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1 EXHIBIT 4 OPERATING COSTS

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OVERVIEW

- 2 The operating costs in this Exhibit represent the expenditures that are necessary for CND
- 3 to operate and maintain the distribution system safely and reliably, while achieving its
- 4 strategic imperatives:
- 5 1. People Develop and support our dedicated, talented team who embrace best
- 6 practices, innovate solutions, and net technologies to deliver present and future
- 7 energy needs to our communities;
- 8 2. Safety and Wellness Always pursue excellence in safety and wellness;
- 3. Customers Anticipate and exceed customer expectations regarding efficiency and
 reliable delivery of electricity;
- 4. Environmental Stewardship Respect the environment in everything we do;
- 12 5. Community Demonstrate our dedication to the well-being of our communities; and
- 13 6. Value Invest in quality energy infrastructure while delivering optimal financial
 returns for our shareholders.
- 15 CND believes that its strategic imperatives align to the achievement of the performance
- 16 outcomes of: (i) Customer Focus; (ii) Operational Effectiveness; (iii) Public Policy
- 17 Responsiveness; and (iv) Financial Performance, as outlined in the "Report of the Board,
- 18 Renewed Regulatory Framework for Electricity Distributors: A Performance Based
- 19 Approach" ("RRFE"), dated October 18, 2012.
- 20 CND is proposing recovery through distribution rates of the 2014 Test Year total operating
- 21 costs, excluding property taxes, totaling \$20,559,557 as summarized in Table 4-1, below.
- 22 Operating, Maintenance and Administration ("OM&A") costs for the proposed 2014 Test
- 23 Year are \$15,803,311.

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Table 4-1 Operating Expenses by Year

Operations, Maintenance & Administration Depreciation/Amortization Total Operating Expenses

2010 Board Approved	2010 Actual	2011 Actual	2012 Actual	2013 Bridge	2014 Test
10,032,108	9,580,557	10,762,423	13,676,310	14,871,398	15,803,311
6,384,985	6,701,370	6,147,959	4,774,056	3,998,623	4,756,246
16,417,093	16,281,927	16,910,382	18,450,366	18,870,021	20,559,557

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There has been considerable change in the electricity distribution sector since CND's last rebasing in 2010 including: (i) the implementation of Smart Meters; (ii) Time of Use pricing; (iii) mandated Conservation and Demand Management programs; (iv) requirements under the Green Energy Act Plan ("GEA") with respect to renewable generation; and (v) the implementation of revised depreciation and capitalization policies for regulatory accounting purposes. These government mandated requirements, which fall under "Public Policy Responsiveness" as part of the RRFE, have translated into incremental operations,

maintenance, and administrative ("OM&A") expenditures for CND since its last rebasing.

In addition to increased OM&A expenditures as a result of government mandated requirements, CND has experienced increased OM&A expenditures attributable to: (i) salaries and wages which have increased by approximately 3.0% per year; (ii) increase in the employee complement to support the government mandated requirements, succession planning, regulatory compliance, and capacity constraints in certain key departments; (iii) increased benefit costs for the current and planned employee complement, and in particular significant increases in OMERS pension costs; and (iv) increase in information system technology costs.

CND currently follows Canadian Generally Accepted Accounting Policies ("CGAAP") for accounting purposes and has deferred its implementation of International Financial Reporting Standards ("IFRS") until January 1, 2015. In accordance with the Board's letter of July 17, 2012, electricity distributors electing to remain on CGAAP must implement regulatory accounting changes for depreciation expense and capitalization policies by January 1, 2013. Effective January 1, 2012, CND revised its capitalization policies under CGAAP in accordance with the regulatory accounting changes.

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Operating, Maintenance and Administrative Expenses:

- 2 OM&A expenditures in the 2014 Test Year of \$15,803,311, represents an increase of
- 3 \$5,771,203 or 58% over the 2010 Board Approved OM&A expenditures of \$10,032,108.
- 4 OM&A expenditures in the 2014 Test Year represent an increase of \$2,127,001 or 15%
- 5 over the 2012 Actual OM&A expenditures of \$13,676,310.
- 6 The proposed OM&A expenditures for the 2014 Test Year have been derived through a
- 7 detailed budgeting and business planning process, which is aligned to CND's strategic plan
- 8 and incorporates an evaluation of enterprise risk. An overview of CND's budget and
- 9 business planning process is provided in Exhibit 1, Tab 4, and Schedule 1. CND has also
- 10 provided an overview of the significant components of CND's OM&A expenditures by
- 11 Department in Exhibit 4, Tab 1, and Schedule 2.
- 12 Table 4-2 provides a high level summary of the significant increases in OM&A expenditures
- 13 from the 2010 Actuals to the 2014 Test Year:
- 14 Detailed explanations of the material cost drivers are provided at Exhibit 4, Tab 2,
- 15 Schedule 1.

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Table 4-2 Summary of OM&A Increases – 2010 Actuals vs. 2014 Test Year

	\$MMs
Compensation	
Collective bargaining/Merit increases	0.8
Organizational capacity (New Hires)	1.1
Benefits (OMERS, Health Benefits, etc.)	0.7
	2.6
Changes in Accounting Estimates	1.3
Incremental TOU and Smart Meters	0.4
Regulatory Costs	0.3
Information System Technology	0.3
Effect of loss of Water Billing Contract	0.6
Building Maintenance/Incremental Space	0.2
Other/Inflation	0.5
	6.2

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Compensation:

- 2 Increased compensation accounts for approximately \$2.6MM of the increase in OM&A
- 3 since CND's last rebasing in 2010. Of the \$2.6MM, \$1.1MM relates to salaries and wages
- 4 for new hires, \$0.8MM in wage increases for unionized and management staff and \$0.7 MM
- 5 in increased benefit costs.
- 6 CND has been making considerable investment in people to address: (i) the significant
- 7 regulated changes that have occurred in the electricity industry; (ii) an ageing workforce,
- 8 particularly in the skilled trades area; and (iii) capacity constraints in certain key
- 9 departments, in particular, Engineering and Information Technology Systems, whereby
- 10 staffing levels are not sufficient to support the capital renewal program and overall growth in
- the operating and capital expenditure program, regulatory requirements, and the increasing
- 12 information technology demands.
- 13 CND has hired 15 new positions from 2010 to June 30, 2013. For the balance of 2013,
- 14 CND plans to hire an additional 7 new positions. In 2014, CND plans to hire an additional 5
- 15 new positions. These new positions have been added in various departments throughout
- 16 CND including: Customer Care, Communications, Information Technology Systems,
- 17 Engineering and Operations, and Energy Efficiency (CDM). It is important to note that not
- all of these additions translate to increased OM&A expenditures as costs of certain of these
- 19 positions are allocated to capital, billable projects, or CDM activities, which are funded by
- 20 the OPA.
- 21 Wage increases for merit, collective bargaining, and other wages have contributed
- 22 \$0.8MM in increased operating costs for CND since 2010. Union negotiated
- 23 settlements have resulted in a cumulative wage increase of approximately 12% over
- 24 the 2010-2013 period. Non-union increases have resulted in a cumulative wage
- increase of approximately 11.9% for the same period.
- 26 Employee benefits, comprising statutory employer benefit contributions, group
- 27 insurance benefits, OMERS pension, and post-employment benefits have increased
- 28 by approximately \$0.8MM since 2010. The increase in OMERS contributions
- represents approximately \$0.4MM of this increase.

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Changes in Accounting Estimates:

- 2 Approximately \$1.3MM of the \$6.2MM increase in OM&A from 2010 Actuals to 2014 Test
- 3 Year is directly attributable to the change in capitalization policies for regulatory accounting
- 4 purposes.

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5 Incremental TOU and Smart Meters:

- 6 The implementation of Smart Meters has resulted in specific incremental operating costs of
- 7 \$0.4MM, which were approved as part of the Board's Decision on CND's Smart Meter
- 8 Application. These are the required on-going costs now to be included within OM&A and
- 9 therefore included for recovery in the distribution rates.

10 Regulatory Costs:

- 11 Regulatory costs include on-going expenses incurred in connection with Decisions and
- 12 Orders on Cost Awards for hearings, proceedings, technical sessions, and other matters
- 13 before the Board. Annual assessment fees paid to the Board are the largest costs included
- 14 in this category.

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15 Information Systems Technology:

16 The costs associated with supporting and maintaining technology investments is a 17 significant driver in CND's OM&A expenses. Since 2010, CND has made significant 18 investments in information system technologies and applications, with limited investment in 19 new staff in the area of IT. Many of these investments have been made in order for CND to 20 comply with a multitude of regulatory requirements initiated by governing bodies including: (i) the implementation of Smart Meters and Time of Use Rates has resulted in requirements 22 to manage hourly smart metering data, management of the Smart Meter communications 23 infrastructure ("AMI") and the mandated use of the provincial 24 Management/Repository ("MDM/R"); (ii) the implementation of a new CIS solution in 2011, 25 including enhancements required to comply with changes to the Distribution System Code 26 with respect to the standardization of customer service practices, including disconnection 27 processes and notices; and the Arrears Management Program; and (iii) implementation of a 28 new Enterprise Resource Planning ("ERP") solution to support the implementation of

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1 changes to the capitalization policies, and ultimately the implementation of International

2 Financial Reporting Standards ("IFRS"), as well as to derive future operational efficiencies

3 in the processing of financial transactions, as well as enhanced financial reporting and

4 analysis.

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Loss of Water Billing Contract:

6 As documented in CND's 2010 Cost of Service Application (EB-2009-0260), in the latter

part of 2010, the water and sewer billing services contract between CND and the City of

8 Cambridge and Regional Municipality of Waterloo was terminated. The loss of this contract

resulted in \$603,000 of operating costs related to billing and collecting that were no longer

10 allocated and offset with other revenue, which prior to the termination of the agreement

assisted in reducing the overall operating costs of servicing CND's electricity customers.

12 CND's billing and collecting costs did not decline after the termination of this agreement as

the costs related to billing, such as meter reading, paper, postage, printing, mailing, etc.

were the same as the water and sewer billings were combined on the same invoice as the

15 electricity billings.

Building Maintenance/Incremental Space:

17 Due to insufficient space at CND's head office facilities, and pending the results of a

18 facilities requirements study, CND entered into a 4 year lease agreement for additional

19 space. The additional space has resulted in leasing costs, as well as incremental building

maintenance costs. Maintenance and repair costs at CND's head office facilities have also

21 increased due to the age of the building.

Inflation:

23 Inflationary impacts, although present, are implicit and not explicit in nature, with the

exception of wage increases. Although inflation is a cost driver it is not explained

25 separately.

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Depreciation/Amortization:

- 2 Depreciation/amortization expense in the 2014 Test Year of \$4,756,246 represents a
- 3 decrease of \$1,628,739, or 26%, over the 2010 Board Approved depreciation/amortization
- 4 expense of \$6,384,985.

- 5 As noted previously, CND revised its capitalization policies under CGAAP in accordance
- 6 with the regulatory accounting changes, effective January 1, 2012. The implementation of
- 7 revised estimated service lives has resulted in an overall decrease in depreciation expense.
- 8 In 2012, the impact of this change was a reduction in depreciation expense of \$1,928,200.
- 9 For 2013, the estimated impact was a reduction in depreciation expense of \$3,180,066, as
- 10 outlined in Exhibit 9, Tables 9-9 and 9-10.
- 11 Full detail on the change in service lives, and amortization by property, plant, and
- 12 equipment component is presented in the section entitled: "Depreciation, Amortization, and
- Depletion" at Exhibit 4, Tab 7, Schedule 1.

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DEPARTMENTAL OVERVIEWS

2 OPERATIONS & MAINTENANCE

- 3 The Operations department at CND consists of operations, purchasing, stores, and fleet
- 4 management. The Operations department currently has thirty-four staff consisting of a Vice
- 5 President, Operations, four Supervisors (Overhead Construction and Maintenance,
- 6 Underground Construction and Maintenance, Construction Projects, Purchasing and
- 7 Stores), and twenty-nine front line staff. In 2013 and 2014, CND plans to hire a total of
- 8 5 additional trade apprentices to replace expected retirements over the next three to
- 9 five years.

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10 **Operations:**

- 11 Operations is responsible for the operations and maintenance of the electricity distribution
- 12 system, including: (i) organizing, scheduling, and construction of capital projects; (ii) the
- 13 maintenance, repairs and servicing of existing overhead and underground services;
- 14 (iii) contractor management; (iv) tree trimming; and (v) locates.
- 15 The construction and maintenance area consists of seventeen journeyperson Powerline
- 16 Technicians, three Apprentice Powerline Technicians, and two Truck Drivers who drive and
- 17 operate the Digger Trucks. There is also one full time underground cable locator. The
- 18 Operations department has an Operations Secretary and an Operations Clerk who provide
- 19 administrative support to the department.

20 **Purchasing:**

- 21 Purchasing is responsible for the procurement of all goods and services for CND in
- 22 accordance with an approved Purchasing and Contracts Policy, including relationships with
- 23 suppliers, co-ordination of quotations and tendering processes, and the negotiating of
- 24 agreements. There is one full-time Supervisor and one part-time clerk in the Purchasing
- 25 area.

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1 Stores:

- 2 Stores are responsible for the receiving of inventory, issuing of materials, and inventory
- 3 returns, as well as the monitoring and control of inventory, including cycle counts and
- 4 security. The Stores area has two full-time Storekeepers.

5 Fleet Management:

- 6 Fleet is responsible for the maintenance and control of approximately 37 vehicles, including
- 7 bucket trucks [6], radial boom devices [3], cars, vans, and pick-up trucks [28]. Fleet also
- 8 manages approximately 18 major pieces of equipment such as forklifts, pulling machines,
- 9 tension machines, and trailers for poles and material.
- 10 The majority of the fleet maintenance is performed internally by CND by one full-time
- 11 mechanic. Regular service and maintenance work is completed on a three month
- 12 schedule. Other repairs due to breakdowns are addressed as they occur in the field.
- 13 Commercial vehicle inspections are completed on a yearly basis on trucks and trailers as
- 14 prescribed by the Ministry of Transportation. As the CND garage does not have an
- 15 overhead crane, heavy work around booms and cylinders is outsourced to third parties.
- 16 CND's vehicle replacement program provides for the replacement of small vehicles on an
- 17 eight to ten year timeframe, the replacement of large trucks on a fifteen to twenty year
- 18 timeframe, and the replacement of equipment and trailers on a twenty to twenty five year
- 19 timeframe. CND's objective is to maximize the life of its vehicles and equipment through its
- 20 routine maintenance programs, while at the same time ensuring that the level of capital
- 21 expenditure on an annual basis is fairly constant. Operational and mechanical
- 22 assessments are completed each year to determine the present condition of each vehicle
- 23 as it comes due for replacement. The following items are reviewed:
- 24 Safety aspects of the vehicle;
- 25 Operational and body condition;
- 26 Age of the vehicle;
- 27 Kilometres and hours on the vehicle;
- 28 Past major mechanical problems; and
- 29 Potential major mechanical problems.

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1 Vehicle costs are allocated to operations, maintenance, capital, and third party receivable

2 accounts based on the number of hours employed in these activities. A standard hourly

3 cost is set for all vehicles within the fleet.

4 Operations and Maintenance expenditures (OEB Accounts 5000-5095 and 5105-5195)

5 represent approximately 34% of CND's annual operating costs, based upon the 2014

6 test year. CND's maintenance strategy is, to the extent possible, to minimize reactive and

emergency-type work through an effective planned maintenance program (including

8 predictive and preventative actions). CND's system reliability is monitored continually to

9 ensure that its maintenance strategy is effective in reducing the duration and frequency of

outages affecting customers. CND's maintenance program is also coordinated with the

development and updating of the Distribution System Capital Plan to ensure that where

issues or risks have been identified through the maintenance programs, these priorities are

13 considered as part of the overall capital expenditure program.

14 CND's service territory of 306 square kilometers encompasses the City of Cambridge and

15 the Township of North Dumfries. CND's supply area is served by an urban distribution

system servicing the City of Cambridge and a rural distribution system serving the

17 Township of North Dumfries. Costs to service both a rural distribution system and urban

distribution system are typically higher than an urban distribution system. Customer density

is typically very low in a rural area resulting in higher operating and capital costs on a per

20 customer basis.

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21 Maintenance activities include those predictive and preventative maintenance

22 programs which proactively determine where issues or risks exist on the distribution

23 system, or where the probabilities are increasing for new issues or risks on the

system. CND continuously reviews and evaluates its maintenance information from

25 visual inspections in order to adjust predictive and preventative actions.

26 Repair activities consist of both planned and unplanned activities. Planned repairs

27 represent work that is scheduled, and where possible, are completed without

28 interruptions to customers. Customer interruptions may be required for immediate

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- 1 emergency repairs, such as distribution system outages or failures due to storms, tree
- 2 damages, or equipment failures.
- 3 Maintenance activities also include tree trimming, which is on a 4 year cycle, with one
- 4 quarter of the City of Cambridge and the Township of North Dumfries service areas
- 5 trimmed each year.
- 6 CND engages in the following types of maintenance programs, some of which are
- 7 prescribed by the Distribution System Code (DSC):

8 Predictive Maintenance:

- 9 Predictive maintenance generally consists of inspection and testing. Inspection involves a
- 10 visual inspection and review of the distribution system to assess the condition of the
- 11 distribution system assets and equipment. Inspections are conducted on one third of the
- 12 distribution system each year in accordance with the Minimum Inspection Requirements
- outlined in Appendix 'C' of the OEB's Distribution System Code ("DSC"). Testing of the
- 14 distribution assets typically involves the measurement of some aspect of the distribution
- 15 asset's condition (e.g. the measurement of electrical current and voltage on a system
- 16 asset).

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Overhead Distribution Assets:

Inspections: Asset condition is determined using visual inspection. CND's entire service area is inspected on a three year cycle.

Poles: Annual visual inspections of CND owned poles are conducted internally,

allowing each pole to be visited on a 3 year cycle and satisfying the inspection

22 requirements of the DSC. The condition-based assessment allows CND to monitor

and identify defects concerning the integrity of the pole or other issues concerning

the condition of the pole, supports and attachments including conductor, cross arms,

guys and guy guards, and underground cable dips.

Conductors: During the annual visual inspections, the conductors are also noted

27 for obvious evidence of deterioration.

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Overhead Distribution Transformers, Switches, Protective Devices and Vegetation Growth: Inspection of pole-mounted transformers, switches and vegetation growth are also a component of the visual patrol of the overhead distribution system and are therefore inspected on a 3 year cycle.

Thermographic Infrared Inspection: System wide regular Infrared (IR) thermography of overhead plant was performed in 2012. Thermography has become a more regular maintenance program for utilities as it can identify system asset heating problems which cannot be found during a visual inspection. The program concentrated on the older lines in the north part of the service area and included feeders supplying large customer loads.

Transformer Oil Testing for PCB Contamination: CND has previously tested the majority of its distribution transformers, particularly those with a higher probability of being contaminated with PCB's, and removed all transformers testing positively from service. CND will test 356 distribution transformers and 8 primary metering units in 2013. This is the number of transformers that have not been tested before but could have some level of contamination. The test program will be completed in 2013 and any PCB contaminated transformers will be replaced.

Pole Testing: CND reinstituted a pole testing program in 2012 in addition to the current visual inspection program. Poles which are twenty-five years old or more are tested and identified for years of remaining life, and for replacement in the capital program.

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Underground Assets:

 Underground Inspection: Similar to the general overhead process of inspection and condition assessment, the underground distribution system is also inspected on a 3 year cyclical basis to assess the condition of underground assets including padmount transformers, submersible transformers, underground switches, transformer vaults and civil structures. Clearly, the buried assets cannot be totally inspected visually like the overhead assets, however care is taken to inspect all assets that can be seen and assess their condition.

Underground Distribution Transformers: Inspections on padmount and submersible transformers occur within the visual patrol of the underground distribution system and are therefore inspected on a 3 year cycle, whereby approximately one-third of the transformers within CND's distribution system are inspected on an annual basis.

Underground System Switchgear: Inspections of pad-mounted switches (PMH) and transformer room mounted switches occur within the visual patrol of the underground distribution system and are therefore inspected on a 3 year cycle, whereby approximately one-third of the switches within CND's distribution system are inspected on an annual basis.

