead	15,713,833	\$ 345,325	\$ 15,368,508	\$ 5,529,005	\$ -	\$ 5,529,005	\$ 940,314	27.98	3.57%	40.00	2.50%	\$ 549,182	\$ 138,225	\$ 11,754	\$ 699,161	\$	535,757	\$	163,405			
1850	Line Transformers - Network	5,503	\$ -	\$ 5,503	\$ 1,057,332	\$ -	\$ 1,057,332	\$ 220,474	9.38	10.66%	40.00	2.50%	\$ 587	\$ 26,433	\$ 2,756	\$ 29,776	\$	44,652	\$	14,876			
1850	Line Transformers - Vault	-	\$ -	\$ -	\$ 6,041	\$ -	\$ 6,041	\$ -	-	0.00%	60.00	1.67%	\$ -	\$ 101	\$ -	\$ 101	\$	99	\$	2			
1850	Line Transformers - Roof	497,948	\$ 16,586	\$ 481,362	\$ -	\$ -	\$ -	\$ -	23.84	4.19%	30.00	3.33%	\$ 20,190	\$ -	\$ -	\$ 20,190	\$	18,897	\$	1,293			
1850	Line Transformers - Network Protectors	91,592	\$ -	\$ 91,592	\$ 546,514	\$ -	\$ 546,514	\$ 133,668	39.50	2.53%	40.00	2.50%	\$ 2,319	\$ 13,663	\$ 1,671	\$ 17,652	\$	13,086	\$	4,566			
1850	Line Transformers - Padmount	3,991,872	\$ -	\$ 3,991,872	\$ 4,745,849	\$ -	\$ 4,745,849	\$ 1,041,700	36.77	2.72%	40.00	2.50%	\$ 108,567	\$ 118,646	\$ 13,021	\$ 240,234	\$	171,326	\$	68,908			
1850	Line Transformers - Submersible	3,195,923	\$ -	\$ 3,195,923	\$ 4,075,441	\$ -	\$ 4,075,441	\$ 716,514	24.09	4.15%	30.00	3.33%	\$ 132,669	\$ 135,848	\$ 11,942	\$ 280,459	\$	633,018	\$	352,559			
1850	Line Transformers - Foundation	1,427,416	\$ -	\$ 1,427,416	\$ 1,739,548	\$ -	\$ 1,739,548	\$ 419,866	58.08	1.72%	60.00	1.67%	\$ 24,575	\$ 28,992	\$ 3,499	\$ 57,067	\$	50,445	\$	6,621			
1855	Services - Overhead	1,887,728	\$ -	\$ 1,887,728	\$ 2,371,238	\$ -	\$ 2,371,238	\$ 428,550	52.20	1.92%	60.00	1.67%	\$ 36,164	\$ 39,521	\$ 3,571	\$ 79,256	\$	78,616	\$	640			
1855	Services - Underground	22,543,287	\$ -	\$ 22,543,287	\$ 14,850,781	\$ -	\$ 14,850,781	\$ 2,722,298	31.40	3.18%	40.00	2.50%	\$ 717,938	\$ 371,270	\$ 34,029	\$ 1,123,236	\$	1,100,330	\$	22,906			
1860	Commercial Meters	1,327,802	\$ 158,636	\$ 1,169,166	\$ 1,848,799	\$ -	\$ 1,848,799	\$ 627,826	20.97	4.77%	25.00	4.00%	\$ 55,753	\$ 73,952	\$ 12,557	\$ 142,261	\$	188,448	\$	46,187			
1860	Smart Meters - Non-Qualifying	108,222	\$ -	\$ 108,222	\$ 240,153	\$ -	\$ 240,153	\$ -	12.00	8.33%	15.00	6.67%	\$ 9,018	\$ 16,010	\$ -	\$ 25,028	\$	-	\$	-			
1860	Meters - Renewable Connection	-	\$ -	\$ -	\$ 154,427	\$ -	\$ 154,427	\$ -	-	0.00%	15.00	6.67%	\$ -	\$ 10,295	\$ -	\$ 10,295	\$	-	\$	-			
1860	Smart Meters	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	0.00%	15.00	6.67%	\$ -	\$ -	\$ -	\$ -	\$	-	\$	-			
1860	Smart Meters	-	\$ -	\$ -	\$ 13,280,755	\$ -	\$ 13,280,755	\$ 539,690	-	0.00%	15.00	6.67%	\$ -	\$ 885,384	\$ 17,990	\$ 903,373	\$	903,955	\$	582			
1905	Land	1,395,300	\$ -	\$ 1,395,300	\$ -	\$ -	\$ -	\$ -	-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$	-	\$	-			
1908	Buildings & Fixtures - Building	5,262,681	\$ -	\$ 5,262,681	\$ 5,963,157	\$ -	\$ 5,963,157	\$ 918,456	28.71	3.48%	50.00	2.00%	\$ 183,326	\$ 119,263	\$ 9,185	\$ 311,774	\$	299,091	\$	12,683			
1908	Buildings & Fixtures - Roof	1,567,291	\$ 965,052	\$ 602,239	\$ 2,469,936	\$ -	\$ 2,469,936	\$ 18,200	6.53	15.33%	20.00	5.00%	\$ 92,295	\$ 123,497	\$ 455	\$ 216,247	\$	166,747	\$	49,500			
1910	Leasehold Improvements	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$	-	\$	-			
1915	Office Furniture & Equipment (10 years)	340,212	\$ 54,104	\$ 286,108	\$ 400,152	\$ -	\$ 400,152	\$ 34,172	5.10	19.61%	10.00	10.00%	\$ 56,100	\$ 40,015	\$ 1,709	\$ 97,823	\$	62,256	\$	35,568			
1915	Office Furniture & Equipment (5 years)	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	0.00%	5.00	20.00%	\$ -	\$ -	\$ -	\$ -	\$	-	\$	-			
1920	Computer Equipment - Hardware	350,464	\$ 319,593	\$ 30,871	\$ 596,838	\$ 458,791	\$ 138,047	\$ 604,377	2.12	47.12%	5.00	20.00%	\$ 14,548	\$ 27,609	\$ 60,438	\$ 102,595	\$	169,342	\$	66,747			
1920	Computer Equip.-Hardware - Smart Meters	-	\$ -	\$ -	\$ 569,286	\$ 437,864	\$ 131,422	\$ -	-	0.00%	5.00	20.00%	\$ -	\$ 26,284	\$ -	\$ 26,284	\$	22,126	\$	4,158			
1920	Computer Equip.-Hardware(Post Mar. 19/07)	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$	-	\$	-			
1930	Transportation Equipment	2,781,086	\$ 766,935	\$ 2,014,151	\$ 4,088,182	\$ -	\$ 4,088,182	\$ 850,223	7.19	13.90%	11.00	9.09%	\$ 280,052	\$ 371,653	\$ 38,647	\$ 690,351	\$	685,883	\$	4,468			
1935	Stores Equipment	21,484	\$ -	\$ 21,484	\$ 2,552	\$ -	\$ 2,552	\$ -	4.55	21.99%	10.00</												

**Appendix 2-C
Depreciation and Amortization Expense**

1995	Contributions & Grants	-	\$	-	\$	-	\$	-	\$	-	0.00%		0.00%	\$	-	\$	-	\$	-	\$	-	\$	-																
1995	Contributed Capital - Poles, Towers & Fixtures	-	1,626,853	\$	-	\$	-	1,626,853	\$	-	1,146,161	\$	-	34.50	2.90%	40.00	2.50%	\$	-	47,155	\$	-	28,654	\$	-	75,809	\$	-	74,779	\$	-	1,030							
1995	Contributed Capital - Overhead Conductors	-	1,246,129	\$	-	\$	-	1,246,129	\$	-	969,095	\$	-	54.55	1.83%	60.00	1.67%	\$	-	22,844	\$	-	16,152	\$	-	38,996	\$	-	38,570	\$	-	426							
1995	Contributed Capital - Overhead Devices	-	138,459	\$	-	\$	-	138,459	\$	-	109,089	\$	-	34.39	2.91%	40.00	2.50%	\$	-	4,026	\$	-	2,727	\$	-	6,753	\$	-	6,658	\$	-	95							
1995	Contributed Capital - Overhead Services	-	1,195,490	\$	-	\$	-	1,195,490	\$	-	119,872	\$	-	40.18	2.49%	60.00	1.67%	\$	-	29,750	\$	-	1,998	\$	-	31,748	\$	-	24,333	\$	-	7,415							
1995	Contributed Capital - Underground Trenching & Ductwork	-	5,566,404	\$	-	\$	-	5,566,404	\$	-	2,609,506	\$	-	54.02	1.85%	60.00	1.67%	\$	-	103,051	\$	-	43,492	\$	-	146,543	\$	-	144,784	\$	-	1,759							
1995	Contributed Capital - Underground Cables	-	2,292,136	\$	-	\$	-	2,292,136	\$	-	2,370,201	\$	-	30.81	3.25%	40.00	2.50%	\$	-	74,387	\$	-	59,255	\$	-	133,642	\$	-	124,494	\$	-	9,147							
1995	Contributed Capital - Underground Devices	-	254,682	\$	-	\$	-	254,682	\$	-	167,703	\$	-	-	0.00%	40.00	2.50%	\$	-	-	\$	-	4,193	\$	-	-	\$	-	4,193	\$	-	7,284							
1995	Contributed Capital - Overhead Transformer	-	2,734,282	\$	-	\$	-	2,734,282	\$	-	169,874	\$	-	34.03	2.94%	40.00	2.50%	\$	-	80,349	\$	-	4,247	\$	-	76,102	\$	-	79,517	\$	-	3,415							
1995	Contributed Capital - Underground Padmount Transformer	-	1,858,357	\$	-	\$	-	1,858,357	\$	-	7,920	\$	-	32.33	3.09%	40.00	2.50%	\$	-	57,473	\$	-	198	\$	-	57,671	\$	-	62,762	\$	-	5,091							
1995	Contributed Capital -Underground Submersible Transformer	-	1,955,810	\$	-	\$	-	1,955,810	\$	-	675,874	\$	-	25.19	3.97%	30.00	3.33%	\$	-	77,649	\$	-	22,529	\$	-	100,178	\$	-	97,024	\$	-	3,154							
1995	Contributed Capital - Underground Services	-	13,453,846	\$	-	\$	-	13,453,846	\$	-	953,639	\$	-	33.74	2.96%	40.00	2.50%	\$	-	398,729	\$	-	23,841	\$	-	422,570	\$	-	399,263	\$	-	23,307							
1995	Contributed Capital - Transformer Foundations	-	798,352	\$	-	\$	-	798,352	\$	-	558,073	\$	-	54.11	1.85%	60.00	1.67%	\$	-	14,753	\$	-	9,301	\$	-	24,054	\$	-	23,786	\$	-	268							
1995	Contributed Capital - Meters	-	166,183	\$	-	\$	-	166,183	\$	-	132,547	\$	-	6.15	16.25%	15.00	6.67%	\$	-	27,003	\$	-	8,836	\$	-	35,839	\$	-	18,639	\$	-	17,200							
	Contributed Capital - Meters SOLAR	-	-	\$	-	\$	-	-	\$	-	152,011	\$	-	-	0.00%	15.00	6.67%	\$	-	-	\$	-	10,134	\$	-	10,134	\$	-	13,644	\$	-	3,509							
1995	Contributed Capital - OEB Clearing	-	68,538	\$	-	\$	-	68,538	\$	-	259,328	\$	-	10.00	-10.00%	15.00	6.67%	\$	-	6,854	\$	-	17,289	\$	-	10,435	\$	-	25,468	\$	-	15,033							
2440	Deferred Revenue	-	-	\$	-	\$	-	-	\$	-	-	\$	-	-	0.00%	-	0.00%	\$	-	-	\$	-	-	\$	-	-	\$	-	-	\$	-	-							
2440	Contributed Capital - Poles, Towers & Fixtures	-	-	\$	-	\$	-	-	\$	-	3,265,250	\$	-	2,845,714	\$	-	157,256	-	0.00%	40.00	2.50%	\$	-	-	\$	-	71,143	\$	-	1,966	\$	-	73,109	\$	-	78,353	\$	-	5,244
2440	Contributed Capital - Overhead Conductors	-	-	\$	-	\$	-	-	\$	-	2,306,624	\$	-	-	0.00%	60.00	1.67%	\$	-	-	\$	-	38,444	\$	-	1,208	\$	-	39,652	\$	-	37,446	\$	-	2,206				
2440	Contributed Capital - Overhead Devices	-	-	\$	-	\$	-	-	\$	-	256,033	\$	-	-	0.00%	40.00	2.50%	\$	-	-	\$	-	6,401	\$	-	193	\$	-	6,593	\$	-	6,226	\$	-	368				
2440	Contributed Capital - Overhead Services	-	-	\$	-	\$	-	-	\$	-	492,281	\$	-	-	0.00%	60.00	1.67%	\$	-	-	\$	-	8,205	\$	-	802	\$	-	9,006	\$	-	8,684	\$	-	323				
2440	Contributed Capital - Underground Trenching & Ductwork	-	-	\$	-	\$	-	-	\$	-	8,398,752	\$	-	-	0.00%	60.00	1.67%	\$	-	-	\$	-	139,979	\$	-	7,263	\$	-	147,242	\$	-	146,524	\$	-	718				
2440	Contributed Capital - Underground Cables	-	-	\$	-	\$	-	-	\$	-	6,668,492	\$	-	-	0.00%	40.00	2.50%	\$	-	-	\$	-	166,712	\$	-	6,319	\$	-	173,031	\$	-	171,553	\$	-	1,478				
2440	Contributed Capital - Underground Devices	-	-	\$	-	\$	-	-	\$	-	739,255	\$	-	-	0.00%	40.00	2.50%	\$	-	-	\$	-	18,481	\$	-	702	\$	-	19,183	\$	-	19,019	\$	-	164				
2440	Contributed Capital - Overhead Transformer	-	-	\$	-	\$	-	-	\$	-	96,485	\$	-	-	0.00%	40.00	2.50%	\$	-	-	\$	-	2,412	\$	-	33	\$	-	2,445	\$	-	2,109	\$	-	336				
2440	Contributed Capital - Underground Padmount Transformer	-	-	\$	-	\$	-	-	\$	-	354,883	\$	-	-	0.00%	40.00	2.50%	\$	-	-	\$	-	8,872	\$	-	2,252	\$	-	11,124	\$	-	11,124	\$	-	-				
2440	Contributed Capital -Underground Submersible Transformer	-	-	\$	-	\$	-	-	\$	-	1,862,681	\$	-	-	0.00%	30.00	3.33%	\$	-	-	\$	-	62,089	\$	-	7,399	\$	-	69,489	\$	-	69,363	\$	-	126				
2440	Contributed Capital - Underground Services	-	-	\$	-	\$	-	-	\$	-	5,175,944	\$	-	-	0.00%	40.00	2.50%	\$	-	-	\$	-	129,399	\$	-	22,804	\$	-	152,202	\$	-	150,865	\$	-	1,337				
2440	Contributed Capital - Transformer Foundations	-	-	\$	-	\$	-	-	\$	-	904,918	\$	-	-	0.00%	60.00	1.67%	\$	-	-	\$	-	15,082	\$	-	1,069	\$	-	16,151	\$	-	16,508	\$	-	357				
2440	Contributed Capital - Meters	-	-	\$	-	\$	-	-	\$	-	175,646	\$	-	-	0.00%	15.00	6.67%	\$	-	-	\$	-	11,710	\$	-	1,324	\$	-	13,034	\$	-	13,034	\$	-	-				
2440	Contributed Capital - Meters Solar	-	-	\$	-	\$	-	-	\$	-	402,652	\$	-	-	0.00%	15.00	6.67%	\$	-	-	\$	-	26,843	\$	-	7,683	\$	-	34,526	\$	-	34,526	\$	-	-				
2440	Contributed Capital - OEB Clearing	-	-	\$	-	\$	-	-	\$	-	243,274	\$	-	-	0.00%	15.00	6.67%	\$	-	-	\$	-	16,218	\$	-	0	\$	-	16,218	\$	-	16,218	\$	-	-				
2440	Meters - Renewable Connection - Direct Benefit	-	-	\$	-	\$	-	-	\$	-	8,505	\$	-	-	0.00%	15.00	6.67%	\$	-	-	\$	-	567	\$	-	-	\$	-	567	\$	-	-	\$	-	567				
		-	-	\$	-	\$	-	-	\$	-	-	\$	-	-	0.00%	-	0.00%	\$	-	-	\$	-	-	\$	-	-	\$	-	-	\$	-	-	\$	-	-				
	Total	\$	148,349,204	\$	4,682,551	\$	143,666,653	\$	101,843,008	\$	1,299,579	\$	100,543,429	\$	16,560,659				\$	4,835,486	\$	3,901,699	\$	326,427	\$	9,063,612	\$	9,020,804	\$	-	\$	42,808							

**Appendix 2-C
Depreciation and Amortization Expense**

2019		Book Values							Service Lives				Depreciation Expense				Depreciation Expense per Appendix 2-BA Fixed Assets, Column J	Variance ⁶
Account	Description	Opening Net Book Value of Existing Assets as at Date of Policy Change (Jan. 1) 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 ⁸	Net Amount of Assets Acquired After Policy Change to be Depreciated	Current Year Additions	Average Remaining Life of Assets Existing Before Policy Change ³	Depreciation Rate Assets Acquired After Policy Change	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		
		a	b	c = a-b	d	e	f = d-e	g	h	i = 1/h	j	k = 1/j	l = c/h	m = f/j	n = g*6.5/j	o = l+m-n	p	q = p-o
1611	Computer Software (Formally known as Account 1925)	928,634	\$ 928,634	\$ -	\$ 2,372,257	\$ 135,165	\$ 2,237,092	\$ 854,365	2.25	44.44%	5.00	20.00%	\$ -	\$ 447,418	\$ 85,437	\$ 532,855	\$ 445,400	\$ 87,455
1611	Computer Software (Formally known as Account 1925)	-	-	\$ -	\$ 88,614	\$ 88,614	\$ -	-	-	0.00%	3.00	33.33%	\$ -	\$ -	\$ -	\$ -	-	\$ -
1611	Computer Software (Formally known as Account 1925) - Smart Meters	-	\$ -	\$ -	\$ 598,681	\$ 598,681	\$ -	\$ -	-	0.00%	3.00	33.33%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1612	Land Rights (Formally known as Account 1906)	12,881	\$ 12,881	\$ -	\$ -	\$ -	\$ -	-	4.86	20.60%	50.00	2.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1805	Land	2,339,958	\$ -	\$ 2,339,958	\$ -	\$ -	\$ -	-	-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	-	\$ -
1808	Buildings - Structure	7,099,490	\$ -	\$ 7,099,490	\$ 463,554	\$ -	\$ 463,554	\$ -	38.08	2.63%	50.00	2.00%	\$ 186,429	\$ 9,271	\$ -	\$ 195,700	\$ 190,900	\$ 4,800
1808	Buildings - Roof	144,989	\$ 58,456	\$ 86,533	\$ -	\$ -	\$ -	\$ -	11.44	8.74%	20.00	5.00%	\$ 7,565	\$ -	\$ 124	\$ 7,441	\$ 6,550	\$ 941
1810	Leasehold Improvements	-	\$ -	\$ -	\$ -	\$ -	\$ -	-	-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	-	\$ -
1815	Transformer Station Equipment >50 kV 50 yrs	15,658,085	\$ 12,312	\$ 15,645,773	\$ 3,097,797	\$ -	\$ 3,097,797	\$ 815,500	41.16	2.43%	50.00	2.00%	\$ 380,092	\$ 61,956	\$ 8,155	\$ 450,203	\$ 439,400	\$ 10,803
1815	Transformer Station Equipment >50 kV 40 yrs	24,475,179	\$ -	\$ 24,475,179	\$ 1,513,237	\$ -	\$ 1,513,237	\$ 56,200	28.76	3.48%	40.00	2.50%	\$ 851,073	\$ 37,831	\$ 703	\$ 889,607	\$ 862,400	\$ 27,207
1815	Transformer Station Equipment >50 kV 30 yrs	-	\$ -	\$ -	\$ 71,591	\$ -	\$ 71,591	\$ -	-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$ 2,400	\$ 2,400
1815	Transformer Station Equipment >50 kV 25 yrs	887,028	\$ 176,718	\$ 710,310	\$ 233,388	\$ -	\$ 233,388	\$ -	12.07	8.28%	25.00	4.00%	\$ 58,839	\$ 9,336	\$ -	\$ 68,175	\$ 56,400	\$ 11,775
1815	Transformer Station Equipment >50 kV 20 yrs	392,015	\$ 163,703	\$ 228,312	\$ 216,379	\$ -	\$ 216,379	\$ 25,900	9.76	10.24%	20.00	5.00%	\$ 23,383	\$ 10,819	\$ 648	\$ 34,849	\$ 31,000	\$ 3,849
1815	Transformer Station Equipment >50 kV 15 yrs	1,087,574	\$ 439,950	\$ 647,624	\$ 1,892,518	\$ -	\$ 1,892,518	\$ 726,900	8.48	11.79%	15.00	6.67%	\$ 76,380	\$ 126,168	\$ 24,230	\$ 226,778	\$ 208,400	\$ 18,378
1820	Distribution Station Equipment <50 kV 50 yrs	200,427	\$ -	\$ 200,427	\$ -	\$ -	\$ -	\$ -	22.74	4.40%	50.00	2.00%	\$ 8,813	\$ -	\$ -	\$ 8,813	\$ 8,600	\$ 213
1820	Distribution Station Equipment <50 kV 40 yrs	649,832	\$ -	\$ 649,832	\$ -	\$ -	\$ -	\$ -	25.47	3.93%	40.00	2.50%	\$ 25,509	\$ -	\$ -	\$ 25,509	\$ 24,300	\$ 1,209
1820	Distribution Station Equipment <50 kV 25 yrs	13,287	\$ -	\$ 13,287	\$ -	\$ -	\$ -	\$ -	5.93	16.87%	25.00	4.00%	\$ 2,242	\$ -	\$ -	\$ 2,242	\$ 1,000	\$ 1,242
1820	Distribution Station Equipment <50 kV 20 yrs	6,078	\$ 6,078	\$ -	\$ -	\$ -	\$ -	\$ -	5.66	17.66%	20.00	5.00%	\$ -	\$ -	\$ -	\$ -	\$ 700	\$ 700
1820	Distribution Station Equipment <50 kV 15 hrs	17,551	\$ 17,551	\$ -	\$ 161,300	\$ -	\$ 161,300	\$ -	9.64	10.37%	15.00	6.67%	\$ -	\$ 10,753	\$ -	\$ 10,753	\$ 10,900	\$ 147
1825	Storage Battery Equipment	-	\$ -	\$ -	\$ -	\$ -	\$ -	-	-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	-	\$ -
1830	Poles, Towers & Fixtures	17,028,402	\$ -	\$ 17,028,402	\$ 19,523,380	\$ -	\$ 19,523,380	\$ 2,959,500	32.16	3.11%	40.00	2.50%	\$ 529,490	\$ 488,085	\$ 36,994	\$ 1,054,568	\$ 1,059,200	\$ 4,632
1835	Overhead Conductors	14,319,062	\$ -	\$ 14,319,062	\$ 13,402,564	\$ -	\$ 13,402,564	\$ 2,442,240	51.16	1.95%	60.00	1.67%	\$ 279,881	\$ 223,376	\$ 20,352	\$ 523,609	\$ 515,000	\$ 8,609
1835	Overhead Devices	1,591,007	\$ -	\$ 1,591,007	\$ 1,620,927	\$ -	\$ 1,620,927	\$ 271,400	30.57	3.27%	40.00	2.50%	\$ 52,051	\$ 40,523	\$ 3,393	\$ 95,966	\$ 96,100	\$ 134
1835	Voltage Regulators	163,109	\$ -	\$ 163,109	\$ -	\$ -	\$ -	\$ -	20.00	5.00%	30.00	3.33%	\$ 8,155	\$ -	\$ -	\$ 8,155	\$ 7,800	\$ 355
1835	Capacitor Banks	618,096	\$ -	\$ 618,096	\$ 1,583,343	\$ -	\$ 1,583,343	\$ -	19.80	5.05%	25.00	4.00%	\$ 31,224	\$ 63,334	\$ -	\$ 94,557	\$ 64,200	\$ 30,357
1840	Underground Conduit	12,527,558	\$ -	\$ 12,527,558	\$ 19,736,253	\$ -	\$ 19,736,253	\$ 2,519,600	51.70	1.93%	60.00	1.67%	\$ 242,295	\$ 328,938	\$ 20,997	\$ 592,229	\$ 568,700	\$ 23,529
1845	Underground Conductors & Devices - PILC	414,000	\$ -	\$ 414,000	\$ 1,556,539	\$ -	\$ 1,556,539	\$ -	58.00	1.72%	60.00	1.67%	\$ 7,138	\$ 25,942	\$ -	\$ 33,080	\$ 33,000	\$ 80
1845	Underground Cables	15,726,653	\$ -	\$ 15,726,653	\$ 16,415,666	\$ -	\$ 16,415,666	\$ 1,522,982	28.66	3.49%	40.00	2.50%	\$ 548,637	\$ 410,392	\$ 19,037	\$ 978,066	\$ 959,300	\$ 18,766
1845	Underground Devices	1,747,406	\$ -	\$ 1,747,406	\$ 2,266,480	\$ -	\$ 2,266,480	\$ 169,220	28.66	3.49%	40.00	2.50%	\$ 60,960	\$ 56,662	\$ 2,115	\$ 119,737	\$ 112,200	\$ 7,537
1850	Line Transformers - Overhead	15,713,833	\$ 345,325	\$ 15,368,508	\$ 6,469,319	\$ -	\$ 6,469,319	\$ 970,000	27.98	3.57%	40.00	2.50%	\$ 549,182	\$ 161,733	\$ 12,125	\$ 723,040	\$ 544,500	\$ 178,540
1850	Line Transformers - Network	5,503	\$ -	\$ 5,503	\$ 1,277,806	\$ -	\$ 1,277,806	\$ 192,000	9.38	10.66%	40.00	2.50%	\$ 587	\$ 31,945	\$ 2,400	\$ 34,932	\$ 50,400	\$ 15,468
1850	Line Transformers - Vault	-	\$ -	\$ -	\$ 6,041	\$ -	\$ 6,041	\$ -	-	0.00%	60.00	1.67%	\$ -	\$ 101	\$ -	\$ 101	\$ 100	\$ 1
1850	Line Transformers - Roof	497,948	\$ 16,586	\$ 481,362	\$ -	\$ -	\$ -	\$ -	23.84	4.19%	30.00	3.33%	\$ 20,190	\$ -	\$ -	\$ 20,190	\$ 18,900	\$ 1,290
1850	Line Transformers - Network Protectors	91,592	\$ -	\$ 91,592	\$ 680,182	\$ -	\$ 680,182	\$ -	39.50	2.53%	40.00	2.50%	\$ 2,319	\$ 17,005	\$ -	\$ 19,323	\$ 13,100	\$ 6,223
1850	Line Transformers - Padmount	3,991,872	\$ -	\$ 3,991,872	\$ 5,787,549	\$ -	\$ 5,787,549	\$ 735,526	36.77	2.72%	40.00	2.50%	\$ 108,567	\$ 144,689	\$ 9,194	\$ 262,449	\$ 172,000	\$ 90,449
1850	Line Transformers - Submersible	3,195,923	\$ -	\$ 3,195,923	\$ 4,791,955	\$ -	\$ 4,791,955	\$ 736,898	24.09	4.15%	30.00	3.33%	\$ 132,669	\$ 159,732	\$ 12,282	\$ 304,683	\$ 638,500	\$ 333,817
1850	Line Transformers - Foundation	1,427,416	\$ -	\$ 1,427,416	\$ 2,159,414	\$ -	\$ 2,159,414	\$ 490,375	58.08	1.72%	60.00	1.67%	\$ 24,575	\$ 35,990	\$ 4,086	\$ 64,652	\$ 56,600	\$ 8,052
1855	Services - Overhead	1,887,728	\$ -	\$ 1,887,728	\$ 2,799,788	\$ -	\$ 2,799,788	\$ 513,300	52.20	1.92%	60.00	1.67%	\$ 36,164	\$ 46,663	\$ 4,278	\$ 87,105	\$ 87,300	\$ 195
1855	Services - Underground	22,543,287	\$ -	\$ 22,543,287	\$ 17,573,079	\$ -	\$ 17,573,079	\$ 2,288,160	31.40	3.18%	40.00	2.50%	\$ 717,938	\$ 439,327	\$ 28,602	\$ 1,185,867	\$ 1,115,100	\$ 70,767
1860	Commercial Meters	1,327,802	\$ 158,636	\$ 1,169,166	\$ 2,476,625	\$ -	\$ 2,476,625	\$ 307,344	20.97	4.77%	25.00	4.00%	\$ 55,753	\$ 99,065	\$ 6,147	\$ 160,964	\$ 198,700	\$ 37,736
1860	Smart Meters - Non-Qualifying	108,222	\$ -	\$ 108,222	\$ 240,153	\$ -	\$ 240,153	\$ -	12.00	8.33%	15.00	6.67%	\$ 9,018	\$ 16,010	\$ -	\$ 25,028	\$ -	\$ 25,028
1860	Meters - Renewable Connection	-	\$ -	\$ -	\$ 154,427	\$ -	\$ 154,427	-	-	0.00%	15.00	6.67%	\$ -	\$ 10,295	\$ -	\$ 10,295	\$ -	\$ 10,295
1860	Smart Meters	-	\$ -	\$ -	\$ -	\$ -	\$ -	-	-	0.00%	15.00	6.67%	\$ -	\$ -	\$ -	\$ -	-	\$ -
1860	Smart Meters	-	\$ -	\$ -	\$ 13,820,445	\$ -	\$ 13,820,445	\$ 332,956	-	0.00%	15.00	6.67%	\$ -	\$ 921,363	\$ 11,099	\$ 932,462	\$ 908,900	\$ 23,562
1905	Land	1,395,300	\$ -	\$ 1,395,300	\$ -	\$ -	\$ -	\$ -	-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1908	Buildings & Fixtures - Building	5,262,681	\$ -	\$ 5,262,681	\$ 6,881,613	\$ -	\$ 6,881,613	\$ -	28.71	3.48%	50.00	2.00%	\$ 183,326	\$ 137,632	\$ -	\$ 320,959	\$ 294,000	\$ 26,959
1908	Buildings & Fixtures - Roof	1,567,291	\$ 966,958	\$ 600,333	\$ 2,488,136	\$ -	\$ 2,488,136	\$ 750,000	6.53	15.33%	20.00	5.00%	\$ 92,003	\$ 124,407	\$ 18,750	\$ 235,159	\$ 218,500	\$ 16,659
1910	Leasehold Improvements	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1915	Office Furniture & Equipment (10 years)	340,212	\$ 54,104	\$ 286,108	\$ 434,324	\$ -	\$ 434,324	\$ 144,596	5.10	19.61%	10.00	10.00%	\$ 56,100	\$ 43,432	\$ 7,230	\$ 106,762	\$ 61,500	\$ 45,262
1915	Office Furniture & Equipment (5 years)	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	0.00%	5.00	20.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1920	Computer Equipment - Hardware	350,464	\$ 319,593	\$ 30,871	\$ 1,201,215	\$ 458,791	\$ 742,424	\$ 344,140	2.12	47.12%	5.00	20.00%	\$ 14,548	\$ 148,485	\$ 34,414	\$ 197,447	\$ 256,500	\$ 59,053
1920	Computer Equip.-Hardware - Smart Meters	-	\$ -	\$ -	\$ 569,286	\$ 437,864	\$ 131,422	\$ -	-	0.00%	5.00	20.00%	\$ -	\$ 26,284	\$ -	\$ 26,284	\$ 11,100	\$ 15,184
1920	Computer Equip.-Hardware(Post Mar. 19/07)	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1930	Transportation Equipment	2,781,086	\$ 1,019,162	\$ 1,761,924	\$ 4,938,405	\$ -	\$ 4,938,405	\$ 1,454,069	7.19	13.90%	11.00	9.09%	\$ 244,982	\$ 448,946	\$ 66,094	\$ 760,022	\$ 712,200	\$ 47,822
1935	Stores Equipment	21,484	\$ -	\$ 21,484	\$ 2,552	\$ -	\$ 2,552	\$ -	4.55	21.99%	10.00	10.00%	\$ 4,724	\$ 255	\$ -	\$ 4,979	\$ 300	\$ 4,679
1940	Tools, Shop & Garage Equipment	324,953	\$ -	\$ 324,953	\$ 529,268	\$ -	\$ 529,268	\$ 95,000	6.70	14.93%	10.00	10.00%	\$ 48,520	\$ 52,927	\$ 4,750	\$ 106,197	\$ 69,600	\$ 36,597
1940	Tools - Smart Meters	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	0.00%	10.00	10.00%	\$ -	\$ -	\$ -	\$ -	\$ 400	\$ 400
1945	Measurement & Testing Equipment	163,014	\$ -	\$ 163,014	\$ 257,318	\$ -	\$ 257,318	\$ 10,000	7.77	12.88%	10.00	10.00%	\$ 20,993	\$ 25,732	\$ 500	\$ 47,225	\$ 35,200	\$ 12,025
1950	Power Operated Equipment	306,812	\$ 109,903	\$ 196,909	\$ 732,549	\$ -	\$ 732,549	\$ 100,000	6.77	14.76%	10.00	10.00%	\$ 29,071	\$ 73,255	\$ 5,000	\$ 107,326	\$ 83,900	\$ 23,426
1955	Communications Equipment	58,880	\$ -	\$ 58,880	\$ 195,538	\$ -	\$ 195,538	\$ 1,600	6.76	14.80%	10.00	10.00%	\$ 8,715	\$ 19,554	\$ 80	\$ 28,349	\$ -	\$ 28,349
1955	Communication Equipment (Smart Meters)	-	\$ -	\$ -	\$ 696,896	\$												

**Appendix 2-C
Depreciation and Amortization Expense**

1995	Contributions & Grants	-	\$	-	\$	-	\$	-	\$	-	0.00%		0.00%	\$	-	\$	-	\$	-	\$	-	\$	-											
1995	Contributed Capital - Poles, Towers & Fixtures	-	1,626,853	\$	-	\$	-	1,626,853	\$	-	1,146,161	\$	-	34.50	2.90%	40.00	2.50%	\$	-	47,155	\$	-	28,654	\$	-	75,809	\$	-	74,800	\$	1,009			
1995	Contributed Capital - Overhead Conductors	-	1,246,129	\$	-	\$	-	1,246,129	\$	-	969,095	\$	-	54.55	1.83%	60.00	1.67%	\$	-	22,844	\$	-	16,152	\$	-	38,996	\$	-	38,600	\$	396			
1995	Contributed Capital - Overhead Devices	-	138,459	\$	-	\$	-	138,459	\$	-	109,089	\$	-	34.39	2.91%	40.00	2.50%	\$	-	4,026	\$	-	2,727	\$	-	6,753	\$	-	6,700	\$	53			
1995	Contributed Capital - Overhead Services	-	1,195,490	\$	-	\$	-	1,195,490	\$	-	119,872	\$	-	40.18	2.49%	60.00	1.67%	\$	-	29,750	\$	-	1,998	\$	-	31,748	\$	-	24,400	\$	7,348			
1995	Contributed Capital - Underground Trenching & Ductwork	-	5,566,404	\$	-	\$	-	5,566,404	\$	-	2,609,506	\$	-	54.02	1.85%	60.00	1.67%	\$	-	103,051	\$	-	43,492	\$	-	146,543	\$	-	144,800	\$	1,743			
1995	Contributed Capital - Underground Cables	-	2,292,136	\$	-	\$	-	2,292,136	\$	-	2,370,201	\$	-	30.81	3.25%	40.00	2.50%	\$	-	74,387	\$	-	59,255	\$	-	133,642	\$	-	124,500	\$	9,142			
1995	Contributed Capital - Underground Devices	-	254,682	\$	-	\$	-	254,682	\$	-	167,703	\$	-	-	0.00%	40.00	2.50%	\$	-	-	\$	-	4,193	\$	-	4,193	\$	-	11,500	\$	7,307			
1995	Contributed Capital - Overhead Transformer	-	2,734,282	\$	-	\$	-	2,734,282	\$	-	169,874	\$	-	34.03	2.94%	40.00	2.50%	\$	-	80,349	\$	-	4,247	\$	-	76,102	\$	-	79,600	\$	3,498			
1995	Contributed Capital - Underground Padmount Transformer	-	1,858,357	\$	-	\$	-	1,858,357	\$	-	7,920	\$	-	32.33	3.09%	40.00	2.50%	\$	-	57,473	\$	-	198	\$	-	57,671	\$	-	62,800	\$	5,129			
1995	Contributed Capital -Underground Submersible Transformer	-	1,955,810	\$	-	\$	-	1,955,810	\$	-	675,874	\$	-	25.19	3.97%	30.00	3.33%	\$	-	77,649	\$	-	22,529	\$	-	100,178	\$	-	97,100	\$	3,078			
1995	Contributed Capital - Underground Services	-	13,453,846	\$	-	\$	-	13,453,846	\$	-	953,639	\$	-	33.74	2.96%	40.00	2.50%	\$	-	398,729	\$	-	23,841	\$	-	422,570	\$	-	399,300	\$	23,270			
1995	Contributed Capital - Transformer Foundations	-	798,352	\$	-	\$	-	798,352	\$	-	558,073	\$	-	54.11	1.85%	60.00	1.67%	\$	-	14,753	\$	-	9,301	\$	-	24,054	\$	-	23,800	\$	254			
1995	Contributed Capital - Meters	-	166,183	\$	-	\$	-	166,183	\$	-	132,547	\$	-	6.15	16.25%	15.00	6.67%	\$	-	27,003	\$	-	8,836	\$	-	35,839	\$	-	16,000	\$	19,839			
	Contributed Capital - Meters SOLAR	-	-	\$	-	\$	-	-	\$	-	152,011	\$	-	-	0.00%	15.00	6.67%	\$	-	-	\$	-	10,134	\$	-	10,134	\$	-	13,700	\$	3,566			
1995	Contributed Capital - OEB Clearing	-	68,538	\$	-	\$	-	68,538	\$	-	259,328	\$	-	10.00	-10.00%	15.00	6.67%	\$	-	6,854	\$	-	17,289	\$	-	10,435	\$	-	25,500	\$	15,065			
2440	Deferred Revenue	-	-	\$	-	\$	-	-	\$	-	-	\$	-	-	0.00%	-	0.00%	\$	-	-	\$	-	-	\$	-	-	\$	-	-	\$	-			
2440	Contributed Capital - Poles, Towers & Fixtures	-	-	\$	-	\$	-	-	\$	-	3,422,506	\$	-	3,002,970	-	40.00	2.50%	\$	-	-	\$	-	75,074	\$	-	2,119	\$	-	77,193	\$	-	85,000	\$	7,807
2440	Contributed Capital - Overhead Conductors	-	-	\$	-	\$	-	-	\$	-	2,451,617	\$	-	-	0.00%	60.00	1.67%	\$	-	-	\$	-	40,860	\$	-	1,085	\$	-	41,945	\$	-	41,500	\$	445
2440	Contributed Capital - Overhead Devices	-	-	\$	-	\$	-	-	\$	-	271,443	\$	-	-	0.00%	40.00	2.50%	\$	-	-	\$	-	6,786	\$	-	181	\$	-	6,967	\$	-	7,000	\$	33
2440	Contributed Capital - Overhead Services	-	-	\$	-	\$	-	-	\$	-	588,498	\$	-	-	0.00%	60.00	1.67%	\$	-	-	\$	-	9,808	\$	-	207	\$	-	10,015	\$	-	9,100	\$	915
2440	Contributed Capital - Underground Trenching & Ductwork	-	-	\$	-	\$	-	-	\$	-	9,270,286	\$	-	-	0.00%	60.00	1.67%	\$	-	-	\$	-	154,505	\$	-	4,934	\$	-	159,439	\$	-	154,400	\$	5,039
2440	Contributed Capital - Underground Cables	-	-	\$	-	\$	-	-	\$	-	7,173,979	\$	-	-	0.00%	40.00	2.50%	\$	-	-	\$	-	179,349	\$	-	5,670	\$	-	185,019	\$	-	185,200	\$	181
2440	Contributed Capital - Underground Devices	-	-	\$	-	\$	-	-	\$	-	795,420	\$	-	-	0.00%	40.00	2.50%	\$	-	-	\$	-	19,886	\$	-	630	\$	-	20,515	\$	-	20,700	\$	185
2440	Contributed Capital - Overhead Transformer	-	-	\$	-	\$	-	-	\$	-	99,130	\$	-	-	0.00%	40.00	2.50%	\$	-	-	\$	-	2,478	\$	-	-	\$	-	2,478	\$	-	2,500	\$	22
2440	Contributed Capital - Underground Padmount Transformer	-	-	\$	-	\$	-	-	\$	-	535,030	\$	-	-	0.00%	40.00	2.50%	\$	-	-	\$	-	13,376	\$	-	2,827	\$	-	16,202	\$	-	17,500	\$	1,298
2440	Contributed Capital -Underground Submersible Transformer	-	-	\$	-	\$	-	-	\$	-	2,306,637	\$	-	-	0.00%	30.00	3.33%	\$	-	-	\$	-	76,888	\$	-	3,769	\$	-	80,657	\$	-	73,600	\$	7,057
2440	Contributed Capital - Underground Services	-	-	\$	-	\$	-	-	\$	-	7,000,254	\$	-	-	0.00%	40.00	2.50%	\$	-	-	\$	-	175,006	\$	-	17,334	\$	-	192,340	\$	-	175,100	\$	17,240
2440	Contributed Capital - Transformer Foundations	-	-	\$	-	\$	-	-	\$	-	1,033,231	\$	-	-	0.00%	60.00	1.67%	\$	-	-	\$	-	17,221	\$	-	1,256	\$	-	18,477	\$	-	19,300	\$	823
2440	Contributed Capital - Meters	-	-	\$	-	\$	-	-	\$	-	215,369	\$	-	-	0.00%	15.00	6.67%	\$	-	-	\$	-	14,358	\$	-	-	\$	-	14,358	\$	-	15,900	\$	1,542
2440	Contributed Capital - Meters Solar	-	-	\$	-	\$	-	-	\$	-	633,141	\$	-	-	0.00%	15.00	6.67%	\$	-	-	\$	-	42,209	\$	-	-	\$	-	42,209	\$	-	34,000	\$	8,209
2440	Contributed Capital - OEB Clearing	-	-	\$	-	\$	-	-	\$	-	243,277	\$	-	-	0.00%	15.00	6.67%	\$	-	-	\$	-	16,218	\$	-	-	\$	-	16,218	\$	-	16,300	\$	82
2440	Meters - Renewable Connection - Direct Benefit	-	-	\$	-	\$	-	-	\$	-	8,505	\$	-	-	0.00%	15.00	6.67%	\$	-	-	\$	-	567	\$	-	-	\$	-	567	\$	-	-	\$	567
		-	-	\$	-	\$	-	-	\$	-	-	\$	-	-	0.00%	-	0.00%	\$	-	-	\$	-	-	\$	-	-	\$	-	-	\$	-	-	\$	-
	Total	\$	148,349,204	\$	4,962,595	\$	143,386,609	\$	118,403,667	\$	1,299,579	\$	117,104,088	\$	18,440,022				\$	4,796,078	\$	4,554,552	\$	410,828	\$	9,761,458	\$	9,343,200	\$	418,258				

**Appendix 2-C
Depreciation and Amortization Expense**

2020		Book Values								Service Lives				Depreciation Expense					Depreciation Expense per Appendix 2-BA Fixed Assets, Column J	Variance ⁶
Account	Description	Opening Net Book Value of Existing Assets as at Date of Policy Change (Jan. 1) 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 ⁸	Net Amount of Assets Acquired After Policy Change to be Depreciated	Current Year Additions	Average Remaining Life of Assets Existing Before Policy Change ³	Depreciation Rate Assets Acquired After Policy Change	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				
		a	b	c = a - b	d	e	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		p	q = p - o	
1611	Computer Software (Formally known as Account 1925)	928,634	\$ 928,634	\$ -	\$ 3,226,622	\$ 572,983	\$ 2,653,639	\$ 6,710,000	2.25	44.44%	5.00	20.00%	\$ -	\$ 530,728	\$ 671,000	\$ 1,201,728	\$ 1,194,200	\$ 7,528		
1611	Computer Software (Formally known as Account 1925)	-		\$ -	\$ 88,614	\$ 88,614	\$ -		-	0.00%	3.00	33.33%	\$ -	\$ -	\$ -	\$ -			\$ -	
1611	Computer Software (Formally known as Account 1925) - Smart Meters	-	\$ -	\$ -	\$ 598,681	\$ 598,681	\$ -	\$ -	-	0.00%	3.00	33.33%	\$ -	\$ -	\$ -	\$ -			\$ -	
1612	Land Rights (Formally known as Account 1906)	12,881	\$ 12,881	\$ -	\$ -	\$ -	\$ -		4.86	20.60%	50.00	2.00%	\$ -	\$ -	\$ -	\$ -			\$ -	
1805	Land	2,339,958	\$ -	\$ 2,339,958	\$ -	\$ -	\$ -		-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -			\$ -	
1808	Buildings - Structure	7,099,490	\$ -	\$ 7,099,490	\$ 463,554	\$ -	\$ 463,554	\$ -	38.08	2.63%	50.00	2.00%	\$ 186,429	\$ 9,271	\$ -	\$ 195,700	\$ 190,900	\$ 4,800		
1808	Buildings - Roof	144,989	\$ 58,456	\$ 86,533	\$ 2,480	\$ -	\$ 2,480	\$ -	11.44	8.74%	20.00	5.00%	\$ 7,565	\$ 124	\$ -	\$ 7,441	\$ 5,500	\$ 1,941		
1810	Leasehold Improvements	-	\$ -	\$ -	\$ -	\$ -	\$ -		-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -			\$ -	
1815	Transformer Station Equipment >50 kV 50 yrs	15,658,085	\$ 12,312	\$ 15,645,773	\$ 3,913,297	\$ -	\$ 3,913,297	\$ 1,332,200	41.16	2.43%	50.00	2.00%	\$ 380,092	\$ 78,266	\$ 13,322	\$ 471,680	\$ 460,900	\$ 10,780		
1815	Transformer Station Equipment >50 kV 40 yrs	24,475,179	\$ -	\$ 24,475,179	\$ 1,569,437	\$ -	\$ 1,569,437	\$ 398,700	28.76	3.48%	40.00	2.50%	\$ 851,073	\$ 39,236	\$ 4,984	\$ 895,293	\$ 848,800	\$ 46,493		
1815	Transformer Station Equipment >50 kV 30 yrs	-	\$ -	\$ -	\$ 71,591	\$ -	\$ 71,591	\$ -	-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -			\$ 2,400	
1815	Transformer Station Equipment >50 kV 25 yrs	887,028	\$ 176,718	\$ 710,310	\$ 233,388	\$ -	\$ 233,388	\$ -	12.07	8.28%	25.00	4.00%	\$ 58,839	\$ 9,336	\$ -	\$ 68,175	\$ 56,300	\$ 11,875		
1815	Transformer Station Equipment >50 kV 20 yrs	392,015	\$ 163,703	\$ 228,312	\$ 242,279	\$ -	\$ 242,279	\$ 49,400	9.76	10.24%	20.00	5.00%	\$ 23,383	\$ 12,114	\$ 1,235	\$ 36,732	\$ 32,300	\$ 4,432		
1815	Transformer Station Equipment >50 kV 15 yrs	1,087,574	\$ 439,950	\$ 647,624	\$ 2,619,418	\$ -	\$ 2,619,418	\$ 223,700	8.48	11.79%	15.00	6.67%	\$ 76,380	\$ 174,628	\$ 7,457	\$ 258,465	\$ 234,800	\$ 23,665		
1820	Distribution Station Equipment <50 kV 50 yrs	200,427	\$ -	\$ 200,427	\$ -	\$ -	\$ -	\$ -	22.74	4.40%	50.00	2.00%	\$ 8,813	\$ -	\$ -	\$ 8,813	\$ 8,600	\$ 213		
1820	Distribution Station Equipment <50 kV 40 yrs	649,832	\$ -	\$ 649,832	\$ -	\$ -	\$ -	\$ -	25.47	3.93%	40.00	2.50%	\$ 25,509	\$ -	\$ -	\$ 25,509	\$ 24,300	\$ 1,209		
1820	Distribution Station Equipment <50 kV 25 yrs	13,287	\$ -	\$ 13,287	\$ -	\$ -	\$ -	\$ -	5.93	16.87%	25.00	4.00%	\$ 2,242	\$ -	\$ -	\$ 2,242	\$ 800	\$ 1,442		
1820	Distribution Station Equipment <50 kV 20 yrs	6,078	\$ 6,078	\$ -	\$ -	\$ -	\$ -	\$ -	5.66	17.66%	20.00	5.00%	\$ -	\$ -	\$ -	\$ -	\$ 700	\$ 700		
1820	Distribution Station Equipment <50 kV 15 hrs	17,551	\$ 17,551	\$ -	\$ 161,300	\$ -	\$ 161,300	\$ -	9.64	10.37%	15.00	6.67%	\$ -	\$ 10,753	\$ -	\$ 10,753	\$ 10,900	\$ 147		
1825	Storage Battery Equipment	-	\$ -	\$ -	\$ -	\$ -	\$ -		-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -			\$ -	
1830	Poles, Towers & Fixtures	17,028,402	\$ -	\$ 17,028,402	\$ 22,482,880	\$ -	\$ 22,482,880	\$ 3,133,850	32.16	3.11%	40.00	2.50%	\$ 529,490	\$ 562,072	\$ 39,173	\$ 1,130,735	\$ 1,102,200	\$ 28,535		
1835	Overhead Conductors	14,319,062	\$ -	\$ 14,319,062	\$ 15,844,804	\$ -	\$ 15,844,804	\$ 2,603,880	51.16	1.95%	60.00	1.67%	\$ 279,881	\$ 264,080	\$ 21,699	\$ 565,660	\$ 556,700	\$ 8,960		
1835	Overhead Devices	1,591,007	\$ -	\$ 1,591,007	\$ 1,892,327	\$ -	\$ 1,892,327	\$ 289,320	30.57	3.27%	40.00	2.50%	\$ 52,051	\$ 47,308	\$ 3,617	\$ 102,975	\$ 103,100	\$ 125		
1835	Voltage Regulators	163,109	\$ -	\$ 163,109	\$ -	\$ -	\$ -	\$ -	20.00	5.00%	30.00	3.33%	\$ 8,155	\$ -	\$ -	\$ 8,155	\$ 7,800	\$ 355		
1835	Capacitor Banks	618,096	\$ -	\$ 618,096	\$ 1,583,343	\$ -	\$ 1,583,343	\$ -	19.80	5.05%	25.00	4.00%	\$ 31,224	\$ 63,334	\$ -	\$ 94,557	\$ 64,200	\$ 30,357		
1840	Underground Conduit	12,527,558	\$ -	\$ 12,527,558	\$ 22,255,853	\$ -	\$ 22,255,853	\$ 3,524,600	51.70	1.93%	60.00	1.67%	\$ 242,295	\$ 370,931	\$ 29,372	\$ 642,598	\$ 619,700	\$ 22,898		
1845	Underground Conductors & Devices - PILC	414,000	\$ -	\$ 414,000	\$ 1,556,539	\$ -	\$ 1,556,539	\$ -	58.00	1.72%	60.00	1.67%	\$ 7,138	\$ 25,942	\$ -	\$ 33,080	\$ 33,000	\$ 80		
1845	Underground Cables	15,726,653	\$ -	\$ 15,726,653	\$ 17,938,648	\$ -	\$ 17,938,648	\$ 1,779,481	28.66	3.49%	40.00	2.50%	\$ 548,637	\$ 448,466	\$ 22,244	\$ 1,019,347	\$ 999,700	\$ 19,647		
1845	Underground Devices	1,747,406	\$ -	\$ 1,747,406	\$ 2,435,700	\$ -	\$ 2,435,700	\$ 197,720	28.66	3.49%	40.00	2.50%	\$ 60,960	\$ 60,893	\$ 2,472	\$ 124,324	\$ 115,900	\$ 8,424		
1850	Line Transformers - Overhead	15,713,833	\$ 345,325	\$ 15,368,508	\$ 7,439,319	\$ -	\$ 7,439,319	\$ 970,000	27.98	3.57%	40.00	2.50%	\$ 549,182	\$ 185,983	\$ 12,125	\$ 747,290	\$ 568,700	\$ 178,590		
1850	Line Transformers - Network	5,503	\$ -	\$ 5,503	\$ 1,469,806	\$ -	\$ 1,469,806	\$ 192,000	9.38	10.66%	40.00	2.50%	\$ 587	\$ 36,745	\$ 2,400	\$ 39,732	\$ 56,900	\$ 17,168		
1850	Line Transformers - Vault	-	\$ -	\$ -	\$ 6,041	\$ -	\$ 6,041	\$ -	-	0.00%	60.00	1.67%	\$ -	\$ 101	\$ -	\$ 101	\$ 100	\$ 1		
1850	Line Transformers - Roof	497,948	\$ 16,586	\$ 481,362	\$ -	\$ -	\$ -	\$ -	23.84	4.19%	30.00	3.33%	\$ 20,190	\$ -	\$ -	\$ 20,190	\$ 18,800	\$ 1,390		
1850	Line Transformers -Network Protectors	91,592	\$ -	\$ 91,592	\$ 680,182	\$ -	\$ 680,182	\$ -	39.50	2.53%	40.00	2.50%	\$ 2,319	\$ 17,005	\$ -	\$ 19,323	\$ 13,100	\$ 6,223		
1850	Line Transformers - Padmount	3,991,872	\$ -	\$ 3,991,872	\$ 6,523,075	\$ -	\$ 6,523,075	\$ 735,562	36.77	2.72%	40.00	2.50%	\$ 108,567	\$ 163,077	\$ 9,195	\$ 280,838	\$ 189,700	\$ 91,138		
1850	Line Transformers - Submersible	3,195,923	\$ -	\$ 3,195,923	\$ 5,528,853	\$ -	\$ 5,528,853	\$ 735,563	24.09	4.15%	30.00	3.33%	\$ 132,669	\$ 184,295	\$ 12,259	\$ 329,224	\$ 658,700	\$ 329,476		
1850	Line Transformers - Foundation	1,427,416	\$ -	\$ 1,427,416	\$ 2,649,789	\$ -	\$ 2,649,789	\$ 490,375	58.08	1.72%	60.00	1.67%	\$ 24,575	\$ 44,163	\$ 4,086	\$ 72,825	\$ 64,500	\$ 8,325		
1855	Services - Overhead	1,887,728	\$ -	\$ 1,887,728	\$ 3,313,088	\$ -	\$ 3,313,088	\$ 601,950	52.20	1.92%	60.00	1.67%	\$ 36,164	\$ 55,218	\$ 5,016	\$ 96,398	\$ 95,500	\$ 898		
1855	Services - Underground	22,543,287	\$ -	\$ 22,543,287	\$ 19,861,239	\$ -	\$ 19,861,239	\$ 2,423,199	31.40	3.18%	40.00	2.50%	\$ 717,938	\$ 496,531	\$ 30,290	\$ 1,244,759	\$ 1,174,000	\$ 70,759		
1860	Commercial Meters	1,327,802	\$ 158,636	\$ 1,169,166	\$ 2,783,969	\$ -	\$ 2,783,969	\$ 286,560	20.97	4.77%	25.00	4.00%	\$ 55,753	\$ 111,359	\$ 5,731	\$ 172,843	\$ 210,400	\$ 37,557		
1860	Smart Meters - Non-Qualifying	108,222	\$ -	\$ 108,222	\$ 240,153	\$ -	\$ 240,153	\$ -	12.00	8.33%	15.00	6.67%	\$ 9,018	\$ 16,010	\$ -	\$ 25,028		\$ 25,028		
1860	Meters - Renewable Connection	-	\$ -	\$ -	\$ 154,427	\$ -	\$ 154,427		-	0.00%	15.00	6.67%	\$ -	\$ 10,295	\$ -	\$ 10,295		\$ 10,295		
1860	Smart Meters	-	\$ -	\$ -	\$ -	\$ -	\$ -		-	0.00%	15.00	6.67%	\$ -	\$ -	\$ -	\$ -		\$ -		
1860	Smart Meters	-	\$ -	\$ -	\$ 14,153,401	\$ -	\$ 14,153,401	\$ 310,440	-	0.00%	15.00	6.67%	\$ -	\$ 943,560	\$ 10,348	\$ 953,908	\$ 930,300	\$ 23,608		
1905	Land	1,395,300	\$ -	\$ 1,395,300	\$ -	\$ -	\$ -	\$ -	-	0.00%	-	0.00%	\$ -	\$ -	\$ -	\$ -		\$ -		
1908	Buildings & Fixtures - Building	5,262,681	\$ -	\$ 5,262,681	\$ 6,881,613	\$ -	\$ 6,881,613	\$ -	28.71	3.48%	50.00	2.00%	\$ 183,326	\$ 137,632	\$ -	\$ 320,959	\$ 294,000	\$ 26,959		
1908	Buildings & Fixtures - Roof	1																		

**Appendix 2-C
Depreciation and Amortization Expense**

1995	Contributions & Grants	-	\$	-	\$	-	\$	-	\$	-	\$	-	0.00%		0.00%	\$	-	\$	-	\$	-	\$	-	\$	-						
1995	Contributed Capital - Poles, Towers & Fixtures	-	1,626,853	\$	-	-\$	1,626,853	-\$	1,146,161	\$	-	-\$	1,146,161	34.50	2.90%	40.00	2.50%	-\$	47,155	-\$	28,654	\$	-	-\$	75,809	-\$	74,800	\$	1,009		
1995	Contributed Capital - Overhead Conductors	-	1,246,129	\$	-	-\$	1,246,129	-\$	969,095	\$	-	-\$	969,095	54.55	1.83%	60.00	1.67%	-\$	22,844	-\$	16,152	\$	-	-\$	38,996	-\$	38,600	\$	396		
1995	Contributed Capital - Overhead Devices	-	138,459	\$	-	-\$	138,459	-\$	109,089	\$	-	-\$	109,089	34.39	2.91%	40.00	2.50%	-\$	4,026	-\$	2,727	\$	-	-\$	6,753	-\$	6,700	\$	53		
1995	Contributed Capital - Overhead Services	-	1,195,490	\$	-	-\$	1,195,490	-\$	119,872	\$	-	-\$	119,872	40.18	2.49%	60.00	1.67%	-\$	29,750	-\$	1,998	\$	-	-\$	31,748	-\$	24,400	\$	7,348		
1995	Contributed Capital - Underground Trenching & Ductwork	-	5,566,404	\$	-	-\$	5,566,404	-\$	2,609,506	\$	-	-\$	2,609,506	54.02	1.85%	60.00	1.67%	-\$	103,051	-\$	43,492	\$	-	-\$	146,543	-\$	144,800	\$	1,743		
1995	Contributed Capital - Underground Cables	-	2,292,136	\$	-	-\$	2,292,136	-\$	2,370,201	\$	-	-\$	2,370,201	30.81	3.25%	40.00	2.50%	-\$	74,387	-\$	59,255	\$	-	-\$	133,642	-\$	124,500	\$	9,142		
1995	Contributed Capital - Underground Devices	-	254,682	\$	-	-\$	254,682	-\$	167,703	\$	-	-\$	167,703	-	0.00%	40.00	2.50%	\$	-	-\$	4,193	\$	-	-\$	4,193	-\$	11,500	-\$	7,307		
1995	Contributed Capital - Overhead Transformer	-	2,734,282	\$	-	-\$	2,734,282	\$	169,874	\$	-	-\$	169,874	34.03	2.94%	40.00	2.50%	-\$	80,349	\$	4,247	\$	-	-\$	76,102	-\$	79,600	-\$	3,498		
1995	Contributed Capital - Underground Padmount Transformer	-	1,858,357	\$	-	-\$	1,858,357	-\$	7,920	\$	-	-\$	7,920	32.33	3.09%	40.00	2.50%	-\$	57,473	-\$	198	\$	-	-\$	57,671	-\$	62,800	-\$	5,129		
1995	Contributed Capital -Underground Submersible Transformer	-	1,955,810	\$	-	-\$	1,955,810	-\$	675,874	\$	-	-\$	675,874	25.19	3.97%	30.00	3.33%	-\$	77,649	-\$	22,529	\$	-	-\$	100,178	-\$	97,100	\$	3,078		
1995	Contributed Capital - Underground Services	-	13,453,846	\$	-	-\$	13,453,846	-\$	953,639	\$	-	-\$	953,639	33.74	2.96%	40.00	2.50%	-\$	398,729	-\$	23,841	\$	-	-\$	422,570	-\$	399,300	\$	23,270		
1995	Contributed Capital - Transformer Foundations	-	798,352	\$	-	-\$	798,352	-\$	558,073	\$	-	-\$	558,073	54.11	1.85%	60.00	1.67%	-\$	14,753	-\$	9,301	\$	-	-\$	24,054	-\$	23,800	\$	254		
1995	Contributed Capital - Meters	-	166,183	\$	-	-\$	166,183	-\$	132,547	\$	-	-\$	132,547	6.15	16.25%	15.00	6.67%	-\$	27,003	-\$	8,836	\$	-	-\$	35,839	-\$	13,300	\$	22,539		
	Contributed Capital - Meters SOLAR	-	-	\$	-	\$	-	-\$	152,011	\$	-	-\$	152,011	-	0.00%	15.00	6.67%	\$	-	-\$	10,134	\$	-	-\$	10,134	-\$	13,700	-\$	3,566		
1995	Contributed Capital - OEB Clearing	-	68,538	\$	-	-\$	68,538	\$	259,328	\$	-	-\$	259,328	10.00	-10.00%	15.00	6.67%	-\$	6,854	\$	17,289	\$	-	-\$	10,435	\$	25,500	\$	15,065		
2440	Deferred Revenue	-	-	\$	-	\$	-	-	-	\$	-	-	-	-	0.00%	-	0.00%	\$	-	\$	-	\$	-	\$	-	-	-	\$	-		
2440	Contributed Capital - Poles, Towers & Fixtures	-	-	\$	-	\$	-	-\$	3,592,006	-\$	419,536	-\$	3,172,470	-\$	169,500	-	0.00%	40.00	2.50%	\$	-	-\$	79,312	-\$	2,119	-\$	81,431	-\$	89,200	\$	7,770
2440	Contributed Capital - Overhead Conductors	-	-	\$	-	\$	-	-\$	2,581,793	\$	-	-\$	2,581,793	-\$	130,176	-	0.00%	60.00	1.67%	\$	-	-\$	43,030	-\$	1,085	-\$	44,115	-\$	43,700	\$	415
2440	Contributed Capital - Overhead Devices	-	-	\$	-	\$	-	-\$	285,907	\$	-	-\$	285,907	-\$	14,464	-	0.00%	40.00	2.50%	\$	-	-\$	7,148	-\$	181	-\$	7,328	-\$	7,300	\$	28
2440	Contributed Capital - Overhead Services	-	-	\$	-	\$	-	-\$	613,358	-\$	-	-\$	613,358	-\$	24,860	-	0.00%	60.00	1.67%	\$	-	-\$	10,223	-\$	207	-\$	10,430	-\$	9,500	\$	930
2440	Contributed Capital - Underground Trenching & Ductwork	-	-	\$	-	\$	-	-\$	9,862,351	\$	-	-\$	9,862,351	-\$	705,490	-	0.00%	60.00	1.67%	\$	-	-\$	164,373	-\$	5,879	-\$	170,252	-\$	165,200	\$	5,052
2440	Contributed Capital - Underground Cables	-	-	\$	-	\$	-	-\$	7,627,570	\$	-	-\$	7,627,570	-\$	486,714	-	0.00%	40.00	2.50%	\$	-	-\$	190,689	-\$	6,084	-\$	196,773	-\$	196,900	\$	127
2440	Contributed Capital - Underground Devices	-	-	\$	-	\$	-	-\$	845,819	\$	-	-\$	845,819	-\$	54,079	-	0.00%	40.00	2.50%	\$	-	-\$	21,145	-\$	676	-\$	21,821	-\$	22,000	\$	179
2440	Contributed Capital - Overhead Transformer	-	-	\$	-	\$	-	-\$	99,130	\$	-	-\$	99,130	\$	-	-	0.00%	40.00	2.50%	\$	-	-\$	2,478	\$	-	-\$	2,478	-\$	2,500	-\$	22
2440	Contributed Capital - Underground Padmount Transformer	-	-	\$	-	\$	-	-\$	761,155	\$	-	-\$	761,155	-\$	226,125	-	0.00%	40.00	2.50%	\$	-	-\$	19,029	-\$	2,827	-\$	21,855	-\$	23,200	-\$	1,345
2440	Contributed Capital -Underground Submersible Transformer	-	-	\$	-	\$	-	-\$	2,532,762	\$	-	-\$	2,532,762	-\$	226,125	-	0.00%	30.00	3.33%	\$	-	-\$	84,425	-\$	3,769	-\$	88,194	-\$	81,200	\$	6,994
2440	Contributed Capital - Underground Services	-	-	\$	-	\$	-	-\$	8,386,948	\$	-	-\$	8,386,948	-\$	1,489,462	-	0.00%	40.00	2.50%	\$	-	-\$	209,674	-\$	18,618	-\$	228,292	-\$	211,000	\$	17,292
2440	Contributed Capital - Transformer Foundations	-	-	\$	-	\$	-	-\$	1,183,981	\$	-	-\$	1,183,981	-\$	150,750	-	0.00%	60.00	1.67%	\$	-	-\$	19,733	-\$	1,256	-\$	20,989	-\$	21,800	-\$	811
2440	Contributed Capital - Meters	-	-	\$	-	\$	-	-\$	215,369	\$	-	-\$	215,369	\$	-	-	0.00%	15.00	6.67%	\$	-	-\$	14,358	\$	-	-\$	14,358	-\$	15,900	-\$	1,542
2440	Contributed Capital - Meters Solar	-	-	\$	-	\$	-	-\$	633,141	\$	-	-\$	633,141	\$	-	-	0.00%	15.00	6.67%	\$	-	-\$	42,209	\$	-	-\$	42,209	-\$	34,000	-\$	8,209
2440	Contributed Capital - OEB Clearing	-	-	\$	-	\$	-	-\$	243,277	\$	-	-\$	243,277	\$	-	-	0.00%	15.00	6.67%	\$	-	-\$	16,218	\$	-	-\$	16,218	-\$	16,300	-\$	82
2440	Meters - Renewable Connection - Direct Benefit	-	-	\$	-	\$	-	-\$	8,505	\$	-	-\$	8,505	\$	-	-	0.00%	15.00	6.67%	\$	-	-\$	567	\$	-	-\$	567	\$	-	\$	567
		-	-	\$	-	\$	-	-	-	\$	-	-	-	-	-	-	0.00%	-	0.00%	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
	Total		\$ 148,349,204	\$	4,998,005	\$	143,351,199	\$	136,843,689	\$	1,868,819	\$	134,974,870	\$	25,595,755				\$	4,780,835	\$	5,262,361	\$	973,028	\$	11,016,223	\$	10,475,700	-\$	540,523	

General: Applicants are to complete this appendix to show the reasonability of the depreciation expense that is included in rate base via. Accumulated depreciation and the revenue requirement. Applicants must provide a breakdown of depreciation and amortization expense in the above format for all relevant accounts. Balances presented in the table should exclude asset retirement obligations (AROs) and the related depreciation and accretion expense. These should be disclosed separately consistent with the Notes of historical Audited Financial Statements.

- Notes:**
- This is the net book value of assets that existed as at the date of the utility's change in depreciation policies (i.e. as at Jan. 1, 2012 or Jan. 1, 2013). These assets are to be depreciated at the average remaining service life. This amount will not change in years subsequent to the date of the utility's change in depreciation policies. This column is expected to be used until the assets
 - This is the opening gross book value of assets that have been acquired after the date of the utilities change in depreciation policies (i.e. additions starting in 2012/2013 for those who changed policies Jan. 1, 2012/2013). These assets are to be depreciated at the revised service life. The amount is expected to be equal to the gross book value of the prior year plus the prior year's
 - A recalculation should be performed to determine the average remaining life of opening balance of assets (i.e. excluding current year's additions) under the change in policies under CGAAP. For example, Asset A had a useful life of 20 years under CGAAP without the change in policies. On January 1 of the year of policy changes, Asset A was 3 years depreciated. As a result,
 - The useful life used should be consistent with the OEB's regulatory accounting policies as set out in the Accounting Procedures Handbook for Electricity Distributors, effective Jan. 1, 2012 and also with the Report of the Board, Transition to International Financial Reporting Standards, EB-2008-0408, and the Kinectrics Report.
 - Board policy of the "half-year" rule - the applicant must ensure that additions in the year attract a half-year depreciation expense in the first year. Deviations from this standard practice must be supported in the application.
 - The applicant must provide an explanation of material variances in evidence.
 - This should include assets in column a (excel column C) that become fully depreciated since the date of the policy change. The amount input in b (excel column D) should equal the net book value of the asset as at the date of depreciation policy change
 - This should include assets in column e (excel column f) that have become fully depreciated. The amount input in e (excel column G) should equal the gross book value of the asset

Appendix 2-BB
Service Life Comparison
Table F-1 from Kinetrics Report¹

Parent*	#	Asset Details			Useful Life			USoA Account Number	USoA Account Description	Current		Proposed		Outside Range of Min, Max TUL?	
		Category| Component | Type			MIN UL	TUL	MAX UL			Years	Rate	Years	Rate	Below Min TUL	Above Max TUL
OH	1	Fully Dressed Wood Poles	Overall	Wood	35	45	75	1830	Poles Towers and fixtures	40	3%	40	3%	No	No
			Cross Arm	Steel	20	40	55								
			Overall		50	60	80								
	2	Fully Dressed Concrete Poles	Cross Arm	Wood	20	40	55								
			Cross Arm	Steel	30	70	95								
			Overall		60	60	80								
	3	Fully Dressed Steel Poles	Cross Arm	Wood	20	40	55								
			Cross Arm	Steel	30	70	95								
	4	OH Line Switch			30	45	55	1835	Overhead Conductors and Devices	40	3%	40	3%	No	No
	5	OH Line Switch Motor			15	25	25								
	6	OH Line Switch RTU			15	20	20								
TS & MS	7	OH Integral Switches			35	45	60								
	8	OH Conductors			50	60	75	1835	Overhead Conductors and Devices	60	2%	60	2%	No	No
	9	OH Transformers & Voltage Regulators			30	40	60	1835	Overhead Conductors and Devices	30	3%	30	3%	No	No
	10	OH Shunt Capacitor Banks			25	30	40	1835	Overhead Conductors and Devices	25	4%	25	4%	No	No
	11	Reclosers			25	40	55	1835	Overhead Conductors and Devices	25	4%	25	4%	No	No
	12	Power Transformers	Overall		30	45	60	1815	TS Equipment						
			Bushing		10	20	30								
			Tap Changer		20	30	60								
	13	Station Service Transformer			30	45	55	1815	TS Equipment	40	3%	40	3%	No	No
	14	Station Grounding Transformer			30	40	40								
	15	Station DC System	Overall		10	20	30								
			Battery Bank		10	15	15								
			Charger		20	20	30								
	16	Station Metal Clad Switchgear	Overall		30	40	60	1815	TS Equipment	50	2%	50	2%	No	No
			Removable Breaker		25	40	60								
	17	Station Independent Breakers			35	45	65								
	18	Station Switch			30	50	60								
UG	19	Electromechanical Relays			25	35	50	1815	TS Equipment	25	4%	25	4%	No	No
	20	Solid State Relays			10	30	45	1815	TS Equipment	25	4%	25	4%	No	No
	21	Digital & Numeric Relays			15	20	20	1815	TS Equipment	15	7%	15	7%	No	No
	22	Rigid Busbars			30	55	60								
	23	Steel Structure			35	50	90	1815	TS Equipment	50	2%	50	2%	No	No
	24	Primary Paper Insulated Lead Covered (PILC) Cables			60	65	75	1845	UG Conductors and Devices	60	2%	60	2%	No	No
	25	Primary Ethylene-Propylene Rubber (EPR) Cables			20	25	25	1845	UG Conductors and Devices	40	3%	40	3%	No	Yes
	26	Primary Non-Tree Retardant (TR) Cross Linked Polyethylene (XLPE) Cables Direct Buried			20	25	30	1845	UG Conductors and Devices	40	3%	40	3%	No	Yes
	27	Primary Non-TR XLPE Cables in Duct			20	25	30	1845	UG Conductors and Devices	40	3%	40	3%	No	Yes
	30	Secondary PILC Cables			70	75	80								
	31	Secondary Cables Direct Buried			25	35	40	1845	UG Conductors and Devices	40	3%	40	3%	No	No
	32	Secondary Cables in Duct			35	40	60	1845	UG Conductors and Devices	40	3%	40	3%	No	No
	33	Network Transformers	Overall		20	35	50	1850	Line Transformers	40	3%	40	3%	No	No
			Protector		20	35	40	1850	Line Transformers	40	3%	40	3%	No	No
	34	Pad-Mounted Transformers			25	40	45	1850	Line Transformers	40	3%	40	3%	No	No
	35	Submersible/Vault Transformers			25	35	45			30	3%	30	3%	No	No
	36	UG Foundation			35	55	70	1850	Line Transformers	60	2%	60	2%	No	No
	37	UG Vaults	Overall		40	60	80	1850	Line Transformers	60	2%	60	2%	No	No
			Roof		20	30	45	1850	Line Transformers	30	3%	30	3%	No	No
	38	UG Vault Switches			20	35	50	1840	UG Conduit	40	3%	40	3%	No	No
S	39	Pad-Mounted Switchgear			20	30	45	1840	UG Conduit	40	3%	40	3%	No	No
	40	Ducts			30	50	85	1840	UG Conduit	60	2%	60	2%	No	No
	41	Concrete Encased Duct Banks			35	55	80								
	42	Cable Chambers			50	60	80								
	43	Remote SCADA			15	20	30								

Table F-2 from Kinetrics Report¹

	Asset Details			Useful Life Range		USoA Account Number	USoA Account Description	Current		Proposed		Outside Range of Min, Max TUL?	
#	Category| Component | Type							Years	Rate	Years	Rate	Below Min Range	Above Max Range
1	Office Equipment			5	15	1915	Office Furniture and Equipment	10	10%	10	10%	No	No
2	Vehicles	Trucks & Buckets		5	15	1930	Transportation Equipment	10	10%	10	10%	No	No
		Trailers		5	20	1930	Transportation Equipment	8	13%	8	13%	No	No
		Vans		5	10	1930	Transportation Equipment	8	13%	8	13%	No	No
3	Administrative Buildings			50	75	1908	Buildings and Fixtures	50	2%	50	2%	No	No
4	Leasehold Improvements			Lease dependent									
5	Station Buildings	Station Buildings		50	75	1808	Buildings and Fixtures	50	2%	50	2%	No	No
		Parking		25	30								
		Fence		25	60								
		Roof		20	30	1808	Buildings and Fixtures	20	5%	20	5%	No	No
6	Computer Equipment	Hardware		3	5	1920	Computer Hardware	4	25%	4	25%	No	No
		Software		2	5	1611	Computer Software	3	33%	3	33%	No	No
7	Equipment	Power Operated		5	10								
		Stores		5	10								
		Tools, Shop, Garage Equipment		5	10								
		Measurement & Testing Equipment		5	10								
8	Communication	Towers		60	70								
		Wireless		2	10								
9	Residential Energy Meters			25	35	1860	Meters	25	4%	25	4%	No	No
10	Industrial/Commercial Energy Meters			25	35	1860	Meters	25	4%	25	4%	No	No
11	Wholesale Energy Meters			15	30	1860	Meters	25	4%	25	4%	No	No
12	Current & Potential Transformer (CT & PT)			35	50								
13	Smart Meters			5	15	1860	Meters	15	7%	15	7%	No	No
14	Repeaters - Smart Metering			10	15								
15	Data Collectors - Smart Metering			15	20								

TS & MS = Transformer and Municipal Stations UG = Underground Systems S = Monitoring and Control System:

Note 1: Tables F-1 and F-2 above are to be used as a reference in order to complete columns J, K, L and N.
See pages 17-19 of Kinetrics Report



File Number: EB-2019-0049

Exhibit: 4

Filed: April 30, 2019

Appendix 4-2: KWHI Purchasing Policy

KITCHENER - WILMOT HYDRO INC.

POLICY and PROCEDURE

SUBJECT: Purchasing Policy		
Department: Purchasing	Revision: 4	No. PS-1
President and CEO: J. Van Ooteghem VP Finance and CFO: M. Nanninga Manager of Procurement: A. Keller	Issue Date: April 28, 1999 Revision Date: May 30, 2016	Page 1 of 12

The following describes the function of the Purchasing Department and the policies of Kitchener-Wilmot Hydro Inc. in purchasing all supplies, material, equipment and services (goods and services). The term "Corporation" shall mean in all cases, Kitchener-Wilmot Hydro Inc.

Purchasing Department

- A) Wherever we can influence the life cycle of goods and services, each department of the Corporation shall apply the reduce, reuse, recycle and recover methodology, to reduce our environmental impact.
- B) The Purchasing Department, under the direction of the Manager of Procurement shall have the following duties, powers and responsibilities:
- To have charge of and be responsible for a central purchasing function and all stores warehouses.
 - To have charge of and be responsible for the purchase of all goods by, for, or on behalf of the Corporation in accordance with the laws and regulations of the Province of Ontario and the standards of the Corporation. No goods shall be purchased by, for, or on behalf of the Corporation except through the Purchasing Department, unless otherwise provided herein.
 - Under the direction of the CFO and, except as otherwise herein provided, to have the primary responsibility to purchase, store and distribute all goods required by the Corporation.
 - To operate and maintain one or more stores warehouses and to develop and operate therein a uniform modern system of stores control based on perpetual inventory, maintaining on hand a sufficient stock of staple commodities to supply the budgeted and current needs of the Corporation.
 - To maintain good vendor relations and, where necessary, refer them to other departments when technical information is required. All inquiries regarding materials, prices, services, delivery, terms and conditions are to be conducted by or through the Purchasing Department.
 - To group, correlate and unify, so far as possible, requirements of the various

KITCHENER - WILMOT HYDRO INC.

SUBJECT: Purchasing Policy		President and CEO: J. Van Ooteghem V-P Finance and CFO: M. Nanninga Manager of Procurement: A. Keller	
Revision: 4	Issue Date: April 28, 1999 Revision Date: May 30, 2016	No. PS-1	Page 2 of 12

departments of the Corporation and by standardization to reduce the kinds of goods used by the Corporation to the smallest number, consistent with the needs of the various departments of the Corporation; this program shall be a joint enterprise amongst the various departments of the Corporation and the Purchasing Department, with the Purchasing Department having the responsibility of putting it into effect.

- To request and receive data from the various departments of the Corporation, estimates of requirements for future periods of time to enable the Purchasing Department to determine the quantities of goods which should be contracted in advance of actual current need.
- To confer with the various departments of the Corporation regarding the preparation of plans and specifications and to determine whether or not proposed plans and specifications are practicable from the viewpoint of producers.
- To be responsible for the issuing of Tender Calls. Tenders are to be returned to the Corporation plainly marked "Sealed Tender" and are to be addressed to the attention of the Manager of Procurement.
- Except where a non-competitive commodity is required, to make all purchases on a competitive basis, consistent with corporate standards, quality and service, all things being equal, preference being given first to goods of local manufacturers and second to goods offered by local suppliers.
- To visit suppliers when necessary to create goodwill and/or to expedite deliveries to the Corporation.

Purchasing General

- C) For non-inventory purchases, where the estimated value of goods or services required exceeds \$100,000 the purchase shall be made by a request for sealed tenders. Tenders are required for purchases of stock inventory items which exceed \$100,000; however, the tenders do not necessarily have to be sealed.
- D) Where the value of goods or services is provided for in current budgets and is in excess of \$1 million excluding purchases for inventory, the purchase shall be presented to the Board of Directors for approval.
- E) Where the value of goods or services required has not been provided for in current budgets and the value exceeds \$500,000, excluding purchases for inventory, the purchase shall be presented to the Board of Directors for approval.

KITCHENER - WILMOT HYDRO INC.

SUBJECT: Purchasing Policy		President and CEO: J. Van Ooteghem V-P Finance and CFO: M. Nanninga Manager of Procurement: A. Keller	
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- F) The Purchasing Department shall not order goods or services, which have not been authorized by this Corporation except goods or services required for current needs, the cost of which is provided for in current budgets.
- G) The Purchasing Department may, under one of the following conditions, purchase by negotiating with one or more sources or bidders. Under the following cases the requirements for inviting tenders and formal quotations may be waived.
- The goods or services are in short supply due to market conditions, in the judgment of the Manager of Procurement;
 - Two or more identical bids have been received;
 - All bids received failed to meet the specifications and/or tender terms and conditions and it is impractical to recall tenders or formal quotations;
 - Certain professional services which require specialized technical knowledge to ensure compliance with structural, civil, environmental, or other regulatory standards, or which are critical to the Corporation's information technology support systems.
- H) The Purchasing Department may, under one of the following conditions, purchase by sole source procurement:
- When goods and services can be obtained only from one (1) person or firm,
 - The expertise of an individual organization or individual is deemed to be specifically required by the Corporation,
 - When competition is precluded because of the existence of patent rights, copyrights, secret processes, control of raw material or other such conditions,
 - When it is the only product or service that has been approved by the Corporation for use,
 - When the procurement is for goods or services in connection with the assembly, installation or servicing of equipment of a highly technical or specialized nature,
 - When the procurement is for parts or components to be used as replacements in support of equipment specifically designed by the manufacturer,

KITCHENER - WILMOT HYDRO INC.

SUBJECT: Purchasing Policy		President and CEO: J. Van Ooteghem V-P Finance and CFO: M. Nanninga Manager of Procurement: A. Keller	
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- The contractor is already at work on the site (based on an existing Purchase Order) and it would not be practical to engage another contractor, or
- Specific Health and Safety items as approved by the Manager of Health, Wellness & Safety.

Budgeted/Unbudgeted Work

- I) Authorization of budgeted work by this Corporation constitutes authorization for any purchases necessary to carry out such work; however, individual purchases must still be approved by the proper signing authority.
- J) If purchases are of an unbudgeted nature or are being newly introduced to the Corporation, pre-approval by the department Vice President is necessary before the normal purchase requisition process is followed.

Quotations

- K) Goods and services over \$5,000 under \$20,000

- 2 written Quotations are required as per the chart below, **Except:**
 - Where rates are considered reasonable and consistent with normal market rates and they are checked on an annual basis
 - Where the purchase is being made under an approved 'Preferred Supplier Arrangement' by the Manager of Procurement
 - Where goods or services are needed immediately in an emergency situation
 - Only one manufacturer has been approved by the Engineering department

- L) Goods and services over \$20,000 under \$100,000

- Three (3) quotations are required as per the chart below, **Except:**
 - Where the purchase is being made under an approved 'Preferred Supplier Arrangement' by a Vice President
 - Where goods or services are needed immediately in an emergency situation
 - Where the goods or services are non-competitive or are of a specialized nature
 - Only one manufacturer has been approved by the Engineering department

- M) Goods and services over \$100,000

- Three (3) requests for tender response are required as per the chart below, **Except:**
 - Where purchase is being made under an approved 'Preferred Supplier Arrangement' by the CEO

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- Where goods or services are needed immediately in an emergency situation
- Where goods or services are non-competitive or are of a specialized nature
- Only one manufacturer has been approved by the Engineering department

Summary of Procurement Categories		
Dollar Value	Process	Documentation
<\$1,000	Rates are reviewed and considered reasonable	N/A
>\$1,000~<\$5,000	2 verbal quotations	N/A
>\$5,000~<\$20,000	2 written quotations	Quotations
>\$20,000~>\$100,000	3 quotations	Quotations
>\$100,000	3 or more Tenders	Tenders

Tenders

- N) Where tenders are required on contracts for construction work or other projects undertaken by the Corporation, the head of the department concerned will be responsible for the preparation of all necessary plans and specifications. Following the preparation of the tender specifications, the tender document shall be sent to the Purchasing department for attachment of the standard purchasing documents to the tender. The Purchasing department will be responsible for sending the tender to the invited parties.
- O) Tenders shall be opened in the presence of three witnesses, who will consist of the CEO, CFO, or their designates and the Manager of Procurement or his designate.
- P) Prior to the opening of tenders the Manager of Procurement shall advise the CEO and the CFO as to the description of the tenders and the time and place of the opening.
- Q) Requests for tenders shall state that tenders will be received not later than 2:00 p.m., local time on a specified day.
- R) The Purchasing Department shall not reveal pricing information pertaining to sealed tenders and quotations, to any of the bidders concerned, provided, however, that if any bidder deems it desirable to do so, he/she may apply to the CEO, who may order that such pricing information be revealed to him/her.
- S) The Board of Directors will pre-authorize tendering for any major capital project which is not considered part of the normal operations of the Corporation, i.e., Office Buildings, etc.
- T) The awarding of the tender will be in favour of a bidder meeting specifications, terms and conditions of the tender and whose tender offers the lowest ultimate cost to the Corporation

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for the goods, equipment or services with due consideration of the importance of delivery, quality, service and price.

Purchase Requisitions/Purchase Orders

U) The following provisions shall apply to purchases of goods and services through purchase requisitions:

- Purchase requisitions are required for all purchases of goods and services with the only exceptions listed in Section Appendix A and small purchases of less than \$100.
- Each department of the Corporation shall requisition its requirements to the Purchasing Department and from time to time supply the Purchasing Department with such data, specifications, details, information, etc. as may be required by the Purchasing Department for his/her guidance and information.
- Purchase requisitions must contain detailed specifications of the goods and/or services to be purchased including required date, general ledger accounts to be used and work order number (if applicable).
- Requisitions or purchase orders shall not be artificially structured to avoid any restrictions or limits.
- Purchase orders can only be generated by Purchasing Department staff following the proper approval of purchase requisitions.

Signing Authorities/Buying Limits

V) All regular purchases necessary to carry out budgeted work approved by the Corporation must be approved according to the signing authority levels as shown in the table below. Vice President may set lower levels where required.

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Position	Maximum Buying Approval Limit
Administrative Assistant	\$ 1,000
Supervisor	\$ 2,500
Manager/Superintendent	\$ 20,000
Director	\$ 50,000
Vice President	\$ 100,000
CEO	\$ 1,000,000

- W) For inventory items, the signing authority levels are as shown in the table below. Vice President or CEO may set lower levels where required.

Position	Maximum Buying Approval Limit
Stores Supervisor	\$ 20,000
Purchasing Manager	\$ 100,000
Vice President/CFO	\$ 250,000
CEO	\$ 1,000,000

Receipting and Payment Approval for Purchases

- X) Supplier invoices are to be used as the vehicle for receipting and arranging for payments for vendor purchases. The invoices must be processed as follows where a purchase requisition has gone through the full approval process & purchase order has been issued by the Purchasing department:

- The invoice must be compared with the purchase order by the Accounts Payable clerk processing the invoice.
- The invoice must be approved by the requisitioner to ensure the description, quantity, quality and price match between the items/services received, the purchase order and the invoice in the event that variances between the invoice & the purchase order exist or if there is not physical receipt, packing slip or other documentation of the completion of receipt of the good and/or service. The requisitioner must sign that this check has been performed and the items/services, as described have been received. The invoice is then sent to Accounts Payable for payment.

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- Any differences between the purchase order and the invoice must be addressed:
 - i. Minor differences can be ignored if considered acceptable. These differences cannot exceed 5% of the purchase order price, up to a maximum of \$2,000.
 - ii. Adjustments beyond this limit require either a revised invoice matching the purchase order or an approved revision to the purchase order by the proper signing authority.

Other Purchases

- Y) Certain goods, services and payments do not require a purchase requisition. Controls, other than approved Purchase Requisitions are in place for these items and must be followed. See Appendix A for details.

Credit Card Purchases

- Z) Corporate credit cards will only be used for appropriate business expenditure. The charging of personal expenditures to the corporate credit card is prohibited. Disciplinary action may be taken for inappropriate use of corporate credit cards. Refer to Appendix B for responsibilities and appropriate uses of corporate credit cards.

Purchasing Conflict of Interest

- AA) Employees are responsible and accountable for using good judgement in the exercise of the Corporation's duties and must:
- Disclose in writing any conflict of interest in a purchasing or procurement decision to their Supervisor
 - Avoid situations which may present a conflict of interest while dealing with persons or organizations doing business or seeking to do business with the Corporation
 - Acquisitions from a business in which an employee, family member or former employee has an interest, is prohibited unless full disclosure of the background facts are presented in writing to the CFO and approved by the CFO.

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Appendix A	
Description	Control Process to be Followed
Banking Services	Banking arrangements are made by the CFO and approved by the CEO or their designates. All banking fees are approved by the CFO or designate
Corporate/Social Responsibility	Payments for corporate and social responsibility must be approved by the CEO if <\$5,000. If >\$5,000, payments for corporate & social responsibility must be approved by the Board of Directors
Corporate Credit Card Expenses	Payment for credit card expenses are signed off by the employee making the purchase and approved by the Vice President
Customer Rebates/Construction Refunds	Rebates to customers must be approved by the appropriate signing authority as outlined in Paragraph V of the Purchasing Policy
Doctor Notes Expenses	Payment for Doctor's Notes and similar HR-type expenses are to be approved by the Manager of Human Resources
Employee Assistance Program Providers	employee information. Invoices for these services are to be signed by the Executive Assistant or the Manager of Human Resources
Employee Business Expenses	Payment for employee business are signed off by the employee making the purchase and approved by the Manager and Vice President
Financial Audit Expenses	External audit work and related fees are approved by the Audit Committee of the Board of Directors, The audit fee payment is approved by the CFO or designate
IESO/Cost of Power Payments	Invoices for IESO or other power providers are to be signed by the CFO or designate
Industry and Association Membership Dues & Fees	EDA fees are to be approved by the CEO or designate. ESA fees are to be signed by the departmental Vice President or designate. Other membership fees not otherwise listed are to be approved by the departmental Vice President or designate
Insurance Premiums	Insurance arrangements are made by the CFO and are approved by the CEO or their designates
Legal Services	Legal services related to human resource issues are to be approved by the employee incurring the expense as well as the CEO. Other legal services are to be signed in accordance with the signing approval levels outlined in Section E as well as initialed by the employee who used the services
Loan Payments/Interest on Loan Payments	Must be approved the CFO or designate
Medicals	Medical arrangements are approved by the Human Resources Manager or designate
Payroll Deduction/Union Dues Remittances	Payroll and other payroll related remittances are to be approved by the CFO or designate
Petty Cash	Payment of petty cash expenses are to be approved by the Departmental Manager of the department incurring the expense or their designate
Postage	Payment of postage charges are to be approved by the Manager of Accounting or their designates
Regulatory Costs	Regulatory costs are to be approved by the Manager of Regulatory Affairs or designate
Right of Way of Easements	Invoices are to be signed by the appropriate Supervisor or Manager
Tax Remittances	Must be approved the CFO or designate
Vehicle License Fees	Must be approved by the Vice President responsible for the vehicles or designate
Water, Electricity, Gas and Telephones	Payment for water , electricity, gas & landline telephones are approved by the Manager of Accounting or designate. Payment for cellular phones charges is approved by the CFO or designate.

Appendix B

KITCHENER - WILMOT HYDRO INC.

SUBJECT: Purchasing Policy		President and CEO: J. Van Ooteghem V-P Finance and CFO: M. Nanninga Manager of Procurement: A. Keller	
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Corporate Credit Card Procedures

Part A - Corporate Credit Card Appropriate Uses and Responsibilities

Corporate credit cards will only be used for appropriate business expenditures. The charging of personal expenditures to the corporate credit card is prohibited. Disciplinary action may be taken for inappropriate use of corporate credit cards.

1. Appropriate Use

Examples of appropriate uses of corporate credit cards include:

- a) business travel expenses (i.e. accommodation, meals, parking)
- b) job site requirements for items not held in warehouse
- c) emergencies (i.e. ice storms)
- d) conference registration fees

Examples of prohibited uses of corporate credit cards include (but are not limited to):

- a) personal expenses
- b) withdrawal of cash/cash advances
- c) non-work order related capital (i.e. furniture, equipment, computer hardware/software) unless previously approved

Areas of Uncertainty

The above list is provided as a guide only. In situations where there is doubt about the appropriate use of the corporate credit card, the employee shall seek the guidance of their supervisor.

2. Responsibilities

- a) Employees issued a corporate credit card are responsible for:
 - ensuring the cards are used only for appropriate business expenses (refer to section 1 above)
 - ensuring that only the employee whose name appears on the card uses the card (with the exception of department cards)

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- retaining receipts and providing explanations for all card transactions. The occurrence of continual missing receipts may result in cancellation of the corporate credit card
 - submitting a completed and approved expense form when card expenditure has been incurred
 - returning the corporate credit card to their supervisors upon termination
- b) The CFO is responsible for:
- determining which employees require a corporate credit card for business and the applicable credit limit for each corporate credit card
 - limiting the issue of corporate credit cards to those employees who require a card for utility business
 - cancelling the corporate credit cards from terminating employees
- c) The Authorizing Manager/Vice President is responsible for:
- reviewing and authorizing corporate credit card expense accounts of employees on a timely basis
 - identifying and requesting any credit or transaction level limits required for individual cards
 - collecting the corporate credit cards from terminating employees
- d) The Finance department is responsible for:
- ensuring that all corporate credit card transactions are properly authorized
 - processing payments for corporate credit card statements on a timely basis to ensure correct coding and appropriate payments are being made.

Part B - Corporate Credit Card Statement Payment Procedures

1. Employees must retain detailed original receipts in addition to the credit card receipt and note the purpose of the expenses on the back of each receipt.
2. The employee will submit the detailed original receipts along with a completed expense form to the appropriate authorizing supervisor for authorization.
3. Charges for items where the receipt has been misplaced must be explained to the authorizing supervisor who must initial the specific charge and indicate, "receipt missing" beside it. The occurrence of continual missing receipts may result in cancellation of the corporate credit card as well as possible disciplinary action..

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4. The authorizing supervisor will confirm that the charges are justified and appropriate before authorizing (signing) the expense form for payment.
5. The approved expense form and original receipts will be forwarded to the department Vice President for final approval.
6. Accounts Payable must receive the completed documents one week prior to the credit card statement due date.
7. Accounts Payable will verify that the appropriate approvals have been received and schedule payment of the credit card balance to avoid unnecessary late payment charges.



File Number: EB-2019-0049

Exhibit: 4

Filed: April 30, 2019

Appendix 4-3: KWHI Actuarial Evaluation

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Memo

To: Margaret Nanninga (Kitchener-Wilmot Hydro Inc.)

cc: Jamie Wong (Collins Barrow Toronto Actuarial Services Inc.)

From: Stanley Caravaggio (Collins Barrow Toronto Actuarial Services Inc.)

Date: March 24, 2017

Re: Kitchener-Wilmot Hydro Inc. – Estimated Liability for Accumulating Non-Vested Sick Leave Benefits under International Financial Reporting Standards (IFRS) as at December 31, 2016

This memo outlines the calculation of the estimated amount in future payments to be made as a result of Kitchener Wilmot Hydro Inc.'s ("the Corporation's") employees' unused sick leave bank hours as at December 31, 2016. Our analysis assists the Corporation with: a) developing utilization and accrual assumptions based on employees' sick leave bank usage experience, and b) developing a method to estimate the future payments that are expected to be made as a result of employees' sick leave banks. These estimates are prepared to allow the Corporation's management to assess its accumulating non-vested sick leave benefits liability under IAS 19 standards for financial statement reporting purposes.

RESULTS

The estimated value of future payments to be made as a result of the Corporation's employees' unused sick leave bank hours as at December 31, 2016 is as follows (including the estimated value calculated at December 31, 2014 for comparison purposes):

	December 31, 2014	December 31, 2016
Operations	\$ 512,000	\$ 331,000
Non-Operations	\$ 117,000	\$ 211,000
Total	\$ 629,000	\$ 542,000

The decrease in the estimated value of \$87,000 from December 31, 2014 to December 31, 2016 is a result of the following changes:

- Deviations between actual and expected changes with regards to demographics, membership data, sick leave experience and interest adjustment from the previous valuation (an increase of approximately \$18,000)
- A change in the discount rate assumption (an increase of approximately \$2,000)

- A change in the sick leave utilization and accrual assumptions (an increase of approximately \$1,000)
- A change to the mortality assumptions (a decrease of approximately \$6,000)
- A change in the withdrawal rate assumption (a decrease of approximately \$7,000)
- A change in the valuation methodology, including the accrual/utilization of future sick leave bank hours and move to a seriatim calculation format (a decrease of approximately \$95,000)

The calculations have been performed on a present value basis. A description of the data, methodology and assumptions used in our calculations is provided in the following sections.

DATA

Seriatim employee data as at October 31, 2016 was received from the Corporation via e-mail and included information such as current salary and current sick leave banks for active employees, along with sick leave utilization information since January 1, 2011. Although we have performed some consistency and reliability checks on the data, we are relying on the Corporation to confirm the accuracy, and completeness of the data provided. Summary statistics for the participant data as well as a reconciliation in participant data from the previous valuation are as follows:

Participant Data

		December 31, 2014	December 31, 2016
Total valued participants	Operations	96	100
	Non-Operations	76	83
Total annual pay	Operations	\$ 8,045,000	\$ 8,250,000
	Non-Operations	\$ 6,214,000	\$ 6,509,000
Average annual pay	Operations	\$ 84,000	\$ 82,000
	Non-Operations	\$ 82,000	\$ 78,000
Average age	Operations	47.1	45.6
	Non-Operations	47.8	45.4
Average service (years)	Operations	17.7	16.2
	Non-Operations	16.3	12.8

Participant Reconciliation

	Actives
As at December 31, 2014	172
New Entrants	26
Disabled	-
Terminated	(7)
Deceased	-
Retired	(8)
No Longer Eligible	-
As at December 31, 2016	183

METHODOLOGY

Our calculations have been done on a seriatim basis using the employee data provided by the Corporation. Our results use present value calculations and therefore incorporate the time value of money. The liability figure for each employee classification (Operations, Non-Operations) is equal to the sum of the liability figure for each employee in the group.

We have used a stochastic model to value the non-vested sick leave liability. With this approach, future utilization hours (and therefore sick leave bank levels) are simulated for each member from the valuation date until the assumed retirement age. The simulation is performed 10,000 times, and the results are averaged to obtain the 'mean' or expected liability. The different scenarios are generated based on the probability distribution for sick leave utilization described further in the section below on sick leave utilization assumptions.

Non-vested sick leave benefits account for usage of accrued sick leave bank hours by employees before retirement, death, or termination, as applicable.

For clarity, our estimates are based on a projection of the value of employees' future sick leave bank usage as a result of employees exceeding the annual accrued sick leave hours available to them during the year and having to utilize sick leave bank hours which have been accrued on or before the valuation date of December 31, 2016. As such, future accruals of sick leave hours are not included in our valuation as of December 31, 2016 (in other words, future projected sick leave hours are only valued insofar as they exceed the accrued hours for a year and require the use of bank hours accrued prior to the valuation date).

In the previous analysis at December 31, 2014, a grouped basis was used for the calculations and the assumptions for utilization of non-vested sick leave benefits were transformed into flat utilization assumptions for all employees. This differs from the current approach of applying a probabilistic assumption on a seriatim projection basis.

ASSUMPTIONS

The assumptions used in our calculations are listed below and are based on management's best estimates of future experience. Where applicable, the assumptions are consistent with those chosen by management for the actuarial valuation of post-retirement non-pension benefits as at December 31, 2016. The results of which are communicated under a separate report.

- Salary Rate Increase: 3.30% per annum
- Discount Rate: 3.90% per annum
- Mortality:
 - Canada Pensioners Mortality Table Public Sector (CPM2014 PUBL)
 - Canada Pensioners Mortality Improvement Scale (CPM-B 2014)
- Retirement Age: 59 (or immediately retirement for current actives over age 59)

- Withdrawal Rate

Age Bucket	Withdrawal Rates
18 – 29	3.50%
30 – 34	2.50%
35 – 39	2.15%
40 – 49	1.75%
50 – 54	1.40%

The following assumptions have been chosen for the purposes of projecting the future sick leave utilization for employees. These levels are based on the Corporation's experience date of the utilization of sick leave hours from 2011 to 2016 for all employees.

- Sick Leave Utilization

Operations Employees	Percentage of Employees	Average Utilization (hrs)
Employees Exceeding Annual Accrual Level	9%	247
Employees Not Exceeding Annual Accrual Level	91%	49

Non-Operations Employees	Percentage of Employees	Average Utilization (hrs)
Employees Exceeding Annual Accrual Level	6%	253
Employees Not Exceeding Annual Accrual Level	94%	26

To project future liabilities for sick leave benefits, a probability distribution is used for future utilization sick leave hours. This distribution assigns likelihoods to utilization levels, and is the basis for the projection. For example, for Operations employees, the assumption above indicates that 9% of the time, an employee will use 247 sick leave hours in a year, and 91% of the time, an employee will use 49 sick leave hours in a year. Similarly, for Non-Operations employees, the assumption above indicates that 6% of the time, an employee will use 253 sick leave hours in a year, and 94% of the time, an employee will use 26 sick leave hours in a year.

The utilization assumptions above are exclusive of the annual accrual of sick leave hours, which is determined separately. The annual accrual assumptions chosen are as follows.

- Sick Leave Accrual

	Employees Working 7 Hours a Day	Employees Working 8 Hours a Day
Annual Accrual of Sick Leave Hours	122	140

COLLINS BARROW TORONTO
ACTUARIAL SERVICES

KITCHENER-WILMOT HYDRO INC.

**Report on the Actuarial Valuation of
Post-Retirement Non-Pension
Benefits**

As at December 31, 2016

March 24, 2017 – Final

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EXECUTIVE SUMMARY

PURPOSE

Collins Barrow Toronto Actuarial Services Inc. was engaged by Kitchener-Wilmot Hydro Inc. ("the Corporation") to perform an actuarial valuation of the post-retirement non-pension benefits sponsored by the Corporation and to determine the accounting results for those benefits for the fiscal period ending December 31, 2016. The nature of these benefits is defined benefit.

This report is prepared in accordance with the International Financial Reporting Standards (the "IFRS") guidelines for post-retirement non-pension benefits as outlined in the International Accounting Standard 19 – Employee Benefits ("IAS 19") in effect January 1, 2016. The Corporation began reporting on the basis of IFRS for the fiscal year beginning January 1, 2015. Prior to this date, the valuation of the Corporation's post-retirement non-pension benefits was prepared in accordance with the Canadian Institute of Chartered Accountants ("CICA") guidelines outlined in Employee Future Benefits, Section 3461 of the CICA Accounting Handbook ("CICA 3461").

The most recent full valuation was prepared as at January 1, 2014 based on the then appropriate assumptions and in accordance with CICA 3461 as well as IAS 19. Note that for comparison purposes the January 1, 2014 figures referenced in this report reflect the previous valuation figures calculated under IAS 19 guideline.

The purpose of this valuation is threefold:

- i) To determine the Corporation's liabilities in respect of post-retirement non-pension benefits at December 31, 2016;
- ii) To determine the defined benefit costs to be recognized in the income statement and other comprehensive income for fiscal year 2016; and
- iii) To provide all other pertinent information necessary for compliance with IAS 19.

The intended users of this report include the Corporation and its auditors. This report is not intended for use by the plan beneficiaries or for use in determining any funding of the benefit obligations.

SUMMARY OF KEY RESULTS

The key results of this actuarial valuation as at December 31, 2016 with comparative results from the previous valuation as at January 1, 2014 are shown below, in thousands of dollars:

	January 1, 2014	December 31, 2016
Present Value of Defined Benefit Obligation (PV DBO)		
a) People in Receipt of Benefits	2,384	2,327
b) Fully Eligible Actives ¹¹	453	712
c) Not Fully Eligible Actives	1,469	2,041
Total PV DBO	4,306	5,080

	CY 2014	CY 2016
Current Service Cost	128	156
Interest Cost	189	189
Defined Benefit Cost Recognized in Income Statement	317	345

¹¹ Fully Eligible refers to those employees who would be eligible for post-retirement non-pension benefits if they retired at the valuation date.

ACTUARIAL CERTIFICATION

An actuarial valuation has been performed on the post-retirement non-pension benefit plan sponsored by Kitchener-Wilmot Hydro Inc. ("the Corporation") as at December 31, 2016, for the purposes described in this report.

In accordance with the Canadian Institute of Actuaries Consolidated Standards of Practice General Standards, we hereby certify that, in our opinion, for the purposes stated in the Executive Summary:

1. The data on which the valuation is based is sufficient and reliable;
2. The assumptions employed, as outlined in this report, have been selected by the Corporation as management's best estimate assumptions (no provision for adverse deviations) and we express no opinion on them;
3. All known legal and constructive obligations with respect to the post-retirement non-pension benefits sponsored by and identified by the Corporation are included in the calculations; and
4. This report has been prepared, and our opinions given, in accordance with accepted actuarial practice in Canada.

We are not aware of any subsequent events after December 31, 2016 that would have a significant effect on our valuation.


The latest date on which the next actuarial valuation should be performed is December 31, 2019. If any supplemental advice or explanation is required, please advise the undersigned.

Respectfully submitted,

COLLINS BARROW TORONTO ACTUARIAL SERVICES INC.



Stanley Caravaggio, FSA, FCIA
Senior Manager



Jamie Wong, ASA, ACIA
Consultant

Toronto, Ontario

March 24, 2017

SECTION A— VALUATION RESULTS

Table A - 1 shows the key valuation results for the prior valuation and the current valuation.

Table A - 2 shows the sensitivity of the valuation results to certain changes in assumptions. We have shown a change to the assumed retirement age from age 59 to 57, an increase/decrease in the health and dental claims cost trend rates by 1% per annum, and an increase/decrease in the discount rate by 1% per annum.

Table A - 3 presents the development of changes in the present value of defined benefit obligation as a result of the re-measurement at December 31, 2016.

VALUATION RESULTS

Table A.1—Valuation Results
(In thousands of dollars)

	January 1, 2014	December 31, 2016
Present Value of Defined Benefit Obligation (PV DBO)		
a) People in Receipt of Benefits	2,384	2,327
b) Fully Eligible Actives	453	712
c) Not Fully Eligible Actives	1,469	2,041
Total PV DBO	4,306	5,080

	CY 2014	CY 2016
Current Service Cost	128	156
Interest Cost	189	189
Defined Benefit Cost Recognized in Income Statement	317	345
Actuarial (Gains)/Losses	334	45
Defined Benefit Cost Recognized in Other Comprehensive Income	334	45
Total Defined Benefit Cost	651	390
Expected Benefit Payments ¹¹	194	209

¹¹ The benefit payments for CY 2016 are based on the actual payments made for those eligible for benefits in 2016. These amounts were provided by the Corporation.

SENSITIVITY ANALYSIS

Table A.2—Sensitivity Analysis
(in thousands of dollars)

	PV DBO at December 31, 2016				CY 2017	
	People in Receipt of Benefits	Fully Eligible Actives	Not Fully Eligible Actives	Total PV DBO	Current Service Cost	Interest Cost
Valuation Results	2,327	712	2,041	5,080	166	194
Retirement Age 57	2,327	795	2,445	5,567	173	196
Cost Trends +1%	2,337	730	2,213	5,280	186	202
Cost Trends -1%	2,317	696	1,888	4,901	149	187
Discount Rate 2.9%	2,618	792	2,447	5,857	203	167
Discount Rate 4.9%	2,087	649	1,730	4,466	139	214

DEVELOPMENT OF CHANGES IN THE DEFINED BENEFIT OBLIGATION

**Table A.3—Development of Changes in the Present Value of Defined Benefit Obligation
(in thousands of dollars)**

PV DBO at December 31, 2015	4,899
2016 Current Service Cost	156
2016 Benefit Payments	(209)
2016 Interest Cost	189
Expected PV DBO at December 31, 2016	5,035
Actuarial (Gain)/Loss at December 31, 2016	45
PV DBO at December 31, 2016	5,080

The increase indicated above of \$45,000 in the PV DBO from the expected PV DBO at December 31, 2016 is due to the re-measurement of the liability; a breakdown of the items impacting this change is as follows:

- A change in the health and dental benefit cost level assumptions (an increase of approximately \$172,000)
- A change in the discount rate assumption (an increase of approximately \$33,000)
- A change in the health and dental trend rate assumptions (an increase of approximately \$10,000)
- A change in the mortality improvement table assumption (an increase of approximately \$8,000)
- A change in the withdrawal assumption (a decrease of approximately \$3,000)
- Deviations from the expected demographic changes due to factors such as the difference between expected and actual group experience, changes in coverage type, changes in employee status, and new hires (a total decrease of approximately \$175,000)

Pursuant to IAS 19, the re-measurement of the PV DBO at December 31, 2016 based on the changes in the assumptions and experience is recognized immediately as an adjustment to other comprehensive income at December 31, 2016.

SECTION B— PLAN PARTICIPANTS

Table B – 1 sets out the summary information with respect to the plan participants valued in the report, along with comparisons to the participants in the previous valuation. The previous valuation was based on membership data as of January 1, 2014.

Table B – 2 reconciles the number of participants in the last valuation to the number of participants in the current valuation.

PARTICIPANT DATA

Table B.1—Participant Data

Membership data as at October 31, 2016 was received from the Corporation via e-mail and included information such as name, sex, age, date of hire, current salary, benefit amounts and other applicable details for all active employees and people in receipt of benefits.

Although the data provided reflected status and benefit information as at October 31, any changes in status and other member data occurring from October 31 to December 31 are not expected to be material to the valuation results.

We have reviewed the data and compared it to the data used in the prior valuation for consistency and reliability for use in this valuation. The main tests of sufficiency and reliability that were conducted on the membership data are as follows:

- Date of hire prior to date of birth;
- Ages under 18 or over 100;
- Abnormal levels of benefits and/or premiums; and
- Duplicate records

In addition, the following tests were performed:

- A reconciliation of statuses from the prior valuation to the current valuation;
- A review of the consistency of individual data items and statistical summaries between the current and prior valuations; and
- A review of the reasonableness of changes in such information since the prior valuation.

Active Employees

	January 1, 2014			October 31, 2016		
	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
Number of Employees	124	42	166	132	51	183
Avg. Length of Service	15.0	13.2	14.5	15.5	12.7	14.7

Count as of October 31, 2016

Age Band	Active Lives - Not Fully Eligible			Active Lives - Fully Eligible		
	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
Less than 30	15	6	21	-	-	-
30 - 35	13	6	19	-	-	-
36 - 40	11	9	20	-	-	-
41 - 45	20	2	22	-	-	-
46 - 50	24	9	33	-	-	-
51 - 55	26	12	38	2	1	3
56 - 60	2	3	5	14	2	16
61 - 65	2	-	2	3	-	3
66 - 70	-	1	1	-	-	-
71 - 75	-	-	-	-	-	-
Greater than 75	-	-	-	-	-	-
Total	113	48	161	19	3	22

Average Service as of October 31, 2016

Age Band	Active Lives - Not Fully Eligible			Active Lives - Fully Eligible		
	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
Less than 30	3.6	1.8	3.0	-	-	-
30 - 35	3.2	5.8	4.0	-	-	-
36 - 40	7.9	10.2	9.0	-	-	-
41 - 45	11.8	4.3	11.1	-	-	-
46 - 50	17.6	18.7	17.9	-	-	-
51 - 55	23.1	17.2	21.2	25.3	30.0	26.9
56 - 60	15.2	11.1	12.7	29.6	26.1	29.2
61 - 65	11.0	-	11.0	31.3	-	31.3
66 - 70	-	12.4	12.4	-	-	-
71 - 75	-	-	-	-	-	-
Greater than 75	-	-	-	-	-	-
Total	13.2	11.8	12.8	29.4	27.4	29.1

People in Receipt of Benefits (including individuals on LTD)

Number of Members	January 1, 2014			October 31, 2016		
	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
	85	18	103	80	18	98

Expected Annual Benefit Payments for CY 2017			
Age Band	<u>Male</u>	<u>Female</u>	<u>Total</u>
Less than 30	-	-	-
30 - 35	-	-	-
36 - 40	-	-	-
41 - 45	-	-	-
46 - 50	-	-	-
51 - 55	-	-	-
56 - 60	39,082	9,582	48,664
61 - 65	48,621	3,692	52,313
66 - 70	4,808	1,397	6,205
71 - 75	11,910	1,054	12,965
Greater than 75	49,906	2,878	52,784
Total	154,328	18,603	172,931

PARTICIPATION RECONCILIATION

Table B.2—Participation Reconciliation

Participant Reconciliation			
	<u>Actives</u>	<u>Disabled</u>	<u>Retired</u>
As at Jan. 1, 2014	166	1	102
New Entrants	31	-	-
Active	-	-	8
LTD	-	-	-
Terminated	(6)	-	-
Deceased	-	-	(13)
Retired	(8)	-	-
As at Oct. 31, 2016	183	1	97

SECTION C— SUMMARY OF ACTUARIAL METHOD AND ASSUMPTIONS

ACTUARIAL METHOD

The aim of an actuarial valuation of post-retirement non-pension benefits is to provide a reasonable and systematic allocation of the cost of these future benefits to the years in which the related employees' services are rendered. To accomplish this, it is necessary to:

- make assumptions for discount rates, mortality, and other decrements;
- use these assumptions to calculate the present value of the expected future benefits; and,
- adopt an actuarial cost method to allocate the present value of expected future benefits to the specific years of employment.

The Present Value of the Defined Benefit Obligation and Current Service Cost were determined using the projected benefit method, pro-rated on service. This is the method stipulated by IAS 19 when future salary levels or cost escalation affect the amount of the employee's future benefits. Under this method, the projected post-retirement benefits are deemed to be earned on a pro-rata basis over the years of service in the attribution period. IAS 19 stipulates that the attribution period commences on the date when service by the employee first leads to post-retirement non-pension benefits under the plan and ends on the date when further service by the employee will lead to no material amount of further post-retirement non-pension benefits under the plan, other than from further salary increases.

For each employee not yet fully eligible for benefits, the Present Value of the Defined Benefit Obligation is equal to the present value of expected future benefits multiplied by the ratio of the years of service to the valuation date to the total years of service in the attribution period. The Current Service Cost is equal to the present value of expected future benefits multiplied by the ratio of the year (or part) of service in the fiscal year to total years of service in the attribution period.

For health and dental benefits, the Corporation has selected the funding levels charged for retiree benefits as management's best estimate of the benefits costs to be incurred. The total monthly premium rates, inclusive of premium taxes, used are as follows:

Group	Health		Dental	
	Single	Family	Single	Family
All Retirees	\$82.91	\$221.10	\$77.66	\$167.86

The above premium rates are effective January 1, 2017 to December 31, 2017, provided by the Corporation, and represent the rates at 100%, prior to any cost-sharing provisions.

The PV DBO at December 31, 2016 is based on membership data as at October 31, 2016 and management's best estimate assumptions as at December 31, 2016.

MANAGEMENT'S BEST ESTIMATE ASSUMPTIONS

The following are management's best estimate economic and demographic assumptions as at December 31, 2016.

ECONOMIC ASSUMPTIONS

Consumer Price Index

The consumer price index is assumed to be 2.00% per annum, which remains unchanged from the previous valuation.

Discount Rate

The rate used to discount future benefits is assumed to be 3.90% per annum as at December 31, 2016. This rate reflects the Corporation's cost of borrowing and the long term yield on high quality bonds at the date of the valuation.

The assumption used in the previous valuation was 4.5% per annum as at January 1, 2014, which was subsequently updated to 3.95% per annum as at December 31, 2014.

Salary Increase Rate

As per the previous valuation, the rate used to increase salaries remains the same, 3.30% per annum. This rate reflects the expected Consumer Price Index adjusted for productivity, merit and promotion adjusted for company specific information.

Claims Cost Trend Rate

The rates used to project health and dental benefit costs into the future are assumed to be as follows:

End of Year	Current Valuation		Previous Valuation	
	Health	Dental	Health	Dental
2017	6.20%	4.50%	6.10%	4.60%
2018	5.99%	4.50%	5.80%	4.60%
2019	5.78%	4.50%	5.50%	4.60%
2020	5.56%	4.50%	5.20%	4.60%
2021	5.35%	4.50%	4.90%	4.60%
2022	5.14%	4.50%	4.60%	4.60%
2023	4.93%	4.50%	4.60%	4.60%
2024	4.71%	4.50%	4.60%	4.60%
2025 and Thereafter	4.50%	4.50%	4.60%	4.60%

DEMOGRAPHIC ASSUMPTIONS

Mortality Table

The mortality tables used are as per the Canadian Institute of Actuaries Canadian Pensioners' Mortality Pension Experience Subcommittee final report dated February 11, 2014 (CIA Report). More specifically, the Canada Pensioners Mortality ("CPM") Table Public Sector (CPM2014 PUBL) has been used with the generational projection of mortality improvement based upon CPM Improvement Scale B-2014.

Mortality rates are applied on a sex-distinct basis.

The assumption chosen for the previous valuation was the same mortality table (CPM2014 PUBL) with the one-dimensional version of the same mortality improvement scale (CPM-B1 2014).

Rates of Withdrawal

Termination of employment is assumed to be in accordance with the following withdrawal table:

Age Bucket	Current Analysis	Previous Valuation
18 – 29	3.50%	2.75%
30 – 34	2.50%	2.25%
35 – 39	2.15%	2.00%
40 – 49	1.75%	1.50%
50 – 54	1.40%	1.50%

Retirement Age

All active employees are assumed to retire at age 59 (or immediately if currently over age 59), which was based on the Corporation's retirement experience as well as the experience of other similar companies for which data was available. The assumed retirement age of 60 was increased, if necessary, to the minimum of the age at which 20 years of service was reached, and age 65.

This assumption remains unchanged from the previous valuation.

Disability

In the previous valuation, there was no provision made for future disability and it was assumed that individuals currently receiving long term disability benefits would remain on LTD until retirement at age 65. This assumption remains unchanged from the previous valuation.

Family/Single Coverage

It is assumed that the coverage type as at December 31, 2016, as provided by the Corporation, will remain the same until the employee reaches the assumed retirement age. For family coverage, it is assumed that the retiree has a spouse of opposite gender and no other dependents. Male spouses are assumed to be three years older than female spouses.

These assumptions remain unchanged from the previous valuation.

Expenses and Taxes

We have assumed 10% of benefits is required for the cost of sponsoring the program for post-retirement life insurance benefits.

The taxes and expenses are included in the premium rates assumed for health and dental benefits.

SECTION D— SUMMARY OF POST-RETIREMENT BENEFITS

The following is a summary of the plan provisions that are pertinent to this valuation, based on information provided by and discussions with the Corporation.

GOVERNING DOCUMENTS

The program is governed by the following documents and agreements:

- Collective Agreement between Kitchener-Wilmot Hydro Inc. and Local Union 1000 Power Workers' Union effective April 1, 2015 to March 31, 2018.
- Collective Agreement between Kitchener-Wilmot Hydro Inc. and Local Union 636 of the International Brotherhood of Electrical Workers (Office Unit) effective April 1, 2015 to March 31, 2018.
- The MEARIE Group Employee Benefit Program Booklet for Kitchener-Wilmot Hydro Inc.

What follows is only a summary of the post retirement non-pension benefits program. For a complete description, please refer to the above-noted documents.

ELIGIBILITY

Upon retirement, all employees of the Corporation are eligible for post-retirement life insurance.

Upon retirement, all employees with a minimum of 20 years of service are eligible for post-retirement extended health and dental benefits.

PARTICIPANT CONTRIBUTIONS

The Corporation shall pay 100% of the cost of post-retirement life, health, and dental benefits for all eligible retirees.

PAST SERVICE

Past service is defined as continuous service prior to joining the plan if the participant was employed by a similar company prior to joining the Corporation.

LENGTH OF SERVICE

Length of service is defined as continuous service from the date of hire to the valuation date, measured in years and months.

SUMMARY OF BENEFITS

Life Insurance

Eligible employees are entitled to the following post-retirement life insurance benefits for lifetime, as per the MEARIE plan based upon the following table.

Plan Option	Amount of Coverage	Eligibility
1	Flat \$2,000.	If employee retires with less than 10 years of service in the Plan.
2	50% of final annual earnings reducing by 2.5% of final annual earnings each year thereafter for 10 years, to a final benefit equal to 25.0% of final annual earnings. Reduction occurs on anniversary date of retirement.	If employee was ever insured under Employee Plan options 2, 3 or 4, or if employee retires with 10 or more years of service in Plan but was never in superseded plan.
3	50% of final annual earnings	If employee was insured under superseded plan and was hired on or after May 1, 1967 and elected coverage under Option 1 only.
4	70% of the final amount insured for under the life plan immediately prior to retirement.	If employee was insured under the superseded plan and was hired before May 1, 1967 and elected coverage under Option 1 only.

Health and Dental Benefits

Eligible employees are entitled to post-retirement health and dental benefits to age 65.

A detailed description of the health and dental benefits covered under the post-retirement non-pension benefits can be found in the above-noted documents.

SECTION E— EMPLOYER CERTIFICATION

Post-Retirement Non-Pension Benefit Plan of Kitchener-Wilmot Hydro Inc. Actuarial Valuation as at December 31, 2016

I hereby confirm, as an authorized signing officer of the administrator of the Post-Retirement Non-Pension Benefit Plan of Kitchener-Wilmot Hydro Inc. that, to the best of my knowledge and belief, for the purposes of the valuation:

- i) The membership data summarized in Section B is accurate and complete;
- ii) The assumptions upon which this report is based as summarized in Section C, are management's best estimate assumptions and are adequate and appropriate for the purposes of this valuation; and
- iii) The summary of Plan Provisions in Section D is an accurate and complete summary of the terms of the Plan in effect on December 31, 2016.

KITCHENER-WILMOT HYDRO INC.

March 16, 2017
Date

M. Nanninga
Signature

MARGARET NANNINGA
Name

VICE-PRESIDENT FINANCE & CFO
Title

Kitchener-Wilmot Hydro
Estimated Benefit Expense (IAS 19)
Total
FINAL

	Actuals CY 2016 *	Projected ** CY 2017	Projected ** CY 2018
Discount Rate at January 1	3.95%	3.90%	3.90%
Discount Rate at December 31	3.90%	3.90%	3.90%
Health Benefit Cost Trend Rate at December 31			
Initial Trend Rate	6.20%	5.99%	5.78%
Ultimate Rate	4.50%	4.50%	4.50%
Year Ultimate Rate Reached	2025	2025	2025
Dental Benefit Cost Trend Rate at December 31	4.50%	4.50%	4.50%
Assumed Increase in Employer Contributions	actual	expected ***	expected ***

A. Change in the Net Defined Benefit Liability/(Asset) Recognized in Balance Sheet

Net Defined Benefit Liability/(Asset) as at January 1	4,899,131	5,080,093	5,224,624
Defined Benefit Cost Recognized in Income Statement	345,214	360,054	360,898
Defined Benefit Cost Recognized in Other Comprehensive Income	45,074	-	-
Benefits Paid by the Employer	(209,325)	(215,522)	(231,026)
Net Defined Benefit Liability/(Asset) as at December 31	5,080,093	5,224,624	5,354,496

B. Determination of Defined Benefit Cost

B1. Determination of Defined Benefit Cost Recognized in Income Statement

Current Service Cost	155,832	166,133	161,643
Interest Cost	189,381	193,921	199,255
Defined Benefit Cost Recognized in Income Statement	345,214	360,054	360,898

B2. Remeasurements of the Net Defined Benefit Liability/(Asset) Recognized in Other Comprehensive Income

Net Actuarial Loss/(Gain) arising from Changes in Financial Assumptions	215,264	-	-
Net Actuarial Loss/(Gain) arising from Changes in Demographic Assumptions	5,015	-	-
Net Actuarial Loss/(Gain) arising from Experience Adjustments	(175,206)	-	-
Return on Plan Assets (Excluding Amounts Included in Net Interest Cost)	-	-	-
Change in Effect of Asset Ceiling	-	-	-
Defined Benefit Cost Recognized in Other Comprehensive Income	45,074	-	-
Total Defined Benefit Cost	390,287	360,054	360,898

C. Change in the Present Value of Defined Benefit Obligation

Present Value of Defined Benefit Obligation as at January 1	4,899,131	5,080,093	5,224,624
Current Service Cost	155,832	166,133	161,643
Interest Cost	189,381	193,921	199,255
Benefits Paid	(209,325)	(215,522)	(231,026)
Net Actuarial Loss/(Gain)	45,074	-	-
Present Value of Defined Benefit Obligation as at December 31	5,080,093	5,224,624	5,354,496

* The CY 2016 defined benefit cost and expected December 31, 2016 PV DBO are calculated based on membership data at January 1, 2014 and management's best estimate assumptions at December 31, 2014.

** Projected CY 2017 and CY 2018 results are provided for informational purposes only. Significant changes such as re-negotiated benefits, increased benefit costs, or significant swings in demographics may require revised projections or a full actuarial review.

*** Based on expected benefits to be paid to those eligible for benefits.

Kitchener-Wilmot Hydro
Estimated Benefit Expense (IAS 19)
Total
FINAL

	Actuals CY 2016 *	Projected ** CY 2017	Projected ** CY 2018
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Year Ultimate Rate Reached	2025	2025	2025
Dental Benefit Cost Trend Rate at December 31	4.50%	4.50%	4.50%
Assumed Increase in Employer Contributions	actual	expected ***	expected ***

D. Calculation of Component Items

Interest Cost

Present Value of Defined Benefit Obligation as at January 1	4,899,131	5,080,093	5,224,624
Benefits Paid	(104,663)	(107,761)	(115,513)
Accrued Benefits	4,794,468	4,972,332	5,109,111
Interest Cost	189,381	193,921	199,255

Expected Present Value of Defined Benefit Obligation as at December 31

Present Value of Defined Benefit Obligation as at January 1	4,899,131	5,080,093	5,224,624
Current Service Cost	155,832	166,133	161,643
Benefits Paid	(209,325)	(215,522)	(231,026)
Interest Cost	189,381	193,921	199,255
Expected Present Value of Defined Benefit Obligation as at December 31	5,035,019	5,224,624	5,354,496

E. Net Actuarial Loss/(Gain)

Net Actuarial Loss/(Gain) as at December 31

Expected Present Value of Defined Benefit Obligation	5,035,019	5,224,624	5,354,496
Actual Present Value of Defined Benefit Obligation	5,080,093	5,224,624	5,354,496
Net Actuarial Loss/(Gain) as at December 31	45,074	-	-

* The CY 2016 defined benefit cost and expected December 31, 2016 PV DBO are calculated based on membership data at January 1, 2014 and management's best estimate assumptions at December 31, 2014.

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A. Change in the Net Defined Benefit Liability/(Asset) Recognized in Balance Sheet

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Return on Plan Assets (Excluding Amounts Included in Net Interest Cost)	-	-	-
Change in Effect of Asset Ceiling	-	-	-
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C. Change in the Present Value of Defined Benefit Obligation

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Present Value of Defined Benefit Obligation as at December 31	5,080,093	5,224,624	5,354,496

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Kitchener-Wilmot Hydro
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FINAL

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Accrued Benefits	4,794,468	4,972,332	5,109,111
Interest Cost	189,381	193,921	199,255

Expected Present Value of Defined Benefit Obligation as at December 31

Present Value of Defined Benefit Obligation as at January 1	4,899,131	5,080,093	5,224,624
Current Service Cost	155,832	166,133	161,643
Benefits Paid	(209,325)	(215,522)	(231,026)
Interest Cost	189,381	193,921	199,255
Expected Present Value of Defined Benefit Obligation as at December 31	5,035,019	5,224,624	5,354,496

E. Net Actuarial Loss/(Gain)

Net Actuarial Loss/(Gain) as at December 31

Expected Present Value of Defined Benefit Obligation	5,035,019	5,224,624	5,354,496
Actual Present Value of Defined Benefit Obligation	5,080,093	5,224,624	5,354,496
Net Actuarial Loss/(Gain) as at December 31	45,074	-	-

* The CY 2016 defined benefit cost and expected December 31, 2016 PV DBO are calculated based on membership data at January 1, 2014 and management's best estimate assumptions at December 31, 2014.

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*** Based on expected benefits to be paid to those eligible for benefits.

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File Number: EB-2019-0049

Exhibit: 4

Filed: April 30, 2019

Appendix 4-4: IESO Final Verified Results 2015 and 2016

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Final 2015 Annual Verified Results Report

Letter from the Vice-President, Conservation & Corporate Relations

June 30, 2016

The IESO is pleased to provide the Final 2015 Annual Verified Results Report including final 2015 Project Lists and EM&V Key Findings & FAQs. Collectively LDCs achieved 1.1 TWh of energy savings persisting to 2020 – representing 16% of the 7 TWh target. These results were achieved through both Legacy Framework and Conservation First Framework (CFF) programs. The results indicate a smooth transition between frameworks and demonstrate the continued collaboration between LDCs and the IESO in promoting a culture of conservation across the province.

The IESO remains committed to supporting LDCs in the delivery of conservation programs and 2015 marked some significant milestones, including the completion and approval of over 40 CDM plans and the implementation of 14 pilot programs and 5 local programs. Other highlights include:

- Business sector accounted for 79% of the net energy savings persisting to 2020 with the remainder 21% through the Residential sector.
- The Coupons program shifted toward ENERGY STAR® rated LED lighting, accounting for roughly 90% of coupons redeemed.
- The Retrofit program participation increased nearly 20%, and net energy savings increased by over 50% over 2014 results. Net-to-gross adjustments are trending higher than previous years, minimum of a 75% net-to-gross in all regions.
- The Process & Systems Upgrades program achieved a 20% increase in Capital Incentive projects totalling 12 in all, including 4 Behind-the-Meter Generation, and a broad spectrum of industrial processes and end-uses.

2015 also marks the first year that regional and local net-to-gross values have been employed where possible in certain programs, providing LDCs with a more granular analysis on their individual results.

CFF provides many opportunities to support LDCs in achieving their energy targets and delivering value to customers. Through increased flexibility for LDCs to design and deliver programs based on local needs and fostering collaboration and innovation through enhanced program funding opportunities we are well positioned to achieve success in delivering effective conservation programs to all customers.

We appreciate your collaboration and cooperation throughout the reporting and evaluation process and as we look ahead to the remainder of 2016, the IESO will be focusing on improving its communication and support services to further enhance the participation in conservation programs for both LDCs and customers.

Please continue to monitor Save on Energy E-blasts for future updates and should you have any other questions or comments please contact LDC.Support@ieso.ca.

I look forward to continuing to work together in achieving success in the Conservation First Framework.

Sincerely,

Terry Young
Vice-President, Conservation & Corporate Relations
Independent Electricity System Operator

Final 2015 Annual Verified Results Report

Table of Contents

#	Worksheet Name	Worksheet Description
1	How to Use This Report	Describes the contents and structure of this report
2	Report Summary	<p>A high level summary of the Final 2015 Annual Verified Results Report, including:</p> <ol style="list-style-type: none"> 1) progress toward the LDC's <ol style="list-style-type: none"> a) Allocated 2020 Energy Savings Target; b) Allocated 2015-2020 LDC CDM Plan Budget; c) CDM Plan 2015-2020 Forecasts; 3) annual savings and spending; 4) Annual FCR Progress; 5) annual LDC CDM Plan spending progress; 6) graphs describing: <ol style="list-style-type: none"> a) contribution to 2020 Target Achievement by program; b) 2015 LDC CDM Plan Budget Spending by Sector; c) annual energy savings persistence to 2020 by year; d) your Allocated Target achievement progress relative to your peers; and e) your LDC CDM Plan Budget Spending progress relative to your peers;
3	LDC Progress	<p>A comprehensive report of 2015 conservation results including:</p> <ol style="list-style-type: none"> 1) activity; 2) savings including: <ol style="list-style-type: none"> a) energy and demand; b) net and gross; c) CDM Plan forecasts, verified actuals and relative progress; d) Allocated Target and Target achievement; and 3) spending, including participant incentives and administrative expenses. <p>Data is grouped by category and summarized at the LDC level.</p>
4	Province-Wide Progress	<p>A comprehensive report of 2015 conservation results including:</p> <ol style="list-style-type: none"> 1) activity; 2) savings including: <ol style="list-style-type: none"> a) energy and demand; b) net and gross; c) CDM Plan forecasts, verified actuals and relative progress; d) Allocated Target and Target achievement; and 3) spending, including participant incentives and administrative expenses. <p>Data is grouped by category and summarized at the province-wide level.</p>
5	IESO Value Added Services Costs	Provision of the LDCs and the Province-Wide aggregated IESO Value Added Services activity and costs for each year.
6	Methodology	Description of the methods used to calculate energy savings, financial results and cost-effectiveness.
7	Reference Tables	Consumer Program Province-Wide results allocation to specific LDCs.
8	Glossary	Definitions for the terms used throughout this report.

Final 2015 Annual Verified Results Report

How to use this 2015 Annual Verified Results Report

The IESO is pleased to provide you with the 2015 Annual Verified Results Report.

This report provides:

- 1) electricity savings;
 - 2) annual Full Cost Recovery funding model program progress; and
 - 3) peak demand savings;
 - 4) IESO Value Added Services Costs
- in accordance with Section 9.2(b)(i) of the Energy Conservation Agreement.

In addition to the above, this report also provides in greater detail:

- 1) program participation results including:
 - a) forecasts; b) actuals; and c) progress (forecast versus (vs) actuals);
- 2) program savings results including:
 - a) net 2020 annual energy savings;
 - b) allocated target, target achievement and progress towards target;
 - c) incremental net first year energy savings;
 - d) incremental net first year demand savings;
 - e) annual net-to-gross and realization rate adjustments;
 - f) incremental gross first year energy savings; and
 - g) incremental gross first year demand savings;

and where available reported by: i) forecasts; ii) verified actuals; and iii) progress (forecast vs actuals);
- 3) program spending including:
 - a) participation incentive spending;
 - b) administrative expense spending (including IESO value-added services costs);
 - c) aggregated total spending;

and for each cost: i) forecasts; ii) verified actuals; and iii) progress (forecast vs actuals);

by both the LDC specific level and the province-wide aggregated level.

This report's format is consistent with the IESO issued Monthly Participation and Cost Report in that it is a dynamic sheet that can be expanded or collapsed by clicking the + button or "Show Detail" feature under the Data tab. Each of the four results categories listed above have been grouped together for easy accessibility.

Province-Wide Progress									
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150
151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170
171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190
191	192	193	194	195	196	197	198	199	200
201	202	203	204	205	206	207	208	209	210
211	212	213	214	215	216	217	218	219	220
221	222	223	224	225	226	227	228	229	230
231	232	233	234	235	236	237	238	239	240
241	242	243	244	245	246	247	248	249	250
251	252	253	254	255	256	257	258	259	260
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271	272	273	274	275	276	277	278	279	280
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291	292	293	294	295	296	297	298	299	300
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361	362	363	364	365	366	367	368	369	370
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391	392	393	394	395	396	397	398	399	400
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421	422	423	424	425	426	427	428	429	430
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471	472	473	474	475	476	477	478	479	480
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491	492	493	494	495	496	497	498	499	500
501	502	503	504	505	506	507	508	509	510
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721	722	723	724	725	726	727	728	729	730
731	732	733	734	735	736	737	738	739	740
741	742	743	744	745	746	747	748	749	750
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761	762	763	764	765	766	767	768	769	770
771	772	773	774	775	776	777	778	779	780
781	782	783	784	785	786	787	788	789	790
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891	892	893	894	895	896	897	898	899	900
901	902	903	904	905	906	907	908	909	910
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931	932	933	934	935	936	937	938	939	940
941	942	943	944	945	946	947	948	949	950
951	952	953	954	955	956	957	958	959	960
961	962	963	964	965	966	967	968	969	970
971	972	973	974	975	976	977	978	979	980
981	982	983	984	985	986	987	988	989	990
991	992	993	994	995	996	997	998	999	1000

Please note:

- 1) Cost Effectiveness Test (CET) results including:
 - a) total resource cost test;
 - b) program administration cost test;
 - c) levelized unit energy cost test;

and for each test: i) benefits; ii) cost; iii) net benefit; iv) benefit ratio;

will not be available for the 2015 program year in this report but will be provided to LDCs in August 2016.
- 2) forecasts of: a) activity; b) savings; and c) spending; included in this report are based on LDC submitted and IESO received CDM Plan - Cost Effectiveness Tools as of May 16, 2016 (from the i) Program Design; ii) Budget Inputs; iii) Savings Results; and iv) CE Results; worksheets); Please note that this does not contain data for Legacy Framework program spending or CFF pilot program activity, savings, spending or cost effectiveness.
- 3) Annual FCR Progress only includes Full Cost Recovery funded program savings. In future reports, any Pay-for-Performance funded programs will be reported as a separate line item.
- 4) The complete list of programs and pilots launched into market in 2015 has been included, however no programs and pilots were in market for a sufficient period of time to enable a valid EM&V process. Therefore these programs and pilots have nothing to report at this time and have cells greyed out rather than reporting zero savings or spending. Any results in 2015 will be determined in a subsequent EM&V process and will be included in a future year's Annual Verified Results Report as a 2015 adjustment;
- 5) Pilot program savings are attributed to the LDC where the pilot program project is located in; and
- 6) This Annual Verified Results Report provides results for the LDC and province only. No aggregated

Final 2015 Annual Verified Results Report Summary

For: **Kitchener-Wilmot Hydro Inc.**

Target Achievement

#	Metric	2015 Verified Results	2015-2020 Total CDM Plan Forecast	2015 Verified Results versus CDM Plan (%)	2015-2020 Total Allocated Target / Budget	2015 Verified Results versus Allocated Target / Budget (%)	LDC Ranking in the Province out of 75 (2015 Verified Results versus Allocated Target / Budget (%))
1	Net Verified Annual Energy Savings Persisting to 2020 (MMWh)	21,865,241	105,712,344	21	105,710,000	21	22
2	Total Spending (\$)	0	27,710,719	0	27,710,719	0	30

Annual Results

#	Metric	2015	2016	2017	2018	2019	2020	Total
1	Net Verified Annual Energy Savings Persisting to 2020 (MMWh)	21,865,241						21,865,241
2	Net Verified Incremental First Year Energy Savings (MMWh)	22,256,207						22,256,207
3	Total Spending (\$)	0						0
4	Total Resource Cost Test (Ratio)	n/a						n/a
5	Program Administrator Cost Test (Ratio)	n/a						n/a
6	Levelized Unit Energy Cost Result (\$/kWh)	n/a						n/a

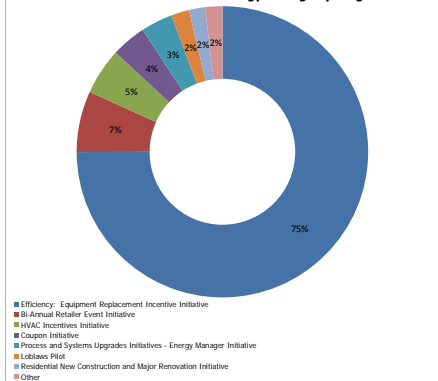
Annual Full Cost Recovery Progress

#	Metric	Result
1	Net Verified 2015 Annual Energy Savings from Full Cost Recovery Programs (MMWh)	22,256,207
2	Net 2015 Annual Energy Savings from Full Cost Recovery Program per CDM Plan Forecast (MMWh)	10,126,095
3	Annual Full Cost Recovery Progress (%)	220

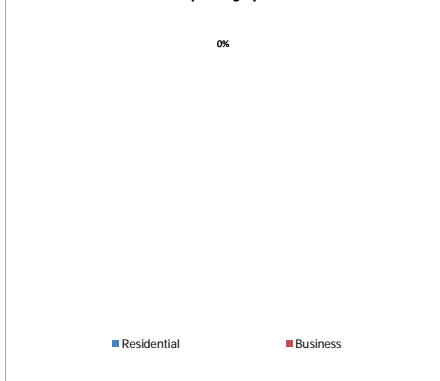
Budget Progress

#	Metric	Result
1	2015 Spending (\$)	0
2	2015 CDM Plan Budget (\$)	0
3	CDM Plan Budget Progress (%)	0

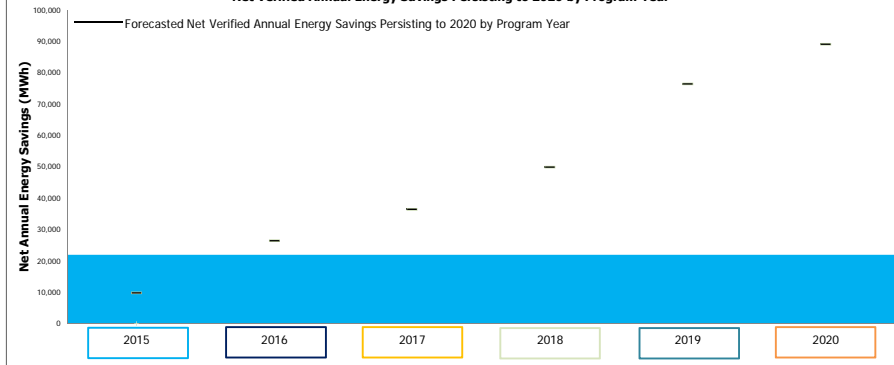
Net Verified 2020 Annual Energy Savings by Program



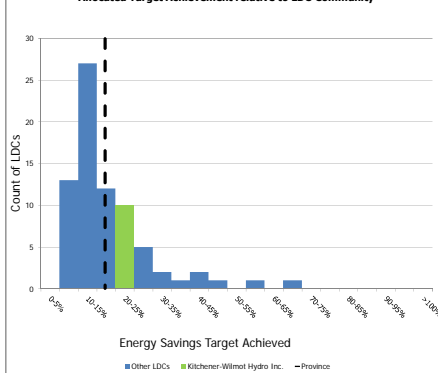
2015 Spending by Sector



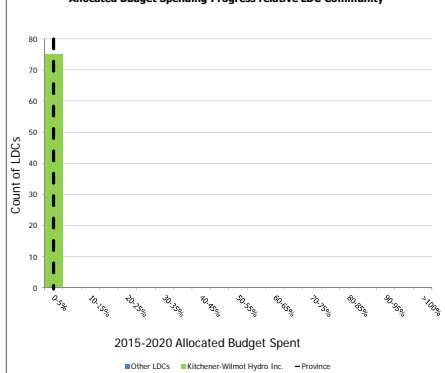
Net Verified Annual Energy Savings Persisting to 2020 by Program Year



Allocated Target Achievement relative to LDC Community



Allocated Budget Spending Progress relative LDC Community



Kitchener-Wilmot Hydro Inc. Progress

#	Programs
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2011-2014+2015 Extension Legacy Framework Programs

Residential Program
1) Energy Audit Initiative
2) 16 Annual Retrofit Event Initiative
3) Appliance Refreshment Initiative
4) LED Incentive Initiative
5) Residential New Construction and Major Renovation Initiative
Sub-total - Residential Program

Commercial & Institutional Program
1) Energy Audit Initiative
2) Efficiency Equipment Replacement Incentive Initiative
3) Direct Install Lighting and Motor Testing Initiative
4) New Construction and Major Renovation Initiative
5) Existing Building Commissioning Incentive Initiative
Sub-total - Commercial & Institutional Program

Industrial Program
1) Process and Systems Upgrades Initiatives - Project Incentive Initiative
2) Process and Systems Upgrades Initiatives - Monitoring and Targeting Initiative
3) Process and Systems Upgrades Initiatives - Energy Manager Initiative
Sub-total - Industrial Program

Low Income Program
1) Low Income Initiative
Sub-total - Low Income Program

Pilot Program
1) Lockdown Pilot
2) Local Benchmarking Pilot
3) Conservation Fund Pilot - SED
4) Conservation Fund Pilot - EnerNOC
Sub-total - Pilot Program

Other
1) Municipal Conservation Program
2) Program Enabled Savings
3) Adjustments to 2015 Legacy Framework Verified Results
Sub-total - Other

Sub-total - 2011-2014+2015 Extension Legacy Framework

2015-2020 Conservation First Framework Programs

Residential Province-Wide Program
2) Save on Energy Capex Program
3) Save on Energy Heating and Cooling Program
4) Save on Energy New Construction Program
5) Save on Energy Home Auditing Program
Sub-total - Residential Province-Wide Program

Business Province-Wide Program
2) Save on Energy Audit Funding Program
3) Save on Energy Retrofit Program
4) Save on Energy Small Business Lighting Program
5) Save on Energy High Performance New Construction Program
6) Save on Energy Lighting Building Commissioning Program
7) Save on Energy Process & Systems Upgrades Program
8) Save on Energy Monitoring & Targeting Program
9) Save on Energy Energy Manager Program
Sub-total - Business Province-Wide Program

Local & Regional Program
3) Business Benchmarking Local Program
3) First Nation Conservation Local Program
3) Local Benchmarking Local Program
Sub-total - Local & Regional Program

Pilot Program
1) Enercon Hydro Microscale Inc. - Performance Based Conservation Pilot Program
2) Envin Utilities Ltd. - Building Optimization Pilot
3) Envin Utilities Ltd. - Re-Invest Pilot
4) Horizon Utilities Corporation - ECM Furnace Motor Pilot
5) Horizon Utilities Corporation - Social Benchmarking Pilot
6) Hydro Ottawa Limited - Conservation Voltage Regulation (CVR) Leveraging AMI Data Pilot
7) Hydro Ottawa Limited - Residential Demand Response (WR) Thermal Pilot
8) Hydro Ottawa Limited - WR - CDR
9) Niagara on the Lake Hydro Inc. - Direct Install Energy Efficiency Measures for the Agri
10) Oakville Hydro Electric Distribution Inc. - Direct Install - Highline
11) Oakville Hydro Electric Distribution Inc. - Direct Install - BTU Controls
12) Toronto Hydro Electric System Limited - Direct Install - Hydronic (Pilot Savings)
13) Toronto Hydro Electric System Limited - Direct Install - BTU Controls (Pilot Savings)
14) Toronto Hydro Electric System Limited - PFP - Large (Pilot Savings)
Sub-total - Pilot Program

Other
1) Adjustments to 2015 CFF Verified Results
2) Adjustments to 2016 CFF Verified Results
3) Adjustments to 2017 CFF Verified Results
4) Adjustments to 2018 CFF Verified Results
5) Adjustments to 2019 CFF Verified Results
Sub-total - Other

Sub-total - 2015-2020 Conservation First Framework

Total

Participation	Progress Towards Net 2020 Annual Energy Savings Target - (Contribution by Year)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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#	Programs
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Residential Program	
1	Coupon Initiative
2	Bi-Annual Retailer Event Initiative
3	Appliance Retirement Initiative
4	HVAC Incentives Initiative
5	Residential New Construction and Major Renovation Initiative
Sub-total - Residential Program	

6	Energy Audit Initiative
7	Efficiency: Equipment Replacement Incentive Initiative
8	Direct Install Lighting and Water Heating Initiative
9	New Construction and Major Renovation Initiative
10	Existing Building Commissioning Incentive Initiative
Sub-total - Commercial & Institutional Program	

11	Process and Systems Upgrades Initiatives - Project Incentive Initiative
12	Process and Systems Upgrades Initiatives - Monitoring and Targeting Initiative
13	Process and Systems Upgrades Initiatives - Energy Manager Initiative
Sub-total - Industrial Program	

14	Low Income Initiative
Sub-total - Low-Income Program	

15	Loblaws Pilot
16	Social Benchmarking Pilot
17	Conservation Fund Pilot - SEG
18	Conservation Fund Pilot - EnerNOC
Sub-total - Pilot Program	

19	Aboriginal Conservation Program
20	Program Enabled Savings
21	Adjustments to 2015 Legacy Framework Verified Results
Sub-total - Other	

Residential Province-Wide Program

23	Save on Energy Heating and Cooling Program
24	Save on Energy New Construction Program
25	Save on Energy Home Assistance Program
Sub-total - Residential Province-Wide Program	

26	Save on Energy Audit Funding Program
27	Save on Energy Retrofit Program
28	Save on Energy Small Business Lighting Program
29	Save on Energy High Performance New Construction Program
30	Save on Energy Existing Building Commissioning Program
31	Save on Energy Process & Systems Upgrades Program
32	Save on Energy Monitoring & Targeting Program
33	Save on Energy Energy Manager Program
Sub-total - Business Province-Wide Program	

34	Business Refrigeration Local Program
35	First Nation Conservation Local Program
36	Social Benchmarking Local Program
Sub-total - Local & Regional Program	

37	Enbridge Hydro Mississippi Inc. - Performance-Based Conservation Pilot Program - Program
38	Winous Utilities Ltd. - Building Optimization Pilot
39	Envin Utilities Ltd. - Fan Incent Pilot
40	Horizon Utilities Corporation - ECM Fan Motor Pilot
41	Horizon Utilities Corporation - Social Benchmarking Pilot
42	Hydro Ottawa Limited - Conservation Voluntary Regulation (CVR) Leveraging AMI Pilot
43	Hydro Ottawa Limited - Residential Demand Response Wi-Fi Thermostat Pilot
44	Hydro One - Willnot Hydro - Demand Response Pilot
45	Nalgonda - The Lake Hydro Inc. - Direct Install Energy Efficiency Measures for the Agriculture Sector Pilot
46	Oakville Hydro Electricity Distribution Inc. - Direct Install - Hydraulic
47	Oakville Hydro Electricity Distribution Inc. - Direct Install - RTU Controls
48	Toronto Hydro-Electric System Limited - Direct Install - Hydraulic (Pilot Savings)
49	Toronto Hydro-Electric System Limited - Direct Install - RTU Controls (Pilot Savings)
50	Toronto Hydro-Electric System Limited - PPP - Large (Pilot Savings)
Sub-total - Pilot Program	

51	Adjustments to 2015 CFF Verified Results
52	Adjustments to 2016 CFF Verified Results
53	Adjustments to 2017 CFF Verified Results
54	Adjustments to 2018 CFF Verified Results
55	Adjustments to 2019 CFF Verified Results
Sub-total - Other	

Progress Towards 2020 Net Annual Energy Savings Target >

Net Incremental First Year Energy Savings >

Incremental First Year Peak Demand Savings >

Gross and Realization Rate Adjustments - Actual >

Gross Incremental First Year Energy Savings >

Incremental | First Year Peak Demand Savings >

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Participant Incentive Spending >

Administrative Expense Spending >

Total Spending >

Spending Group >

Total Resource Cost - Cost Effectiveness Test - Actual >

Program Administrator	Cost - Cost Effectiveness Test	Actual	>
...