Thermographic Infrared Inspection of Underground Assets: System wide regular infrared (IR) thermography of underground plan was performed in 2012. It concentrated on the older part of the underground system in the Galt area of the City of Cambridge.

Preventative Maintenance:

Preventative maintenance consists of activities that are undertaken proactively to extend the trouble free operation of an asset and ensures the continued reliable operation of an asset. Preventative maintenance is performed on a cyclical basis and usually coincides with the inspection cycle.

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Overhead Assets:

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Insulator Washing: Insulator washing has been done every three or four years as required and only in the heaviest contaminated areas, namely adjacent to Highway 401. Insulator contamination occurs from windblown water spray from traffic which is contaminated with road salt.

Vegetation Management: Vegetation management, or tree trimming, is a preventative maintenance program scheduled on a 4 year cycle, where one of each of four zones of the distribution system is completed each year. Additionally, some reactive maintenance is performed in response to requests from the public to trim or remove trees in proximity to power lines.

Underground Assets:

PMH Switchgear Cleaning: CND uses current technology such as dry ice cleaning of the PMH switches. This cleaning process sprays dry ice particles at high pressure on the energized interior switch components. This allows the switch cleaning to be completed without the additional cost of isolating the switch from the electrical distribution system.

Inspection and Condition Assessment of Transformer Stations:

- 18 CND owns one 230kV to 27.6kV transformer station. Regular monthly inspections are
- 19 carried out on the transformer station yard and equipment. In addition, regular planned
- 20 maintenance is carried out by a specialized contractor on a two year cycle.

Service Work:

- 22 The majority of costs related to this work pertain to service upgrades requested by
- 23 customers. This includes service disconnections and reconnections by CND for all service
- 24 classes; assisting pre-approved contractors; the making of final connections after Electrical
- 25 Safety Authority (ESA) inspection for service upgrades; and changes of service locations.

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ENGINEERING

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The Engineering department at CND consists of engineering services, network control operations, and transformer station services. The Engineering department currently has 17 staff, consisting of the Vice President, Engineering, two Supervisors, a Distribution and Renewables Engineer, three System Control Operators, three Mapping and Surveying Technicians, two Design Technicians, one Inspector, one Legal Coordinator, one Service Coordinator, and two Station Maintenance Technicians. In 2013, CND plans to hire

9 elaborated in Exhibit 4, Tab 2, Schedule 2. As at June 30, 2013, 3 of these positions have

6 additional staff in engineering services and network control operations, which is further

10 been filled.

11 Engineering Services:

12 Engineering services is responsible for the safe and efficient design of the electricity 13 distribution system, ensuring long term plans and expenditures are appropriate to 14 accommodate future customer growth and infrastructure renewal to maintain safe and 15 reliable service levels. Engineering services include: (i) asset management, including the 16 planning and design of overhead, underground, and street lighting distribution projects; 17 (ii) development of engineering standards that are utilized within the electricity distribution 18 system in accordance with Electrical Safety Authority ("ESA") standards and regulations; 19 (iii) drafting and surveying services using Computer Aided Design ("CAD"); 20 (iv) maintenance of asset records and enhancements to the Geographical Information 21 System ("GIS"); (v) inspections of the electricity distribution system to ensure compliance 22 with the distribution system code; vi) co-ordination and administration of the OPA's Feed-in-23 Tariff (FIT), microFIT programs, and CND's responsibilities under the Ministry of Energy's 24 Green Energy and Green Economy Act (GEGEA); and (vii) liaison with customers, the 25 Region of Waterloo and other municipalities, Ministry of Transportation, other utilities, as 26 well as participation and representation on several committees including Utility Coordinating 27 Committee, Site Plan Committees, and Subdivision Coordinating Committee.

28 CND uses Autodesk Map3D (formerly Topobase) as its GIS system. The GIS is used for

29 asset management activities, troubleshooting system problems in the control room,

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1 identification of how many and which customers have been impacted by an outage, 2 delivering underground utility locating services for excavating contractors, and for design 3 and construction activities including new capital projects and customer connections. The 4 GIS is a critical system in that it contains customer information (i.e. name, address, phone 5 number, estimated peak demand, meter number), pole information (i.e. installation date, 6 type, height, class, testing results), wire and cable information (i.e. size, type, installation 7 date), transformer information (i.e. kVA, voltages, installation date, manufacturer, weight, 8 impedance, estimated peak demand) and switch installation (i.e. type). The information is 9 geographically located with electrical connectivity. Engineering prepares standards and 10 establishes processes to ensure compliance with Ontario Regulation 22/04. Ontario 11 Regulation 22/04 is a performance based standard covering the safety requirements for the 12 design, construction and maintenance of electrical distribution systems in Ontario. CND is 13 audited each year to Regulation 22/04 with a report sent to the Electrical Safety Authority. 14 The most recent audit conducted in the spring of 2013 found "no areas of non-compliance 15 or needs improvements".

Network Control Operations:

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Network control operations are responsible for the 24-hour monitoring and operation of the electricity distribution system through CND's control room. The control room at 1500 Bishop Street in Cambridge is currently staffed with three journeyman System Control Operators ("SCO") only on weekdays, during extended business hours. An answering service company is contracted to contact an "on call" lineperson and/or an "on call" System Control Operator (SCO) in the event of service problems after normal business hours. The control room is linked to the distribution system by a data communication network and information is processed by a Supervisory Control and Data Acquisition ("SCADA") system. Real-time breaker status, switch position, and voltage and current readings from the Hydro One transformer stations and CND's MTS#1 transformer station and SCADA switches are sent to the control room and displayed on the SCADA system. The control room operators continuously monitor the system and dispatch repair crews to manage equipment failures and provide work protection for the crews doing work on the system. The SCADA system will also notify the cell phone of the "on call" SCO by a wireless message when it has an

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- after-hours service problem. The "on call" SCO will go to the control room to address the 1
- 2 matter along with the appropriate line trouble response staff.
- 3 CND plans to implement the operation of a 24 hour/7 days a week ("24/7") control room in
- 4 2014 to improve response time to customers, improve the monitoring of the transformer
- 5 station, and to address on-going staffing issues, including succession planning.

Transformer Station Services: 6

7 CND owns one Transformer Station. Transformer Station services, consisting of two full-8 time Station Maintenance Technicians with support from external contractors as required, is 9 responsible for the maintenance of all transformer station equipment, as described in the 10 Distribution System Capital Plan in Exhibit 2, Tab 2, Schedule 1, Appendix 2-8. CND's 11 transformer station maintenance strategy focuses on minimizing, to the extent possible, 12 emergency-type work by improving the effectiveness of the planned maintenance program 13 (including predictive and preventative actions) for its transformer station. Regular monthly 14 inspections are carried out on the transformer station yard and equipment and major 15 planned maintenance is carried out every two years by a specialized contractor. The major 16 maintenance includes electrical tests on the power transformers, oil tests on the power 17 transformers, electrical tests on the 27.6kV circuit breakers, and protection relay testing. 18 CND's Station Maintenance Technicians also support, in conjunction with Operations and 19 the Control Room, CND's SCADA switch maintenance and installations, transformer testing 20 and maintenance, recloser maintenance and installations, capacitor bank maintenance and installations, and voltage regulator maintenance and installations.

CUSTOMER CARE

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- 23 The Customer Care Department is responsible for the customer care activities for
- 24 approximately 52,000 customers in CND's service territory. Customer Care activities
- 25 include the Call Centre activities, reception, cash receipts, collections, and field
- 26 representative activities including collections, meter reads, disconnects and reconnects.
- 27 The Customer Care department currently has 18 staff consisting of the Vice President,
- Customer Care and Communications, Supervisor, Customer Care, a Manager, 28

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- 1 Communications, Receptionist, Cashier, 2 Field Service Representatives, a Senior
- 2 Customer Care Representative, 8 Customer Care Representatives and 2 Customer Care
- 3 Clerks. The Customer Care Department is currently managed with a single Supervisor
- 4 overseeing 14-16 Staff (Cashier, Reception, Collections, Customer Care Clerks, Customer
- 5 Care Representatives, Senior Customer Care Representative, Field Representatives,
- 6 Contract Meter Read Staff and Summer Students. In 2013, CND plans to hire a full-time
- 7 Credit and Collections Supervisor.

8 Call Centre:

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responding to customer needs on the phone, in person, or through electronic communications. Key activities include the timely and accurate processing of customer moves, communication with customers requiring payment arrangements, identifying eligibility for special terms and arrangements based on residential or income status, co-ordination and execution of disconnects and reconnects, timely and accurate payment processing and collection of accounts in accordance with Distribution System Code and

The Customer Care call centre is responsible to deliver customer service excellence by

- 16 related procedures, effectively manage telephone and field response to customers ensuring
- 17 Service Quality Requirements are achieved, timely and accurate collection of final reads via
- 18 electronic processing and commercial demand reads and/or re-reads. In 2012, the Call
- 19 Centre handled 49,956 calls.

Reception and Cashier:

- 21 Reception takes incoming calls and redirects across the organization. Currently, CND
- 22 accepts customer payments at the front counter of its corporate office. In 2012, 10% of
- 23 customer payments, via cash, cheque or debit, were accepted and processed by the
- 24 Cashier.

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Field Representatives:

- 26 With the adoption of smart meters and time of use billing, the Field Representatives are
- 27 now responsible to obtain final reads and re-reads using the available automation for
- 28 residential and small commercial accounts. Field representatives also perform connects

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- 1 and disconnects for non-payment or final move disconnects, as well as the hand delivery of
- 2 collection door hangars and collection of arrears payments in lieu of disconnects. Contract
- 3 meter readers are utilized one week per month to read and reset commercial demand
- 4 meters for the commercial customers with demand >50kW and < 200kW (approximately
- 5 600 accounts).

Collections:

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7 Collections encompass a combination of activities, including the collecting of overdue active

accounts, final accounts, previously written off accounts and security deposits. CND

enforces a prudent credit policy in accordance with the Distribution System Code and

employs all allowable collection activities in order to minimize its credit risk. Active overdue

accounts are collected by in-house staff through reminder notices, hand delivered or

registered mail notices, and multiple direct telephone contact. In addition, a final attempt is

13 made to contact and talk with the customer by the Field Representative prior to

14 disconnecting the service for non-payment. Final bill collections are turned over to a

15 collection agency 45 days after the final due date.

In alignment with our corporate Mission, the Customer Care team are dedicated to providing ideas, solutions and value-added services that benefit our customers, stakeholders, and communities. In 2013 and continuing in 2014, CND's Customer Care strategy is to focus on implementing automated tools for our customers including: (i) new paperless billing solution Bill Connect; (ii) implement an automated process to deliver telephone messages to customers for planned outages, to replace paper notices; (iii) implement Social Media solutions as a new tool to respond to customer enquiries in a medium acceptable to the customer; (iv) full mobile application for the corporate website including all customer forms; (v) introduction of alternate payment options that are more efficient than processing cash, debit and cheques; and (vi) participate in the evaluation and implementation of an Outage Management System with Interactive Voice Response ("IVR") capabilities for customer communication and notifications. The implementation of these initiatives will align with CND's customer needs, as evidenced by the results of the customer surveys, as described in Exhibit 1, Tab 5, Schedule 1, Appendix 1-1A and 1-1B.

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1 CND anticipates that these initiatives will result in a change in how our customers interact

2 with us, resulting in a reduction in telephone calls, an increase in on-line requests, as well

3 as an increase in the number of electronic payments.

4 COMMUNICATIONS

5 Communications is responsible for the communications strategy, and the design and

6 delivery of all communications for our customers, employees, the media, and other key

7 stakeholders in alignment with our Core Values and to support the Corporate Strategic

8 Imperatives on behalf of CND. The Vice President, Customer Care directs and manages

9 corporate communications, with support from a full-time Manager, Communications hired in

10 2013.

11 Communications is also responsible for all updates, changes, additions and deletions to the

12 CND website, as well as the preparation and update of external LED sign messages,

13 overseeing the development and execution of customer satisfaction surveys, and research

14 new communication channels, including social media, to meet the information requirements

15 of CND's customers.

16 Communications also supports community initiatives that promote customer and public

awareness of safety and conservation, including the preparation of media releases and

18 information updates for significant company events and/or emergency conditions relating to

19 power outages.

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ENERGY MEASUREMENT AND CONSERVATION

21 Energy Measurement and Conservation consists of Billing and Settlement, Metering and

22 Energy Efficiency. The Energy Measurement and Conservation Department currently has

23 17 full-time staff consisting of the Vice President, Energy Measurement and Conservation,

24 3 Supervisors, and 14 staff, as well as one part-time position (shared position with

25 Operations and Health and Safety).

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Billing and Settlement:

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- 2 Billing and Settlement is responsible for the handling and processing of all energy data
- 3 including the generation of 320,000 customer bills annually, and the settlement of energy
- 4 purchases and sales with the IESO. On average this total includes 7,300 final bills for
- 5 customers moving within or outside of CND's service territory. An annual billing schedule is
- 6 created based on the meter reading schedule to ensure timely billing of services. The
- 7 billing functions also include the Electronic Business Transactions ("EBT") and retailer
- 8 settlement functions for approximately 4,000 retailer accounts; account adjustments; and
- 9 mailing services. CND offers customers a number of billing and payment options including
- an equal payment plan, and a preauthorized payment plan.
- 11 The Billing and Settlement Department consists of a Supervisor, a Settlement Analyst, a
- 12 Senior Billing Representative, four Billing Representatives, and a contract Sync Operator.
- 13 In 2014, CND plans to hire a full-time Sync Operator to replace the contract position.
- 14 The Customer Information System ("CIS") utilized for billing purposes is Northstar, provided
- 15 by Harris, and was implemented in 2011. Synchronization with the CIS and Operational
- 16 Data Store ("ODS") systems is critical to maintain data consistency between the systems
- 17 and the Meter Data Management/Repository ("MDM/R"). Sync files are generated and
- 18 submitted to the MDM/R on a daily basis. Reports related to the sync files are monitored
- 19 regularly and all exceptions are corrected.
- 20 The raw consumption and operational data provided by the Smart Meters needs to be
- 21 validated prior to customer's being billed. Validation, Editing and Estimation (VEE) is done
- 22 in parallel through the ODS to ensure data consistency with the MDM/R. On a daily basis
- 23 CND, through its sync operator, resolves billing exceptions that are identified through the
- 24 exception reports provided by the MDM/R. The validated data from the ODS is used to
- 25 correct the data at the MDM/R.

Metering:

- 27 Metering is responsible for the purchasing, installation, testing and commissioning of all
- 28 new simple and complex metering installations. Metering is also responsible for the

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- 1 planning, maintenance and operation of the wireless networks now utilized with CND's
- 2 smart meters and wireless commercial meters. This is a significant new responsibility that
- 3 has added not only additional work and accountability, but requires very specific handling of
- 4 meter changes such that dates and times are accurately tracked through electronic work
- 5 order management systems so that time-based interval meter readings are not lost.
- 6 Metering also liaises with CND's Meter Service Provider (MSP) on issues related to its
- 7 Wholesale Meter Points.
- 8 The Meter Department consists of a Supervisor, a Metering Sub-Foreperson, two Meter
- 9 Maintenance Technicians, one Apprentice Meter Maintenance Technician and a part-time
- 10 Meter Clerk (shared with the Operations and Safety Departments).
- 11 In 2013, CND hired a full-time Apprentice Meter Maintenance Technician to address the
- 12 increasing complexity and volume of work associated with electronic systems, smart
- meters, and wireless communications networks, as well as to address potential near-term
- 14 retirements within the department. The current Supervisor and Sub-Foreperson in the
- 15 Meter Department will be eligible for retirement within the next five years. A Meter
- 16 Maintenance Technician Apprentice timeframe is five years. This position replaced a part-
- 17 time Meter Maintenance Helper, which was a shared position between Stores and
- 18 Metering.

19 Energy Efficiency:

- 20 Energy Efficiency is responsible for the delivery of Conservation and Demand Management
- 21 (CDM) programs and activities with the goal of achieving or exceeding the Board's CDM
- 22 targets attached to CND as a condition of license.
- 23 The Energy Efficiency Department consists of a Supervisor, two Energy Efficiency
- 24 Advisors, and an Energy Efficiency Clerk. These positions are included as part of CND's
- 25 full-time employee positions, however, the wages and benefits are excluded from
- 26 distribution expenses as they are funded through the Ontario Power Authority's Program
- 27 Administration Budget for CDM programs.

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HUMAN RESOURCES/ HEALTH AND SAFETY

- 2 Human Resources, including Health and Safety, is responsible for compensation,
- 3 performance management, employee benefits, recruitment/talent acquisition, employee and
- 4 labour relations, employee retention, employee engagement, change management, training
- 5 and development, succession planning, health, wellness, and safety programs, legislative
- 6 compliance, and privacy.

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- 7 Health and safety is responsible for the administration of all safety and training programs
- 8 with CND including: apprenticeship training, proficiency training, and meeting regulated
- 9 Utility Work Protection standards. In addition, Health and Safety also arranges public
- 10 safety initiatives including: school programs on electrical safety and workplace co-op
- 11 opportunities, contractor training, and electrical safety awareness engagements with local
- 12 and regional fire and police departments.
- 13 Human Resources consists of one full time employee, the Vice-President of Human
- 14 Resources, Safety, Training and Privacy, and one shared Executive Assistant, who
- 15 provides administrative support to Human Resources, in addition to supporting the
- 16 President & CEO and Leadership Team.
- 17 In 2014, CND has plans to hire 1 additional resource, a Human Resource Generalist, to
- 18 support the Human Resources Department.
- 19 Health and Safety consists of a contract Safety Supervisor (approximately 156 days per
- 20 year) and a part-time Safety Coordinator (approximately 15 hours per week).
- 21 In 2013 and 2014, as part of the Strategic Plan, CND will continue to focus on Safety and
- 22 Wellness with continued participation in the CSA Z1000-06 program, the introduction of
- 23 new Wellness Programs, and training and development for our employees.

INFORMATION TECHNOLOGY SERVICES

- 25 The Information Technology Services ("ITS") department is responsible for providing
- 26 enterprise and departmental systems, solutions, and services to support the operational
- 27 and strategic requirements of CND. In addition, ITS is also responsible for the development

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- 1 and implementation of information technology policies, procedures, and processes to
- 2 ensure appropriate control and protection of CND's IT assets, data, and associated risks.
- 3 Currently, the ITS department consists of five full-time staff, including the Vice President,
- 4 Information Technology Services, one Supervisor, two System Administrators, and one
- 5 Support Desk Analyst. Currently, ITS has one contract Business Systems Analyst (BSA),
- 6 which CND plans to add as a full-time position in 2014. The ITS staff, with the exception of
- 7 the BSA position, supports a mix of virtual (65) and physical servers (6) and approximately
- 8 125 workstations including desktops, laptops and mobile tablets, as well as other cellular
- 9 and mobile devices. ITS staff also supports various enterprise applications including: (i)
- 10 computing operating systems (Microsoft Windows XP, Microsoft Windows 7, Microsoft
- 11 Windows Server, VMWare, and Linux); (ii) CIS and related software including: Harris
- 12 Utilities NorthStar, Home Connect, Customer Connect, Bill Connect, and mCare software;
- 13 (iii) ERP software solution including Microsoft Dynamics Great Plains, Wennsoft, and
- 14 Paramount WorkPlace; and (iv) various other software (AutoCAD's Map3D; FileNexus;
- 15 Microsoft's Office Suite (version 2010), etc.).

16 FINANCE AND REGULATORY AFFAIRS

- 17 The Finance department consists of Accounting and Regulatory Affairs. The Finance
- department currently has 7 full-time staff, consisting of the Chief Financial Officer, Manager,
- 19 Accounting, Manager, Regulatory Affairs, 2 intermediate accountants, a payroll
- 20 administrator, and accounts payable clerk. Regulatory Affairs is also supported by a
- 21 contract Rates Analyst position. In 2014, CND plans to hire one additional position in
- 22 Accounting to support fixed asset accounting and capital project reporting and analysis.
- 23 Accounting is responsible for: the preparation of statutory, management, and Board of
- 24 Directors financial reporting in accordance with Canadian GAAP; all daily accounting
- 25 functions, including accounts payable, accounts receivable, and general accounting;
- 26 treasury functions including borrowing and cash management; risk management;
- 27 accounting systems and internal control processes; preparation of budgets and forecasts;
- and supporting tax compliance.