Levelized Unit Energy Cost - Cost Effectiveness Test - Actual >

Cost Effectiveness Tests Group >

Cost Effectiveness Tests Group >

Final 2015 Annual Verified Results Report

IESO Value Added Services Costs (as of March 31, 2016)

# Reporting Level		Program	Unit of Measure	Units (#)							Administrative Expenses (\$)						
				2015	2016	2017	2018	2019	2020	Total	2015	2016	2017	2018	2019	2020	Total
1	Kitchener-Wilmot Hydro Inc.	Save on Energy Coupon Program	Coupons	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2		Save on Energy Heating and Cooling Program	Applications	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total				0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Province Wide	Save on Energy Coupon Program	Coupons	785,625	0	0	0	0	0	785,625	1,374,844	0	0	0	0	0	1,374,844
4		Save on Energy Heating and Cooling Program	Applications	20,446	0	0	0	0	0	20,446	265,798	0	0	0	0	0	265,798
Total				806,071	0	0	0	0	0	806,071	1,640,642	0	0	0	0	0	1,640,642

Final 2015 Annual Verified Results Report Methodology

General

All results are at the end-user level (not including transmission and distribution losses) and are based on activity completed on or after January 1, 2015 and on or before December 31, 2015 and reported to IESO by March 31, 2016.

Savings Calculations

#	Project Type	Equations
1	Prescriptive Measures and Projects Programs	Gross Reported Savings = Activity * Per Unit Assumption Savings Gross Verified Savings = Gross Reported Savings * Realization Rate Net Verified Savings = Gross Verified Savings * Net-to-Gross Ratio All savings are annualized (i.e. the savings are the same regardless of time of year a project was completed or measure installed)
2	Engineered and Custom Projects / Programs	Gross Reported Savings = Reported Savings Gross Verified Savings = Gross Reported Savings * Realization Rate Net Verified Savings = Gross Verified Savings * Net-to-Gross Ratio All savings are annualized (i.e. the savings are the same regardless of time of year a project was completed or measure installed)
3	Adjustments to Previous Years' Verified Results	All variances from the Final Annual Results Reports from prior years will be adjusted within this report. Any variances with regards to projects counts, data lag, and calculations etc., will be made within this report. Considers the annual effect of energy savings.

2011-2014+2015 Extension Legacy Framework Initiatives

#	Initiative	Attributing Savings to LDCs	Project List Date	Savings 'start' Date	Calculating Resource Savings
1	saveONenergy Conservation Instant Coupon Booklet	LDC-coded coupons directly attributed to LDC. Otherwise results are allocated based on average of 2008 & 2009 residential throughput.	March 31, 2016	Savings are considered to begin in the year in which the coupon was redeemed.	Peak demand and energy savings are determined using the verified measure level per unit assumption multiplied by the uptake in the market (gross) taking into account net-to-gross factors such as free-ridership and spillover (net) at the measure level.
2	saveONenergy Bi-Annual Retailer Event	Results are allocated based on average of 2008 & 2009 residential throughput.	March 31, 2016	Savings are considered to begin in the year in which the event occurs.	
3	saveONenergy Appliance Retirement	Includes both retail and home pickup stream. Retail stream allocated based on average of 2008 & 2009 residential throughput; Home pickup stream directly attributed by postal code or customer selection.	March 31, 2016	Savings are considered to begin in the year the appliance is picked up.	
4	saveONenergy HVAC Incentives	Results directly attributed to LDC based on customer applications and postal code.	March 31, 2016	Savings are considered to begin in the year that the installation occurred.	
5	saveONenergy Residential New Construction	Results are directly attributed to LDC based on LDC identified in application in the iCon system.	March 31, 2016	Savings are considered to begin in the year of the project completion date.	
6	saveONenergy Energy Audit	Projects are directly attributed to LDC based on LDC identified in the application.	March 31, 2016	Savings are considered to begin in the year of the audit date.	Peak demand and energy savings are determined by the total savings resulting from an audit as reported (reported). A realization rate is applied to the reported savings to ensure that these savings align with EM&V protocols and reflect the savings that were actually realized (i.e. how many light bulbs were actually installed vs. what was reported) (gross). Net savings takes into account net-to-gross factors such as free-ridership and spillover (net).
7	saveONenergy Efficiency: Equipment Replacement	Results are directly attributed to LDC based on LDC identified at the facility level in the iCon system. Projects in the Application Status: "Post-Stage Submission" are included (excluding "Payment denied by LDC"); Please see page for Building type to Sector mapping.	March 31, 2016	Savings are considered to begin in the year of the actual project completion date in the iCon system.	Peak demand and energy savings are determined by the total savings for a given project as reported in the iCon system (reported). A realization rate is applied to the reported savings to ensure that these savings align with EM&V protocols and reflect the savings that were actually realized (i.e. how many light bulbs were actually installed vs. what was reported) (gross). Net savings takes into account net-to-gross factors such as free-ridership and spillover (net). Both realization rate and net-to-gross ratios can differ for energy and demand savings and depend on the mix of projects within an LDC territory (i.e. lighting or non-lighting project, engineered/custom/prescriptive track).
Additional Note: project counts were derived by filtering out invalid statuses (e.g. Post-Project Submission - Payment denied by LDC) and only including projects with an "Actual Project Completion Date" in 2014)					
9	saveONenergy Direct Installed Lighting	Results are directly attributed to LDC based on the LDC specified on the work order.	March 31, 2016	Savings are considered to begin in the year of the actual project completion date.	Peak demand and energy savings are determined using the verified measure level per unit assumptions multiplied by the uptake of each measure accounting for the realization rate for both peak demand and energy to reflect the savings that were actually realized (i.e. how many light bulbs were actually installed vs. what was reported) (gross). Net savings take into account net-to-gross factors such as free-ridership and spillover for both peak demand and energy savings at the program level (net).
10	saveONenergy New Construction and Major Renovation Incentive	Results are directly attributed to LDC based on LDC identified in the application.	March 31, 2016	Savings are considered to begin in the year in which the incentive project was completed.	Peak demand and energy savings are determined by the total savings for a given project as reported (reported). A realization rate is applied to the reported savings to ensure that these savings align with EM&V protocols and reflect the savings that were actually realized (i.e. how many light bulbs were actually installed vs. what was reported) (gross). Net savings takes into account net-to-gross factors such as free-ridership and spillover (net).
11	saveONenergy Existing Building Commissioning Incentive		March 31, 2016		
12	saveONenergy Process & System Upgrades	Results are directly attributed to LDC based on LDC identified in application.	March 31, 2016	Savings are considered to begin in the year in which the project was completed by the energy manager. If no date is specified the savings will begin the year of the Quarterly Report submitted by the energy manager.	Peak demand and energy savings are determined by the total savings from a given project as reported (reported). A realization rate is applied to the reported savings to ensure that these savings align with EM&V protocols and reflect the savings that were actually realized (i.e. how many light bulbs were actually installed vs. what was reported) (gross). Net savings takes into account net-to-gross factors such as free-ridership and spillover (net).
13	saveONenergy Monitoring & Targeting		March 31, 2016		
14	saveONenergy Energy Manager		March 31, 2016		
14	saveONenergy Home Assistance Program	Results are directly attributed to LDC based on LDC identified in the application.	March 31, 2016	Savings are considered to begin in the year in which the measures were installed.	Peak demand and energy savings are determined using the measure level per unit assumption multiplied by the uptake of each measure (gross), taking into account net-to-gross factors such as free-ridership and spillover (net) at the measure level.
15	Aboriginal Conservation Program		March 31, 2016		

2015-2020 Conservation First Framework Programs

#	Program	Attributing Savings to LDCs	Project List Date	Savings 'Start' Date	Calculating Resource Savings
1	Save on Energy Coupon Program	LDC-coded coupons directly attributed to LDC; Otherwise results are allocated based on average of 2008 & 2009 residential throughput.	March 31, 2016	Savings are considered to begin in the year in which the coupon was redeemed.	
2	Save on Energy Heating and Cooling Program	Results directly attributed to LDC based on customer applications and postal code. LDCs may see additional participation, savings and spending relative to the March 2016 Value Added Services Report due to previously unassigned applications completed in 2015. Adjustments to reflect final 2015 verified participation will appear in your July 2016 Value Added Services Report to be issued on August 15, 2016	March 31, 2016	Savings are considered to begin in the year that the installation occurred.	Peak demand and energy savings are determined using the verified measure level per unit assumption multiplied by the uptake in the market (gross) taking into account net-to-gross factors such as free-ridership and spillover (net) at the measure level.
3	Save on Energy New Construction Program	Results are directly attributed to LDC based on LDC identified in CDM LDC Report Template.	March 31, 2016	Savings are considered to begin in the year of the project completion date.	
4	Save on Energy Home Assistance Program	Results are directly attributed to LDC based on LDC identified in the application.	March 31, 2016	Savings are considered to begin in the year in which the measures were installed.	
5	Save on Energy Audit Funding Program	Projects are directly attributed to LDC based on LDC identified in the application.	March 31, 2016	Savings are considered to begin in the year of the audit date.	Peak demand and energy savings are determined by the total savings resulting from an audit as reported (reported). A realization rate is applied to the reported savings to ensure that these savings align with EM&V protocols and reflect the savings that were actually realized (i.e. how many light bulbs were actually installed vs. what was reported) (gross). Net savings takes into account net-to-gross factors such as free-ridership and spillover (net).
6	Save on Energy Retrofit Program	Results are directly attributed to LDC based on LDC identified at the facility level in the saveOnEnergy CRM; Projects in the Application Status: "Post-Stage Submission" are included (excluding "Payment denied by LDC"); Please see page for Building type to Sector mapping.	March 31, 2016	Savings are considered to begin in the year of the actual project completion date as reported in the CDM LDC Report Template	Peak demand and energy savings are determined by the total savings for a given project as reported in the ICON system (reported). A realization rate is applied to the reported savings to ensure that these savings align with EM&V protocols and reflect the savings that were actually realized (i.e. how many light bulbs were actually installed vs. what was reported) (gross). Net savings takes into account net-to-gross factors such as free-ridership and spillover (net). Both realization rate and net-to-gross ratios can differ for energy and demand savings and depend on the mix of projects within an LDC territory (i.e. lighting or non-lighting project, engineered/custom/prescriptive track).
7	Save on Energy Small Business Lighting Program	Results are directly attributed to LDC based on the LDC specified on the work order.	March 31, 2016	Savings are considered to begin in the year of the actual project completion date.	Peak demand and energy savings are determined using the verified measure level per unit assumptions multiplied by the uptake of each measure accounting for the realization rate for both peak demand and energy to reflect the savings that were actually realized (i.e. how many light bulbs were actually installed vs. what was reported) (gross). Net savings takes into account net-to-gross factors such as free-ridership and spillover for both peak demand and energy savings at the program level (net).
8	Save on Energy High Performance New Construction Program	Results are directly attributed to LDC based on LDC identified in the application.	March 31, 2016		Peak demand and energy savings are determined by the total savings for a given project as reported in the CDM LDC Report Template. Preliminary unverified net savings are calculated by multiplying reported savings by 2014 Net-to-gross ratios and realization rates.
9	Save on Energy Existing Building Commissioning Program		March 31, 2016		
10	Save on Energy Process and Systems Upgrades Program	Results are directly attributed to LDC based on LDC identified in application.	March 31, 2016	Savings are considered to begin in the year in which the project was in-service.	Peak demand and energy savings are determined by the total savings from a given project as reported (reported). A realization rate is applied to the reported savings to ensure that these savings align with EM&V protocols and reflect the savings that were actually realized (i.e. how many light bulbs were actually installed vs. what was reported) (gross). Net savings takes into account net-to-gross factors such as free-ridership and spillover (net).
11	Save on Energy Monitoring and Targeting Program	Results are directly attributed to LDC based on LDC identified in the application; Initiative was not evaluated, no completed projects in 2011, 2012 or 2013.	March 31, 2016	Savings are considered to begin in the year in which the incentive project was completed.	
12	Save on Energy Energy Manager Program	Results are directly attributed to LDC based on LDC identified in the application.	March 31, 2016	Savings are considered to begin in the year in which the project was completed by the energy manager. If no date is specified the savings will begin the year of the Quarterly Report submitted by the energy manager.	
13	Business Refrigeration Incentive Program		March 31, 2016	Savings are considered to begin in the year in which the measures were installed.	Peak demand and energy savings are determined using the verified measure level per unit assumptions multiplied by the uptake of each measure accounting for the realization rate for both peak demand and energy to reflect the savings that were actually realized (i.e. how many light bulbs were actually installed vs. what was reported) (gross). Net savings take into account net-to-gross factors such as free-ridership and spillover for both peak demand and energy savings at the program level (net).
14	Social Benchmarking Program	Results are directly attributed to LDC based on LDC identified in the application.	March 31, 2016	Savings are considered to begin in the year in which the report was sent.	Peak demand and energy savings are determined using the verified measure level (home) per unit assumption multiplied by the uptake in the market (gross) taking into account net-to-gross factors such as free-ridership and spillover (net) at the measure level (home).
15	First Nations Conservation Program		March 31, 2016	Savings are considered to begin in the year in which the measures were installed.	Peak demand and energy savings are determined using the verified measure level per unit assumption multiplied by the uptake in the market (gross) taking into account net-to-gross factors such as free-ridership and spillover (net) at the measure level.

IESO Value Added Services Costs

- 1) IESO Value Added Services Costs are based on activity reported as of March 31, 2016.
- 2) Save on Energy Heating & Cooling Program activity may be greater than the March 2016 IESO Value Added Services Report due to previously unassigned applications being assigned to LDCs through the Evaluation, Measurement & Verification Process based on updated applicant postal code mappings. These additional applications and costs will be reflected in the July 2016 IESO Value Added Services Report.
- 3) Future years may include adjustments to prior years based on delays of Value-Added Service report submissions to IESO from IESO Value-Added Service providers.
- 4) IESO Value Added Services costs are calculated based on the prevailing IESO Value Added Services Rates as per the applicable IESO Central Services Strategy and Rate Guideline.

Final 2015 Annual Verified Results Report

Consumer Program Allocation Methodology

#	Local Distribution Company	Allocation
1	Algoma Power Inc.	0.2207%
2	Atikokan Hydro Inc.	0.0265%
3	Attawapiskat Power Corporation	0.0255%
4	Bluewater Power Distribution Corporation	0.6460%
5	Brant County Power Inc.	0.1979%
6	Brantford Power Inc.	0.7255%
7	Burlington Hydro Inc.	1.3757%
8	Cambridge and North Dumfries Hydro Inc.	0.9578%
9	Canadian Niagara Power Inc.	0.5110%
10	Centre Wellington Hydro Ltd.	0.1129%
11	Chapleau Public Utilities Corporation	0.0379%
12	COLLUS PowerStream Corp.	0.2858%
13	Cooperative Hydro Embrun Inc.	0.0494%
14	E.L.K. Energy Inc.	0.2270%
15	Enersource Hydro Mississauga Inc.	3.9265%
16	Entegrus Powerlines Inc.	0.7226%
17	EnWin Utilities Ltd.	1.5542%
18	Erie Thames Powerlines Corporation	0.3535%
19	Espanola Regional Hydro Distribution Corporation	0.0821%
20	Essex Powerlines Corporation	0.6539%
21	Festival Hydro Inc.	0.3498%
22	Fort Albany Power Corporation	0.0212%

23	Fort Frances Power Corporation	0.0995%
24	Greater Sudbury Hydro Inc.	1.0276%
25	Grimsby Power Incorporated	0.2279%
26	Guelph Hydro Electric Systems Inc.	0.8983%
27	Haldimand County Hydro Inc.	0.4244%
28	Halton Hills Hydro Inc.	0.5475%
29	Hearst Power Distribution Company Limited	0.0667%
30	Horizon Utilities Corporation	4.0429%
31	Hydro 2000 Inc.	0.0390%
32	Hydro Hawkesbury Inc.	0.1394%
33	Hydro One Brampton Networks Inc.	2.8180%
34	Hydro One Networks Inc.	29.9788%
35	Hydro Ottawa Limited	5.5954%
36	InnPower Corporation	0.3951%
37	Kashechewan Power Corporation	0.0286%
38	Kenora Hydro Electric Corporation Ltd.	0.0989%
39	Kingston Hydro Corporation	0.5014%
40	Kitchener-Wilmot Hydro Inc.	1.6310%
41	Lakefront Utilities Inc.	0.1907%
42	Lakeland Power Distribution Ltd.	0.2906%
43	London Hydro Inc.	2.7308%
44	Midland Power Utility Corporation	0.1196%
45	Milton Hydro Distribution Inc.	0.5695%
46	Newmarket-Tay Power Distribution Ltd.	0.6607%
47	Niagara Peninsula Energy Inc.	0.9945%
48	Niagara-on-the-Lake Hydro Inc.	0.1586%
49	Norfolk Power Distribution Inc.	0.3495%
50	North Bay Hydro Distribution Limited	0.5333%

51	Northern Ontario Wires Inc.	0.1061%
52	Oakville Hydro Electricity Distribution Inc.	1.4632%
53	Orangeville Hydro Limited	0.2120%
54	Orillia Power Distribution Corporation	0.2722%
55	Oshawa PUC Networks Inc.	1.2283%
56	Ottawa River Power Corporation	0.1974%
57	Peterborough Distribution Incorporated	0.7132%
58	PowerStream Inc.	6.6383%
59	PUC Distribution Inc.	0.8687%
60	Renfrew Hydro Inc.	0.0775%
61	Rideau St. Lawrence Distribution Inc.	0.1120%
62	Sioux Lookout Hydro Inc.	0.0841%
63	St. Thomas Energy Inc.	0.2939%
64	Thunder Bay Hydro Electricity Distribution Inc.	0.8738%
65	Tillsonburg Hydro Inc.	0.1280%
66	Toronto Hydro-Electric System Limited	12.7979%
67	Veridian Connections Inc.	2.3525%
68	Wasaga Distribution Inc.	0.1799%
69	Waterloo North Hydro Inc.	1.0019%
70	Welland Hydro-Electric System Corp.	0.3879%
71	Wellington North Power Inc.	0.0632%
72	West Coast Huron Energy Inc.	0.0653%
73	Westario Power Inc.	0.5411%
74	Whitby Hydro Electric Corporation	0.8651%
75	Woodstock Hydro Services Inc.	0.2548%
Total		100.0000%

Results can be allocated based on average of 2008 & 2009 residential throughput for each LDC (below) when additional information is not available. Source: OEB Yearbook Data 2008 & 2009

Final 2015 Annual Verified Results Report

Glossary

#	Term	Definition
1	2011-2014+2015 Extension Legacy Framework Programs	Programs in market from 2011-2015 resulting from the April 23, 2010 GEA CDM Ministerial Directive and funded separately from 2015-2020 Conservation First Framework Programs but whose savings in 2015 are attributed towards the 2015-2020 Conservation First Framework target.
2	2015-2020 Conservation First Framework Programs	Programs in market from 2015-2020 resulting from the March 31, 2014 CFF Ministerial Directive and funded separately from 2011-2014+2015 Extension Legacy Framework Programs.
3	Allocated Target	Each LDC's assigned portion of the Province's 7 TWh Net 2020 Annual Energy Savings Target of the 2015-2020 Conservation First Framework.
4	Allocated Budget	Each LDC's assigned portion of the Province's \$ 1.835 billion CDM Plan Budget of the 2015-2020 Conservation First Framework.
5	Province-Wide Program	Programs available to all LDCs to deliver and that are consistent across the province.
6	Regional Program	Programs designed by LDCs to serve their region and approved by the IESO.
7	Local Program	Programs designed by LDCs to serve their communities and approved by the IESO.
8	Pilot Program	A program pilot that may achieve energy or demand savings and is funded extraneous to an LDC's CDM Plan Budget.
9	Initiative	A Conservation & Demand Management offering focusing on a particular opportunity or customer end-use (i.e. Retrofit, Fridge & Freezer Pickup) from the 2011-2014+2015 Extension Legacy Framework.
10	Program	A Conservation & Demand Management offering focusing on a particular opportunity or customer end-use (i.e. Retrofit, Fridge & Freezer Pickup) from the 2015-2020 Conservation First Framework.
11	Activity	The number of projects.

12	Unit	For a specific initiative the relevant type of activity acquired in the market place (i.e. appliances picked up, projects completed, coupons redeemed).
13	Forecast	LDC's forecast of activity, savings, expenditures and cost effectiveness as indicated in each LDC's submitted CDM Plan Cost Effectiveness Tools.
14	Actual	The IESO determined final results of activity, savings, expenditures and cost effectiveness.
15	Progress	A comparison of Actuals versus Forecasts.
16	Full Cost Recovery Progress	For a given year, the percentage calculated by dividing: a) the sum of verified electricity savings for all years of the term up to and including the applicable year for all Programs that receive full cost recovery funding, by b) the Cumulative FCR Milestone, multiplied by 100%, as specified in Schedule A of the Energy Conservation Agreement.
17	Reported Savings	Savings determined by the LDC: 1) for prescriptive projects/programs: calculating quantity x prescriptive savings assumptions; and 2) for engineered or custom program projects/programs: calculated using prescribed methodologies.
18	Verified Savings	Savings determined by the IESO's evaluation, measurement and verification that may adjust reported savings by the realization rate.
19	Gross Savings	Savings determined as either: 1) program activity multiplied by per unit savings assumptions for prescriptive programs; or 2) reported savings multiplied by the realization rate for engineered or custom program streams.
20	Net Savings	The peak demand or energy savings attributable to conservation and demand management activities net of free-riders, etc.
21	Realization Rate	A comparison of observed or measured (evaluated) information to original reported savings which is used to adjust the gross savings estimates.
22	Net-to-Gross Adjustment	The ratio of net savings to gross savings, which takes into account factors such as free-ridership and spillover.
23	Free-ridership	The percentage of participants who would have implemented the program measure or practice in the absence of the program.

24	Spillover	Reductions in energy consumption and/or demand caused by the presence of the energy efficiency program, beyond the program-related gross savings of the participants. There can be participant and/or non-participant spillover.
25	Incremental Savings	The new resource savings attributable to activity procured in a particular reporting period based on when the savings are considered to 'start'.
26	First Year Savings	The peak demand or energy savings that occur in the year it was achieved (includes resource savings from only new program activity).
27	Annual Savings	The peak demand or energy savings that occur in a given year (includes resource savings from new program activity and resource savings persisting from previous years).
28	Demand Savings	Demand savings attributable to conservation and demand management activities.
29	Energy Savings	Energy savings attributable to conservation and demand management activities.
30	Administrative Expenses	Costs incurred in the delivery of a program related to labour, marketing, third-party expenses, value added services or other central services.
31	Participant Incentives	Costs incurred in the delivery of a program related to incenting participants to perform peak demand or energy savings.
32	Total Expenditure	The sum of Administrative Expenses and Participant Incentives
33	Total Resource Cost Cost Effectiveness Test	A cost effectiveness test that measures the net cost of CDM based on the total costs of the program including both participants' and utility's costs.
34	Program Administrator Cost Cost Effectiveness Test	A cost effectiveness test that measures the net cost of CDM based on costs incurred by the program administrator, including incentive costs and excluding net costs incurred by the participant.
35	Levelized Unit Energy Cost Cost Effectiveness Test	A cost effectiveness test that normalizes the costs incurred by the program administrator per unit of energy or demand reduced.

Final Verified 2016 Annual LDC CDM Program Results Report

Letter from the Vice-President, Conservation & Corporate Relations

June 30, 2017

I am pleased to provide LDCs with their Final Verified 2016 Annual Results Report. Collectively in 2016, LDCs achieved 1.2 TWh of energy savings persisting to 2020. When combined with the 2015 results, LDCs have achieved 2.6 TWh of energy savings, representing 38 % of the 7 TWh target. The results show positive progress towards the achievement of the Conservation First Framework (CFF) target and demonstrate the continued collaboration between LDCs and the IESO in promoting a culture of conservation across the province.

Key highlights from the 2016 final results include the following:

- The Coupons program produced a record achievement, delivering 428 GWh of energy savings in 2016, more than doubling the results from 2015. LED light bulbs remained the most common measure accounting for 75 % of coupons redeemed and 96 % of savings.
- The Retrofit program continues to be the highest performing program achieving 567 GWh of energy savings in 2016, despite experiencing a 29 % reduction in savings over the 2015 results (including adjustments). Lighting measures continue to produce the majority of savings, 74 % in 2016, with non-lighting measures accounting for the remainder.
- The success of the Coupons program supported residential sector programs in achieving a larger share of the portfolio savings in 2016 than in previous years, accounting for 44 % of target achievement, with business sector programs and local and pilot programs accounting for 54 % and 1 %, respectively.

o It is important to note that there remains a considerable data lag, representing completed, but unreported projects for the Retrofit and Process and Systems Upgrades Programs. Together, these programs have roughly 250 GWh in unverified savings waiting to be reported by LDCs. It is anticipated that these savings will be reported in future year's 2016 adjustments.

- As with 2015, the IESO evaluation methodology enabled further granulation of net verified results in 2016, resulting in increased LDC-specific and regional level net-to-gross adjustment factors, where data permitted.
- Four LDCs have achieved at least 90 % of their CFF target, and nine others are above 50 %. These early successes are prompting increased dialogue between LDCs with respect to potential target exchange, which is both permitted and encouraged under the CFF.

There were minor revisions to the final results relative to the preliminary results including: 1) revisions/corrections to program savings assumptions / adjustments as required (primarily to participation levels for Coupons Program and Heating & Cooling Program); 2) the inclusion of an additional five LDC Innovation Fund and Conservation Fund Pilot Programs; and 3) amendments based on comments received by LDCs as part of their review of the preliminary results. Further details on the revisions between the preliminary and the final 2016 verified results can be found in the 2016 Frequently Asked Questions (FAQs) and Evaluation Findings Report which will be posted along with the results on the LDC extranet.

Please note that all results contained within this report are considered to be final verified results. Projects included in this report are reflected in the accompanying LDC Project List Report. Any program activity not captured in this report will be included as part of a future adjustment process.

In terms of next steps, as with the 2015 CFF results, Final Verified 2016 Annual Results Reports will be posted on the IESO website in early July. In addition, LDC-Program level and portfolio-level cost effectiveness test results will be available on September 15, 2017, as outlined in the Energy Conservation Agreement version 3.0 update. Finally, 2016 EM&V reports will be available later this summer along with key program recommendations to be shared with the LDC Working Groups and the IESO.

We appreciate your collaboration and cooperation throughout the reporting and evaluation process. As we look ahead, the IESO will be focusing on enhancing its communication and support services to further support LDCs in the delivery of programs and to increase customer participation in these programs. I look forward to continuing to work together in achieving success in the Conservation First Framework.

Sincerely,

Terry Young
Vice-President, Conservation & Corporate Relations
Independent Electricity System Operator

Final Verified 2016 Annual LDC CDM Program Results Report

Table of Contents

#	Worksheet Name	Worksheet Description
1	How to Use This Report	Describes the contents and structure of this report
2	Report Summary	<p>A high level summary of the Final 2016 Annual Verified Results Report, including:</p> <ol style="list-style-type: none"> 1) progress toward the LDC's <ol style="list-style-type: none"> a) Allocated 2020 Energy Savings Target; b) Allocated 2015-2020 LDC CDM Plan Budget; c) CDM Plan 2015-2020 Forecasts; 3) annual savings and spending; 4) Annual FCR Progress; 5) annual LDC CDM Plan spending progress; 6) graphs describing: <ol style="list-style-type: none"> a) contribution to 2020 Target Achievement by program; b) 2015 LDC CDM Plan Budget Spending by Sector; c) annual energy savings persistence to 2020 by year; d) your Allocated Target achievement progress relative to your peers; and e) your LDC CDM Plan Budget Spending progress relative to your peers;
3	LDC Rankings	A comprehensive report of each LDC's performance rankings against all other LDCs in major performance categories.
4	LDC Progress	<p>A comprehensive report of 2016 conservation results including:</p> <ol style="list-style-type: none"> 1) activity; 2) savings including: <ol style="list-style-type: none"> a) energy and peak demand; b) net and gross; c) CDM Plan forecasts, verified actuals and relative progress; d) Allocated Target and Target achievement; and 3) spending, including participant incentives and administrative expenses and IESO Value Added Services Costs. <p>Data is grouped by category and summarized at the LDC level.</p>
5	Province-Wide Progress	<p>A comprehensive report of 2016 conservation results including:</p> <ol style="list-style-type: none"> 1) activity; 2) savings including: <ol style="list-style-type: none"> a) energy and peak demand; b) net and gross; c) CDM Plan forecasts, verified actuals and relative progress; d) Allocated Target and Target achievement; and 3) spending, including participant incentives and administrative expenses and IESO Value Added Services Costs. <p>Data is grouped by category and summarized at the province wide level.</p>
6	LDC Savings Persistence	A report detailing the gross and net energy and peak demand savings persistence by program and implementation year (2015, 2015 Adjustment and 2016) at the LDC Level.
7	Province-Wide Persistence	A report detailing the gross and net energy and peak demand savings persistence by program and implementation year (2015, 2015 Adjustment and 2016) at the province wide Level.
8	Methodology	A description of the methods used to calculate energy savings, financial results and cost-effectiveness.
9	Reference Table	Provides detailing how Province wide Consumer Program results were allocated to specific LDCs.
10	Glossary	Definitions for the terms used throughout this report.

Final Verified 2016 Annual LDC CDM Program Results Report

How to Use this Report

The IESO is pleased to provide you with the 2016 Annual Verified Results Report.

This report provides:

- 1) electricity savings;
 - 2) annual Full Cost Recovery funding model program progress; and
 - 3) peak demand savings;
 - 4) IESO Value Added Services Costs
- in accordance with Section 9.2(b)(i) of the Energy Conservation Agreement.

In addition to the above, this report also provides in greater detail:

- 1) program participation results including:
 - a) forecasts; b) actuals; and c) progress (forecast versus (vs) actuals);
- 2) program savings results including:
 - a) net 2020 annual energy and peak demand savings;
 - b) allocated target, target achievement and progress towards target;
 - c) incremental net first year energy and peak demand savings;
 - d) annual net-to-gross and realization rate adjustments; and
 - e) incremental gross first year energy and peak demand savings;

and where available reported by: i) forecasts; ii) verified actuals; and iii) progress (forecast vs actuals);
- 3) program spending including:
 - a) participation incentive spending;
 - b) administrative expense spending (including IESO value-added services costs);
 - c) aggregated total spending; and
 - d) allocated budget, LDC CDM Plan budget spending and progress towards budget;

and for each cost: i) forecasts; ii) verified actuals; and iii) progress (forecast vs actuals);
- 4) program savings results persistence for:
 - a) gross energy savings;
 - b) gross peak demand savings;
 - c) net energy savings; and
 - d) net peak demand savings;

by both the LDC specific level and the province-wide aggregated level for 2016 and 2015 including 2015 Adjustments.

This report's format is consistent with the IESO issued Monthly Participation and Cost Report in that it is a dynamic sheet that can be expanded or collapsed by clicking the + button or "Show Detail" feature under the Data tab. Each of the four results categories listed above have been grouped together for easy accessibility.

Please note:

- 1) Cost Effectiveness Test (CET) results including:
 - a) total resource cost test;
 - b) program administration cost test;
 - c) levelized unit energy cost test;

and for each test: i) benefits; ii) cost; iii) net benefit; iv) benefit ratio; at the LDC and province wide level will not be available in this report but will be provided to LDCs by September 15 2017, as per the Energy Conservation Agreement, version 3.0.
- 2) forecasts of: a) activity; b) savings; and c) spending; included in this report are based on approved LDC CDM Plan - Cost Effectiveness Tools as of April 1, 2017 (from the i) Program Design; ii) Budget Inputs; iii) Savings Results; and iv) CE Results; worksheets); Please note that this does not contain data for Legacy Framework program spending or CFF pilot program activity, savings, spending or cost effectiveness.
- 3) Annual FCR Progress only includes Full Cost Recovery funding model program savings results and excludes Pay-for-Performance funding model program savings results.
- 4) The complete list of approved programs and pilots as of April 1, 2017 approved LDC CDM Plans have been included, however only programs and pilots in market for a sufficient period of time to enable a valid EM&V process will have verified results.
- 5) 2015 Adjustments consists of projects completed in 2015 but were not reported to the IESO by the 2015 Verified Results Reporting deadline of March 31, 2016.
- 6) Pilot program savings are attributed to the LDC where the pilot program project is located in; and
- 7) This Annual Verified Results Report provides results for the LDC and province only. No aggregated reporting is provided for LDCs that are part of a joint CDM plan;

Final Verified 2016 Annual LDC CDM Program Results Report Summary

For: Kitchener-Wilmot Hydro Inc.

Results

#	Metric	2015 Verified Results	2016 Verified Results	2015-2016 Verified Results	Allocated Target / Budget	2015-2016 Progress versus Allocated Target / Budget	2015-2020 LDC CDM Plan Forecast	2015-2016 Progress versus 2015-2020 LDC CDM Plan Forecast	2016 LDC CDM Plan Forecast	2016 Progress versus 2016 LDC CDM Plan Forecast	2015-2016 LDC CDM Plan Forecast	2015-2016 Progress versus 2015-2016 LDC CDM Plan Forecast
1	Net Verified Annual Energy Savings Persisting to 2020	24,520 MWh	14,185 MWh	38,705 MWh	105,710 MWh	37 %	105,712 MWh	37 %	17,128 MWh	83 %	27,136 MWh	143 %
2	LDC Ranking - Net Verified Annual Energy Savings Persisting to 2020	12	14	14	11	32	12	34	12	52	16	27
3	Total Spending (\$)	\$ 0	\$ 1,754,247	\$ 1,754,247	\$ 27,710,719	6 %	\$ 27,710,723	6 %	\$ 4,634,072	38 %	\$ 4,634,072	38 %
4	LDC Ranking - Total Spending (\$)	43	20	21	11	65	11	65	14	62	15	64

Annual Results

#	Metric	2015	2016	Total
1	Net Verified Annual Energy Savings Persisting to 2020 (MWh)	24,520 MWh	14,185 MWh	38,705 MWh
2	Net Verified Incremental First Year Energy Savings (MWh)	24,913 MWh	14,296 MWh	39,209 MWh
3	Total Spending (\$)	\$ 0	\$ 1,754,247	\$ 1,754,247

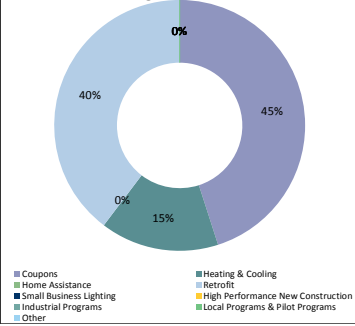
Cost Effectiveness

#	Test	2015	2016	Total
1	Total Resource Cost Test (Ratio)	n/a	tbd	tbd
2	Program Administrator Cost Test (Ratio)	n/a	tbd	tbd
3	Levelized Unit Energy Cost Result (c/kWh)	n/a	tbd	tbd

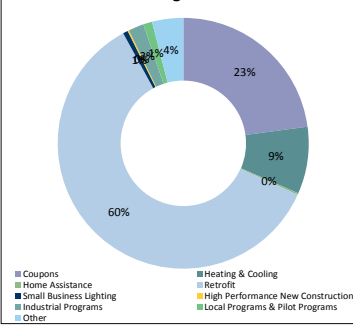
Annual FCR Progress

#	Metric	Result
1	2015-2016 Incremental Net Verified 2020 Annual Energy Savings from Full Cost Recovery Programs	38,705 MWh
2	2015-2016 Incremental Net 2020 Annual Energy Savings from Full Cost Recovery Program per CDM Plan Forecast	27,136 MWh
3	FCR Progress (%)	143 %

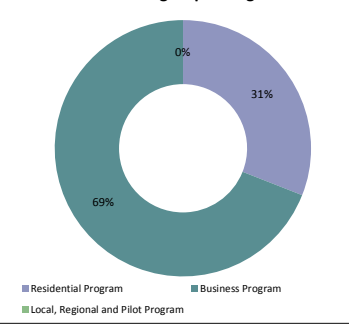
2016 Target Achievement



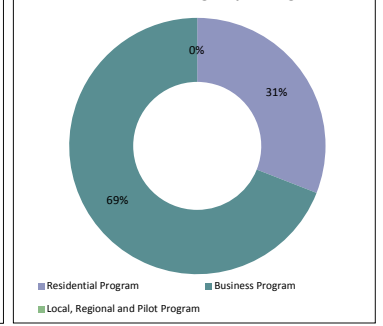
2015-2016 Target Achievement



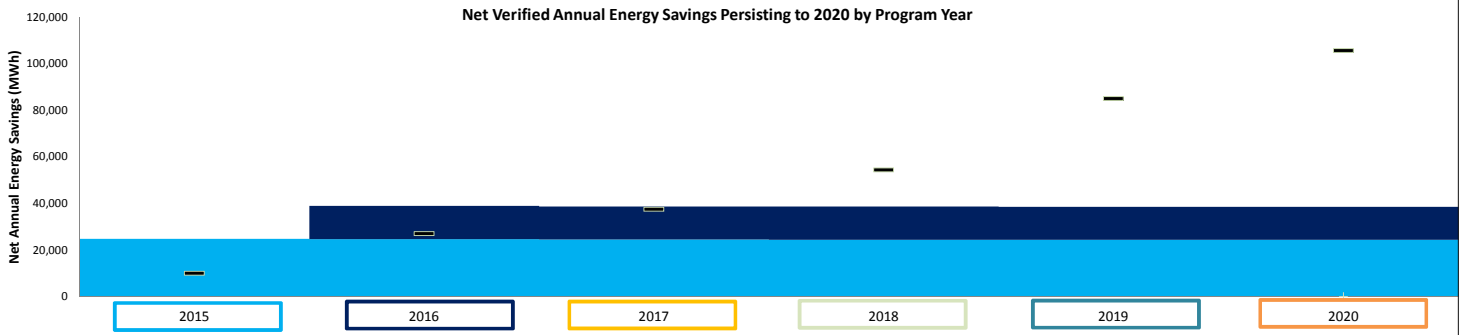
2016 Budget Spending



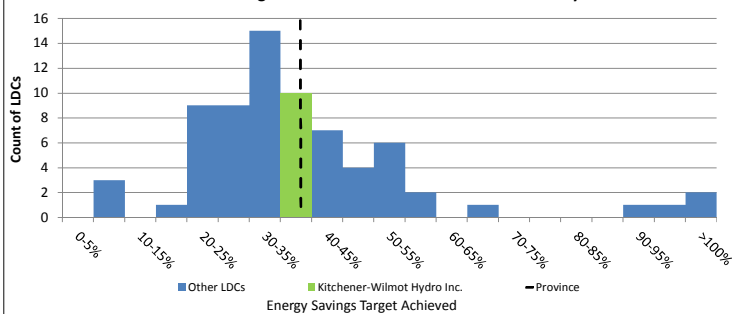
2015-2016 Budget Spending



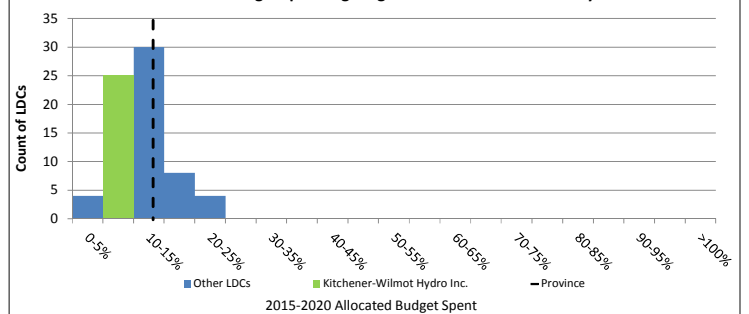
Net Verified Annual Energy Savings Persisting to 2020 by Program Year



Allocated Target Achievement relative to LDC Community



Allocated Budget Spending Progress relative LDC Community



Final Verified 2016 Annual LDC CDM Program Results Report
LDC Rankings

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Progress Report
For: Kitchener-Willmot Hydro Inc.

#	Programs
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2015-2020 Conservation First Framework Programs

Residential Province-Wide Programs	
1	Save on Energy Coupon Program
2	Save on Energy Heating & Cooling Program
3	Save on Energy New Construction Program
4	Save on Energy Home Assistance Program
Sub-total: Residential Province-Wide Programs	

Business Province-Wide Programs	
5	Save on Energy Audit Funding Program
6	Save on Energy Retrofit Program
7	Save on Energy Small Business Lighting Program
8	Save on Energy High Performance New Construction Program
9	Save on Energy Existing Building Commissioning Program
10	Save on Energy Process & Systems Upgrades Program
11	Save on Energy Energy Manager Program
12	Save on Energy Monitoring & Targeting Program
13	Save on Energy Retrofit Program - PAP
14	Save on Energy Process & Systems Upgrades Program - PAP
Sub-total: Business Province-Wide Programs	

Local & Regional Programs	
15	Adaptive Thermostat Local Program
16	Business Refrigeration Incentives Local Program
17	Conservation on the Coast Home Assistance Local Program
18	Conservation on the Coast Small Business Lighting Local Program
19	First Nations Conservation Local Program
20	High Efficiency Agricultural Pumping Local Program
21	Instant Savings Local Program
22	Onpaver Local Program
23	PUMPhaver Local Program
24	Social Benchmarking Local Program
25	THESL Swimming Pool Efficiency Local Program
Sub-total: Local & Regional Programs	

LDC Innovation Fund Pilot Programs	
26	Hot Source Heat Pump for Residential Water Heating Pilot Program
27	Building Optimization Pilot Program
28	Conservation Voltage Regulation Leveraging AMI Data Pilot Program
29	Demand Control Kitchen Ventilation Pilot Program
30	Direct Install - Hydronic Pilot Program
31	Direct Install - RTU Controls Pilot Program
32	Electronically Commutated Furnace Motor Pilot Program
33	Electronics Takeback Pilot Program
34	Home Energy Assessment and Retrofit Pilot Program
35	HDH HP Pilot Program
36	PAP for Class B Office Pilot Program
37	Performance Based Conservation Pilot Program
38	Re-Invest Pilot Program
39	Residential Direct Install Pilot Program
40	Residential Direct Mail Pilot Program
41	Residential Ductless Heat Pump Pilot Program
42	Residential Install Pilot Program
43	Social Benchmarking Pilot Program
44	Solar Powered Attic Ventilation Pilot Program
45	Truckload Event Pilot Program
Sub-total: LDC Innovation Fund Pilot Programs	

Program Enabled Savings	
46	Save on Energy Retrofit Program Enabled Savings
47	Save on Energy High Performance New Construction Program Enabled Savings
48	Save on Energy Process & Systems Upgrades Program Enabled Savings
Sub-total: Program Enabled Savings	

Other	
49	Proposed Program or Pilot
50	Unassigned Target
Sub-total: Other	

Sub-total: 2015-2020 Conservation First Framework

Conservation Fund	
51	EnerNOC Conservation Fund Pilot Program
52	Home Depot Home Appliance Market Uplift Conservation Fund Pilot Program
53	Lowlow PAP Conservation Fund Pilot Program
54	Ontario Clean Water Agency PAP Conservation Fund Pilot Program
55	Social Benchmarking Conservation Fund Pilot Program
56	Strategic Energy Group Conservation Fund Pilot Program
Sub-total: Conservation Fund	

2011-2014+2015 Extension Legacy Framework Programs

Residential Program	
57	Appliance Retirement Initiative
58	Coupon Initiative
59	Bi-Annual Retailer Event Initiative
60	HVAC Incentives Initiative
61	Residential New Construction and Major Renovation Initiative
Sub-total: Residential Program	

Commercial & Institutional Program	
62	Energy Audit Initiative
63	Efficiency: Equipment Replacement Incentive Initiative
64	Direct Install Lighting and Water Heating Initiative
65	New Construction and Major Renovation Initiative
66	Existing Building Commissioning Incentive Initiative
Sub-total: Commercial & Institutional Program	

Industrial Program	
67	Process and Systems Upgrades Initiatives - Project Incentive Initiative
68	Process and Systems Upgrades Initiatives - Energy Manager Initiative
69	Process and Systems Upgrades Initiatives - Monitoring and Targeting Initiative
Sub-total: Industrial Program	

Low Income Program	
70	Low Income Initiative
Sub-total: Low Income Program	

Other	
71	Aboriginal Conservation Program
72	Program Enabled Savings
Sub-total: Other	

Sub-total: 2011-2014+2015 Extension Legacy Framework

Total	
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Participation >	Net Incremental 2020 Annual Energy Savings (Progress towards 2015 - 2020 CF F LDC CDM Plan Target) >
Net Incremental 2020 Annual Peak Demand Savings >	Net Incremental 2020 Annual Peak Demand Savings >
Net Incremental First Year Energy Savings >	Net Incremental First Year Energy Savings >
Net Incremental First Year Peak Demand Savings >	Net Incremental First Year Peak Demand Savings >
Net-to-Gross Adjustment - Energy >	Net-to-Gross Adjustment - Energy >
Net-to-Gross Adjustment - Peak Demand >	Net-to-Gross Adjustment - Peak Demand >
Realization Rate - Energy >	Realization Rate - Energy >
Realization Rate - Peak Demand >	Realization Rate - Peak Demand >
Gross Incremental First Year Energy Savings >	Gross Incremental First Year Energy Savings >
Gross Incremental First Year Peak Demand Savings >	Gross Incremental First Year Peak Demand Savings >
Savings Group >	Savings Group >
Participant Incentive Spending >	Participant Incentive Spending >
LDC Administrative Expense Spending >	LDC Administrative Expense Spending >
Value Added Services Provider Administrative Expense Spending >	Value Added Services Provider Administrative Expense Spending >
Total Administrative Expense Spending >	Total Administrative Expense Spending >
Total 2015-2020 CF F LDC CDM Plan Budget Spending >	Total 2015-2020 CF F LDC CDM Plan Budget Spending >
Spending Group >	Spending Group >
Total Resource Cost - Cost Effectiveness Test - Gross Benefit >	Total Resource Cost - Cost Effectiveness Test - Gross Benefit >
Total Resource Cost - Cost Effectiveness Test - Gross Cost >	Total Resource Cost - Cost Effectiveness Test - Gross Cost >
Total Resource Cost - Cost Effectiveness Test - Net Benefit >	Total Resource Cost - Cost Effectiveness Test - Net Benefit >
Total Resource Cost - Cost Effectiveness Test - Net Benefit Ratio >	Total Resource Cost - Cost Effectiveness Test - Net Benefit Ratio >
Program Administrator Cost - Cost Effectiveness Test - Gross Benefit >	Program Administrator Cost - Cost Effectiveness Test - Gross Benefit >
Program Administrator Cost - Cost Effectiveness Test - Gross Cost >	Program Administrator Cost - Cost Effectiveness Test - Gross Cost >
Program Administrator Cost - Cost Effectiveness Test - Net Benefit >	Program Administrator Cost - Cost Effectiveness Test - Net Benefit >
Program Administrator Cost - Cost Effectiveness Test - Net Benefit Ratio >	Program Administrator Cost - Cost Effectiveness Test - Net Benefit Ratio >
Levelized Unit Energy Cost - Cost Effectiveness Test - Benefit >	Levelized Unit Energy Cost - Cost Effectiveness Test - Benefit >
Levelized Unit Energy Cost - Cost Effectiveness Test - Cost >	Levelized Unit Energy Cost - Cost Effectiveness Test - Cost >
Levelized Unit Energy Cost - Cost Effectiveness Test >	Levelized Unit Energy Cost - Cost Effectiveness Test >
Cost Effectiveness Tests Group >	Cost Effectiveness Tests Group >

Progress Report
For: Province Wide

#	Programs
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2015-2020 Conservation First Framework Programs

Residential Province-Wide Programs	
1	Save on Energy Coupon Program
2	Save on Energy Heating & Cooling Program
3	Save on Energy New Construction Program
4	Save on Energy Home Assistance Program
Sub-total: Residential Province-Wide Programs	

Business Province-Wide Programs	
5	Save on Energy Audit Funding Program
6	Save on Energy Retrofit Program
7	Save on Energy Small Business Lighting Program
8	Save on Energy High Performance New Construction Program
9	Save on Energy Existing Building Commissioning Program
10	Save on Energy Process & Systems Upgrades Program
11	Save on Energy Energy Manager Program
12	Save on Energy Monitoring & Targeting Program
13	Save on Energy Retrofit Program - PAP
14	Save on Energy Process & Systems Upgrades Program - PAP
Sub-total: Business Province-Wide Programs	

Local & Regional Programs	
15	Adaptive Thermostat Local Program
16	Business Refrigeration Incentives Local Program
17	Conservation on the Coast Home Assistance Local Program
18	Conservation on the Coast Small Business Lighting Local Program
19	First Nations Conservation Local Program
20	High Efficiency Agricultural Pumping Local Program
21	Instant Savings Local Program
22	Onpaver Local Program
23	PUMPhaver Local Program
24	Social Benchmarking Local Program
25	THESL Swimming Pool Efficiency Local Program
Sub-total: Local & Regional Programs	

LDC Innovation Fund Pilot Programs	
26	Hot Source Heat Pump for Residential Water Heating Pilot Program
27	Building Optimization Pilot Program
28	Conservation Voltage Regulation Leveraging AMI Data Pilot Program
29	Demand Control Kitchen Ventilation Pilot Program
30	Direct Install - Hydronic Pilot Program
31	Direct Install - RTU Controls Pilot Program
32	Electronically Commutated Furnace Motor Pilot Program
33	Electronics Takeback Pilot Program
34	Home Energy Assessment and Retrofit Pilot Program
35	HOHA HP Pilot Program
36	PAP for Class B Office Pilot Program
37	Performance Based Conservation Pilot Program
38	Re-Invest Pilot Program
39	Residential Direct Install Pilot Program
40	Residential Direct Mail Pilot Program
41	Residential Ductless Heat Pump Pilot Program
42	Residential Install Pilot Program
43	Social Benchmarking Pilot Program
44	Solar Powered Attic Ventilation Pilot Program
45	Truckload Event Pilot Program
Sub-total: LDC Innovation Fund Pilot Programs	

Program Enabled Savings	
46	Save on Energy Retrofit Program Enabled Savings
47	Save on Energy High Performance New Construction Program Enabled Savings
48	Save on Energy Process & Systems Upgrades Program Enabled Savings
Sub-total: Program Enabled Savings	

Other	
49	Proposed Program or Pilot
50	Unassigned Target
Sub-total: Other	

Sub-total: 2015-2020 Conservation First Framework	
Conservation Fund	
51	EnerNOC Conservation Fund Pilot Program
52	Home Depot Home Appliance Market Uplift Conservation Fund Pilot Program
53	Lowlow PAP Conservation Fund Pilot Program
54	Ontario Clean Water Agency PAP Conservation Fund Pilot Program
55	Social Benchmarking Conservation Fund Pilot Program
56	Strategic Energy Group Conservation Fund Pilot Program
Sub-total: Conservation Fund	

2011-2014+2015 Extension Legacy Framework Programs	
Residential Program	
57	Appliance Retirement Initiative
58	Coupon Initiative
59	Bi-Annual Retailer Event Initiative
60	HVAC Incentives Initiative
61	Residential New Construction and Major Renovation Initiative
Sub-total: Residential Program	

Commercial & Institutional Program	
62	Energy Audit Initiative
63	Efficiency: Equipment Replacement Incentive Initiative
64	Direct Install Lighting and Water Heating Initiative
65	New Construction and Major Renovation Initiative
66	Existing Building Commissioning Incentive Initiative
Sub-total: Commercial & Institutional Program	

Industrial Program	
67	Process and Systems Upgrades Initiatives - Project Incentive Initiative
68	Process and Systems Upgrades Initiatives - Energy Manager Initiative
69	Process and Systems Upgrades Initiatives - Monitoring and Targeting Initiative
Sub-total: Industrial Program	

Low Income Program	
70	Low Income Initiative
Sub-total: Low Income Program	

Other	
71	Aboriginal Conservation Program
72	Program Enabled Savings
Sub-total: Other	

Sub-total: 2011-2014+2015 Extension Legacy Framework	
Total	

Participation >	
Net Incremental 2020 Annual Energy Savings (Progress towards 2015 - 2020 CF F LDC CDM Plan Target) >	
Net Incremental 2020 Annual Peak Demand Savings >	
Net Incremental First Year Energy Savings >	
Net Incremental First Year Peak Demand Savings >	
Net-to-Gross Adjustment - Energy >	
Net-to-Gross Adjustment - Peak Demand >	
Realization Rate - Energy >	
Realization Rate - Peak Demand >	
Gross Incremental First Year Energy Savings >	
Gross Incremental First Year Peak Demand Savings >	
Savings Group >	
Participant Incentive Spending >	
LDC Administrative Expense Spending >	
Value Added Services Provider Administrative Expense Spending >	
Total Administrative Expense Spending >	
Total 2015-2020 CF F LDC CDM Plan Budget Spending >	
Spending Group >	
Total Resource Cost - Cost Effectiveness Test - Gross Benefit >	
Total Resource Cost - Cost Effectiveness Test - Gross Cost >	
Total Resource Cost - Cost Effectiveness Test - Net Benefit >	
Total Resource Cost - Cost Effectiveness Test - Net Benefit Ratio >	
Program Administrator Cost - Cost Effectiveness Test - Gross Benefit >	
Program Administrator Cost - Cost Effectiveness Test - Gross Cost >	
Program Administrator Cost - Cost Effectiveness Test - Net Benefit >	
Program Administrator Cost - Cost Effectiveness Test - Net Benefit Ratio >	
Levelized Unit Energy Cost - Cost Effectiveness Test - Benefit >	
Levelized Unit Energy Cost - Cost Effectiveness Test - Cost >	
Levelized Unit Energy Cost - Cost Effectiveness Test >	
Levelized Unit Energy Cost - Cost Effectiveness Tests Group >	

Savings Persistence Report
For: **Kitchener-Wilmot Hydro Inc**

[illegible]

For: Province Wide

Gross Verified Energy Savings	>
Gross Verified Peak Demand Savings	>
Gross Verified Savings	>
Net Verified Energy Savings	>

Net Verified Peak Demand Savings >
Net Verified Savings >

[illegible]

Final Verified 2016 Annual LDC CDM Program Results Report

Methodology

General

All results are at the end-user level (not including transmission and distribution losses) and reported to IESO by April 15, 2017. 2015 results are based on projects completed between January 1, 2015 and December 31, 2015 and reported to the IESO by March 31, 2016. 2015 Adjustment results are based on projects completed between January 1, 2015 and December 31, 2015 and reported to the IESO between April 1, 2016 and April 15, 2017. 2016 results are based on projects completed between January 1, 2016 and December 31, 2016 and reported to the IESO by April 15, 2017.

Legacy Framework results are based on projects begun prior to an LDC's transition to the Conservation First Framework program and completed by December 31, 2015. Conservation First Framework results are based on projects begun after an LDC's transition to the Conservation First Framework program and projects transitioned to the Conservation First Framework through a valid Extension Agreement or eligible Programs.

Savings Calculations

#	Project Type	Attributing Savings to LDCs
1	Prescriptive Measures and Projects Programs	Gross Reported Savings = Activity * Per Unit Assumption Savings Gross Verified Savings = Gross Reported Savings * Realization Rate Net Verified Savings = Gross Verified Savings * Net-to-Gross Ratio All savings are annualized (i.e. the savings are the same regardless of time of year a project was completed or measure installed)
2	Engineered and Custom Projects / Programs	Gross Reported Savings = Reported Savings Gross Verified Savings = Gross Reported Savings * Realization Rate Net Verified Savings = Gross Verified Savings * Net-to-Gross Ratio All savings are annualized (i.e. the savings are the same regardless of time of year a project was completed or measure installed)
3	Adjustments to Previous Years' Verified Results	All variances from the Final Annual Results Reports from prior years will be adjusted within this report. Any variances with regards to projects counts, data lag, and calculations etc., will be made within this report. Considers the annual effect of energy savings.

Cost Determination

Costs are determined and allocated to the period based on the date the cost has been reported to the IESO regardless of when the cost was incurred.

E.g. if an LDC reports by the December 2016 IESO Reporting Period: 1) program savings; 2) Participant Incentives; and 3) Administrative Expenses associated with a 2016 completed project, then: a) the savings; b) expenditures; and c) corresponding cost effectiveness; are attributed to the 2016 program year.

However if the same is reported in or after the January 2017 IESO Reporting Period: i) the savings will be attributed to the 2016 program year; ii) the expenditures will be attributed to the 2017 program year and will not appear in the 2016 Verified Results Report; but iii) the project's Participant Incentives will be used to calculate 2016 Cost Effectiveness;

2015-2020 Conservation First Framework

#	Program	Attributing Savings to LDCs	Project List Date	Savings 'start' Date	Calculating Resource Savings
1	Save on Energy Coupon Program	LDC-coded coupons directly attributed to LDC; Otherwise results are allocated based on Consumer Program Allocation Reference Table.	April 15, 2017	Savings are considered to begin in the year in which the coupon was redeemed.	Peak demand and energy savings are determined using the verified measure level per unit assumption multiplied by the uptake in the market (gross) taking into account net-to-gross factors such as free-ridership and spillover (net) at the measure level.
2	Save on Energy Heating & Cooling Program	Results directly attributed to LDC based on customer applications and postal code.	April 15, 2017	Savings are considered to begin in the year that the installation occurred.	
3	Save on Energy New Construction Program	Results are directly attributed to LDC based on LDC identified in LDC Report	April 15, 2017	Savings are considered to begin in the year of the project completion date.	
4	Save on Energy Home Assistance Program	Results are directly attributed to LDC based on LDC identified in the application.	April 15, 2017	Savings are considered to begin in the year in which the measures were installed.	
5	Save on Energy Audit Funding Program	Projects are directly attributed to LDC based on LDC identified in the application.	April 15, 2017	Savings are considered to begin in the year of the audit date.	Peak demand and energy savings are determined by the total savings resulting from an audit as reported (reported). A realization rate is applied to the reported savings to ensure that these savings align with EM&V protocols and reflect the savings that were actually realized (i.e. how many light bulbs were actually installed vs. what was reported) (gross). Net savings takes into account net-to-gross factors such as free-ridership and spillover (net).
6	Save on Energy Retrofit Program	Projects are directly attributed to LDC based on LDC identified in the application.	April 15, 2017	Savings are considered to begin in the year of the actual project completion date as reported in the LDC Report	Peak demand and energy savings are determined by the total savings for a given project as reported in the iCON system (reported). A realization rate is applied to the reported savings to ensure that these savings align with EM&V protocols and reflect the savings that were actually realized (i.e. how many light bulbs were actually installed vs. what was reported) (gross). Net savings takes into account net-to-gross factors such as free-ridership and spillover (net). Both realization rate and net-to-gross ratios can differ for energy and demand savings and depend on the mix of projects within an LDC territory (i.e. lighting or non-lighting project, engineered/custom/prescriptive track).
7	Save on Energy Small Business Lighting Program	Results are directly attributed to LDC based on the LDC specified on the work order.	April 15, 2017	Savings are considered to begin in the year of the actual project completion date.	Peak demand and energy savings are determined using the verified measure level per unit assumptions multiplied by the uptake of each measure accounting for the realization rate for both peak demand and energy to reflect the savings that were actually realized (i.e. how many light bulbs were actually installed vs. what was reported) (gross). Net savings take into account net-to-gross factors such as free-ridership and spillover for both peak demand and energy savings at the program level (net).
8	Save on Energy High Performance New Construction Program	Results are directly attributed to LDC based on LDC identified in the application.	April 15, 2017	Savings are considered to begin in the year of the actual project completion date.	Peak demand and energy savings are determined by the total savings for a given project as reported in the CDM LDC Report Template. Preliminary unverified net savings are calculated by multiplying reported savings by 2014 Net-to-gross ratios and realization rates.
9	Save on Energy Existing Building Commissioning Program	Results are directly attributed to LDC based on LDC identified in the application.	April 15, 2017	Savings are considered to begin in the year of the actual project completion date.	Peak demand and energy savings are determined by the total savings from a given project as reported (reported). A realization rate is applied to the reported savings to ensure that these savings align with EM&V protocols and reflect the savings that were actually realized (i.e. how many light bulbs were actually installed vs. what was reported) (gross). Net savings takes into account net-to-gross factors such as free-ridership and spillover (net).
10	Save on Energy Process and Systems Upgrades Program	Results are directly attributed to LDC based on LDC identified in the application.	April 15, 2017	Savings are considered to begin in the year in which the project was in-service.	
11	Save on Energy Energy Manager Program	Results are directly attributed to LDC based on LDC identified in the application.	April 15, 2017	Savings are considered to begin in the year in which the project was completed by the energy manager.	
12	Save on Energy Monitoring and Targeting Program	Results are directly attributed to LDC based on LDC identified in the application.	April 15, 2017	Savings are considered to begin in the year in which the incentive project was completed.	

2011-2014+2015 Extension Legacy Framework

#	Initiative	Attributing Savings to LDCs	Project List Date	Savings 'start' Date	Calculating Resource Savings
1	saveONenergy Appliance Retirement Initiative	Includes both retail and home pickup stream. Retail stream allocated based on average of 2008 & 2009 residential throughput; Home pickup stream directly attributed by postal code or customer selection.	April 15, 2017	Savings are considered to begin in the year the appliance is picked up.	Peak demand and energy savings are determined using the verified measure level per unit assumption multiplied by the uptake in the market (gross) taking into account net-to-gross factors such as free-ridership and spillover (net) at the measure level.
2	saveONenergy Conservation Instant Coupon Booklet	LDC-coded coupons directly attributed to LDC. Otherwise results are allocated based on average of 2008 & 2009 residential throughput.	April 15, 2017	Savings are considered to begin in the year in which the coupon was redeemed.	
3	saveONenergy Bi-Annual Retailer Event	Results are allocated based on average of 2008 & 2009 residential throughput.	April 15, 2017	Savings are considered to begin in the year in which the event occurs.	
4	saveONenergy HVAC Incentives	Results directly attributed to LDC based on customer applications and postal code.	April 15, 2017	Savings are considered to begin in the year that the installation occurred.	
5	saveONenergy Residential New Construction	Results are directly attributed to LDC based on LDC identified in application in the iCON system.	April 15, 2017	Savings are considered to begin in the year of the project completion date.	

6	saveONenergy Energy Audit	Projects are directly attributed to LDC based on LDC identified in the application.	April 15, 2017	Savings are considered to begin in the year of the audit date.	Peak demand and energy savings are determined by the total savings resulting from an audit as reported (reported). A realization rate is applied to the reported savings to ensure that these savings align with EM&V protocols and reflect the savings that were actually realized (i.e. how many light bulbs were actually installed vs. what was reported) (gross). Net savings takes into account net-to-gross factors such as free-ridership and spillover (net).
7	saveONenergy Efficiency: Equipment Replacement	Results are directly attributed to LDC based on LDC identified at the facility level in the iCon system. Projects in the Application Status: "Post-Stage Submission" are included (excluding "Payment denied by LDC"); Please see page for Building type to Sector mapping.	April 15, 2017	Savings are considered to begin in the year of the actual project completion date in the iCon system.	Peak demand and energy savings are determined by the total savings for a given project as reported in the iCon system (reported). A realization rate is applied to the reported savings to ensure that these savings align with EM&V protocols and reflect the savings that were actually realized (i.e. how many light bulbs were actually installed vs. what was reported) (gross). Net savings takes into account net-to-gross factors such as free-ridership and spillover (net). Both realization rate and net-to-gross ratios can differ for energy and demand savings and depend on the mix of projects within an LDC territory (i.e. lighting or non-lighting project, engineered/custom/prescriptive track). Additional Note: project counts were derived by filtering out invalid statuses (e.g. Post-Project Submission - Payment denied by LDC) and only including projects with an "Actual Project Completion Date" in 2014)
8	saveONenergy Direct Installed Lighting	Results are directly attributed to LDC based on the LDC specified on the work order.	April 15, 2017	Savings are considered to begin in the year of the actual project completion date.	Peak demand and energy savings are determined using the verified measure level per unit assumptions multiplied by the uptake of each measure accounting for the realization rate for both peak demand and energy to reflect the savings that were actually realized (i.e. how many light bulbs were actually installed vs. what was reported) (gross). Net savings takes into account net-to-gross factors such as free-ridership and spillover for both peak demand and energy savings at the program level (net).
9	saveONenergy New Construction and Major Renovation Incentive	Results are directly attributed to LDC based on LDC identified in the application.	April 15, 2017	Savings are considered to begin in the year in which the incentive project was completed.	Peak demand and energy savings are determined by the total savings for a given project as reported (reported). A realization rate is applied to the reported savings to ensure that these savings align with EM&V protocols and reflect the savings that were actually realized (i.e. how many light bulbs were actually installed vs. what was reported) (gross). Net savings takes into account net-to-gross factors such as free-ridership and spillover (net).
10	saveONenergy Existing Building Commissioning Incentive	Results are directly attributed to LDC based on LDC identified in the application.	April 15, 2017		Peak demand and energy savings are determined by the total savings from a given project as reported (reported). A realization rate is applied to the reported savings to ensure that these savings align with EM&V protocols and reflect the savings that were actually realized (i.e. how many light bulbs were actually installed vs. what was reported) (gross). Net savings takes into account net-to-gross factors such as free-ridership and spillover (net).
11	saveONenergy Process & System Upgrades	Results are directly attributed to LDC based on LDC identified in application.	April 15, 2017	Savings are considered to begin in the year in which the incentive project was completed.	Peak demand and energy savings are determined by the total savings from a given project as reported (reported). A realization rate is applied to the reported savings to ensure that these savings align with EM&V protocols and reflect the savings that were actually realized (i.e. how many light bulbs were actually installed vs. what was reported) (gross). Net savings takes into account net-to-gross factors such as free-ridership and spillover (net).
12	saveONenergy Energy Manager	Results are directly attributed to LDC based on LDC identified in application.	April 15, 2017	Savings are considered to begin in the year in which the project was completed by the energy manager. If no date is specified the savings will begin the year of the Quarterly Report submitted by the energy manager.	Peak demand and energy savings are determined using the measure level per unit assumption multiplied by the uptake of each measure (gross), taking into account net-to-gross factors such as free-ridership and spillover (net) at the measure level.
13	saveONenergy Monitoring & Targeting	Results are directly attributed to LDC based on LDC identified in application.	April 15, 2017	Savings are considered to begin in the year in which the incentive project was completed.	Peak demand and energy savings are determined using the measure level per unit assumption multiplied by the uptake of each measure (gross), taking into account net-to-gross factors such as free-ridership and spillover (net) at the measure level.
14	saveONenergy Home Assistance Program	Results are directly attributed to LDC based on LDC identified in the application.	April 15, 2017	Savings are considered to begin in the year in which the measures were installed.	Peak demand and energy savings are determined using the measure level per unit assumption multiplied by the uptake of each measure (gross), taking into account net-to-gross factors such as free-ridership and spillover (net) at the measure level.
15	Aboriginal Conservation Program	Results are directly attributed to LDC based on LDC identified in the application.	April 15, 2017		
16	Program Enabled Savings		April 15, 2017		

Final Verified 2016 Annual LDC CDM Program Results Report

Consumer Program Allocation Reference Table

#	Local Distribution Company	Allocation (%)
1	Algoma Power Inc.	0.18
2	Atikokan Hydro Inc.	0.02
3	Attawapiskat Power Corporation	0.01
4	Bluewater Power Distribution Corporation	0.62
5	Brantford Power Inc.	0.67
6	Burlington Hydro Inc.	1.34
7	Canadian Niagara Power Inc.	0.35
8	Centre Wellington Hydro Ltd.	0.11
9	Chapleau Public Utilities Corporation	0.03
10	COLLUS PowerStream Corp.	0.25
11	Cooperative Hydro Embrun Inc.	0.06
12	E.L.K. Energy Inc.	0.25
13	Energy+ Inc.	1.12
14	Enersource Hydro Mississauga Inc.	4.64
15	Entegrus Powerlines Inc.	0.70
16	EnWin Utilities Ltd.	1.49
17	Erie Thames Powerlines Corporation	0.32
18	Espanola Regional Hydro Distribution Corporation	0.06
19	Essex Powerlines Corporation	0.61
20	Festival Hydro Inc.	0.32
21	Fort Albany Power Corporation	0.01
22	Fort Frances Power Corporation	0.09
23	Greater Sudbury Hydro Inc.	0.80
24	Grimsby Power Incorporated	0.18
25	Guelph Hydro Electric Systems Inc.	0.85
26	Halton Hills Hydro Inc.	0.59
27	Hearst Power Distribution Company Limited	0.05
28	Horizon Utilities Corporation	3.72
29	Hydro 2000 Inc.	0.04
30	Hydro Hawkesbury Inc.	0.15
31	Hydro One Brampton Networks Inc.	3.59
32	Hydro One Networks Inc.	27.29
33	Hydro Ottawa Limited	6.61
34	InnPower Corporation	0.33

35	Kashechewan Power Corporation	0.02
36	Kenora Hydro Electric Corporation Ltd.	0.09
37	Kingston Hydro Corporation	0.29
38	Kitchener-Wilmot Hydro Inc.	1.51
39	Lakefront Utilities Inc.	0.11
40	Lakeland Power Distribution Ltd.	0.23
41	London Hydro Inc.	2.61
42	Midland Power Utility Corporation	0.10
43	Milton Hydro Distribution Inc.	0.66
44	Newmarket-Tay Power Distribution Ltd.	0.60
45	Niagara Peninsula Energy Inc.	0.82
46	Niagara-on-the-Lake Hydro Inc.	0.13
47	North Bay Hydro Distribution Limited	0.42
48	Northern Ontario Wires Inc.	0.09
49	Oakville Hydro Electricity Distribution Inc.	1.51
50	Orangeville Hydro Limited	0.20
51	Orillia Power Distribution Corporation	0.22
52	Oshawa PUC Networks Inc.	1.48
53	Ottawa River Power Corporation	0.12
54	Peterborough Distribution Incorporated	0.46
55	PowerStream Inc.	7.82
56	PUC Distribution Inc.	0.65
57	Renfrew Hydro Inc.	0.05
58	Rideau St. Lawrence Distribution Inc.	0.07
59	Sioux Lookout Hydro Inc.	0.08
60	St. Thomas Energy Inc.	0.28
61	Thunder Bay Hydro Electricity Distribution Inc.	0.82
62	Tillsonburg Hydro Inc.	0.12
63	Toronto Hydro-Electric System Limited	15.57
64	Veridian Connections Inc.	2.39
65	Wasaga Distribution Inc.	0.18
66	Waterloo North Hydro Inc.	0.96
67	Welland Hydro-Electric System Corp.	0.31
68	Wellington North Power Inc.	0.06
69	West Coast Huron Energy Inc.	0.06
70	Westario Power Inc.	0.37
71	Whitby Hydro Electric Corporation	1.12
Total		100.00

Final Verified 2016 Annual LDC CDM Program Results Report

Glossary

#	Term	Definition
Reporting Terms		
1	Forecast	An LDCs' forecast of program activity, savings, net-to-gross adjustments, expenditures and cost effectiveness as indicated in each LDC's submitted CDM Plan Cost Effectiveness Tools. Forecasts at the province wide level are the sum of all LDCs' forecasts.
2	Reported	Program activity savings and expenditures as determined by the LDC. For savings: 1) for prescriptive projects/programs: calculating quantity x prescriptive savings assumptions; and 2) for engineered or custom program projects/programs: calculated using prescribed methodologies.
3	Verified	The IESO's annually EM&V assessed program activity, savings, net-to-gross, expenditures and cost effectiveness. Preliminary Verified results are provided by June 1st of each year and Final Verified results are provided by July 1st of each year.
4	Adjustment	Verified results that were achieved in previous years but were not provided in a previous years' Annual Verified Results Report.
5	Progress or Comparison	An assessment of Actual results versus Verified results.
Framework Terms		
6	2011-2014+2015 Extension Legacy Framework	Programs in market from 2011-2015 resulting from the April 23, 2010 GEA CDM Ministerial Directive and funded separately from 2015-2020 Conservation First Framework Programs but whose savings in 2015 are attributed towards the 2015-2020 Conservation First Framework target.
7	2015-2020 Conservation First Framework	Programs in market from 2015-2020 resulting from the March 31, 2014 CFF Ministerial Directive and funded separately from 2011-2014+2015 Extension Legacy Framework Programs.
8	LDC Innovation Fund	A source of funding under the 2015-2020 Conservation First Framework separate from LDC CDM Plan Budgets that the IESO maintains to support LDC led program design and market testing of new initiatives. Savings from LDC Innovation Fund pilot programs contribute to the LDCs savings targets based on the LDC service territory the pilot program is delivered in.
9	Conservation Fund	A source of funding external to the 2015-2020 Conservation First Framework that provides financial support for innovative electricity conservation technologies, practices, research, and pilot programs. Savings from Conservation Fund pilot programs contribute to the LDCs savings targets based on the LDC service territory the pilot program is delivered in.
Programs Terms		
10	Program	A Conservation & Demand Management offering focusing on a particular opportunity or customer end-use (e.g. Coupon; or Retrofit;) from the 2015-2020 Conservation First Framework.
11	Province-Wide Program	Programs available to all LDCs to deliver and that are consistent across the province.
12	Regional Program	Programs designed by LDCs to serve their region and approved by the IESO.
13	Local Program	Programs designed by LDCs to serve their communities and approved by the IESO.
14	Pilot Program	A program pilot that may achieve energy or demand savings and is funded separately from an LDC's CDM Plan Budget.
15	Initiative	A Conservation & Demand Management offering focusing on a particular opportunity or customer end-use (e.g. Fridge & Freezer Pickup) from the 2011-2014+2015 Extension Legacy Framework.
Activity Terms		
16	Participation	A measure of the level of program participation, such as number of projects, homes, equipment, etc..
17	Unit of Measure	For a specific initiative the relevant type of participation acquired in the market place (e.g. appliances picked up; coupon products installed; HVAC equipment installed; audits performed; or projects completed;).
Savings Terms		

18	Energy Savings	Energy savings attributable to conservation and demand management activities.
19	Peak Demand Savings	Peak Demand savings attributable to conservation and demand management activities, as determined by the IESO's EM&V Protocols.
20	Incremental Savings	The energy or peak demand savings newly attributable to activity procured in a particular reporting period based on when the savings are considered to 'start'. Savings attributed to activity performed or completed in 2016 are presented as 2016 savings.
21	First Year Savings	The energy or peak demand savings that occur in the year it was achieved (includes resource savings from only new program activity).
22	Annual Savings	The energy or peak demand savings that occur in a given year (includes resource savings from new program activity and resource savings persisting from previous years).
23	Gross Savings	The energy or peak demand savings that have been reported based on a conservation and demand management program's participation tracking.
24	Net Savings	The energy or peak demand savings attributable to conservation and demand management activities, net of free-riders, spill over, etc.
25	Realization Rate	A comparison of originally reported savings and observed or measured savings that adjusts reported savings to arrive at verified savings. Accounts for discrepancies such as audited measure counts; adjustment for connected demand savings to peak demand savings; etc.
26	Net-to-Gross Adjustment	The ratio of net savings to gross savings, which takes into account factors such as free-ridership, spillover, etc.
27	Free-ridership	The percentage of participants who would have implemented the program measure or practice in the absence of the program.
28	Spillover	Reductions in energy consumption and/or demand caused by the presence of the energy efficiency program, beyond the program-related gross savings of the participants. There can be participant and/or non-participant spillover.
29	Allocated Target	Each LDC's assigned portion of the Province's 7 TWh Net 2020 Annual Energy Savings Target of the 2015-2020 Conservation First Framework.

Costs Terms

30	Participant Incentive	Costs incurred in the delivery of a program related to incenting participants to perform peak demand or energy savings.
31	LDC Administrative Expense	Costs reported by the LDC in the delivery of a program related to labour, marketing, third-party expenses, etc.
32	IESO Value Added Services Cost	Costs incurred by the IESO's Value Added Service Provider related to associated programs (Coupons and Heating & Cooling), and charged to the LDC in which the programs's activity took place.
33	Total Administrative Expense	The sum of LDC Administrative Expense and IESO Value Added Services Cost.
34	Delivery Cost	The sum of Total Administrative Expenses and Participant Incentives. All costs are presented based on the period reported by LDCs to the IESO, not necessarily associated with reported activity. E.g. if an LDC reports by the December 2016 IESO Reporting Period: 1) program savings; 2) Participant Incentives; and 3) Administrative Expenses associated with a 2016 completed project, then: a) the savings; b) expenditures; and c) corresponding cost effectiveness; are attributed to the 2016 program year. However if the same is reported in or after the January 2017 IESO Reporting Period: i) the savings will be attributed to the 2016 program year; ii) the expenditures will be attributed to the 2017 program year and will not appear in the 2016 Verified Results Report; but iii) the project's Participant Incentives will be used to calculate 2016 Cost Effectiveness;
35	Allocated Budget	Each LDC's assigned portion of the Province's \$ 1.835 billion CDM Plan Budget of the 2015-2020 Conservation First Framework.

Cost Effectiveness Terms

36	Total Resource Cost Cost Effectiveness Test	A cost effectiveness test that measures the net cost of CDM based on the total costs of the program including both participants' and utility's costs.
37	Program Administrator Cost Cost Effectiveness Test	A cost effectiveness test that measures the net cost of CDM based on costs incurred by the program administrator, including incentive costs and excluding net costs incurred by the participant.
38	Levelized Unit Energy Cost Cost Effectiveness Test	A cost effectiveness test that normalizes the costs incurred by the program administrator per unit of energy or demand reduced.

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File Number: EB-2019-0049

Exhibit: 4

Filed: April 30, 2019

Appendix 4-5: 2017 Income Tax Return

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KPMG LLP
Suite 700, Commerce Place
21 King Street West
Hamilton ON L8P 4W7
Canada
Telephone (905) 523-8200
Fax (905) 523-2222

PRIVATE AND CONFIDENTIAL

Margaret Nanninga
Vice-President Finance & CFO
Kitchener-Wilmot Hydro Inc.
301 Victoria Street South
Kitchener ON N2G 4L2

October 30, 2018

Dear Margaret:

CORPORATE INCOME TAX RETURNS

We have prepared and enclose the corporate income tax returns (the "Returns") of Kitchener-Wilmot Hydro Inc. (the "Company") for the period ended December 31, 2017 and the related Corporate Income Tax Filing Instructions (the "Filing Instructions").

We have prepared these Returns based on our understanding of and reliance upon the facts, data, materials, assumptions and other information (collectively, the "Information") provided to us by the Company and/or its representatives, and we have not independently investigated or verified the accuracy or completeness of such Information. We accept no responsibility or liability for any errors attributable to our reliance upon inaccurate or incomplete Information. We recommend that you carefully review the Returns in their entirety to ensure that all of the relevant Information is correctly and completely disclosed.

The Company did not engage KPMG to prepare a safe income on hand calculation. We would like to remind you that tax-deductible inter-corporate dividends that are received subsequent to April 20, 2015 and that are otherwise tax-free under Part I of the *Income Tax Act* may be re-characterized, under an expanded anti-avoidance rule in subsection 55(2) of the *Income Tax Act*, as capital gains that are subject to tax if, in general terms, there is insufficient safe income on hand. You have advised us that there is sufficient safe income on hand to support the position that the anti-avoidance rule does not apply to the inter-corporate dividends reported in the Returns. If you wish to engage KPMG to prepare a safe income on hand calculation please contact us and we would be pleased to discuss this with you.

Please review the enclosed Filing Instructions. When you are satisfied that the Returns are in order they must be filed (electronically or in paper format) with the respective taxing

authorities by the due date (as set out in the Filing Instructions) if late filing penalties are to be avoided or minimized, or if losses are carried back to a prior taxation year.

KEY TAX ATTRIBUTES SUMMARY

We are pleased to provide you with select key tax information on the *Corporate Tax Return - Key Tax Attributes Summary*. This document lists key amounts and carryforward balances from the Returns and may assist in identifying future potential tax planning opportunities.

FOREIGN PROPERTY

The information return, which reports the Company's specified foreign property, is Form T1135 - *Foreign Income Verification Statement*. Form T1135 should be completed if at any time during 2017 the total cost of all specified foreign property the Company owned or held a beneficial interest in was more than Cdn\$100,000.

According to the information you have provided to us, the Company did not hold specified foreign property at any time in 2017 with a total cost of more than Cdn\$100,000. As such, we have **not** marked an X in box 259 on page 3 of your return and **we have not completed the Form T1135**. If the information on specified foreign property is incorrect, please let us know immediately.

The Form T1135 is due by **June 30, 2018**. The implications of late filing and/or failure to properly report specified foreign property on the Form T1135 and failure to report income from a specified foreign property on your income tax return are substantial. They include significant penalties and an increase to the normal reassessment period by an additional 3 years. Further, the reassessment period extension would impact otherwise statute-barred tax years and would impact the entire income tax return, not just the foreign income and reporting sections.

SUMMARY OF SCIENTIFIC RESEARCH & EXPERIMENTAL DEVELOPMENT ("SR&ED") CLAIM

We have prepared the SR&ED claim based on our understanding of the information provided to us by the Company and we recommend that you review the claim to ensure that all of the relevant facts are properly disclosed.

The nature of our service is to assist the Company in filing claims for SR&ED investment tax credits. We cannot guarantee CRA will accept the Company's research and development activities as qualifying SR&ED activities or that CRA will approve all the Company's research and development expenditures as qualifying SR&ED expenditures. However, the SR&ED claim was prepared based on our professional judgment that the identified activities constitute qualifying SR&ED and all of the appropriate expenditures relating to those activities have been identified. Much of the success of the submission will depend on the integrity and validity of the data collected.

To mitigate the risk of penalties, Part 9 (Claim preparer information) of Form T661 *Scientific Research and Experimental Development (SR&ED) Expenditures Claim* must be fully completed (except where the Company has chosen to separately file under CRA's administrative measure). If any of the prescribed claim preparer information is missing, incomplete, or inaccurate, a penalty of \$1,000 may be assessed and the processing of your

SR&ED claim may be delayed.

GENERAL RATE INCOME POOL ("GRIP")

Shareholders receiving eligible dividends as compared to non-eligible dividends, are subject to a reduced rate of income tax. Eligible dividends are paid out of the Company's GRIP balance, which at December 31, 2017 is estimated to be \$60,544,300. The supporting calculation is summarized in Schedule 53 of the federal corporate tax return.

In addition, designation of eligible dividends is required, with each shareholder recipient being formally notified in writing at time of payment.

The Company did not designate the payment of an eligible dividend for the current taxation year.

CRS AND FATCA REPORTING REQUIREMENTS

Certain Canadian entities are required to report to the Canada Revenue Agency annually on any account holders determined to be Specified US persons under *Part XVIII - Enhanced International Information Reporting* of the Canadian *Income Tax Act* (the Canadian implementation of the US *Foreign Account Tax Compliance Act*, commonly referred to as "FATCA").

Certain Canadian entities are also required to report to the Canada Revenue Agency annually on any account holders determined to be tax residents of countries other than Canada or the United States under *Part XIX - Common Reporting Standard* of the Canadian *Income Tax Act* (commonly referred to as the "CRS").

Please contact us if you have any questions about responding to a request from a financial institution to certify your FATCA or CRS status, or determining whether you are subject to the due diligence and reporting requirements under the CRS or FATCA.

PROPOSED TAX CHANGES

The Company's tax return(s) have been prepared taking into account certain proposals to amend the federal and provincial tax statutes which have been publicly announced to date in budgets and other government releases as being applicable to the Company's current taxation year, even though the proposals may not yet be enacted. If the proposed amendments are not enacted as announced, these tax returns could be reassessed and may result in an underpayment of tax, and possible interest and penalties. If you receive an assessment or reassessment for these tax returns that does not agree with the returns filed, it is important that you notify us so that we can determine if any action needs to be taken.

INSTALMENTS

We have prepared and enclose an estimate of tax instalments as applicable for the Company for the taxation year ending on December 31, 2018. These include instalments for federal income tax and for provincial income and capital taxes. The amounts were computed with reference to the Company's taxable income, taxable capital and income

taxes payable for prior years. If during the year it is evident that the taxable income or taxable capital for the current year will be substantially less than for the previous taxation year, the Company may wish to reduce its cash tax payments by recalculating its instalment payments. Overpaid instalments may, in certain circumstances, be transferred to other accounts or applied to other liabilities such as payroll withholdings. If either of these cases apply, please call your KPMG advisor in order that we may assist you in determining what course of action should be taken.

In order to avoid interest charges, the tax authorities must receive the instalment payments no later than the date indicated on the attached schedule.

NOTICES OF ASSESSMENT

If your Company receives a Notice of Assessment which does not agree with a return as prepared by us, please contact us so that we can determine whether any action should be taken. The Company has only a limited number of days (90 days in the case of federal, Ontario) from the date of mailing of the Assessment in which to object. Failure to respond within the prescribed time limit will cause the Company to lose its right to object to the Assessment.

If you have any questions concerning these Returns, or if we may be of any further assistance, please feel free to contact the undersigned.

Yours truly,

Tony Italiano
Partner
905-523-2227

Enclosures

**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.

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 Web site: www.cra.gc.ca/sred.

Part 1 – General information

010 Name of claimant		Enter one of the following:	
Kitchener-Wilmot Hydro Inc.		<div style="border: 1px solid black; padding: 5px; text-align: center;">86360 3726 RC0001</div> Business number (BN)	
Tax year From: <div style="border: 1px solid black; padding: 2px;">2017-01-01</div> Year Month Day To: <div style="border: 1px solid black; padding: 2px;">2017-12-31</div> Year Month Day		<div style="border: 1px solid black; height: 40px; margin-top: 20px;"></div> Social insurance number (SIN)	
050 Total number of projects you are claiming this tax year:			
1			
100 Contact person for the financial information		105 Telephone number/extension	110 Fax number
Margaret Nanninga		(519) 749-6177	(519) 745-2360
115 Contact person for the technical information		120 Telephone number/extension	125 Fax number
Greig Cameron		(519) 749-6182	(519) 745-2360

151 If this claim is filed for a partnership, was Form T5013 filed? 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No			
If you answered no to line 151, complete lines 153, 156 and 157.			
153	Names of the partners	156	%
		157	BN or SIN
1			
2			
3			
4			
5			

Part 2 - Project informationCRA internal form identifier 060
Code 1501

Complete a separate Part 2 for each project claimed this year.

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 ☒ I elect to use the proxy method
(Enter "0" on line 360 and complete Part 5.)

162 1 ☐ I choose to use the traditional method
(Enter "0" on lines 355 and 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	300	+	92,059
b) Specified employees for work performed in Canada	305	+	
Subtotal (add lines 300 and 305)	306	=	92,059
c) Employees other than specified employees for work performed outside Canada (subject to limitations – see guide)	307	+	
d) Specified employees for work performed outside Canada (subject to limitations – see guide)	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		
• Cost of materials consumed in performing SR&ED	320	+	
• Cost of materials transformed in performing SR&ED	325	+	
• Contract expenditures for SR&ED performed on your behalf:			
a) Arm's length contracts (see note 1)	340	+	47,520
b) Non-arm's length contracts (see note 1)	345	+	
• Lease costs of equipment used before 2014 :			
a) All or substantially all (90% of the time or more) for SR&ED	350	+	
b) Primarily (more than 50% of the time but less than 90%) for SR&ED. (Enter 50% of lease costs if you use the proxy method or enter "0" if you use the traditional method)	355	+	
• Overhead and other expenditures (enter "0" if you use the proxy method)	360	+	
• Third-party payments (see note 2) (complete Form T1263*)	370	+	
Total current SR&ED expenditures (add lines 306 to 370; do not add line 315) (Corporations may need to adjust line 118 of schedule T2SCH1)	380	=	139,579
• Capital expenditures for depreciable property available for use before 2014 (Do not include these capital expenditures on schedule T2SCH8)	390	+	
Total allowable SR&ED expenditures (add lines 380 and 390)	400	=	139,579

Section C – Calculation of pool of deductible SR&ED expenditures (to the nearest dollar)

Amount from line 400	420		139,579
Deduct			
• provincial government assistance for expenditures included on line 400	429	–	4,553
• other government assistance for expenditures included on line 400	431	–	
• non-government assistance for expenditures included on line 400	432	–	
• SR&ED ITCs applied and/or refunded in the prior year (see guide)	435	–	25,942
• sale of SR&ED capital assets and other deductions	440	–	
Subtotal (line 420 minus lines 429 to 440)	442	=	109,084
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	452	+	
• amount of SR&ED ITC recaptured in the prior year	453	+	
Amount available for deduction (add lines 442 to 453) (enter positive amount only, include negative amount in income)	455	=	109,084
• Deduction claimed in the year (Corporations should enter this amount on line 411 of schedule T2SCH1)	460	–	109,084
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)*

Note 1 – For contract expenditures made after 2013, no amounts for purchasing or leasing capital property can be included.

Note 2 – For third-party payments made after 2013, no amounts for purchasing or leasing capital property can be included.

Part 4 – Calculation of qualified SR&ED expenditures for investment tax credit (ITC) purposes

The resulting amount is used to calculate your refundable and/or non refundable ITC.

Enter the breakdown between current and capital expenditures (to the nearest dollar)		Current Expenditures	Capital Expenditures
Total expenditures for SR&ED (from lines 380 and 390)	492	139,579	496
Add			
• payment of prior years' unpaid amounts (other than salary or wages) (see note 5)	500 +		
• prescribed proxy amount (complete Part 5) (Enter "0" if you use the traditional method)	502 +	50,425	
• expenditures on shared-use equipment for property acquired before 2014			504 +
• qualified expenditures transferred to you (see note 3) (complete Form T1146**)	508 +		510 +
Subtotal (add lines 492 to 508, and add lines 496 to 510)	511 =	190,004	512 =
Deduct (see note 4)			
• provincial government assistance	513 -	6,318	514 -
• other government assistance	515 -		516 -
• non-government assistance and contract payments	517 -		518 -
• current expenditures (other than salary or wages) not paid within 180 days of the tax year end (see note 5)	520 -		
• amounts paid in respect of an SR&ED contract to a person or partnership that is not a taxable supplier	528 -		
• 20% of expenditures included on lines 340 and 370	529 -	9,504	
• prescribed expenditures not allowed by regulations (see guide)	530 -		532 -
• other deductions (see guide)	533 -		535 -
• non-arm's length transactions			
– assistance allocated to you (complete Form T1145*)	538 -		540 -
– 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 -		543 -
– qualified expenditures you transferred (complete Form T1146**)	544 -		546 -
Subtotal (line 511 minus lines 513 to 544 and line 512 minus lines 514 to 546)	557 =	174,182	558 =
Qualified SR&ED expenditures (add lines 557 and 558)			559 = 174,182
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 = 174,182

* 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*

Note 3 – On line 510 (capital) – Only include expenditures made before 2014 by the transferor (performer). Complete the latest version of Form T1146.

Note 4 – On lines 514, 516, 518, 532, 535, 540, 543 and 546 – Only include amounts related to expenditures of a capital nature made before 2014.

Note 5 – For arm's length contracts, only include 80% of the contract amount.

Part 7 – Additional information

Expenditures for SR&ED performed by you in Canada (line 400 minus lines 307, 309, 340, 345, and 370) **605** 92,059

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	602		604
Federal grants (do not include funds or tax credits from SR&ED tax incentives)	606		
Federal contracts	608		
Provincial funding	610		
SR&ED contract work performed for other companies on their behalf	612		614
Other funding (e.g., universities, foreign governments)	616		618

For statistical purposes indicate whether the work you performed falls within the realm of Basic or Applied research (to advance scientific knowledge) or Experimental development (to achieve a technological advancement):

620 1 ☐ Basic or Applied research **622** 1 ☒ Experimental development

Enter the number of SR&ED personnel in full-time equivalents (FTE):

Scientists and engineers	632	
Technologists and technicians	634	
Managers and administrators	636	1
Other technical supporting staff	638	1

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 ☒
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 \$1000 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 ☒ 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*)	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. KPMG LLP	12236 3153 RT0001	1	25.00		8,111
Total					8,111

*** 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 arrangement in box 960 in 10 words or less

970 I, Margaret Nanninga, certify that the information provided in this part is complete

Name of authorized signing officer of the corporation, or individual (print)
and accurate.

Signature

975 2018-10-30
Year Month Day

PREPARED SOLELY FOR INCOME TAX PURPOSES WITHOUT AUDIT OR REVIEW FROM INFORMATION PROVIDED BY THE TAXPAYER.

Part 10 – Certification

I certify that I have examined the information provided on this form and on the attachments and it is true, correct, and complete.

165 Margaret Nanninga

Name of authorized signing officer of the corporation, or individual

Signature

170 2018-10-30

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 www.cra.gc.ca/atip.

Part 2 – Project information (continued)

Project number 1

CRA internal form identifier 060

Code 1501

Complete a separate Part 2 for each project claimed this year.

Section A – Project identification**200** Project title (and identification code if applicable)

2017-07 Advancements in Information Systems Integration

202 Project start date

2016-11

Year Month

204 Completion or expected completion date

2018-05

Year Month

206 Field of science or technology code
(See guide for list of codes)

1.02.02

Information technology and bioinformatics (Software e

Project claim history

208 1 ☐ 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? 1 ☐ Yes 2 ☒ NoIf you answered **yes** to line 218, complete lines 220 and 221.**220** Names of the businesses**221** BN

1

2

3

Section B – Project descriptions**242** What scientific or technological uncertainties did you attempt to overcome?
(Maximum 50 lines)

1. Kitchener-Wilmot Hydro Inc. (KWH) is an electricity distribution company which

2. delivers power to approximately 95,700 homes and businesses in Kitchener and

3. Wilmot, Ontario.

4.

5. The objective of this project is to develop new solutions to address system

6. integration challenges inherent to information systems in the utilities

7. industry:

8.

9. KWH attempted to use SharePoint 2016 (SP2016) as the basis for the company's

10. enterprise collaboration platform. However, KWH's search into the public

11. domain for solutions on how to integrate SP2016 with existing legacy systems

12. revealed that related information was lacking. The information available from

13. Microsoft was restricted to SharePoint 2013 (SP2013) likely owing to SP2016's

14. relatively recent release and SP2013's maturity. Further, the information that

15. was available was not necessarily applicable for SP2016 as related components

16. either did not exist or were considerably modified since the SP2013 release.

17. KWH was uncertain how to adapt solutions described for SP2013 in the public

18. domain to SP2016.

19.

20. KWH attempted to use a Printer Control Language (PCL) to extend printing

21. behaviors within vendor printer hardware. This need arose as the hardware was

22. integrated with a legacy Customer Information System (CIS) which could only

23. generate PCL files sequentially. The CIS could not re-aggregate data for PCL

24. file generation on-the-fly. KWH's search into the public domain revealed that

25. the PCL was intended strictly for translating values into printer instructions

26. (e.g., font scaling/bitmapping), it lacked specific commands for re-computing

27. values provided by source systems. In a typical information systems

28. integration, this processing would be the responsibility of the CIS. KWH was

29. uncertain how to adapt the PCL for on-the-fly computing.

30.

31. KWH attempted to integrate a legacy CIS with other systems which it was not

32. intended to work with. External proprietary systems lacked interfaces that

33. mapped precisely to legacy data models. In turn, restrictions existed since

34. the legacy CIS is monolithic in nature, where core components could not be re-

242 What scientific or technological uncertainties did you attempt to overcome?
(Maximum 50 lines)

35. written to accommodate the interfaces that were available. KWH was uncertain
36. how to develop components that could adhere to both proprietary system
37. interfaces and legacy component restrictions.

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)

1. KWH's investigation revealed discrepancies between authentication behaviour in
2. SP2016 and SP2013. Information available for SP2013 could not allow KWH to
3. synchronize user data between an identity-management system and the SharePoint
4. User Profile service application. The SP2013 synchronization mechanism relies
5. on the Forefront Identity Manager (FIM) Sync service and in-process Active
6. Directory Import (ADI), but the FIM dependency was eliminated entirely in
7. SP2016. ADI was intended to strictly serve as the sync mechanism, but it was
8. incompatible with KWH's systems which were designed to work with FIM. In
9. response, KWH hypothesized that a token passing scheme for managing
10. credentials could interoperate with both the ADI and target systems in the
11. absence of the FIM. This necessitated development of an intermediary
12. authentication component, where related tests confirmed the proposed
13. interoperability. However, further investigation revealed SP2016
14. authentication to be incompatible with external networks managed by KWH's
15. systems. SP2016 operation was strictly divided into On-Premise operation or
16. Cloud operation, but KWH needed a hybrid operational state to manage internal
17. and external network sessions. The previous hypothesis involving token passing
18. was revised to manage credentials from internal and external endpoints. This
19. necessitated modification of the aforementioned intermediary authentication
20. component to interoperate with Windows Authentication for sessions on the
21. internal network and LDAP for external sessions. In order for this approach to
22. work correctly, authentication values had to be passed during key events in
23. the SP2016 authentication process, wherein SP2016's Security Token Service
24. creates tokens with session identifiers then adds it to the Distributed Logon
25. Token Cache for future verification. Tests conducted by May 2017 confirmed
26. that KWH's token passing solution for integration behaved as proposed.
- 27.
28. KWH's investigation revealed that the PCL format was intended to be
29. transmitted as a binary data stream, where the destination printer hardware
30. would translate the stream into print instructions sequentially. Consequently,
31. the hypothesis was that this data stream from the CIS could be captured mid-
32. flight, re-arranged and injected with new values while adhering to the
33. protocol, and then piped to the printer hardware without compromising its
34. operation. This entailed development of an adapter with processing rules to
35. conduct parsing, translation alongside streaming I/O methods. Yet, the
36. streaming nature of the data and the re-processing involved for aggregation
37. imposed computational penalties as the PCL format was not intended to be
38. modified in flight. KWH's investigation identified the adapter would need to
39. conduct frequent searches through the streamed data to find values to
40. aggregate, which were typically placed in disjointed locations in the stream.
41. This would translate into frequent, recurring search traversals through the
42. data stream. In response, the adapter was modified to collect and store blocks
43. of the stream in-memory based on streaming patterns identified by KWH. A map
44. was developed to conduct look-ups on behalf of the adapter's re-translation
45. using these patterns as keys. Tests confirmed the look-up approach reduced
46. computational penalties compared to searches. Tests conducted by the end of
47. the year confirmed the data stream capture solution for integration behaved as
48. proposed.
- 49.
50. KWH's investigation revealed some similarities between the CIS data model and
51. the external proprietary system's interface. Consequently, KWH reasoned that a
52. translator could orchestrate message passing between these systems. The

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)

53. translator was developed as a process to invoke calls to one system to gather
54. and manipulate data, then transform it as compatible messages to transmit to
55. the other system. This involved development of a map scheme which could drive
56. the translator. Yet, the monolithic nature of the CIS imposed restrictions on
57. retrieving stored data. KWH's investigation revealed that the data access
58. layer inherent to the CIS could not conduct calls that manipulated results for
59. sufficient consumption by a translator to then re-process and pass to an
60. external system. In response, KWH developed new assessors to operate in
61. conjunction with the legacy data access layer. In turn, the translator could
62. combine these results with results from existing calls to construct messages.
63. This work will continue into the next year.
64.
65.
66.

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 for this project represents a technological advancement in
2. the field of Information Technology. Specifically, the work performed in
3. FY2017 resulted in the following advancements:
4.
5. The knowledge generated by KWH allowed for the integration of SP2016 with
6. other systems in the absence of appropriate information in the public domain.
7. The work advanced KWH's understanding of how to construct components to
8. facilitate the integration, particularly the knowhow on the system
9. architecture and networking infrastructure when a proprietary system is used
10. as the basis of integration. KWH applied this knowledge to allow for seamless
11. authentication for users irrespective of access from external or internal
12. networks.
13.
14. The knowledge generated by KWH allowed for vendor hardware to be used in a
15. manner it was not designed as per vendor documentation available in the public
16. domain. The work advanced KWH's understanding of how to construct components
17. to facilitate the integration, particularly the knowhow around manipulating
18. data when systems on both transmit and receive ends are restrictive. KWH
19. applied this knowledge to extend the company's IT systems integration with an
20. external, third-party system.
21.
22. The knowledge generated by KWH allowed for a legacy system to be used in a
23. manner it was not designed for owing to its monolithic design. The work
24. advanced KWH's understanding of how to construct components to facilitate the
25. integration, particularly the knowhow around manipulating data when access
26. restrictions are imposed by the source system. KWH applied this knowledge to
27. improve access around the legacy system without modifying existing behaviour.

Section C – Additional project information

Who prepared the responses for Section B?

253	1 <input checked="" type="checkbox"/> Employee directly involved in the project	254	Name Greig Cameron
255	1 <input type="checkbox"/> Other employee of the company	256	Name
257	1 <input checked="" type="checkbox"/> External consultant	258	Name KPMG LLP
		259	Firm KPMG LLP

List the key individuals directly involved in the project and indicate their qualifications/experience.

260	Names	261	Qualifications/experience and position title
1	Matt Ferraro		Manager (Application Systems), over 10 years of experience implementing Information Technology solutions
2	Mark Herbert		Manager (Technology Infrastructure), over 10 years of experience building and maintaining Information Technology infrastructure
3	Eric VanDenHurk		Systems Analyst, over 25 years of experience developing Information Technology application solutions

265	Are you claiming any salary or wages for SR&ED performed outside Canada?	1 <input type="checkbox"/> Yes	2 <input checked="" type="checkbox"/> No
266	Are you claiming expenditures for SR&ED carried out on behalf of another party?	1 <input type="checkbox"/> Yes	2 <input checked="" type="checkbox"/> No
267	Are you claiming expenditures for SR&ED performed by people other than your employees?	1 <input checked="" type="checkbox"/> Yes	2 <input type="checkbox"/> No

If you answered **yes** to line 267, complete lines 268 and 269.

268	Names of individuals or companies	269	BN
1	Dean Group		81722 3878 RT0001

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 <input checked="" type="checkbox"/> Project planning documents	276	1 <input checked="" type="checkbox"/> Progress reports, minutes of project meetings
271	1 <input type="checkbox"/> Records of resources allocated to the project, time sheets	277	1 <input type="checkbox"/> Test protocols, test data, analysis of test results, conclusions
272	1 <input type="checkbox"/> Design of experiments	278	1 <input type="checkbox"/> Photographs and videos
273	1 <input type="checkbox"/> Project records, laboratory notebooks	279	1 <input type="checkbox"/> Samples, prototypes, scrap or other artefacts
274	1 <input checked="" type="checkbox"/> Design, system architecture and source code	280	1 <input checked="" type="checkbox"/> Contracts
275	1 <input type="checkbox"/> Records of trial runs	281	1 <input type="checkbox"/> Others, specify 282

Federal Tax Instalments

Federal tax instalments

For the taxation year ended 2018-12-31

Business number 86360 3726 RC0001

The following is a list of instalments payable for the current taxation year, and the last column indicates the instalments payable to the Canada Revenue Agency (CRA). The instalments must be paid on each of the dates indicated below, otherwise non-deductible interest might be charged.

Instalment payments can be made using one of the following methods:

- electronically, using your online or telephone banking services;
- online, using the CRA's *My Payment* service, at **canada.ca/my-cra-payment**;
- by setting up a pre-authorized debit agreement, in *My Business Account*, at **canada.ca/my-cra-business-account**;
- in person, at a Canadian financial institution, **by presenting the appropriate remittance voucher** with your payment.

You can also mail a cheque or a money order payable to the Receiver General of Canada, **accompanied by the appropriate remittance voucher**, to Canada Revenue Agency, P.O. Box 3800, Station A, Sudbury ON P3A 0C3.

Monthly instalment workchart

Date	Monthly tax instalments	Refund transferred to instalments	Instalments paid	Cumulative difference	Instalments payable
2018-01-31	152,526		105,850	46,676	
2018-02-28	152,526		105,850	93,352	
2018-03-31	152,526		105,850	140,028	
2018-04-30	152,526		105,850	186,704	
2018-05-31	152,526		105,850	233,380	
2018-06-30	152,526				385,906
2018-07-31	152,526				152,526
2018-08-31	152,526				152,526
2018-09-30	152,526				152,526
2018-10-31	152,526				152,526
2018-11-30	152,526				152,526
2018-12-31	152,515				152,515
Totals	1,830,301		529,250		1,301,051

**T2 Corporation Income Tax Return****200**

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 or tax services office. You have to file the return within six months after the end of the corporation's tax year.

For more information see canada.ca/taxes or Guide T4012, *T2 Corporation – Income Tax Guide*.

055 Do not use this area**Identification****Business number (BN)** **001** 86360 3726 RC0001**Corporation's name****002** Kitchener-Wilmot Hydro Inc.**Address of head office**Has this address changed since the last time we were notified? **010** 1 Yes ☐ 2 No ☒If **yes**, complete lines 011 to 018.**011** 301 Victoria Street South**012**

City Province, territory, or state

015 Kitchener**016** ON

Country (other than Canada) Postal or ZIP code

017 **018** N2G 4L2**Mailing address** (if different from head office address)Has this address changed since the last time we were notified? **020** 1 Yes ☐ 2 No ☒If **yes**, complete lines 021 to 028.**021** c/o**022****023**

City Province, territory, or state

025 **026**

Country (other than Canada) Postal or ZIP code

027 **028****Location of books and records** (if different from head office address)Has this address changed since the last time we were notified? **030** 1 Yes ☐ 2 No ☒If **yes**, complete lines 031 to 038.**031****032**

City Province, territory, or state

035 **036**

Country (other than Canada) Postal or ZIP code

037 **038****040** **Type of corporation at the end of the tax year** (tick one)

- ☒ 1 Canadian-controlled private corporation (CCPC)
- ☐ 2 Other private corporation
- ☐ 3 Public corporation
- ☐ 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 **043**

Year Month Day

To which tax year does this return apply?

Tax year start

Year Month Day

060 2017-01-01

Tax year-end

Year Month Day

061 2017-12-31

Has there been an acquisition of control resulting in the application of subsection 249(4) since the tax year start on line 060? **063** 1 Yes ☐ 2 No ☒

If **yes**, provide the date control was acquired **065**

Year Month Day

Is the date on line 061 a deemed tax year-end according to subsection 249(3.1)? **066** 1 Yes ☐ 2 No ☒

Is the corporation a professional corporation that is a member of a partnership? **067** 1 Yes ☐ 2 No ☒

Is this the first year of filing after:Incorporation? **070** 1 Yes ☐ 2 No ☒Amalgamation? **071** 1 Yes ☐ 2 No ☒If **yes**, complete lines 030 to 038 and attach Schedule 24.

Has there been a wind-up of a subsidiary under section 88 during the current tax year? **072** 1 Yes ☐ 2 No ☒

If **yes**, complete and attach Schedule 24.

Is this the final tax year before amalgamation? **076** 1 Yes ☐ 2 No ☒

Is this the final return up to dissolution? **078** 1 Yes ☐ 2 No ☒

If an election was made under section 261, state the functional currency used **079** _____

Is the corporation a resident of Canada? **080** 1 Yes ☒ 2 No ☐If **no**, give the country of residence on line 081 and complete and attach Schedule 97.**081** _____

Is the non-resident corporation claiming an exemption under an income tax treaty? **082** 1 Yes ☐ 2 No ☒

If **yes**, complete and attach Schedule 91.

If the corporation is exempt from tax under section 149, tick one of the following boxes:

- 085** ☐ 1 Exempt under paragraph 149(1)(e) or (l)
- ☐ 2 Exempt under paragraph 149(1)(j)
- ☐ 3 Exempt under paragraph 149(1)(t)
- ☐ 4 Exempt under other paragraphs of section 149

Do not use this area

095**096****098**

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.

	Yes	Schedule
Is the corporation related to any other corporations?	150 <input checked="" type="checkbox"/>	9
Is the corporation an associated CCPC?	160 <input checked="" type="checkbox"/>	23
Is the corporation an associated CCPC that is claiming the expenditure limit?	161 <input type="checkbox"/>	49
Does the corporation have any non-resident shareholders who own voting shares?	151 <input type="checkbox"/>	19
Has the corporation had any transactions, including section 85 transfers, with its shareholders, officers, or employees, other than transactions in the ordinary course of business? Exclude non-arm's length transactions with non-residents	162 <input type="checkbox"/>	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 <input type="checkbox"/>	44
Has the corporation paid any royalties, management fees, or other similar payments to residents of Canada?	164 <input type="checkbox"/>	14
Is the corporation claiming a deduction for payments to a type of employee benefit plan?	165 <input checked="" type="checkbox"/>	15
Is the corporation claiming a loss or deduction from a tax shelter?	166 <input type="checkbox"/>	T5004
Is the corporation a member of a partnership for which a partnership account number has been assigned?	167 <input type="checkbox"/>	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 <input type="checkbox"/>	22
Did the corporation own any shares in one or more foreign affiliates in the tax year?	169 <input type="checkbox"/>	25
Has the corporation made any payments to non-residents of Canada under subsections 202(1) and/or 105(1) of the <i>Income Tax Regulations</i> ?	170 <input type="checkbox"/>	29
Did the corporation have a total amount over CAN\$1 million of reportable transactions with non-arm's length non-residents?	171 <input type="checkbox"/>	T106
For private corporations: Does the corporation have any shareholders who own 10% or more of the corporation's common and/or preferred shares?	173 <input checked="" type="checkbox"/>	50
Has the corporation made payments to, or received amounts from, a retirement compensation plan arrangement during the year?	172 <input type="checkbox"/>	
Does the corporation earn income from one or more Internet webpages or websites?	180 <input type="checkbox"/>	88
Is the net income/loss shown on the financial statements different from the net income/loss for income tax purposes?	201 <input checked="" type="checkbox"/>	1
Has the corporation made any charitable donations; gifts of cultural or ecological property; or gifts of medicine?	202 <input checked="" type="checkbox"/>	2
Has the corporation received any dividends or paid any taxable dividends for purposes of the dividend refund?	203 <input checked="" type="checkbox"/>	3
Is the corporation claiming any type of losses?	204 <input type="checkbox"/>	4
Is the corporation claiming a provincial or territorial tax credit or does it have a permanent establishment in more than one jurisdiction?	205 <input checked="" type="checkbox"/>	5
Has the corporation realized any capital gains or incurred any capital losses during the tax year?	206 <input type="checkbox"/>	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 subsection 125(8)?	207 <input checked="" type="checkbox"/>	7
Does the corporation have any property that is eligible for capital cost allowance?	208 <input checked="" type="checkbox"/>	8
Does the corporation have any property that is eligible capital property?	210 <input type="checkbox"/>	10
Does the corporation have any resource-related deductions?	212 <input type="checkbox"/>	12
Is the corporation claiming deductible reserves (other than transitional reserves under section 34.2)?	213 <input type="checkbox"/>	13
Is the corporation claiming a patronage dividend deduction?	216 <input type="checkbox"/>	16
Is the corporation a credit union claiming a deduction for allocations in proportion to borrowing or an additional deduction?	217 <input type="checkbox"/>	17
Is the corporation an investment corporation or a mutual fund corporation?	218 <input type="checkbox"/>	18
Is the corporation carrying on business in Canada as a non-resident corporation?	220 <input type="checkbox"/>	20
Is the corporation claiming any federal, provincial, or territorial foreign tax credits, or any federal logging tax credits?	221 <input type="checkbox"/>	21
Does the corporation have any Canadian manufacturing and processing profits?	227 <input type="checkbox"/>	27
Is the corporation claiming an investment tax credit?	231 <input checked="" type="checkbox"/>	31
Is the corporation claiming any scientific research and experimental development (SR&ED) expenditures?	232 <input checked="" type="checkbox"/>	T661
Is the total taxable capital employed in Canada of the corporation and its related corporations over \$10,000,000?	233 <input checked="" type="checkbox"/>	33/34/35
Is the total taxable capital employed in Canada of the corporation and its associated corporations over \$10,000,000?	234 <input checked="" type="checkbox"/>	
Is the corporation subject to gross Part VI tax on capital of financial institutions?	238 <input type="checkbox"/>	38
Is the corporation claiming a Part I tax credit?	242 <input type="checkbox"/>	42
Is the corporation subject to Part IV.1 tax on dividends received on taxable preferred shares or Part VI.1 tax on dividends paid?	243 <input type="checkbox"/>	43
Is the corporation agreeing to a transfer of the liability for Part VI.1 tax?	244 <input type="checkbox"/>	45
Is the corporation subject to Part II – Tobacco Manufacturers' surtax?	249 <input type="checkbox"/>	46
For financial institutions: Is the corporation a member of a related group of financial institutions with one or more members subject to gross Part VI tax?	250 <input type="checkbox"/>	39
Is the corporation claiming a Canadian film or video production tax credit refund?	253 <input type="checkbox"/>	T1131
Is the corporation claiming a film or video production services tax credit refund?	254 <input type="checkbox"/>	T1177
Is the corporation subject to Part XIII.1 tax? (Show your calculations on a sheet that you identify as Schedule 92.)	255 <input type="checkbox"/>	92

Attachments (continued)

	Yes	Schedule
Did the corporation have any foreign affiliates in the tax year?	<input checked="" type="checkbox"/>	T1134
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?	<input checked="" type="checkbox"/>	T1135
Did the corporation transfer or loan property to a non-resident trust?	<input checked="" type="checkbox"/>	T1141
Did the corporation receive a distribution from or was it indebted to a non-resident trust in the year?	<input checked="" type="checkbox"/>	T1142
Has the corporation entered into an agreement to allocate assistance for SR&ED carried out in Canada?	<input checked="" type="checkbox"/>	T1145
Has the corporation entered into an agreement to transfer qualified expenditures incurred in respect of SR&ED contracts?	<input checked="" type="checkbox"/>	T1146
Has the corporation entered into an agreement with other associated corporations for salary or wages of specified employees for SR&ED?	<input checked="" type="checkbox"/>	T1174
Did the corporation pay taxable dividends (other than capital gains dividends) in the tax year?	<input checked="" type="checkbox"/>	55
Has the corporation made an election under subsection 89(11) not to be a CCPC?	<input checked="" type="checkbox"/>	T2002
Has the corporation revoked any previous election made under subsection 89(11)?	<input checked="" type="checkbox"/>	T2002
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?	<input checked="" type="checkbox"/>	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?	<input checked="" type="checkbox"/>	54

Additional information

Did the corporation use the International Financial Reporting Standards (IFRS) when it prepared its financial statements?	270	1 Yes <input checked="" type="checkbox"/>	2 No <input type="checkbox"/>
Is the corporation inactive?	280	1 Yes <input type="checkbox"/>	2 No <input checked="" type="checkbox"/>
What is the corporation's main revenue-generating business activity?	221122	Electric Power Distribution	
Specify the principal products mined, manufactured, sold, constructed, or services provided, giving the approximate percentage of the total revenue that each product or service represents.	284	Electricity distribution	285 100.000 %
	286		287 %
	288		289 %
Did the corporation immigrate to Canada during the tax year?	291	1 Yes <input type="checkbox"/>	2 No <input checked="" type="checkbox"/>
Did the corporation emigrate from Canada during the tax year?	292	1 Yes <input type="checkbox"/>	2 No <input checked="" type="checkbox"/>
Do you want to be considered as a quarterly instalment remitter if you are eligible?	293	1 Yes <input type="checkbox"/>	2 No <input type="checkbox"/>
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	294	Year Month Day	
If the corporation's major business activity is construction, did you have any subcontractors during the tax year?	295	1 Yes <input type="checkbox"/>	2 No <input type="checkbox"/>

Taxable income

Net income or (loss) for income tax purposes from Schedule 1, financial statements, or GIF	300	7,088,811	A
Deduct:			
Charitable donations from Schedule 2	311	4,500	
Cultural gifts from Schedule 2	313		
Ecological gifts from Schedule 2	314		
Gifts of medicine made before March 22, 2017, from Schedule 2	315		
Taxable dividends deductible under section 112 or 113, or subsection 138(6) from Schedule 3	320		
Part VI.1 tax deduction*	325		
Non-capital losses of previous tax years from Schedule 4	331		
Net capital losses of previous tax years from Schedule 4	332		
Restricted farm losses of previous tax years from Schedule 4	333		
Farm losses of previous tax years from Schedule 4	334		
Limited partnership losses of previous tax years from Schedule 4	335		
Taxable capital gains or taxable dividends allocated from a central credit union	340		
Prospector's and grubstaker's shares	350		
Subtotal		4,500	B
Subtotal (amount A minus amount B) (if negative, enter "0")		7,084,311	C
Section 110.5 additions or subparagraph 115(1)(a)(vii) additions	355		D
Taxable income (amount C plus amount D)	360	7,084,311	
Income exempt under paragraph 149(1)(t)	370		
Taxable income for a corporation with exempt income under paragraph 149(1)(t) (line 360 minus line 370)		7,084,311	Z
Taxable income for the year from a personal services business			Z.1

* This amount is equal to 3.5 times the Part VI.1 tax payable at line 724 on page 8.

Small business deduction**Canadian-controlled private corporations (CCPCs) throughout the tax year**

Income from active business carried on in Canada from Schedule 7	400	6,791,950	A
Taxable income from line 360 on page 3, minus 100/28 (3.57143) of the amount on line 632* on page 7, minus 4 times the amount on line 636** on page 7, and minus any amount that, because of federal law, is exempt from Part I tax	405	7,084,311	B
Business limit (see notes 1 and 2 below)	410	500,000	C

Notes:

- For CCPCs that are not associated, enter \$ 500,000 on line 410. However, if the corporation's tax year is less than 51 weeks, prorate this amount by the number of days in the tax year **divided** by 365, and enter the result on line 410.
- For associated CCPCs, use Schedule 23 to calculate the amount to be entered on line 410.

Business limit reduction:

Amount C	500,000	x	415 ***	573,994	D	=	25,510,844	E
				11,250				
Reduced business limit (amount C minus amount E) (if negative, enter "0")							425	F
Business limit the CCPC assigns under subsection 125(3.2) (from line 515 below)								G
Amount F minus amount G							427	H

Small business deduction

Amount A, B, C, or H, whichever is the least	x	Number of days in the tax year before January 1, 2018	365	x	17.5 % =	1
		Number of days in the tax year	365			
Amount A, B, C, or H, whichever is the least	x	Number of days in the tax year after December 31, 2017, and before January 1, 2019		x	18 % =	2
		Number of days in the tax year	365			
Total of amounts 1 and 2 (enter amount I at amount J on page 7)						430 I

* Calculate the amount of foreign non-business income tax credit deductible on line 632 without reference to the refundable tax on the CCPC's investment income (line 604) and without reference to the corporate tax reductions under section 123.4.

** Calculate the amount of foreign business income tax credit deductible on line 636 without reference to the corporation tax reductions under section 123.4.

***** Large corporations**

- If the corporation is not associated with any corporations in both the current and previous tax years, the amount to be entered on line 415 is: (total taxable capital employed in Canada for the **prior** year **minus** \$10,000,000) x 0.225%.
- If the corporation is not associated with any corporations in the current tax year, but was associated in the previous tax year, the amount to be entered on line 415 is: (total taxable capital employed in Canada for the **current** year **minus** \$10,000,000) x 0.225%.
- For corporations associated in the current tax year, see Schedule 23 for the special rules that apply.

Specified corporate income and assignment under subsection 125(3.2)**Applicable to tax years that begin after March 21, 2016**

Except that, if the tax year of your corporation started before **and** ends on or after March 22, 2016 and in the tax year of a CCPC, you can make an assignment of business limit to that other CCPC if its tax year started after March 21, 2016.

J1 Name of corporation receiving the income and assigned amount	J Business number of the corporation receiving the assigned amount	K Income paid under clause 125(1)(a)(i)(B) to the corporation identified in column J ³	L Business limit assigned to corporation identified in column J ⁴
	490	500	505
1.			
Total		510	515

Notes:

- This amount is [as defined in subsection 125(7) **specified corporate income** (a)(i)] the total of all amounts each of which is income 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.
- 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 K 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 425.

General tax reduction for Canadian-controlled private corporations**Canadian-controlled private corporations throughout the tax year**

Taxable income from page 3 (line 360 or amount Z, whichever applies)		7,084,311	A
Lesser of amounts 9B and 9H from Part 9 of Schedule 27			B
Amount 13K from Part 13 of Schedule 27			C
Personal services business income	432		D
Amount used to calculate the credit union deduction (amount F from Schedule 17)			E
Amount from line 400, 405, 410, or 427 on page 4, whichever is the least			F
Aggregate investment income from line 440 on page 6*		296,861	G
Subtotal (add amounts B to G)		296,861	H
Amount A minus amount H (if negative, enter "0")		6,787,450	I
General tax reduction for Canadian-controlled private corporations – Amount I multiplied by 13 %		882,369	J

Enter amount J on line 638 on page 7.

* 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 investment corporation, a mutual fund corporation, or any corporation with taxable income that is not subject to the corporation tax rate of 38%.

Taxable income from page 3 (line 360 or amount Z, whichever applies)			K
Lesser of amounts 9B and 9H from Part 9 of Schedule 27			L
Amount 13K from Part 13 of Schedule 27			M
Personal services business income	434		N
Amount used to calculate the credit union deduction (amount F from Schedule 17)			O
Subtotal (add amounts L to O)			P
Amount K minus amount P (if negative, enter "0")			Q
General tax reduction – Amount Q multiplied by 13 %			R

Enter amount R on line 639 on page 7.

Refundable portion of Part I tax**Canadian-controlled private corporations throughout the tax year**

Aggregate investment income from Schedule 7 **440** 296,861 x 30 2 / 3 % = 91,037 A

Foreign non-business income tax credit from line 632 on page 7 B

Deduct:

Foreign investment income from Schedule 7 **445** x 8 % = C

Subtotal (amount B minus amount C) (if negative, enter "0") D

Amount A minus amount D (if negative, enter "0") 91,037 E

Taxable income from line 360 on page 3 7,084,311 F

Deduct:

Amount from line 400, 405, 410, or 427 on page 4, whichever is the least G

Foreign non-business income tax credit from line 632 on page 7 x 75 / 29 = H

Foreign business income tax credit from line 636 on page 7 x 4 = I

Subtotal (total of amounts G, H and I) J

Subtotal (amount F minus amount J) (if negative, enter "0") 7,084,311 K x 30 2 / 3 % = 2,172,522 L

Part I tax payable minus investment tax credit refund (line 700 minus line 780 from page 8) 1,098,776 M

Refundable portion of Part I tax – Amount E, L, or M, whichever is the least **450** 91,037 N

Refundable dividend tax on hand

Refundable dividend tax on hand at the end of the previous tax year **460** 88,412

Deduct: Dividend refund for the previous tax year **465** 88,412

Subtotal O

Add the total of:

Refundable portion of Part I tax from line 450 above 91,037 P

Total Part IV tax payable from Schedule 3 Q

Net refundable dividend tax on hand transferred from a predecessor corporation on amalgamation, or from a wound-up subsidiary corporation **480**

Subtotal 91,037 R

Refundable dividend tax on hand at the end of the tax year – Amount O plus amount R **485** 91,037

Dividend refund**Private and subject corporations at the time taxable dividends were paid in the tax year**

Taxable dividends paid in the tax year from line 460 on page 3 of Schedule 3 4,195,300 x 38 1 / 3 % = 1,608,198 S

Refundable dividend tax on hand at the end of the tax year from line 485 above 91,037 T

Dividend refund – Amount S or T, whichever is less 91,037 U

Enter amount U on line 784 on page 8.

Part I tax

Base amount Part I tax – Taxable income from page 3 (line 360 or amount Z, whichever applies) multiplied by 38 % **550** 2,692,038 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's (CCPC) investment income
(if it was a CCPC throughout the tax year)

Aggregate investment income from line 440 on page 6 296,861 D

Taxable income from line 360 on page 3 7,084,311 E

Deduct:

Amount from line 400, 405, 410, or 427 on page 4,
whichever is the least F

Net amount (amount E minus amount F) 7,084,311 ▶ 7,084,311 G

Refundable tax on CCPC's investment income – 10 2 / 3 % of whichever is less: amount D or amount G **604** 31,665 H

Subtotal (add amounts A, B, C, and H) 2,723,703 I

Deduct:

Small business deduction from line 430 on page 4 J

Federal tax abatement **608** 708,431

Manufacturing and processing profits deduction from Schedule 27 **616**

Investment corporation deduction **620**

Taxed capital gains **624**

Additional deduction – credit unions from Schedule 17 **628**

Federal foreign non-business income tax credit from Schedule 21 **632**

Federal foreign business income tax credit from Schedule 21 **636**

General tax reduction for CCPCs from amount J on page 5 **638** 882,369

General tax reduction from amount R on page 5 **639**

Federal logging tax credit from Schedule 21 **640**

Eligible Canadian bank deduction under section 125.21 **641**

Federal qualifying environmental trust tax credit **648**

Investment tax credit from Schedule 31 **652** 34,127

Subtotal 1,624,927 ▶ 1,624,927 K

Part I tax payable – Amount I minus amount K 1,098,776 L

Enter amount L on line 700 on page 8.

Privacy statement

Personal information is collected under the *Income Tax Act* to administer tax, benefits, and related programs. It may also be used for any purpose related to the administration or enforcement of the Act such as audit, compliance and the payment of debts owed to the Crown. It may be shared or verified with other federal, provincial/territorial 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 the right to access their personal information and request correction if there are errors or omissions. Refer to Info Source canada.ca/cra-info-source, personal information bank CRA PPU 047.

Summary of tax and credits**Federal tax**

Part I tax payable from amount L on page 7	700	1,098,776
Part II surtax payable from Schedule 46	708	
Part III.1 tax payable from Schedule 55	710	
Part IV tax payable from Schedule 3	712	
Part IV.1 tax payable from Schedule 43	716	
Part VI tax payable from Schedule 38	720	
Part VI.1 tax payable from Schedule 43	724	
Part XIII.1 tax payable from Schedule 92	727	
Part XIV tax payable from Schedule 20	728	

Total federal tax **770** 1,098,776**Add provincial or territorial tax:**Provincial or territorial jurisdiction **750** ON
(if more than one jurisdiction, enter "multiple" and complete Schedule 5)Net provincial or territorial tax payable (except Quebec and Alberta) **760** 731,525
Total tax payable **770** 1,830,301 A**Deduct other credits:**

Investment tax credit refund from Schedule 31	780	
Dividend refund from amount U on page 6	784	91,037
Federal capital gains refund from Schedule 18	788	
Federal qualifying environmental trust tax credit refund	792	
Canadian film or video production tax credit refund (Form T1131)	796	
Film or video production services tax credit refund (Form T1177)	797	
Tax withheld at source	800	

Total payments on which tax has been withheld **801**

Provincial and territorial capital gains refund from Schedule 18	808	
Provincial and territorial refundable tax credits from Schedule 5	812	
Tax instalments paid	840	1,895,500

Total credits **890** 1,986,537 ▶ 1,986,537 BRefund code **894** 1 Overpayment 156,236 ← Balance (amount A minus amount B) -156,236**Direct deposit request**

To have the corporation's refund deposited directly into the corporation's bank account at a financial institution in Canada, or to change banking information you already gave us, complete the information below:

☐ Start ☐ Change information **910** Branch number
914 Institution number **918** Account number

If the result is positive, you have a **balance unpaid**.
 If the result is negative, you have an **overpayment**.
 Enter the amount on whichever line applies.
 Generally, we do not charge or refund a difference of \$2 or less.

Balance unpaid

For information on how to make your payment, go to canada.ca/payments.

If the corporation is a Canadian-controlled private corporation throughout the tax year, does it qualify for the one-month extension of the date the balance of tax is due?

896 1 Yes ☐ 2 No ☒

If this return was prepared by a tax preparer for a fee, provide their EFILE number

920 G1829

PREPARED SOLELY FOR INCOME TAX PURPOSES WITHOUT AUDIT OR REVIEW FROM INFORMATION PROVIDED BY THE TAXPAYER.

CertificationI, **950** Nanninga Lastname **951** Margaret First name **954** Vice-President Finance & CFO Position, office, or rank

am an authorized signing officer of the corporation. I certify that I have examined this return, including accompanying schedules and statements, and that the information given on this return is, to the best of my knowledge, correct and complete. I also certify that the method of calculating income for this tax year is consistent with that of the previous tax year except as specifically disclosed in a statement attached to this return.

955 2018-10-30
Date (yyyy/mm/dd)

Signature of the authorized signing officer of the corporation

956 (519) 749-6177
Telephone numberIs the contact person the same as the authorized signing officer? If **no**, complete the information below**957** 1 Yes ☒ 2 No ☐**958** Name of other authorized person**959** Telephone number**Language of correspondence – Langue de correspondance**Indicate your language of correspondence by entering **1** for English or **2** for French.
Indiquez votre langue de correspondance en inscrivant **1** pour anglais ou **2** pour français.**990** 1

Schedule of Instalment Remittances

Name of corporation contact Margaret Nanninga
 Telephone number (519) 749-6177

Effective interest date	Description (instalment remittance, split payment, assessed credit)	Amount of credit
	Instalments	1,559,100
	Shortfall payment - Feb 6, 2018	336,400
Total amount of instalments claimed (carry the result to line 840 of the T2 Return)		1,895,500 A
Total instalments credited to the taxation year per T9		1,895,500 B

Transfer

Account number	Taxation year end	Amount	Effective interest date	Description
From:				
To:				
From:				
To:				
From:				
To:				
From:				
To:				
From:				
To:				



Form identifier 100

GENERAL INDEX OF FINANCIAL INFORMATION – GIF1

Corporation's name	Business number	Tax year end Year Month Day
Kitchener-Wilmot Hydro Inc.	86360 3726 RC0001	2017-12-31

Balance sheet information

Account	Description	GIFI	Current year	Prior year
Assets				
	Total current assets	1599 +	71,804,703	75,281,233
	Total tangible capital assets	2008 +	397,665,823	377,990,611
	Total accumulated amortization of tangible capital assets	2009 –	163,450,725	155,831,783
	Total intangible capital assets	2178 +	5,570,853	5,700,154
	Total accumulated amortization of intangible capital assets	2179 –	4,680,720	4,526,203
	Total long-term assets	2589 +	10,073,309	6,520,422
	* Assets held in trust	2590 +		
	Total assets (mandatory field)	2599 =	<u>316,983,243</u>	<u>305,134,434</u>
Liabilities				
	Total current liabilities	3139 +	36,864,563	39,049,561
	Total long-term liabilities	3450 +	132,621,857	124,569,701
	* Subordinated debt	3460 +		
	* Amounts held in trust	3470 +		
	Total liabilities (mandatory field)	3499 =	<u>169,486,420</u>	<u>163,619,262</u>
Shareholder equity				
	Total shareholder equity (mandatory field)	3620 +	<u>147,496,823</u>	<u>141,515,172</u>
	Total liabilities and shareholder equity	3640 =	<u>316,983,243</u>	<u>305,134,434</u>
Retained earnings				
	Retained earnings/deficit – end (mandatory field)	3849 =	<u>83,807,324</u>	<u>77,825,673</u>

* Generic item

PREPARED SOLELY FOR INCOME TAX PURPOSES WITHOUT AUDIT OR REVIEW FROM INFORMATION PROVIDED BY THE TAXPAYER.



Form identifier 125

GENERAL INDEX OF FINANCIAL INFORMATION – GIFI

Corporation's name	Business number	Tax year end Year Month Day
Kitchener-Wilmot Hydro Inc.	86360 3726 RC0001	2017-12-31

Income statement information

Description	GIFI
Operating name	0001
Description of the operation	0002
Sequence number	0003 01

Account	Description	GIFI	Current year	Prior year
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Income statement information

Total sales of goods and services	8089 +	204,010,373	232,646,764
Cost of sales	8518 -	204,074,606	228,632,600
Gross profit/loss	8519 =	-64,233	4,014,164
Cost of sales	8518 +	204,074,606	228,632,600
Total operating expenses	9367 +	34,749,024	32,962,640
Total expenses (mandatory field)	9368 =	238,823,630	261,595,240
Total revenue (mandatory field)	8299 +	250,633,188	277,953,912
Total expenses (mandatory field)	9368 -	238,823,630	261,595,240
Net non-farming income	9369 =	11,809,558	16,358,672

Farming income statement information

Total farm revenue (mandatory field)	9659 +		
Total farm expenses (mandatory field)	9898 -		
Net farm income	9899 =		

Net income/loss before taxes and extraordinary items	9970 =	11,809,558	16,358,672
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Total other comprehensive income	9998 =		
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Extraordinary items and income (linked to Schedule 140)

Extraordinary item(s)	9975 -		
Legal settlements	9976 -		
Unrealized gains/losses	9980 +		
Unusual items	9985 -	-195,831	3,868,452
Current income taxes	9990 -	1,828,434	2,001,962
Future (deferred) income tax provision	9995 -		
Total – Other comprehensive income	9998 +		
Net income/loss after taxes and extraordinary items (mandatory field)	9999 =	10,176,955	10,488,258

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Notes Checklist

Corporation's name	Business number	Tax Year End Year Month Day
Kitchener-Wilmot Hydro Inc.	86360 3726 RC0001	2017-12-31

- Parts 1, 2, and 3 of this schedule must be completed from the perspective of the person (referred to in these parts as the **accountant**) who prepared or reported on the financial statements. If the person preparing the tax return is not the accountant referred to above, they must still complete Parts 1, 2, 3, and 4, as applicable.
- For more information, see Guide RC4088, *General Index of Financial Information (GIFI)* and T4012, *T2 Corporation – Income Tax Guide*.
- Complete this schedule and include it with your T2 return along with the other GIFI schedules.

Part 1 – Information on the accountant who prepared or reported on the financial statements

Does the accountant have a professional designation? **095** Yes ☒ No ☐

Is the accountant connected* with the corporation? **097** Yes ☐ No ☒

Note

If the accountant does not have a professional designation **or** is connected to the corporation, you do not have to complete Parts 2 and 3 of this schedule. However, you **do have** to complete Part 4, as applicable.

* A person connected with a corporation can be: (i) a shareholder of the corporation who owns more than 10% of the common shares; (ii) a director, an officer, or an employee of the corporation; or (iii) a person not dealing at arm's length with the corporation.

Part 2 – Type of involvement with the financial statements

Choose the option that represents the highest level of involvement of the accountant: **198**

Completed an auditor's report 1 ☒

Completed a review engagement report 2 ☐

Conducted a compilation engagement 3 ☐

Part 3 – Reservations

If you selected option 1 or 2 under **Type of involvement with the financial statements** above, answer the following question:

Has the accountant expressed a reservation? **099** Yes ☐ No ☒

Part 4 – Other information

If you have a professional designation and are not the accountant associated with the financial statements in Part 1 above, choose one of the following options: **110**

Prepared the tax return (financial statements prepared by client) 1 ☐

Prepared the tax return and the financial information contained therein (financial statements have not been prepared) 2 ☐

Were notes to the financial statements prepared? **101** Yes ☒ No ☐

If **yes**, complete lines 104 to 107 below:

Are subsequent events mentioned in the notes? **104** Yes ☐ No ☒

Is re-evaluation of asset information mentioned in the notes? **105** Yes ☐ No ☒

Is contingent liability information mentioned in the notes? **106** Yes ☐ No ☒

Is information regarding commitments mentioned in the notes? **107** Yes ☐ No ☒

Does the corporation have investments in joint venture(s) or partnership(s)? **108** Yes ☐ No ☒

Part 4 – Other information (continued)**Impairment and fair value changes**

In any of the following assets, was an amount recognized in net income or other comprehensive income (OCI) as a result of an impairment loss in the tax year, a reversal of an impairment loss recognized in a previous tax year, or a change in fair value during the tax year?

200 Yes ☐ No ☒

If **yes**, enter the amount recognized:

In net income
Increase (decrease)

In OCI
Increase (decrease)

Property, plant, and equipment	210		211	
Intangible assets	215		216	
Investment property	220			
Biological assets	225			
Financial instruments	230		231	
Other	235		236	

Financial instruments

Did the corporation derecognize any financial instrument(s) during the tax year (other than trade receivables)?

250 Yes ☐ No ☒

Did the corporation apply hedge accounting during the tax year?

255 Yes ☐ No ☒

Did the corporation discontinue hedge accounting during the tax year?

260 Yes ☐ No ☒

Adjustments to opening equity

Was an amount included in the opening balance of retained earnings or equity, in order to correct an error, to recognize a change in accounting policy, or to adopt a new accounting standard in the current tax year?

265 Yes ☐ No ☒

If **yes**, you have to maintain a separate reconciliation.

SCHEDULE 100**GENERAL INDEX OF FINANCIAL INFORMATION – GIF1**

Form identifier 100

Name of corporation	Business Number	Tax year-end Year Month Day
Kitchener-Wilmot Hydro Inc.	86360 3726 RC0001	2017-12-31

Assets – lines 1000 to 2599

1000	28,765,352	1060	40,020,997	1120	2,209,329
1484	809,025	1599	71,804,703	1600	3,735,257
1680	26,723,407	1681	-8,321,525	1740	367,207,159
1741	-155,129,200	2008	397,665,823	2009	-163,450,725
2010	5,570,853	2011	-4,680,720	2178	5,570,853
2179	-4,680,720	2420	10,073,309	2589	10,073,309
2599	316,983,243				

Liabilities – lines 2600 to 3499

2620	26,030,958	2680	336,370	2920	1,127,112
2960	9,370,123	3139	36,864,563	3140	1,782,742
3220	35,003,613	3240	1,535,487	3260	76,962,142
3320	17,337,873	3450	132,621,857	3499	169,486,420

Shareholder equity – lines 3500 to 3640

3500	63,689,499	3600	83,807,324	3620	147,496,823
3640	316,983,243				

Retained earnings – lines 3660 to 3849

3660	77,825,673	3680	10,176,955	3700	-4,195,300
3740	-4	3849	83,807,324		

PREPARED SOLELY FOR INCOME TAX PURPOSES WITHOUT AUDIT OR REVIEW FROM INFORMATION PROVIDED BY THE TAXPAYER.

SCHEDULE 125**GENERAL INDEX OF FINANCIAL INFORMATION – GIF**

Form identifier 125

Name of corporation	Business Number	Tax year-end Year Month Day
Kitchener-Wilmot Hydro Inc.	86360 3726 RC0001	2017-12-31

DescriptionSequence number **0003** 01**Revenue – lines 8000 to 8299**

8000	204,010,373	8089	204,010,373	8090	296,861
8230	46,325,954	8299	250,633,188		

Cost of sales – lines 8300 to 8519

8340	204,074,606	8518	204,074,606	8519	-64,233
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Operating expenses – lines 8520 to 9369

8670	8,552,445	8710	4,108,648	8960	10,205,273
9270	3,522,629	9284	8,360,029	9367	34,749,024
9368	238,823,630	9369	11,809,558		

Extraordinary items and taxes – lines 9970 to 9999

9970	11,809,558	9985	-195,831	9990	1,828,434
9999	10,176,955				

PREPARED SOLELY FOR INCOME TAX PURPOSES WITHOUT AUDIT OR REVIEW FROM INFORMATION PROVIDED BY THE TAXPAYER.

**Net Income (Loss) for Income Tax Purposes****Schedule 1**

Corporation's name	Business number	Tax year-end Year Month Day
Kitchener-Wilmot Hydro Inc.	86360 3726 RC0001	2017-12-31

- The purpose of this schedule is to provide a reconciliation between 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 income (loss) after taxes and extraordinary items from line 9999 of Schedule 125 10,176,955 A

Add:

Provision for income taxes – current	101	1,828,434	
Interest and penalties on taxes	103	8,690	
Amortization of tangible assets	104	9,251,439	
Charitable donations and gifts from Schedule 2	112	4,500	
Scientific research expenditures deducted per financial statements	118	139,579	
Non-deductible meals and entertainment expenses	121	26,024	
Reserves from financial statements – balance at the end of the year	126	5,213,000	
Subtotal of additions		16,471,666	▶ 16,471,666

Other additions:

Taxable/non-deductible other comprehensive income items	239	33,131	
---	-----	--------	--

Miscellaneous other additions:

1 Description	2 Amount		
605	295		
1 Inducement under 12(1)(x) ITA	105,011		
2 12(1)(a) Customer Deposits	14,523,826		
3 Deferred capital contributions 12(1)(x)	6,242,858		
4 Provision for Bad Debt	155,399		
Total of column 2	21,027,094	▶ 296	21,027,094
Subtotal of other additions		199	21,060,225 ▶ 21,060,225
Total additions		500	37,531,891 ▶ 37,531,891 B
Amount A plus amount B			47,708,846 C

Deduct:

Gain on disposal of assets per financial statements	401	28,575	
Capital cost allowance from Schedule 8	403	13,192,120	
SR&ED expenditures claimed in the year on line 460 from Form T661	411	109,084	
Contributions to deferred income plans from Schedule 15	417	400,000	
Subtotal of deductions		13,729,779	▶ 13,729,779

Other deductions:**Miscellaneous other deductions:**

1 Description	2 Amount
705	395
1 Actual Bad Debts	258,176
2 Deferred Capital Contributions 13(7.4)	6,242,858
3 20(1)(m) Customer Deposits	14,523,826
4 SR&ED cost capitalized for accounting	126,923
5 Amortization of Deferred Revenue	658,473
6 PBO, beginning of year	5,035,000

1 Description		2 Amount	
	705		395
7	Pension payments not recorded against P&L		45,000
	Total of column 2	26,890,256	
		396	26,890,256
	Subtotal of other deductions	499	26,890,256
	Total deductions	510	40,620,035
	Net income (loss) for income tax purposes (amount C minus amount D)		7,088,811
	Enter amount E on line 300 of the T2 return.		