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- 1 Regulatory Affairs is responsible for all regulatory reporting and compliance with applicable
- 2 codes and legislation governing electrical utilities. Regulatory reporting includes the
- 3 development and preparation of rate filings, performance reporting, and compliance. In
- 4 addition, the Regulatory Affairs department participates in industry associations, and has an
- 5 active role in reviewing and responding to evolving policy by liaising with the Board and
- 6 other government bodies as required.

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SUMMARY AND COST DRIVER TABLES

- 2 The following is a description of the primary drivers that have influenced the increase in
- 3 CND's OM&A expenditures since 2010, the date of CND's last cost of service application,
- 4 up to and including the 2014 Test Year. Each cost driver is summarized by its net change
- 5 year-over-year.

- 6 Table 4-3 provides a list of the cost drivers that affected OM&A year over year based on the
- 7 materiality threshold or where the cost driver is a common or recurring expenditure that has
- 8 impacted multiple years. Table 4-3 includes the 2010 Last Rebasing Year Actual, 2011
- 9 Actual, 2012 Actual, 2013 Bridge Year, and the 2014 Test Year.
- 10 Included in Appendix 4-4 is a summary of the OM&A Cost per Customer and OM&A Cost
- 11 per Full-Time Equivalent ("FTE"). Customer numbers for the historical years are consistent
- 12 with the OEB Annual Yearbook for 2009 through 2012 in which the OM&A per customer is
- 13 calculated for CND based on the customer numbers at the end of each year. The 2013
- 14 and 2014 forecasts are based on the forecasted customer numbers at the end of those
- 15 years. The definition of an FTE is as described in Exhibit 4, Tab 4, Schedule 2.
- 16 Please also refer to Appendix 4-5 (Appendix 2-DB) Overhead Expenses which explains
- 17 changes to OM&A as a result of changes in accounting policies.

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Table 4-3 Recoverable OM&A Cost Driver Table

Appendix 2-JB Recoverable OM&A Cost Driver Table

OM&A	Last Rebasing Year (2010 Actuals	2011 Actuals	2012 Actuals	2013 Bridge Year	2014 Test Year
Reporting Basis	CGAAP	CGAAP	CGAAP	CGAAP	CGAAP
Opening Balance	\$ 9,911,562	\$ 9,580,557	\$ 10,762,423	\$ 13,676,310	\$ 14,871,399
Merit/Collective Bargaining/Other Annual Increases	167,712	186,247	196,446	223,676	198,775
Organizational Capacity	8,906	64,754	52,459	570,447	435,942
OMERS Pension Costs (OM&A Portion)	27,240	101,907	109,292	122,723	47,740
Employee Benefit Costs (OM&A Portion)	54,551	1,864	21,686	236,258	44,558
Change in allocation of labour to Operations/Maintenance				(100,000)	148,000
Effect of Loss on write-off of SAP CIS in 2009	(934,444				
Effect of Loss of Water Billing Contract (2011)		603,131			
Effect of Smart Meter Decision			1,325,414	(1,325,414)	
Changes in Accounting Estimates - Capitalization Policies			761,382	343,723	243,558
Incremental TOU and Smart Meter Costs			360,291	28,983	10,671
IT Costs - Maintenance, Licenses, and Communication				237,952	
IT Costs - Professional Services				154,000	(61,480)
Cost of Service Application Costs/Regulatory Costs	207,000			287,000	46,000
LEAP Program		29,630	53	261	56
Bad Debt Expenditures/(Recoveries)	(143,631	29,734	93,245	7,439	(37,600)
Space Optimization Study				200,000	(200,000)
Buildings (Rental and Maintenance)		70,389		139,260	44,851
Insurance Premiums/(Rebates)			(37,184)	73,671	7,799
Transformer Station Equipment Painting				90,000	(90,000)
Professional services fees	126,306				
Inflation/Other	155,355	94,211	30,804	(94,892)	93,041
Change Year over Year	(331,005	1,181,866	2,913,887	1,195,089	931,912
Closing Balance	\$ 9,580,557	\$ 10,762,423	\$ 13,676,310	\$ 14,871,399	\$ 15,803,311

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Merit/Collective Bargaining/Other Annual Wage Increase:

- 2 CND's compensation cost driver of Merit/Collective Bargaining/Other Annual Wage
- 3 increases comprise unionized wage progressions and annual negotiated pay increases,
- 4 non-union merit increases, and non-union incentive payouts based on performance results.
- 5 CND's workforce is comprised of unionized and non-unionized employees. Approximately
- 6 73% of CND's workforce is unionized.

- 7 CND bases its total compensation philosophy on its desire to attract, retain and motivate an
- 8 outstanding workforce. CND provides a total compensation program that establishes and
- 9 maintains competitive salary levels within relevant markets and available resources, which
- 10 is consistent with job content, responsibilities and expectations. The program emphasizes
- and encourages excellence by rewarding employee contributions, including performance
- 12 that supports CND's core values of Teamwork, Collaboration, Communication,
- 13 Accountability and Innovation.
- 14 For more information about compensation, please refer to Exhibit 4, Tab 4, Schedule 1.
- 15 CND's collective agreement with unionized staff provides for annual payroll increases and
- 16 employee step progressions. Labour rates are adjusted annually based on negotiated
- 17 percentages contained within the collective agreement. CND's current collective agreement
- 18 expires on March 31, 2014. Labour wages are the result of a negotiated process and future
- 19 wage estimates are based on factors such as recent settlements reached in the LDC
- 20 sector, and in consideration of the Ontario Consumer Price Index.
- 21 CND engages a third party compensation consultant to independently review its total
- 22 compensation. The consultant makes recommendations relative to appropriate comparators
- and economic outlook.
- 24 Since 2010, wage increases for merit, collective bargaining, and other wages have
- contributed \$823,000 in increased operating costs for CND. As shown in Table 4-4,
- 26 Summary of Wage Increases by Year, the average increase is approximately 3.0% per year
- and compounds to approximately 14.7%.

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Table 4-4 - Summary of Wage Increases By Year

Summary of Wage Increases by Year								
Year	Union %	Cumulative%	Non-Union%	Cumulative%				
2010	3.00%	3.00%	2.90%	2.90%				
2011	3.00%	6.00%	2.95%	5.85%				
2012	3.00%	9.00%	3.10%	8.95%				
2013	3.00%	12.00%	3.00%	11.95%				
2014	2.75%	14.75%	2.75%	14.70%				

Notes re 2014:

- (1) Union increase subject to Union Negotiations effective April 1, 2014
- (2) Non-Union subject to Board of Directors Approval

3 Organizational Capacity (New Hires):

Since 2010, CND has been making considerable investment in people to address: (i) the significant regulated changes that have occurred in the electricity industry over the past four years, including the implementation of Smart Meters, Time of Use pricing, mandated Conservation and Demand Management programs, and requirements under the Green Energy Act Plan ("GEA") with respect to renewable generation; (ii) an ageing workforce, particularly in the skilled trades area; and (iii) capacity constraints in certain key departments, in particular, Engineering and Information Technology Systems, whereby staffing levels are not sufficient to support the capital renewal program and overall growth in the capital expenditure program, regulatory requirements, and the increasing information technology demands.

14 CND has hired 15 new positions from 2010 to June 30, 2013. For the balance of 2013,

15 CND plans to hire an additional 7 new positions. In 2014 CND has plans to hire an

additional 5 new positions. These new positions have been added in various departments

throughout CND including: Customer Care, Communications, Information Technology

18 Systems, Engineering and Operations, and Energy Efficiency (CDM).

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- 1 It is important to note that not all of these additions translate to increased OM&A
- 2 expenditures as costs of certain of these positions are allocated to capital, billable projects,
- 3 or CDM activities, which are funded by the OPA. The allocations between OM&A, Capital,
- 4 and Other expenditures of the 28 new positions added since 2010 are summarized in
- 5 Table 4-5:

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Table 4-5 Allocation of New Employees

No. Positions	Allocation
OM&A	
Administration	10
Operations/Maintenance	4
Capital	4
Operations/Maintenance/Capital	7
Billable - CDM Program	3
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8 Table 4-6 New Employees Allocated to OM&A summarizes the new positions that impact

9 the overall OM&A expenditures for CND, and includes the position title, department, start-

date, justification category for the new position, and whether the position is union or non-

union. Please refer to Exhibit 4, Tab 4, Schedule 1 for complete details with respect to

employee complement, compensation and benefits.

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Table 4-6 New Employees Allocated to OM&A

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Employee Class	Department	Job Title	Start Date	Justification	Allocation
UNION	Customer Care	Customer Care Clerk	3/21/2011	REGULATORY	Administration
UNION	Customer Care	Customer Care Representative	2/6/2012	REGULATORY	Administration
MGMT	Information Technology	Vice President, Information Technology Systems	1/14/2013	ΙT	Administration
MGMT	Communications	Communications Manager	2/25/2013	REGULATORY	Administration
JNION	Customer Care	Field Service Representative	3/25/2013	OTHER	Administration
JNION	Information Technology	Service Desk Analyst	4/29/2013	IT	Administration
MGMT	Customer Care	Supervisor, Credit and Collections	Sept 2013	REGULATORY	Administration
JNION	Billing	Sync Operator Analyst	Jan 2014	OTHER	Administration
JNION	Accounting	Accountant (Capital Projects)	Jan 2014	OTHER	Administration
MGT	Human Resources	Human Resource Generalist	Jan 2014	OTHER	Administration
JNION	Engineering	System Control Operator	7/29/2013	24/7 CONTROL ROOM	0&М
NOINL	Engineering	System Control Operator	Sept 2013	24/7 CONTROL ROOM	0&M
JNION	Engineering	System Control Operator	Sept 2013	24/7 CONTROL ROOM	0&М
JNION	Metering	Meter Maintenance Apprentice	4/29/2013	SKILLED TRADES	0&М
JNION	Operations	Linesman Apprentice	5/3/2011	SKILLED TRADES	O&M/Capital
JNION	Operations	Linesman Apprentice	5/3/2011	SKILLED TRADES	O&M/Capital
JNION	Operations	Linesman Apprentice	Sept 2013	SKILLED TRADES	O&M/Capital
JNION	Operations	Linesman Apprentice	Sept 2013	SKILLED TRADES	O&M/Capital
JNION	Operations	Linesman Apprentice	Sept 2013	SKILLED TRADES	O&M/Capital
JNION	Operations	Linesman Apprentice	Sept 2014	SKILLED TRADES	O&M/Capital
UNION	Operations	Linesman Apprentice	Sept 2014	SKILLED TRADES	O&M/Capital

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Skilled Trades:

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- 2 Similar to many electricity distributors, CND's employee demographics reflect an ageing
- 3 skilled labour force and it is expected that there will be several retirements in the next five to
- 4 ten years. CND must continue to acquire new skilled trades, including apprentices, to
- 5 continue to support its operations, support the increasing capital renewal program, and to
- 6 provide the appropriate length of time required for training the new apprentices.
- 7 Table 4-7 Skilled Trades Retirement Eligibility summarizes the current employee
- 8 complement within the Skilled Trades positions and the number of employees that will be
- 9 eligible for retirement within the next five years and the next ten years.
- 10 Approximately 10 out of 27 positions within the Trades Supervision, Powerline Technicians,
- and Metering Technicians will be eligible for retirement in five years, with an additional 14
- 12 eligible for retirement in ten years.

Table 4-7 Skilled Trades Retirement Eligibility

Classification	Employee Complement	Eligible to Retire in 5 Years	Eligible to Retire in 10 years
Trades Supervision	3	3	3
Powerline Technicians	20	6	9
Metering Technicians	4	1	2
Total	27	10	14

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- 15 CND hired two full-time Lineman Apprentices in 2011 and one Metering Technician in 2013
- 16 as part of its skilled trade's replacement strategy. CND has plans to hire 3 additional
- 17 Linesman Apprentices in the fall of 2013 and 2 Linesman Apprentices in 2014.

System Control Operators:

- 19 CND plans to implement the operation of a 24 hour/7 days a week ("24/7") control room in
- 20 2014 to improve response time to customers, improve the monitoring of the transformer
- 21 station, and to address on-going staffing issues, including succession planning. Currently,

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- 1 CND has three full-time System Control Operators ("SCOs") on staff, with 1 SCO eligible for
- 2 retirement within 5 years, and 2 SCOs eligible for retirement in 10 years.
- 3 CND plans to hire three Apprentice SCOs in 2013 in order to: (i) replace an SCO that is
- 4 expected to retire in 2018; and (ii) to transition to a 24/7 control room. Qualified SCOs are
- 5 difficult to recruit and therefore CND expects to fill these positions with apprentices. CND's
- 6 succession planning process provides for the recruitment of replacement SCOs five years
- 7 in advance of an expected retirement. The five year period allows for an Apprentice to
- 8 complete the theoretical requirements of the position, while participating in the practical
- 9 application and training. CND's compensation structure for this position is based on six
- 10 month progressions over a five year period (60 months), at which time the SCO may
- 11 operate independently.
- 12 In response to CND's Large Industrial Customer Survey Exhibit 1, Tab 5, Schedule 2,
- 13 Appendix 1-1B, 92% of CND's customers say it is important that customers can contact
- 14 CND Hydro's system control centre 24/7.
- 15 A 24/7 control room will ensure that a SCO will always be available. Currently, the "on-call"
- 16 SCO will time out (maximum 16 hours of work in a 24 hour period) for extended outages on
- 17 weekends or holidays. There is not always another SCO available to fill in. SCO's are
- 18 currently "on call" every third week so are often not available on the other two weeks due to
- 19 other commitments. A 24/7 control room provides faster response time to outages (i.e.
- 20 avoids the up to twenty minutes for an SCO to get from home to the control room at 1500
- 21 Bishop Street to begin switching with SCADA switches), resulting in fewer Customer Hours
- 22 lost. A 24/7 control room provides better service to customers calling CND after hours. A
- 23 CND SCO can more fully respond to customer calls than the answering service. A 24/7
- 24 control room provides improved monitoring of CND's transformer station and facilitates
- 25 instant communication with Hydro One and the IESO, in the event that a contingency (e.g.
- opening breakers to reduce load, voltage reduction, etc.). A larger group of SCOs avoids
- the requirement for our SCOs to be "on-call" every third week which is a significant burden
- 28 and gives CND a larger pool of SCOs to draw upon in the event of contingencies such as
- 29 illness or early retirement.

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- 1 CND is currently investigating the feasibility of a shared 24/7 control room with other local
- 2 distribution companies to mitigate the costs associated with moving to a 24/7 control room.
- 3 CND is not aware of a similar arrangement elsewhere in Ontario. In May, 2013, CND and
- 4 Guelph Hydro established a working group to study the feasibility of a shared services
- 5 model. Despite best efforts, CND and Guelph Hydro were not successful in completing an
- 6 arrangement for shared services. A number of issues were encountered as part of this
- 7 initiative, including variances in operating practices, different information systems
- 8 technology and applications, and collective bargaining agreements. The working group is
- 9 continuing to review alternative shared services arrangements as part of the Grid Smart
- 10 City consortium.
- 11 CND continues to believe that there is an opportunity for cost savings and improved
- 12 efficiencies that may result from a shared services model. Comparisons with other utilities
- 13 suggests that one SCO per 19,000 customers would provide for the operation of a 24/7
- 14 control room across a larger customer base. This would translate to three SCO's for
- 15 CND's current customer base, which would eliminate the requirement to hire additional
- 16 SCO's beyond the requirements for succession planning.

17 Information Technology Services ("IT"):

- 18 In 2013, CND hired two new full-time positions within the IT department: (i) Vice President,
- 19 Information Technology Services; and (ii) Service Desk Analyst. In 2014, CND plans to hire
- 20 one full-time Business Analyst position.
- 21 Since 2010, CND has made significant investments in information system technologies and
- 22 applications, with limited investment in new staff in the area of IT. Many of these
- 23 investments have been made in order for CND to comply with regulatory requirements
- 24 initiated by governing bodies including the Ministry of Energy, and the Ontario Energy
- 25 Board.
- 26 The following initiatives have resulted in significant changes to the IT infrastructure and
- 27 applications of CND:

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- 1 The implementation of Smart Meters and Time of Use Rates has resulted in requirements
- 2 to manage hourly smart metering data, management of the Smart Meter communications
- 3 infrastructure ("AMI") and the mandated use of the provincial Meter Data
- 4 Management/Repository ("MDM/R").
- 5 Implementation of a new CIS solution in 2011, including enhancements required to comply
- 6 with changes to the Distribution System Code with respect to the standardization of
- 7 customer service practices, including disconnection processes and notices; and the Arrears
- 8 Management Program.
- 9 Implementation of a new Enterprise Resource Planning ("ERP") solution to provide for
- 10 additional capabilities required to implement International Financial Reporting Standards
- 11 ("IFRS").
- 12 In 2014, CND will also undertake the implementation of an Outage Management System
- 13 and a Distribution Management System, which will require implementation and on-going
- 14 support from the ITS department.
- 15 The changing staff compliment has been necessitated by the increased focus on ITS and
- 16 the need to ensure that the software applications, infrastructure, security and recoverability
- 17 of CND's computer environment can be accomplished without disruption to business
- 18 operations.
- 19 In 2013, CND engaged a third party consultant to assist in the development of a long-term
- 20 IT Strategy. The hiring of the new positions in ITS will enable the department to transform
- 21 into a more business-responsive team, positioned to deliver on the corporate needs as
- 22 documented in the IT Strategic plan (see Appendix 1, Tab 8, Schedule 4 Appendix 1-6B).
- 23 The key goals of delivering additional automation, enabling business workflows,
- 24 consolidating enterprise systems through integration efforts, and the standardization of ITS
- 25 services will enable the transformation of ITS into a more effective and value-adding
- 26 department. These goals will not be attainable without a staff compliment that can provide
- 27 sufficient resources to meet the continuing challenges and need for automation that are
- 28 detailed in the IT Strategic plan.

- 1 When measured against industry best practices, as noted by Gartner, the compliment of IT
- 2 staff in the Utility sector as a percentage of total number of employees is 6.6%¹. Based on
- 3 the 2013 Bridge Year staff compliment of 112, using this industry representative fact, this
- 4 would equate to an equivalent IT staff of 7 FTE. With the addition of these three new
- 5 positions, CND has a staff complement of 7.

Regulatory:

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7 Since 2010, CND has hired two full-time positions in Customer Care and one full-time

position in Communications. Two Customer Care Representatives (one position was a

part-time position changed to a full-time position) were added to address increasing

demands to support regulatory requirements, including: (i) the meeting of Service Quality

Requirements for telephone accessibility as a result of increasing phone call volumes;

12 (ii) changes to the credit and collection processes and customer contact requirements due

13 to amendments to the Distribution System Code, such as the Arrears Management

14 Program ("AMP") and the Low Income Energy Assistance Plan ("LEAP"); (iii) the

15 implementation of a new CIS; (iv) the introduction of a new paperless service order

software solution ("mCare") and dispatch process using tablets in the field for the Field

17 Representatives and Metering; and (v) new FIT/MicroFit customers.

18 In 2013, CND hired a full-time Manager, Communications to replace a part-time Public

19 Relations Coordinator position that was vacant at the end of 2012. The Manager,

20 Communications is responsible for the design and delivery of CND's communication

strategy, which aligns to CND's corporate strategy and provides for enhanced

22 communications with our customers, employees, shareholders, and other key stakeholders.

23 CND is currently in the process of recruiting for a Supervisor, Credit and Collections. This

24 position will be responsible for the management and supervision of all customer activities

25 associated with effective payment processing, credit and collections, and revenue

26 protection programs.

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¹ IT Metrics: IT Spending and Staffing Report, 2013, February 1, 2013 by James McGittigan, Kurt Potter, Jamie K. Guevara, Linda Hall and Eric Stegman.