T2 SCH 1 E (17)

Canada

Inducement

This form is used to calculate inducements that a corporation must add to its income under paragraph 12(1)(x) of the 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

Select this check box to add all the amounts to income calculated in Schedule 1. ☐

Federal

A

<input checked="" type="checkbox"/>	Investment tax credit from apprenticeship job creation expenditures	1,645
<input type="checkbox"/>	Investment tax credit from child care spaces expenditures	
<input type="checkbox"/>	Canadian film or video production tax credit*	
	* Please verify if the credit amount relates to depreciable property. For more information, press F1 to consult the Help.	
<input type="checkbox"/>	Film or video production services tax credit*	
	* Please verify if the credit amount relates to depreciable property. For more information, press F1 to consult the Help.	
<input type="checkbox"/>	Investment tax credit claimed on contributions made to SR&ED farming organizations	

Ontario

A

<input checked="" type="checkbox"/>	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	2,465
<input checked="" type="checkbox"/>	Ontario co-operative education tax credit	29,258
<input checked="" type="checkbox"/>	Ontario apprenticeship training tax credit	71,643
<input type="checkbox"/>	Ontario computer animation and special effects tax credit*	
	* Please verify if the credit amount relates to depreciable property. For more information, press F1 to consult the Help.	
<input type="checkbox"/>	Ontario film and television tax credit*	
	* Please verify if the credit amount relates to depreciable property. For more information, press F1 to consult the Help.	
<input type="checkbox"/>	Ontario production services tax credit*	
	* Please verify if the credit amount relates to depreciable property. For more information, press F1 to consult the Help.	
<input type="checkbox"/>	Ontario interactive digital media tax credit*	
	* Please verify if the credit amount relates to depreciable property. For more information, press F1 to consult the Help.	
<input type="checkbox"/>	Ontario sound recording tax credit*	
	* Please verify if the credit amount relates to depreciable property. For more information, press F1 to consult the Help.	
<input type="checkbox"/>	Ontario book publishing tax credit	
<input type="checkbox"/>	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	
<input type="checkbox"/>	Ontario business-research institute tax credit	
<input type="checkbox"/>	Ontario community food program donation tax credit for farmers	

Tax credits whose amount should reduce the capital cost of property



Charitable Donations and Gifts

Corporation's name	Business number	Tax year-end Year Month Day
Kitchener-Wilmot Hydro Inc.	86360 3726 RC0001	2017-12-31

- For use by corporations to claim any of the following:
 - the eligible amount of charitable donations to qualified donees;
 - the Ontario, Nova Scotia, and British Columbia food donation tax credits for farmers;
 - the eligible amount of gifts of certified cultural property;
 - the eligible amount of gifts of certified ecologically sensitive land; or
 - the additional deduction for gifts of medicine made before March 22, 2017.
- All legislative references are to the federal *Income Tax Act*, unless otherwise specified.
- The eligible amount of a gift is the amount by which the fair market value of the gifted property exceeds the amount of an advantage, if any, for the gift.
- The donations and gifts are eligible for a 5-year carryforward except for gifts of certified ecologically sensitive land made after February 10, 2014, which are eligible for a 10-year carryforward. Provincial food donation tax credits must be applied in the current tax year.
- Use this schedule to show a transfer of unused amounts from previous years following an amalgamation or the wind-up of a subsidiary as described under subsections 87(1) and 88(1).
- Subsection 110.1(1.2) provides as follows:
 - Where a particular corporation has undergone an acquisition of control, for tax years that end on or after the acquisition of control, no corporation can claim a deduction for a gift made by the particular corporation to a qualified donee before the acquisition of control.
 - If a particular corporation makes a gift to a qualified donee pursuant to an arrangement under which both the gift and the acquisition of control is expected, no corporation can claim a deduction for the gift unless the person acquiring control of the particular corporation is the qualified donee.
- A gift of medicine made before March 22, 2017 to a qualifying organization for activities outside of Canada may be eligible for an additional deduction. Calculate the additional deduction in Part 5.
- File a completed copy of this schedule with your *T2 Corporation Income Tax Return*.
- For more information, see the *T2 Corporation – Income Tax Guide*.

Part 1 – Charitable donations

Charity/Recipient	Amount (\$100 or more only)
Canadian Diabetes Association	100
Heart & Stroke Foundation	100
Sunnyside Foundation	100
Kidsability Foundation	100
Carizon Family and Community S	100
Canadian Cancer Society	100
United Way of Kitchener-Waterl	800
Grand River Hospital	100
Association for Workplace Trage	1,000
Conestoga College Institute	2,000
	Subtotal 4,500
Add: Total donations of less than \$100 each	
Total donations in current tax year	
	4,500

Part 1 – Charitable donations

	Federal	Québec	Alberta
Charitable donations at the end of the previous tax year	1A		
Charitable donations expired after five tax years*	239		
Charitable donations at the beginning of the current tax year (amount 1A minus line 239)	240		
Charitable donations transferred on an amalgamation or the wind-up of a subsidiary	250		
Total charitable donations made in the current year	210 4,500	4,500	4,500
Include on line 112 of Schedule 1 <i>Net Income (Loss) for Income Tax Purposes</i>			
Subtotal (line 250 plus line 210)	4,500	1B 4,500	4,500
Subtotal (line 240 plus amount 1B)	4,500	1C 4,500	4,500
Adjustment for an acquisition of control	255		
Total charitable donations available (amount 1C minus line 255)	4,500	1D 4,500	4,500
Amount applied in the current year against taxable income (cannot be more than amount 2H in Part 2)	260 4,500	4,500	4,500
Enter on line 311 of the T2 return			
Charitable donations closing balance (amount 1D minus line 260)	280		
The amount of qualifying donations for the Ontario community food program donation tax credit for farmers included in line 260 (for donations made after December 31, 2013)	262		
Ontario community food program donation tax credit for farmers (line 262 multiplied by 25 %)		1E	
Enter amount 1E on line 420 of Schedule 5, <i>Tax Calculation Supplementary – Corporations</i> . The maximum amount you can claim in the current year is whichever is less: the Ontario income tax otherwise payable or amount 1E. For more information, see section 103.1.2 of the <i>Taxation Act, 2007</i> (Ontario).			
The amount of qualifying donations for the Nova Scotia food bank tax credit for farmers included in line 260 (for donations made after December 31, 2015)	263		
Nova Scotia food bank tax credit for farmers (line 263 multiplied by 25 %)		1F	
Enter amount 1F on line 570 of Schedule 5, <i>Tax Calculation Supplementary – Corporations</i> . The maximum amount you can claim in the current year is whichever is less: the Nova Scotia income tax otherwise payable or amount 1F. For more information, see section 50A of the <i>Nova Scotia Income Tax Act</i> .			
The amount of qualifying gifts for the British Columbia farmers' food donation tax credit included in line 260 (for donations made after February 16, 2016 and before January 1, 2019)	265		
British Columbia farmers' food donation tax credit (line 265 multiplied by 25 %)		1G	
Enter amount 1G on line 683 of Schedule 5, <i>Tax Calculation Supplementary – Corporations</i> . The maximum amount you can claim in the current year is whichever is less: the British Columbia income tax otherwise payable or amount 1G. For more information, see section 20.1 of the <i>British Columbia Income Tax Act</i> .			

* For federal and Alberta tax purposes, donations and gifts expire after five tax years. For Québec tax purposes, donations and gifts made in a tax year that ended before March 24, 2006, expire after five tax years; otherwise, donations and gifts expire after twenty tax years.

Amounts carried forward – Charitable donations

Year of origin:		Federal	Québec	Alberta
1 st prior year	2016-12-31			
2 nd prior year	2015-12-31			
3 rd prior year	2014-12-31			
4 th prior year	2013-12-31			
5 th prior year	2012-12-31			
6 th prior year*	2011-12-31			
7 th prior year	2010-12-31			
8 th prior year	2009-12-31			
9 th prior year	2008-12-31			
10 th prior year	2007-12-31			
11 th prior year	2006-12-31			
12 th prior year	2006-06-30			
13 th prior year	2005-06-30			
14 th prior year	2004-06-30			
15 th prior year	2003-06-30			
16 th prior year	2002-06-30			
17 th prior year	2001-06-30			
18 th prior year				
19 th prior year				
20 th prior year				
21 st prior year*				
Total (to line A)				

* For federal and Alberta tax purposes, donations and gifts included on line 6th prior year expire automatically in the current tax year. For Québec tax purposes, donations and gifts made in a tax year that ended before March 24, 2006, that are included on line 6th prior year and donations and gifts that are included on line 21st prior year expire automatically in the current tax year.

Part 2 – Maximum allowable deduction for charitable donations

Net income for tax purposes* multiplied by 75 %		5,316,608	2A
Taxable capital gains arising in respect of gifts of capital property included in Part 1 **	225		
Taxable capital gain in respect of a disposition of a non-qualifying security under subsection 40(1.01)	227		
The amount of the recapture of capital cost allowance in respect of charitable donations	230		
Proceeds of disposition, less outlays and expenses**	2B		
Capital cost**	2C		
Amount 2B or 2C, whichever is less	235		
Line 230 or 235, whichever is less			2D
Subtotal (add lines 225, 227 and amount 2D)			2E
Amount 2E multiplied by 25 %			2F
Subtotal (amount 2A plus amount 2F)		5,316,608	2G
Maximum allowable deduction for charitable donations (amount 1D from Part 1, amount 2G, or net income for tax purposes, whichever is less)		4,500	2H

* For credit unions, subsection 137(2) states that this amount is before the deduction of payments pursuant to allocations in proportion to borrowing and bonus interest.

** This amount must be prorated by the following calculation: eligible amount of the gift divided by the proceeds of disposition of the gift.

Part 3 – Gifts of certified cultural property

	Federal	Québec	Alberta
Gifts of certified cultural property at the end of the previous tax year	3A		
Gifts of certified cultural property expired after five tax years* 439			
Gifts of certified cultural property at the beginning of the current tax year (amount 3A minus line 439) 440			
Gifts of certified cultural property transferred on an amalgamation or the wind-up of a subsidiary 450			
Total gifts of certified cultural property in the current year 410			
Include on line 112 of Schedule 1			
Subtotal (line 450 plus line 410)	3B		
Subtotal (line 440 plus amount 3B)	3C		
Adjustment for an acquisition of control 455			
Amount applied in the current year against taxable income 460			
Enter on line 313 of the T2 return			
Subtotal (line 455 plus line 460)	3D		
Gifts of certified cultural property closing balance (amount 3C minus amount 3D) 480			

* For federal and Alberta tax purposes, donations and gifts expire after five tax years. For Québec tax purposes, donations and gifts made in a tax year that ended before March 24, 2006, expire after five tax years; otherwise, donations and gifts expire after twenty tax years.

Amount carried forward – Gifts of certified cultural property

Year of origin:	Federal	Québec	Alberta
1 st prior year 2016-12-31			
2 nd prior year 2015-12-31			
3 rd prior year 2014-12-31			
4 th prior year 2013-12-31			
5 th prior year 2012-12-31			
6 th prior year* 2011-12-31			
7 th prior year 2010-12-31			
8 th prior year 2009-12-31			
9 th prior year 2008-12-31			
10 th prior year 2007-12-31			
11 th prior year 2006-12-31			
12 th prior year 2006-06-30			
13 th prior year 2005-06-30			
14 th prior year 2004-06-30			
15 th prior year 2003-06-30			
16 th prior year 2002-06-30			
17 th prior year 2001-06-30			
18 th prior year			
19 th prior year			
20 th prior year			
21 st prior year*			
Total			

* For federal and Alberta tax purposes, donations and gifts included on line 6th prior year expire automatically in the current tax year. For Québec tax purposes, donations and gifts made in a tax year that ended before March 24, 2006, that are included on line 6th prior year and donations and gifts that are included on line 21st prior year expire automatically in the current tax year.

Part 4 – Gifts of certified ecologically sensitive land

	Federal	Québec	Alberta
Gifts of certified ecologically sensitive land at the end of the previous tax year	4A		
Gifts of certified ecologically sensitive land expired after 5 tax years, or after 10 tax years for gifts made after February 10, 2014*	539		
Gifts of certified ecologically sensitive land at the beginning of the current tax year (amount 4A minus line 539)	540		
Gifts of certified ecologically sensitive land transferred on an amalgamation or the wind-up of a subsidiary	550		
Total current-year gifts of certified ecologically sensitive land made before February 11, 2014 (include on line 112 of Schedule 1)	510		
Total current-year gifts of certified ecologically sensitive land made after February 10, 2014 (include on line 112 of Schedule 1)	520		
Subtotal (add lines 550, 510, and 520)	4B		
Subtotal (line 540 plus amount 4B)	4C		
Adjustment for an acquisition of control	555		
Amount applied in the current year against taxable income (enter on line 314 of the T2 return)	560		
Subtotal (line 555 plus line 560)	4D		
Gifts of certified ecologically sensitive land closing balance (amount 4C minus amount 4D)	580		

* For federal and Alberta tax purposes, donations and gifts made before February 11, 2014, expire after five tax years and gifts made after February 10, 2014, expire after ten tax years. For Québec tax purposes, donations and gifts made during a tax year that ended before March 24, 2006, expire after five tax years; otherwise, donation and gifts expire after twenty tax years.

Amounts carried forward – Gifts of certified ecologically sensitive land

Amount of carried forward gifts made on or after February 11, 2014, in the tax year including this date			
Year of origin:		Federal	Québec
1 st prior year	2016-12-31		
2 nd prior year	2015-12-31		
3 rd prior year	2014-12-31		
4 th prior year	2013-12-31		
5 th prior year	2012-12-31		
6 th prior year*	2011-12-31		
7 th prior year	2010-12-31		
8 th prior year	2009-12-31		
9 th prior year	2008-12-31		
10 th prior year	2007-12-31		
11 th prior year*	2006-12-31		
12 th prior year	2006-06-30		
13 th prior year	2005-06-30		
14 th prior year	2004-06-30		
15 th prior year	2003-06-30		
16 th prior year	2002-06-30		
17 th prior year	2001-06-30		
18 th prior year			
19 th prior year			
20 th prior year			
21 st prior year*			
Total			

* For federal and Alberta tax purposes, donations and gifts made before February 11, 2014, that are included on line 6th prior year and gifts that are included on line 11th prior year expire automatically in the current year.

The field "Amount of carried forward gifts made on or after February 11, 2014, in the tax year including this date" is used to distinguish the portion of the gifts made in the tax year straddling February 11, 2014, that expires after ten tax years, from the portion that expires in the current tax year.

For Québec tax purposes, donations and gifts made during a tax year that ended before March 24, 2006, that are included on line 6th prior year and gifts that are included on line 21st prior year expire automatically in the current tax year.

Part 5 – Additional deduction for gifts of medicine

	Federal	Québec	Alberta
Additional deduction for gifts of medicine at the end of the previous tax year	5A		
Additional deduction for gifts of medicine expired after five tax years*	639		
Additional deduction for gifts of medicine at the beginning of the current tax year (amount 5A minus line 639)	640		
Additional deduction for gifts of medicine made before March 22, 2017 transferred on an amalgamation or the wind-up of a subsidiary	650		
Additional deduction for gifts of medicine made before March 22, 2017:			
Proceeds of disposition	602		
Cost of gifts of medicine made before March 22, 2017	601		
Subtotal (line 602 minus line 601)	5B		
Amount 5B multiplied by 50 %	5C		
Eligible amount of gifts	600		
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p>Federal</p> <p>a _____ x $\left(\frac{b}{c} \right)$ =</p> <p>Québec</p> <p>a _____ x $\left(\frac{b}{c} \right)$ =</p> <p>Alberta</p> <p>a _____ x $\left(\frac{b}{c} \right)$ =</p> </div> <div style="width: 65%;"> <p>Additional deduction for gifts of medicine made before March 22, 2017</p> <p>Additional deduction for gifts of medicine made before March 22, 2017</p> <p>Additional deduction for gifts of medicine made before March 22, 2017</p> </div> </div>	610		
where:			
a is the lesser of line 601 and amount 5C			
b is the eligible amount of gifts (line 600)			
c is the proceeds of disposition (line 602)			
Subtotal (line 650 plus line 610)	5D		
Subtotal (line 640 plus amount 5D)	5E		
Adjustment for an acquisition of control	655		
Amount applied in the current year against taxable income	660		
Enter on line 315 of the T2 return			
Subtotal (line 655 plus line 660)	5F		
Additional deduction for gifts of medicine closing balance (amount 5E minus amount 5F)	680		

* For federal and Alberta tax purposes, donations and gifts expire after five tax years. For Québec tax purposes, donations and gifts made in a tax year that ended before March 19, 2007, expire after five tax years; otherwise, donations and gifts expire after twenty tax years.

Amounts carried forward – Additional deduction for gifts of medicine

Year of origin:		Federal	Québec	Alberta
1 st prior year	2016-12-31			
2 nd prior year	2015-12-31			
3 rd prior year	2014-12-31			
4 th prior year	2013-12-31			
5 th prior year	2012-12-31			
6 th prior year*	2011-12-31			
7 th prior year	2010-12-31			
8 th prior year	2009-12-31			
9 th prior year	2008-12-31			
10 th prior year	2007-12-31			
11 th prior year	2006-12-31			
12 th prior year	2006-06-30			
13 th prior year	2005-06-30			
14 th prior year	2004-06-30			
15 th prior year	2003-06-30			
16 th prior year	2002-06-30			
17 th prior year	2001-06-30			
18 th prior year				
19 th prior year				
20 th prior year				
21 st prior year*				
Total				

* For federal and Alberta tax purposes, donations and gifts included on line 6th prior year expire automatically in the current tax year. For Québec tax purposes, donations and gifts made in a tax year that ended before March 19, 2007, that are included on line 6th prior year and donations and gifts that are included on line 21st prior year expire automatically in the current tax year.

Québec – Gifts of musical instruments

Gifts of musical instruments at the end of the previous tax year		A
Deduct: Gifts of musical instruments expired after twenty tax years		B
Gifts of musical instruments at the beginning of the tax year		C
Add:		
Gifts of musical instruments transferred on an amalgamation or the wind-up of a subsidiary		D
Total current-year gifts of musical instruments		E
	Subtotal (line D plus line E)	F
Deduct: Adjustment for an acquisition of control		G
Total gifts of musical instruments available		H
Deduct: Amount applied against taxable income (enter this amount on line 255 of form CO-17)		I
Gifts of musical instruments closing balance		J

Amounts carried forward – Gifts of musical instruments

Year of origin:		Québec
1 st prior year	2016-12-31	
2 nd prior year	2015-12-31	
3 rd prior year	2014-12-31	
4 th prior year	2013-12-31	
5 th prior year	2012-12-31	
6 th prior year*	2011-12-31	
7 th prior year	2010-12-31	
8 th prior year	2009-12-31	
9 th prior year	2008-12-31	
10 th prior year	2007-12-31	
11 th prior year	2006-12-31	
12 th prior year	2006-06-30	
13 th prior year	2005-06-30	
14 th prior year	2004-06-30	
15 th prior year	2003-06-30	
16 th prior year	2002-06-30	
17 th prior year	2001-06-30	
18 th prior year		
19 th prior year		
20 th prior year		
21 st prior year*		
Total		

* These gifts expired in the current year.

**Dividends Received, Taxable Dividends Paid, and
Part IV Tax Calculations**

Corporation's name	Business number	Tax year-end Year Month Day
Kitchener-Wilmot Hydro Inc.	86360 3726 RC0001	2017-12-31

- 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); or
 - taxable dividends paid in the tax year that qualify for a dividend refund.
- All legislative references are to the federal *Income Tax Act*.
- The calculations in this schedule apply only to private or subject corporations.
- A recipient corporation is **connected** with a payer corporation at any time in a tax year, if at that time the recipient corporation:
 - controls the payer corporation, other than because of a right referred to in paragraph 251(5)(b); or
 - 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 one completed copy of this schedule with your *T2 Corporation Income Tax Return*.
- Column A1 – Enter "X" if dividends received from a foreign source.
- Column F1 – Enter the amount of dividends received reported in column 240 that are eligible.
- Column F2 – 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 and I **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 column J and K use the **special calculations provided in the notes**.

	A	A1	B	C	D	E
	Name of payer corporation (from which the corporation received the dividend)		Enter 1 if payer corporation is connected	Business Number of connected corporation	Tax year-end of the payer corporation in which the sections 112/113 and subsection 138(6) dividends in column F were paid YYYY/MM/DD	Non-taxable dividends under section 83
	200		205	210	220	230
1			2			
Total of column E (enter amount on line 402 of Schedule 1)						

F	F1	F2	G	H	I	J	K
Taxable dividends deductible from taxable income under section 112, subsections 113(2) and 138(6), and paragraphs 113(1)(a), (a.1), (b), or (d) ^{note 1}	Eligible dividends (included in column F)		Dividends included in column F that was received before 2016	Total taxable dividends paid by connected payer corporation (for tax year in column D)	Dividend refund of the connected payer corporation (for tax year in column D) ^{note 2}	Part IV tax before deductions. Dividends (from column G) received before 2016 multiplied by 33 1/3% ^{note 3}	Part IV tax before deductions. Dividends received after 2015 (column F minus column G) multiplied by 38 1/3% ^{note 4}
240			241	250	260	270	275
1							
Total of column F (include this amount on line 320 of the T2 Return)						Total of column J (enter amount on line a in Part 2)	
						Total of column K (enter amount on line b in Part 2)	

1 If taxable dividends are received, enter the amount in column 240, but if the corporation is not subject to Part IV tax (such as a public corporation other than a subject corporation as defined in subsection 186(3)), enter "0" in column 270 or column 275 as applicable according to the date received. Life insurers are not subject to Part IV tax on subsection 138(6) dividends.

2 If the connected payer corporation's tax year ends after the corporation's balance-due day for the tax year (two or three months, as applicable), you have to estimate the payer's dividend refund when you calculate the corporation's Part IV tax payable.

3 For dividends received **before 2016** from **connected** corporations, Part IV tax on dividends is equal to: column G **multiplied** by column I **divided** by column H.

4 For dividends received **after 2015** from **connected** corporations, Part IV tax on dividends is equal to: column I **divided** by column H **multiplied** by the result of column F **minus** column G.

Part 2 – Calculation of Part IV tax payable

Part IV tax on dividends received **before 2016**, before deductions (total of column J in part 1) a

Part IV tax on dividends received **after 2015**, before deductions (total of column K in part 1) b

Part IV tax before deductions (amount a **plus** amount b) **L**

Deduct:

Part IV tax payable on dividends subject to Part IV tax (from line 360 of Schedule 43) **320**

Subtotal (amount L **minus** line 320) **M**

Deduct:

Current-year non-capital loss claimed to reduce Part IV tax **330** c

Non-capital losses from previous years claimed to reduce Part IV tax **335** d

Current-year farm loss claimed to reduce Part IV tax **340** e

Farm losses from previous years claimed to reduce Part IV tax **345** f

Total losses applied against Part IV tax (total of amounts c to f) **g**

If your tax year begins after December 31, 2015:

Amount g **multiplied** by 38 1 / 3 % **h**

If your tax year begins before January 1, 2016:

Amount b or M whichever is less

..... ÷ 38 1 / 3 % = 1

Amount 1 or g, whichever is less 2

Amount g **minus** amount 2 3

Amount 2 x 38 1 / 3 % = i

Amount 3 x 33 1 / 3 % = j

Subtotal (amount i **plus** amount j) **k**

Amount h or amount k, whichever applies depending on your tax year start date **N**

Part IV tax payable (amount M **minus** amount N, if negative enter "0") **360**

(enter amount on line 712 of the T2 return)

Part 3 – Taxable dividends paid in the tax year that qualify for a dividend refund

If your corporation's tax year-end is different than that of the connected recipient corporation, your corporation could have paid dividends in more than one tax year of the recipient corporation. If so, use a separate line to provide the information according to each tax year of the recipient corporation.

	O Name of connected recipient corporation	P Business Number	Q Tax year-end of connected recipient corporation in which the dividends in column R were received YYYY/MM/DD	R Taxable dividends paid to connected corporations	R1 Eligible dividends (included in column R)
	400	410	420	430	
1	Kitchener Power Corp	86360 3924 RC0001	2017-12-31	4,195,300	
2					

Total of column R 4,195,300

Total taxable dividends paid in the tax year to other than connected corporations **450**

Eligible dividends (included in line 450) 450a

Total taxable dividends paid in the tax year that qualify for a dividend refund
(total of column R plus line 450) **460** 4,195,300

Part 4 – Total dividends paid in the tax year

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) 4,195,300

Other dividends paid in the tax year (total of 510 to 540) **500** 4,195,300

Total dividends paid in the tax year **500** 4,195,300

Deduct:

Dividends paid out of capital dividend account **510**

Capital gains dividends **520**

Dividends paid on shares described in subsection 129(1.2) **530**

Taxable dividends paid to a controlling corporation that was bankrupt at any time in the year **540**

Subtotal (total of lines 510 to 540) **S**

Total taxable dividends paid in the tax year that qualify for a dividend refund (Line 500 minus amount S) **T** 4,195,300



Tax Calculation Supplementary – Corporations

Corporation's name	Business Number	Tax year-end Year Month Day
Kitchener-Wilmot Hydro Inc.	86360 3726 RC0001	2017-12-31

- 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 to the *Income Tax Regulations*.
- For more information, see the *T2 Corporation – Income Tax Guide*.
- Enter the regulation number in field 100 of Part 1.

Part 1 – Allocation of taxable income

100		Enter the Regulation that applies (402 to 413).			
A Jurisdiction Tick yes if the corporation had a permanent establishment in the jurisdiction during the tax year.*	B Total salaries and wages paid in jurisdiction	C (B x taxable income) / G	D Gross revenue	E (D x taxable income) / H	F Allocation of taxable income (C + E) x 1/2** (where either G or H is nil, do not multiply by 1/2)
Newfoundland and Labrador 003 1 Yes <input type="checkbox"/>	103		143		
Newfoundland and Labrador Offshore 004 1 Yes <input type="checkbox"/>	104		144		
Prince Edward Island 005 1 Yes <input type="checkbox"/>	105		145		
Nova Scotia 007 1 Yes <input type="checkbox"/>	107		147		
Nova Scotia Offshore 008 1 Yes <input type="checkbox"/>	108		148		
New Brunswick 009 1 Yes <input type="checkbox"/>	109		149		
Quebec 011 1 Yes <input type="checkbox"/>	111		151		
Ontario 013 1 Yes <input type="checkbox"/>	113		153		
Manitoba 015 1 Yes <input type="checkbox"/>	115		155		
Saskatchewan 017 1 Yes <input type="checkbox"/>	117		157		
Alberta 019 1 Yes <input type="checkbox"/>	119		159		
British Columbia 021 1 Yes <input type="checkbox"/>	121		161		
Yukon 023 1 Yes <input type="checkbox"/>	123		163		
Northwest Territories 025 1 Yes <input type="checkbox"/>	125		165		
Nunavut 026 1 Yes <input type="checkbox"/>	126		166		
Outside Canada 027 1 Yes <input type="checkbox"/>	127		167		
Total	129 G		169 H		

* "Permanent establishment" is defined in subsection 400(2).

** For corporations other than those described under section 402, use the appropriate calculation described in the Regulations to allocate taxable income.

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 the corporation has provincial or territorial tax payable, complete Part 2.
3. If the 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.

Part 2 – Ontario tax payable, tax credits, and rebates

Total taxable income	Income eligible for small business deduction	Provincial or territorial allocation of taxable income	Provincial or territorial tax payable before credits
7,084,311		7,084,311	814,696

Ontario basic income tax (from Schedule 500) **270** 814,696

Ontario small business deduction (from Schedule 500) **402**

Subtotal (line 270 **minus** line 402) 814,696 ▶ 814,696 5A

Ontario additional tax re Crown royalties (from Schedule 504) **274**

Ontario transitional tax debits (from Schedule 506) **276**

Recapture of Ontario research and development tax credit (from Schedule 508) **277**

Subtotal (total of lines 274 to 277) ▶ 5B

Gross Ontario tax (amount 5A **plus** amount 5B) 814,696 5C

Ontario resource tax credit (from Schedule 504) **404**

Ontario tax credit for manufacturing and processing (from Schedule 502) **406**

Ontario foreign tax credit (from Schedule 21) **408**

Ontario credit union tax reduction (from Schedule 500) **410**

Ontario political contributions tax credit (from Schedule 525) **415**

Ontario non-refundable tax credits (total of lines 404 to 415) ▶ 5D

Subtotal (amount 5C **minus** amount 5D) (if negative, enter "0") 814,696 5E

Ontario research and development tax credit (from Schedule 508) **416** 6,318

Ontario corporate income tax payable before Ontario corporate minimum tax credit and Ontario community food program donation tax credit for farmers (amount 5E **minus** line 416) (if negative, enter "0") 808,378 5F

Ontario corporate minimum tax credit (from Schedule 510) **418**

Ontario community food program donation tax credit for farmers (from Schedule 2) **420**

Ontario corporate income tax payable (amount 5F **minus** the total of lines 418 and 420) (if negative enter "0") 808,378 5G

Ontario corporate minimum tax (from Schedule 510) **278**

Ontario special additional tax on life insurance corporations (from Schedule 512) **280**

Subtotal (line 278 **plus** line 280) ▶ 5H

Total Ontario tax payable before refundable tax credits (amount 5G **plus** amount 5H) 808,378 5I

Ontario qualifying environmental trust tax credit **450**

Ontario co-operative education tax credit (from Schedule 550) **452** 45,922

Ontario apprenticeship training tax credit (from Schedule 552) **454** 30,931

Ontario computer animation and special effects tax credit (from Schedule 554) **456**

Ontario film and television tax credit (from Schedule 556) **458**

Ontario production services tax credit (from Schedule 558) **460**

Ontario interactive digital media tax credit (from Schedule 560) **462**

Ontario sound recording tax credit (from Schedule 562) **464**

Ontario book publishing tax credit (from Schedule 564) **466**

Ontario innovation tax credit (from Schedule 566) **468**

Ontario business-research institute tax credit (from Schedule 568) **470**

Ontario refundable tax credits (total of lines 450 to 470) 76,853 ▶ 76,853 5J

Net Ontario tax payable or refundable tax credit (amount 5I **minus** amount 5J) 290 731,525

(if a credit, enter a negative amount) Include this amount on line 255.

Summary

Enter the total net tax payable or refundable tax credits for all provinces and territories on line 255.

Net provincial and territorial tax payable or refundable tax credits **255** 731,525

If the amount on line 255 is positive, enter the net provincial and territorial tax payable on line 760 of the T2 return.

If the amount on line 255 is negative, enter the net provincial and territorial refundable tax credits on line 812 of the T2 return.

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Schedule 7

Aggregate Investment Income and Active Business Income

Corporation's name	Business number	Tax year-end Year Month Day
Kitchener-Wilmot Hydro Inc.	86360 3726 RC0001	2017-12-31

- Use this schedule if you are a Canadian-controlled private corporation (CCPC) to calculate:
 - your aggregate investment income and foreign investment income, as defined in subsection 129(4), to determine the refundable portion of Part I tax;
 - your **specified partnership income**, if you are a member or **designated member** of one or more partnerships as defined under subsection 125(7); and
 - your income from an active business carried on in Canada eligible for the small business deduction including any **specified corporate income** as defined in subsection 125(7).
- Use this schedule if another CCPC is making an assignment of business limit under subsection 125(3.2) to you.
- Use this schedule if you are a member of a partnership to assign **specified partnership business limit** to a **designated member** under subsection 125(8).
Note: If you are a corporation that is not a CCPC, **only** complete Table 1 (columns A1, B1, C1, G1, H1 and J1) and Table 3 to make this assignment.
- All legislative references are to the *Income Tax Act*.
- For more information, see **Small Business Deduction** and **Refundable Portion of Part I Tax** in Guide T4012, *T2 Corporation – Income Tax Guide*.
- All notes with regards to this form can be found at the bottom of the form.

Part 1 – Aggregate investment income

Aggregate investment income is all **world** source income.

Eligible portion of taxable capital gains for the year	002	
Eligible portion of allowable capital losses for the year (including allowable business investment losses)	012	
Net capital losses of previous years claimed on line 332 on the T2 return	022	
Subtotal (line 012 plus line 022)		A
Line 002 minus amount A (if negative, enter "0")		B
Total income from property (include income from a specified investment business carried on in Canada other than income from a source outside Canada)	032	296,861
Exempt income	042	
Amounts received from AgriInvest Fund No. 2 that were included in computing the corporation's income for the year	052	
Taxable dividends deductible (total of column F on Schedule 3 minus related expenses)	062	
Business income from an interest in a trust that is considered property income under paragraph 108(5)(a)	072	
Subtotal (add lines 042, 052, 062 and 072)		C
Subtotal (line 032 minus amount C)		296,861
Amount B plus amount D		296,861
Amount B plus amount D		296,861
Total losses from property (include losses from a specified investment business carried on in Canada other than a loss from a source outside Canada)	082	
Amount E minus line 082 (if negative, enter "0") (enter on line 440 of the T2 return)	092	296,861

Part 2A – Canadian investment income calculation

Eligible portion of taxable capital gains for the year before taking into account the capital gains reserve (federal) of Schedule 13	1.1		
Reserve's eligible portion (addition/deduction)	1.2		
Taxable capital gains under section 34.2 (line 275 on Schedule 73)	1.3		
Eligible portion of taxable capital gains for the year after taking into account the capital gains reserve from Schedule 13 and the taxable capital gains under section 34.2 (add amounts 1.1, 1.2, and 1.3)		▶	1a
Eligible portion of allowable capital losses for the year (including allowable business investment losses)	2.1		
Net capital losses of previous years claimed on line 332 on the T2 return	2.2		
Allowable capital losses under section 34.2 (line 285 of Schedule 73)	2.3		
Add amounts 2.1, 2.2 and 2.3		▶	2a
Amount 1a minus amount 2a (if negative, enter "0")			3a
Taxable dividends	4.1		
Rental property income (under regulation 1100(11))	4.2		
Other property income	296,861	4.3	
Property income under section 34.2 (line 280 of Schedule 73)	4.4		
Total property income from Canadian sources (add amounts 4.1, 4.2, 4.3 and 4.4)	296,861	▶	296,861 4a
Exempt income	5.1		
Amounts received from AgriInvest Fund No. 2 that were included in computing the corporation's income for the year	5.2		
Taxable dividends deductible (total of column F on Schedule 3 minus related expenses)	5.3		
Business income from an interest in a trust that is considered property income under paragraph 108(5)(a)	5.4		
Add amounts 5.1, 5.2, 5.3 and 5.4		▶	5a
Amount 4a minus amount 5a	296,861		6a
Amount 3a plus amount 6a	296,861		7a
Rental property losses (under regulation 1100(11))	8.1		
Dividend losses	8.2		
Other property losses	8.3		
Property losses under section 34.2 (line 280 of Schedule 73)	8.4		
Total property losses from Canadian sources (add amounts 8.1, 8.2, 8.3 and 8.4)		▶	8a
Amount 7a minus amount 8a (if negative, enter "0")	296,861		9a

Part 3 – Specified partnership income**Table 1 – Specified partnership income**

A		A1				1A
Is the corporation a designated member of the partnership?		Partnership name				Partnership's account number
		200				
Yes	No					

B1	C1	D1	1D	2D	E1	F1
Total income (loss) of partnership from an active business	Corporation's share of amount in column B1	Income of the corporation from providing (directly or indirectly) services or property to the partnership <small>note 1</small>	Adjustments under section 34.2 <small>note 2</small>	Expenses the corporation incurred to earn partnership income	Adjustments (column 1D minus column 2D)	Corporation's income (loss) in respect of the partnership <small>note 3</small> (add columns C1, D1 and E1)
300	310	311			315	320
Total						350

G1	H1	I1	J1	K1	L1	M1
Number of days in the partnership's fiscal period	Prorated business limit <small>notes 3 and 4</small> (column C1 ÷ column B1) × [\$ 500 000 × (column G1 ÷ 365)] (if column C1 is negative, enter "0")	Specified partnership business limit assigned to you (from H2 in Table 2) <small>notes 1, 6 and 7</small>	Specified partnership business limit assigned by you (from F3 in Table 3) <small>notes 1, 6 and 8</small>	Specified partnership business limit amount (column H1 plus column I1 minus column J1)	Column F1 minus column K1 (if negative, enter "0")	Lesser of columns F1 and K1 (if column F1 is negative, enter "0") <small>notes 5</small>
325	330	335	336			340
Total						385
Total						360

Corporation's losses for the year from an active business carried on in Canada (other than as a member of a partnership) – enter as a positive amount **370**

Specified partnership loss of the corporation for the year – enter as a positive amount (total of all negative amounts in column F1) **380**

Subtotal (line 370 **plus** line 380) **J**

Amount at line 385 or amount J, whichever is less **390**

Specified partnership income (line 360 **plus** line 390) **400**

(enter at amount N in Part 4)

Part 3 – Specified partnership income (continued)

Tables 2 and 3 are used to make an assignment of **specified partnership business limit** under subsection 125(8). A person that is a member of a partnership can make an assignment of **specified partnership business limit** under subsection 125(8) to a **designated member** for any tax year that **starts after** March 21, 2016. Also, that person can make an assignment for its tax year that **starts before** March 22, 2016 and **ends after** March 21, 2016 if the tax year of the **designated member starts after** March 21, 2016.

If you are a designated member and **receiving** specified partnership business limit from a person that is a member of the partnership, complete Table 2.

If you are a member of the partnership and **assigning** specified partnership business limit to a designated member, complete Table 3.

Table 2 – A member is assigning to you specified partnership business limit under subsection 125(8)

A2		2A	B2		
Partnership name		Partnership's account number	Name of the member		
405			406		
C2	D2	E2	F2	G2	H2
Business number of the member (if applicable)	Social insurance number of the member (if applicable)	Trust account number of the member (if applicable)	Tax year start of the member (yyyymmdd)	Tax year-end of the member (yyyymmdd)	Specified partnership business limit assigned to you by the member <small>note 9</small>
410	411	412	415	416	420

Table 3 – You are assigning to a designated member (CCPC) specified partnership business limit under subsection 125(8)

A3		3A	B3
Partnership name		Partnership's account number	Name of the designated member
425			426
C3	D3	E3	F3
Business number of the designated member	Tax year start of the designated member	Tax year-end of the designated member (yyyymmdd)	Specified partnership business limit assigned by you to the designated member <small>note 10</small>
430	435	436	440

Part 4 – Partnership income not eligible for the small business deduction

Corporation's income from active businesses carried on in Canada as a member or designated member of a partnership (after deducting related expenses) – from line 350 in Part 3 (if the net amount is negative, enter "0" on line 450) K

Specified partnership loss (from line 380 in Part 3) L

Subtotal (amount K **plus** amount L) M

Specified partnership income (from line 400 in Part 3) N

Partnership income not eligible for the small business deduction (amount M **minus** amount N) **450**

(enter at amount V in Part 5)

Part 5 – Income from active business carried on in Canada

Net income for income tax purposes from line 300 of the T2 return	7,088,811	O	
Allowable business investment loss from line 406 of Schedule 1		P	
Subtotal (amount O plus amount P)	7,088,811		7,088,811 Q
Foreign business income after deducting related expenses ^{note 11}	500		
Taxable capital gains from line 113 of Schedule 1		R	
Net property income (line 032 ^{note 12} minus the total of lines 042, 052 and 082 in Part 1) ^{note 11}	296,861	S	
Personal services business income after deducting related expenses ^{note 11}		e1	
Other income after deducting related expenses ^{note 11}		e2	
Subtotal (amount e1 plus amount e2) ^{note 11}	520		
Subtotal (add line 500, amount R, amount S and line 520)	296,861		296,861 T
Net amount (amount Q minus amount T)			6,791,950 U
Partnership income not eligible for the small business deduction (line 450 in Part 4)		V	
Partnership income allocated to your corporation under subsection 96(1.1)	530		
Income referred to in clause 125(1)(a)(i)(C)	540		
Income referred to in clause 125(1)(a)(i)(B) (from line 615 in Part 6)		W	
Subtotal (add amount V, line 530, line 540 and amount W)			X
Specified corporate income (from line 625 in Part 6)			Y
Income from active business carried on in Canada (amount U minus amount X plus amount Y)			6,791,950 Z
(enter amount Z on line 400 of the T2 return - if negative, enter "0")			

Part 6 – Specified corporate income and assignment under subsection 125(3.2)**Applies to tax years that begin after March 21, 2016.**A CCPC can also make an assignment of business limit to you for its tax year that **starts before** March 22, 2016, and **ends after** March 21, 2016, if your tax year **starts** after March 21, 2016.

1AA Name of the corporation	AA Business number of the corporation	BB Income described under clause 125(1)(a)(i)(B) received from the corporation identified in column AA ^{note 13}	CC Business limit assigned from the corporation identified in column AA ^{note 14}
	600	610	620
1			
Total		615	625

Notes

Note 1 Applies to tax years that **begin after** March 21, 2016. For tax years beginning before March 22, 2016 leave blank.

Note 2 Do **not** include expenses that were deducted in computing the income of the corporation in column D1.

In general, amounts included under subsections 34.2(2) and 34.2(3) or claimed under subsection 34.2(4) are deemed to have the **same character** and be in the **same proportions** as the partnership income they relate to. Amounts claimed under subsection 34.2(11) and included under subsection 34.2(12) are deemed to have the **same character** and be in the **same proportions** as the qualifying transitional income. For example, if a corporation receives \$100,000 of partnership income for the partnership's fiscal period ending in its tax year, and that income is made up of \$40,000 of active business income, \$30,000 of income from property, and \$30,000 as a taxable capital gain, the corporation's adjusted stub period accrual (ASPA) in respect of the partnership would be 40% active business income, 30% property income, and 30% taxable capital gains. Add or deduct only the portion of the following amounts that are characterized as **active business income** in accordance with subsection 34.2(5):

Add:

- the ASPA under subsection 34.2(2) (column 4 of Schedule 73)
- the income inclusion for a new corporate member of a partnership under subsection 34.2(3) (column 6 of Schedule 73)
- the previous-year transitional reserve under subsection 34.2(12) (column 12 of Schedule 73)

Deduct:

- the previous-year ASPA under subsection 34.2(4) (column 5 of Schedule 73)
- the previous-year income inclusion for a new corporate member of a partnership under subsection 34.2(4) (column 7 of Schedule 73)
- the current-year transitional reserve under subsection 34.2(11) (column 11 of Schedule 73)

Note 3 When a partnership carries on more than one business, one of which generates income and another of which realizes a loss, the loss is **not** netted against the partnership's income when calculating the prorated business limit (column H1). Enter on line 380 the total of all losses from column F1.

Note 4 For tax years that begin after March 21, 2016, **if you are a designated member** of the partnership, enter "0".

Note 5 For tax years that begin after March 21, 2016, you must enter "0" **if** the partnership provides services or property to either:

(A) a private corporation (directly or indirectly in any manner whatever) in the year, if:

- you (or one of your shareholders) or a person that does **not** deal at arm's length with you (or one of your shareholders) holds a direct or indirect interest in the private corporation, and
- it is not the case that all or substantially all of the partnership's income for the year from an active business is from providing services or property to
 - persons (other than the private corporation) that deal at arm's length with the partnership and each person that holds a direct or indirect interest in the partnership, or
 - partnerships with which the partnership deals at arm's length, other than a partnership in which a person that does **not** deal at arm's length with you holds a direct or indirect interest, or

(B) a particular partnership (directly or indirectly in any manner whatever) in the year, if:

- you (or one of your shareholders) do **not** deal at arm's length with the particular partnership or a person that holds a direct or indirect interest in the particular partnership, and
- it is not the case that all or substantially all of the partnership's income for the year from an active business is from providing services or property to
 - persons that deal at arm's length with the partnership and each person that holds a direct or indirect interest in the partnership, or
 - partnerships (other than the particular partnership) with which the partnership deals at arm's length, other than a partnership in which a person that does **not** deal at arm's length with you holds a direct or indirect interest.

Note 6 A person that is a member of a partnership can make an assignment of **specified partnership business limit** under subsection 125(8) to a **designated member** for any tax year that **starts after** March 21, 2016. Also, that person can make an assignment for its tax year that **starts before** March 22, 2016 and **ends after** March 21, 2016 if the tax year of the **designated member starts after** March 21, 2016.

Note 7 If you are a **designated member** receiving an assignment of **specified partnership business limit**, complete Table 2 to determine the amounts to enter in Table 1 column I1.

Note 8 If you are a corporation that is a **member** of the partnership and you are assigning **specified partnership business limit**, complete Table 3 to determine the amounts to enter in Table 1 column J1.

Note 9 Add the amounts in column H2 that are for the same partnership and enter it in Table 1 column I1, in the row of the applicable partnership.

Note 10 Add the amounts in column F3 that are for the same partnership and enter it in Table 1 column J1, in the row of the applicable partnership. This amount **cannot** be higher than the amount of prorated business limit you would otherwise be entitled to in Table 1 column H1 for that partnership.

Note 11 If negative, enter amount in brackets, and **add** instead of subtracting.

Note 12 Net of related expenses.

Note 13 This amount is [as defined in subsection 125(7) **specified corporate income** (a)(i)] the total of all amounts, each of which is your income from an active business for the year from providing services or property to a private corporation (directly or indirectly, in any manner whatever) if

(A) at any time in the year, you (or one of your shareholders) or a person that does **not** deal at arm's length with you (or one of your shareholders) holds a direct or indirect interest in the private corporation, and

(B) it is not the case that all or substantially all of your income for the year from an active business is from providing services or property to

(I) persons (other than the private corporation) with which you deal at arm's length, or

(II) partnerships with which you deal at arm's length, other than a partnership in which a person that does **not** deal at arm's length with you holds a direct or indirect interest.

Do **not** include income from an associated corporation if the conditions described in subsection 125(10) are met.

Note 14 The amount of business limit that a CCPC can assign to you cannot be greater than the amount in column BB that is from providing services or property **directly** to that CCPC. If there is an amount included in column BB that is deductible by that CCPC in respect of the amount of its income referred to in clause 125(1)(a)(i)(A) or (B) for its tax year, you need to deduct it from column BB for the purpose of determining the amount that can be assigned to you.



Capital Cost Allowance (CCA)

Corporation's name Kitchener-Wilmot Hydro Inc.	Business number 86360 3726 RC0001	Tax year-end Year Month Day 2017-12-31
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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 ☒

	1 Class number *	Description	2 Undepreciated capital cost at the beginning of the year (amount from column 12 of last year's schedule 8)	3 Cost of acquisitions during the year (new property must be available for use) (see note 1 below)	4 Adjustments and transfers (see note 2 below)	5 Proceeds of dispositions during the year (amount not to exceed the capital cost)	6 50% rule (1/2 of the amount, if any, by which the net cost of acquisitions exceeds column 5) (see note 3 below)	7 Reduced undepreciated capital cost (column 2 plus column 3 plus or minus column 4 minus column 5 minus column 6)	8 CCA rate % (see note 4 below)	9 Recapture of capital cost allowance (line 107 of Schedule 1) (see note 5 below)	10 Terminal loss (line 404 of Schedule 1)	11 Capital cost allowance (for declining balance method, column 7 multiplied by column 8, or a lower amount) (line 403 of Schedule 1) (see note 6 below)	12 Undepreciated capital cost at the end of the year (column 6 plus column 7 minus column 11)
	200		201	203	205	207	211		212	213	215	217	220
1.	1		84,300,218			0		84,300,218	4	0	0	3,372,009	80,928,209
2.	1b		9,598,731	1,141,056		0	570,528	10,169,259	6	0	0	610,156	10,129,631
3.	2		6,615,395			0		6,615,395	6	0	0	396,924	6,218,471
4.	3		2,226,169			0		2,226,169	5	0	0	111,308	2,114,861
5.	8		3,958,816	1,017,361		0	508,681	4,467,496	20	0	0	893,499	4,082,678
6.	10		1,575,623	39,073		4,645	17,214	1,592,837	30	0	0	477,851	1,132,200
7.	17		280,254			0		280,254	8	0	0	22,420	257,834
8.	45		1,957			0		1,957	45	0	0	881	1,076
9.	46		14,274			0		14,274	30	0	0	4,282	9,992
10.	47		80,617,675	13,799,170		23,930	6,887,620	87,505,295	8	0	0	7,000,424	87,392,491
11.	50		528,538	42,438		0	21,219	549,757	55	0	0	302,366	268,610
12.	95	Work in Process	6,900,660		-2,557,864	0		4,342,796	0	0	0		4,342,796
13.	94	Assets not in service			1,263,546	0		1,263,546	0	0	0		1,263,546
		Totals	196,618,310	16,039,098	-1,294,318	28,575	8,005,262	203,329,253				13,192,120	198,142,395

Canada Revenue
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Name of corporation Kitchener-Wilmot Hydro Inc.	Business Number 86360 3726 RC0001	Tax year end Year Month Day 2017-12-31
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- 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 100	Country of residence (other than Canada) 200	Business number (see note 1) 300	Relationship code (see note 2) 400	Number of common shares you own 500	% of common shares you own 550	Number of preferred shares you own 600	% of preferred shares you own 650	Book value of capital stock 700
1.	Kitchener Power Corporation		86360 3924 RC0001	1					
2.	Corporation of the City of Kitchener		NR	3					
3.	KITCHENER ENERGY SERVICES		86375 9098 RC0001	3					

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

Continuity of financial statement reserves (not deductible)

Financial statement reserves (not deductible)

Financial statement reserves (not deductible)						
	Description	Balance at the beginning of the year	Transfer on an amalgamation or the wind-up of a subsidiary	Add	Deduct	Balance at the end of the year
1	Employee Future Benefits			5,213,000		5,213,000
2						
	Reserves from Part 2 of Schedule 13					
Totals				5,213,000		5,213,000

The total opening balance plus the total transfers should be entered on line 414 of Schedule 1 as a deduction.

The total closing balance should be entered on line 126 of Schedule 1 as an addition.



Deferred Income Plans

Corporation's name Kitchener-Wilmot Hydro Inc.	Business number 86360 3726 RC0001	Tax year end Year Month Day 2017-12-31
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- Complete the information below if the corporation deducted payments from its income made to a registered pension plan (RPP), a registered supplementary unemployment benefit plan (RSUBP), a deferred profit sharing plan (DPSP), a pooled registered pension plan (PRPP), or an employee profit sharing plan (EPSP).
- If the trust that governs an employee profit sharing plan is **not resident** in Canada, please indicate if the T4PS, *Statement of Employees Profit Sharing Plan Allocations and Payments*, Supplementary slip(s) were filed for the last calendar year, and whether they were filed by the trustee or the employer.

Type of plan (see note 1)	Amount of contribution \$ (see note 2)	Registration number (RPP, RSUBP, PRPP, and DPSP only)	Name of EPSP trust	Address of EPSP trust	T4PS slip(s) (see note 3)
100	200	300	400	500	600
1 1	1,581,864	304091			

Note 1

Enter the applicable code number:

- 1 – RPP
2 – RSUBP
3 – DPSP
4 – EPSP
5 – PRPP

Note 2

You do not need to add to Schedule 1 any payments you made to deferred income plans. To reconcile such payments, calculate the following amount:

Total of all amounts indicated in column 200 of this schedule 1,581,864 A

Less:

Total of all amounts for deferred income plans deducted in your financial statements 1,181,864 B

Deductible amount for contributions to deferred income plans

(amount A minus amount B) (if negative, enter "0") 400,000 C

Enter amount C on line 417 of Schedule 1

Note 3

T4PS slip(s) filed by: 1 – Trustee
2 – Employer
(EPSP only)

**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 purposes of 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, is required to 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. Include non-CCPCs and CCPCs that have filed an election under subsection 256(2) of the *Income Tax Act* not to be associated for purposes of the small business deduction.

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 code 5 applies)
- 2 – CCPC that is a "third corporation" that has elected under subsection 256(2) not to be associated for purposes of the small business deduction
- 3 – Non-CCPC that is a "third corporation" as defined in subsection 256(2)
- 4 – Associated non-CCPC
- 5 – Associated CCPC to which code 1 does not apply because of a subsection 256(2) election made by a "third corporation"

Column 4: Enter the business limit for the year of each corporation in the associated group.

Column 5: Assign a percentage to allocate the business limit to each corporation that has an 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

Date filed (do not use this area)					025	Year Month Day
Enter the calendar year to which the agreement applies					050	Year 2017
Is this an amended agreement for the above calendar year that is intended to replace an agreement previously filed by any of the associated corporations listed below?					075	1 Yes <input type="checkbox"/> 2 No <input checked="" type="checkbox"/>

	1 Names of associated corporations 100	2 Business number of associated corporations 200	3 Association code 300	4 Business limit for the year before the allocation \$ 400	5 Percentage of the business limit % 350	6 Business limit allocated* \$ 400
1	Kitchener-Wilmot Hydro Inc.	86360 3726 RC0001	1	500,000	100.0000	500,000
2	Kitchener Power Corporation	86360 3924 RC0001	1	500,000		
3	Corporation of the City of Kitchener	NR	1	500,000		
4	KITCHENER ENERGY SERVICES	86375 9098 RC0001	1	500,000		
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 $0.225\% \times (D - \$10,000,000)$. Details of this formula and variable D 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 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, whichever is less.



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; or
 - 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 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 (Parts 18 to 20);
 - apprenticeship job creation expenditures (Parts 21 to 23); and
 - child care spaces expenditures (Parts 24 to 28).
 - Expenditures related to child care spaces incurred after March 21, 2017 no longer qualify for the investment tax credit. If you entered into a written agreement before March 22, 2017, eligible expenditures incurred before 2020 will 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, *Guide to Form T661 – Scientific Research and Experimental Development (SR&ED) Expenditures Claim*.

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 when it files the income tax return for the year in which the property was acquired.
- An ITC deducted or refunded 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 and capital costs for a property 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 or capital costs.
- Expenditures for pre-production mining, 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 to 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*.
- 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).
- 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. Qualified property includes new buildings and new machinery and equipment (prescribed in Regulation 4600), and if acquired by the taxpayer **after** March 28, 2012, 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.

Detailed information (continued)

- 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.
- For the purpose of this schedule, **pre-production mining exploration expenditures** are pre-production mining expenditures incurred **after** March 28, 2012, by the taxpayer to determine the existence, location, extent, or quality of certain mineral resources in Canada, excluding expenses incurred in the exploration of an oil or gas well. See subparagraph (a)(i) of the definition of **pre-production mining expenditure** in subsection 127(9) for more information.
- For the purpose of this schedule, **pre-production mining development expenditures** are pre-production mining expenditures incurred **after** March 28, 2012, by the taxpayer to bring a new mineral resource mine in Canada into production, excluding expenses in the development of a bituminous sands deposit or an oil shale deposit. See subparagraph (a)(ii) of the definition of **pre-production mining expenditure** in subsection 127(9) for more information.

Part 1 – Investments, expenditures, and percentages

	Specified percentage
Investments	
Qualified property acquired primarily for use in Atlantic Canada	10 %
Qualified resource property acquired primarily for use in Atlantic Canada and acquired:	
– after March 28, 2012, and before 2014	10 %
– after 2013 and before 2016	5 %
– after 2015*	0 %
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)	35 %
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:	
– before 2014**	20 %
– after 2013**	15 %
If you are a taxable Canadian corporation that incurred pre-production mining expenditures before March 29, 2012	10 %
If you are a taxable Canadian corporation that incurred pre-production mining exploration expenditures:	
– after March 28, 2012, and before 2013	10 %
– in 2013	5 %
– after 2013	0 %
If you are a taxable Canadian corporation that incurred pre-production mining development expenditures***:	
– after March 28, 2012, and before 2014	10 %
– in 2014	7 %
– in 2015	4 %
– after 2015	0 %
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.	
** The reduction of the rate from 20% to 15% applies to 2014 and later tax years, except that, for 2014 tax years that start before 2014, the reduction is pro-rated based on the number of days in the tax year that are after 2013.	
*** A transitional relief rate may apply to expenditures incurred after 2013 and before 2016, if the expenditure is incurred under a written agreement entered into before March 29, 2012, or the expenditure is incurred as part of the development of a new mine where the construction or the engineering and design work for the construction of the new mine started before March 29, 2012. See subparagraphs (k)(ii) and (iii) of the definition of specified percentage in subsection 127(9) for more information.	

Corporation's name Kitchener-Wilmot Hydro Inc.	Business number 86360 3726 RC0001	Tax year-end Year Month Day 2017-12-31
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Part 2 – Determination of a qualifying corporation

Is the corporation a qualifying corporation? **101** 1 Yes ☐ 2 No ☒

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:

- one corporation is associated with another corporation solely because one or more persons own shares of the capital stock of both corporations; and
- 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 **current** expenditures for SR&ED, up to the allocated expenditure limit. The 100% refund does not apply to qualified **capital** expenditures eligible for the 35% credit rate. They are only eligible for the **40%** refund*.

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 **current** expenditures for SR&ED, up to the allocated expenditure limit. The expenditure limit can be determined in Part 10. The 100% refund does not apply to qualified **capital** expenditures eligible for the 35% credit rate. They are only eligible for the **40%** refund*.

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 or more persons exempt from Part I tax under section 149;
- Her Majesty in right of a province, a Canadian municipality, or any other public authority; or
- any combination of persons referred to in a) or b) above.

* Capital expenditures incurred after December 31, 2013, including lease payments for property that would have been a capital expenditure if purchased directly, are **not** qualified SR&ED expenditures and are **not** eligible for an ITC on SR&ED expenditures.

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 ☒

If **yes**, complete Schedule 125, *Income Statement Information*, to identify the type of farming industry the corporation is involved in.

Contributions to agricultural organizations for SR&ED* **103** _____
Enter on line 350 of Part 8.

* Enter only contributions not already included on Form T661.

Include 80% of the contributions made **after** 2012. For contributions made **before** 2013, include all of the contributions.

Qualified Property and Qualified Resource Property**Part 4 – Eligible investments for qualified property and qualified resource property from the current tax year**

Capital cost allowance class number 105	Description of investment 110	Date available for use 115	Location used in Atlantic Canada (province) 120	Amount of investment 125
Total of investments for qualified property and qualified resource property				

A1

Part 5 – Current-year credit and account balances – ITC from investments in qualified property and qualified resource property

ITC at the end of the previous tax year	.....		B1
Credit deemed as a remittance of co-op corporations	.....	210	
Credit expired	.....	215	
	Subtotal (line 210 plus line 215)	▶	C1
ITC at the beginning of the tax year (amount B1 minus amount C1)	.....	220	
Credit transferred on an amalgamation or the wind-up of a subsidiary	.....	230	
ITC from repayment of assistance	.....	235	
Qualified property; and qualified resource property acquired after March 28, 2012, and before January 1, 2014* (applicable part from amount A1 in Part 4)	..... x	10 % = 240	
Qualified resource property acquired after December 31, 2013, and before January 1, 2016 (applicable part from amount A1 in Part 4)	..... x	5 % = 242	
Credit allocated from a partnership	.....	250	
	Subtotal (total of lines 230 to 250)	▶	D1
Total credit available (line 220 plus amount D1)	.....		E1
Credit deducted from Part I tax	.....	260	
Credit carried back to previous years (amount H1 in Part 6)	.....	a	
Credit transferred to offset Part VII tax liability	.....	280	
	Subtotal (total of line 260, amount a, and line 280)	▶	F1
Credit balance before refund (amount E1 minus amount F1)	.....		G1
Refund of credit claimed on investments from qualified property and qualified resource property (from Part 7)	.....	310	
ITC closing balance of investments from qualified property and qualified resource property (amount G1 minus line 310)	.....	320	

* Include investments acquired after 2013 and before 2017 that are eligible for transitional relief.

Part 6 – Request for carryback of credit from investments in qualified property and qualified resource property

	Year	Month	Day			
1st previous tax year				.....	Credit to be applied	901
2nd previous tax year				.....	Credit to be applied	902
3rd previous tax year				.....	Credit to be applied	903
					Total of lines 901 to 903	
					Enter at amount a in Part 5.	H1

Part 7 – Refund of ITC for qualifying corporations on investments from qualified property and qualified resource property

Current-year ITCs (total of lines 240, 242, and 250 in Part 5)	.....	I1
Credit balance before refund (from amount G1 in Part 5)	.....	J1
Refund (40 % of amount I1 or J1, whichever is less)	.....	K1

Enter amount K1 or a lesser amount on line 310 in Part 5 (also enter on line 780 of the T2 return if you do not claim an SR&ED ITC refund).

SR&ED**Part 8 – Qualified SR&ED expenditures**

Current expenditures (from line 557 on Form T661)	174,182	
Contributions to agricultural organizations for SR&ED		
Deduct:		
Government assistance, non-government assistance, or contract payment		
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.)*		
	+	
Current expenditures (line 557 on Form T661 plus line 103 in Part 3)*	174,182	350 174,182
Capital expenditures incurred before 2014 (from line 558 on Form T661)**		360
Repayments made in the year (from line 560 on Form T661)		370
Qualified SR&ED expenditures (total of lines 350 to 370)		380 174,182

* If you are claiming only contributions made to agricultural organizations for SR&ED, line 350 should equal line 103 in Part 3. Do not file Form T661.

** Capital expenditures incurred after December 31, 2013, are not qualified SR&ED expenditures. Capital cost allowance can be claimed for depreciable property acquired for use in SR&ED after 2013.

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 not associated for the calculation of an SR&ED expenditure limit if:

- one corporation is associated with another corporation solely because one or more persons own shares of the capital stock of the corporation; and
- one of the corporations has at least one shareholder who is not common to both corporations.

Is the corporation associated with another CCPC for the purpose of calculating the SR&ED expenditure limit? **385** 1 Yes ☒ 2 No ☐

If you answered **no** to the question on line 385 or if you are not associated with any other corporations, complete lines 390 and 398.

If you answered **yes**, the amounts for associated corporations will be determined on Schedule 49.

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 minus \$10 million. If this amount is nil or negative, enter "0".

If this amount is over \$40 million, enter \$40 million **398**

* If the tax year referred to on line 390 is less than 51 weeks, **multiply** the taxable income by the following result: 365 **divided** by the number of days in that tax year.

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		x 10 =	A2
Excess (\$8,000,000 minus amount A2; if negative, enter "0")			B2
\$ 40,000,000 minus line 398 in Part 9		b	
Amount b divided by \$ 40,000,000			C2
Expenditure limit for the stand-alone corporation (amount B2 multiplied by amount C2)*			D2

For an associated corporation:

If associated, the allocation of the SR&ED expenditure limit, as provided on Schedule 49* **400** E2

If your tax year is less than 51 weeks, calculate the amount of the expenditure limit as follows:

Amount D2 or E2 x Number of days in the tax year 365 = F2

Your SR&ED expenditure limit for the year (enter amount D2, E2, or F2, whichever applies) **410**

* Amount D2 or E2 cannot be more than \$3,000,000.

Part 11 – Investment tax credits on SR&ED expenditures

Current expenditures (from line 350 in Part 8) or the expenditure limit (from line 410 in Part 10), whichever is less* **420** x 35 % = G2

Line 350 **minus** line 410 (if negative, enter "0") **430** 174,182

Amount from line 430 x $\frac{\text{Number of days in the tax year before 2014}}{\text{Number of days in the tax year}}$ x 20% = c

Amount from line 430** 174,182 x $\frac{\text{Number of days in the tax year after 2013}}{\text{Number of days in the tax year}}$ $\frac{365}{365}$ x 15 % = 26,127 d

Subtotal (amount c **plus** amount d) 26,127 ► 26,127 H2

Line 410 **minus** line 350 (if negative, enter "0") e

Capital expenditures (line 360 in Part 8) or amount e, whichever is less* **440** x 35 % = I2

Line 360 **minus** amount e (if negative, enter "0") **450**

Amount from line 450 x $\frac{\text{Number of days in the tax year before 2014}}{\text{Number of days in the tax year}}$ x 20% = f

Amount from line 450** x $\frac{\text{Number of days in the tax year after 2013}}{\text{Number of days in the tax year}}$ $\frac{365}{365}$ x 15 % = g

Subtotal (amount f **plus** amount g) ► J2

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*** **460** x 35 % = h

Repayment of assistance made after September 16, 2016 that reduced a qualifying expenditure incurred before 2015 **480** x 20 % = i

Repayment of assistance made after September 16, 2016 that reduced a qualifying expenditure incurred after 2014 **490** x 15 % = j

Subtotal (**add** amounts h to j) ► K2

Current-year SR&ED ITC (total of amounts G2 to K2; enter on line 540 in Part 12) 26,127 L2

* For corporations that are not CCPCs, enter "0" for amounts G2 and I2.

** For tax years that end after 2013, the general SR&ED ITC rate is reduced from 20% to 15%, except that, for 2014 tax years that start **before** 2014, the reduction is pro-rated based on the number of days in the tax year that are **after** 2013. For tax years that have a start date **after** 2013, **multiply** the amount by 15%.

*** 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 12 – Current-year credit and account balances – ITC from SR&ED expenditures

ITC 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)		▶	
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		
Total current-year credit (from amount L2 in Part 11)	.....	540	26,127	
Credit allocated from a partnership	.....	550		
	Subtotal (total of lines 530 to 550)		26,127 ▶	26,127 O2
Total credit available (line 520 plus amount O2)	.....		26,127	P2
Credit deducted from Part I tax	.....	560	26,127	
Credit carried back to previous years (amount S2 in Part 13)	.....		k	
Credit transferred to offset Part VII tax liability	.....	580		
	Subtotal (total of line 560, amount k, and line 580)		26,127 ▶	26,127 Q2
Credit balance before refund (amount P2 minus amount Q2)	.....			R2
Refund of credit claimed on SR&ED expenditures (from Part 14 or 15, whichever applies)	.....	610		
ITC closing balance on SR&ED (amount R2 minus line 610)	.....	620		

Part 13 – Request for carryback of credit from SR&ED expenditures

	<table border="1"> <tr> <th>Year</th> <th>Month</th> <th>Day</th> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>	Year	Month	Day												
Year	Month	Day														
1st previous tax year	Credit to be applied	911													
2nd previous tax year	Credit to be applied	912													
3rd previous tax year	Credit to be applied	913													
		Total of lines 911 to 913		S2												
		Enter at amount k in Part 12.														

Part 14 – Refund of ITC for qualifying corporations – SR&ED

Complete this part only if you are a qualifying corporation as determined on line 101 in Part 2.

Is the corporation an excluded corporation as defined under subsection 127.1(2)? **650** 1 Yes ☐ 2 No ☒

Current-year ITC (lines 540 **plus** 550 in Part 12 **minus** amount K2 in Part 11) I

Refundable credits (amount I or amount R2 in Part 12, whichever is less)* T2

Amount T2 or amount G2 in Part 11, whichever is less U2

Net amount (amount T2 **minus** amount U2; if negative, enter "0") V2

Amount V2 **multiplied by** 40 % W2

Amount U2 X2

Refund of ITC (amount W2 **plus** amount X2 – enter this, or a lesser amount, on line 610 in Part 12) Y2

Enter the total of line 310 in Part 5 and line 610 in Part 12 on line 780 of the T2 return.

* If you are also an excluded corporation, as defined in subsection 127.1(2), this amount must be multiplied by 40%. Claim this, or a lesser amount, as your refund of ITC for amount Y2.

Part 15 – Refund of ITC for CCPCs that are not qualifying or excluded corporations – SR&ED

Complete this part only if you are a CCPC that is not a qualifying or excluded corporation as determined on line 101 in Part 2.

Credit balance before refund (amount R2 in Part 12) Z2

Amount Z2 or amount G2 in Part 11, whichever is less AA2

Net amount (amount Z2 **minus** amount AA2; if negative, enter "0") BB2

Amount BB2 or amount I2 in Part 11, whichever is less CC2

Amount CC2 **multiplied by** 40 % DD2

Amount AA2 EE2

Refund of ITC (amount DD2 **plus** amount EE2) FF2

Enter FF2, 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; and
- 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.

Calculation 1 – If you meet all of the above conditions

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	
Subtotal Enter at amount C3 in Part 17.		A3

Calculation 2 – Only if you transferred all or a part of the qualified expenditure to another person under an agreement described in subsection 127(13); otherwise, enter nil on line B3.

A Rate that the transferee used in determining its ITC for qualified expenditures under a subsection 127(13) agreement	B 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	C 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.)	D Amount determined by the formula $(A \times B) - C$	E ITC earned by the transferee for the qualified expenditures that were transferred	F Amount from column D or E, whichever is less
720	730	740		750	
Subtotal (total of column F) Enter at amount D3 in Part 17.					B3

Part 16 – Recapture of ITC for corporations and partnerships – SR&ED (continued)**Calculation 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.

760**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)	.....	F3
Enter at amount A8 in Part 29.		

Pre-Production Mining**Part 18 – Pre-production mining expenditures****Exploration information**

A mineral resource that qualifies for the credit means a mineral deposit from which the principal mineral to be extracted is diamond, a base or precious metal deposit, or a mineral deposit from which the principal mineral to be extracted is an industrial mineral that, when refined, results in a base or precious metal.

In column 800, list all minerals for which pre-production mining expenditures have taken place in the tax year.

For each of the minerals reported in column 800, identify each project (in column 805), mineral title (in column 806), and mining division (in column 807) where title is registered. If there is no mineral title, identify only the project and mining division.

List of minerals 800	Project name 805
Mineral title 806	Mining division 807

Pre-production mining expenditures***Exploration:**

Pre-production mining expenditures that you incurred in the tax year (**before** January 1, 2014) for the purpose of determining the existence, location, extent, or quality of a mineral resource in Canada:

Prospecting	810
Geological, geophysical, or geochemical surveys	811
Drilling by rotary, diamond, percussion, or other methods	812
Trenching, digging test pits, and preliminary sampling	813

Development:

Pre-production mining expenditures incurred in the tax year for bringing a new mine in a mineral resource in Canada into production in reasonable commercial quantities and incurred before the new mine comes into production in such quantities:

Clearing, removing overburden, and stripping	820
Sinking a mine shaft, constructing an adit, or other underground entry	821

Other pre-production mining expenditures incurred in the tax year:

Description 825	Amount 826
Total of column 826	▶ A4

Total pre-production mining expenditures (total of lines 810 to 821 and amount A4) **830**

Total of all assistance (grants, subsidies, rebates, and forgivable loans) or reimbursements that the corporation has received or is entitled to receive in respect of the amounts referred to on line 830 above **832**

Excess (line 830 **minus** line 832) (if negative, enter "0") **B4**

Repayments of government and non-government assistance **835**

Pre-production mining expenditures (amount B4 **plus** line 835) **C4**

* A pre-production mining expenditure is defined under subsection 127(9).

Part 19 – Current-year credit and account balances – ITC from pre-production mining expenditures

ITC at the end of the previous tax year					D4
Credit deemed as a remittance of co-op corporations	841				
Credit expired	845				
Subtotal (line 841 plus line 845)					E4
ITC at the beginning of the tax year (amount D4 minus amount E4)	850				
Credit transferred on an amalgamation or the wind-up of a subsidiary	860				
Pre-production mining expenditures* incurred before January 1, 2013 (applicable part from amount C4 in Part 18)	870	x	10 %	=	m
Pre-production mining exploration expenditures** incurred in 2013 (applicable part from amount C4 in Part 18)	872	x	5 %	=	n
Pre-production mining development expenditures incurred in 2014 (applicable part from amount C4 in Part 18)	874	x	7 %	=	o
Pre-production mining development expenditures incurred in 2015 (applicable part from amount C4 in Part 18)	876	x	4 %	=	p
Current year credit (total of amounts m to p)					880
					F4
Total credit available (total of lines 850, 860, and amount F4)					G4
Credit deducted from Part I tax	885				
Credit carried back to previous years (amount I4 in Part 20)					q
Subtotal (line 885 plus amount q)					H4
ITC closing balance from pre-production mining expenditures (amount G4 minus amount H4)					890

* Also include pre-production mining development expenditures incurred before 2014 and pre-production mining development expenditures incurred after 2013 and before 2016 that are eligible for transitional relief.

** Also include pre-production mining development expenditures incurred in 2015 if the expense is described in subparagraph (a)(ii) of the definition **pre-production mining expenditure** in subsection 127(9) of the Act because of paragraph (g.4) of the definition **Canadian exploration expense** in subsection 66.1(6) of the Act.

Part 20 – Request for carryback of credit from pre-production mining expenditures

	Year Month Day		
1st previous tax year		Credit to be applied	921
2nd previous tax year		Credit to be applied	922
3rd previous tax year		Credit to be applied	923
Total of lines 921 to 923			I4
Enter at amount q in Part 19.			

Apprenticeship Job Creation**Part 21 – Total current-year credit – ITC from apprenticeship job creation expenditures**

If you are a related person as defined under subsection 251(2), has it been agreed in writing that you are the only employer who will be claiming the apprenticeship job creation tax credit for this tax year for each apprentice whose contract number (or social insurance number (SIN) or name) appears below? (If not, you cannot claim the tax credit.)

611 1 Yes ☒ 2 No ☐

For each apprentice in their first 24 months of the apprenticeship, enter the apprenticeship contract number registered with Canada, or a province or territory, under an apprenticeship program designed to certify or license individuals in the trade. For the province, the trade must be a Red Seal trade. If there is no contract number, enter the SIN or the name of the eligible apprentice.

A Contract number (SIN or name of apprentice)	B Name of eligible trade	C Eligible salary and wages*	D Column C x 10 %	E Lesser of column D or \$ 2,000
601	602	603	604	605
1. [REDACTED]	Powerline Technician	[REDACTED]	[REDACTED]	2,000
2. [REDACTED]	Powerline Technician	[REDACTED]	[REDACTED]	2,000

	A Contract number (SIN or name of apprentice)	B Name of eligible trade	C Eligible salary and wages*	D Column C x 10 %	E Lesser of column D or \$ 2,000	
	601	602	603	604	605	
3.		Powerline Technician			2,000	
4.		Powerline Technician			2,000	
					Total current-year credit (total of column E) Enter on line 640 in Part 22.	8,000 A5

* Other than qualified expenditure incurred, and net of any other government or non-government assistance received or to be received. **Eligible salary and wages**, and **qualified expenditures** are defined under subsection 127(9).

Part 22 – Current-year credit and account balances – ITC from apprenticeship job creation expenditures

ITC at the end of the previous tax year					B5
Credit deemed as a remittance of co-op corporations	612				
Credit expired after 20 tax years	615				
Subtotal (line 612 plus line 615)					C5
ITC at the beginning of the tax year (amount B5 minus amount C5)	625				
Credit transferred on an amalgamation or the wind-up of a subsidiary	630				
ITC from repayment of assistance	635				
Total current-year credit (amount A5 in Part 21)	640	8,000			
Credit allocated from a partnership	655				
Subtotal (total of lines 630 to 655)				8,000	D5
Total credit available (line 625 plus amount D5)				8,000	E5
Credit deducted from Part I tax	660	8,000			
Credit carried back to previous years (amount G5 in Part 23)			r		
Subtotal (line 660 plus amount r)				8,000	F5
ITC closing balance from apprenticeship job creation expenditures (amount E5 minus amount F5)				690	

Part 23 – Request for carryback of credit from apprenticeship job creation expenditures

	Year	Month	Day			
1st previous tax year				Credit to be applied	931	
2nd previous tax year				Credit to be applied	932	
3rd previous tax year				Credit to be applied	933	
				Total of lines 931 to 933 Enter at amount r in Part 22.		G5

Child Care Spaces**Part 24 – 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); and
- 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.

Cost of depreciable property from the current tax year

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 year (total of column 695)			715

Specified child care start-up expenditures from the current tax year **705**

Total gross eligible expenditures for child care spaces (line 715 **plus** line 705) **A6**

Total of all assistance (including grants, subsidies, rebates, and forgivable loans) or reimbursements that the corporation has received or is entitled to receive in respect of the amounts referred to in amount A6 **725**

Excess (amount A6 **minus** line 725) (if negative, enter "0") **B6**

Repayments by the corporation of government and non-government assistance **735**

Total eligible expenditures for child care spaces (amount B6 **plus** line 735) **745**

* If you entered into a written agreement before March 22, 2017, eligible expenditures incurred before 2020 will remain eligible for the credit.

Part 25 – Current-year credit – ITC from child care spaces expenditures

The credit is equal to 25% of eligible child care spaces expenditures incurred to a maximum of \$10,000 per child care space created in a licensed child care facility.

Eligible expenditures (from line 745 in Part 24) 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 26 – Current-year credit and account balances – ITC from child care spaces expenditures

ITC at the end of the previous tax year			F6
Credit deemed as a remittance of co-op corporations	765		
Credit expired after 20 tax years	770		
Subtotal (line 765 plus line 770)		▶	G6
ITC at the beginning of the tax year (amount F6 minus amount G6)		775	
Credit transferred on an amalgamation or the wind-up of a subsidiary	777		
Total current-year credit (amount E6 in Part 25)	780		
Credit allocated from a partnership	782		
Subtotal (total of lines 777 to 782)		▶	H6
Total credit available (line 775 plus amount H6)			I6
Credit deducted from Part I tax	785		
Credit carried back to previous years (amount K6 in Part 27)		s	
Subtotal (line 785 plus amount s)		▶	J6
ITC closing balance from child care spaces expenditures (amount I6 minus amount J6)		790	

Part 27 – Request for carryback of credit from child care space expenditures

	<table border="1"> <thead> <tr> <th>Year</th> <th>Month</th> <th>Day</th> </tr> </thead> <tbody> <tr> <td>2016-12-31</td> <td></td> <td></td> </tr> <tr> <td>2015-12-31</td> <td></td> <td></td> </tr> <tr> <td>2014-12-31</td> <td></td> <td></td> </tr> </tbody> </table>	Year	Month	Day	2016-12-31			2015-12-31			2014-12-31				
Year	Month	Day													
2016-12-31															
2015-12-31															
2014-12-31															
1st previous tax year		Credit to be applied	941												
2nd previous tax year		Credit to be applied	942												
3rd previous tax year		Credit to be applied	943												
		Total of lines 941 to 943													
		Enter at amount s in Part 26.	K6												

Recapture – Child Care Spaces**Part 28 – 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:

- the new child care space is no longer available; or
- property that was an eligible expenditure for the child care space is:
 - disposed of or leased to a lessee; or
 - 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))

792

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

797

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 26. 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 **799**

Total recapture of child care spaces investment tax credit (total of line 792, amount A7, and line 799)

B7

Enter at amount B8 in Part 29.

Summary of Investment Tax Credits**Part 29 – Total recapture of investment tax credit**

Recaptured SR&ED ITC (amount F3 in Part 17) D8

Recaptured child care spaces ITC (amount B7 in Part 28) B8

Total recapture of investment tax credit (amount A8 plus amount B8) C8

Enter on line 602 of the T2 return.

Part 30 – 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) **26,127** E8

ITC from pre-production mining expenditures deducted from Part I tax (line 885 in Part 19) F8

ITC from apprenticeship job creation expenditures deducted from Part I tax (line 660 in Part 22) **8,000** G8

ITC from child care space expenditures deducted from Part I tax (line 785 in Part 26) H8

Total ITC deducted from Part I tax (total of amounts D8 to H8) **34,127** I8

Enter on line 652 of the T2 return.

Summary of Investment Tax Credit Carryovers

Continuity of investment tax credit carryovers

CCA class number	99	Cur. or cap. R&D for ITC			
Current year					
	Addition current year (A)	Applied current year (B)	Claimed as a refund (C)	Carried back (D)	ITC end of year (A-B-C-D)
	26,127	26,127			
Prior years					
Taxation year		ITC beginning of year (E)	Adjustments (F)	Applied current year (G)	ITC end of year (E-F-G)
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					
2006-06-30					
2005-06-30					
2004-06-30					
2003-06-30					
2002-06-30					
2001-06-30					
					*

* The **ITC end of year** includes the amount of ITC expired from the 10th preceding year if it is before January 1, 1998, or the amount of ITC expired from the 20th preceding year if it is after December 31, 1997. Note that this credit expires at the end of the tax year and 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

Continuity of investment tax credit carryovers

CCA class number	97	Apprenticeship job creation ITC			
Current year					
	Addition current year (A)	Applied current year (B)	Claimed as a refund (C)	Carried back (D)	ITC end of year (A-B-C-D)
	8,000	8,000			
Prior years					
Taxation year		ITC beginning of year (E)	Adjustments (F)	Applied current year (G)	ITC end of year (E-F-G)
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					
2006-06-30					
2005-06-30					
2004-06-30					
2003-06-30					
2002-06-30					
2001-06-30					
					*
Total					
B+C+D+G	Total ITC utilized				8,000

* The **ITC end of year** includes the amount of ITC expired from the 10th preceding year if it is before January 1, 1998, or the amount of ITC expired from the 20th preceding year if it is after December 31, 1997. Note that this credit expires at the end of the tax year and any expired credit will be posted to line 215, 515, 615, 770 or 845, as applicable, in Schedule 31 the following year.

**Taxable Capital Employed in Canada – Large Corporations**

Corporation's name	Business number	Tax year-end Year Month Day
Kitchener-Wilmot Hydro Inc.	86360 3726 RC0001	2017-12-31

- 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	947,725
Capital stock (or members' contributions if incorporated without share capital)	103	63,689,499
Retained earnings	104	83,807,324
Contributed surplus	105	
Any other surpluses	106	
Deferred unrealized foreign exchange gains	107	
All loans and advances to the corporation	108	124,245,732
All indebtedness of the corporation represented by bonds, debentures, notes, mortgages, hypothecary claims, bankers' acceptances, or similar obligations	109	
Any dividends declared but not paid by the corporation before the end of the year	110	
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	111	
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)	112	
Subtotal (add lines 101 to 112)		<u>272,690,280</u> ▶ 272,690,280 A

Note:Line 112 is determined by the formula $(A - B) \times C/D$ (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
- those lines applied to partnerships in the same manner that they apply to corporations, and
 - those amounts were computed without reference to amounts owing by the partnership
 - to any corporation that held a membership interest in the partnership either directly or indirectly through another partnership, or
 - 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.

Part 1 – Capital (continued)Subtotal A (from page 1) 272,690,280 A**Deduct** the following amounts: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) **▶** B**Capital for the year** (amount A minus amount B) (if negative, enter "0") **190** 272,690,280**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 **401**A loan or advance to another corporation (other than a financial institution) **402**A bond, debenture, note, mortgage, hypothecary claim, or similar obligation of another corporation (other than a financial institution) **403**Long-term debt of a financial institution **404**A dividend payable on a share of the capital stock of another corporation **405**A loan or advance to, or a bond, debenture, note, mortgage, hypothecary claim or similar obligation of, a partnership each member of which was, throughout the year, another corporation (other than a financial institution) that was not exempt from tax under this Part (otherwise than because of paragraph 181.1(3)(d)), or another partnership described in paragraph 181.2(4)(d.1) **406**An interest in a partnership (see note 2 below) **407****Investment allowance for the year** (add lines 401 to 407) **490****Notes:**

1. Lines 401 to 405 should not include the carrying value of a share of the capital stock of, a dividend payable by, or indebtedness of a corporation that is exempt from tax under Part I.3 (other than a non-resident corporation that at no time in the year carried on business in Canada through a permanent establishment).
2. Where the corporation has an interest in a partnership held either directly or indirectly through another partnership, refer to subsection 181.2(5) for additional rules regarding the carrying value of an interest in a partnership.
3. Where a trust is used as a conduit for loaning money from a corporation to another related corporation (other than a financial institution), the loan will be considered to have been made directly from the lending corporation to the borrowing corporation. Refer to subsection 181.2(6) for special rules that may apply.

Part 3 – Taxable capitalCapital for the year (line 190) 272,690,280 C**Deduct:** Investment allowance for the year (line 490) D**Taxable capital for the year** (amount C minus amount D) (if negative, enter "0") **500** 272,690,280

Part 4 – Taxable capital employed in Canada**To be completed by a corporation that was resident in Canada at any time in the year**

Taxable capital for the year (line 500)	272,690,280	x	Taxable income earned in Canada	610	7,084,311	=	Taxable capital employed in Canada	690	272,690,280
			Taxable income		7,084,311				

- Notes:**
1. Regulation 8601 gives details on calculating the amount of taxable income earned in Canada.
 2. Where a corporation's taxable income for a tax year is "0," it shall, for the purposes of the above calculation, be deemed to have a taxable income for that year of \$1,000.
 3. In the case of an airline corporation, Regulation 8601 should be considered when completing the above calculation.

To be completed by a corporation that was a non-resident of Canada throughout the year and carried on a business through a permanent establishment in Canada

Total of all amounts each of which is the carrying value at the end of the year of an asset of the corporation used in the year or held in the year, in the course of carrying on any business during the year through a permanent establishment in Canada **701**

Deduct the following amounts:

Corporation's indebtedness at the end of the year [other than indebtedness described in any of paragraphs 181.2(3)(c) to (f)] that may reasonably be regarded as relating to a business it carried on during the year through a permanent establishment in Canada **711**

Total of all amounts each of which is the carrying value at the end of year of an asset described in subsection 181.2(4) of the corporation that it used in the year, or held in the year, in the course of carrying on any business during the year through a permanent establishment in Canada **712**

Total of all amounts each of which is the carrying value at the end of year of an asset of the corporation that is a ship or aircraft the corporation operated in international traffic, or personal or movable property used or held by the corporation in carrying on any business during the year through a permanent establishment in Canada (see note below) **713**

Total deductions (add lines 711, 712, and 713) ▶ **E**

Taxable capital employed in Canada (line 701 minus amount E) (if negative, enter "0") **790**

Note: Complete line 713 only if the country in which the corporation is resident did not impose a capital tax for the year on similar assets, or a tax for the year on the income from the operation of a ship or aircraft in international traffic, of any corporation resident in Canada during the year.

Part 5 – Calculation for purposes of the small business deduction**This part is applicable to corporations that are not associated in the current year, but were associated in the prior year.**

Taxable capital employed in Canada (amount from line 690) **F**

Deduct: **10,000,000** **G**

Excess (amount F minus amount G) (if negative, enter "0") **H**

Calculation for purposes of the small business deduction (amount H x 0.225%) **I**

Enter this amount at line 415 of the T2 return.

Canada Revenue
AgencyAgence du revenu
du Canada**SCHEDULE 50****SHAREHOLDER INFORMATION**

Name of corporation	Business Number	Tax year end Year Month Day
Kitchener-Wilmot Hydro Inc.	86360 3726 RC0001	2017-12-31

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 per shareholder				
Name of shareholder (after name, indicate in brackets if the shareholder is a corporation, partnership, individual, or trust)		Business Number (If a corporation is not registered, enter "NR")	Social insurance number	Trust number	Percentage common shares	Percentage preferred shares
100		200	300	350	400	500
1	Kitchener Power Corp	86360 3924 RC0001			100.000	
2						
3						
4						
5						
6						
7						
8						
9						
10						



General Rate Income Pool (GRIP) Calculation

Corporation's name	Business number	Tax year-end Year Month Day
Kitchener-Wilmot Hydro Inc.	86360 3726 RC0001	2017-12-31

On: 2017-12-31

- If you are a Canadian-controlled private corporation (CCPC) or a deposit insurance corporation (DIC), use this schedule to determine the general rate income pool (GRIP).
- Credit unions are **not** required to complete this schedule.
- All legislative references are to the *Income Tax Act* and the *Income Tax Regulations*.
- When an eligible dividend was paid in the tax year or there was a change in the GRIP balance, file a completed copy of this schedule with your T2 *Corporation Income Tax Return*. Do not send your worksheets with your return, but keep them in your records in case we ask to see them later.
- Subsection 89(1) defines the terms **eligible dividend**, **excessive eligible dividend designation**, **general rate income pool**, and **low rate income pool**.

Eligibility for the various additions

Answer the following questions to determine the corporation's eligibility for the various additions:

2006 addition

1. Is this the corporation's first taxation year that includes January 1, 2006? ☐ Yes ☒ No
2. If not, what is the date of the taxation year end of the corporation's first year that includes January 1, 2006?
Enter the date and go directly to question 4 2006-06-30
3. During that first year, was the corporation a CCPC or would it have been a CCPC if not for the election of subsection 89(11) ITA? ☒ Yes ☐ No
- If the answer to question 3 is yes, complete Part "GRIP addition for 2006".**

Change in the type of corporation

4. Was the corporation a CCPC during its preceding taxation year? ☒ Yes ☐ No
5. Corporations that become a CCPC or a DIC ☐ Yes ☒ No
- If the answer to question 5 is yes, complete Part 4.**

Amalgamation (first year of filing after amalgamation)

6. Corporations that were formed as a result of an amalgamation ☐ Yes ☒ No
- If the answer to question 6 is yes, answer questions 7 and 8. If the answer is no, go to question 9.**
7. Was one or more of the predecessor corporations neither a CCPC nor a DIC? ☐ Yes ☐ No
- If the answer to question 7 is yes, complete Part 4.**
8. Was one or more of the predecessor corporation a CCPC or a DIC during the taxation year that ended immediately before amalgamation? ☐ Yes ☐ No
- If the answer to question 8 is yes, complete Part 3.**

Winding-up

9. Has the corporation wound-up a subsidiary in the preceding taxation year? ☐ Yes ☒ No
- If the answer to question 9 is yes, answer questions 10 and 11. If the answer is no, go to Part 1.**
10. Was the subsidiary neither a CCPC nor a DIC during its last taxation year? ☐ Yes ☐ No
- If the answer to question 10 is yes, complete Part 4.**
11. Was the subsidiary a CCPC or a DIC during its last taxation year? ☐ Yes ☐ No
- If the answer to question 11 is yes, complete Part 3.**

Part 1 – General rate income pool (GRIP)

GRIP at the end of the previous tax year	100	55,657,336	A
Taxable income for the year (DICs enter "0") *	110	7,084,311	B
Amount on line 400, 405, 410, or 427 of the T2 return, whichever is less *	130		
For a CCPC, the lesser of aggregate investment income (line 440 of the T2 return) and taxable income *	140	296,861	
Subtotal (line 130 plus line 140)		296,861	C
Income taxable at the general corporate rate (amount B minus amount C) (if negative enter "0")	150	6,787,450	
After-tax income (line 150 multiplied by 0.72 (the general rate factor for the tax year))	190	4,886,964	D
Eligible dividends received in the tax year	200		
Dividends deductible under section 113 received in the tax year	210		
Subtotal (line 200 plus line 210)			E
Becoming a CCPC (amount W5 in Part 4)	220		
Post-amalgamation (total of amounts E4 in Part 3 and amounts W5 in Part 4)	230		
Post-wind-up (total of amounts E4 in Part 3 and amounts W5 in Part 4)	240		
Subtotal (add lines 220, 230, and 240)	290		F
Subtotal (add amounts A, D, E, and F)		60,544,300	G
Eligible dividends paid in the previous tax year	300		
Excessive eligible dividend designations made in the previous tax year	310		
(If becoming a CCPC (subsection 89(4) applies), enter "0" on lines 300 and 310.)			
Subtotal (line 300 minus line 310)			H
GRIP before adjustment for specified future tax consequences (amount G minus amount H) (amount can be negative)	490	60,544,300	
Total GRIP adjustment for specified future tax consequences to previous tax years (amount N3 in Part 2)	560		
GRIP at the end of the tax year (line 490 minus line 560)	590	60,544,300	

Enter this amount on line 160 of Schedule 55.

* For lines 110, 130, and 140, the income amount is the amount before considering specified future tax consequences. This phrase is defined in subsection 248(1). It includes the deduction of a loss carryback from subsequent tax years, a reduction of Canadian exploration expenses and Canadian development expenses that were renounced in subsequent tax years (e.g., flow-through share renunciations), reversals of income inclusions where an option is exercised in subsequent tax years, and the effect of certain foreign tax credit adjustments.

Part 2 – GRIP adjustment for specified future tax consequences to previous tax years

Complete this part if the corporation's taxable income of any of the previous three tax years took into account the specified future tax consequences defined in subsection 248(1) from the current tax year. Otherwise, enter "0" on line 560.

First previous tax year 2016-12-31

Taxable income before specified future tax consequences
from the current tax year 8,339,547 A1

Enter the following amounts before specified future tax consequences from the current tax year:

Amount on line 400, 405, 410, or 427
of the T2 return, whichever is less B1

Aggregate investment income
(line 440 of the T2 return) 288,300 C1

Subtotal (amount B1 **plus** amount C1) 288,300 ► 288,300 D1

Subtotal (amount A1 **minus** amount D1) (if negative, enter "0") 8,051,247 ► 8,051,247 E1

Future tax consequences that occur for the current year

Amount carried back from the current year to a prior year

Non-capital loss carry-back (paragraph 111 (1)(a) ITA)	Capital loss carry-back	Restricted farm loss carry-back	Farm loss carry-back	Other	Total carrybacks

Taxable income after specified future tax consequences F1

Enter the following amounts after specified future tax consequences:

Amount on line 400, 405, 410, or 427
of the T2 return, whichever is less G1

Aggregate investment income
(line 440 of the T2 return) H1

Subtotal (amount G1 **plus** amount H1) ► I1

Subtotal (amount F1 **minus** amount I1) (if negative, enter "0") ► J1

Subtotal (amount E1 **minus** amount J1) (if negative, enter "0") ► K1

GRIP adjustment for specified future tax consequences to the first previous tax year

(amount K1 **multiplied by** 0.72) **500**

Part 2 – GRIP adjustment for specified future tax consequences to previous tax years (continued)**Second previous tax year** 2015-12-31Taxable income before specified future tax consequences from
the current tax year 7,564,893 A2**Enter the following amounts before specified future tax
consequences from the current tax year:**Amount on line 400, 405, 410, or 427
of the T2 return, whichever is less B2Aggregate investment income
(line 440 of the T2 return) 260,582 C2Subtotal (amount B2 **plus** amount C2) 260,582 ► 260,582 D2Subtotal (amount A2 **minus** amount D2) (if negative, enter "0") 7,304,311 ► 7,304,311 E2**Future tax consequences that occur for the current year**

Amount carried back from the current year to a prior year

Non-capital loss carry-back (paragraph 111 (1)(a) ITA)	Capital loss carry-back	Restricted farm loss carry-back	Farm loss carry-back	Other	Total carrybacks

Taxable income after specified future tax consequences F2**Enter the following amounts after specified future tax consequences:**Amount on line 400, 405, 410, or 427
of the T2 return, whichever is less G2Aggregate investment income
(line 440 of the T2 return) H2Subtotal (amount G2 **plus** amount H2) ► I2Subtotal (amount F2 **minus** amount I2) (if negative, enter "0") ► J2Subtotal (amount E2 **minus** amount J2) (if negative, enter "0") K2**GRIP adjustment for specified future tax consequences to the second previous tax year**(amount K2 **multiplied by** 0.72) **520**

Part 2 – GRIP adjustment for specified future tax consequences to previous tax years (continued)**Third previous tax year** 2014-12-31Taxable income before specified future tax consequences from
the current tax year 6,924,584 A3**Enter the following amounts before specified future tax
consequences from the current tax year:**Amount on line 400, 405, 410, or 427
of the T2 return, whichever is less B3Aggregate investment income
(line 440 of the T2 return) 334,156 C3Subtotal (amount B3 **plus** amount C3) 334,156 ► 334,156 D3Subtotal (amount A3 **minus** amount D3) (if negative, enter "0") 6,590,428 ► 6,590,428 E3

Future tax consequences that occur for the current year					
Amount carried back from the current year to a prior year					
Non-capital loss carry-back (paragraph 111 (1)(a) ITA)	Capital loss carry-back	Restricted farm loss carry-back	Farm loss carry-back	Other	Total carrybacks

Taxable income after specified future tax consequences F3**Enter the following amounts after specified future tax consequences:**Amount on line 400, 405, 410, or 427
of the T2 return, whichever is less G3Aggregate investment income
(line 440 of the T2 return) H3Subtotal (amount G3 **plus** amount H3) ► I3Subtotal (amount F3 **minus** amount I3) (if negative, enter "0") ► J3Subtotal (amount E3 **minus** amount J3) (if negative, enter "0") K3**GRIP adjustment for specified future tax consequences to the third previous tax year**(amount K3 **multiplied by** 0.72) **540** **Total GRIP adjustment for specified future tax consequences to previous tax years:**(add lines 500, 520, and 540) (if negative, enter "0") L3

Enter amount L3 on line 560 in part 1.

Part 4 – Worksheet to calculate the GRIP addition post-amalgamation, post-wind-up (predecessor or subsidiary was not a CCPC or a DIC in its last tax year), or the corporation is becoming a CCPC

nb. 1 Corporation becoming a CCPC ☐ Post amalgamation ☐ Post wind-up ☐

Complete this part when there has been an amalgamation (within the meaning assigned by subsection 87(1)) or a wind-up (to which subsection 88(1) applies) and the predecessor or subsidiary was not a CCPC or a DIC in its last tax year. The last tax year for a predecessor corporation was its tax year that ended immediately before the amalgamation and for a subsidiary corporation was its tax year during which its assets were distributed to the parent on the wind-up.

Calculate the GRIP addition of a successor corporation following an amalgamation at the end of its first tax year.

Calculate the GRIP addition of a parent corporation upon wind-up at the end of the tax year that ends immediately after the tax year in which the parent has received the assets of the subsidiary.

In the calculation below, **corporation** means a predecessor or a subsidiary. Complete a separate worksheet for **each** predecessor and **each** subsidiary that was a CCPC or a DIC in its last year. Keep a copy of this calculation for your records, in case we ask to see it later.

Cost amount to the corporation of all property immediately before the end of its previous/last tax year A5

The corporation's money on hand immediately before the end of its previous/last tax year B5

Total of subsection 111(1) losses that would have been deductible in calculating the corporation's taxable income for the previous/last tax year if the corporation had had unlimited income from each business carried on and each property held and had realized an unlimited amount of capital gains for the previous/last tax year:

Non-capital losses C5

Net capital losses D5

Farm losses E5

Restricted farm losses F5

Limited partnership losses G5

Subtotal (add amounts C5 to G5) H5

Total of all amounts deducted under subsection 111(1) in calculating the corporation's taxable income for the previous/last tax year:

Non-capital losses I5

Net capital losses J5

Farm losses K5

Restricted farm losses L5

Limited partnership losses M5

Subtotal (add amounts I5 to M5) N5

Unused and unexpired losses at the end of the corporation's previous/last tax year (amount H5 minus amount N5) O5

Subtotal (add amounts A5, B5, and O5) P5

All the corporation's debts and other obligations to pay that were outstanding immediately before the end of its previous/last tax year Q5

Paid-up capital of all the corporation's issued and outstanding shares of capital stock immediately before the end of its previous/last tax year R5

All the corporation's reserves deducted in its previous/last tax year S5

The corporation's capital dividend account immediately before the end of its previous/last tax year T5

The corporation's low rate income pool immediately before the end of its previous/last tax year U5

Subtotal (add amounts Q5 to U5) V5

GRIP addition post-amalgamation or post-wind-up (predecessor or subsidiary was not a CCPC or a DIC in its last tax year), or the corporation is becoming a CCPC (amount P5 minus amount V5) (if negative, enter "0") W5

After you complete this worksheet for each predecessor and each subsidiary, calculate the total of all the W5 amounts. Enter this total amount on:

- line 220 for a corporation becoming a CCPC;
- line 230 for post-amalgamation; or
- line 240 for post-wind-up.

**Part III.1 Tax on Excessive Eligible Dividend Designations**

Corporation's name	Business number	Tax year-end Year Month Day
Kitchener-Wilmot Hydro Inc.	86360 3726 RC0001	2017-12-31

- 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.
- 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 (GRIP) Calculation*, or Schedule 54, *Low Rate Income Pool (LRIP) Calculation*, whichever is applicable.
- File the completed schedules with your *T2 Corporation Income Tax Return* no later than six months from the end of the tax year.
- 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 rate income pool (GRIP), and low rate income pool (LRIP).
- The calculations in Part 1 and Part 2 do not apply if the excessive eligible dividend designation arises from the application of paragraph (c) of the definition of excessive eligible dividend designation in subsection 89(1). This paragraph applies when an eligible dividend is paid to artificially maintain or increase the GRIP or to artificially maintain or decrease the LRIP.

Do not use this area**Part 1 – Canadian-controlled private corporations and deposit insurance corporations**

Taxable dividends paid in the tax year not included in Schedule 3	.....	
Taxable dividends paid in the tax year included in Schedule 3	.....	4,195,300	
Total taxable dividends paid in the tax year	.....	100	4,195,300
Total eligible dividends paid in the tax year	.....	150	A
GRIP at the end of the tax year (line 590 on Schedule 53) (if negative, enter "0")	.....	160	60,544,300 B
Excessive eligible dividend designation (line 150 minus line 160)	.....		C
Deduct:			
Excessive eligible dividend designations elected under subsection 185.1(2) to be treated as ordinary dividends *	.....	180	D
Subtotal (amount C minus amount D)			E
Part III.1 tax on excessive eligible dividend designations – CCPC or DIC (amount E multiplied by 20 %)	.....	190	F
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	.....	200	
Total excessive eligible dividend designations in the tax year (amount from line A of Schedule 54)	.....		G
Deduct:			
Excessive eligible dividend designations elected under subsection 185.1(2) to be treated as ordinary dividends *	.....	280	H
Subtotal (amount G minus amount H)			I
Part III.1 tax on excessive eligible dividend designations – Other corporations (amount I multiplied by 20 %)	.....	290	J
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. For more information on how to make this election, go to www.cra.gc.ca/eligibledividends.



Ontario Corporation Tax Calculation

Corporation's name	Business number	Tax year-end Year Month Day
Kitchener-Wilmot Hydro Inc.	86360 3726 RC0001	2017-12-31

- Use this schedule if the corporation had a permanent establishment, under 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*.

Part 1 – Ontario basic income tax

Ontario taxable income *	7,084,311	A
Ontario basic rate of tax for the year	11.5 %	B
Ontario basic income tax (amount A multiplied by amount B **)	814,696	C

* If the corporation has a permanent establishment only in Ontario, enter the amount from line 360 or amount Z, whichever applies, of the T2 return. Otherwise, enter the taxable income allocated to Ontario from column F in Part 1 of Schedule 5.

** If the corporation has a permanent establishment in more than one jurisdiction, or is claiming an Ontario tax credit in addition to Ontario basic income tax, or has Ontario corporate minimum tax or Ontario special additional tax on life insurance corporations payable, enter amount C 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 the corporation claimed the federal small business deduction under subsection 125(1).

Amount from line 400 of the T2 return	6,791,950	1
Amount from line 405 of the T2 return	7,084,311	2
Amount from line 427 of the T2 return		3
Enter the least of amounts 1, 2 or 3		D
Ontario domestic factor (ODF):	Taxable income for Ontario *	7,084,311.00
	Taxable income for all provinces **	7,084,311
		= 1.00000
Amount D multiplied by amount E		4
Ontario taxable income (amount A from Part 1)	7,084,311	5
Ontario small business income (lesser of amount 4 or amount 5)		F
Ontario small business deduction rate for the year		
Number of days in the tax year before January 1, 2018	365	x
Number of days in the tax year	365	7 % = 7.00000 % G1
Number of days in the tax year after December 31, 2017		x
Number of days in the tax year	365	8 % = % G2
OSBD rate for the year (rate G1 plus rate G2)	7.00000 %	7.00000 % G
Ontario small business deduction (amount F multiplied by rate G)		H

Enter amount H on line 402 of Schedule 5.

* Enter amount A from Part 1.

** Includes the offshore areas for Nova Scotia and Newfoundland and Labrador.



Ontario Research and Development Tax Credit

Corporation's name	Business number	Tax year-end Year Month Day
Kitchener-Wilmot Hydro Inc.	86360 3726 RC0001	2017-12-31

- 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
 - 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.

Part 1 – Ontario SR&ED expenditure pool

Total eligible expenditures incurred by the corporation in Ontario in the tax year	100	180,500	A
Government assistance, non-government assistance, or a contract payment for eligible expenditures	105		B
Net eligible expenditures for the tax year (amount A minus amount B) (if negative, enter "0")		180,500	C
Eligible expenditures transferred to the corporation by another corporation	110		D
Subtotal (amount C plus amount D)		180,500	E
Eligible expenditures the corporation transferred to another corporation	115		F
Ontario SR&ED expenditure pool (amount E minus amount F) (if negative, enter "0")	120	180,500	G

Eligible expenditures incurred after March 27, 2018, qualify for an enhanced rate when the following requirements are met:

- The Ontario SR&ED expenditure pool for the taxation year is more than \$1,000,000. If the current taxation year is a short year, this threshold should be prorated.
- The Ontario SR&ED expenditure pool for the current taxation year represents 90% or more of the Ontario SR&ED expenditure pool for the previous taxation year. Eligible expenditures incurred in short taxation years would be increased to the full year equivalent.

If these requirements are met, indicate the portion of the amount on line 120 relating to eligible expenditures incurred after March 27, 2018.

G.1

Part 2 – Eligible repayments

The repayment of the ORDTC is calculated using the ORDTC rate that you used to determine your tax credit at the time your eligible expenditures were reduced because of the government or non-government assistance, or contract payments. Enter the amount of the repayment on the line that corresponds to the appropriate rate.

Repayments for tax years that end before June 1, 2016 210 x 4.5 % = 215 H

Repayment for a tax year that ends on or after June 1, 2016 and includes May 31, 2016. Complete the proration calculation below.

Number of days in the tax year before June 1, 2016	240	152	x	4.5 %	=	1.8689 %	1
Number of days in the tax year	241	366					
Number of days in the tax year after May 31, 2016	242	214	x	3.5 %	=	2.0464 %	2
Number of days in the tax year	243	366					
Subtotal (percentage 1 plus percentage 2)						3.9153 %	3

Repayments for a tax year that ends on or after June 1, 2016 and includes May 31, 2016	211 _____ x	percentage 3	<u>3.9153 %</u>	=	216 _____	I
Repayments for tax years that start after May 31, 2016	212 _____ x		3.5 %	=	217 _____	J
<p>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 shared-use equipment acquired before 2014</p>						
220 _____ x	1 / 4	=	_____ x	4.5 %	=	225 _____ K
Eligible repayments (total of amounts H to K)					229 _____	L

* If there is a disposal or change of use of eligible property, see Part 7 on page 4.

Part 4 – Calculation of ORDTC available for deduction and ORDTC balance

ORDTC balance at the end of the previous tax year Y

ORDTC expired after 20 tax years **300** ZORDTC at the beginning of the tax year (amount Y **minus** amount Z) **305** AAORDTC transferred to the corporation on amalgamation or windup **310** BB**Current part of ORDTC** **6,318** CC

(amount P, T or X in Part 3 whichever applies)

Are you waiving all or part of the
current part of the ORDTC? **315** Yes 1 ☐ No 2 ☒If you answered **yes** at line 315, enter the amount of
the tax credit waived on line 320.If you answered **no** at line 315, enter "0" on line 320.Waiver of the current part of the ORDTC **320** DDSubtotal (amount CC **minus** amount DD) **6,318** ▶ **6,318** EE**ORDTC available for deduction** (total of amounts AA, BB and EE) **6,318** ▶ **6,318** FFORDTC claimed ** **6,318** GG(Enter amount GG on line 416 on page 5 of Schedule 5, *Tax Calculation Supplementary – Corporations*)

ORDTC carried back to previous tax years (from Part 5) HH

Subtotal (amount GG **plus** amount HH) **6,318** ▶ **6,318** II**ORDTC balance at the end of the tax year** (amount FF **minus** amount II) **325** JJ

** This amount cannot be more than the lesser of the following amounts:

- ORDTC available for deduction (amount FF); or
- Ontario corporate income tax payable before the ORDTC and the Ontario corporate minimum tax credit (amount from line E6 on page 5 of Schedule 5).

Part 5 – Request for carryback of tax credit

	Year	Month	Day			
1 st previous tax year	2016-12-31			..... Credit to be applied	901	.....
2 nd previous tax year	2015-12-31			..... Credit to be applied	902	.....
3 rd previous tax year	2014-12-31			..... Credit to be applied	903	.....
Total (total of amount 901 to 903)(enter at amount HH in Part 4)				.....	

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.

[illegible]

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

	KK	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 recapture 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.

OO	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	TT
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.		

Total of column TT (enter at amount XX in Part 8) _____ **UU**

Calculation 3

As a member of a partnership, you will report your share of the ORDTC of the partnership after the ORDTC has been reduced by the amount of the recapture. If this is a positive amount, you will report it on line 205, 206, or 207 in Part 3, whichever applies. However, if the partnership does not have enough ORDTC otherwise available to offset the recapture, then the amount by which reductions to the ORDTC exceeds additions (the excess) will be determined and reported on line VV.

Corporate partner's share of the excess of ORDTC (enter at amount ZZ in Part 8) **760** _____ **VV**

Part 8 – Total recapture of ORDTC

Recaptured federal ITC for Calculation 1 (amount NN from Part 7) **WW**

Recaptured federal ITC for Calculation 2 (amount UU from Part 7) **XX**

Amount WW **plus** amount XX **x 23.56 % = YY**

Corporate partner's share of the excess of ORDTC for Calculation 3 (amount VV from Part 7) **ZZ**

Recapture of ORDTC (amount YY **plus** amount ZZ) (enter amount AAA on line 277 on page 5 of Schedule 5) **AAA**

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.

Enter the breakdown between current and capital expenditures		Current Expenditures	Capital Expenditures
Total expenditures for SR&ED		139,579	
Add			
• payment of prior years' unpaid expenses (other than salary or wages)	+		
• prescribed proxy amount (Enter "0" if you use the traditional method)	+	50,425	
• expenditures on shared-use equipment			+
• other additions	+		+
Subtotal	=	190,004	=
Less			
• 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	-	9,504	
• 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	-		-
Subtotal	=	180,500	= II
Total eligible expenditures incurred by the corporation in Ontario in the tax year (add amount I and II)			= 180,500 III

Enter amount III on line 100 of Schedule 508.

Ontario Corporate Minimum Tax

Corporation's name	Business number	Tax year-end Year Month Day
Kitchener-Wilmot Hydro Inc.	86360 3726 RC0001	2017-12-31

- 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

Total assets of the corporation at the end of the tax year *	112	316,983,243
Share of total assets from partnership(s) and joint venture(s) *	114	
Total assets of associated corporations (amount from line 450 on Schedule 511)	116	198,002,306
Total assets (total of lines 112 to 116)		514,985,549
Total revenue of the corporation for the tax year **	142	250,633,188
Share of total revenue from partnership(s) and joint venture(s) **	144	
Total revenue of associated corporations (amount from line 550 on Schedule 511)	146	100,520,218
Total revenue (total of lines 142 to 146)		351,153,406

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 *		210	10,176,955
Add (to the extent reflected in income/loss):			
Provision for current income taxes/cost of current income taxes	220	1,828,434	
Provision for deferred income taxes (debits)/cost of future income taxes	222		
Equity losses from corporations	224		
Financial statement loss from partnerships and joint ventures	226		
Dividends deducted on financial statements (subsection 57(2) of the Ontario Act), excluding dividends paid by credit unions under subsection 137(4.1) of the federal Act	230		
Other additions (see note below):			
Share of adjusted net income of partnerships and joint ventures **	228		
Total patronage dividends received, not already included in net income/loss	232		
281	282		
283	284		
	Subtotal	1,828,434	1,828,434 A
Deduct (to the extent reflected in income/loss):			
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		
Equity income from corporations	324		
Financial statement income from partnerships and joint ventures	326		
Dividends deductible under section 112, section 113, or subsection 138(6) of the federal Act	330		
Dividends not taxable under section 83 of the federal Act (from Schedule 3)	332		
Gain on donation of listed security or ecological gift	340		
Accounting gain on transfer of property to a corporation under section 85 or 85.1 of the federal Act ***	342		
Accounting gain on transfer of property to/from a partnership under section 85 or 97 of the federal Act ****	344		
Accounting gain on disposition of property under subsection 13(4), subsection 14(6), or section 44 of the federal Act *****	346		
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 **	328		
Tax payable on dividends under subsection 191.1(1) of the federal Act multiplied by 3	334		
Interest deducted/deductible under paragraph 20(1)(c) or (d) of the federal Act, not already included in net income/loss	336		
Patronage dividends paid (from Schedule 16) not already included in net income/loss	338		
381	382		
383	384		
385	386		
387	388		
389	390		
	Subtotal		B
Adjusted net income/loss for CMT purposes (line 210 plus amount A minus amount B)		490	12,005,389

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.

"Specified mark-to-market property" is defined in subsection 54(1) of the Ontario Act.

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.

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 GIF1 (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 payable

Adjusted net income for CMT purposes (line 490 in Part 2, if positive) **515** 12,005,389

Deduct:

CMT loss available (amount R from Part 7)

Minus: Adjustment for an acquisition of control * **518**

Adjusted CMT loss available **C**

Net income subject to CMT calculation (if negative, enter "0") **520** 12,005,389

Amount from line 520 12,005,389 x $\frac{\text{Number of days in the tax year before July 1, 2010}}{\text{Number of days in the tax year}}$ x 4 % = 1
365

Amount from line 520 12,005,389 x $\frac{\text{Number of days in the tax year after June 30, 2010}}{\text{Number of days in the tax year}}$ x 2.7 % = 324,146 2
365

Subtotal (amount 1 **plus** amount 2) 324,146 3

Gross CMT: amount on line 3 above x OAF ** **540** 324,146

Deduct:

Foreign tax credit for CMT purposes *** **550**

CMT after foreign tax credit deduction (line 540 **minus** line 550) (if negative, enter "0") 324,146 D

Deduct:

Ontario corporate income tax payable before CMT credit (amount F6 from Schedule 5) 808,378

Net CMT payable (if negative, enter "0") **E**

Enter amount E on line 278 of Schedule 5, *Tax Calculation Supplementary – Corporations*, and complete Part 4.

* Enter the portion of CMT loss available that exceeds the adjusted net income for the tax year from carrying on a business before the acquisition of control. See subsection 58(3) of the Ontario Act.

*** Enter "0" on line 550 for life insurance corporations as they are not eligible for this deduction. For all other corporations, enter the cumulative total of amount J for the province of Ontario from Part 9 of Schedule 21 on line 550.

**** Calculation of the Ontario allocation factor (OAF):**

If the provincial or territorial jurisdiction entered on line 750 of the T2 return is "Ontario," enter "1" on line F.

If the provincial or territorial jurisdiction entered on line 750 of the T2 return is "multiple," complete the following calculation, and enter the result on line F:

Ontario taxable income **** =
Taxable income *****

Ontario allocation factor 1.00000 F

**** Enter the amount allocated to Ontario from column F in Part 1 of Schedule 5. If the taxable income is nil, calculate the amount in column F as if the taxable income were \$1,000.

***** Enter the taxable income amount from line 360 or amount Z of the T2 return, whichever applies. If the taxable income is nil, enter "1,000".

Part 4 – Calculation of CMT credit carryforward

CMT credit carryforward at the end of the previous tax year *	.....	G
Deduct:		
CMT credit expired *	..... 600	
CMT credit carryforward at the beginning of the current tax year * (see note below)	.....	620
Add:		
CMT credit carryforward balances transferred on an amalgamation or the windup of a subsidiary (see note below)	.....	650
CMT credit available for the tax year (amount on line 620 plus amount on line 650)	.....	H
Deduct:		
CMT credit deducted in the current tax year (amount P from Part 5)	.....	I
	Subtotal (amount H minus amount I)	J
Add:		
Net CMT payable (amount E from Part 3)	.....
SAT payable (amount O from Part 6 of Schedule 512)	.....
	Subtotal	K
CMT credit carryforward at the end of the tax year (amount J plus amount K)	.....	670 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 in 2008.

For other tax years, enter on line G the amount from line 670 of Schedule 510 from the previous tax year.

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 tax payable

CMT credit available for the tax year (amount H from Part 4)	.....	M
Ontario corporate income tax payable before CMT credit (amount F6 from Schedule 5)	..... 808,378	1
For a corporation that is not a life insurance corporation:		
CMT after foreign tax credit deduction (amount D from Part 3)	..... 324,146	2
For a life insurance corporation:		
Gross CMT (line 540 from Part 3)	.....	3
Gross SAT (line 460 from Part 6 of Schedule 512)	.....	4
The greater of amounts 3 and 4	.....	5
	Deduct: line 2 or line 5, whichever applies:	324,146 6
	Subtotal (if negative, enter "0")	484,232 ▶ 484,232 N
Ontario corporate income tax payable before CMT credit (amount F6 from Schedule 5)	..... 808,378	
Deduct:		
Total refundable tax credits excluding Ontario qualifying environmental trust tax credit (amount J6 minus line 450 from Schedule 5)	..... 76,853	
	Subtotal (if negative, enter "0")	731,525 ▶ 731,525 O
CMT credit deducted in the current tax year (least of amounts M, N, and O)	.....	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 ☒

If you answered **yes** to the question at line 675, the CMT credit deducted in the current tax year may be restricted. For information on how the deduction may be restricted, see subsections 53(6) and (7) of the Ontario Act.

Part 6 – Analysis of CMT credit 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	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.

Part 7 – Calculation of CMT loss carryforward

CMT loss carryforward at the end of the previous tax year * Q

Deduct:

CMT loss expired * **700**

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) **750**

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) **760**

CMT loss carryforward balance at the end of the tax year (amount S **plus** line 760) **770** T

* 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 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.

**ONTARIO CORPORATE MINIMUM TAX – TOTAL ASSETS
AND REVENUE FOR ASSOCIATED CORPORATIONS**

Name of corporation	Business Number	Tax year-end Year Month Day
Kitchener-Wilmot Hydro Inc.	86360 3726 RC0001	2017-12-31

- 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	Kitchener Power Corporation	86360 3924 RC0001	147,971,851	4,162
2	Corporation of the City of Kitchener	NR	50,000,000	100,000,000
3	KITCHENER ENERGY SERVICES	86375 9098 RC0001	30,455	516,056
	Total		450 198,002,306	550 100,520,218

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 total revenue by 365 and **divide** by the number of days in 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.

**CORPORATIONS INFORMATION ACT ANNUAL RETURN FOR ONTARIO CORPORATIONS**

Name of corporation	Business Number	Tax year-end Year Month Day
Kitchener-Wilmot Hydro Inc.	86360 3726 RC0001	2017-12-31

- This schedule should be completed by a corporation that is incorporated, continued, or amalgamated in Ontario and subject to the Ontario *Business Corporations Act* (BCA) or Ontario *Corporations Act* (CA), except for registered charities under the federal *Income Tax Act*. This completed schedule serves as a *Corporations Information Act* Annual Return under the *Ontario Corporations Information Act*.
- Complete parts 1 to 4. Complete parts 5 to 7 only to report change(s) in the information recorded on the Ontario Ministry of Government Services (MGS) public record.
- This schedule must set out the required information for the corporation as of the date of delivery of this schedule.
- A completed Ontario *Corporations Information Act* Annual Return must be delivered within six months after the end of the corporation's tax year-end. The MGS considers this return to be delivered on the date that it is filed with the Canada Revenue Agency (CRA) together with the corporation's income tax return.
- It is the corporation's responsibility to ensure that the information shown on the MGS public record is accurate and up-to-date. To review the information shown for the corporation on the public record maintained by the MGS, obtain a Corporation Profile Report. Visit www.ServiceOntario.ca for more information.
- This schedule contains non-tax information collected under the authority of the Ontario *Corporations Information Act*. This information will be sent to the MGS for the purposes of recording the information on the public record maintained by the MGS.

Part 1 – Identification

100 Corporation's name (exactly as shown on the MGS public record) Kitchener-Wilmot Hydro Inc.			
Jurisdiction incorporated, continued, or amalgamated, whichever is the most recent Ontario	110 Date of incorporation or amalgamation, whichever is the most recent Year Month Day 2000-07-01	120 Ontario Corporation No. 7134991	

Part 2 – Head or registered office address (P.O. box not acceptable as stand-alone address)

200 Care of (if applicable) Kitchener-Wilmot Hydro Inc.			
210 Street number 301	220 Street name/Rural route/Lot and Concession number Victoria Street South	230 Suite number	
240 Additional address information if applicable (line 220 must be completed first)			
250 Municipality (e.g., city, town) Kitchener	260 Province/state ON	270 Country CA	280 Postal/zip code N2G 4L2

Part 3 – Change identifier

Have there been any changes in any of the information most recently filed for the public record maintained by the MGS for the corporation with respect to names, addresses for service, and the date elected/appointed and, if applicable, the date the election/appointment ceased of the directors and five most senior officers, or with respect to the corporation's mailing address or language of preference? To review the information shown for the corporation on the public record maintained by the MGS, obtain a Corporation Profile Report. For more information, visit www.ServiceOntario.ca.

- 300** ☐ 1 If there have been no changes, enter 1 in this box and then go to "Part 4 – Certification."
☐ 2 If there are changes, enter 2 in this box and complete the applicable parts on the next page, and then go to "Part 4 – Certification."

Part 4 – Certification

I certify that all information given in this *Corporations Information Act* Annual Return is true, correct, and complete.

450 Nanninga	451 Margaret
Last name	First name
454 Lynn	
Middle name(s)	

- 460** ☐ 3 Please enter one of the following numbers in this box for the above-named person: 1 for director, 2 for officer, or 3 for other individual having knowledge of the affairs of the corporation. If you are a director and officer, enter 1 or 2.

Note: Sections 13 and 14 of the Ontario *Corporations Information Act* provide penalties for making false or misleading statements or omissions.

Complete the applicable parts to report changes in the information recorded on the MGS public record.

Part 5 – Mailing address

500	<input type="checkbox"/> Please enter one of the following numbers in this box: <div style="display: flex; flex-direction: column; margin-left: 10px;"> <div>1 - Show no mailing address on the MGS public record.</div> <div>2 - The corporation's mailing address is the same as the head or registered office address in Part 2 of this schedule.</div> <div>3 - The corporation's complete mailing address is as follows:</div> </div>				
510	Care of (if applicable)				
520	Street number	530	Street name/Rural route/Lot and Concession number	540	Suite number
550	Additional address information if applicable (line 530 must be completed first)				
560	Municipality (e.g., city, town)	570	Province/state	580	Country
				590	Postal/zip code

Part 6 – Language of preference

600	<input type="checkbox"/> Indicate your language of preference by entering 1 for English or 2 for French. This is the language of preference recorded on the MGS public record for communications with the corporation. It may be different from line 990 on the T2 return.
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**ONTARIO CO-OPERATIVE EDUCATION TAX CREDIT**

Name of corporation	Business Number	Tax year-end Year Month Day
Kitchener-Wilmot Hydro Inc.	86360 3726 RC0001	2017-12-31

- 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 – Corporate information

110 Name of person to contact for more information	120 Telephone number including area code
Margaret Nanninga	(519) 749-6177
Is the claim filed for a CETC earned through a partnership? 150 1 Yes <input type="checkbox"/> 2 No <input checked="" type="checkbox"/>	
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 CETC 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 Schedule 550 for the partnership as if the partnership were a corporation. Each corporate partner, other than a limited partner, should file a separate Schedule 550 to claim the partner's share of the partnership's CETC. The allocated amounts can not exceed the amount of the partnership's CETC.	

Part 2 – Eligibility

1. Did the corporation have a permanent establishment in Ontario in the tax year?	200 1 Yes <input checked="" type="checkbox"/> 2 No <input type="checkbox"/>
2. Was the corporation exempt from tax under Part III of the <i>Taxation Act, 2007</i> (Ontario)?	210 1 Yes <input type="checkbox"/> 2 No <input checked="" type="checkbox"/>
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 * **300** 18,356,000

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:

$$\text{Eligible percentage} = 15\% - \left[5\% \times \left(\frac{\text{amount on line 300} - \$400,000}{\$200,000} \right) \right]$$

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:

$$\text{Eligible percentage} = 30\% - \left[5\% \times \left(\frac{\text{amount on line 300} - \$400,000}{\$200,000} \right) \right]$$

Eligible percentage for determining the eligible amount **312** 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 400	B Name of qualifying co-operative education program 405
1.	University of Waterloo	Bachelor Applied Science, Honours Electrical
2.	Conestoga College	Business Admin. Supply Chain & Operations Mgmt.
3.	Conestoga College	Electrical Engineering Technology (C.E.T.)
4.	Conestoga College	Powerline Technician Program
5.	Conestoga College	Powerline Technician Program
6.	Wilfred Laurier University	Bachelor of Science in Geography
7.	Conestoga College	Energy Systems Engineering Technology
8.	Conestoga College	Biotechnology Technician
9.	Conestoga College	Powerline Technician Program
10.	Conestoga College	Powerline Technician Program
11.	University of Waterloo	Bachelor of Kinesiology
12.	University of Waterloo	Bachelor Environmental Studies/Business
13.	University of Waterloo	Bachelor Environmental Studies/Business
14.	University of Waterloo	Bachelor Science
15.	University of Waterloo	Bachelor Science
16.	University of Guelph	Honours Criminal Justice
17.	University of Guelph	Honours Criminal Justice
18.		

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
1.		2017-05-01	2017-09-01
2.		2017-05-01	2017-09-01
3.		2017-05-01	2017-09-01
4.		2017-05-15	2017-09-01
5.		2017-05-15	2017-09-01
6.		2017-05-01	2017-09-01
7.		2017-05-01	2017-09-01
8.		2017-05-01	2017-09-01
9.		2017-01-03	2017-04-28
10.		2017-01-03	2017-04-28
11.		2017-05-01	2017-09-01
12.		2017-09-02	2017-12-29
13.		2017-05-01	2017-09-01
14.		2017-09-02	2017-12-29
15.		2017-05-01	2017-09-01
16.		2017-09-02	2017-12-31
17.		2017-05-01	2017-09-01
18.			

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)

	F1 Eligible expenditures before March 27, 2009 (see note 1 below) 450	Eligible percentage before March 27, 2009 (from line 310 in Part 3)	F2 Eligible expenditures after March 26, 2009 (see note 1 below) 452	Eligible percentage after March 26, 2009 (from line 310a in Part 3)	X Number of consecutive weeks of the WP completed by the student before March 27, 2009 (see note 3 below)	Y Total number of consecutive weeks of the student's WP (see note 3 below)
1.		10.000 %	14,010	25.000 %		18
2.		10.000 %	11,015	25.000 %		18
3.		10.000 %	13,720	25.000 %		18
4.		10.000 %	15,372	25.000 %		16
5.		10.000 %	15,182	25.000 %		16
6.		10.000 %	12,510	25.000 %		18
7.		10.000 %	12,812	25.000 %		18
8.		10.000 %	11,995	25.000 %		18
9.		10.000 %	19,640	25.000 %		16
10.		10.000 %	18,821	25.000 %		16
11.		10.000 %	11,909	25.000 %		18
12.		10.000 %	12,619	25.000 %		17
13.		10.000 %	12,619	25.000 %		18
14.		10.000 %	7,766	25.000 %		17
15.		10.000 %	7,766	25.000 %		18
16.		10.000 %	6,614	25.000 %		17
17.		10.000 %	6,614	25.000 %		18
18.		10.000 %		25.000 %		

	G Eligible amount (eligible expenditures multiplied by eligible percentage) (see note 2 below) 460	H Maximum CETC per WP (see note 3 below) 462	I CETC on eligible expenditures (column G or H, whichever is less) 470	J CETC on repayment of government assistance (see note 4 below) 480	K CETC for each WP (column I or column J) 490
1.	3,503	3,000	3,000		3,000
2.	2,754	3,000	2,754		2,754
3.	3,430	3,000	3,000		3,000
4.	3,843	3,000	3,000		3,000
5.	3,796	3,000	3,000		3,000
6.	3,128	3,000	3,000		3,000
7.	3,203	3,000	3,000		3,000
8.	2,999	3,000	2,999		2,999
9.	4,910	3,000	3,000		3,000
10.	4,705	3,000	3,000		3,000
11.	2,977	3,000	2,977		2,977
12.	3,155	3,000	3,000		3,000
13.	3,155	3,000	3,000		3,000
14.	1,942	3,000	1,942		1,942
15.	1,942	3,000	1,942		1,942
16.	1,654	3,000	1,654		1,654
17.	1,654	3,000	1,654		1,654
18.					

Ontario co-operative education tax credit (total of amounts in column K)					500	45,922	L
--	--	--	--	--	------------	--------	---

or, if the corporation answered **yes** at line 150 in Part 1, determine the partner's share of amount L:

Amount L _____ x percentage on line 170 in Part 1 _____ % = **M**

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.

Ontario Apprenticeship Training Tax Credit

Corporation's name	Business number	Tax year-end Year Month Day
Kitchener-Wilmot Hydro Inc.	86360 3726 RC0001	2017-12-31

- 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
Margaret Nanninga	(519) 749-6177
Is the claim filed for an ATTC earned through a partnership? *	150 1 Yes <input type="checkbox"/> 2 No <input checked="" type="checkbox"/>
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 Schedule 552 for the partnership as if the partnership were a corporation. Each corporate partner, other than a limited partner, should file a separate Schedule 552 to claim 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 ATTC.

Part 2 – Eligibility

1. Did the corporation have a permanent establishment in Ontario in the tax year?	200 1 Yes <input checked="" type="checkbox"/> 2 No <input type="checkbox"/>
2. Was the corporation exempt from tax under Part III of the <i>Taxation Act, 2007</i> (Ontario)?	210 1 Yes <input type="checkbox"/> 2 No <input checked="" type="checkbox"/>

If you answered **no** to question 1 or **yes** to question 2, then you are **not eligible** for the ATTC.

Part 3 – Specified percentageCorporation's salaries and wages paid in the previous tax year * **300** 18,356,000**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:

$$\text{Specified percentage} = 45\% - \left[10\% \times \left(\frac{\text{amount on line 300} - 400,000}{200,000} \right) \right]$$

Specified percentage **312** 35.000 %**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:

$$\text{Specified percentage} = 30\% - \left[5\% \times \left(\frac{\text{amount on line 300} - 400,000}{200,000} \right) \right]$$

Specified percentage **314** 25.000 %

* 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			
2.	434a	Powerline Technician			
3.	434a	Powerline Technician			
4.	434a	Powerline Technician			
5.	434a	Powerline Technician			
6.	434a	Powerline Technician			
7.					

D Original contract or training agreement number		E Original registration date of apprenticeship contract or training agreement (YYYYMMDD) (see note 1)		F Start date of employment as an apprentice in the tax year (YYYYMMDD) (see note 2)		G End date of employment as an apprentice in the tax year (YYYYMMDD) (see note 3)	
420		425		430		435	
1.			2015-08-31		2017-01-01		2017-12-31
2.			2015-08-31		2017-01-01		2017-12-31
3.			2014-10-01		2017-01-01		2017-12-31
4.			2017-09-05		2017-09-05		2017-12-31
5.			2017-09-05		2017-09-05		2017-12-31
6.			2013-10-01		2017-01-01		2017-10-08

D Original contract or training agreement number 420	E Original registration date of apprenticeship contract or training agreement (YYYYMMDD) (see note 1) 425	F Start date of employment as an apprentice in the tax year (YYYYMMDD) (see note 2) 430	G End date of employment as an apprentice in the tax year (YYYYMMDD) (see note 3) 435
7.			
<p>Note 1: Enter the original registration date of the apprenticeship contract or training agreement in all cases, even when multiple employers employed the apprentice.</p> <p>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.</p> <p>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.</p>			

Part 4 – Ontario apprenticeship training tax credit (continued)

	H1 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) 442	H2 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) 443	I Maximum credit amount for the tax year (see note 2) 445
1.		365	5,000
2.		365	5,000
3.	365		10,000
4.		118	1,616
5.		118	1,616
6.	281		7,699
7.			

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) 452	J2 Eligible expenditures incurred for a qualifying apprenticeship program that began after April 23, 2015 (see note 3) 453	K Eligible expenditures multiplied by specified percentage (see note 4) 460
1.		75,997	18,999
2.		76,043	19,011
3.	87,222		30,528
4.		20,999	5,250
5.		22,491	5,623
6.	89,024		31,158
7.			

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 filing 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:

Column K = $(J1 \times \text{line 312})$ or $(J2 \times \text{line 314})$, whichever applies.

	L ATTC on eligible expenditures (lesser of columns I and K) 470	M ATTC on repayment of government assistance (see note 5) 480	N ATTC for each apprentice (column L or M, whichever applies) 490
1.	5,000		5,000
2.	5,000		5,000
3.	10,000		10,000
4.	1,616		1,616
5.	1,616		1,616
6.	7,699		7,699

L ATTC on eligible expenditures (lesser of columns I and K) 470	M ATTC on repayment of government assistance (see note 5) 480	N ATTC for each apprentice (column L or M, whichever applies) 490
7.		
Ontario apprenticeship training tax credit (total of amounts in column N)		500 <u>30,931</u> O
Or , if the corporation answered yes at line 150 in Part 1, determine the partner's share of amount O:		
Amount O _____ x percentage on line 170 in Part 1 _____ % = _____ P		
Enter amount O or P, whichever applies, on line 454 of Schedule 5, <i>Tax Calculation Supplementary – Corporations</i> . 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.

Corporate Taxpayer Summary

Corporate information

Corporation's name Kitchener-Wilmot Hydro Inc.																
Taxation Year 2017-01-01 to 2017-12-31																
Jurisdiction Ontario																
BC	AB	SK	MB	ON	QC	NB	NS	NO	PE	NL	XO	YT	NT	NU	OC	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Corporation is associated Y																
Corporation is related Y																
Number of associated corporations 3																
Type of corporation Canadian-Controlled Private Corporation																
Total amount due (refund) federal and provincial* -156,236																
* The amounts displayed on lines "Total amount due (refund) federal and provincial" are all listed in the help. Press F1 to consult the context-sensitive help.																

Summary of federal information

Net income	7,088,811	
Taxable income	7,084,311	
Donations	4,500	
Calculation of income from an active business carried on in Canada	6,791,950	
Dividends paid	4,195,300	
Dividends paid – Regular	4,195,300	
Dividends paid – Eligible		
Balance of the low rate income pool at the end of the previous year		
Balance of the low rate income pool at the end of the year		
Balance of the general rate income pool at the end of the previous year	55,657,336	
Balance of the general rate income pool at the end of the year	60,544,300	
Part I tax (base amount)	2,692,038	
Credits against part I tax	Summary of tax	Refunds/credits
Small business deduction	Part I 1,098,776	ITC refund
M&P deduction	Part IV	Dividends refund 91,037
Foreign tax credit	Part III.1	Instalments 1,895,500
Investment tax credits 34,127	Other*	Other*
Abatement/Other* 1,590,800	Provincial or territorial tax 731,525	
	Balance due/refund (–)	-156,236
* The amounts displayed on lines "Other" are all listed in the Help. Press F1 to consult the context-sensitive help.		

Summary of federal carryforward/carryback information

Carryforward balances	
Financial statement reserve	5,213,000

Summary of provincial information – provincial income tax payable

	Ontario	Québec (CO-17)	Alberta (AT1)
Net income	7,088,811		
Taxable income	7,084,311		
% Allocation	100.00		
Attributed taxable income	7,084,311		
Tax payable before deduction*	814,696		
Deductions and credits	6,318		
Net tax payable	808,378		
Attributed taxable capital	N/A		N/A
Capital tax payable**	N/A		N/A
Total tax payable***	808,378		
Instalments and refundable credits	76,853		
Balance due/Refund (-)	731,525		
Logging tax payable (COZ-1179)			
Tax payable	N/A		N/A

* For Québec, this includes special taxes.

** For Québec, this includes compensation tax and registration fee.

*** For Ontario, this includes the corporate minimum tax, the Crown royalties' additional tax, the transitional tax debit, the recaptured research and development tax credit and the special additional tax debit on life insurance corporations. The Balance due/Refund is included in the federal Balance due/refund.

Summary – taxable capital**Federal**

Corporate name	Taxable capital used to calculate the business limit reduction (T2, line 415)	Taxable capital used to calculate the SR&ED expenditure limit for a CCPC (Schedules 31 and 49)	Taxable capital used to calculate line 233 of the T2 return	Taxable capital used to calculate line 234 of the T2 return
Kitchener-Wilmot Hydro Inc.	264,785,593	264,785,593	272,690,280	272,690,280
Kitchener Power Corporation	322,990	322,990	259,327	259,327
Corporation of the City of Kitchener				
KITCHENER ENERGY SERVICES				
Total	265,108,583	265,108,583	272,949,607	272,949,607

Québec

Corporate name	Paid-up capital used to calculate the Québec business limit reduction (CO-771) and to calculate the additional deduction for transportation costs of remote manufacturing SMEs (CO-156.TR)	Paid-up capital used to calculate the tax credit for investment (CO-1029.8.36.IN)	Paid-up capital used to calculate the 1 million deduction (CO-1137.A and CO-1137.E)
Total			

Ontario

Corporate name	Specified capital used to calculate the expenditure limit – Ontario innovation tax credit (Schedule 566)
Kitchener-Wilmot Hydro Inc.	264,785,593
Kitchener Power Corporation	
Corporation of the City of Kitchener	
KITCHENER ENERGY SERVICES	
Total	264,785,593

Other provinces

Corporate name	Capital used to calculate the Newfoundland and Labrador capital deduction on financial institutions (Schedule 306)
Total	

Five-Year Comparative Summary

	Current year	1st prior year	2nd prior year	3rd prior year	4th prior year
Federal information (T2)					
Taxation year end	2017-12-31	2016-12-31	2015-12-31	2014-12-31	2013-12-31
Net income	7,088,811	8,341,097	7,566,197	6,928,188	5,242,972
Taxable income	7,084,311	8,339,547	7,564,893	6,924,584	5,239,518
Active business income	6,791,950	8,052,797	7,305,615	6,594,032	4,830,504
Dividends paid	4,195,300	4,409,700	4,265,700	3,329,000	3,673,100
Dividends paid – Regular	4,195,300	4,409,700	4,265,700	3,329,000	3,673,100
Dividends paid – Eligible					
LRIP – end of the previous year					
LRIP – end of the year					
GRIP – end of the previous year	55,657,336	49,860,438	44,601,334	39,856,226	36,380,750
GRIP – end of the year	60,544,300	55,657,336	49,860,438	44,601,334	39,856,226
Donations	4,500	1,550	1,304	3,604	3,454
Balance due/refund (-)	-156,236	13,799	20,674	12,702	-861,135
Line 996 – Amended tax return	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Loss carrybacks requested in prior years to reduce taxable income					
Taxation year end	2017-12-31	2016-12-31	2015-12-31	2014-12-31	2013-12-31
Taxable income before loss carrybacks	N/A	N/A	7,564,893	6,924,584	5,239,518
Non-capital losses	N/A	N/A			
Net capital losses (50%)	N/A	N/A			
Restricted farm losses	N/A	N/A			
Farm losses	N/A	N/A			
Listed personal property losses (50%)	N/A	N/A			
Total loss carried back to prior years	N/A	N/A			
Adjusted taxable income after loss carrybacks	N/A	N/A	7,564,893	6,924,584	5,239,518
Losses in the current year carried back to previous years to reduce taxable income (according to Schedule 4)					
Taxation year end	2017-12-31	2016-12-31	2015-12-31	2014-12-31	2013-12-31
Adjusted taxable income before current year loss carrybacks*	N/A	8,339,547	7,564,893	6,924,584	N/A
Non-capital losses	N/A				N/A
Net capital losses (50%)	N/A				N/A
Restricted farm losses	N/A				N/A
Farm losses	N/A				N/A
Listed personal property losses (50%)	N/A				N/A
Total current year losses carried back to prior years	N/A				N/A
Adjusted taxable income after loss carrybacks	N/A	8,339,547	7,564,893	6,924,584	N/A

* The adjusted taxable income before current year loss carryback takes into account loss carrybacks that were made in prior taxation years.

Loss carrybacks requested in prior years to reduce taxable dividends subject to Part IV tax

Taxation year end	2017-12-31	2016-12-31	2015-12-31	2014-12-31	2013-12-31
Adjusted Part IV tax multiplied by the multiplication factor**, before loss carrybacks	N/A	N/A			
Non-capital losses	N/A	N/A			
Farm losses	N/A	N/A			
Total loss carried back to prior years	N/A	N/A			
Adjusted Part IV tax multiplied by the multiplication factor**, after loss carrybacks	N/A	N/A			

Losses in the current year carried back to previous years to reduce taxable dividends subject to Part IV tax (according to Schedule 4)

Taxation year end	2017-12-31	2016-12-31	2015-12-31	2014-12-31	2013-12-31
Adjusted Part IV tax multiplied by the multiplication factor**, before current-year loss carrybacks***	N/A				N/A
Non-capital losses	N/A				N/A
Farm losses	N/A				N/A
Total current year losses carried back to prior years	N/A				N/A
Adjusted Part IV tax multiplied by the multiplication factor**, after loss carrybacks	N/A				N/A

** The multiplication factor is 3 for dividends received before January 1, 2016, and 100 / 38 1/3 for dividends received after December 31, 2015.

*** The adjusted Part IV tax multiplied by the multiplication factor before current-year loss carrybacks takes into account loss carrybacks that were made in prior taxation years. This amount is multiplied by the multiplication factor to help you determine the loss amount that must be used to reduce Part IV tax payable to zero.

Federal taxes

Taxation year end	2017-12-31	2016-12-31	2015-12-31	2014-12-31	2013-12-31
Part I	1,098,776	1,279,221	1,137,193	1,104,405	778,700
Part IV					
Part III.1					
Other*					

* The amounts displayed on lines "Other" are all listed in the help. Press F1 to consult the context-sensitive help.

Credits against part I tax

Taxation year end	2017-12-31	2016-12-31	2015-12-31	2014-12-31	2013-12-31
Small business deduction					
M&P deduction					
Foreign tax credit					
Investment tax credit	34,127	39,942	48,789		88,347
Abatement/other*	1,590,800	1,880,617	1,706,049	1,549,214	1,151,468

* The amounts displayed on lines "Other" are all listed in the help. Press F1 to consult the context-sensitive help.

Refunds/credits

Taxation year end	2017-12-31	2016-12-31	2015-12-31	2014-12-31	2013-12-31
ITC refund					
Dividend refund	91,037	88,412	69,489	89,108	109,991
Instalments	1,895,500	2,033,900	1,848,266	1,735,800	2,000,000
Other*					

* The amounts displayed on lines "Other" are all listed in the help. Press F1 to consult the context-sensitive help.

Ontario

Taxation year end	2017-12-31	2016-12-31	2015-12-31	2014-12-31	2013-12-31
Net income	7,088,811	8,341,097	7,566,197	6,928,188	5,242,972
Taxable income	7,084,311	8,339,547	7,564,893	6,924,584	5,239,518
% Allocation	100.00	100.00	100.00	100.00	100.00
Attributed taxable income	7,084,311	8,339,547	7,564,893	6,924,584	5,239,518
Surtax					
Income tax payable before deduction	814,696	959,048	869,963	796,327	602,545
Income tax deductions /credits	6,318	7,047	11,557		53,660
Net income tax payable	808,378	952,001	858,406	796,327	548,885
Taxable capital					
Capital tax payable					
Total tax payable*	808,378	952,001	858,406	796,327	548,885
Instalments and refundable credits	76,853	95,111	57,170	63,122	78,729
Balance due/refund**	731,525	856,890	801,236	733,205	470,156

* For taxation years ending before January 1, 2009, this includes the corporate minimum tax and the premium tax. For taxation years ending after December 31, 2008, this includes the corporate minimum tax, the Crown royalties' additional tax, the transitional tax debit, the recaptured research and development tax credit and the special additional tax debit on life insurance corporations.

** For taxation years ending after December 31, 2008, the Balance due/Refund is included in the federal Balance due/refund.

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File Number: EB-2019-0049

Exhibit: 4

Filed: April 30, 2019

Appendix 4-6: Kinectrics Useful Lives Study

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Cambridge and North Dumfries Hydro, Kitchener-Wilmot Hydro & Guelph Hydro

Useful Life of Assets

Kinectrics Inc. Report No: K-418029-RA-001-R001

March 24, 2010

Confidential & Proprietary Information
Contents of this report shall not be disclosed
without authority of client.

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Cambridge and North Dumfries Hydro, Kitchener-Wilmot Hydro & Guelph Hydro
Useful Life of Assets

DISCLAIMER

Kinectrics Inc. has prepared this report in accordance with, and subject to, the terms and conditions of the agreement between Kinectrics Inc. and Cambridge and North Dumfries Hydro, Kitchener-Wilmot Hydro & Guelph Hydro.

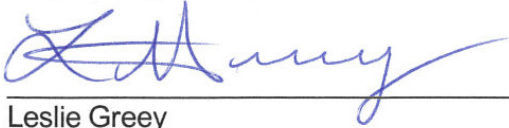
@Kinectrics Inc., 2009.

Cambridge and North Dumfries Hydro, Kitchener-Wilmot Hydro & Guelph Hydro – Useful Life of Assets

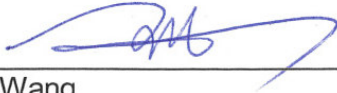
Kinectrics Inc. Report No: K-418029-RA-001-R001

March 24, 2010

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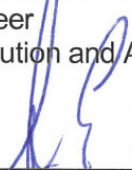


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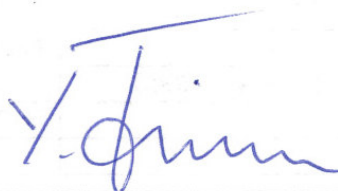


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Dated: March 24, 2010

Cambridge and North Dumfries Hydro, Kitchener-Wilmot Hydro & Guelph Hydro
Useful Life of Assets

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Revision History

Revision Number	Date	Comments	Approved
R000	February 26, 2010	Initial Draft	N/A
	<i>March 10, 2010</i>	<i>Meeting with Consortium to review R000</i>	
R001	March 24, 2010	Final Report	Y. Tsimberg

EXECUTIVE SUMMARY

Ontario's Local Distribution Companies (LDCs) are switching to International Financial Reporting Standards (IFRS) methodology. One of the "tenants" of IFRS is the time period assets are amortized over should align with their actual useful life.

LDCs typically own and operate a large number of assets that are divided into different asset categories, each with its own degradation mechanism and useful life range. Furthermore, some assets are comprised of several components that may have differing useful lives than the assets themselves. To facilitate conversion to IFRS, LDCs need to ensure that a) they track all relevant asset categories and their components and b) that the amortization period for these are adequately aligned with actual LDC-specific useful lives.

This report reviews the useful lives of the assets, and their respective asset components that are applicable to Cambridge and North Dumfries Hydro, Kitchener-Wilmot Hydro & Guelph Hydro (the Consortium). The useful life values are compiled from several different sources, namely, industrial statistics, research studies and reports (either by individuals or working groups such as CIGRE), and Kinectrics experience, all of which listed in Section 3 of this Report. Useful lives of assets are dependent on a number of utilization factors, specifically time-base maintenance, operating practices and utilization (electrical loading). These factors are described in *Section 1.3.6* of this report and are used to decide where the LDC-specific typical asset/components lives should be relative to the typical lives based on the industry data. It is also worth noting that the useful lives of assets do not generally follow standard distribution curves as they are derived from empirical statistics.