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- 1 The Customer Care Department is currently managed with a single Supervisor overseeing
- 2 14-16 Staff. The current economic climate and resulting volatility in arrears and bad debts,
- 3 combined with changes in the Distribution System Code and the related impacts to
- 4 customer notice periods, ability to disconnect, required contact with customers, and the
- 5 increased payment flexibility for residential and eligible low income customers, has resulted
- 6 in an increased need to allocate a dedicated resource to focus on and manage credit and
- 7 collections to mitigate financial risk and to ensure quality and responsive service to CND's
- 8 customers.

Other:

- 10 In 2013, CND hired a full-time Field Service Representative to replace a third party
- 11 contractor. Prior to 2012, this position was a full-time position that became vacant as a
- result of a retirement. In light of all of the regulatory changes and uncertainty regarding the
- 13 impact of the implementation of Smart Meters and Time of Use pricing, CND decided at the
- 14 time to utilize a third party contractor for a period of up to one year. Following an
- 15 assessment and review of duties and responsibilities, CND replaced the third party
- 16 contractor with a full-time Field Representative. Field Service Representatives collect final
- 17 read information, perform connects and disconnects for non-payment or final move
- 18 disconnects, as well as the hand delivery of collection door hangars and collection of
- 19 arrears payments in lieu of disconnects. There is no material impact to OM&A as a result of
- 20 this change.
- 21 In 2014, CND plans to hire a full-time Sync Operator to replace a third party contractor.
- There is no material impact to OM&A as a result of this change
- 23 CND is currently recruiting for a Human Resource Generalist. This position is expected to
- 24 be hired prior to the end of 2013. Based upon the growth in CND's employee complement
- 25 over the past several years, the Human Resource department is resource constrained. The
- 26 position is required to support the training, development, and health and safety of CND's
- 27 employees.
- 28 In 2014, CND plans to hire an additional resource in the Accounting department to support
- 29 the increase in transaction volumes, particularly with respect to capital projects. The growth

- 1 in the capital investment program, as well as the implementation of fixed asset components,
- 2 has resulted in a significant increase in the number of financial transactions, as well as the
- 3 need for increased analysis and reporting with respect to the capital investment program.

4 OMERS Pension Costs:

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- 5 OMERS pension costs have continued to rise since CND's last rebasing application.
- 6 Table 4-8 summarizes the increased contributions required for OMERS since 2010:

Table 4-8 OMERS Contributions

		Contribu	tion Rate	
	_	YMPE	YMPE	Employer
Year	YMPE	Below	Above	Portion
2010	\$47,200	6.4%	9.7%	\$473,314
2011	\$48,300	7.4%	10.7%	\$576,833
2012	\$50,100	8.3%	12.8%	\$709,888
2013	\$51,100	9.0%	14.6%	\$870,000
2014 (Estimate)	\$52,122	9.5%	15.0%	\$932,000
YMPE = Year's maximum pens	ionable earnings			

9 The increase in OMERS contribution rates, as well as growth in the number of full-time 10 staff, has resulted in an increase in OMERS of approximately \$459,000 or 97% in 2014 11 compared to 2010. Approximately \$408,000 of this increase is to OM&A expenses.

Employee Benefit Costs:

Benefit costs comprise: (i) statutory employer benefit contributions, including CPP, EI, EHT, and WSIB; (ii) group insurance benefits such as health, dental, long-term disability, and life insurance; and (iii) post-employment benefits (retiree benefits). The group insurance benefit costs are the same for all employees, with the exception of the amounts of long-term disability and life insurance coverage for Management. The cost drivers for the increase in this category year over year reflect increases in benefit rates, as well as an increase in the number of full-time employees' year over year.

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- 1 The increase in benefit rates, as well as the increase in the number of full-time staff has
- 2 resulted in an increase in benefit costs of approximately \$400,000 or 31% in 2014
- 3 compared to 2010. Approximately \$348,000 of this increase is to OM&A expenses.
- 4 Please refer to Exhibit 4, Tab 4, Schedule 1 for additional information with respect to
- 5 employee complement, compensation and benefits.

6 Effect of Loss on Write-off of SAP Customer Information System (2009 Only):

- 7 In 2009, CND abandoned the implementation of a new SAP Customer Information System,
- 8 resulting in a write-off of approximately \$934,000 in development and other costs, which
- 9 were recorded in OEB Account 5620 in 2009. Further explanation is provided in Exhibit 3,
- 10 Tab 4, Schedule 1.

11 Effect of Loss of Water billing contract:

- 12 As documented in CND's 2010 Cost of Service Application (EB-2009-0260), in the latter
- 13 part of 2010, the water and sewer billing services contract between CND and the City of
- 14 Cambridge and Regional Municipality of Waterloo was terminated. The loss of this contract
- 15 resulted in \$603,000 of operating costs related to billing and collecting that were no longer
- 16 allocated and offset with other revenue, which prior to the termination of the agreement
- 17 assisted in reducing the overall operating costs of servicing CND's electricity customers.
- 18 CND's billing and collecting costs did not decline after the termination of this agreement as
- 19 the costs related to billing, such as meter reading, paper, postage, printing, mailing, etc.
- 20 were the same as the water and sewer billings were combined on the same invoice as the
- 21 electricity billings.

22 Effect of Smart Meter Decision (EB-2012-0086):

- 23 In the Decision on CND's Smart Meter Application, the Board authorized CND to transfer
- 24 the values of 1556 Smart Meter OM&A up to December 31, 2011 to the OM&A accounts.
- 25 The effect of this decision resulted in additional incremental costs of \$1,312,662 in 2012
- 26 (EB-2012-0086).

Changes in Accounting Estimates – Capitalization Policies:

As described in Exhibit 2, Tab 2, Schedule 2, CND revised its capitalization policies under CGAAP to reflect changes that would be required if CND were to adopt IFRS whereby only those costs directly attributable to the capital asset can be capitalized. Specific expenditures that are no longer included in the capital burden rates for CND include: (i) building maintenance costs; (ii) health and safety department expenditures; and (iii) municipal property taxes. In addition, costs incurred to remove an existing asset from service are to be expensed and are no longer eligible to be included in the capital cost of the new asset. The impact of this change in accounting policy resulted in an increase in OM&A of \$761,382 in 2012. The impact for 2013 and 2014 are incremental costs of \$343,723 and \$243,558, respectively. The amounts for 2013 and 2014 vary as a result of the removal costs, which vary based on the nature of the capital expenditure program in any given year.

Table 4-9 summarizes the components of the incremental OM&A costs resulting from the change in CND's capitalization policies:

Table 4-9 Incremental OM&A – Changes in Accounting Estimates

	2012 Actual	2013 Bridge	2014 Test
Building Maintenance	131,135	172,913	186,368
Health and Safety	226,413	258,705	281,255
Property Taxes	70,581	72,652	74,832
Removal Costs	333,253	600,835	806,208
Total	761,382	1,105,105	1,348,663
Incremental Year over Year	761,382	343,723	243,558

Incremental Smart Meter and Time of Use Rates ("TOU") Costs:

As provided for in the Board's Decision on CND's Smart Meter Application (EB-2012-0086), the incremental increase to annual OM&A costs as a result of the implementation of Smart Meters and Time of Use rates was \$360,000 in 2012. Expenditures are forecast to be \$389,000 in 2013 and \$399,000 in 2014. Operating expenses include: AMI fees, Sync operator fees, computer hardware and software maintenance fees.

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IT Costs – Maintenance, Licenses, and Communication:

- 2 IT Maintenance, Licenses, and Communication costs increased by \$237,952 in the 2013
- 3 Bridge Year explained by higher computer hardware and software license costs, as well as
- 4 increased communication costs as a result of the addition of a new remote office in 2013
- 5 due to space constraints at CND's corporate office (refer to Space Optimization Study
- 6 explanations below).

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- 7 Since 2010, CND has made a significant investment in new information systems
- 8 technologies and applications which has resulted in increased software license fees, as well
- 9 as maintenance costs associated with the hardware and software. CND implemented a
- 10 new CIS system in the latter part of 2011, as well as an Enterprise Resource Planning
- 11 ("ERP") solution in 2012. These two solutions alone have resulted in a significant increase
- in licensing and maintenance costs. In 2010 CND had 25 software licensing agreements in
- place; as of the end of 2012, the number of software licensing agreements has climbed to
- 14 57. Initiatives in 2013 and 2014 that will result in increased hardware and software
- 15 maintenance and license costs include: Bill Connect (paperless billing); a Disaster
- 16 Recovery Solution; an organizational wide document management solution; the
- 17 implementation of an Outage Management System ("OMS") and a Distribution
- 18 Management System ("DMS").
- 19 Hardware maintenance and telecommunication costs also increased in 2013 to support the
- 20 new remote office, including additional computers and internet and Local Area Network
- 21 requirements.
- 22 Table 4-10 provides a summary of computer hardware and software license and
- 23 maintenance fees for the 2014 Test Year.

Table 4-10 Computer Hardware/Software License and Maintenance Fees

Hardware/Software License Fees	411,796
Maintenance	44,800
	456,596

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IT Costs – Professional Services:

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- 2 IT related professional services costs are forecast to increase by \$154,000 in 2013, with a
- 3 corresponding reduction in 2014 of \$61,480 representing one-time initiatives in 2013. In
- 4 2013, CND will undertake the following initiatives: (i) development of an IT Strategy, which
- 5 was completed in July 2013 (Exhibit 1, Tab 8, Schedule 4, Appendix 1-6B); (ii) an
- 6 independent third party review of the Business Continuity and Disaster Recovery Plans of
- 7 CND to ensure that CND has appropriate plans in place to address the recoverability of the
- 8 information technology infrastructure due to a material or catastrophic event(s); and (iii) a
- 9 third party IT security audit to validate the security of CND's internal information technology
- 10 infrastructure. These initiatives are critical to ensure that the information systems
- 11 technology risks for CND are mitigated and to ensure that the IT Strategy over the next
- three to five years is aligned with the overall Corporate Strategy.

13 **Regulatory Costs:**

- 14 In accordance with the Chapter 2 Filing Guidelines, Table 4-11 (OEB Appendix 2-M)
- provides the breakdown of the actual and anticipated regulatory costs for CND. Regulatory
- 16 costs include on-going expenses incurred in connection with Decisions and Orders on Cost
- 17 Awards for hearings, proceedings, technical sessions, and other matters before the Board.
- Annual assessment fees paid to the Board are the largest costs included in this category.
- 19 CND has not included the costs of regulatory staff or other staff working on regulatory
- 20 applications in Account 5655. These costs are included in OM&A Account 5610.
- 21 Costs associated with this Cost of Service application are also incorporated, including legal
- 22 and consulting fees, cost awards, among others. The anticipated costs related to this
- 23 Application are approximately \$287,000, as summarized in Table 4-12. Details associated
- 24 with the forecasted costs for the preparation and reviews of this application have been
- 25 provided.
- 26 As described elsewhere in this application, CND took an innovative approach to the
- 27 completion of this application and made efforts to adhere to the performance outcomes that
- 28 are prominent in the Board's Renewed Regulatory Framework. Such outcomes align very
- 29 closely to CND's internal strategic imperatives but also impact the Regulatory costs

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1 required to complete this application. Specific examples of this innovative approach are as

2 follows:

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3 The anticipated costs include a non-residential customer survey that was conducted to

4 ensure alignment between this class of customer's short term and future needs and CND's

distribution system operating and capital plans, including expansions and improvements to

6 enhance or maintain customer value and service quality. An RFP process was followed for

this survey and the cost was approximately \$20,000. While CND has completed bi-annual

customer surveys for its residential and small commercial customers, surveys of the larger

9 commercial customers have not been completed.

10 CND conducted a pre-application filing meeting on May 1, 2013 with Board staff and the

11 interveners who were involved in CND's last Cost of Service Application (School Energy

12 Coalition, Vulnerable Energy Consumers Coalition, and Energy Probe Research

Foundation). Intervener and Board staff costs are anticipated to be approximately \$7,000

for this pre-application meeting. The meeting was held with the objective of engaging with

the stakeholders and accomplishing the following:

• Introduce the stakeholders to CND's new Leadership Team;

• Build an ongoing relationship with key stakeholders;

 Share information about CND, its strategy and objectives, and to highlight key business initiatives and requirements that form the basis for this 2014 Cost of Service application;

 To obtain feedback from key stakeholders regarding the initiatives and requirements and implications or areas of focus for the application; and

• To improve efficiencies and effectiveness in the regulatory application process for all stakeholders.

CND considered the pre-application to be very successful and would be pleased to share the experience with other distributors who are considering conducting a similar meeting.

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- 1 CND engaged an external consultant to assist with the Distribution System Capital Plan and
- with the revised Chapter 5 Filing requirements, which were issued March 28, 2013.
- 3 CND proposes that the costs related to the cost of service application be amortized over
- 4 5 years and therefore has included \$57,400 (Total costs of \$287,000 spread over 5 years)
- 5 in the 2014 Test Year OM&A costs.

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Table 4-11 Regulatory Costs

Appendix 2-M Regulatory Cost Schedule

Reg	ulatory Cost Category	USoA Account	USoA Account Balance	Ongoing or One-time Cost? ²	Y	st Rebasing Year (2010 Board Approved)	M	lost Current Actuals Year 2012	20	013 Bridge Year	Annual % Change	2014 Test Year		Annual % Change
	(A)	(B)	(C)	(D)		(E)		(F)		(G)	(H) = [(G)-(F)]/(F)		(l)	(J) = [(I)-(G)]/(G)
1	OEB Annual Assessment	5655		On-Going	\$	151,128	\$	146,631	\$	151,215	3.13%	\$	156,000	3.16%
2	OEB Section 30 Costs (Applicant-originated)	5655		On-Going										
3	OEB Section 30 Costs (OEB-initiated)	5655		On-Going	\$	10,000	\$	9,090	\$	10,000	10.01%	\$	12,000	20.00%
4	Expert Witness costs for regulatory matters													
5	Legal costs for regulatory matters	5655		On-Time	\$	15,000			\$	50,000				-100.00%
6	Consultants' costs for regulatory matters	5655		On-Time	\$	10,000	\$	1,842	\$	110,000	5870.73%			-100.00%
7	Operating expenses associated with staff resources allocated to regulatory matters	5655		On-Time	\$	112,831			\$	35,000				-100.00%
8	Operating expenses associated with other resources allocated to regulatory matters ¹	5655		On-Time			\$	3,752	\$	20,000	433.12%			-100.00%
9	Other regulatory agency fees or assessments	5655		On-Time			\$	800	\$	800	0.00%	\$	800	0.00%
10	LEAP Contributions	5655		On-Time			\$	29,683	\$	29,985	1.02%	\$	30,000	0.05%
11	Any other costs for regulatory matters (please define)	5655		On-Time					\$	40,000				-100.00%
12	Intervenor costs	5655		On-Time	\$	15,000	\$	6,408	\$	32,000	399.36%			-100.00%
13	Sub-total - Ongoing Costs ³		\$ -		\$	161,128	\$	155,721	\$	161,215	3.53%	\$	168,000	4.21%
14	Sub-total - One-time Costs ⁴		\$ -		\$	152,831	\$	42,485	\$	317,785	647.99%	\$	30,800	-90.31%
15	Total		\$ -		\$	313,959	\$	198,206	\$	479,000	141.67%	\$	198,800	-58.50%

Table 4-12 Cost of Service Application Fees

	Ye	listorical ar(s) 2010 Actual	20	13 Bridge Year
Expert Witness costs for regulatory matters	\$	-	\$	-
Legal costs for regulatory matters	\$	96,634	\$	50,000
Consultants' costs for regulatory matters	\$	32,667	\$	110,000
Operating expenses associated with staff	\$	25,242	\$	35,000
resources allocated to regulatory matters	Ψ	25,242	Ψ	33,000
Operating expenses associated with other	\$	7.505	\$	20.000
resources allocated to regulatory matters ¹	Φ	7,505	Ψ	20,000
Any other costs for regulatory matters (please	\$		\$	40,000
define)	Ψ	-	Ψ	40,000
Intervenor costs	\$	42,428	\$	32,000
TOTAL	\$	204,475	\$	287,000

Contributions to Low-income Energy Assistance Programs ("LEAP"):

CND makes annual contributions to the Region of Waterloo in the amount of 0.12% of approved distribution revenue in compliance with the *Report of the Board: Low Income Energy Assistance Program* ("LEAP"), issued in March 2009. CND adheres to and complies with the LEAP Emergency Financial Assistance Program Manual dated February 17, 2012 and works closely with the designated social service agency, who also works with other distributors within the region, namely Kitchener Wilmot Hydro Inc. and Waterloo North Hydro Inc.

Table 4-13 below indicates the historical and forecast LEAP contributions which CND records in account 5655 Regulatory Expenses.

Table 4-13 Contributions to LEAP

Contri	butions t	o LEAP		
	2011	2012	2013	2014
Distribution Revenue Requirement	24,691,477	24,735,922	24,953,333	25,000,000
Minimum LEAP Contribution	29,630	29,683	29,944	30,000

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Bad Debt Expenses:

- 2 Table 4-14 summarizes the bad debt expense for the 2010 Actual, 2011 Actual, 2012
- 3 Actual, 2013 Bridge Year and 2014 Test Year.

Table 4-14 Bad Debt Expense

	2010	2011	2012	2013	2014
	Actual	Actual	Actual	Bridge	Test
Bad Debt Expense	\$119,180	\$148,915	\$246,160	\$249,600	\$212,000

Bad debt expense represents the amount of accounts receivable that are considered uncollectible in a given period. The amount of bad debt expense is determined as the amount of customer accounts written off as uncollectible, less amounts recovered, plus or minus a change in the allowance for doubtful accounts. The allowance for doubtful accounts is calculated based on amounts that are outstanding beyond 90 days, plus a general provision on the balance of outstanding accounts receivable.

CND enforces a prudent credit policy in accordance with the Distribution System Code and active overdue accounts are collected by in-house staff through notices, letters and direct telephone contact. Final bill collections are turned over to a collection agency 45 days after the final due date.

CND's community is manufacturing based and continues to be impacted by the local economy. One of CND's significant credit risk continues to be long standing commercial customers with years of perfect credit history, that without advance warning close their business or go bankrupt, resulting in bad debt expense. As many distributors have experienced, the ability to collect a security deposit from an existing customer or increase the billing/payment frequency may be limited. In many cases, a customer may not be in arrears, as electricity is essential to their continued operation, and either the bankruptcy or cessation of business is the first awareness of the bad debt; or if a customer is not in arrears, a distributor cannot unilaterally increase the billing/payment frequency.

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- 1 These business closures also have a negative financial impact on the employees that
- 2 worked at these businesses. Between 2011 and 2012 CND experienced a significant
- 3 increase in residential bankruptcy claims. In 2011, changes to the Distribution System
- 4 Code introduced a number of new collection rules that provide more flexibility to the
- 5 customer with longer timelines for repayment terms.
- 6 The economic downturn, coupled with the changes to the rules for collections of residential
- 7 and eligible low income customers, has put added pressure on bad debt expenses and is
- 8 expected to continue to impact bad debt expense in the 2013 Bridge and 2014 Test Year.
- 9 Bad debt expenses are expected to increase from \$119,180 in 2010 to \$212,000 in the
- 10 2014 Test Year. Bad debt expense in 2010 included the recovery of approximately
- 11 \$60,000 in debt retirement charges for amounts previously written-off for the period 2007
- 12 through 2010. Bad debts increased to \$246,160 in 2012 principally explained by an
- increase in the amount of bad debt write-offs. Bad debt expense for 2013 Bridge Year is
- 14 expected to be consistent with bad debt expense in 2012. 2014 Test Year bad debt
- expense is estimated based on the three year average (2011 through 2013).

16 Facilities Requirement Study:

- 17 CND owns approximately 53,000 square feet of operations and head office facilities at 1500
- 18 Bishop Street. The facilities were originally constructed in two phases in the 1980's.
- 19 Phase I, completed in 1981, consisted of the Operations office area and garage, at the east
- 20 end of the building. Phase II, completed in 1986, provided for the Administrative
- 21 departments to be co-located with Operations. Since its last Cost of Service Application in
- 22 2010, CND has made very moderate capital investments to maintain its facilities in good
- 23 working condition and repair.
- 24 The industry and CND have undergone significant change over the past 27 years and the
- 25 current space is no longer sufficient. CND has increased the number of full-time employees
- since 2010 and plans to continue to add to its employee complement in 2013 and 2014 to
- 27 address its business requirements. The increase in full-time employees, as well as the
- 28 growth in CND's business, has resulted in insufficient office space, as well as inadequate
- 29 garage space due to the physical size and growth in the fleet.