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1 INTRODUCTION

Ontario's Local Distribution Companies (LDCs) are switching to International Financial Reporting Standards (IFRS) methodology. One of the "tenants" of IFRS is the time period assets are amortized over should align with their actual useful life.

LDCs typically own and operate a large number of assets that are divided into different asset categories, each with its own degradation mechanism and useful life range. Furthermore, some assets are comprised of several components that may have differing useful lives than the assets themselves. To facilitate conversion to IFRS, LDCs need to ensure that a) they track all relevant asset categories and their components and b) that the amortization period for these are adequately aligned with actual LDC-specific useful lives.

This report reviews the useful lives of the assets, and their respective asset components that are applicable to Cambridge and North Dumfries Hydro, Kitchener-Wilmot Hydro & Guelph Hydro (the Consortium). The useful life values are compiled from several different sources, namely, industrial statistics, research studies and reports (either by individuals or working groups such as CIGRE), and Kinectrics experience, all of which listed in Section 3 of this Report.

This report is intended to be used to determine the useful life of assets as follows: Useful lives of assets are dependent on a number of utilization factors, specifically maintenance practices, operating practices and utilization (electrical loading). These factors are described in detail in *Section 1.3.6* of this report and are used to decide where the LDC-specific asset/components lives should be relative to the typical lives based on the industry data. It is also worth noting that the useful lives of assets do not generally follow standard distribution curves as they are derived from empirical statistics.

1.1 Project Scope

This report provides an in-depth evaluation of the useful lives of the assets that are owned and operated by the Consortium. The typical parent system(s) to which the asset belongs is provided and these "parent" systems are: *Overhead Lines* (OH), *Distribution Transformers* (DT), *Transformer Stations* (TS), *Municipal Stations* (MS), *Underground Systems* (UG) and *Monitoring and Control System* (S). The long term degradation mechanism is described for each asset category and when applicable assets are sub-categorized into components. Components are included when their cost is material enough and, at the same time, could be replaced without a need to replace the whole asset. For each asset or component, the following information is presented:

- End of life criteria
- Useful Life Range
- Typical Life
- Typical time-based maintenance intervals, if applicable
- Utilization Factors

Section 1.3 provides definitions for the above terms, as well as descriptions of typical distribution system assets and asset components.

1.2 Project Execution Process

The project execution process entailed a number of steps to ensure that the industry-based information compiled by Kinectrics not only includes all the relevant assets and components used by Consortium, but also that it addresses the specific needs related to the IFRS review. The procedure is as follows:

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- The initial list of assets and components was produced by the Consortium to Kinectrics for review.
- Upon review of the initial list, Kinectrics generated an intermediate asset list that had a somewhat different background, granularity, and componentization, based on industry practices and Kinectrics experience.
- The intermediate list was reviewed jointly by Consortium and Kinectrics to derive a “final” list.
- For each asset and component in the “final” list, Kinectrics then gathered the information described in *Section 1.1* of this report. A Draft Report that summarized the findings and provided detail descriptions, including degradation mechanisms and applicable assumptions for each asset, was then produced.
- This Draft Report was reviewed by Consortium and their feedback was incorporated in the Final Report.

1.3 Definition of Terms

1.3.1 *Typical Distribution System Asset*

Typical distribution system assets include transformers, breakers, switches, underground cables, poles, vaults, cable chambers, etc. Some of the assets, such as power transformers, are rather complex systems and include a number of components.

1.3.2 *Component*

For the purposes of this study, component refers to the sub-category of an asset that meets both of the following criteria:

- Its replacement value is significant enough, relative to the asset value.
- A need to replace the component does not necessarily warrant replacing the entire asset.

An *asset* may be comprised of more than one component, each with an independent failure mode and degradation mechanism that may result in a substantially different useful life than the overall asset. A component may also have an independent maintenance and replacement schedule.

1.3.3 *Useful Life*

Useful Life refers to an estimated range of years during which an electric utility asset or its component is expected to operate as designed, without experiencing major functional degradation that requires major refurbishment or replacement.

In this report, the useful life range, in years, is presented in terms of a minimum, maximum, and typical value. An overwhelming number of units within a population will perform their intended design functions for a period of time greater than or equal to the *minimum* life. Conversely, an overwhelming number of units will cease to perform as designed at or beyond the *maximum* life. A majority of the population will have useful lives of around the *typical* life. For example, consider an asset class with a useful life range of 20 to 40 years, and a typical life of 30 years. The majority of the units within this class will perform as required for at least 20 years and likewise the majority of the units will not operate beyond 40 years. Finally, a majority of the units within the population will operate for approximately 30 years. Note that an asset category can have a

INTRODUCTION

typical life that is equal to either the maximum or minimum life. This is simply an indication that the majority of the units within a population will be operational for either the minimum or maximum years; i.e. the statistical data is skewed towards either the maximum or minimum values. The range in useful lives reflects differences in various utilization factors including mechanical stress, electrical loading, and environmental conditions and operating practices.

1.3.4 Typical Life

Refers to the typical age at which the asset or component fails or is normally removed from service for other reasons such as obsolescence or collateral replacement. This may vary depending on a utility's maintenance practices, environmental conditions, and operational stresses.

1.3.5 Typical Time-based Maintenance Intervals

For the purposes of this report, time-based maintenance refers to either *Routine Inspections* (RI) or *Routine Testing/Maintenance* (RTM) applicable generally to North American electric utilities, but particularly to Ontario electric utilities.

Routine Inspections (RI) include patrol or simple visual inspections consists of walking, driving by equipment to identify obvious structural problems and hazards such as leaning power poles, damaged equipment enclosures, and vandalism.

Routine Testing/Maintenance (RTM) activities are left to the discretion of the distributor, and include literally hundreds of maintenance activities that range from insulator washing, cable replacement, CO2 cleaning of switchgear, to gas-in-oil testing of station transformers, etc.

Other maintenance techniques such as Condition Based Maintenance, Reliability Centered Maintenance, and more intrusive periodic overhauls are very much dependent on individual utility's maintenance strategy and practices and, as such, could not be included in compiling industry-wide typical values.

Typical time-based maintenance intervals will be given only for assets that are proactively maintained, i.e. assets for which useful life is affected by regular planned maintenance. This excludes assets that are not routinely maintained. Typical values have been determined from worldwide electric utility sources.

1.3.6 Utilization Factors

Useful lives of assets are dependent on a number of utilization factors, specifically maintenance practices, operating practices and utilization (electrical or mechanical loading).

Maintenance practices are further subdivided into the categories of "Routine Inspection" and "Routine Testing and Maintenance".

"Operating practices" refers to the frequency with which an asset is subject to operating procedures (automatic or manual) that impact its useful life, e.g. recloser operations. For the purposes of this report typical operating practice refers to operating assets at the rated load. The typical number of operations for an asset is based on the specific manufacturers' recommendations for that specific asset or component type.

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2 RESULTS AND FINDINGS

Table 1-1 summarizes useful and typical lives, time based maintenance schedules, and impact of stress for Consortium assets.

Table 2-1 Summary of Componentized Assets

PARENT*	#	ASSET			USEFUL LIFE (years)			FACTORS [⌘]		MAINTENANCE [§]			
		Category	-	Component	-	Type	Min	Typ	Max	OP	MP	Type	Schedule (years)
OH	1	Fully Dressed Poles			Wood	40	45	50	-	✓	RI	3-6	
					Composite	45	70	100					
					Concrete	35	60	80					
					Steel	60	60	80					
	2	Insulators			Porcelain	40	40	50	-	✓	RI	3-6	
					Glass	40	40	50					
					Composite	25	45	50					
	3	Fuse Cutouts				30	40	60	-	-	RI	3-6	
	4	Manual Overhead Switches				30	50	60	✓	✓	RTM	2	
	5	Local Motorized Overhead Switches	Switch			30	50	60	✓	✓	RTM	2	
			Motor			15	20	20					
	6	Remote Automated Overhead Switches	Switch			30	50	60	✓	✓	RTM	2	
			Motor			15	20	20					
			RTU			15	20	30					
	7	Integral Switch				30	45	50	✓	✓	RTM	2	
* OH = Overhead Lines ✓=Applicable													
⌘ OP = Operating Practices MP = Maintenance Practices § RI = Routine Inspection RTM = Routine Testing and Maintenance													

RESULTS AND FINDINGS

PARENT*	#	ASSET			USEFUL LIFE			FACTORS [⌘]		MAINTENANCE [§]	
		Category	Component	Type	Min	Typ	Max	OP	MP	Type	Schedule
OH	8	Conductors	Primary & Secondary	ACSR	50	60	77	-	-	RI	3-6
				AAC	50	60	77				
				Copper	50	60	77				
				Weather Protected	50	60	77				
				Insulated Wire	50	60	77				
	9	Capacitor Banks			25	30	40	-	-	RI	3-6
	10	Voltage Regulators			15	20	40	✓	-	RI	3-6
11	Reclosers			30	40	60	✓	✓	RTM	3-6	
DT	12	Pole Top Transformer			30	40	60	-	✓	RI	3-6
	13	Pole-Tran			25	30	35	✓	✓	RTM	2
	14	Pad Mounted Transformer	Transformer	30	40	60	✓	-	RI	3-6	
			Foundation	30	60	80					
	15	Network Transformer	Transformer	20	35	50	✓	✓	RI	2	
			Vault	40	60	80					
			Roof	20	25	40					
			High Voltage Switch	30	45	50					
			Secondary Network Protector	20	35	40					
	16	Submersible Transformer	Transformer	25	35	40	✓	✓	RI	2	
			Vault	40	60	80					
			Roof	20	25	40					
	17	Indoor Vault Transformer	Transformer	25	35	40	✓	✓	RI	2	
			Vault	40	60	80					
			Roof	20	25	40					
* OH = Overhead Lines DT = Distribution Transformers √=Applicable ⌘ OP = Operating Practices MP = Maintenance Practices § RI = Routine Inspection RTM = Routine Testing and Maintenance											

RESULTS AND FINDINGS

PARENT*	#	ASSET			USEFUL LIFE			FACTORS [⌘]		MAINTENANCE [§]	
		Category	Component	Type	Min	Typ	Max	OP	MP	Type	Schedule
UG	18	UG Switchgear		Air Insulated	20	25	40	✓	✓	RI	3
				Gas Insulated	30	30	50				
				Solid Dielectric	30	30	50				
	19	Primary Cables		PILC	70	75	80	-	-	RI	3-6
				Solid Dielectric In Duct	40	40	60				
				Solid Dielectric Direct Buried	20	25	25				
	20	Secondary Cables		Solid Dielectric In Duct	40	40	60	-	-	RI	3-6
				Solid Dielectric Direct Buried	20	30	35				
	21	Ducts		Concrete Encased	30	50	80	-	-	-	-
				PVC (Direct Buried)	30	50	75				
				HDPE (Direct Buried)	50	50	100				
				FRE (Direct Buried)	30	50	100				
	22	Cable Chambers			50	60	80	-	✓	RTM	3
	23	Junction Cubicle/Service Box	Pads/bases		30	60	80	-	✓	RTM	3
			Junction/switching cabinets		25	40	50				
TS & MS	24	Station Grounding Transformer			30	40	40	-	✓	RTM	3
	25	Station Service Transformer			32	45	55	-	✓	RTM	3
	26	TS Power Transformer	Overall		32	45	55	✓	✓	RTM	2
			Bushing		20	30	40				
			Tap Changer		20	30	60				
* UG = Underground Systems TS&MS = Transformer and Municipal Stations √=Applicable ⌘ OP = Operating Practices MP = Maintenance Practices § RI = Routine Inspection RTM = Routine Testing and Maintenance											

RESULTS AND FINDINGS

PARENT*	#	ASSET			USEFUL LIFE			FACTORS [⌘]		MAINTENANCE [§]	
		Category	Component	Type	Min	Typ	Max	OP	MP	Type	Schedule
TS & MS	27	MS Power Transformer	Overall		30	45	55	✓	✓	RTM	2
			Bushing		20	30	40				
			Tap Changer		20	30	60				
	28	MV Switchgear	Assembly	Air Insulated	40	50	60	✓	✓	RTM	6
				Gas (SF6) Insulated	40	50	60				
			Removable Breaker	Air Magnetic	25	40	60				
				Vacuum	30	40	60				
				SF6	30	45	60				
	29	Independent Breakers		Oil	30	45	60	✓	✓	RTM	3
				Gas (SF6)	30	45	60				
				Air Magnetic	25	30	60				
				Air Blast	30	40	50				
				Vacuum	30	40	60				
	30	Protection & Control Devices	Panels		40	40	60	✓	-	RI	3-6
			Control Cable		25	40	50				
			Relays	Electromechanical	20	30	50				
				Solid State	10	30	50				
				Digital	10	15	20				
	31	Station Disconnect Switch			30	45	50	✓	✓	RTM	6
	32	DC System	Batteries		10	20	30	✓	✓	RTM	1
			Chargers		20	20	30				
			DC Distribution Equipment		10	20	30				
* TS&MS = Transformer and Municipal Stations √=Applicable ⌘ OP = Operating Practices MP = Maintenance Practices § RI = Routine Inspection RTM = Routine Testing and Maintenance											

RESULTS AND FINDINGS

PARENT*	#	ASSET			USEFUL LIFE			FACTORS [⌘]		MAINTENANCE [§]		
		Category	Component	Type	Min	Typ	Max	OP	MP	Type	Schedule	
TS & MS	33	Station Grounding System		Ground Grid	25	40	50	-	-	-	-	
				Neutral Reactors	25	45	60					
				Arresters	10	20	30					
				Sky Wire	30	45	50					
	34	Bus Work & Steel Structures			35	50	100	-	-	-	-	
	35	Station Building	Structure	30	50	80	-	✓	RI	1		
			Roof	15	20	30						
Fence			30	35	60							
S	36	Metering	Meter	Smart	15	15	20	-	-	-	-	
				Industrial/Commercial	20	30	60					
				Wholesale	20	30	60					
			Transformers (CTs, PTs)	30	45	50						
	37	SCADA	RTU			10	20	30	✓	-	-	-
			Battery			10	15	15				
	38	Smart Fault Indicators			10	15	15	✓	-	-	-	
	39	Communication Towers			35	65	100	-	-	RI	3-6	
* TS&MS = Transformer and Municipal Stations S = Monitoring and Control Systems √=Applicable ⌘ OP = Operating Practices MP = Maintenance Practices § RI = Routine Inspection RTM = Routine Testing and Maintenance												

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1 Fully Dressed Poles

The asset referred to in this category is the fully dressed pole ranging in size from 30 to 75 feet. This includes the pole, cross arm, bracket, insulator, and anchor & guys. The most important component with respect to useful life is the pole itself. For the purposes of this report we are discussing the degradation and useful life of four types: wood, composite, concrete and steel.

1.1 Degradation Mechanism

The most significant component of this asset is the wood pole itself. The degradation of poles is based on the pole type. This report covers wood poles, composite poles, concrete poles and steel poles.

1.1.1 Wood Poles

Wood poles are typically the most common form of support for overhead distribution feeders and low voltage secondary lines. The wood species predominately used for distribution systems are Red Pine, Jack Pine, and Western Red Cedar (WRC), either butt treated or full length treated. Smaller numbers of Larch, Fir, White Pine and Southern Yellow Pine have also been used. Preservative treatments applied prior to 1980, range from none on some WRC poles, to butt treated and full length Creosote or Pentachlorophenol (PCP) in oil. The present day treatment, regardless of species, is CCA-Peg (Chromated Copper Arsenate, in a Polyethylene Glycol solution). Other treatments such as Copper Naphthenate and Ammoniacal Copper Arsenate have also been used, but these are relatively uncommon. As wood is a natural material the degradation processes are somewhat different from those which affect other physical assets on the electricity distribution systems. The critical processes are biological, involving naturally occurring fungi that attack and degrade wood, resulting in decay. The nature and severity of the degradation depends both on the type of wood and the environment. Some fungi attack the external surfaces of the pole and some the internal heartwood. Therefore, the mode of degradation can be split into either external rot or internal rot. As a structural item the sole concern when assessing the condition for a wood pole is the reduction in mechanical strength due to degradation or damage.

1.1.2 Composite Poles

The major degradation of composite poles is ultra violet (UV) degradation. It represents an attack from ultra-violet radiation, which might result in crack or disintegration in composite poles. It is a common problem in products exposed to sunlight. Continuous exposure is a more serious problem than intermittent exposure, since attack is dependent on the extent and degree of exposure. In fiber products like composite poles, useful life will be shortened because the outer fibers will be attacked first, and will easily be damaged by abrasion. This will end up with fiber blooming and fading.

1.1.3 Concrete Pole

Concrete poles age in the same manner as any other concrete structure. Any moisture ingress inside the concrete pores would result in freezing during the winter and damage to concrete surface. Road salt spray can further accelerate the degradation process and lead to concrete spalling. Typical concrete mixes employ a washed-gravel aggregate and have extremely high resistance to downward compressive stresses (about 3,000 lb/sq in); however, any appreciable stretching or bending (tension) will break the microscopic rigid lattice, resulting in cracking and separation of the concrete. The spun concrete process used in manufacturing poles prevents moisture entrapment inside the pores. Spun, pre-stressed concrete is particularly resistant to corrosion problems common in a water-and-soil environment.

1.1.4 Steel Poles

The degradation of directly buried steel poles is mainly due to steel corrosion in-ground. In-ground situations are vastly different because of the wide local variations in soil chemistry, moisture content and conductivity that will affect the way coated or uncoated steel will perform in the ground. There are two issues that determine the life of buried steel. The first is the life of the protective coating and the second is

the corrosion rate of the steel. The item can be deemed to have failed when the steel loss is sufficient to prevent the steel performing its structural function. Where polymer coatings are applied to buried steel items, the failures are rarely caused by general deterioration of the coating. Localized failures due to defects in the coating, pin holing or large-scale corrosion related to electrolysis are common causes of failure in these installations. Metallic coatings, specifically galvanizing, and to a lesser extent aluminum, fail through progressive consumption of the coating by oxidation or chemical degradation. The rate of degradation is approximately linear, and with galvanized coatings of known thickness, the life of the galvanized coating then becomes a function of the coating thickness and the corrosion rate.

1.2 System Hierarchy

Fully Dressed Poles are considered to be a part of the Overhead Lines asset grouping.

1.3 Useful Life and Typical Life

The overall useful life of Fully Dressed Poles is dependent on the pole type:

- Wood
- Composite
- Concrete
- Steel

1.3.1 Wood

The useful life of a wood pole is in the range of 40 to 50 years; the typical life is 44 years.

1.3.2 Composite

The useful life of a composite pole is in the range of 45 to 100 years; the typical life is 70 years.

1.3.3 Concrete

The useful life of a concrete pole is in the range of 35 to 80 years; the typical life is 60 years.

1.3.4 Steel

The useful life of a steel pole is in the range of 60 to 80 years; the typical life is 60 years.

1.4 Time Based Maintenance Intervals

A typical routine inspection interval for this asset is every 3-6 years.

1.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factor:

- Maintenance practices
- Utilization (mechanical loading).

2 Insulators

The asset referred to in this category is the overhead line insulator. Insulators must support the conductors and withstand both the normal operating voltage and surges due to switching and lightning. Insulators are typically porcelain or glass, with increasing use of polymer insulators. For the purposes of this report we will be discussing three insulator types: porcelain, glass and composite.

2.1 Degradation Mechanism

The end of life of insulators is primarily due to environmental factors. Insulators are exposed to lightning withstand requirements, altitude, and environmental factors such as fog, pollution, or salt spray. Longer insulators, with longer creepage distance for leakage current, are required in these cases. Strain insulators must be strong enough mechanically to support the full weight of the span of conductor, as well as loads due to ice accumulation, and wind.

Porcelain insulators may have a semi-conductive glaze finish, so that a small current passes through the insulator. This warms the surface slightly and reduces the effect of fog and dirt accumulation. The semiconducting glaze also insures a more even distribution of voltage along the length of the chain of insulator units. Insulator grading rings, installed at their terminals, improves the electric field distribution around the insulator and makes it more resistant to flash-over during voltage surges.

2.2 System Hierarchy

Insulators are considered to be a part of the Overhead Lines asset grouping.

2.3 Useful Life and Typical Life

The overall useful life of Insulators is dependent on the insulator type:

- Porcelain
- Glass
- Composite

2.3.1 Porcelain

The useful life of a porcelain insulator is in the range of 40 to 50 years; the typical life is 40 years.

2.3.2 Glass

The useful life of a glass insulator is in the range of 40 to 50 years; the typical life is 40 years.

2.3.3 Composite

The useful life of a composite insulator is in the range of 25 to 50 years; the typical life is 45 years.

2.4 Time Based Maintenance Intervals

A typical routine inspection interval for this asset is every 3-6 years.

2.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factors:

- Maintenance practices
- Utilization (mechanical loading).

3 Fuse Cutouts

The asset referred to in this category is the Fuse Cutouts. They are applied on overhead transformers, capacitors, cables or lines. Fuse Cutouts will interrupt all faults including low current that will melt the fuse link and high rated interrupting current so long as the system is under realistic transient-recovery-voltage conditions.

3.1 Degradation Mechanism

The major degradation of fuse cutouts is on fuse body and insulator. There are several degradation modes in practice:

In the case of fuse link, the following is the major degradation modes:

- Production of carbon from organic materials in the fuse body. This carbon is not produced until a particular body temperature is reached, and the time for this to occur depends on the fuse design.
- For some fuses that generate water vapor to assist current interruption, the water is deposited on the inside surface of the body. Tracking is observed on the surface, ultimately leading to a steady increase in leakage current until failure.

In the case of insulator part, the following is the major degradation modes:

- Cracking on porcelain insulator due to combined impact from improper processing at manufacturing stage and operational mechanical stress.
- Contamination driven leakage current and flashover

3.2 System Hierarchy

Fuse Cutouts are considered to be a part of the Overhead Lines asset grouping.

3.3 Useful Life and Typical Life

The overall useful life of Fuse Cutouts is in the range of 30 to 60 years; the typical life is 40 years.

3.4 Time Based Maintenance Intervals

Fuse Cutouts are not subject to routine maintenance practices. These assets are subject to routine inspection every 3 to 6 years.

3.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factors:

- Maintenance practices
- Operating practices
- Utilization (electrical loading).

4 Manual Overhead Switches

This asset class consists of overhead line switches. The primary function of switches is to allow for isolation of line sections or equipment for maintenance, safety or other operating requirements. The operating control mechanism can be either a simple hook stick or manual gang.

4.1 Degradation Mechanism

The main degradation processes associated with manually operated line switches include the following, with rate and severity depending on operating duties and environment:

- Corrosion of steel hardware or operating rod
- Mechanical deterioration of linkages
- Switch blades falling out of alignment
- Loose connections
- Insulators damage
- Missing ground connections

The rate and severity of these degradation processes depends on a number of inter-related factors including the operating duties and environment in which the equipment is installed. In most cases, corrosion or rust represents a critical degradation process. The rate of deterioration depends heavily on environmental conditions in which the equipment operates. Corrosion typically occurs around the mechanical linkages of these switches. Corrosion can cause seizing. When lubrication dries out, the switch operating mechanism may seize making the disconnect switch inoperable. In addition, when blades fall out of alignment, excessive arcing may result. While a lesser mode of degradation, air pollution also can affect support insulators. Typically, this occurs in heavy industrial areas or where road salt is used.

4.2 System Hierarchy

Overhead Switches asset category belongs to the Overhead Lines assets grouping.

4.3 Useful Life and Typical Life

The useful life of manually operated switches is in the range of 30 to 60 years; the typical life is 50 years.

4.4 Time Based Maintenance Intervals

The typical routine testing/maintenance schedule for manually operated overhead switches is two years.

4.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factors:

- Maintenance practices;
- Operating practices;
- Utilization (electrical loading).

5 Local Motorized Overhead Switches

This asset class consists of overhead line three-phase, gang operated switches and a motor. The primary function of switches is to allow for isolation of line sections or equipment for maintenance, safety or other operating requirements. The operating control mechanism is controlled by a motor.

5.1 Degradation Mechanism

Like the remotely operated switch, the main degradation processes associated with local motorized overhead switches include the following:

- Corrosion of steel hardware or operating rod
- Mechanical deterioration of linkages
- Switch blades falling out of alignment
- Loose connections
- Insulators damage
- Missing ground connections

The rate and severity of degradation are a function on operating duties and environment.

5.2 System Hierarchy

Local Motorized Overhead Switches category belongs to the Overhead Lines assets grouping.

5.3 Useful Life and Typical Life

The local motorized overhead switch can be componentized into two components:

- Switch
- Motor

5.3.1 Switch

The useful life of local motorized switches is in the range of 30 to 60 years; the typical life is 50 years.

5.3.2 Motor

The useful life of the motor of local motorized switches is in the range of 15 to 20 years; the typical life is about 20 years.

5.4 Time Based Maintenance Intervals

The typical routine testing/maintenance schedule for local motorized switches is every two years.

5.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factors:

- Maintenance practices;
- Operating practices;
- Utilization (electrical loading).

6 Remote Automated Overhead Switches

This asset class consists of overhead line three-phase, gang operated switches. The primary function of switches is to allow for isolation of line sections or equipment for maintenance, safety or other operating requirements. While some categories of the switches are rated for load interruption, others are designed to operate under no load conditions and operate only when the current through the switch is zero. Most distribution line switches are rated 600 to 900 A continuous rating. Switches when used in conjunction with cutout fuses provide short circuit interruption rating. Disconnect switches are sometimes provided with padlocks to allow staff to obtain work permit clearance with the switch handle locked in open position. This component also consists of a remote terminal unit (RTU) component.

6.1 Degradation Mechanism

The main degradation processes associated with line switches include:

- Corrosion of steel hardware or operating rod
- Mechanical deterioration of linkages
- Switch blades falling out of alignment
- Loose connections
- Insulators damage
- Missing ground connections

The rate and severity of degradation are a function on operating duties and environment.

6.2 System Hierarchy

Remote Automated Overhead switches asset category belongs to the Overhead Lines assets grouping.

6.3 Useful Life and Typical Life

The remote automated overhead switch can be componentized into three components:

- Switch
- Motor
- Remote Terminal Unit (RTU)

6.3.1 Switch

The useful life of remote automated switches is in the range of 30 to 60 years; the typical life is 50 years.

6.3.2 Motor

The useful life of a motor is in the range of 15 to 20 years; the typical life is 20 years.

6.3.3 Remote Terminal Unit (RTU)

The useful life of an RTU is in the range of 15 to 30 years; the typical life is 20 years.

6.4 Time Based Maintenance Intervals

The typical routine testing/maintenance schedule for remote automated overhead switches is every two years.

6.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factors:

- Maintenance practices;
- Operating practices;
- Utilization (electrical loading).

7 Integral Switch

Integral switches are a type of overhead line switches that can receive signals from and be monitored by the SCADA system. These units include the switch, communications, and RTU. As with other line switches, this asset allows for the isolation of overhead line sections or equipment for maintenance, safety, or other operating requirements.

7.1 Degradation Mechanism

The main degradation processes associated with line switches include:

- Corrosion of steel hardware or operating rod
- Mechanical deterioration of linkages
- Switch blades falling out of alignment
- Loose connections
- Insulators damage
- Missing ground connections

7.2 System Hierarchy

Integral switches asset category belongs to the Overhead Lines assets grouping.

7.3 Useful Life and Typical Life

The useful life of integral switches is in the range of 30 to 50 years; the typical life is 45 years.

7.4 Time Based Maintenance Intervals

The typical routine testing/maintenance schedule for integral switches is every two years.

7.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factors:

- Maintenance practices;
- Operating practices;
- Utilization (electrical loading).

8 Conductors

Overhead conductors along with structures that support them constitute overhead lines or feeders that distribute electrical energy either directly to large customers or from Municipal Stations via distribution transformers to the end users. These conductors are sized to carry a specified maximum current and to meet other design criteria, i.e. mechanical loading.

The overhead conductors typically used by the Consortium are primary and secondary conductors. The types include aluminum conductor steel reinforced (ACSR), all aluminum conductor (AAC), copper, weather protected wire and insulated wire.

8.1 Degradation Mechanism

To function properly, conductors must retain both their conductive properties and mechanical (i.e. tensile) strength. Aluminum conductors have three primary modes of degradation: corrosion, fatigue and creep. The rate of each degradation mode depends on several factors, including the size and construction of the conductor, as well as environmental and operating conditions. Most utilities find that corrosion and fatigue present the most critical forms of degradation.

Generally, corrosion represents the most critical life-limiting factor for aluminum-based conductors. Visual inspection cannot detect corrosion readily in conductors. Environmental conditions affect degradation rates from corrosion. Both aluminum and zinc-coated steel core conductors are particularly susceptible to corrosion from chlorine-based pollutants, even in low concentrations.

Fatigue degradation presents greater detection and assessment challenges than corrosion degradation. In extreme circumstances, under high tensions or inappropriate vibration or galloping control, fatigue can occur in very short timeframes. However, under normal operating conditions, with proper design and application of vibration control, fatigue degradation rates are relatively slow. Under normal circumstances, widespread fatigue degradation is not commonly seen in conductors less than 70 years of age. Also, in many cases detectable indications of fatigue may only exist during the last 10% of a conductor's life.

In designing distribution lines, engineers ensure that conductors receive no more than a certain percentage of their rated tensile strength (RTS) during heaviest anticipated weather loads. The tensile strength of conductors gradually decreases over time. When conductors experience unexpectedly large mechanical loads and tensions beyond 50% of their RTS, they begin to undergo permanent stretching with noticeable increases in sagging.

Overloading lines beyond their thermal capacity causes elevated operating temperatures. When operating at elevated temperatures, aluminum conductors begin to anneal and lose tensile strength. Each elevated temperature event adds further damage to the conductor. After a loss of 10% of a conductor's RTS, significant sag occurs, requiring either resagging or replacement of the conductor.

Phase to phase power arcs can result from conductor galloping during severe storm events. This can cause localized burning and melting of a conductor's aluminum strands, reducing strength at those sites and potentially leading to conductor failures. Visual inspection readily detects arcing damage.

Other forms of conductor damage include:

- Broken strands (i.e., outer and inners)
- Strand abrasion
- Elongation (i.e., change in sags and tensions)
- Burn damage (i.e., power arc/clashing)
- Birdcaging

The degradation of copper wire is mostly due to corrosion. Oxidization gives copper a high resistance to corrosion. Derivatives of chlorine and sulfur contained in coastal atmospheres start the oxidation by forming a blackish or greenish film. The film is very dense, has low solubility, high electric resistance and high resistance to the chemical attack and to corrosion. Despite this, mechanical vibrations, abrasion, erosion and thermal variations may cause fissures and faults in this layer. When this happens, the metal is uncovered and corrosion may occur. Also electrolytes with low Cl contents could enter, causing a dislocation of the passivity. This may also be the result of a deficit of oxygen which would make the area anodic.

Please note that the weather protection and insulation on the Cables is for improving reliability of the distribution system as opposed to improving the useful life of this asset. The conductive properties of the wire are what degradation impacts, although Utilities may choose to replace weather protected cables for their own system reliability practices.

8.2 System Hierarchy

The Wire asset category belongs to the Overhead Lines assets grouping.

8.3 Useful Life and Typical Life

The useful life of conductors is dependent on the conductor type:

- Aluminum Conductor Steel Reinforced (ACSR)
- All Aluminum Conductor (AAC)
- Copper
- Weather Protected Wire
- Insulated Wire

8.3.1 Aluminum Conductor Steel Reinforced (ACSR)

The useful life of ACSR conductors in the range of 50 to 77 years; the typical life is 60 years.

8.3.2 All Aluminum Conductor (AAC)

The useful life of AAC conductors in the range of 50 to 77 years; the typical life is 60 years.

8.3.3 Copper

The useful life of copper conductors in the range of 50 to 77 years; the typical life is 60 years.

8.3.4 Weather Protected Wire

The useful life of weather protected conductors in the range of 50 to 77 years; the typical life is 60 years.

8.3.5 Insulated Wire

The useful life of insulated conductors in the range of 50 to 77 years; the typical life is 60 years.

8.4 Time Based Maintenance Intervals

Conductors are not generally subject to planned maintenance according to industry surveys. These assets are subject to routine inspection every 3 to 6 years.

8.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factor:

- Utilization (electrical and mechanical loading).

9 Capacitor Banks

This asset category refers to a group of capacitors arranged in rows, equipped with inter-rack insulators, interconnecting bus work, or support frame installed on pole top. The capacitor bank also includes capacitor unit fuses, break switch, instrumental transformers, protection and control devices, and in some cases, current-limiting fuse cutout or surge arrester. They regulate voltage in distribution systems, provide reactive compensation and voltage support.

9.1 Degradation Mechanism

The major degradation of overhead capacitor banks is related to the capacitors themselves. They are exposed to detrimental environmental factors including: extreme temperatures, contamination, birds etc. They also experience steady state, transient and dynamic over voltage conditions. The switching devices add an additional stress to the capacitors. These environmental conditions, electrical loading and operating practices cause non-reversible degradation of the insulation in capacitor units and external insulation.

Fuse and bushing degradation result primarily from the failure of seals (hence moisture seeps in). Based on the surrounding environmental conditions this may cause corrosion of the capacitor units and support frame. Internal degradation can also occur in insulators.

9.2 System Hierarchy

Capacitor Bank asset category belongs to the Overhead Lines assets grouping.

9.3 Useful Life and Typical Life

The useful life of capacitor bank is in the range of 25 to 40 years; the typical life is 30 years.

9.4 Time Based Maintenance Intervals

Capacitor Banks are not subject to planned maintenance. These assets are subject to routine inspection every 3 to 6 years.

9.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factor:

- Utilization (electrical loading).

10 Voltage Regulators

Voltage regulators are devices that perform step-up and step-down voltage change operations. Distribution line transformers change the medium or low distribution voltage to 120/240 V or other common voltages for use in residential and commercial applications.

10.1 Degradation Mechanism

It has been demonstrated that the life of the voltage regulator's internal insulation is related to temperature-rise and duration. Therefore, voltage regulator life is affected by electrical loading profiles and length of time in service. Other factors such as mechanical damage, exposure to corrosive salts, and voltage and current surges also have a strong effect. Therefore, a combination of condition, age and load based criteria is commonly used to determine the useful remaining life of voltage regulators.

The impacts of loading profiles, load growth, and ambient temperature on asset condition, loss-of-life, and life expectancy can be assessed using methods outlined in ANSI/IEEE Loading Guides. This also provides an initial baseline for the size of voltage regulator that should be selected for a given number and type of customers to obtain optimal life. There is also the operating practices affect on voltage regulators. If the distribution system is robust, the voltage regulator may not need to step-up or step-down the voltage, in which case there would be less stress on the device itself.

10.2 System Hierarchy

Voltage Regulators asset category belongs to the Overhead Lines assets grouping.

10.3 Useful Life and Typical Life

The useful life of voltage regulators is in the range of 15 to 40 years; the typical life is 20 years.

10.4 Time Based Maintenance Intervals

Voltage Regulators are subject to routine inspection every 3 to 6 years.

10.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factors:

- Operating practices;
- Utilization (electrical loading).

11 Reclosers

This asset class consists of light duty circuit breakers equipped with interrupters that use controllers. This is where the breaking and making of fault current takes place. The interrupters use oil as the arc extinguishing medium. It is designed for single phase or three phase use, depending on the model.

11.1 Degradation Mechanism

The degradation processes associated with reclosers involves the effects of making and breaking fault current, the mechanism itself and deterioration of components. The effects of making and breaking fault current affect suppression devices as well as the contacts, the oil, and the arc control. The degradation of these devices depends on the prevailing fault, if it is well below the rated capability of the recloser, the deteriorating effects will be small. For the mechanism itself, deterioration or mal-operation of the mechanism causes deterioration during operation. Typically lack of use, corrosion and poor lubrication are the main causes of mechanism mal-function. For deterioration, exposure to weather is a potentially significant degradation process – primarily corrosion of the tank and other metallic components and deterioration of bushings.

11.2 System Hierarchy

Recloser asset category belongs to the Overhead Lines assets grouping.

11.3 Useful Life and Typical Life

The useful life of reclosers is in the range of 30 to 60 years; the typical life is 40 years.

11.4 Time Based Maintenance Intervals

The typical routine testing/maintenance schedule for the breaker component of reclosers is every 3-6 years.

11.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factors:

- Maintenance practices;
- Operating practices;
- Utilization (electrical loading).

12 Pole Top Transformers

Distribution pole top transformers change sub-transmission or primary distribution voltages to 120/240 V or other common voltages for use in residential and commercial applications.

12.1 Degradation Mechanism

It has been demonstrated that the life of the transformer's internal insulation is related to temperature-rise and duration. Therefore, transformer life is affected by electrical loading profiles and length of time in service. Other factors such as mechanical damage, exposure to corrosive salts, and voltage and current surges also have a strong effect. Therefore, a combination of condition, age and load based criteria is commonly used to determine the useful remaining life of distribution transformers.

The impacts of loading profiles, load growth, and ambient temperature on asset condition, loss-of-life, and life expectancy can be assessed using methods outlined in ANSI/IEEE Loading Guides. This also provides an initial baseline for the size of transformer that should be selected for a given number and type of customers to obtain optimal life.

12.2 System Hierarchy

The Pole Top Transformer asset category belongs to the Distribution Transformers assets grouping.

12.3 Useful Life and Typical Life

The useful life of the pole top transformer is in the range of 30 to 60 years, with an average value close to 40 years.

12.4 Time Based Maintenance Intervals

The typical routine inspection schedule for pole top transformers is every 3-6 years.

12.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factors:

- Maintenance practices;
- Utilization (electrical loading).

13 Pole-Trans

The asset referred to in this category is the Pole-Trans. They are typically employed in areas where high and uniform levels of illumination, easy maintenance, and minimum ground level obstruction are required. They are, for example, used in roadways and highways. Pole-trans are constructed from welded tubular sections that taper towards the top. The masts are finished through a hot-dip galvanizing process and are therefore designed to withstand extreme weather conditions. The towers have welded base plates that are bolted to concrete foundations. A ring at the top of the towers holds multiple luminaries.

13.1 Degradation Mechanism

Degradation of the overall pole-trans is heavily weighted to the degradation of the high voltage circuitry, especially with switching section, and less weighted to the remaining components of the pole-trans.

13.2 System Hierarchy

The Pole-Trans asset category belongs to the Distribution Transformers asset grouping.

13.3 Useful Life and Typical Life

Pole-Trans have a useful life range of 25 to 35 years; the typical life is 30 years.

13.4 Time Based Maintenance Intervals

The time based routine testing/maintenance interval for pole-trans is every two years.

13.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factors:

- Maintenance practices;
- Operating practices;
- Utilization (electrical loading).

14 Pad-Mounted Transformers

Pad-Mounted transformers typically employ sealed tank construction and are liquid filled, with mineral insulating oil being the predominant liquid. For the purposes of this report, the pad-mounted transformer has been componentized into the transformer itself and the enclosure.

14.1 Degradation Mechanism

It has been demonstrated that the life of the transformer's internal insulation is related to temperature rise and duration. Therefore, the transformer life is affected by electrical loading profiles and length of service life. Other factors such as mechanical damage, exposure to corrosive salts, and voltage current surges also have strong effects. Therefore, a combination of condition, age, and load based criteria is commonly used to determine the useful remaining life.

In general, the following are considered when determining the health of the pad-mounted transformer:

- Tank corrosion, condition of paint
- Extent of oil leaks
- Condition of bushings
- Condition of padlocks, warning signs, etc.
- Transfer operating age and winding temperature profile

14.2 System Hierarchy

Pad-Mounted Transformers asset category belongs to the Distribution Transformers asset grouping.

14.3 Useful Life and Typical Life

The useful life of pad-mounted transformers is dependent on the components useful life. Pad-mounted transformers can be componentized into the following:

- Transformer
- Foundation

14.3.1 Transformer

The overall useful life range of pad mounted distribution transformers are 30 to 60 years; the typical life is 40 years.

14.3.2 Foundation

The overall useful life range of pad mounted distribution transformers' foundations are 30 to 80 years; the typical life is 60 years.

14.4 Time Based Maintenance Intervals

Pad-Mounted Transformers are not subject to planned maintenance. These assets are subject to routine inspection every 3 to 6 years.

14.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factors:

- Operating practices;
- Utilization (electrical loading).

15 Network Transformers

Network transformers are special purpose distribution transformers, designed and constructed for successful operation in a parallel mode with a large number of transformers with similar characteristic. The primary winding of the transformers is connected in Delta configuration while the secondary is in grounded star configuration. The network transformers are provided with a primary disconnect, which has no current interrupting rating and is used merely as an isolating device after the transformer has been de-energized both from primary and secondary source. The secondary bushings are mounted on the side wall of the transformer in a throat, suitable for mounting of the network protector.

Network protectors are special purpose low voltage air circuit breakers, designed for successful parallel operation of network transformers. Network protectors are fully self contained units, equipped with protective relays and instrument transformers to allow automatic closing and opening of the protector. The relays conduct a line test before initiating close command and allow closing of the breaker only if the associated transformer has the correct voltage condition in relation to the grid to permit flow of power from the transformer to the grid. If the conditions are not right, protector closing is blocked. The protector is also equipped with a reverse current relay that trips if the power flow reverses from its normal direction, i.e. if the power flows from grid into the transformer.

15.1 Degradation Mechanism

Since in a majority of the applications transformers are installed in below grade vaults, the transformer is designed for partially submersible operation with additional protection against corrosion. While network transformers are available in dry-type (cast coil and epoxy impregnation) designs, a vast majority of the network transformers employ mineral oil for insulation and cooling. The network transformer has a similar degradation mechanism to other distribution transformers.

The life of the transformer's internal insulation is related to temperature rise and duration. Therefore, the transformer life is affected by electrical loading profiles and length of service life. Other factors such as mechanical damage, exposure to corrosive salts, and voltage current surges also have strong effects. Therefore, a combination of condition, age, and load based criteria is commonly used to determine the useful remaining life.

The breaker design in network protectors employs mechanical linkages, rollers, springs and cams for operation which require periodic maintenance. All network protectors are equipped with special load-side fuses, mounted either internally or external to the network protector housing. The fuses are intended to allow normal load current and overloads while providing backup protection in the event that the protector fails to open on reverse fault current (due to faults internal to the protector or near transformer low voltage terminals). Every time arcing occurs in open air within the network protector housing, whether due to operation of the air breaker or because of fuse blowing (except silver sand), a certain amount of metal vapour is liberated and dispersed over insulating parts. Fuses evidently liberate more vapour than breaker operation. Over time, this buildup reduces the dielectric strength of insulating barriers. Eventually this may result in a breakdown, unless care is taken to clean the network protector internally, particularly after fuse operations.

Various parameters that impact the health and condition and eventually lead to end of life of a network include condition of mechanical moving parts, condition of inter phase barriers, number of protector operations (counter reading), accumulation of dirt or debris in protector housing, corrosion of protector housing, condition of fuses, condition of arc chutes and time period elapsed since last major overhaul of the protector.

The health of network protector is established by taking into account the following:

- Number of operations since last overhaul
- Operating age of protector

- Condition of operating mechanism
- Condition of fuses
- Condition of arc chutes
- Condition of protector relays
- Condition of gaskets and seals for submersible units

15.2 System Hierarchy

Network Transformers asset category belongs to the Distribution Transformers asset grouping.

15.3 Useful Life and Typical Life

This asset class can be componentized into the following:

- Transformer
- Vault
- Roof
- High Voltage (HV) Switch
- Secondary Network Protector

15.3.1 Transformer

The useful life range of the transformer is 20 to 50 years; typical life is 35 years.

15.3.2 Vault

The useful life range of the vault is 40 to 80 years; typical life is 60 years.

15.3.3 Roof

The useful life range of the roof is 20 to 40 years; typical life is 25 years.

15.3.4 High Voltage Switch

The useful life range of the HV switch is 30 to 50 years; typical life is 45 years.

15.3.5 Secondary Network Protector

The useful life range of the protector, assuming it is not waterproof enclosed is 20 to 40 years; typical life is 35 years. If the protector is waterproof, maximum useful life could be 50 years.

15.4 Time Based Maintenance Intervals

The typical routine inspection schedule for both the transformer and protector components is every two years.

15.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factors:

- Maintenance practices;
- Operating practices;
- Utilization (electrical loading).

16 Submersible Transformers

Submersible transformers typically employ sealed tank construction with corrosion resistance hardware and are liquid filled with mineral insulating oil.

16.1 Degradation Mechanism

The submersible transformer has a similar degradation mechanism to other distribution transformers. The life of the transformer's internal insulation is related to temperature rise and duration, so transformer life is affected by electrical loading profiles and length of service life. Mechanical damage, exposure to corrosive salts, and voltage current surges has strong effects. In general, a combination of condition, age, and load based criteria is commonly used to determine the useful remaining life.

16.2 System Hierarchy

Submersible Transformers asset category belongs to the Distribution Transformers asset grouping.

16.3 Useful Life and Typical Life

This asset class can be componentized into the following:

- Transformer
- Vault
- Roof

16.3.1 Transformer

The useful life range of the submersible distribution transformers is 25 to 40 years; the typical life is 35 years.

16.3.2 Vault

The useful life range of the vault is 40 to 80 years; typical life is 60 years.

16.3.3 Roof

The useful life range of the roof is 20 to 40 years; typical life is 25 years.

16.4 Time Based Maintenance Intervals

The typical routine inspection schedule for the transformer component is every two years.

16.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factors:

- Maintenance practices;
- Operating practices;
- Utilization (electrical loading).

17 Indoor Vault Transformers

Similar to submersible transformers, indoor vault transformers typically employ sealed tank construction and are liquid filled with mineral insulating oil.

17.1 Degradation Mechanism

The transformer has a similar degradation mechanism to other distribution transformers. The life of the transformer's internal insulation is related to temperature rise and duration, so transformer life is affected by electrical loading profiles and length of service life. Mechanical damage, exposure to corrosive salts, and voltage current surges has strong effects. In general, a combination of condition, age, and load based criteria is commonly used to determine the useful remaining life.

17.2 System Hierarchy

Indoor Vault Transformers asset category belongs to the Distribution Transformers asset grouping.

17.3 Useful Life and Typical Life

This asset class can be componentized into the following:

- Transformer
- Vault
- Roof

17.3.1 Transformer

The useful life range of the indoor vault transformers is 25 to 40 years; the typical life is 35 years.

17.3.2 Vault

The useful life range of the vault is 40 to 80 years; typical life is 60 years.

17.3.3 Roof

The useful life range of the roof is 20 to 40 years; typical life is 25 years.

17.4 Time Based Maintenance Intervals

The typical routine inspection schedule for the transformer component is every two years.

17.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factors:

- Maintenance practices;
- Operating practices;
- Utilization (electrical loading).

18 Underground Switchgear

Underground Switchgear is used for protection and switching in the underground distribution system. The switching assemblies can be classified into air insulated, solid dielectric and gas insulated.

18.1 Degradation Mechanism

The Underground Switchgear is very infrequently used for switching and often used to drop loads way below its rating. Therefore, switchgear aging and eventual end of life is often established by mechanical failures, e.g. rusting of the enclosures or ingress of moisture and dirt into the switchgear causing corrosion of operating mechanism and degradation of insulated barriers.

The first generation of pad mounted switchgear was first introduced in early 1970's and many of these units are still in good operating condition. The life expectancy of pad-mounted switchgear is impacted by a number of factors that include frequency of switching operations, load dropped, presence or absence of corrosive environmental and absence of existence of dampness at the installation site.

In the absence of specifically identified problems, the common industry practice for distribution switchgear is running it to end of life, just short of failure. To extend the life of these assets and to minimize in-service failures, a number of intervention strategies are employed on a regular basis: e.g. inspection with thermographic analysis and cleaning with CO₂ for air insulated pad-mounted switchgear. If problems or defects are identified during inspection, often the affected component can be replaced or repaired without a total replacement of the switchgear.

Failures of switchgear are most often not directly related to the age of the equipment, but are associated instead with outside influences. Aging and end of life is established by mechanical failures, such as corrosion of operating mechanism from rusting of enclosure or moisture and dirt ingress. For example, pad-mounted switchgear is most likely to fail due to rodents, dirt/contamination, vehicle accidents, rusting of the case, and broken insulators caused by misalignment during switching. All of these causes are largely preventable with good design and maintenance practices. Failures caused by fuse malfunctions can result in a catastrophic switchgear failure.

18.2 System Hierarchy

Underground Switchgear asset category belongs to the Underground Systems assets grouping.

18.3 Useful Life and Typical Life

The overall useful life range of the switchgear itself is dependent on the pad mount switchgear type:

- Air Insulated
- Gas Insulated
- Solid Dielectric

18.3.1 Air Insulated

The useful life range of this air insulated switchgear is 20 to 40 years; the typical life is 25 years.

18.3.2 Gas Insulated

The useful life range of this gas insulated switchgear is 30 to 50 years; the typical life is 30 years.

18.3.3 Solid Dielectric

The useful life range of this solid dielectric switchgear is 30 to 50 years; the typical life is 30 years.

18.4 Time Based Maintenance Intervals

The typical routine inspection interval for this asset is three years.

18.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factors:

- Maintenance practices;
- Operating practices
- Utilization (electrical loading).

19 Primary Cables

Distribution underground cables are mainly used in urban areas where it is either impossible or extremely difficult to build overhead lines due to aesthetic, legal, environmental and safety reasons. The Consortium uses two cable types: paper insulated lead covered (PILC), and solid dielectric both in duct and direct buried. For the purposes of this report, solid dielectric cable refers to cross linked polyethylene (XLPE) cable and ethylene-propylene rubber (EPR).

19.1 Degradation Mechanism

For PILC cables, the two significant long-term degradation processes are corrosion of the lead sheath and dielectric degradation of the oil impregnated paper insulation. Isolated sites of corrosion resulting in moisture penetration or isolated sites of dielectric deterioration resulting in insulation breakdown can result in localized failures. However, if either of these conditions becomes widespread there will be frequent cable failures and the cable can be deemed to be at effective end-of-life.

Over the past 30 years XLPE insulated cables have all but replaced paper-insulated cables. These cables can be manufactured by a simple extrusion of the insulation over the conductor and therefore are much more economic to produce. In normal cable lifetime terms XLPE cables are still relatively young. Therefore, failures that have occurred can be classified as early life failures. Certainly in the early days of polymeric insulated cables their reliability was questionable. Many of the problems were associated with joints and accessories or defects introduced in the manufacturing process. Over the past 30 years many of these problems have been addressed and modern XLPE cables and accessories are generally very reliable.

Polymeric insulation is very sensitive to discharge activity. It is therefore very important that the cable, joints and accessories are discharge free when installed. Discharge testing is, therefore, an important factor for these cables. This type of testing is conducted during commissioning and is not typically used for detection of deterioration of the insulation. These commissioning tests are an area of some concern for polymeric cables because the tests themselves are suspected of causing permanent damage and reducing the life of polymeric cables.

19.2 System Hierarchy

Underground Primary Cables asset category belongs to the Underground Systems assets grouping.

19.3 Useful Life and Typical Life

The overall useful life range of the cable itself is dependent on the cable type:

- Paper Insulated Lead Covered (PILC)
- Solid Dielectric - In Duct
- Solid Dielectric - Direct Buried

19.3.1 *Paper Insulated Lead Covered (PILC)*

The useful life range of PILC cable is 70 to 80 years; the typical life is 75 years.

19.3.2 *Solid Dielectric - In Duct*

The useful life range of direct buried solid dielectric cable is 40 to 60 years; the typical life is 40 years.

19.3.3 *Solid Dielectric - Direct Buried*

The useful life range of in duct solid dielectric cable is 20 to 25 years; the typical life is 25 years.

19.4 Time Based Maintenance Intervals

Underground Primary Cables are not subject to planned maintenance. These assets are typically subject to routine inspection every 3 to 6 years.

19.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factor:

- Utilization (electrical loading).

20 Secondary Cables

Distribution underground cables are mainly used in urban areas where it is either impossible or extremely difficult to build overhead lines due to aesthetic, legal, environmental and safety reasons. Secondary underground cables are used to supply customer premises. The Consortium uses solid dielectric both in duct and direct buried. For the purposes of this report, solid dielectric cable refers to cross linked polyethylene (XLPE) cable and ethylene-propylene rubber (EPR).

20.1 Degradation Mechanism

For XLPE cables, the polymeric insulation is very sensitive to discharge activity. It is therefore very important that the cable, joints and accessories are discharge free when installed. Discharge testing is, therefore, an important factor for these cables. This type of testing is conducted during commissioning and is not typically used for detection of deterioration of the insulation. These commissioning tests are an area of some concern for polymeric cables because the tests themselves are suspected of causing permanent damage and reducing the life of polymeric cables.

20.2 System Hierarchy

Underground Secondary Cables asset category belongs to the Underground Systems assets grouping.

20.3 Useful Life and Typical Life

The overall useful life range of the cable itself is dependent on the cable:

- In Duct
- Direct Buried

20.3.1 In Duct

The useful life range of direct buried solid dielectric cable is 40 to 60 years; the typical life is 40 years.

20.3.2 Direct Buried

The useful life range of in duct solid dielectric cable is 20 to 35 years; the typical life is 30 years.

20.4 Time Based Maintenance Intervals

Underground Secondary Cables are not subject to planned maintenance. These assets are typically subject to routine inspection where possible every 3 to 6 years.

20.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factor:

- Utilization (electrical loading).

21 Ducts

In areas such as road crossings, ducts provide a conduit for underground cables to travel. They are comprised of a number of ducts, in trench, and typically encased in concrete. Ducts are sized as required and are usually two to six inches in diameter. This report discusses both concrete encased duct banks and directly buried pipes. The Consortium has three direct buried pipe types: Polyvinyl Chloride (PVC), High Density Polyethylene (HDPE) and Fiber Reinforced Epoxy (FRE).

21.1 Degradation Mechanism

The ducts connecting one utility chamber to another cannot easily be assessed for condition without excavating areas suspected of suffering failures. However, water ingress to a utility chamber that is otherwise in sound condition is a good indicator of a failure of a portion of the ductwork. Since there are no specific tests that can be conducted to determine duct integrity at reasonable cost, the duct system is typically treated on an ad hoc basis and repaired or replaced as is determined at the time of cable replacement or failure.

21.2 System Hierarchy

The useful life range of the duct itself is dependent on whether they are concrete encased and the duct type:

- Concrete Encased Duct Banks
- Direct Buried Pipe
 - Polyvinyl Chloride (PVC)
 - High Density Polyethylene (HDPE)
 - Fiber Reinforced Epoxy (FRE)

21.2.1 Concrete Encased Duct Banks

The useful life range of concrete encased duct banks is 30 to 80 years; the typical life is 50 years.

21.2.2 Direct Buried Pipe

The useful life range of PVC duct is 30 to 75 years; the typical life is 50 years.

The useful life range of HDPE duct is 50 to 100 years; the typical life is 50 years.

The useful life range of FRE duct is 30 to 100 years; the typical life is 50 years.

21.3 Time Based Maintenance Intervals

Ducts are not subject to planned maintenance.

21.4 Utilization Factors

The useful life of this asset is not dependent on utilization factors.

22 Cable Chamber

Cable Chambers facilitate cable pulling into underground ducts and provide access to splices and facilities that require periodic inspections or maintenance. They come in different styles, shapes and sizes according to the location and application. Pre-cast cable chambers are normally installed only outside the traveled portion of the road although some end up under the road surface after road widening. Cast-in-place cable chambers are used under the traveled portion of the road because of their strength and also because they are less expensive to rebuild if they should fail. Customer cable chambers are on customer property and are usually in a more benign environment. Although they supply a specific customer, system cables loop through these chambers so other customers could also be affected by any problems.

22.1 Degradation Mechanism

These assets must withstand the heaviest structural loadings that they might be subjected to. For example, when located in streets, cable chambers must withstand heavy loads associated with traffic in the street. When located in driving lanes, cable chamber chimney and collar rings must match street grading. Since utility chambers and vaults often experience flooding, they sometimes include drainage sumps and sump pumps. Nevertheless, environmental regulations in some jurisdictions may prohibit the pumping of utility chambers into sewer systems, without testing of the water for environmentally hazardous contaminants.

Although age is loosely related to the condition of underground civil structures, it is not a linear relationship. Other factors such as mechanical loading, exposure to corrosive salts, etc. have stronger effects. Cable chamber degradation commonly includes corrosion of reinforcing steel, spalling of concrete, and rusting of covers or rings. Acidic salts (i.e. sulfates or chlorides) affect corrosion rates. Cable chamber systems also may experience a number of deficiencies or defects. In roadways, defects exist when covers are not level with street surfaces. Conditions that lead to flooding, clogged sumps, and non-functioning sump-pumps also represent major deficiencies in a cable chamber system. Similarly, cable chamber systems with lights that do not function properly constitute defective systems. Deteriorating ductwork associated with cable chambers also requires evaluation in assessing the overall condition of a cable chamber system.

22.2 System Hierarchy

Cable Chambers asset category belongs to the Underground Systems assets grouping.

22.3 Useful Life and Typical Life

Cable chambers have a useful life range of 50 to 80 years; the typical life range is 60 years.

22.4 Time Based Maintenance Intervals

The typical routine testing/maintenance interval for this asset class is three years.

22.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factor:

- Maintenance practices.

23 Junction Cubicle & Service Box

This asset class consists of a wiring box similar to pad mount switchgear. For the purposes of this study there is reference to the junction cubicle and service boxes pads and bases, and junction/switching cabinets. However as a distinction from pad mount switchgear, some of the units are directly buried.

23.1 Degradation Mechanism

The main degradation associated with the junction cubicle casing is caused by outside sources. These include corrosion, vehicle damage, case rusting, and dirt or contamination.

23.2 System Hierarchy

Junction cubicle is used in the Underground Systems assets grouping.

23.3 Useful Life and Typical Life

The junction cubicle and service box can be componentized into two categories:

- Pads/Bases
- Junction/Switching Cabinet

23.3.1 Pads/Bases

The useful life of the pads/bases component is 30 to 80 years; the typical life is 60 years.

23.3.2 Junction/Switching Cabinets

The useful life of the junction/switching cabinet component is 25 to 50 years; the typical life is 40 years.

23.4 Time Based Maintenance Intervals

The typical routine maintenance and testing for the pads and bases of this asset category is every three years.

23.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factor:

- Maintenance practices.

24 Station Grounding Transformer

Electrical distribution systems can be configured as a grounded or ungrounded system. A grounded system has an electrical connection between source and the earth, whereas an ungrounded system has no intentional connection. Sometimes it is necessary to create a ground on an ungrounded system for safety or to aid in protective relaying applications. Grounding transformers, smaller transformers similar in construction to power transformers, are used in this application.

24.1 Degradation Mechanism

Like a majority of transformers, the end of life for this asset is a result of insulation degradation, more specifically, the failure of pressboard and paper insulation. Degradation of the insulating oil, and more significantly, paper insulation, typically results in end of life. Insulation degradation is a result of oxidation, a process that occurs in the presence of oxygen, high temperature, and moisture. For oil cooled transformers, particles, acids, and static electricity will also deteriorate the insulation.

24.2 System Hierarchy

Station grounding transformers belong to the Transformer and Municipal Station asset grouping.

24.3 Useful Life and Typical Life

Station grounding transformers have a typical life range of 30 to 40 years; the typical life of this asset is 40 years.

24.4 Time Based Maintenance Intervals

The typical routine inspection interval for this asset class is three years.

24.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factors:

- Maintenance practices;
- Utilization (electrical loading).

25 Station Service Transformer

The station service transformer is the supply system that provides power to the auxiliary equipment, such as fans, pumps, heating, or lighting, in the distribution station. The most reliable source of such power is directly from the transmission or distribution lines. Small power transformers are configured to provide this requirement.

25.1 Degradation Mechanism

As with most transformers, end of life is typically a result of insulation failure, particularly paper insulation. The oil and paper insulation degrade as oxidation takes place in the presence of oxygen, high temperature, and moisture. Acids, particles, and static electricity also have degrading effects to the insulation.

25.2 System Hierarchy

The Station service transformer belongs to the Transformer and Municipal Station asset grouping.

25.3 Useful Life and Typical Life

The station service transformer has a useful life range of 32 to 55 years; the typical life is 45 years.

25.4 Time Based Maintenance Intervals

The typical routine testing/maintenance interval for this asset is three years.

25.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factors:

- Maintenance practices;
- Utilization (electrical loading).

26 TS Power Transformers

While power transformers can be employed in either step-up or step-down mode, a majority of the applications in transmission and distribution stations involve step down of the transmission or sub-transmission voltage to distribution voltage levels. Power transformers vary in capacity and ratings over a broad range. There are two general classifications of power transformers: transmission station transformers and distribution station transformers. For transformer stations, when step down from 230kV or 115kV to distribution voltage is required, ratings may range from 30MVA to 125 MVA.

26.1 Degradation Mechanism

Transformers operate under many extreme conditions, and both normal and abnormal conditions affect their aging and breakdown. They are subject to thermal, electrical, and mechanical aging. Overloads cause above-normal temperatures, through-faults can cause displacement of coils and insulation, and lightning and switching surges can cause internal localized over-voltages.

For a majority of transformers, end of life is a result of the failure of insulation, more specifically, the failure of pressboard and paper insulation. While the insulating oil can be treated or changed, it is not practical to change the paper and pressboard insulation. The condition and degradation of the insulating oil, however, plays a significant role in aging and deterioration of the transformer, as it directly influences the speed of degradation of the paper insulation. The degradation of oil and paper in transformers is essentially an oxidation process. The three important factors that impact the rate of oxidation of oil and paper insulation are the presence of oxygen, high temperature, and moisture. Particles and acids, as well as static electricity in oil cooled units, also affect the insulation.

Tap changers and bushing are major components of the power transformer. Tap changers are complex mechanical devices and are therefore prone to failure resulting from either mechanical or electrical degradation. Bushings are subject to aging from both electrical and thermal stresses.

26.2 System Hierarchy

TS Power Transformer asset category belongs to the Transformer and Municipal Station asset grouping.

26.3 Useful Life and Typical Life

The power transformer also has major components that have different useful lives. Componentization is as follows:

- Overall
- Bushing
- Tap Changer

26.3.1 Overall

The useful life of the overall transformer is 32 to 55 years; the typical life is 45 years.

26.3.2 Bushing

The useful life range of the bushing is 20 to 40 years; the typical life is 30 years.

26.3.3 Tap Changer

The useful life range of tap changers is 20 to 60 years; the typical life is 30 years.

26.4 Time Based Maintenance Intervals

The typical routine testing/maintenance interval for these transformers is two years.

26.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factors:

- Maintenance practices;
- Operating practices
- Utilization (electrical loading).

27 MS Power Transformers

Substation power transformers at distribution stations typically step down voltage to distribution levels. Ratings typically range from 5 MVA to 30 MVA.

27.1 Degradation Mechanism

The degradation of the power transformers at municipal stations or at customer sites is similar to that of the transformers at transmission stations. These transformers are subject to electrical, thermal, and mechanical aging. Degradation of the insulating oil, and more significantly, paper insulation, typically results in end of life. Insulation degradation is a result of oxidation, a process that occurs in the presence of oxygen, high temperature, and moisture. For oil cooled transformers, particles, acids, and static electricity will also deteriorate the insulation.

Tap changers and bushing are major components of the power transformer. Tap changers are prone to failure resulting from either mechanical or electrical degradation. Bushings are subject to aging from both electrical and thermal stresses.

27.2 System Hierarchy

MS Power Transformer asset category belongs to the Transformer and Municipal Station asset grouping.

27.3 Useful Life and Typical Life

The power transformer also has major components that have different useful lives. Componentization is as follows:

- Overall
- Bushing
- Tap Changer

27.3.1 Overall

The useful life of the overall transformer is 32 to 55 years; the typical life is 45 years.

27.3.2 Bushing

The useful life range of the bushing is 20 to 40 years; the typical life is 30 years.

27.3.3 Tap Changer

The useful life range of tap changers is 20 to 60 years; the typical life is 30 years.

27.4 Time Based Maintenance Intervals

The typical routine testing/maintenance interval for these transformers is two years.

27.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factors:

- Maintenance practices;
- Operating practices
- Utilization (electrical loading).

28 Medium Voltage Switchgear

The medium voltage (MV) switchgear asset category can be classified in two types: gas insulated and air insulated switchgear. The gear also is compartmentalized with separate compartments for removable breakers which have three types of interrupting mediums: air magnetic, vacuum and gas (SF6).

28.1 Degradation Mechanism

Switchgear degradation is a function of a number of different factors: mechanism operation and performance, degradation of solid insulation, general degradation/corrosion, environmental factors, or post fault maintenance (condition of contacts and arc control devices). Degradation of the breaker used is also a factor.

28.2 System Hierarchy

Switchgear asset category belongs to the Transformer and Municipal Station asset grouping.

28.3 Useful Life and Typical Life

The overall useful life range of the switchgear itself is dependent on the component, each of which has its own useful and typical life:

- Switchgear Assembly
 - Air Insulated
 - Gas (SF6) Insulated
- Removable Breaker
 - Air Magnetic
 - Vacuum
 - Gas (SF6)

28.3.1 Switchgear Assembly

The useful life range of air insulated switchgear assembly is 40 to 60 years; typical life is 50 years.

The useful life range of gas (SF6) insulated switchgear assembly is 40 to 60 years; typical life is 50 years.

28.3.2 Breaker

The useful life range of air magnetic type breaker in MV switchgear is 25 to 60 years; typical life is 40 years.

The useful life range of vacuum type breaker in MV switchgear is 30 to 60 years; typical life is 40 years.

The useful life range of gas (SF6) type breaker in MV switchgear is 30 to 60 years; typical life is 42 years.

28.4 Time Based Maintenance Intervals

The typical routine testing/maintenance interval for this asset is six years.

28.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factors:

- Maintenance practices;
- Operating practices
- Utilization (electrical loading).

29 Independent Breakers

Circuit breakers are automated switching devices that can make, carry and interrupt electrical currents under normal and abnormal conditions. Breakers are required to operate infrequently, however, when an electrical fault occurs, breakers must operate reliably and with adequate speed to minimize damage. This report refers to five types of independent circuit breakers: oil, gas (SF6), air magnetic, air blast and vacuum.

The oil circuit breaker is the oldest type of breaker design and has been in use for over 70 years. Two types of designs exist among OCBs: bulk oil breakers (in which oil serves as the insulating and arc quenching medium) and minimum oil breakers (in which oil provides the arc quenching function only).

Gas, sulfur hexafluoride (SF6) insulated equipment is a relatively young technology. The first SF6 equipment was developed in the late 1960s. After some initial design and manufacturing problems equipment was increasingly used to replace oil filled equipment with widespread adoption and utilization since the mid 1980s. One of the more remarkable features of SF6 is its performance when subjected to an arc, or during a fault operation. SF6 is extremely stable and even at the high temperatures associated with an arc, limited breakdown occurs. Furthermore, most of the products of the breakdown recombine to form SF6. Consequently, SF6 circuit breakers can operate under fault conditions many more times than oil breakers before requiring maintenance.

In air magnetic circuit breakers, magnetic blowout coils are used to create a strong magnetic field that draws the arc into specially designed arc chutes. The breaker current flows through the blowout coils and produces a magnetic flux. This magnetic field drives the arc against barriers built perpendicular to the length of the arc. The cross sectional area of the arc is thereby reduced, and its resistance is considerably increased. The surface of the barriers cool and de-ionize the arc, thus collaborating to extinguish the arc.

Air-blast breakers use compressed air as the quenching, insulating and actuating medium. In normal operation, a blast of compressed air carries the arc into an arc chute where it is quickly extinguished. A combination cooler-muffler is often provided to cool ionized exhaust gases before they pass out into the atmosphere and to reduce noise during operation.

Vacuum Breakers consist of fixed and moving butt type contacts in small evacuated chambers (i.e. bottles). A bellows attached to the moving contact permits the required short stroke to occur with no vacuum losses. Arc interruption occurs at current zero after withdrawal of the moving contact. Current medium voltage vacuum breakers require low mechanical drive energy, have high endurance, can interrupt fully rated short circuits up to 100 times, and operate reliably over 30,000 or more switching operations. Vacuum breakers also are safe and protective of the environment.

29.1 Degradation Mechanism

Circuit breakers have many moving parts that are subject to wear and stress. They frequently “make” and “break” high currents and experience the arcing accompanying these operations. All circuit breakers undergo some contact degradation every time they open to interrupt an arc. Also, arcing produces heat and decomposition products that degrade surrounding insulation materials, nozzles, and interrupter chambers. The mechanical energy needed for the high contact velocities of these assets adds mechanical deterioration to their degradation processes.

The rate and severity of degradation depends on many factors, including insulating and conducting materials, operating environments, and a breaker’s specific duties. The following factors that lead to end-of-life for this asset class:

- Decreasing reliability, availability and maintainability
- High maintenance and operating costs

- Changes in operating conditions, rendering the existing asset obsolete
- Maintenance overhaul requirements
- Circuit breaker age

Many of the earlier breakers relied on hydraulic or pneumatic assisted mechanisms. These have proved problematic in some cases and contributed significantly to the higher failure rates associated with this generation of equipment. More recent equipment usually utilize spring assisted mechanisms that have proved more reliable and require less maintenance.

29.1.1 Oil Breakers

For oil type circuit breakers the key degradation processes associated is as follows:

- Corrosion
- Effects of moisture
- Mechanical
- Bushing deterioration

The rate and severity of these degradation processes is dependent on a number of inter-related factors, in particular the operating duties and environment in which the equipment is installed. Often the critical degradation process is either corrosion or moisture ingress or a combination of the two, resulting in degradation to internal insulation, deterioration of the mechanism affecting the critical performance of the breaker, damage to major components such as bushings or widespread degradation to oil seals and structurally components.

Recent international experience indicates that a significant area of concern is barrier-bushing deterioration resulting from moisture ingress. The Synthetic Resin Bonded Paper (SRBP) insulation absorbs the moisture, which can result in discharge tracking across its surface leading to eventual failure of the bushing. Oil impregnated paper bushings are particularly sensitive to moisture. Once moisture finds its way into the oil and then into the paper insulation, it is very difficult to remove and can eventually lead to failure. Significant levels of moisture in the main tank can lead to general degradation of internal components and in acute cases free water can collect at the bottom of the tank. This creates a condition where a catastrophic failure could occur during operation.

Corrosion of the main tank and other structural components is also a concern. One area that is particularly susceptible to corrosion is underneath the main tank on the “bell end”, this problem is common to both single and three tank circuit breakers.

Corrosion of the mechanical linkages associated with the oil circuit breaker operating mechanism is also a widespread problem that can lead to the eventual seizure of the links.

A lesser mode of degradation, although still serious in certain circumstances, is pollution of bushings, particularly where the equipment is located by the sea or in a heavy industrial area.

Other areas of degradation include:

- Deterioration of contacts
- Wear of mechanical components such as bearings
- Loose primary connections
- Deterioration of concrete plinth affecting stability of the circuit breaker

29.1.2 Gas (SF₆) Breakers

Failures relating to internal degradation and ultimate breakdown of insulation are limited to early life failures where design or manufacture led to specific problems. There is virtually no experience of failures

resulting from long term degradation within the SF6 chambers. Failures and incorrect operations are primarily related to gas leaks and problems with the mechanism and other ancillary systems. Gas seals and valves are a potential weak point. Clearly, loss of SF6 or ingress of moisture and air compromise the performance of the breaker. As would be expected the earlier SF6 equipment was more prone to these problems. Seals and valves have progressively been improved in more modern equipment.

29.1.3 Air Blast Breakers

The air blast circuit breaker has a similar degradation to other types of circuit breakers. The key degradation processes associated with air blast circuit breakers are:

- Corrosion
- Effects of moisture
- Bushing/insulator deterioration
- Mechanical

Severity and rate are dependent on factors such as operating duty and environment. Corrosion is a problem for most types of breakers. It can degrade internal insulators, performance mechanisms, major components (e.g. bushings), structural components, and oil seals. Moisture causes degradation of the insulating system. Mechanical degradation presents greater end-of-life concerns than electrical degradation. Generally, operating mechanisms, bearings, linkages, and drive rods represent components that experience most mechanical degradation problems. Contacts, nozzles, and highly stressed components can also experience electrical-related degradation and deterioration. Other defects that arise with aging include:

- Loose primary and grounding connections
- Oil contamination and/or leakage
- Deterioration of concrete foundation affecting stability of breakers

29.1.4 Air Magnetic Breakers

Air magnetic breakers have a similar degradation mechanism to other breakers in that corrosion; moisture, bushing/insulator deterioration, and mechanical degradation are factors.

29.1.5 Vacuum Breakers

The vacuum breakers in this asset class have a similar degradation mechanism to other breakers, where corrosion, moisture, bushing/insulator deterioration, and mechanical degradation are factors.

29.2 System Hierarchy

Independent breakers are belongs to the Transformer and Municipal Station asset grouping.