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- 1 In 2013, CND has engaged a third party consultant (architect) to undertake a
- 2 comprehensive study of the options that are available to CND. Such options may include
- 3 the expansion of existing facilities or the building of a new facility. The cost of the study is
- 4 estimated at \$200,000.

5 **Buildings (Rental and Maintenance):**

- 6 In light of the short to medium term space constraints facing CND, and pending the results
- 7 of the space optimization study, CND entered into a 4 year lease agreement for
- 8 approximately 5,100 square feet of office space. The annual lease amount is
- 9 approximately \$60,000. The additional space is located at 135 Thompson Drive in
- 10 Cambridge, Ontario and is located approximately 1.5km from the corporate office at
- 11 1500 Bishop St. In April 2013, the Finance, Regulatory, and Conservation and Demand
- 12 Management departments were relocated to the new location. The space vacated by these
- 13 departments will allow for the additional space requirements for the IT and Engineering
- 14 departments. In addition to the annual lease costs, there are also building maintenance
- 15 costs associated with the additional space. Maintenance costs on the main building have
- also increased due the age of the building and increased repair costs.

17 Insurance Premiums/(Rebates):

- 18 In 2012, CND received a premium reduction of \$37,184 from The MEARIE group, its
- 19 Comprehensive General Liability insurance provider. The premium reduction represented
- 20 CND's pro-rata share of a one-time overall premium reduction offered to all subscribers to
- 21 the Reciprocal for 2012. The insurance premium for 2013, based on the renewal executed
- 22 on January 1, 2013, was approximately \$159,000, or an increase of \$64,000 over 2012
- 23 actuals. 2014 insurance premiums have been estimated at \$167,000.

24 Transformer Station Equipment Painting:

- 25 CND's transformer station (referred to as MTS #1) was constructed in 2001/2002 and the
- 26 two power transformers were manufactured in 2002. MTS #1 provides power to
- 27 approximately 30% of CND's service area. The transformer bodies and cooling fins have
- 28 started to rust and require painting as part of a preventative maintenance program. If the

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- 1 transformers are not repainted, there is a risk of an oil leak from the transformers, which
- 2 could cause a transformer to fail. The replacement cost of a new transformer, should it fail,
- 3 would be in excess of two million dollars.

4 Professional Services (2010):

- 5 Professional services fees in 2010 included a union arbitration settlement of approximately
- 6 \$61,000, as well as fees for accounting and related tax services, including the preparation
- 7 of CND's Scientific Research and Experimental Development claims for the current and
- 8 prior years.

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1 **ONE-TIME COSTS**

2 CND has no one-time costs at this time.

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CHARITABLE DONATIONS

- 2 One of CND's strategic imperatives includes demonstrating dedication to the well-being of
- 3 its communities. CND and its employees support the community through its active
- 4 participation in community and charitable events and volunteerism program.
- 5 The amounts paid in charitable donations from the last Board approved rebasing
- 6 application until (and including) the Test Year are detailed in Table 4-15 below.

Table 4-15 Charitable Donations

	Summary of Char	itable Don	ations				
Description	2010 Board Approved	2009 Actual	2010 Actual	2011 Actual	2012 Actual	2013 Bridge	2014 Test
Conestoga College (note 1 below)	-	-	-	6,600	5,000		
Cambridge Memorial Hospital Foundation	_	-	-	500	500		
Cambridge and District Food Bank	-	200	200	400	-		
North Dumfries Community Centre	-	-	3,000	-	-		
Langs Farm Village	-	-	-	400	-		
United Way of Cambridge and North Dumfries	-	3,600	3,600	3,600	4,300		
Ontario Plowmen's Association	-	-	-	-	900		
Total Charitable Donations	-	3,800	6,800	11,500	10,700	12,000	12,000

Note 1: In 2011, CND donated a truck to the Powerline Technician Apprenticeship program at Conestoga College.

CND has estimated an amount of \$12,000 for charitable donations in the 2013 Bridge Year and 2014 Test Year. CND is not requesting recovery of its charitable donations as such costs are excluded from the calculation of its revenue requirement.

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Appendix 4-1 Appendix 2-M Regulatory Costs

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Appendix 2-M Regulatory Cost Schedule

Reg	gulatory Cost Category	USoA Account	USoA Account Balance	Ongoing or One-time Cost? ²	Ye	t Rebasing ear (2010 Board pproved)	lost Current Actuals Year 2012	2013 Bridge Year	Annual % Change	20	014 Test Year	Annual % Change
	(A)	(B)	(C)	(D)		(E)	(F)	(G)	(H) = [(G)-(F)]/(F)		(l)	(J) = [(I)-(G)]/(G)
1	OEB Annual Assessment	5655		On-Going	\$	151,128	\$ 146,631	\$ 151,215	3.13%	\$	156,000	3.16%
2	OEB Section 30 Costs (Applicant-originated)	5655		On-Going								
3	OEB Section 30 Costs (OEB-initiated)	5655		On-Going	\$	10,000	\$ 9,090	\$ 10,000	10.01%	\$	12,000	20.00%
4	Expert Witness costs for regulatory matters											
5	Legal costs for regulatory matters	5655		One-Time	\$	15,000		\$ 50,000				-100.00%
6	Consultants' costs for regulatory matters	5655		One-Time	\$	10,000	\$ 1,842	\$ 110,000	5870.73%			-100.00%
7	Operating expenses associated with staff resources allocated to regulatory matters	5655		One-Time	\$	112,831		\$ 35,000				-100.00%
8	Operating expenses associated with other resources allocated to regulatory matters ¹	5655		One-Time			\$ 3,752	\$ 20,000	433.12%			-100.00%
9	Other regulatory agency fees or assessments	5655		One-Time			\$ 800	\$ 800	0.00%	\$	800	0.00%
10	LEAP Contributions	5655		One-Time			\$ 29,683	\$ 29,985	1.02%	\$	30,000	0.05%
11	Any other costs for regulatory matters (please define)	5655		One-Time				\$ 40,000				-100.00%
12	Intervenor costs	5655		One-Time	\$	15,000	\$ 6,408	\$ 32,000	399.36%		,	-100.00%
13	Sub-total - Ongoing Costs 3		\$ -		\$	161,128	\$ 155,721	\$ 161,215	3.53%	\$	168,000	4.21%
14	Sub-total - One-time Costs 4		\$ -		\$	152,831	\$ 42,485	\$ 317,785	647.99%	\$	30,800	-90.31%
15	Total		\$ -		\$	313,959	\$ 198,206	\$ 479,000	141.67%	\$	198,800	-58.50%

Please fill out the following table for all <u>one-time</u> costs related to this cost of service application to be amortized over the test year plus the IRM period.

		Historical Year(s)	2013 Bridge Year	2014 Test Year
4	Expert Witness costs			
5	Legal costs	96,634	50,000	
6	Consultants' costs	32,667	110,000	
7	Incremental operating expenses associated with staff resources allocated to this application.	25,242	35,000	
8	Incremental operating expenses associated with other resources allocated to this application. ¹	7,505	20,000	
11	Any other costs for regulatory matter		40,000	
12	Intervenor costs	42,428	32,000	

- Please identify the resources involved.

 Where a category's costs include both one-time and ongoing costs, the applicant should prove a separate breakdown between one-time and ongoing costs. Sum of all ongoing costs identified in rows 1 to 11 inclusive.

 Sum of all one-time costs identified in rows 1 to 11 inclusive.

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Appendix 4-2 Appendix 2-JA Summary of Recoverable OM&A Expenses

2

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Appendix 2-JA Summary of Recoverable OM&A Expenses

	Year	st Rebasing (2010 Board- Approved)	st Rebasing Year (2010 Actuals)	20)11 Actuals	20	012 Actuals	2	013 Bridge Year		2014 Test Year CGAAP	
Reporting Basis		CGAAP	CGAAP		CGAAP		CGAAP		CGAAP			
Operations	\$	2,872,659	\$ 2,516,620	\$	2,839,916	\$	3,306,212	\$	2,204,861	\$	2,501,846	
Maintenance	\$	1,166,239	\$ 931,863	\$	929,059	\$	2,121,992	\$	2,460,379	\$	2,841,552	
SubTotal	\$	4,038,898	\$ 3,448,483	\$	3,768,975	\$	5,428,204	\$	4,665,240	\$	5,343,398	
%Change (year over year)					9.3%		44.0%		-14.1%		14.5%	
%Change (Test Year vs Last Rebasing Year - Actual)											54.9%	
Billing and Collecting	\$	1,447,594	\$ 1,071,672	\$	1,494,842	\$	2,649,010	\$	2,839,880	\$	2,974,585	
Community Relations	\$	46,969	\$ 28,248	\$	43,768	\$	104,797	\$	130,555	\$	151,100	
Administrative and General	\$	4,498,647	\$ 5,032,154	\$	5,454,838	\$	5,494,299	\$	7,235,724	\$	7,334,228	
SubTotal	\$	5,993,210	\$ 6,132,074	\$	6,993,448	\$	8,248,106	\$	10,206,159	\$	10,459,913	
%Change (year over year)					14.0%		17.9%		23.7%		2.5%	
%Change (Test Year vs Last Rebasing Year - Actual)											70.6%	
Total	\$	10,032,108	\$ 9,580,557	\$	10,762,423	\$	13,676,310	\$	14,871,399	\$	15,803,311	
%Change (year over year)					12.3%		27.1%		8.7%		6.3%	

	(2	Rebasing Year 2010 Board- Approved)	L	Last Rebasing Year (2010 Actuals)		2011 Actuals		2012 Actuals		2013 Bridge Year		2014 Test Year	
Operations	\$	2,872,659	\$	2,516,620	\$	2,839,916	\$	3,306,212	\$	2,204,861	\$	2,501,846	
Maintenance	\$	1,166,239	\$	931,863	\$	929,059	\$	2,121,992	\$	2,460,379	\$	2,841,552	
Billing and Collecting	\$	1,447,594	\$	1,071,672	\$	1,494,842	\$	2,649,010	\$	2,839,880	\$	2,974,585	
Community Relations	\$	46,969	\$	28,248	\$	43,768	\$	104,797	\$	130,555	\$	151,100	
Administrative and General	\$	4,498,647	\$	5,032,154	\$	5,454,838	\$	5,494,299	\$	7,235,724	\$	7,334,228	
Total	\$	10,032,108	\$	9,580,557	\$	10,762,423	\$	13,676,310	\$	14,871,399	\$	15,803,311	
%Change (year over year)						12.3%		27.1%		8.7%		6.3%	

	Last Rebasing Year (2010 Board- Approved)	Last Rebasing Year (2010 Actuals)	Variance 2010 BA – 2010 Actuals	2011 Actuals	Variance 2011 Actuals vs. 2010 Actuals	2012 Actuals	Variance 2012 Actuals vs. 2011 Actuals	2013 Bridge Year	Variance 2013 Bridge vs. 2012 Actuals	2014 Test Year	Variance 2014 Test vs. 2013 Bridge
Operations	\$ 2,872,659	\$ 2,516,620	\$ 356,039	\$ 2,839,916	\$ 323,296	\$ 3,306,212	\$ 466,296	\$ 2,204,861	-\$ 1,101,351	\$ 2,501,846	\$ 296,985
Maintenance	\$ 1,166,239	\$ 931,863	\$ 234,376	\$ 929,059	-\$ 2,804	\$ 2,121,992	\$ 1,192,933	\$ 2,460,379	\$ 338,387	\$ 2,841,552	\$ 381,173
Billing and Collecting	\$ 1,447,594	\$ 1,071,672	\$ 375,922	\$ 1,494,842	\$ 423,170	\$ 2,649,010	\$ 1,154,168	\$ 2,839,880	\$ 190,870	\$ 2,974,585	\$ 134,705
Community Relations	\$ 46,969	\$ 28,248	\$ 18,721	\$ 43,768	\$ 15,520	\$ 104,797	\$ 61,029	\$ 130,555	\$ 25,758	\$ 151,100	\$ 20,545
Administrative and General	\$ 4,498,647	\$ 5,032,154	-\$ 533,507	\$ 5,454,838	\$ 422,684	\$ 5,494,299	\$ 39,461	\$ 7,235,724	\$ 1,741,425	\$ 7,334,228	\$ 98,504
Total OM&A Expenses	\$ 10,032,108	\$ 9,580,557	\$ 451,551	\$ 10,762,423	\$ 1,181,866	\$ 13,676,310	\$ 2,913,887	\$ 14,871,399	\$ 1,195,089	\$15,803,311	\$ 931,912
Adjustments for Total non- recoverable items (from Appendices 2-JA and 2-JB)											
Total Recoverable OM&A Expenses	\$ 10,032,108	\$ 9,580,557	\$ 451,551	\$ 10,762,423	\$ 1,181,866	\$ 13,676,310	\$ 2,913,887	\$ 14,871,399	\$ 1,195,089	\$15,803,311	\$ 931,912
Variance from previous year				\$ 1,181,866		\$ 2,913,887		\$ 1,195,089		\$ 931,912	
Percent change (year over year)				12%		27%		9%		6%	
Percent Change: Test year vs. Most Current Actual					_	15.55%	,		_		
Simple average of % variance for all years	64.95%										14%
Compound Annual Growth Rate for all years	or										10.5%
Compound Growth Rate (2012 Actuals vs. 2010 Actuals)						42.75%					

Note:

- 1 "BA" = Board-Approved
 2 If it has been more than three 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 three years ago, a minimum of three years of actual information is required.
 3 Recoverable OM&A that is included on these tables should be identical to the recoverable OM&A that is shown for the corresponding periods on Appendix 2-JB.

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Appendix 4-3 Appendix 2-JB OM&A Cost Driver Table

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Appendix 2-JB Recoverable OM&A Cost Driver Table

OM&A		Last Rebasing Year (2010 Actuals) 2011 Actuals 2012 Actuals			20	13 Bridge Year		2014 Test Year			
Reporting Basis		CGAAP		CGAAP		CGAAP		CGAAP		CGAAP	
Opening Balance	\$	9,911,562	\$	9,580,557	\$	10,762,424	\$	13,676,312	\$	14,871,399	
Merit/Collective Bargaining/Other Annual Increases	\$	167,712	\$	186,247	\$	196,446	\$	223,676	\$	198,775	
Organizational Capacity	\$	8,906	\$	64,754	\$	52,459	\$	570,447	\$	435,942	
OMERS Pension Costs (OM&A Portion)	\$	27,240	\$	101,907	\$	109,292	\$	122,723	\$	47,740	
Employee Benefit Costs (OM&A Portion)	\$	54,551	\$	1,864	\$	21,686	\$	236,258	\$	44,558	
Change in allocation of labour to Operations/Maintenance							-\$	100,000	\$	148,000	
Effect of Loss on write-off of SAP CIS in 2009	-\$	934,444									
Effect of Loss of Water Billing Contract (2011)			\$	603,131							
Effect of Smart Meter Decision					\$	1,325,414	-\$	1,325,414			
Changes in Accounting Estimates - Capitalization Policies					\$	- /	\$	343,723	\$	243,558	
Incremental TOU and Smart Meter Costs					\$	360,291	\$	28,983	\$	10,671	
IT Costs - Maintenance, Licenses, and Communication							\$	237,952			
IT Costs - Professional Services							\$	154,000	-\$	61,480	
Cost of Service Application Costs/Regulatory Costs	\$	207,000					\$	287,000	\$	46,000	
LEAP Program			\$	29,630	\$	53	\$	261	\$	56	
Bad Debt Expenditures/(Recoveries)	-\$	143,631	\$	29,734	\$	93,245	\$	7,439	-\$	37,600	
Space Optimization Study							\$	200,000	-\$	200,000	
Buildings (Rental and Maintenance)			\$	70,389			\$	139,260	\$	44,851	
Insurance Premiums/(Rebates)					-\$	37,184	\$	73,671	\$	7,799	
Transformer Station Equipment Painting							\$	90,000	-\$	90,000	
Professional services fees	\$	126,306									
Inflation/Other	\$	155,355	\$	94,211	\$	30,804	-\$	94,892	\$	93,041	
	\$	-	\$	-	\$	-	\$	-	\$	-	
		•									
Closing Balance	\$	9,580,557	\$	10,762,424	\$	13,676,312	\$	14,871,399	\$	15,803,310	

Notes:

1	For each year, a detailed explanation for each cost driver and associated amount is
	required in Exhibit 4.
2	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 three 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 three years ago, a minimum of three
	years of actual information is required.
4	Opening Balance for "Last Rebasing Year" (cell B15) should be equal to the Board-Approved amount.

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Appendix 4-4 Appendix 2-L OM&A Cost per Customer and per FTE

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Appendix 2-L Recoverable OM&A Cost per Customer and per FTE

	Last Rebasing Year - 2010- Board Approved		Last Rebasing Year - 2010- Actual			2011 Actuals		2012 Actuals		2013 Bridge Year		2014 Test Year
Reporting Basis		CGAAP		CGAAP CGAAP			CGAAP			CGAAP	CGAAP	
Number of Customers		50,550.00		50,262.00		51,166.00		51,712.00		52,663.00		53,634.00
Total Recoverable OM&A												
from Appendix 2-JB	\$	10,032,108	\$	9,580,557	\$	10,762,422	\$	13,676,310	\$	14,871,399	\$	15,803,310
OM&A cost per customer	\$	198.46	\$	190.61	\$	210.34	\$	264.47	\$	282.39	\$	294.65
Number of FTEs	91			85		89	95		104		117	
Customers/FTEs		557.33		593.41		574.90		544.91		506.38		458.41
OM&A Cost per FTE		110,607.59		113,111.65		120,926.09		144,112.86		142,994.22		135,071.03

Notes:

- 1 If it has been more than three 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 three years ago, a minimum of three years of actual information is required.
- 2 The method of calculating the number of customers must be identified.
- 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.

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Appendix 4-5 Appendix 2-DB Overhead Expenses

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Appendix 2-DB Overhead Expense

The following table should be completed based on the information requested below. An explanation should be provided for any blank entries. The entries should include overhead costs that are currently capitalized on self-constructed assets under revised CGAAP or ASPE (with the changes in capitalization and depreciation expense policies).

(A)	(B)	(C)	(D)	(E)	(F)	(G)
Dollar Impact on PP&E Historic Year	Dollar Impact on PP&E Bridge Year		Dollar Impact - PP&E Variance Test versus Bridge	Dollar Impact - PP&E Variance Test versus Historic	Directly Attributable? (Y/N)	Reasons why the overhead costs are allowed to be capitalized under CGAAP or ASPE (with the changes in policies) given limitations on capitalized overhead
			\$ -	\$ -		
			\$	\$ -		
			\$	\$ -		
			\$	\$ -		
			\$	\$ -		
			\$ -	\$ -		
			\$	\$ -		
			\$ -	\$ -		
			\$	\$ -		
			\$ -	\$ -		
			\$	\$ -		
			\$ -	\$ -		
			\$ -	\$ -		
			\$ -	\$ -		
\$ -	\$ -	\$ -	\$ -	\$ -		
	Dollar Impact on PP&E	Dollar Impact on PP&E Impact on PP&E Bridge Year	Dollar Dollar Impact on PP&E Impact on PP&E Historic Year Bridge Year Test Year	Dollar Impact on PP&E Historic Year Historic Year Bridge Year S S S S S S S S S S S S S S S S S S S	Dollar Impact on PP&E Historic Year Historic Year Historic Year Dollar Impact on PP&E Bridge Year First Year Dollar Impact - PP&E Variance Test versus Bridge Test Year Test Year Test Year Test Year Test versus Bridge Test versus Bridge	Dollar Impact on PP&E Impact on PP&E Impact on PP&E Test Year Test versus Bridge Test versus Historic Year FP&E Variance Test versus Historic Year FP&E Variance Test versus Historic Year FP&E Variance Test versus Historic Year Year FP&E Variance Test versus Historic Year Year

The following table should be completed based on the information requested below. An explanation should be provided for any blank entries. The entries should include overhead costs that were capitalized on self-constructed assets under CGAAP but are no longer capitalized under revised CGAAP or ASPE (with the changes in capitalization and depreciation expense policies) and are included in OM&A.

(A)	(B)	(C)	(D)	(E)	(F)	(G)
Dollar	Dollar	Dollar	Dollar Impact -	Dollar Impact -	Directly	Reasons why the overhead costs are allowed to be
Impact on OM&	Impact on OM&A	Impact on OM&A	OM&A Variance	OM&A Variance	Attributable?	capitalized under CGAAP or ASPE (with the changes in
Historic Year	Bridge Year	Test Year	Test versus Bridge	Test versus Historic	(Y/N)	policies) given limitations on capitalized overhead
\$ 226,413	\$ 258,705	\$ 281,255	\$ 22,550	\$ 54,842	N	
\$ 333,253	\$ 600,835	\$ 806,208	\$ 205,373	\$ 472,955	N	
			\$ -	\$ -		Stores/purchasing /inventory costs that are directly attributable to a capital project are capitalized;otherwise such costs are expensed through OM&A
			\$ -	\$ -		If the testing of the asset is prior to installation,it is capitalized;otherwise such costs are expensed through OM&A
			\$ -	\$ -		Professional fees are capitalized if they specifically relate to a capital project;otherwise theyare expensed through OM&A
						N/A - no new facilities have been opened
			\$ -	\$ -		N/A - no new products or services have been introduced
			\$ -	\$ -		N/A - no business in a new location has occurred and no new customer classes have been introduced
			\$ -	\$ -		
\$ 70,581	\$ 72,652	\$ 74,832	\$ 2,180			
\$ 131,135	\$ 172,913	\$ 186,368	\$ 13,455	\$ 55,233	N	
			\$ -	\$ -		
			\$ -	\$ -		
			\$ -	\$ -		
\$ 761,382	1,105,105	\$ 1,348,663	\$ 243,558	\$ 587,281		
	Dollar Impact on OM&A Historic Year \$ 226,413 \$ 333,252	Dollar Dollar Impact on OM&A Historic Year \$ 226,413 \$ 258,705 \$ 333,253 \$ 600,835 \$ 70,581 \$ 72,652 \$ 131,135 \$ 172,913	Dollar Dollar Dollar Impact on OM&A Historic Year \$ 226,413 \$ 258,705 \$ 281,255 \$ 333,253 \$ 600,835 \$ 806,208 \$ \$ 70,581 \$ 72,652 \$ 74,832 \$ 131,135 \$ 172,913 \$ 186,368 \$ \$ 186,368 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Dollar Dollar Dollar Dollar Dollar Impact on OM&A Historic Year \$ 226,413 \$ 258,705 \$ 281,255 \$ 22,550 \$ 333,253 \$ 600,835 \$ 806,208 \$ 205,373 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Dollar Impact on OM&A Impact on OM&A Historic Year S 226,413 \$ 258,705 \$ 281,255 \$ \$ 22,550 \$ \$ 54,842 \$ \$ 3333,253 \$ 600,835 \$ 806,208 \$ 205,373 \$ 472,955 \$ \$ \$ \$ \$ \$ \$ \$ \$	Dollar Impact on OM&A Impact on OM&A Historic Year Historic Year S 226,413 \$ 258,705 \$ 281,255 \$ \$ 22,550 \$ \$ 54,842 N \$ \$ \$ \$ \$ \$ \$ \$

PROGRAM DELIVERY COSTS WITH VARIANCE ANALYSIS

2 MATERIALITY THRESHOLD

In accordance with the Chapter 2 Filing Requirements, an applicant must provide 3 justification for changes from year to year to its rate base, capital expenditures and OM&A 4 5 above a materiality threshold. CND's materiality threshold is computed as 0.5% of the 6 proposed distribution revenue requirement for distributors with a distribution revenue 7 requirement greater than \$10 million and less than or equal to \$200 million. The materiality 8 threshold as per the Filing Requirements is \$139,830 as provided in Table 4-16. CND has 9 adopted a variance analysis threshold of \$125,000, which is consistent with materiality 10 threshold used by CND it its last Cost of Service Rate Application.

11 Table 4-16 – Threshold for Variance Analysis

VARIANCE ANALYSIS THRESHOLD								
	2014 TEST							
Estimated Distribution Revenue Requirement	27,966,045							
0.5% of Proposed Distribution Revenue Requirement Variance threshold established for analysis	139,830 125,000							

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OVERVIEW

As part of the overall financial management of its operating costs, CND prepares an annual budget and produces monthly financial statements and operating variance analysis in comparison to the approved budget. The annual budget is prepared at the department level, with the departments representing the key business functions and activities of CND. The operating variance analysis, which reports significant variances by department, is distributed to the CND Leadership Team on a monthly basis, and provided to CND's Board of Directors on a quarterly basis. As CND manages and reports its operating costs based on departments, Program Costs and related variance analysis in this Exhibit align to CND's department structure and the accountability of its management team.

- 1 Table 4-17 provides a summary of Operations, Maintenance, and Administration expenses
- 2 for the 2010 Board Approved, 2011 Actual, 2012 Actual, 2013 Bridge, and 2014 Test Year
- 3 by Program.

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Table 4-17 OM&A Program Costs (Appendix 2-JC)

Programs	Last Rebasing Year (2010 Board- Approved)	Last Rebasing Year (2010 Actuals)	2011 Actuals	2012 Actuals	2013 Bridge Year	2014 Test Year	Variance (Test Year vs. 2012 Actuals)	Variance (Test Year vs. Last Rebasing Year (2010 Board- Approved)
Distribution Stations	-	26,249	-	-	-	-	-	-
Transformer Station	175,983	225,498	144,513	181,092	265,852	195,935	14,843	19,952
Overhead Maintenance	1,100,034	925,206	1,233,454	1,332,685	1,460,727	1,914,778	582,093	814,744
Tree Trimming Maintenance	418,971	313,360	254,435	332,661	322,770	343,089	10,428	(75,882)
Load Dispatching	531,595	505,687	446,983	400,866	566,625	645,251	244,385	113,656
Underground Maintenance	716,678	767,604	882,118	856,619	958,305	975,618	118,999	258,940
Distribution Transformer Operation	138,195	130,364	127,534	179,112	201,236	166,668	(12,444)	28,473
Maintenance Line TS	-	187,812	179,232	103,151	74,932	156,663	53,512	156,663
Meter Expense	354,802	248,071	364,920	1,856,846	685,810	713,302	(1,143,544)	358,500
Customer Premises	82,882	109,421	196,745	108,953	12,103	109,678	725	26,796
Billing and Settlement	611,216	691,148	791,095	864,954	916,800	1,031,835	166,881	420,619
Water Billing	-	(603,131)	-	-	-	-	-	-
Meter Reading Expenses	503,414	528,962	371,088	255,960	276,324	278,565	22,605	(224,849)
Collecting	688,124	538,325	578,854	597,447	623,282	594,552	(2,895)	(93,572)
Office and Building	275,082	254,980	252,988	295,953	431,079	471,562	175,609	196,480
Customer Care	1,148,315	1,013,363	1,069,855	982,378	1,074,935	1,122,420	140,042	(25,895)
General Administration	1,337,191	1,540,800	1,486,579	3,761,985	4,744,945	4,783,802	1,021,817	3,446,611
Engineering Supervision	197,618	157,101	147,975	-	-	-	-	(197,618)
Operation Supervision	214,677	239,939	231,321	76,217	116,881	122,416	46,199	(92,261)
Human Resources and								
Training	242,636	264,843	377,068	168,844	260,976	195,063	26,219	(47,573)
Safety and Health	-	=	-	226,413	258,705	295,598	69,185	295,598
Accounting	740,354	772,480	735,201	451,609	467,127	544,255	92,646	(196,099)
Information Systems	407,221	587,183	762,151	635,890	1,139,146	1,127,247	491,357	720,026
CIS Administration	147,120	157,508	151,871	6,675	12,839	15,013	8,338	(132,107)
Miscellaneous	-	(2,216)	(23,558)	-	-	-	-	-
Total	10,032,108	9,580,557	10,762,422	13,676,310	14,871,399	15,803,310	2,127,000	5,771,202

6 **VARIANCE ANALYSIS**

Introduction:

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8 CND implemented an Enterprise Resource Planning ("ERP") software solution, effective 9 January 1, 2012. As part of the ERP implementation, CND revised its Chart of Accounts, as well as made some structural changes to the mapping and allocation of costs to 10 departments, as well as to certain Uniform System of Accounts ("USoA"). An expected 12 outcome of the ERP implementation, and one that is not uncommon following an ERP

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- 1 implementation, was that the change in mapping and allocation of costs has had an impact
- 2 on CND and its ability to provide detailed variance analysis on an account by account basis,
- 3 in particular with respect to the 2014 Test Year and 2010 Board Approved expenditures.
- 4 One of the most significant changes has been the allocation of employee costs to
- 5 Operations, Maintenance, and Administration categories. Prior to the ERP implementation,
- 6 all management and supervisory wages and benefits were recorded within each
- 7 department. Subsequent to the ERP implementation, wages and benefits for management
- 8 and supervisory staff are being allocated to General and Administration.
- 9 The Board, interveners, and other readers of the Application will experience, for certain
- 10 OEB accounts, some difficulty in direct variance analysis at the account and/or department
- 11 level for 2012 over 2011, 2011 over 2010, and 2014 Test Year over 2010 Board Approved.
- 12 The overall OM&A driver table (Table 4-3), provides for an overall variance analysis on total
- 13 OM&A expenditures year over year.

14 **2014 Test Year vs. 2012 Actual**

15 Overhead Maintenance:

2012 Actual	2014 Test	Variance
\$1,332,685	\$1,914,778	\$582,093

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Overhead maintenance costs include labour, materials, contractor, fleet, and other third party expenditures associated with maintenance activities on the overhead distribution plant. An overview of the type of maintenance activities is provided in this Exhibit beginning at Tab 1, Schedule 2, Page 1. Overhead maintenance expenditures are expected to be \$1,914,778 in the 2014 Test Year compared to \$1,332,685 in 2012. The increase in overhead maintenance costs of \$582,093 from 2012 Actuals to 2014 Test Year is principally explained by:

Increase in wages and benefits for maintenance crews explained by annual increases under the collective bargaining agreement;

Increase in the number of Apprentice Powerline Technicians (Table 4-6) and the associated number of hours of work assigned to overhead maintenance; and

2014 Test Year includes \$806,208 in overhead removal costs associated with capital projects planned in 2014. Such costs are no longer eligible for capitalization (Table 4-9). Overhead removal costs in 2012 were \$333,253.

8 Load Dispatching:

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2012 Actual	2014 Test	Variance
\$400,866	\$645,251	\$244,385

Load dispatching costs include labour, materials and communication costs to related to the Network Control Operations department, which is responsible for the monitoring and operation of the electricity distribution system. Load dispatching expenditures are expected to be \$645,251 in the 2014 Test Year compared to \$400,866 in 2012. The increase in load dispatching costs of \$244,385 from 2012 Actuals to 2014 Test Year is principally explained by the addition of three full-time SCOs to: i) replace an SCO that is expected to retire in 2018; and (ii) to transition to a 24/7 control room.

18 *Meter Expense:*

2012 Actual	2014 Test	Variance
\$1,856,846	\$713,302	(\$1,143,544)

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Meter expenses include labour, material, vehicle, and other costs related to the maintenance of meters, as well as annual license and maintenance fees for the AMI network. Meter expenses for 2014 Test Year are \$1,143,544 lower than 2012 Actuals principally as a result of the Smart Meter Decision (EB-2012-0086) and the recording of \$1,325,414 in expenses related to prior years in 2012. Excluding the impact of the Smart Meter Decision and the recording of prior year expenses, meter expenses are expected to increase by \$181,870 due to: (i) increase in wages and benefits explained by annual increases under the collective bargaining agreement; (ii) addition of a full-time Meter Apprentice; and (iii) a full year of network fees paid to Sensus compared to two months in 2012.

11 Billing and Settlement:

2012 Actual	2014 Test	Variance
\$864,954	\$1,031,835	\$166,881

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Billing and settlement expenses include labour, material, and third party costs for the handling and processing of all energy data including the preparation, printing, and mailing of customer invoices, EBT and retailer settlements, as well as VEE through the ODS to ensure data consistency with the MDM/R and the resolving of billing exceptions. Billing and settlement expenditures are expected to be \$1,031,835 in the 2014 Test Year compared to \$864,954 in 2012. The increase in Billing and Settlement costs of \$166,881 from 2012 Actuals to 2014 Test Year is principally explained by:

- Increase in wages and benefits for staff explained by annual increases under the collective bargaining agreement;
- 23 Addition of a new Sync Operator; and
- Annual increases in service fees related to the outsourcing of the printing of invoices to a third party.

Exhibit 4 Tab 3 Schedule 1

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Office and Building:

2012 Actual	2014 Test	Variance
\$295,953	\$431,079	\$175,609

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Office and building costs include lease payments, property insurance, utilities, and general maintenance costs such as: (i) janitorial; (ii) snow removal; (iii) garbage removal; (iv) security; and (v) general repair costs. Office and building costs are expected to be \$431,079 in the 2014 Test Year compared to \$295,953 in 2012. The increase in office and building costs is principally attributable to:

- 8 New lease payments attributable to the rental of additional space;
- 9 Increased operating and maintenance costs related to the additional space; and
- 10 Increases in general maintenance, including painting, due to age of building.

11 Customer Care:

2012 Actual	2014 Test	Variance
\$982,378	\$1,074,935	\$140,042

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16 17 Customer care costs include labour, postage, advertising, public relations, and other third party communication costs. Customer care expenditures are expected to be \$1,074,935 in the 2014 Test Year compared to \$982,378 in 2012. The increase in Customer Care costs of \$140,042 from 2012 Actuals to 2014 Test Year is principally explained by:

- Hiring of a full time Manager, Communications (Exhibit 4, Table 4-21 or 4-6)
- 19 Increase in postage expenses; and

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Schedule 1

- 1 Increase in wages and benefits for customer care staff explained by annual increases under
- 2 the collective bargaining agreement.

3 General Administration:

2012 Actual	2014 Test	Variance
\$3,761,985	\$4,783,802	\$1,021,817

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General and administrative costs include salaries and benefits, retiree benefits, Board of Directors compensation and meeting costs, corporate insurance costs, regulatory costs and legal and other professional fees. General and administrative expenses are expected to be \$4,783,802 in the 2014 Test Year compared to \$3,761,985 in 2012. The increase in general and administrative expenses is principally explained by:

- 11 Hiring of additional management staff, including: (i) Vice President, Information Technology
- 12 Services (Exhibit 4, Table 4-21; and (ii) Supervisor, Credit and Collections (Exhibit 4, Table
- 13 4-21);
- 14 Increases in salaries for all supervisory, management, and executive staff;
- 15 Increase in benefit costs for all supervisory, management, and executive staff;
- 16 Increase in regulatory costs; and
- 17 Increase in general insurance actual costs for 2012 were lower due to a one-time
- 18 premium reduction.

19 Information Systems:

2012 Actual	2014 Test	Variance
\$635,890	\$1,127,247	\$491,357

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Information system costs include salaries and benefits, software and hardware license and maintenance fees, communication fees (network/wireless), and professional services. Information system expenses are expected to be \$1,127,247 in the 2014 Test Year compared to \$635,890 in 2012. The increase in information systems is principally explained by:

- 6 Hiring of additional staff (Exhibit 4, Table 4-21).
- 7 Increase in hardware and software license and maintenance fees. As previously explained
- 8 (Exhibit 4, Page 16), CND has made a significant investment in new information systems
- 9 technologies and applications which has resulted in increased software license fees, and
- 10 well as maintenance costs;
- 11 Increase in third party professional services costs to support key initiatives in 2014
- 12 including: (i) optimization of business processes and use of ERP technology to improve
- 13 efficiencies within Accounting, Engineering, and Operations departments; (ii) security
- 14 awareness training; and (iii) development of a mobile strategy; and
- 15 Incremental communication costs to support the new remote office.

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2014 Test Year vs. 2010 Board Approved

2 Overhead Maintenance:

2010 Board Approved	2014 Test	Variance
\$1,100,034	\$1,914,778	\$814,744

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Overhead maintenance expenditures are expected to be \$1,914,778 in the 2014 Test Year compared to the 2010 Board Approved \$1,100,034. Consistent with the variance explanation for 2012 Actuals versus 2014 Test Year, the increase in overhead maintenance costs of \$814,744 is principally explained by:

- 8 Increase in wages and benefits for maintenance crews explained by annual increases
- 9 under the collective bargaining agreement;
- Addition of 7 new Apprentice Powerline Technicians (2011 2; 2013 3; and 2014 2)
- 11 (Table 4-6) and the associated number of hours of work assigned to overhead
- 12 maintenance; and
- 13 2014 Test Year includes \$806,208 in overhead removal costs associated with capital
- 14 projects planned in 2014, compared to nil in 2010 Board Approved. Such costs are no
- 15 longer eligible for capitalization (Table 4-9).

1 Underground Maintenance:

2010 Board Approved	2014 Test	Variance
\$716,678	\$975,618	\$258,940

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Underground Maintenance expenditures are expected to be \$975,618 in the 2014 Test Year compared to the 2010 Board Approved \$716,678. Consistent with the explanation provided for Overhead Maintenance, the increase in underground maintenance expenditures is explained by increases in wages and benefit costs, and the assignment of labour resources, including the new apprentices, based on the annual maintenance programs (Exhibit 4, Tab 1, Schedule 2, page 4 of 18).

9 Maintenance Line Transformer Station:

2010 Board Approved	2014 Test	Variance
\$-	\$156,663	\$156,663

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Maintenance Line Transformer Station expenditures represent labour and subcontractor costs associated with the maintenance of the transformer station lines. The 2010 Board Approved expenditures were included within the overhead maintenance category.

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1 Meter Expense:

2010 Board Approved	2014 Test	Variance
\$354,802	\$713,302	\$358,500

Meter expenses include salaries and benefits, materials and vehicle expenditures associated with meter maintenance activities, AMI network fees, and meter service provider maintenance costs. Meter expenses are expected to be \$713,302 in the 2014 Test Year compared to the 2010 Board Approved \$354,802. The increase in meter expenses is principally attributable to: (i) incremental costs associated with the implementation of Smart Meters, including AMI network and communication costs; (ii) increased salaries and benefit costs for Meter Technicians; and (iii) hiring of a Meter Maintenance Apprentice (Table 4-21).

11 Billing and Settlement:

2010 Board	2014 Test	Variance
Approved		
\$611,216	\$1,031,835	\$420,619

Billing and settlement costs include salaries and benefits, third party service fees, and supplies associated with the billing and settlement processes (Exhibit 4, Tab 1, Schedule 2, and Page 14). Billing and settlement expenses are expected to be \$1,031,835 in the 2014 Test Year compared to the 2010 Board Approved \$611,216. The increase in billing and settlement expenses is principally attributable to: (i) incremental costs associated with the implementation of Smart Meters and TOU rates, including ODS, EEV, and other communication costs; and (ii) increased salaries and benefits for staff.

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Meter Reading Expenses:

2010 Board Approved	2014 Test	Variance
\$503,414	\$278,565	(\$224,849)

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Meter reading expenditures are expected to be \$278,565 in the 2014 Test Year compared to the 2010 Board Approved \$503,414. The replacement of conventional meters to Smart Meters has significantly reduced the meter reading costs for residential and small commercial (GS<50kW) customers.

7 Office and Building:

2010 Board Approved	2014 Test	Variance
\$275,082	\$471,562	\$196,480

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Office and building expenditures are expected to be \$471,562 in the 2014 Test Year compared to the 2010 Board Approved \$275,082. The increase in office and building costs is primarily attributable to: (i) increase in the allocation of building costs to OM&A as a result of changes to CND's capitalization policy (Exhibit 2, Tab 2, Schedule 2); and (ii) increased lease and maintenance expenditures associated with the incremental space, as previously described (Exhibit 4, Tab 1, Schedule 1, and Page 7).