29.3 Useful Life and Typical Life

The useful life and typical life of independent breakers are based on breaker type:

- Oil
- Gas (SF6)
- Air Magnetic
- Air Blast
- Vacuum

29.3.1 Oil

The typical life range of the oil breaker is 30 to 60 years; the typical life is 42 years.

29.3.2 Gas (SF6)

The typical life range of the SF6 breaker is 30 to 60 years; typical life is 42 years.

29.3.3 Air Magnetic

The typical useful life range of the air magnetic breaker is 25 to 60 years; the typical life is 30 years.

29.3.4 Air Blast

The typical useful life range of the air blast breaker is 30 to 50 years; the typical life is 40 years.

29.3.5 Vacuum

The typical useful life range of the vacuum breaker is 30 to 60 years; the typical life is 40 years.

29.4 Time Based Maintenance Intervals

The typical routine testing/maintenance interval for oil breakers is three years.

29.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factors:

- Maintenance practices;
- Operating practices
- Utilization (electrical loading).

30 Protective and Control Devices

This asset of protective and control devices are classified into panels, control cables and relays.

Relays are classified into of three types, electromechanical, solid state and digital. The function of these relays is to increase long term reliability. The protection relays work to detect and isolate faults on the system by opening and closing the circuit breakers.

30.1 Degradation Mechanism

The degradation of protective and control devices is primarily based on the degradation of relays. Degradation of relay contacts is due to the following factors:

- Contact oxidation
- Contact welding or pitting due to excessive current
- Chemical corrosion

In the case of degradation of relay moving parts, such as wear of moving parts like spring/armature, the major contributing factor is the wear after numerous switching cycles.

Degradation on relay coils is mainly a thermal aging issue due to continuous energization or elevated cabinet temperatures. Excessive heat generated by coil or associated components may cause the coil to burn out or adversely affect other nearby components or components within the relay or nearby (e.g. chemical breakdown of varnishes causing contact contamination, or change in component dimensions).

30.1.1 Electromechanical Relays

As a consequence, the failure mode of an electromechanical relay can be:

- Failure to actuate when commanded
- Actuates without command
- Does not make or break current
- Failure to carry current
- High contact resistance
- Set-point shift
- Time delay shift

To assess the health status of an electromechanical relay, the following condition parameters are studied:

- Operating mechanism, including contact, coil, spring, insulation, connection and component replacement
- Recalibration, including recalibration record and relay functionality (e.g., over current, distance etc.)
- Reliability, including mal-operation count, loading and age

30.1.2 Solid State Relays

Physical degradation of a solid state relay is similar to the overall degradation of relays. Solid state relays are particularly sensitive to ambient environmental conditions.

30.1.3 Digital Relays

Physical degradation of digital relays happen on hardware part of digital relays. Compared to solid state relays, digital relays are not sensitive to ambient environment. The major contributing factor of

degradation is the electrical environment, i.e. inrush transient. Since digital relays have built-in self-supervision system, the settings with perfect long time stability is guaranteed.

The failure mode of a digital relay can be:

- Fail to trip because communication port is held by defective external equipment
- Mal-function due to hardware/firmware/software version mismatch
- Mal-function due to software design flaw causing software latched by external EMI interference
- On strike due to power supply failure

To assess the health status of a digital relay, the following condition parameters are studied:

- Operating mechanism, including power supply, insulation, connection
- Recalibration, including recalibration record and relay functionality (e.g., over current, distance etc.)
- Reliability, including mal-operation count, loading and age

30.2 System Hierarchy

Protection and control devices belong to the Transformer and Municipal Station asset grouping.

30.3 Useful Life and Typical Life

This asset is classified into two components each of which has a different useful life:

- Panels
- Control Cables
- Relays
 - Electromechanical
 - Solid State
 - Digital

30.3.1 Panels

The useful life range of the panel is 40 to 60 years; the typical life is 40 years.

30.3.2 Control Cables

The useful life range of the control cable is 25 to 50 years; the typical life is 40 years.

30.3.3 Relays

The useful life range of the electromechanical type is 20 to 50 years; the typical life is 30 years.

The useful life range of the solid state type is 10 to 50 years; the typical life is 30 years.

The useful life range of the digital type is 10 to 20 years; the typical life is 15 years.

30.4 Time Based Maintenance Intervals

Protection and control relays are not subject to planned maintenance.

30.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factor:

- Operating practices

31 Station Disconnect Switch

This asset class consists of the disconnect switches used to physically and electrically isolate sections of the power system for the purposes of maintenance, safety, and other operational requirements. Switches typically consist of manual or motor operated isolating devices mounted on support insulators and metal support structures. Many high voltage disconnect switches (e.g. line and transformer isolating switches) have motor-operators and the capability of remote-controlled operation. These switches are normally operated when there is no current through the switch, unless specifically designed to be capable of operating under load.

31.1 Degradation Mechanism

Disconnect switches have many moving parts that are subject to wear and operational stress. Except for parts contained in motor-operator cabinets, switch components are exposed to the ambient environment. Thus, environmental factors, along with operating conditions, vintage, design, and configuration all contribute to switch degradation. Critical degradation processes include corrosion, moisture ingress, and ice formation. A combination of these factors that may result in permanent damage to major components such as contacts, blades, bearings, drives and support insulators.

Generally, the following represent key end-of-life factors for disconnect switches:

- Decreasing reliability, availability, and maintainability
- High maintenance and operating costs
- Maintenance overhaul requirements
- Obsolete design, lack of parts and service support
- Switch age

Application criticality and manufacturer also play key roles in determining the end-of-life for disconnect switches. Generally, absent a major burnout, widespread deterioration of live components, support insulators, motor-operators, and drive linkages define the end-of-life for these switches. However, routine maintenance programs usually provide ample opportunity to assess switch condition and viability.

Disconnect switches have components fabricated from dissimilar materials, and use of these different materials influences degradation. For example, blade, hinge and jaw contacts may consist of combinations of copper, aluminum, silver and stainless steel, several of which have tin, silver and chrome plating. Further switch bases may consist of galvanized steel or aluminum.

Most disconnect switches have porcelain support and rotating insulators. The porcelain offers rigidity, strength and dielectric characteristics needed for reliability. However, excessive deflection or deformation of support or rotating stack insulators can cause blade misalignment and other problems, resulting in operational failures.

Disconnect switches must have the ability to open and close properly even with heavy ice build-up on their blades and contacts. However, these switches may sit idle for several months or more. This infrequent operation may lead to corrosion and water ingress damage, increasing the potential for component seizures. Bearings commonly seize from poor lubrication and sealing, despite manufacturers' claims that such components are sealed, greaseless and maintenance-free for life.

Normally, when blades enter or leave jaw contacts, they rotate to clean accumulated ice from contact surfaces. To accomplish this, hinge ends have rotating or other current transfer contacts. These contacts are often simple, long-life copper braids. However, some switches have more complex rotating contacts in grease-filled chambers. Without proper maintenance these more complex switches may degrade, causing blade failures.

31.2 System Hierarchy

The station disconnect switch is a part of the Transformer and Municipal Station asset grouping.

31.3 Useful Life and Typical Life

This asset has a useful life range of 30 to 50 years; the typical life is 45 years.

31.4 Time Based Maintenance Intervals

The typical routine testing/maintenance interval for this asset is every 6 years. Utilities will typically increase diagnostic testing to justify the increase of maintenance intervals.

31.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factors:

- Maintenance practices;
- Operating practices
- Utilization (electrical loading).

32 Direct Current System

Direct current (DC) systems are critical to the safe and efficient operation of transformer cooling, switchgear and protection & control. This asset category has been componentized into batteries, chargers and other DC distribution equipment. Maintaining batteries in a condition capable of delivering the necessary energy as required is essential.

Batteries consist of multiple individual cells. For the purposes of this report, these are lead-acid battery banks. Battery chargers are relatively simple electronic devices that have a high degree of reliability and a significantly longer lifetime than the battery banks.

32.1 Degradation Mechanism

The deterioration of a battery from an apparently healthy condition to a functional failure can be rapid. This makes condition assessment very difficult. However, careful inspection and testing of individual cells often enables the identification of high risk units in the short term.

Although battery deterioration is difficult to detect, any changes in the electrical characteristics or observation of significant internal damage can be used as sensitive measures of impending failure. While the significant deterioration/failure of an individual cell may be an isolated incident, detection of deterioration in a number of cells in a battery is usually the precursor to widespread failure and functional failure of the total battery. The ability to detect significant deterioration and pre-empt battery failure is especially critical if monitoring and alarm systems are not installed.

Historically, battery end-of-life was determined mainly by a number of factors including age, appearance (indication of physical deterioration) and the history of specific gravity and cell voltage measurements. Presently, the battery load test is now considered the “best” indicator of battery condition. This test is now used to identify and confirm the condition of suspect batteries identified from the previous tests.

Battery chargers are also critical to the satisfactory performance of the whole battery system. As with other electronic devices, it is difficult to detect deterioration prior to failure. It is normal practice during the regular maintenance and inspection process to check the functionality of the battery chargers, in particular the charging rates. Where any functional failures are detected it would be normal to replace the battery charger.

For battery chargers, diagnostic testing programs are coordinated with the battery maintenance program. This involves a number of functional tests and each test has a defined TP/TF criteria. Failure of any functional test may lead to further investigations or consideration of replacement.

Due to the critical functionality of batteries, most utilities take a conservative approach towards battery replacement: any significant evidence of battery deterioration usually leads to decisions to replace the battery.

32.2 System Hierarchy

DC System asset category belongs to the Transformer and Municipal Station assets grouping.

32.3 Useful Life and Typical Life

This asset is classified into three major components, each of which has a different useful life:

- Battery
- Charger
- DC Distribution Equipment

32.3.1 Battery

The useful life range of the battery component is 10 to 30 years; the typical life is 20 years.

32.3.2 Charger

The useful life range of the charger component is 20 to 30 years; the typical life is 20 years.

32.3.3 DC Distribution Equipment

The useful life range of the charger component is 10 to 30 years; the typical life is 20 years.

32.4 Time Based Maintenance Intervals

The typical routine testing/maintenance interval for this asset class is every year.

32.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factors:

- Maintenance practices;
- Operating practices

33 Station Grounding System

Grounding systems in stations dissipate maximum ground fault currents without interfering with power system operation or causing voltages dangerous to people or equipment. Safety hazards from inadequate grounding include excessive ground potential rises and excessive step and touch potentials. Generally, grounding system assets provide suitable paths for ground currents to follow from power equipment and conductors into the earth. Consequently, complete grounding systems include buried conductors, ground rods and connections, plus soil and vegetation in the area. Soil and vegetative conditions affect water retention and drainage, which impact overall performance of the grounding system. For the purposes of this report, the station grounding system has been componentized into four categories: the ground grid, neutral reactors, arresters and sky wire.

33.1 Degradation Mechanism

Station grounding systems keep ground potential rise, step and touch potentials below specified limits when maximum (i.e. worst case) ground faults occur. Under fault conditions, the following factors determine step and touch potentials:

- Magnitude of the fault current
- Resistance of ground combined with the ground grid consisting of station electrodes, transmission line sky wires and distribution neutrals
- Ground resistivity of upper and lower layers of earth.
- Prolonged exposure to severe environment

Increases in system capacity and fault currents at a station may lead to unacceptable performance of the ground grid. Corrosion of buried conductors and connectors, mechanical damage to buried electrodes, plus burning-off of grounding conductors and connectors during heavy fault currents also may lead to unsatisfactory performance. Further, changes in resistivity of upper or lower layers of earth may adversely affect ground grid characteristics.

33.2 System Hierarchy

Grounding systems used in both the Transformer and Municipal Station asset grouping.

33.3 Useful Life and Typical Life

The station grounding system consists of four components each with its own useful life values:

- Ground Grid
- Neutral Reactors
- Arresters
- Sky Wire

33.3.1 Ground Grid

The ground grid component has a useful life range of 25 to 50 years; the typical life is 40 years.

33.3.2 Neutral Reactors

The neutral reactor component has a useful life range of 25 to 60 years; the typical life is 45 years.

33.3.3 Arresters

The arrester component has a useful life range of 10 to 30 years; the typical life is 20 years.

33.3.4 Sky Wire

The sky wire component has a useful life range of 30 to 50 years; the typical life is 45 years.

33.4 Time Based Maintenance Intervals

Station grounding systems are not subject to planned maintenance.

33.5 Utilization Factors

The useful life of this asset is not dependent on utilization factors.

34 Bus Work and Steel Structures

There are a number of different types of structures at distribution stations for supporting buses and equipment. The predominant types are galvanized steel, either lattice or hollow sections.

34.1 Degradation Mechanism

Degradation or reduction in strength of steel structures can result from corrosion, structural fatigue, or gradual deterioration of foundation components.

Corrosion of lattice steel members and hardware reduces their cross-sectional area causing a reduction in strength. Similarly, corrosion of tubular steel poles reduces the effectiveness of the tubular walls. Rates of corrosion may vary, depending upon environmental and climatic conditions (e.g., the presence of salt spray in coastal areas or heavy industrial pollution).

Structural fatigue results from repeated structural loading and unloading of support members. Temperature variations, plus wind and ice loadings lead to changes in conductor tension. Tension changes result in structural load variations on angle and dead end towers. Other changes such as foundation displacements and breaks in wires, guys and anchors may result in abnormal tower loading.

Typically, steel pole foundations are cylindrical steel reinforced concrete structures with anchor bolts connecting the pole to its base. Common degradation processes include corrosion of foundation rebar, concrete spalling and storm damage.

34.2 System Hierarchy

Bus Work and Steel Structures belongs to the Transformer and Municipal Station asset grouping.

34.3 Useful Life and Typical Life

The useful life of bus work and steel structures is in the range of 35 to 100 years and the typical life is 50 years.

34.4 Time Based Maintenance Intervals

Bus work and steel structures are not subject to planned maintenance.

34.5 Utilization Factors

The useful life of this asset is not dependent on utilization factors.

35 Station Buildings

Buildings at major transformer and municipal stations house the switchgear, relays and controls and serve as a base for administrative and service work. This asset includes the building structure itself, the roof and fence.

35.1 Degradation Mechanism

The following contribute to the degradation of this asset:

- Building age
- Structural condition of loading members
- Condition of floors, walls and ceilings
- Protection against weather elements
- Environmental concerns
- Functional requirements

Buildings are a very maintainable asset. The capital cost of replacement is high enough that the lowest long term cost is achieved even with quite high levels of annual maintenance. Age alone is a very poor indicator of end of life. Rather impacts such as environmental rain, wind and snow storms contribute highly to the degradation of buildings.

Also, since the foundation materials typically consist of reinforced concrete designed to consider environmental elements including soil conditions and climate. Landscaping is used to control soil erosion, maintain site cleanliness and facilitate an efficient and safe work environment.

Preventative maintenance helps ensure long-term integrity of buildings. This type of maintenance should be done on a regular basis. As well the occasional refurbishment of doors, windows and roofs helps with the viability of the building.

The building roof is the most susceptible to degradation due to environmental factors. The roof is typically level and composed of tar and an aggregate that is designed to keep the wind from wearing at the tar. Nevertheless, the roof is still susceptible to environmental degradation and if not sealed properly can become a source of flooding. The maintenance of the roof is generally the largest undertaking for buildings.

35.2 System Hierarchy

Distribution building asset category belongs to the Transformer and Municipal Station asset grouping.

35.3 Useful Life and Typical Life

This asset has three major components, each of which has a different useful life. From a maintenance practice perspective, the building can be componentized into the following:

- Structure
- Roof
- Fence

35.3.1 Structure

The useful life of the structure component of the building can be in the range of 30 to 80 years, with a typical life of 50 years.

35.3.2 Roof

The useful life of the roof can be in the range of 15 to 30 years, with a typical life of 20 years.

35.3.3 Fence

The useful life range of the fence is 30 to 60 years, with a typical life of 35 years.

35.4 Time Based Maintenance Intervals

The typical routine inspection interval for this asset is every year.

35.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factor:

- Maintenance practices.

36 Metering

The metering is how electricity providers measure billable services by measuring various aspects of power usage. When used in electricity retailing, the utilities record the values measured by these meters to generate an invoice for the electricity. This report focuses on smart meters, industrial/commercial meters and wholesale meters. This asset consists of three components: the meter itself, the current transformer (CT) and the potential transformer (PT). A smart meter is an advanced meter is an electrical meter that identifies consumption in more detail than a conventional meter; and communicates that information via some network back to the local utility for monitoring and billing purposes.

36.1 Degradation Mechanism

The major degradation mechanism of traditional meters is listed as follows:

- Electronic component aging due to long-term power quality impact, for solid-state meters
- Meter creep due to high temperature for induction type meters. This occurs when the meter disc rotates continuously with potential applied and the load terminals open circuited
- Magnetization alteration due to overload or short-circuited conditions
- Mechanical damage due to vibration of meter mounting
- Other adverse operating environment that might expedite the aging of components, such as humidity or dirt

The major degradation mechanism of smart metering system is listed as follows:

- Wiring insulation deterioration due to corrosion, moisture or overheating
- Poor electrical connections due to corrosion, vibration or other physical problems
- Cabinetry or rack damage or wear
- Faulty electronic components

The rate and severity of degradation in the equipment depend on its operational duties and environmental factors. Corrosion and moisture ingress, or combinations of these, represent the most critical degradation processes in microwave equipment of smart metering system.

Environmental conditions in relay and switch-rooms can affect microwave equipment's condition and reliability. Humidity, temperature, dust and pollution can cause component degradation. When plant temperatures fall below the dew point condensation can occur. When water enters equipment rooms through roof or other leaks, it can affect performance and aggravate corrosion.

36.2 System Hierarchy

Metering belongs to the Monitoring and Control Systems assets grouping.

36.3 Useful Life and Typical Life

The overall useful life range of the meter itself is dependent on the meter type and component, which can be broken down into the following:

- Smart
- Industrial/Commercial
- Wholesale
- Transformer (CT,PT)

36.3.1 Smart Meter

The useful life range of the smart meter is 15 to 20 years; typical life is 15 years.

36.3.2 Industrial/Commercial

The useful life range of industrial/commercial type meter is 20 to 60 years; typical life is 30 years.

36.3.3 Wholesale

The useful life range of wholesale type meter is 20 to 60 years; typical life is 30 years.

36.3.4 Transformer

The useful life range of the current transformer components is 30 to 50 years; typical life is 45 years.

The useful life range of the potential transformer components is 30 to 50 years; typical life is 45 years.

36.4 Time Based Maintenance Intervals

Meters are not subject to planned maintenance.

36.5 Utilization Factors

The useful life of this asset is not dependent on utilization factors.

37 SCADA

Supervisory Control and Data Acquisition (SCADA) refers to the centralized monitoring and control system of a facility. SCADA remote terminal units (RTUs) allow the master SCADA system to communicate, often wirelessly, with field equipment. In general, RTUs collect digital and analog data from equipment, exchange information to the master system, and perform control functions on field devices. They are typically comprised of the following: power supply, CPU, I/O Modules, housing and chassis, communications interface, and software.

37.1 Degradation Mechanism

There are many factors that contribute to the end-of-life of RTUs. Utilities may choose to upgrade or replace older units that are no longer supported by vendors or where spare parts are no longer available. Because RTUs are essentially computer devices, they are prone to obsolescence. For example, older units may lack the ability to interface with Intelligent Electronic Devices (IEDs), be unable to support newer or modern communications media and/or protocols, or not allow for the quantity, resolution, and accuracy of modern data acquisition. Legacy units may have limited ability of multiple master communication ports and protocols, or have an inability to segregate data into multiple RTU addresses based on priority.

37.2 System Hierarchy

SCADA asset category belongs to the Monitoring and Control Systems assets grouping.

37.3 Useful Life and Typical Life

SCADA has been broken down into two components, each with its own useful life values:

- Remote Terminal Unit (RTU)
- Battery

37.3.1 *Remote Terminal Unit (RTU)*

The useful life of the SCADA RTU is in the range of 10 to 30 years; the typical life is 20 years.

37.3.2 *Battery*

The useful life of the SCADA battery is in the range of 10 to 15 years; the typical life is 15 years.

37.4 Time Based Maintenance Intervals

SCADA are not subject to planned maintenance.

37.5 Utilization Factors

The useful life of this asset is dependent on the following utilization factors:

- Operating practices

38 Smart Fault Indicators

Fault indicators are used for loaded underground distribution circuits where secondary voltage is available. A sensor monitors the line current. When the trip rating is exceeded, the indicator trips to the fault position. To reset the display the fault indicator uses a secondary voltage source, such as the low-voltage terminals of distribution transformers. For the purposes of this report, only smart fault indicators will be discussed.

38.1 Degradation Mechanism

The major contributing factor of the degradation of smart fault indicators is the electrical environment, i.e. inrush transient.

The failure mode of smart fault indicators can be:

- Fail to trip because communication port is held by defective external equipment
- Mal-function due to hardware/firmware/software version mismatch
- Will not operate due to power supply failure

To assess the health status of a smart fault indicator, the following condition parameters are studied:

- Operating mechanism, including power supply, insulation, connection
- Recalibration, including recalibration record and relay functionality (e.g., overcurrent, distance etc.)
- Reliability, including mal-operation count, loading and age

38.2 System Hierarchy

Smart fault indicators asset category belongs to the Monitoring and Control Systems assets grouping.

38.3 Useful Life and Typical Life

The useful life of the smart fault indicators is in the range of 10 to 15 years; the typical life is 15 years.

38.4 Time Based Maintenance Intervals

Smart fault indicators are not subject to planned maintenance.

38.5 Impact of Utilization Factors

The useful life of this asset is dependent on the following utilization factors:

- Operating practices

39 Communication Towers

A communication tower is used to communicate via some network back to the local utility for monitoring and billing purposes.

39.1 Degradation Mechanism

The major degradation mechanism of smart metering system is listed as follows:

- Cabinetry or rack damage or wear
- Faulty electronic components

The rate and severity of degradation in the equipment depend on its operational duties and environmental factors. Corrosion and moisture ingress, or combinations of these, represent the most critical degradation processes in microwave equipment of smart metering system.

Environmental conditions in relay and switch-rooms can affect microwave equipment's condition and reliability. Humidity, temperature, dust and pollution can cause component degradation. When plant temperatures fall below the dew point condensation can occur.

39.2 System Hierarchy

Communication Towers belong to the Monitoring and Control Systems assets grouping.

39.3 Useful Life and Typical Life

The useful life range of the communication tower is 35 to 100 years; typical life is 63 years.

39.4 Time Based Maintenance Intervals

Communication towers are not subject to planned maintenance.

39.5 Utilization Factors

The useful life of this asset is not dependent on utilization factors.

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File Number: EB-2019-0049

Exhibit: 4

Filed: April 30, 2019

Appendix 4-7: Customer Service Outsourcing ERTH Business Case

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memo

To: Jerry Van Ooteghem, President & CEO
From: Margaret Nanninga, Vice President Finance & CFO
CC: Greig Cameron, Vice President Engineering & IT
Date: March 19, 2017
Re: Bill & Mail Processing Outsourcing Proposal

Kitchener-Wilmot Hydro Inc. (KWHI) issues its customer electricity bills in-house using internal resources and its own mailing machine. This activity has always required significant resources to complete; however, up until late 2015, the majority of its customers (residential and GS<50kW) were billed on a bi-monthly basis. After that, KWHI moved all of its customers to a monthly billing cycle due in part to an OEB-mandated requirement that all LDCs implement monthly billing.

KWHI currently has 93,000 residential and small general service customers. Over a twelve-month period, this equates to an additional 560,000 bills being issued and mailed out to customers than there was before monthly billing was implemented. Note these totals do not include reminder notices and other miscellaneous mailed items, which have also increased.

The folding, stuffing and mailing of customer bills currently is the responsibility of the Information Technology department (IT), although bills are issued through the CIS, which is part of the Customer Services department. IT (together with Customer Services) is now proposing to outsource the daily mail processing responsibilities to a third party (ERTH Corp) as it struggles to fulfill its corporate responsibilities in IT due to lack of internal resources. This lack of internal resources issue is a direct result of the switch to monthly billing and the demands it has put on its staff.

The Computer Operators currently perform the mail processing activities, which has become almost a full-time job due to monthly billing (6,000 to 8,000 bills daily requires six hours a day of their time). This leaves them with little time to be of assistance within the IT department, providing much-needed help desk support. As a result, senior staff are handling the help desk requests, leaving the senior staff unable to get their own jobs done.

With some 500+ requests a month for IT resources, the demand for IT resources is high and requires attention. Upon outsourcing of the mail processing activity, IT is looking to implement a tiered help desk ticketing solution to aid in addressing IT requests from the various departments at the utility. The proposed solution will allow IT to prioritize, track and report all requests for IT resources and identify problem areas that need to be addressed. The Computer

Operators would play a major role in operating the tiered help desk, which will require their full attention going forward.

The suggestion to outsource billing activities required staff to analyze proposals from outsourcing vendors and to investigate the financial feasibility of such a move to see if outsourcing of this core activity was an avenue that KWHI wanted to pursue.

Outsourcing Vendors

One of the first steps in identifying outsourcing vendors to provide invoice printing and insertion services was to contact two other regional LDCs that were already outsourcing this activity. Waterloo North Hydro Inc. (WNHI) uses CGI for its bills and, although staff there seemed to be happy with the services provided by CGI, they did indicate that there had been a few minor issues and that CGI's pricing is such that WNHI seems to pay incremental fees more often than originally anticipated. Energy+ outsources its bills to ERTH and described the services received as "amazing" and highly recommended ERTH to our staff. Proposals were received by KWHI from both vendors and below is a summary of the quotes received:

	CGI	ERTH
Daily Setup	██████	0.00
Print	██████	0.085
Document Handling	██████	
Insertions	██████	
Annual Quantities	██████	990,000
Annual Cost	██████	84,150
Difference		██████

A copy of both proposals is attached to this memo.

Given the similarity in costs and the outstanding reference from Energy+, it is recommended that KWHI proceed with outsourcing its bill production and insertion services to ERTH Corporation in the event that such a move also turns out to be financially feasible.

Financial Feasibility of Outsourcing

Attached see a full analysis of the costs related to keeping the mail processing activities in house versus outsourcing the mail function.

In analyzing the costs (both incurred and avoided), both capital and OM&A costs had to be considered. Attached is the full worksheet showing the details of the different items & scenarios.

Capital

KWHI currently has a purchased mail machine with a net book value of \$17.3K. Upon outsourcing the mailing function, this mail machine would no longer be required. KWHI could sell this mail machine upon outsourcing the mail function. In addition, the air conditioning in the mailroom needs to be replaced as it is not functioning well and the mail machine requires a humidity-controlled atmosphere to work properly. KWHI would not have to invest in this replacement if mail activities were to be outsourced. In the absence of an in-house mail machine; however, KWHI would need to purchase a new envelope folder and inserter for payroll and social club uses. The overall estimated additional capital to be paid by KWHI is estimated to be \$2.3K – not a significant dollar value.

OM&A

When considering the operating costs, three scenarios were considered:

- Scenario A – Status quo
- Scenario B – Maintain mail processing in-house hiring a new dedicated Mail Clerk, relieving the two Computer Operators to run the Help Desk
- Scenario C – Out-source the mail processing activities to EARTH Corp., relieving the two Computer Operators to run the Help Desk

Scenario A:

KWHI's current in-house costs related to mail processing are estimated at \$158K per year. This estimate includes internal labour and mail machine costs. Additionally, the high-speed printers in the computer room in IT are leased. These costs were also included in the annual cost.

Scenario B:

If KWHI were to hire a new Mail Clerk, the additional incremental costs would be approximately \$56K per year. This additional cost would be the only difference between Scenario A and Scenario B. The total cost of this Scenario would be \$216K.

Scenario C:

Scenario C would include EARTH Corp.'s outsourcing fee less mail machine, courier and paper costs. Note with Scenario C, there would still be the printer lease costs of \$21K per year. These printers were originally leased for a five-year period and there is almost four years remaining on the lease. Unfortunately, the original contract signed did not have any terms included to allow for the breaking of the lease for the two printers. KWHI staff did inquire to see what the impact would be to break the lease and the costs were significant as the lease company was not particularly helpful or eager to work with staff on that. At the end of it all, it was decided that KWHI would be better off keeping the leased printers for the remaining four- year term, perhaps repurposing them to another department within the utility. The savings on the lease printers would come from the reduction in consumables (i.e. toner). Scenario C returned total annualized costs of \$162K. After four years, these costs would go down an additional \$21K to \$141K due to the expiration of the lease.

Conclusion

An inflation factor of 2% was applied to the above costs to estimate the five year operating costs related to the mail processing activities under each scenario. The costs are summarized in the table below:

Scenario	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Scenario A	158,342	161,509	164,739	168,034	171,394	824,018
Scenario B	216,342	220,669	225,082	229,584	234,176	1,125,852
Scenario C	161,690	164,924	168,222	150,947	153,966	799,748

Scenario A is the status quo and is only \$25K more than outsourcing the mail processing function. The biggest problem with Scenario A is that it is quite unsustainable in terms of the labour resources that KWHI has. The mail function has many challenges to it and Computer Operator frustration continues to mount. IT senior staff will also burn out if the status quo is maintained.

Scenario B would require the hiring of a new staff member but would free up the Computer Operators to maintain the Help Desk. It is also \$302K more than just maintaining the status quo. It is not the preferred option.

Scenario C would see KWHI outsourcing its mail processing activities. The Computer Operators would also be freed up to run the Help Desk. In addition, Scenario C is actually less costly than either Scenario A or Scenario B. The downside of Scenario C is that KWHI would lose full control over its mail function; however, many LDCs are now moving in this direction as they try to focus on their core competencies. Mail processing is not KWHI's core competency. The unbreakable printer lease is unfortunate and costly; however, the printers can be repurposed within the utility until the lease expires. Note that Scenario C would require additional capital of \$2.3K as discussed earlier.

Recommendation

It is recommended that KWHI proceed with the outsourcing of its mail processing function as quickly as possible. It should be noted that the maintenance contract for the mail machine expires on April 30, 2017. Should KWHI proceed in a timely fashion, that contract would not need to be renewed.

Cost Analysis of proposal to out-source printing & mailing of customer bills

Capital Impact:

Current NBV of mail machine	\$ (17,300)
Cost savings not replacing AC unit	10,000
Possible sale of mail machine	10,000
Subtotal	2,700
Purchase of new envelope folder & inserter	(5,000) (estimated)
Net Capital Impact	<u><u>\$ (2,300)</u></u>

OM&A impact:

Scenario A - Current In-House Costs (Annualized)

■ lease & lease insurance	\$ 20,640
■ cartridges	24,000
■ click charges	8,400
Mail machine consumables	3,000
Mail machine maintenance contract	13,500
Mail machine depreciation	7,692
Labour (6 hrs per day)	76,190
Courier	4,920
	<u><u>\$ 158,342</u></u>

Scenario B - In-House with New Dedicated Mail Clerk (Annualized)

■ lease & lease insurance	\$ 20,640 *
■ cartridges	24,000
■ click charges	8,400
Mail machine consumables	3,000
Mail machine maintenance contract	13,500
Mail machine depreciation	7,692
Courier	4,920
IT labour redirected to Help Desk	76,190 **
New mail clerk position	56,000
Depreciation expense on new AC unit	2,000
	<u><u>\$ 216,342</u></u>

*** ■ lease costs of \$20,640 per year will continue until 2020. At which time machines will likely need to be replaced with a new lease agreement.**

Scenario C - Outsourcing to ERTH (Annualized costs)

Current in-house costs	\$	158,342	from Scenario A
Printing,inserting,mailing 93K bills /month		94,860	
Less paper savings		(30,000)	
Less █████ consumables		(32,400)	
Less mail machine costs		(24,192)	
Less annual courier costs		(4,920)	
	\$	161,690	

*** After 4 years costs will decrease \$20,640 (█████ lease expiration)**

Cost savings between Scenario B & C = \$54,652 for 4 years, after which savings increase to \$75,292 per year (after █████ lease expires).

For consideration:

- ♦ ** IT staff needed for Help Desk positions do not have time for mail duties
- ♦ Need a folding/inserting machine for payroll & social club uses until VAULT is up & running
- ♦ Mail machine (asset #3291) can be sold (\$17K NBV)
- ♦ Assume any increase to contract is same as labour increase (2%)
- ♦ No need to replace mail room AC unit if taken out of house \$10k savings
- ♦ █████ printers be re-purposed in another dept with far less demand for consumables
- ♦ Changes to IT staff job description will not result in higher pay (HR analysis has been done)
- ♦ █████ printer lease expires in 2020

Concerns addressed with John Thomson:

- ♦ 6,000 past due notices per month will no longer be mailed but handled by phone calls
99% of customers' phone numbers are on file
(reminder calls are a courtesy only and not an OEB requirement)
- ♦ 250 disconnection notices per day will be mailed out and no longer hand-delivered
Force Field annual costs
(this will extend the collection/termination period by 3 days for mailing)
- ♦ ERTH to provide KWHI with reports for verification with Canada Post and file transmission records to ensure all bills are mailed out thereby not posing a risk to the Customer Service standards

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Appendix 4-8: OEB PILs Model

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Ontario Energy Board

Income Tax/PILs Workform for 2019 Filers

Version 1.10

Utility Name	Kitchener-Wilmot Hydro Inc.
Assigned EB Number	EB-2020-0049
Name and Title	Margaret Nanninga, VP Finance & CFO
Phone Number	519 749 6177
Email Address	mnanninga@kwhydro.ca
Date	04/26/19
Last COS Re-based Year	2014

Note: Drop-down lists are shaded blue; Input cells are shaded green.

This Workbook Model is protected by copyright and is being made available to you solely for the purpose of filing your rate application. You may use and copy this model for that purpose, and provide a copy of this model to any person that is advising or assisting you in that regard. Except as indicated above, any copying, reproduction, publication, sale, adaptation, translation, modification, reverse engineering or other use or dissemination of this model without the express written consent of the Ontario Energy Board is prohibited. If you provide a copy of this model to a person that is advising or assisting you in preparing the application or reviewing your draft rate order, you must ensure that the person understands and agrees to the restrictions noted above.

While this model has been provided in Excel format and is required to be filed with the applications, the onus remains on the applicant to ensure the accuracy of the data and the results.



Income Tax/PILs Workform for 2019 Filers

- [1. Info](#)
- [S. Summary](#)
- [A. Data Input Sheet](#)
- [B. Tax Rates & Exemptions](#)

Historical Year

- [H0 - PILs, Tax Provision Historical Year](#)
- [H1 - Adj. Taxable Income Historical Year](#)
- [H4 - Schedule 4 Loss Carry Forward Historical Year](#)
- [H8 - Schedule 8 Historical](#)
- [H13 - Schedule 13 Tax Reserves Historical](#)

Bridge Year

- [B0 - PILs, Tax Provision Bridge Year](#)
- [B1 - Adj. Taxable Income Bridge Year](#)
- [B4 - Schedule 4 Loss Carry Forward Bridge Year](#)
- [B8 - Schedule 8 CCA Bridge Year](#)
- [B13 - Schedule 13 Tax Reserves Bridge Year](#)

Test Year

- [T0 PILs, Tax Provision Test Year](#)
- [T1 Taxable Income Test Year](#)
- [T4 Schedule 4 Loss Carry Forward Test Year](#)
- [T8 Schedule 8 CCA Test Year](#)
- [T13 Schedule 13 Reserve Test Year](#)



Income Tax/PILs Workform for 2019 Filers

No inputs required on this worksheet.

Inputs on Service Revenue Requirement Worksheet

The Service Revenue Requirement is in the 'Revenue Requirement Workform' - Tab 3.

Item	Working Paper Reference	
Adjustments required to arrive at taxable income	as below	-5,796,134
Test Year - Payments in Lieu of Taxes (PILs)	T0	680,518
Test Year - Grossed-up PILs	T0	925,875
Effective Federal Tax Rate	T0	15.0%
Effective Ontario Tax Rate	T0	11.5%
<u>Calculation of Adjustments required to arrive at Taxable Income</u>		
Regulatory Income (before income taxes)	T1	8,598,090
Taxable Income	T1	2,801,956
Difference	calculated	-5,796,134 as above

Income Tax/PILs Workform for 2019 Filers

Integrity Checks

The applicant must ensure the following integrity checks have been completed and confirm this is the case in the table below, or provide an explanation if this is not the case:

	Item	Utility Confirmation (Y/N)	Notes
1	The depreciation and amortization added back in the application's PILs model agree with the numbers disclosed in the rate base section of the application	Y	
2	The capital additions and deductions in the UCC/ CCA Schedule 8 agree with the rate base section for historical, bridge and test years	Y	
3	Schedule 8 of the most recent federal T2 tax return filed with the application has a closing December 31 historical year UCC that agrees with the opening (January 1) bridge year UCC. If the amounts do not agree, then the applicant must provide a reconciliation with explanations.	Y	
4	Distributors must segregate non- distribution tax amounts on Schedule 8.	Y	
5	The CCA deductions in the application's PILs tax model for historical, bridge and test years (as applicable) agree with the numbers in the UCC schedules for the same years filed in the application	Y	
6	Loss carry-forwards, if any, from the tax returns (Schedule 4) agree with those disclosed in the application	Y	
7	A discussion is included in the application as to when the loss carry-forwards, if any, will be fully utilized	Y	Not applicable
8	CCA is maximized even if there are tax loss carry-forwards	Y	
9	Accounting OPEB and pension amounts added back on Schedule 1 to reconcile accounting income to net income for tax purposes, must agree with the OM&A analysis for compensation. The amounts deducted must be reasonable when compared with the notes in the audited financial statements, FSCO reports, and the actuarial valuations.	Y	
	The income tax rate used to calculate the tax expense must be consistent with the utility's actual tax facts and evidence filed in the application.	Y	

Rate Base

Return on Ratebase

Deemed ShortTerm Debt %
Deemed Long Term Debt %
Deemed Equity %

4.00%
56.00%
40.00%

Short Term Interest Rate
Long Term Interest

2.82%
4.13%
8.98%

Return on Equity (Regulatory Income)

Return on Rate Base

	Test Year	Bridge Year
S	\$ 239,367,773	\$ 238,448,849
T	\$ 9,574,711	$W = S * T$
U	\$ 134,045,953	$X = S * U$
V	\$ 95,747,109	$Y = S * V$
Z	\$ 270,007	$AC = W * Z$
AA	\$ 5,536,098	$AD = X * AA$
AB	\$ 8,598,090	$AE = Y * AB$ T1
	\$ 14,404,195	$AF = AC + AD + AE$

Questions that must be answered

- Does the applicant have any Investment Tax Credits (ITC)?
- Does the applicant have any SRED Expenditures?
- Does the applicant have any Capital Gains or Losses for tax purposes?
- Does the applicant have any Capital Leases?
- Does the applicant have any Loss Carry-Forwards (non-capital or net capital)?
- Since 1999, has the applicant acquired another regulated applicant's assets?
- Did the applicant pay dividends?
If Yes, please describe what was the tax treatment in the manager's summary.
- Did the applicant elect to capitalize interest incurred on CWIP for tax purposes?

Historical Year	Bridge Year	Test Year
Yes	Yes	Yes
No	No	No
No	No	No
No	No	No
No	No	No
No	No	No
Yes	Yes	Yes
No	No	No



Income Tax/PILs Workform for 2019 Filers

Tax Rates

Federal & Provincial As of June 29, 2018

Federal income tax

General corporate rate
Federal tax abatement
Adjusted federal rate

Rate reduction

Federal Income Tax

Ontario income tax

Combined federal and Ontario

Federal & Ontario Small Business

Federal small business threshold
Ontario Small Business Threshold

Federal small business rate

Ontario small business rate

	Effective January 1, 2014	Effective January 1, 2015	Effective January 1, 2016	Effective January 1, 2017	Effective January 1, 2018	Effective January 1, 2019
General corporate rate	38.00%	38.00%	38.00%	38.00%	38.00%	38.00%
Federal tax abatement	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%
Adjusted federal rate	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%
Rate reduction	-13.00%	-13.00%	-13.00%	-13.00%	-13.00%	-13.00%
Federal Income Tax	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
Ontario income tax	11.50%	11.50%	11.50%	11.50%	11.50%	11.50%
Combined federal and Ontario	26.50%	26.50%	26.50%	26.50%	26.50%	26.50%
Federal small business threshold	500,000	500,000	500,000	500,000	500,000	500,000
Ontario Small Business Threshold	500,000	500,000	500,000	500,000	500,000	500,000
Federal small business rate	11.00%	11.00%	11.00%	10.50%	10.00%	9.00%
Ontario small business rate	4.50%	4.50%	4.50%	4.50%	3.50%	3.50%

Notes

- The Ontario Energy Board's proxy for taxable capital is rate base.
- Regarding the small business deduction, if applicable,
 - If taxable capital exceeds \$15 million, the small business rate will not be applicable.
 - If taxable capital is below \$10 million, the small business rate would be applicable.
 - If taxable capital is between \$10 million and \$15 million, the appropriate small business rate will be calculated.



Income Tax/PILs Workform for 2019 Filers

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%)

11.50%
15.00%

B
C

H1

Wires Only

\$ 7,977,662 A

26.50% D = B+C

Total Income Taxes

Investment Tax Credits
Miscellaneous Tax Credits

Total Tax Credits

\$ 2,114,081 E = A * D

F

-\$ 427 G

-\$ 427 H = F + G

Corporate PILs/Income Tax Provision for Historical Year

\$ 2,114,508 I = E - H



Income Tax/PILs Workform for 2019 Filers

Adjusted Taxable Income - Historical Year

	T2S1 line #	Total for Legal Entity	Non-Distribution Eliminations	Historic Wires Only
Income before PILs/Taxes	(A + 101 + 102)	13,019,613		13,019,613
Additions:				
Interest and penalties on taxes	103	10,641		10,641
Amortization of tangible assets	104	9,008,120		9,008,120
Amortization of intangible assets	106			0
Recapture of capital cost allowance from Schedule 8	107			0
Gain on sale of eligible capital property from Schedule 10	108			0
Income or loss for tax purposes- joint ventures or partnerships	109			0
Loss in equity of subsidiaries and affiliates	110			0
Loss on disposal of assets	111			0
Charitable donations	112	6,300		6,300
Taxable Capital Gains	113			0
Political Donations	114			0
Deferred and prepaid expenses	116			0
Scientific research expenditures deducted on financial statements	118			0
Capitalized interest	119			0
Non-deductible club dues and fees	120			0
Non-deductible meals and entertainment expense	121	27,419		27,419
Non-deductible automobile expenses	122			0
Non-deductible life insurance premiums	123			0
Non-deductible company pension plans	124			0
Tax reserves deducted in prior year	125			0
Reserves from financial statements- balance at end of year	126			0
Soft costs on construction and renovation of buildings	127			0
Book loss on joint ventures or partnerships	205			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			0
Gain on settlement of debt	220			0
Non-deductible advertising	226			0
Non-deductible interest	227			0
Non-deductible legal and accounting fees	228			0
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	290			0
Realized Income from Deferred Credit Accounts	291			0
Pensions	292			0
Non-deductible penalties	293			0
	294			0
	295			0
ARO Accretion expense				0
Capital Contributions Received (ITA 12(1)(x))				0
Lease Inducements Received (ITA 12(1)(x))				0
Deferred Revenue (ITA 12(1)(a))				0
Prior Year Investment Tax Credits received		109,826		109,826
Non deductible PBO and bad debt accruals		487,845		487,845
				0
				0
				0
				0
				0
				0
				0
				0
				0
Total Additions		9,650,150	0	9,650,150

Adjusted Taxable Income - Historical Year

Deductions:				
Gain on disposal of assets per financial statements	401	128,387		128,387
Dividends not taxable under section 83	402			0
Capital cost allowance from Schedule 8	403	13,652,773		13,652,773
Terminal loss from Schedule 8	404			0
Allowable business investment loss	406			0
Deferred and prepaid expenses	409			0
Scientific research expenses claimed in year	411			0
Tax reserves claimed in current year	413			0
Reserves from financial statements - balance at beginning of year	414			0
Contributions to deferred income plans	416			0
Book income of joint venture or partnership	305			0
Equity in income from subsidiary or affiliates	306			0
Other deductions: (Please explain in detail the nature of the item)				
Interest capitalized for accounting deducted for tax	390			0
Capital Lease Payments	391			0
Non-taxable imputed interest income on deferral and variance accounts	392			0
	393			0
	394			0
ARO Payments - Deductible for Tax when Paid				0
ITA 13(7.4) Election - Capital Contributions Received				0
ITA 13(7.4) Election - Apply Lease Inducement to cost of Leaseholds				0
Deferred Revenue - ITA 20(1)(m) reserve				0
Principal portion of lease payments				0
Lease Inducement Book Amortization credit to income				0
Financing fees for tax ITA 20(1)(e) and (e.1)				0
OMERS capitalized		364,243		364,243
Actual PBO and bad debt expense		546,697		546,697
				0
				0
				0
				0
				0
Total Deductions		14,692,101	0	14,692,101
Net Income for Tax Purposes		7,977,662	0	7,977,662
Charitable donations from Schedule 2	311			0
Taxable dividends deductible under section 112 or 113, from Schedule 3 (item 82)	320			0
Non-capital losses of preceding taxation years from Schedule 4	331			0
Net-capital losses of preceding taxation years from Schedule 4 (Please include explanation and calculation in Manager's summary)	332			0
Limited partnership losses of preceding taxation years from Schedule 4	335			0
TAXABLE INCOME		7,977,662	0	7,977,662



Ontario Energy Board

Income Tax/PILs Workform for 2019 Filers

Schedule 7-1 Loss Carry Forward - Historical

Corporation Loss Continuity and Application

	Total	Non-Distribution Portion	Utility Balance
Non-Capital Loss Carry Forward Deduction			
Actual Historical			0

[B4](#)

	Total	Non-Distribution Portion	Utility Balance
Net Capital Loss Carry Forward Deduction			
Actual Historical			0

[B4](#)

Income Tax/PILs Workform for 2019 Filers

Schedule 8 - Historical Year

Class	Class Description	UCC End of Year Historical per tax returns	Less: Non-Distribution Portion	UCC Regulated Historical Year
1	Distribution System - post 1987	\$ 77,691,080.92		\$ 77,691,080.92
1 Enhanced	Non-residential Buildings Reg. 1100(1)(a.1) election	\$ 10,249,482.37		\$ 10,249,482.37
2	Distribution System - pre 1988	\$ 5,845,362.80		\$ 5,845,362.80
8	General Office/Stores Equip	\$ 4,127,152.83		\$ 4,127,152.83
10	Computer Hardware/ Vehicles	\$ 1,639,748.94		\$ 1,639,748.94
10.1	Certain Automobiles			\$ -
12	Computer Software			\$ -
13₁	Lease # 1			\$ -
13₂	Lease #2			\$ -
13₃	Lease # 3			\$ -
13₄	Lease # 4			\$ -
14	Franchise			\$ -
17	New Electrical Generating Equipment Acq'd after Feb 27/00 Other Than Bldgs	\$ 237,206.74		\$ 237,206.74
42	Fibre Optic Cable			\$ -
43.1	Certain Energy-Efficient Electrical Generating Equipment			\$ -
43.2	Certain Clean Energy Generation Equipment			\$ -
45	Computers & Systems Software acq'd post Mar 22/04	\$ 591.96		\$ 591.96
46	Data Network Infrastructure Equipment (acq'd post Mar 22/04)	\$ 6,994.40		\$ 6,994.40
47	Distribution System - post February 2005	\$ 92,406,993.70		\$ 92,406,993.70
50	Data Network Infrastructure Equipment - post Mar 2007	\$ 757,956.29		\$ 757,956.29
52	Computer Hardware and system software			\$ -
95	CWIP			\$ -
14.1	Eligible Capital Property (acq'd pre Jan 1, 2017) ¹			\$ -
14.1	Eligible Capital Property (acq'd post Jan 1, 2017) ¹			\$ -
3	Most buildings acquired before 1988 or 1990	\$ 2,009,117.56		\$ 2,009,117.56
50	Adjustment for CIS software	\$ -		\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ 0
	SUB-TOTAL - UCC	194,971,688	0	194,971,688



Income Tax/PILs Workform for 20

Schedule 13 Tax Reserves - Historical

Continuity of Reserves

Description	Historical Balance as per tax returns	Non-Distribution Eliminations	Utility Only
Capital Gains Reserves ss.40(1)			0
Tax Reserves Not Deducted for accounting purposes			
Reserve for doubtful accounts ss. 20(1)(l)			0
Reserve for goods and services not delivered ss. 20(1)(m)			0
Reserve for unpaid amounts ss. 20(1)(n)			0
Debt & Share Issue Expenses ss. 20(1)(e)			0
Other tax reserves			0
			0
			0
			0
			0
Total	0	0	0
Financial Statement Reserves (not deductible for Tax Purposes)			
General Reserve for Inventory Obsolescence (non-specific)			0
General reserve for bad debts			0
Accrued Employee Future Benefits:			0
- Medical and Life Insurance			0
-Short & Long-term Disability			0
-Accumulated Sick Leave			0
- Termination Cost			0
- Other Post-Employment Benefits			0
Provision for Environmental Costs			0
Restructuring Costs			0
Accrued Contingent Litigation Costs			0
Accrued Self-Insurance Costs			0
Other Contingent Liabilities			0
Bonuses Accrued and Not Paid Within 180 Days of Year-End ss. 78(4)			0
Unpaid Amounts to Related Person and Not Paid Within 3 Taxation Years ss. 78(1)			0
Other			0
			0
			0
Total	0	0	0



Income Tax/PILs Workform for 2019 Filers

PILS Tax Provision - Bridge Year

Regulatory Taxable Income

	Tax Rate	Small Business Rate (If Applicable)	Taxes Payable	Effective Tax Rate	
Ontario (Max 11.5%)	11.5%	11.5%	\$ 700,791	11.5%	B
Federal (Max 15%)	15.0%	15.0%	\$ 914,075	15.0%	C
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

Reference	Wires Only
B1	\$ 6,093,836

26.50%

\$ 1,614,867

\$ 85,000

\$ 85,000

\$ 1,529,867

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.



Income Tax/PILs Workform for 2

Adjusted Taxable Income - Bridge Year

	T2S1 line #	Working Paper Reference	Total for Regulated Utility
Income before PILs/Taxes	(A + 101 + 102)		11,178,081

Additions:			
Interest and penalties on taxes	103		
Amortization of tangible assets	104		9,330,500
Amortization of intangible assets	106		
Recapture of capital cost allowance from Schedule 8	107		
Gain on sale of eligible capital property from Schedule 10	108		
Income or loss for tax purposes- joint ventures or partnerships	109		
Loss in equity of subsidiaries and affiliates	110		
Loss on disposal of assets	111		
Charitable donations	112		
Taxable Capital Gains	113		
Political Donations	114		
Deferred and prepaid expenses	116		
Scientific research expenditures deducted on financial statements	118		
Capitalized interest	119		
Non-deductible club dues and fees	120		
Non-deductible meals and entertainment expense	121		33,000
Non-deductible automobile expenses	122		
Non-deductible life insurance premiums	123		
Non-deductible company pension plans	124		
Tax reserves deducted in prior year	125	B13	0
Reserves from financial statements- balance at end of year	126	B13	0
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	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		



Income Tax/PILs Workform for 2

Adjusted Taxable Income - Bridge Year

Other Additions			
Interest Expensed on Capital Leases	290		
Realized Income from Deferred Credit Accounts	291		
Pensions	292		
Non-deductible penalties	293		
	294		
	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			54,000
Non deductible PBO and bad debt accruals			550,500
Total Additions			9,968,000
Deductions:			
Gain on disposal of assets per financial statements	401		15,000
Dividends not taxable under section 83	402		
Capital cost allowance from Schedule 8	403	B8	14,557,445
Terminal loss from Schedule 8	404		
Allowable business investment loss	406		
Deferred and prepaid expenses	409		
Scientific research expenses claimed in year	411		
Tax reserves claimed in current year	413	B13	0
Reserves from financial statements - balance at beginning of year	414	B13	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: (Please explain in detail the nature of the item)			



Income Tax/PILs Workform for 2

Adjusted Taxable Income - Bridge Year

Interest capitalized for accounting deducted for tax	390		
Capital Lease Payments	391		
Non-taxable imputed interest income on deferral and variance accounts	392		
	393		
	394		
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)			
Actual PBO and bad debts expense			479,800
Total Deductions		calculated	15,052,245
Net Income for Tax Purposes		calculated	6,093,836
Charitable donations from Schedule 2	311		
Taxable dividends deductible under section 112 or 113, from Schedule 3 (item 82)	320		
Non-capital losses of preceding taxation years from Schedule 4	331	B4	0
Net-capital losses of preceding taxation years from Schedule 4 (Please include explanation and calculation in Manager's summary)	332	B4	0
Limited partnership losses of preceding taxation years from Schedule 4	335		
TAXABLE INCOME		calculated	6,093,836



Ontario Energy Board

Income Tax/PILs Workform for 2019 File

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>	0
Other Adjustments		
Balance available for use post Bridge Year	calculated	0

T4

Net Capital Loss Carry Forward Deduction		Total
Actual Historical	<u>H4</u>	0
Amount to be used in Bridge Year		
Loss Carry Forward Generated in Bridge Year (if any)	<u>B1</u>	
Other Adjustments		
Balance available for use post Bridge Year	calculated	0

T4

 Ontario Energy Board

Income Tax/PILs Workform for 2019 Filers

Schedule 8 CCA - Bridge Year

Class	Class Description	Working Paper Reference	UCC Regulated Historical Year	Additions	Disposals (Negative)	UCC Before 1/2 Yr Adjustment	1/2 Year Rule (1/2 Additions Less Disposals)	Reduced UCC	Rate %	Bridge Year CCA		UCC End of Bridge Year
1	Distribution System - post 1987	H8	\$ 77,691,080.92			\$ 77,691,081	\$ -	\$ 77,691,081	4%	\$ 3,107,643		\$ 74,583,438
1 Enhanced	Non-residential Buildings Reg. 1100(1)(a.1) election	H8	\$ 10,249,482.37	\$ 750,000		\$ 10,999,482	\$ 375,000	\$ 10,624,482	6%	\$ 637,469		\$ 10,362,013
2	Distribution System - pre 1988	H8	\$ 5,845,362.80			\$ 5,845,363	\$ -	\$ 5,845,363	6%	\$ 350,722		\$ 5,494,641
8	General Office/Stores Equip	H8	\$ 4,127,152.83	\$ 924,597		\$ 5,051,750	\$ 462,298	\$ 4,589,451	20%	\$ 917,890		\$ 4,133,859
10	Computer Hardware/ Vehicles	H8	\$ 1,639,748.94	\$ 1,554,069	\$- 15,000	\$ 3,178,818	\$ 769,535	\$ 2,409,283	30%	\$ 722,785		\$ 2,456,033
10.1	Certain Automobiles	H8				\$ -	\$ -	\$ -	30%	\$ -		\$ -
12	Computer Software	H8				\$ -	\$ -	\$ -	100%	\$ -		\$ -
13 1	Lease # 1	H8				\$ -	\$ -	\$ -		\$ -		\$ -
13 2	Lease #2	H8				\$ -	\$ -	\$ -		\$ -		\$ -
13 3	Lease # 3	H8				\$ -	\$ -	\$ -		\$ -		\$ -
13 4	Lease # 4	H8				\$ -	\$ -	\$ -		\$ -		\$ -
14	Franchise	H8				\$ -	\$ -	\$ -		\$ -		\$ -
17	New Electrical Generating Equipment Acq'd after Feb 27/00 Other Than Bldgs	H8	\$ 237,206.74			\$ 237,207	\$ -	\$ 237,207	8%	\$ 18,977		\$ 218,230
42	Fibre Optic Cable	H8				\$ -	\$ -	\$ -	12%	\$ -		\$ -
43.1	Certain Energy-Efficient Electrical Generating Equipment	H8				\$ -	\$ -	\$ -	30%	\$ -		\$ -
43.2	Certain Clean Energy Generation Equipment	H8				\$ -	\$ -	\$ -	50%	\$ -		\$ -
45	Computers & Systems Software acq'd post Mar 22/04	H8	\$ 591.96			\$ 592	\$ -	\$ 592	45%	\$ 266		\$ 326
46	Data Network Infrastructure Equipment (acq'd post Mar 22/04)	H8	\$ 6,994.40			\$ 6,994	\$ -	\$ 6,994	30%	\$ 2,098		\$ 4,896
47	Distribution System - post February 2005	H8	\$ 92,406,993.70	\$ 14,012,852	\$- 10,000	\$ 106,409,846	\$ 7,001,426	\$ 99,408,420	8%	\$ 7,952,674		\$ 98,457,172
50	Data Network Infrastructure Equipment - post Mar 2007	H8	\$ 757,956.29	\$ 1,198,505		\$ 1,956,461	\$ 599,252	\$ 1,357,209	55%	\$ 746,465		\$ 1,209,996
52	Computer Hardware and system software	H8				\$ -	\$ -	\$ -	100%	\$ -		\$ -
95	CWIP	H8				\$ -	\$ -	\$ -	0%	\$ -		\$ -
14.1	Eligible Capital Property (acq'd pre Jan 1, 2017) ¹	H8				\$ -	\$ -	\$ -	7%	\$ -		\$ -
14.1	Eligible Capital Property (acq'd post Jan 1, 2017) ¹	H8				\$ -	\$ -	\$ -	5%	\$ -		\$ -
3	Most buildings acquired before 1988 or 1990		\$ 2,009,117.56			\$ 2,009,118	\$ -	\$ 2,009,118	5%	\$ 100,456		\$ 1,908,662
50	Adjustment for CIS software		\$ -			\$ -	\$ -	\$ -	39%	\$ -		\$ -
						\$ -	\$ -	\$ -		\$ -		\$ -
						\$ -	\$ -	\$ -		\$ -		\$ -
						\$ -	\$ -	\$ -		\$ -		\$ -
						\$ -	\$ -	\$ -		\$ -		\$ -
						\$ -	\$ -	\$ -		\$ -		\$ -
						\$ -	\$ -	\$ -		\$ -		\$ -
						\$ -	\$ -	\$ -		\$ -		\$ -
	TOTAL		\$ 194,971,688	\$ 18,440,022	\$- 25,000	\$ 213,386,711	\$ 9,207,511	\$ 204,179,200		\$ 14,557,445	B1	\$ 198,829,266

Income Tax/PILs Workform for 2019 Filers

Schedule 13 Tax Reserves - Bridge Year

Continuity of Reserves

Description	Reference	Historical Utility Only	Eliminate Amounts Not Relevant for Bridge Year	Adjusted Utility Balance	Bridge Year Adjustments		Balance for Bridge Year		Change During the Year	Disallowed Expenses
					Additions	Disposals				
Capital Gains Reserves ss.40(1)	H13	0		0			0	T13	0	
Tax Reserves Not Deducted for accounting purposes										
Reserve for doubtful accounts ss. 20(1)(l)	H13	0		0			0	T13	0	
Reserve for goods and services not delivered ss. 20(1)(m)	H13	0		0			0	T13	0	
Reserve for unpaid amounts ss. 20(1)(n)	H13	0		0			0	T13	0	
Debt & Share Issue Expenses ss. 20(1)(e)	H13	0		0			0	T13	0	
Other tax reserves	H13	0		0			0	T13	0	
		0		0			0		0	
		0		0			0		0	
Total		0	0	0	B1	0	0	B1	0	0
Financial Statement Reserves (not deductible for Tax Purposes)										
General Reserve for Inventory Obsolescence (non-specific)	H13	0		0			0	T13	0	
General reserve for bad debts	H13	0		0			0	T13	0	
Accrued Employee Future Benefits:	H13	0		0			0	T13	0	
- Medical and Life Insurance	H13	0		0			0	T13	0	
- Short & Long-term Disability	H13	0		0			0	T13	0	
- Accumulated Sick Leave	H13	0		0			0	T13	0	
- Termination Cost	H13	0		0			0	T13	0	
- Other Post-Employment Benefits	H13	0		0			0	T13	0	
Provision for Environmental Costs	H13	0		0			0	T13	0	
Restructuring Costs	H13	0		0			0	T13	0	
Accrued Contingent Litigation Costs	H13	0		0			0	T13	0	
Accrued Self-Insurance Costs	H13	0		0			0	T13	0	
Other Contingent Liabilities	H13	0		0			0	T13	0	
Bonuses Accrued and Not Paid Within 180 Days of Year-End ss. 78(4)	H13	0		0			0	T13	0	
Unpaid Amounts to Related Person and Not Paid Within 3 Taxation Years ss. 78(1)	H13	0		0			0	T13	0	
Other	H13	0		0			0	T13	0	
		0		0			0		0	
Total		0	0	0	B1	0	0	B1	0	0



Income Tax/PILs Workform for 2019 Filers

PILs Tax Provision - Test Year

Regulatory Taxable Income

	Tax Rate	Small Business Rate (If Applicable)	Taxes Payable	Effective Tax Rate	
Ontario (Max 11.5%)	11.5%	11.5%	\$ 322,225	11.5%	B
Federal (Max 15%)	15.0%	15.0%	\$ 420,293	15.0%	C

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 Test Year

Corporate PILs/Income Tax Provision Gross Up ¹

Income Tax (grossed-up)

Note:

1. This is for the derivation of revenue requirement and should not be used for sufficiency/deficiency calculations.

Wires Only

T1 \$ 2,801,956 **A**

26.50% **D = B + C**

\$ 742,518 **E = A * D**

\$ 62,000 **F**

G

\$ 62,000 **H = F + G**

\$ 680,518 **I = E - H**

[S. Su](#)

73.50% **J = 1-D** \$ 245,357 **K = I/J-I**

\$ 925,875 **L = K + I**

[S. Su](#)



Ontario Energy Board

Income Tax/PILs Workform

Taxable Income - Test Year

	Working Paper Reference	Test Year Taxable Income
Net Income Before Taxes	A.	8,598,090

	T2 S1 line #		
Additions:			
Interest and penalties on taxes	103		
Amortization of tangible assets 2-4 ADJUSTED ACCOUNTING DATA P489	104		10,463,000
Amortization of intangible assets 2-4 ADJUSTED ACCOUNTING DATA P490	106		
Recapture of capital cost allowance from Schedule 8	107		
Gain on sale of eligible capital property from Schedule 10	108		
Income or loss for tax purposes- joint ventures or partnerships	109		
Loss in equity of subsidiaries and affiliates	110		
Loss on disposal of assets	111		
Charitable donations	112		
Taxable Capital Gains	113		
Political Donations	114		
Deferred and prepaid expenses	116		
Scientific research expenditures deducted on financial statements	118		
Capitalized interest	119		
Non-deductible club dues and fees	120		
Non-deductible meals and entertainment expense	121		32,950
Non-deductible automobile expenses	122		
Non-deductible life insurance premiums	123		
Non-deductible company pension plans	124		
Tax reserves beginning of year	125	T13	0
Reserves from financial statements- balance at end of year	126	T13	0
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	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		
<i>Other Additions: (please explain in detail the nature of the item)</i>			
Interest Expensed on Capital Leases	290		
Realized Income from Deferred Credit Accounts	291		
Pensions	292		
Non-deductible penalties	293		
	294		
	295		
	296		
	297		
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			85,000
Accrued PBO & Bad debt expense			561,700
Total Additions			11,142,650
Deductions:			
Gain on disposal of assets per financial statements	401		15,000
Dividends not taxable under section 83	402		
Capital cost allowance from Schedule 8	403	<u>I8</u>	16,437,884
Terminal loss from Schedule 8	404		
Allowable business investment loss	406		
Deferred and prepaid expenses	409		
Scientific research expenses claimed in year	411		
Tax reserves end of year	413	<u>T13</u>	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: (Please explain in detail the nature of the item)			
Interest capitalized for accounting deducted for tax	390		
Capital Lease Payments	391		
Non-taxable imputed interest income on deferral and variance accounts	392		
1	393		
1	394		
1	395		
1	396		
1	397		
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)			
Actual PBO & bad debt expense			485,900
Total Deductions		calculated	16,938,784
NET INCOME FOR TAX PURPOSES		calculated	2,801,956
Charitable donations	311		
Taxable dividends received under section 112 or 113	320		
Non-capital losses of preceding taxation years from Schedule 7-1	331	T4	0
Net-capital losses of preceding taxation years (Please show calculation)	332	T4	0
Limited partnership losses of preceding taxation years from Schedule 4	335		
REGULATORY TAXABLE INCOME		calculated	2,801,956



Ontario Energy Board

Income Tax/PILs Workform for 2019 Filers

Schedule 7-1 Loss Carry Forward - Test Year

Corporation Loss Continuity and Application

	Working Paper Reference	Total	Non-Distribution Portion	Utility Balance
Non-Capital Loss Carry Forward Deduction				
Actual/Estimated Bridge Year Carried Forward	<u>B4</u>	0		0
Amount to be used in Test Year and Price Cap Years	<u>T1</u>	0		0
Number of years loss until next cost of service (i.e. years the loss is to be spread over)				
Amount to be used in Test Year	calculated	0		0
Loss Carry Forward Generated in Test Year (if any)	<u>T1</u>	0		0
Other Adjustments				0
Balance available for use in Future Years	calculated	0		0

		Total	Non-Distribution Portion	Utility Balance
Net Capital Loss Carry Forward Deduction				
Actual/Estimated Bridge Year Carried Forward	<u>B4</u>	0		0
Amount to be used in Test Year and Price Cap Years				0
Number of years loss until next cost of service (i.e. years the loss is to be spread over)				
Amount to be used in Test Year	<u>T1</u>	0		0
Loss Carry Forward Generated in Test Year (if any)				0
Other Adjustments				0
Balance available for use in Future Years		0		0

 Ontario Energy Board

Income Tax/PILs Workform for 2019 Filers

Schedule 8 CCA - Test Year

Class	Class Description	Working Paper Reference	UCC Test Year Opening Balance	Additions	Disposals (Negative)	UCC Before 1/2 Yr Adjustment	1/2 Year Rule (1/2 Additions Less Disposals)	Reduced UCC	Rate %	Test Year CCA		UCC End of Test Year
1	Distribution System - post 1987	B8	\$ 74,583,438			\$ 74,583,438	\$ -	\$ 74,583,438	4%	\$ 2,983,338		\$ 71,600,100
1 Enhanced	Non-residential Buildings Reg. 1100(1)(a.1) election	B8	\$ 10,362,013	750,000		\$ 11,112,013	\$ 375,000	\$ 10,737,013	6%	\$ 644,221		\$ 10,467,793
2	Distribution System - pre 1988	B8	\$ 5,494,641			\$ 5,494,641	\$ -	\$ 5,494,641	6%	\$ 329,678		\$ 5,164,963
8	General Office/Stores Equip	B8	\$ 4,133,859	807,000		\$ 4,940,859	\$ 403,500	\$ 4,537,359	20%	\$ 907,472		\$ 4,033,388
10	Computer Hardware/ Vehicles	B8	\$ 2,456,033	1,000,000	-15,000	\$ 3,441,033	\$ 492,500	\$ 2,948,533	30%	\$ 884,560		\$ 2,556,473
10.1	Certain Automobiles	B8	\$ -			\$ -	\$ -	\$ -	30%	\$ -		\$ -
12	Computer Software	B8	\$ -			\$ -	\$ -	\$ -	100%	\$ -		\$ -
13.1	Lease # 1	B8	\$ -			\$ -	\$ -	\$ -		\$ -		\$ -
13.2	Lease #2	B8	\$ -			\$ -	\$ -	\$ -		\$ -		\$ -
13.3	Lease # 3	B8	\$ -			\$ -	\$ -	\$ -		\$ -		\$ -
13.4	Lease # 4	B8	\$ -			\$ -	\$ -	\$ -		\$ -		\$ -
14	Franchise	B8	\$ -			\$ -	\$ -	\$ -		\$ -		\$ -
17	New Electrical Generating Equipment Acq'd after Feb 27/00 Other Than B	B8	\$ 218,230			\$ 218,230	\$ -	\$ 218,230	8%	\$ 17,458		\$ 200,772
42	Fibre Optic Cable	B8	\$ -			\$ -	\$ -	\$ -	12%	\$ -		\$ -
43.1	Certain Energy-Efficient Electrical Generating Equipment	B8	\$ -			\$ -	\$ -	\$ -	30%	\$ -		\$ -
43.2	Certain Clean Energy Generation Equipment	B8	\$ -			\$ -	\$ -	\$ -	50%	\$ -		\$ -
45	Computers & Systems Software acq'd post Mar 22/04	B8	\$ 326			\$ 326	\$ -	\$ 326	45%	\$ 147		\$ 179
46	Data Network Infrastructure Equipment (acq'd post Mar 22/04)	B8	\$ 4,896			\$ 4,896	\$ -	\$ 4,896	30%	\$ 1,469		\$ 3,427
47	Distribution System - post February 2005	B8	\$ 98,457,172	16,003,755	-10,000	\$ 114,450,927	\$ 7,996,878	\$ 106,454,050	8%	\$ 8,516,324		\$ 105,934,603
50	Data Network Infrastructure Equipment - post Mar 2007	B8	\$ 1,209,996	335,000		\$ 1,544,996	\$ 167,500	\$ 1,377,496	55%	\$ 757,623		\$ 787,373
52	Computer Hardware and system software	B8	\$ -			\$ -	\$ -	\$ -	100%	\$ -		\$ -
95	CWIP	B8	\$ -			\$ -	\$ -	\$ -	0%	\$ -		\$ -
14.1	Eligible Capital Property (acq'd pre Jan 1, 2017)1	B8	\$ -			\$ -	\$ -	\$ -	7%	\$ -		\$ -
14.1	Eligible Capital Property (acq'd post Jan 1, 2017)1	B8	\$ -			\$ -	\$ -	\$ -	5%	\$ -		\$ -
3	Most buildings acquired before 1988 or 1990		\$ 1,908,662			\$ 1,908,662	\$ -	\$ 1,908,662	5%	\$ 95,433		\$ 1,813,229
50	Adjustment for CIS software		\$ -	6,700,000		\$ 6,700,000	\$ 3,350,000	\$ 3,350,000	39%	\$ 1,300,162		\$ 5,399,838
			\$ -			\$ -	\$ -	\$ -	0%	\$ -		\$ -
			\$ -			\$ -	\$ -	\$ -	0%	\$ -		\$ -
			\$ -			\$ -	\$ -	\$ -	0%	\$ -		\$ -
			\$ -			\$ -	\$ -	\$ -	0%	\$ -		\$ -
			\$ -			\$ -	\$ -	\$ -	0%	\$ -		\$ -
			\$ -			\$ -	\$ -	\$ -	0%	\$ -		\$ -
			\$ -			\$ -	\$ -	\$ -	0%	\$ -		\$ -
	TOTAL		\$ 198,829,266	\$ 25,595,755	\$ 25,000	\$ 224,400,021	\$ 12,785,378	\$ 211,614,644		\$ 16,437,884	T1	\$ 207,962,137

1. New CCA class 14.1 effective January 1, 2017. The class includes property that was eligible capital property immediately before January 1, 2017. For tax years that end prior to 2027, transitional rules apply to class 14.1 that were acquired before January 1, 2017.

Income Tax/PILs Workform for 2019 Filers

Schedule 13 Tax Reserves - Test Year

Continuity of Reserves

Description	Working Paper Reference	Bridge Year	Eliminate Amounts Not Relevant for Bridge Year	Adjusted Utility Balance	Test Year Adjustments		Balance for Test Year	Change During the Year	Disallowed Expenses
					Additions	Disposals			
Capital Gains Reserves ss.40(1)	B13	0		0			0	0	
Tax Reserves Not Deducted for accounting purposes									
Reserve for doubtful accounts ss. 20(1)(l)	B13	0		0	0	0	0	0	
Reserve for goods and services not delivered ss. 20(1)(m)	B13	0		0			0	0	
Reserve for unpaid amounts ss. 20(1)(n)	B13	0		0			0	0	
Debt & Share Issue Expenses ss. 20(1)(e)	B13	0		0			0	0	
Other tax reserves	B13	0		0			0	0	
		0		0			0	0	
		0		0			0	0	
Total		0	0	0	T1	0	0	T1	0
Financial Statement Reserves (not deductible for Tax Purposes)									
General Reserve for Inventory Obsolescence (non-specific)	B13	0		0			0	0	
General reserve for bad debts	B13	0		0			0	0	
Accrued Employee Future Benefits:	B13	0		0			0	0	
- Medical and Life Insurance	B13	0		0			0	0	
- Short & Long-term Disability	B13	0		0			0	0	
- Accumulated Sick Leave	B13	0		0			0	0	
- Termination Cost	B13	0		0			0	0	
- Other Post-Employment Benefits	B13	0		0			0	0	
Provision for Environmental Costs	B13	0		0			0	0	
Restructuring Costs	B13	0		0			0	0	
Accrued Contingent Litigation Costs	B13	0		0			0	0	
Accrued Self-Insurance Costs	B13	0		0			0	0	
Other Contingent Liabilities	B13	0		0			0	0	
Bonuses Accrued and Not Paid Within 180 Days of Year-End ss. 78(4)	B13	0		0			0	0	
Unpaid Amounts to Related Person and Not Paid Within 3 Taxation Years ss. 78(1)	B13	0		0			0	0	
Other	B13	0		0			0	0	
		0		0			0	0	
		0		0			0	0	
Total		0	0	0	T1	0	0	T1	0