1 General Administration:

2010 Board Approved	2014 Test	Variance
\$1,337,191	\$4,783,802	\$3,446,611

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General and administrative expenses are expected to be \$4,783,802 in the 2014 Test Year compared to the 2010 Board Approved amount of \$1,337,191. The increase in general and administrative expenses is principally attributable to: (i) reallocation of all supervisory and management wages; (ii) hiring of additional supervisory and management staff over the period 2011 through 2014 (Exhibit 4, Table 21); (iii) annual salaries and benefit increases; (iv) increase in Board of Directors expenses; (v) higher general liability insurance premiums; and (vi) increased professional fees.

As explained in Exhibit 4, Tab 3, Schedule 1, and Page 3, one of the most significant changes to general and administration expenses as a result of the ERP implementation has been the allocation of all management and supervisory wages, which were previously allocated to the various departments. Based upon the 2014 Test Year salaries and benefits, the following is a summary of the salaries and benefits that have been reallocated:

Department Allocation Prior to 2012	2014 Test Year
Operations	\$907,000
(Overhead/Underground/Maintenance)	
Load Dispatching	\$157,000

Engineering Supervision	\$187,000
Accounting	\$148,000
Customer Care	\$315,000
Billing and Settlement	\$141,000
Meter Expense	\$141,000
CIS Administration	\$176,000
Information Technology Services	\$148,000
Human Resources	\$175,000
Total	\$2,495,000

2 Engineering Supervision:

2010 Board Approved	2014 Test	Variance
\$197,618	\$-	(\$197,618)

Engineering supervision includes salaries and benefits and related costs for management staff. As described under General and Administration, Engineering Supervision expenditures have been reclassified to General Administration expenditures.

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1 Safety and Health:

2010 Board Approved	2014 Test	Variance
\$-	\$295,598	\$295,598

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Safety and Health costs include labour and benefits, personal protective equipment, third party contractor costs, and employee safety training. Safety and health expenditures are expected to be \$295,598 in the 2014 Test Year compared to the 2010 Board Approved of \$Nil. The increase in safety and health costs is attributable to the change in CND's capitalization policy, whereby all safety and health costs are no longer eligible for capitalization and are recorded as OM&A expenditures (Table 4-9).

10 Accounting:

2010 Board Approved	2014 Test	Variance
\$740,354	\$544,255	(\$196,099)

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Accounting includes salaries and benefits, professional service fees including audit and actuarial fees, and training and development costs. Accounting expenditures are expected to be \$544,255 in the 2014 Test Year compared to the 2010 Board Approved of \$740,354. The decrease is principally attributable to the reclassification of management salaries and benefits to General Administration.

1 Information Systems:

2010 Board	2014 Test	Varianc⁄e
Approved		3
\$407,221	\$1,127,247	\$720,026 4

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Information system expenses are expected to be \$1,127,247 in the 2014 Test Year compared to \$635,890 in 2012. Consistent with the variance explanations provided for the 2012 Actuals compared to 2014 Test Year (Exhibit 4, Tab 3, Schedule 1, and Page 7), the increase in information systems is principally explained by: (i) hiring of additional staff; (ii) increase in hardware and software license and maintenance fees; (iii) increase in third party professional service costs; (iv) increase in communication costs; as well as (iv) increases in salaries and benefits over the period.

14 CIS Administration:

2010 Board	2014 Test	Variance
Approved		
\$147,120	\$15,013	(\$132,107)

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CIS Administration costs include training and administrative costs for CIS management staff. CIS Administration costs are expected to be \$15,013 in the 2014 Test Year compared to the 2010 Board Approved of \$147,120. As described under General Administration, salaries and benefits for CIS management staff have been reclassified to General Administration.

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Appendix 4-6 Appendix 2-JC OM&A Program Costs

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Appendix 2-JC OM&A Programs Table

Programs	Last Rebasing Year (2010 Board- Approved)	Last Rebasing Year (2010 Actuals)	2011 Actuals	2012 Actuals	2013 Bridge Year	2014 Test Year	Variance (Test Year vs. 2012 Actuals)	Variance (Test Year vs. Last Rebasing Year (2010 Board-Approved)
Reporting Basis								
Distribution Stations		26,249					0	
Sub-Total	0	26,249	0	0	0	0		
T	475.000	005 400	444.540	101.000	205.050	105.005	0	· ·
Transformer Station Sub-Total	175,983	225,498	144,513	181,092	265,852	195,935	14,843	19,952
Sub-Total	175,983	225,498	144,513	181,092	265,852	195,935	14,843	19,952
Overhead Maintenance	1,100,034	925,206	1,233,454	1,332,685	1,460,727	1,914,778	582,093	814,744
Sub-Total	1,100,034	925,206		1,332,685	1,460,727	1,914,778		814,744
	1,100,00	0.00,000	1,200,101	1,000,000	.,	.,,,,,,,,	0	0
Tree Trimming Maintenance	418,971	313,360	254,435	332,661	322,770	343,089	10,428	-75,882
Sub-Total	418,971	313,360	254,435	332,661	322,770	343,089	10,428	-75,882
							0	0
Load Dispatching	531,595	505,687	446,983	400,866	566,625	645,251	244,385	113,656
Sub-Total	531,595	505,687	446,983	400,866	566,625	645,251	244,385	113,656
Underground Maintenance	716,678	767,604	882,118	856,619	958,305	975,618	118,999	258,940
Sub-Total	716,678	767,604	882,118	856,619	958,305	975,618		258,940
Sub-Total	710,070	707,004	002,110	050,013	930,303	373,010	110,333	230,940
Distribution Transformer Operaton	138,195	130,364	127,534	179,112	201,236	166,668	-12,444	28,473
Sub-Total	138,195	130,364	127,534	179,112	201,236	166,668	-12,444	28,473
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Maintenance Line TS		187,812	179,232	103,151	74,932	156,663	53,512	156,663
Sub-Total	0	187,812	179,232	103,151	74,932	156,663	53,512	156,663
								
Meter Expense	354,802	248,071	364,920	1,856,846	685,810	713,302	-1,143,544	358,500
Sub-Total	354,802	248,071	364,920	1,856,846	685,810	713,302	-1,143,544	358,500
Customes Busines	00.000	100 101	400.745	400.050	10.100	400.070	705	20.700
Customer Premises	82,882 82,882	109,421 109.421	196,745 196,745	108,953	12,103	109,678 109,678	725 725	26,796
Sub-Total	02,002	109,421	196,745	108,953	12,103	109,676	725	26,796
Billing and Settlement	611,216	691,148	791,095	864,954	916,800	1,031,835	166,881	420,619
Water Billing	011,210	-603,131	731,033	004,934	310,000	1,031,033	100,001	420,019
Sub-Total	611,216	88,017	791,095	864,954	916,800	1,031,835	166,881	420,619
10101	011,210	00,011	701,000	001,001	0.0,000	1,001,000	100,001	120,010
Meter Reading Expenses	503,414	528,962	371,088	255,960	276,324	278,565	22,605	-224,849
Sub-Total	503,414	528,962	371,088	255,960	276,324	278,565	22,605	-224,849
Collecting	688,124	538,325	578,854	597,447	623,282	594,552	-2,895	-93,572
Sub-Total	688,124	538,325	578,854	597,447	623,282	594,552	-2,895	-93,572
Office and Building	275,082	254,980	325,332	437,115	576,375	621,226	184,111	346,144
Property Taxes Sub-Total	275,082	254,980	-72,344 252,988	-141,162 295,953	-145,296 431,079	-149,664	-8,502 175,609	-149,664 196,480
Sub-Total	213,002	254,500	232,900	293,933	431,079	471,562	173,009	190,480
Customer Care	1,148,315	1,013,363	1,069,855	982,378	1,074,935	1,122,420	140,042	-25,895
Sub-Total	1,148,315	1,013,363	1,069,855	982,378	1,074,935	1,122,420	140.042	-25,895
	1,1.10,010	.,,,	1,000,000	00-,010	1,011,000	.,,		
General Administration	1,337,191	1,642,591	1,605,032	3,782,942	4,762,345	4,801,802	1,018,860	3,464,611
Donations		-6,800	-11,500	-15,982	-12,000	-12,000	3,982	-12,000
Capital Taxes		-94,991	-97,493				0	0
Property Taxes			-9,460	-4,975	-5,400	-6,000	-1,025	-6,000
Sub-Total	1,337,191	1,540,800	1,486,579	3,761,985	4,744,945	4,783,802	1,021,817	3,446,611
Familia and an Company to the	107.010	157/01	447.0==				_	107.010
Engineering Supervision	197,618	157,101	147,975	^		^	0	
Sub-Total	197,618	157,101	147,975	0	0	0	0	-197,618
Operation Supervision	214,677	239,939	231,321	76,217	116,881	122,416	46,199	-92,261
Sub-Total	214,677	239,939		76,217	116,881	122,416		
	217,011	200,000	201,021	70,217	710,001	122,710	70,100	52,201
Human Resources and Training	242,636	264,843	377,068	168,844	260,976	195,063	26,219	-47,573
Sub-Total	242,636	264,843	377,068	168,844	260,976	195,063	26,219	-47,573
Safety and Health				226,413	258,705	295,598	69,185	295,598
Sub-Total	0	0	0	226,413	258,705	295,598	69,185	295,598
A	=					F		
Accounting	740,354	772,480	735,201	451,609	467,127	544,255	92,646	-196,099
Sub-Total	740,354	772,480	735,201	451,609	467,127	544,255	92,646	-196,099
Information Systems	407,221	587,183	762,151	635,890	1,139,146	1,127,247	491,357	720,026
Sub-Total	407,221	587,183	762,151	635,890	1,139,146	1,127,247	491,357	720,026
Oub Total	401,221	501,103	102,131	030,090	1,135,140	1,121,241	491,357	120,020
CIS Administration	147,120	157,508	151,871	6,675	12,839	15,013	8,338	-132,107
Sub-Total	147,120	157,508	151,871	6,675	12,839	15,013	8,338	-132,107
	,.20	,500	,	2,210	,:50		2,000	
Miscellaneous		-2,216	-23,558				0	0
Total	10,032,108	9,580,557	10,762,422	13,676,310	14,871,399	15,803,310	2,127,000	5,771,202

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.

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EMPLOYEE COMPENSATION

2 COMPENSATION PHILOSOPHY

- 3 CND recognizes the alignment of the contributions of its employees to the success of its
- 4 business. CND strives to pay competitively and equitably for employee performance, yet is
- 5 cognizant of the budgetary and business constraints of operating in a regulated
- 6 environment.

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7 Unionized Employees:

- 8 CND's unionized workforce is represented by the International Brotherhood of Electrical
- 9 Workers ("IBEW"), Local 636. There are two bargaining units that represent the unionized
- 10 workforce. Bargaining Unit #4 represents: Customer Care Representatives, Billing
- 11 Representatives, Clerical, IT Administrators, Engineering Staff, and outside workers.
- 12 Bargaining Unit #13 represents: Powerline Technicians ("PLTs"), Mechanic, Truck Drivers,
- 13 Stores/Stockroom, Customer Care Field Representative, Meter Technicians, Stations
- 14 Technicians, System Control Operators, and Locator.
- 15 CND's collective agreement with unionized staff provides for annual payroll increases
- 16 and employee step progressions. Labour rates are adjusted annually based on
- 17 negotiated percentages contained within the collective agreement. CND's current
- 18 collective agreement, covering a four year period, expires on March 31, 2014. Labour
- 19 wages are the result of a negotiated process and future wage estimates are based on
- 20 factors such as recent settlements reached in the LDC sector, particularly in
- 21 neighbouring LDCs, as well as the local cost of living inflation factor.
- 22 Each job classification at CND has a wage rate progression scale that increases from a
- 23 base rate to a maximum rate. The Hay Job Evaluation program is utilized by CND in
- 24 establishing the job classifications and wage rate progression scale. The Hay Job
- 25 Evaluation program is a methodology utilized by many LDCs, uses a multi-factor system to
- 26 rank job classifications, and generally evaluates positions based upon level of knowledge,
- 27 problem solving, and accountability required for the position. The evaluation is then used to
- 28 pay employees at an appropriate rate compared to other positions in the organization.

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- 1 CND maintains a collaborative approach with a mutual gains bargaining philosophy to
- 2 labour relations. Strategic planning and preparation for negotiations have commenced
- 3 and negotiations are expected to commence early in 2014.

4 Executive and Management Employees:

5 Compensation Philosophy:

- 6 In April 2013, CND developed and introduced a Total Compensation Philosophy for its
- 7 Executive and Management Staff. A copy of the Total Compensation Philosophy is
- 8 included in Appendix 4-7. CND's total compensation philosophy is based on its desire to
- 9 attract, retain and motivate an outstanding workforce. CND provides a total compensation
- 10 program that establishes and maintains competitive salary levels within relevant markets
- 11 and available resources, which is consistent with job content, responsibilities and
- 12 expectations. The program emphasizes and encourages excellence by rewarding
- 13 employee contributions, including performance that supports CND's core values of
- 14 Teamwork, Collaboration, Communication, Accountability and Innovation.
- 15 CND's total compensation system is comprised of base salary, incentive pay, and a
- 16 comprehensive benefit program.

17 Base Salary:

- 18 In 2013, CND hired a third party consultant to initiate a Market Survey to review the total
- 19 compensation program for Executive and Management employees. A copy of the Market
- 20 Survey is included in Appendix 4-8. The Market Survey validated that, overall, CND's
- 21 compensation program is competitive, with the exception of a few positions. The
- compensation program had not been thoroughly reviewed in the past five (5) years.
- 23 CND's total compensation program is reviewed and analyzed for its competitiveness
- 24 against three market comparators:
- 25 Broader Public Sector (BPS) Ontario excluding GTA
- Includes public sector and non-profit organizations

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- Industrial Sector (Industrial) Ontario excluding GTA
 - Includes private organizations in a variety of industries
- 3 LDC Sector

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- Includes LDC's of similar size and scope, and those that CND considers its
 market competition for talent
- 6 While CND considers its primary competition for talent its LDC market, yet recognizes the
- 7 requirement to maintain a balanced review and approach against both the private and
- 8 public sector markets.
- 9 In setting its total compensation, CND strives to maintain a 50th percentile position against
- the public and private sectors, with a primary focus on maintaining a 50th percentile position
- 11 against its LDC market competition.
- 12 CND used a pay grade that includes 11 pay grades within the management group, with
- each pay grade having a higher base salary as the level of responsibility increases.
- 14 CND maintains a base salary band of 85% to 115% for each position. Job rate (100%) is
- 15 the rate at which a fully experienced and competent individual achieves or is expected to
- operate at. Below job rate, the individual is considered developing. Achieving above job
- 17 rate is possible for individuals who have demonstrated mastery or consistent superior
- 18 performance in one or more roles. The use of a salary band provides for:
- Opportunity to reward, retain and attract top talent beyond 100%;
- Opportunity to mitigate compression issues between unionized staff and
 management; and
- Opportunity to place individuals new to the position in a developmental salary range.
- 23 The use of a base salary band is also consistent with best practice and the LDC market
- 24 comparators.

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- 1 Annual increases in base salary will be determined through CND's performance
- 2 management program, which provides a system for rewarding employees based on
- 3 behavior and performance competencies.

4 Incentive Pay:

- 5 CND places considerable emphasis on a results-driven, performance-based system, which
- 6 achieves success through the development of SMART (Specific, Measurable, Achievable,
- 7 Relevant, Time-bound) objectives. Goals are intended to challenge the organization to
- 8 consider how it can improve overall and individual skills to maximize its potential and further
- 9 enhance its contribution to the shareholder and community.
- 10 CND's incentive program consists of a Short-Term Incentive Program ("STIP") for all
- 11 management staff, as well as a Long-Term Incentive Program ("LTIP") for Executives
- 12 (Leadership Team). CND utilizes a Balance Score Card ("BSC") approach to goal setting
- 13 and annually assigns a weighted goal to each of the following four categories: (i) Profit;
- 14 (ii) Service; (iii) People; and (iv) Community. The BSC and related objectives are aligned to
- 15 CND's Strategic Plan.

16 **STIP**:

- 17 The objective of the STIP is to recognize management that contributes materially to the
- 18 success of the organization through their direct ability to impact the business, their
- 19 ingenuity, drive, and leadership. The STIP is awarded annually based on the achievement
- 20 of weighted objectives that are established at the beginning of each performance year.

21 **LTIP**:

- 22 The executive team is provided an LTIP opportunity aimed to reinforce and reward building
- 23 longer-term, sustainable value while meeting the short-term business goals. LTIP awards
- 24 are based on the achievement of, on average four critical key objectives with a direct
- 25 alignment to CND's Strategic Plan and each objective is weighted and clearly defined.
- 26 Objectives are set once every three years and timelines and deliverables are spread
- 27 throughout the three years, dependent on the ability to complete the objective in one or two
- 28 calendar years.

- 1 The LTIP payment is determined and awarded upon the successful achievement of the
- 2 objective within the three-year LTIP cycle. No payout is awarded if the results of the
- 3 objective do not meet at least the minimum threshold or the objective is not completed
- 4 within the timelines established.
- 5 Table 4-18 summarizes the STIP and LTIP payment incentives:

6 Table 4-18 STIP and LTIP Payment Incentives

Program	President & CEO	Leadership	Management
STIP			
Balanced Scorecard	24% of Base Salary	13% of Base Salary	8% of Base Salary
Personal Objectives	6% of Base Salary	7% of Base Salary	
LTIP	20% of Base Salary at completion of each individual project targets (4 in total)	15% of Base Salary at completion of each individual project targets (4 in total)	Not Applicable

8 Copies of the STIP and LTIP Incentive Plans have been provided in Appendix 4-9 and 4-10.

9 Comprehensive Benefit Program:

- 10 CND provides a comprehensive and competitive benefits package designed to address the
- 11 health and welfare needs of all employees. The benefit programs for Union and
- 12 Management employees are similar and include: health, dental and other medical
- insurance, life insurance, long-term disability, and travel insurance.

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STAFFING AND COMPENSATION

- 2 CND's employee complement, compensation, and benefits are set out in Table 4-19
- 3 Schedule 2K below. Schedule 2K does not include CND's Board of Directors, temporary
- 4 employees or students.

- 5 The Number of Employees is based on the computation of the number of full-time
- 6 equivalent ("FTE") positions throughout each of the fiscal years. A position that was added
- 7 in a particular calendar year is counted as a portion of an FTE in that calendar year based
- 8 on the start date of the position (e.g. a position hired as of July 1, 2012 would be
- 9 considered an FTE of 0.5 in 2012).
- 10 The "Salaries and Wages" amounts include all Salaries and Wages paid, inclusive of
- incentive pay for management, overtime, vacations, statutory holidays, floater holidays, sick
- 12 leave, bereavement leave, union meetings, and other miscellaneous paid leave (i.e. jury
- duty), which may be considered as benefits; however, they are not considered benefits for
- 14 the purpose of this analysis.
- 15 The "Benefits" amounts include: the employer's portion of statutory benefits (CPP, EI, and
- 16 EHT); employer contributions to OMERS and WSIB; and CND's costs for providing
- 17 Extended Health Care, Dental and Travel coverage, Long-Term Disability and Life
- 18 Insurance for its employees.

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Table 4-19 Schedule 2K - Employee Costs

	Last Rebasing Year - 2010- Board Approved	Last Rebasing Year - 2010- Actual	2011 Actuals	2012 Actuals	2013 Bridge Year	2014 Test Year
Number of Employees (FTEs including Part-Time) ¹						
Management (including executive)	20.0	19.1	20.2	21.2	22.6	25.0
Non-Management (union and non-union)	70.7	65.7	68.8	73.8	81.3	91.5
Total	90.7	84.7	89.0	94.9	103.9	116.5
Total Salary and Wages including ovetime and incentive pay						
Management (including executive)	\$ 2,108,000	\$ 2,126,864	\$ 2,344,286	\$ 2,511,257	\$ 2,653,264	\$ 2,883,849
Non-Management (union and non-union)	\$ 4,797,300	\$ 4,827,629	\$ 5,438,199	\$ 5,677,426	\$ 6,291,291	\$ 6,490,209
Total	\$ 6,905,300	\$ 6,954,492	\$ 7,782,485	\$ 8,188,683	\$ 8,944,555	\$ 9,374,058
Total Benefits (Current + Accrued)						
Management (including executive)	\$ 868,259	\$ 535,046	\$ 537,785	\$ 573,891	\$ 730,115	\$ 760,063
Non-Management (union and non-union)	\$ 2,006,570	\$ 1,416,686	\$ 1,516,512	\$ 1,679,223	\$ 1,976,353	\$ 2,114,468
Total	\$ 2,874,829	\$ 1,951,732	\$ 2,054,296	\$ 2,253,114	\$ 2,706,467	\$ 2,874,531
Total Compensation (Salary, Wages, & Benefits)						
Management (including executive)	\$ 2,976,259	\$ 2,661,909	\$ 2,882,071	\$ 3,085,148	\$ 3,383,378	\$ 3,643,912
Non-Management (union and non-union)	\$ 6,803,870	\$ 6,244,315	\$ 6,954,710	\$ 7,356,649	\$ 8,267,644	\$ 8,604,678
Total	\$ 9,780,129	\$ 8,906,224	\$ 9,836,781	\$ 10,441,797	\$ 11,651,022	\$ 12,248,589

Employee Staffing Levels:

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- 2 As at December 31, 2012, CND had 97 full-time employees. Table 4-20 provides for the
- 3 number of full-time employees by department at the end of each calendar year, including
- 4 projections for 2013 and 2014.

Table 4-20 Full-Time Employees by Department

Department	2010	2011	2012	2013	2014	Increase/ (Decrease) 2014 vs. 2010
Executive /Administration/HR	8	8	8	9	10	2
Finance	6	6	6	6	7	1
Customer Care	15	17	17	17	17	2
Communications	-	•	1	1	1	1
Engineering	15	15	15	22	22	7
Operations	32	34	34	37	39	7
ITS	3	4	3	5	5	2
Billing/Metering/CDM	10	10	13	15	16	6
Total	89	94	97	112	117	28

- 7 The number of full-time employees at the end of each fiscal year is different than the
- 8 number of FTEs provided in Appendix 4-11 Appendix 2-K Employee Compensation as a
- 9 result of the timing of new positions and/or the effect of vacancies and/or timing of
- 10 replacement positions during the year.
- 11 As indicated above in Table 4-20, CND has added 28 new full-time positions since 2010.
- 12 Significant drivers for the increase in the number of positions include:
- 13 Increased regulatory requirements including: Smart Meters; Time of Use Pricing;
- 14 Renewable Energy (FIT and MicroFit); and changes to the Distribution System Code and
- 15 regulations with respect to credit and collections. These regulatory requirements have
- 16 impacted the staffing levels in Customer Care, Communications, Billing, Metering,
- 17 Engineering, and Information Systems Technology;
- 18 The delivery of Conservation and Demand Management programs to meet the targets
- mandated by the Minister of Energy and set by the OEB as a condition of CND's license;

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- 1 Workforce strategy and planning to replace an ageing workforce and ensure appropriate
- 2 succession planning, particularly in the skilled trades;
- 3 Growth in CND's capital program requires additional staff in engineering, including design
- 4 technicians;
- 5 Implementation of a 24 hours/7 days a week System Control room to meet the demands of
- 6 our customers, ensure continued reliability of the electricity distribution system, as well as
- 7 provide for succession planning for System Control Operators; and
- 8 Increased demands in the area of information systems technology in light of the significant
- 9 technological changes in the electricity sector, as well as the maintenance and
- 10 enhancements of CND's core operating systems, including its Customer Information
- 11 System ("CIS"), Enterprise Resource Planning ("ERP") Solution, Geospatial Information
- 12 System ("GIS"), SCADA, planned Outage Management System ("OMS") and Distribution
- 13 Management System ("DMS") implementation in 2014.

Table 4-21 – New Hires

15 The following table summarizes the number of new full-time positions by major driver:

Driver	Number of
	Employees
Regulatory Requirements	
Customer Care Representative	1
Communications Manager	1
Supervisor, Credit and Collections	1
Conservation and Demand Management	3

Succession Planning/Skilled Trades	
Linesman Apprentices	7
Meter Maintenance Apprentice	1
24/7 Control Room	3
Growth in Capital Program	
Engineering Design Technicians	2
GIS Technician	1
Design Engineer	1
Information Systems Technology	3
Other - Replacement of Contract Positions	
Sync Operator (Regulatory)	1
Field Service Representative (Regulatory)	1
Other - Capacity	
Accountant	1
Human Resources Generalist	1
TOTAL	28

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Employee Demographics:

- 2 CND is currently facing the same challenges as other LDC's throughout the electricity
- 3 distribution sector with respect to an ageing demographic. In the next five (5) years, 24% of
- 4 CND's employees will be eligible for retirement, and an additional 7% will be eligible within
- 5 ten (10) years. CND's total employee average age is 40.9 years, with a skilled trade
- 6 average age at 45.0 years, consistent with the national electricity distribution sector at
- 7 43.0 years.

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- 8 The challenge CND faces is bridging the gap in maintaining sufficient talent to meet the
- 9 current needs of the utility while planning for the future. Tables 4-22 through 4-24 illustrate
- 10 CND's current employee demographics by employee type.

Table 4-22 Employee Demographics by Department

	All Em	oloyees	Union Er	nployees
Department	Avg. Age	Avg. Length of Service.	Avg. Age	Avg. Length of Service
A 1				
Administration/HR	53.4	6.6	-	-
Customer Care	47.9	12.3	46.7	11.2
Operations	43.5	16.5	41.9	14.9
Powerline Technicians	39.0	15.0	39	15
Apprentice Lineman	21.9	2.4	21.9	2.4
Engineering	45.4	13.4	45.5	13.4
Finance	45.6	7.1	47.9	12.9
ITS	45.5	2.4	45.1	1.8
Meters	44.6	11.9	42.7	12.8
Billing	42.7	10.8	43.3	12.2
Energy Efficiency	32.8	2.3	26.9	0.37
	40.9	9.4	40.1	9.7

Table 4-23 Skilled Trades/Engineering Demographics (Union/Non-Union)

Skilled Trades/ Engineer	ring (Union	/Mgmt)
		Avg.
		Years of
	Avg. Age	Service
Professional Engineers	49	11
Engineering Technicians	41	8
Powerline Technicians	39	15
Meter Technicians	43	13
Station Operators	54	20
System Control Operators	45	21
Overall	45	15

Table 4-24 Non-Unionized Staff Demographics

Non-Unionized Staff					
Departments	Avg. Age	Avg. Years of Service			
Executive	53	10			
Management / Supervisors	48	13			
Non - Union	39	9			
Overall	47	11			

- 5 As explained previously CND has hired 28 new employees since 2010. Of the 28 new
- 6 employees hired, 7 positions were hired as part of the overall succession planning strategy,
- 7 particularly in the Skilled Trades area.

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CHANGE IN WORKFORCE YEAR OVER YEAR

- 2 Table 4-25 Change in FTEs By Category summarizes the FTEs by Employee Category,
- 3 as well as the net change in FTEs by employee category from 2010 Board Approved to
- 4 2014 Test Year.

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Table 4-25 – Change in FTEs By Category

	Last Rebasing Year (2010 Board- Approved)	Last Rebasing Year (2010 Actuals)	2011 Actuals	2012 Actuals	2013 Bridge Year	2014 Test Year
Number of Employees (FTEs inc	cluding Part-	Time)				
Management	20.0	19.1	20.2	21.2	22.6	25.0
Non-Management	70.7	65.7	68.8	73.8	81.3	91.5
Total	90.7	84.8	89.0	95.0	103.9	116.5
Increase over Prior Year			4.2	6.0	8.9	12.6
Increase 2014 over 2010 Board	Approved					25.8

- 7 The following is a variance analysis of the number of FTEs from 2010 Actuals, 2011
- 8 Actuals, 2012 Actuals, 2013 Bridge Year, and 2014 Test Year.

9 2011 Actual Versus 2010 Actual

- 10 Total FTE 2011 89.0
- 11 Total Headcount 94
- 12 The number of FTEs increased from 84.8 in 2010 to 89.0 in 2011. The net increase in FTEs
- 13 resulted from the addition of a part-time Public Relations and Communications
- 14 Co-ordinator, the addition of one full-time customer care representative, and the hiring of
- 15 two Powerline Technician Apprentices to address pending retirements. An Engineering
- 16 Legal Coordinator was also hired to replace the Easement Officer Position that was
- 17 pending retirement as of May 2011.

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1 A customer care representative was added in 2011 in response to increased workload as a

2 result of: (i) the implementation of a new CIS; (ii) the introduction of a new paperless

3 service order software solution ("mCare") and dispatch process using tablets in the field for

4 the Field Representatives and Metering; and (iii) new FIT/MicroFit customers.

5 In March 2011, a part time (15 hours per week) Public Relations and Communications Co-

6 ordinator was hired to assist the Vice President, Customer Care and Communications in the

7 delivery of corporate communications and related initiatives to support regulatory

8 requirements and enhance communication with customers. Responsibilities for this

9 position included the creation and initiation of media releases, preparation and update of

external LED Sign messages, initiate customer satisfaction surveys, research and prepare

information to enlighten customers, seek new communication channels to meet the

requirements of customers, and maintain the company website with assistance from a third

13 party host.

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2012 Actual versus 2011 Actual

- 15 Total FTE 2012 95
- 16 Total Headcount 97
- 17 The number of FTEs increased from 89.0 in 2011 to 95 in 2012. The net increase in FTEs
- 18 resulted from: the addition of two new positions to support CDM programs (Energy
- 19 Efficiency Clerk and an Energy Efficiency Advisor); the addition of one Engineering Design
- 20 Technician; the movement of a part-time Customer Service Representative to full-time from
- 21 part-time, and the addition of a Developer/Applications Analyst in the IT Department to
- 22 assist with the integration of the new Microsoft GP ERP Solution. CND's new President &
- 23 CEO was hired in August 2012 to replace the former President and CEO, who was retiring.
- 24 This resulted in an overlap for this position of approximately three months.
- 25 The move to a full-time Customer Care Representative was to support the ability to meet
- 26 the Service Quality Requirements for telephone accessibility for increasing phone call
- 27 volumes, as well as to assist with changes to the credit and collection processes and
- 28 contact requirements due to amendments to the Distribution System Code. Changes to the

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1 Distribution System Code included: (i) changes to processes, timelines, and notifications to

2 customers with respect to disconnections for non-payment; (ii) the introduction of the

3 Arrears Management Program ("AMP"); (iii) the introduction of the Low Income Eligible

4 Assistance Program ("LEAP"); and (iv) increased tracking and reporting of metrics to the

5 OEB. These changes have also resulted in increased interactions with Social Service

6 Agencies to ensure a coordinated execution and understanding of the roles and

responsibilities around identifying eligible low income customers. New processes and

8 procedures were written and staff training was conducted.

9 The hiring of the full-time Engineering Design Technician was required to increase the

10 internal staff complement to historical levels and to support the increased demands for

11 distribution system designs due to the growth in the capital program. In prior years,

12 vacancies in this position were addressed through increased overtime in the department or

13 through outsourcing. The hiring of a full-time Engineering Design Technician was more

economical than paying for overtime and third party consulting costs.

15 The Developer/Applications Analyst position was vacant at the end of December 2012 and

16 was not replaced.

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17 **2013 Bridge Year versus 2012 Actual**

18 Total FTE 2013 103.9

19 Total Headcount 112

20 The number of FTEs are expected to increase from 95 in 2012 to 103.9 in 2013. The net

21 increase in FTEs results from: (i) the hiring of two new IT positions, including the Vice

22 President, Information Technology Systems and one Service Desk Analyst; (ii) the addition

23 of three System Control Room Operators to support the implementation of a 24 hour/7 days

per week operation; (iii) three additional positions in Engineering (one additional Design

25 Technician, one Design, Engineer, and one GIS Technician) to support the growth in the

26 capital program; (iv) the hiring of three Powerline Technician Apprentices as part of CND's

succession planning strategy; (v) the addition of one Field Representative to replace a third

28 party contract; (vi) the addition of a Credit and Collections Supervisor in Customer Care;

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- 1 (vi) hiring of a full-time Manager, Communications to replace the part-time Public Relations
- 2 and Communications Co-ordinator; (vii) the hiring of one Meter Technician Apprentice for
- 3 succession planning; and (viii) the hiring of one additional Energy Efficiency Advisor to
- 4 support CDM programs. The hiring dates for these new positions are staggered throughout
- 5 2013.
- 6 As at June 30, 2013, eight of the full-time positions identified have been filled. CND is
- 7 actively recruiting the remaining positions and expects all of the positions to be filled before
- 8 the end of the year.
- 9 Further explanations and support for the addition of the new full-time positions in 2013 have
- 10 been provided elsewhere throughout this Exhibit.

11 2014 Test Year versus 2013 Bridge Year

- 12 Total FTE 2014 Projection 116.5
- 13 Total Headcount 117
- 14 The number of FTEs are expected to increase from 103.9 in 2013 to 116.5 in 2014. The net
- 15 increase in FTEs results from: (i) full year of employment for the new full-time positions
- 16 hired in 2013; (ii) the hiring of two additional Powerline Technician Apprentices as part of
- 17 CND's succession planning strategy; (iii) the hiring of a full-time Sync Operator in the Billing
- 18 and Settlement department, which will be a replacement for a third party contractor; (iv) the
- 19 hiring of an Accountant to support the increase in transaction volumes, particularly with
- 20 respect to capital projects; and (v) the hiring of a Human Resource Generalist to address
- 21 resource constraints within the department to support the training, development, and health
- 22 and safety of CND's employees.
- 23 Further explanations and support for the addition of the new full-time positions in 2014 have
- 24 been provided elsewhere throughout this Exhibit.

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ANNUAL WAGE AND BENEFIT INCREASES

2 Annual Wages:

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3 A summary of annual wage increases is shown on Table 4-26 below.

Table 4-26 – Summary of Wage Increases by Year

	Summary of Wage Increases by Year								
Year	Year Union % Cumulative% Non-Union% Cumulative								
2010	3.00%	3.00%	2.90%	2.90%					
2011	3.00%	6.00%	2.95%	5.85%					
2012	3.00%	9.00%	3.10%	8.95%					
2013	3.00%	12.00%	3.00%	11.95%					
2014	2.75%	14.75%	2.75%	14.70%					

Notes re 2014:

- (1) Union increase subject to Union Negotiations effective April 1, 2014
- (2) Non-Union subject to Board of Directors Approval

6 Benefit Program Costs:

7 A detailed summary of benefit program costs are summarized Table 4-27.

Table 4-27 - Benefit Program Costs

	2010			2013	
	Actual	2011	2012	Bridge	2014 Test
Statutory					
CPP	193,473	218,135	227,989	278,000	292,000
EI- Employer's Portion	83,429	97,391	103,391	130,000	137,000
Employer's Health Tax	140,430	159,660	164,348	200,000	210,000
WSIB Premium Expense	61,996	63,558	70,571	87,000	90,000
	479,328	538,744	566,299	695,000	729,000
Other					
OMERS	473,317	587,819	710,619	870,000	932,000
LTD Insurance	87,666	98,098	106,024	126,000	132,000
Life Insurance	24,071	27,039	33,577	39,600	42,000
Employee Future Benefit	292,000	228,000	176,000	241,825	221,292
Health Benefits	402,071	395,349	429,696	516,000	552,000
	1,279,125	1,336,305	1,455,916	1,793,425	1,879,292
TOTAL	1,758,453	1,875,049	2,022,215	2,488,425	2,608,292

OMERS Pension Expense and Post Retirement Benefits:

4 OMERS Pension Expense:

5 CND's employees are members of the Ontario Municipal Employees Retirement System 6 ("OMERS"). Accordingly, Cambridge and North Dumfries Hydro Inc. has provided the 7 OMERS pension premium information for 2010 Actual, 2011 Actual, 2012 Actual, 2013 8 Bridge Year, and the 2014 Test Year in Table 4-28 below. CND estimated the 2013 Bridge Year OMERS expense by applying the actual OMERS rates of 9.0% up to the YMPE and 9 10 14.6% over the YMPE and multiplying by the estimated salary or wage for each employee 11 for the year. For the 2014 Test Year, CND assumed OMERS rates of 9.5% and 15.00% 12 respectively.

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Table 4-28 - OMERS Pension Premiums

		2010 Actual	2011 Actual	2012 Actual	2013 Bridge	2014 Test
1.1	Premiums	\$473,317	\$587,819	\$710,619	\$870,000	\$932,000

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1.2 The increases in OMERS premiums from 2010 through 2014 are principally explained by the increase in pension contribution rates, as well as an increase in the number of full-time employees.

7 Post-Retirement Benefits - Liability:

- 8 CND pays certain health, dental, and life insurance benefits under defined benefits plans on
- 9 behalf of its retired employees. Table 4-29 below summarizes the post-retirement benefits
- 10 accounting information as required in the Application including the change in Post-
- 11 Retirement expense for 2010 Actual, 2011 Actual, 2012 Actual, 2013 Bridge Year and 2014
- 12 Test Year.

Table 4-29 Post-Retirement Benefits Expense

Post-Retirement Benefit Information

	2010 Actuals	2011 Actuals	2012 Actuals	2013 Bridge Year	2014 Test Year
Premiums Paid (USoA 5645)	141,000	143,000	139,000	144,000	151,200
Change in Liability Account	151,000	85,000	37,000	97,825	70,092
Post Retirement Benefit Expense	292,000	228,000	176,000	241,825	221,292

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Current accounting treatment of post-retirement benefits:

- 2 Employee future benefits are recorded on an accrual basis. The accrued benefit obligations
- 3 and current service cost are calculated using the projected benefit method prorated on
- 4 length of service and reflect management's best estimate of certain underlying
- 5 assumptions. The current service cost is for a period equal to the actuarial present value of
- 6 benefits attributed to that period in which employees rendered their services.
- 7 An actuarial valuation of the employee future benefit obligation is undertaken every three
- 8 years. Significant assumptions underlying the valuation include management's best
- 9 estimate of the interest (discount) rate, salary escalation, the average retirement age of
- 10 employees, employee turnover and expected health and dental care costs. The
- 11 assumptions underlying the valuation of the employee future benefits are disclosed in the
- 12 annual audited financial statements (see Note 7 of the CND audited financial statements).
- 13 The post-retirement expense includes the annual amortization of actuarial gains (losses).
- 14 CND amortizes the actuarially determined experience gains (losses), whereby the excess
- of actuarial gains (losses) over 10 per cent of the accrued benefit obligation are amortized,
- 16 into expense on a straight line basis over three years.
- 17 The post-retirement benefit expense in the 2013 Bridge Year is expected to increase by
- 18 \$65,825 over 2012 Actuals principally explained by: (i) the amortization of an unrealized
- 19 loss arising in 2011 of approximately \$27,000 (\$83,000 over a three year period); and
- 20 (ii) the amortization of the unrealized (loss) of \$210,252 arising in 2012 over the next three
- 21 years, or \$70,084 per year in 2013 Bridge Year and 2014 Test Year.
- 22 A copy of CND's Actuarial Valuation Report as at December 31, 2012 has been included in
- 23 Appendix 4-12.

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SHARED SERVICES/CORPORATE COST ALLOCATION

- 2 CND provides accounting services to Cambridge and North Dumfries Energy Plus Inc.
- 3 ("Energy Plus") and Cambridge and North Dumfries Energy Solutions Inc. ("CND Energy
- 4 Solutions") for a fixed monthly fee, which represents an allocation of all Accounting
- 5 department expenditures of approximately 1% and 2% respectively.
- 6 Energy Plus is a holding company, with a limited number of transactions each year. CND
- 7 Energy Solutions currently completes streetlight maintenance services for the Region of
- 8 Waterloo, the City of Cambridge, and the Township of North Dumfries.
- 9 All direct costs incurred by Energy Plus and CND Energy Solutions have been recorded
- 10 directly to Energy Plus and CND Energy Solutions accounting records.
- 11 CND provides the coordination and material relating to street light maintenance to CND
- 12 Energy Solutions on a full cost recovery basis which includes labour, benefits, materials,
- 13 overheads and all other identifiable costs.
- 14 CND recovers Board of Directors' costs from Energy Plus and CND Energy Solutions on a
- 15 full cost recovery basis.
- 16 A summary of charges for services provided in 2010 Actual, 2011 Actual, 2012 Actuals and
- 17 projections for 2013 Bridge Year and 2014 Test Year are provided in Tables 4-30 to 4-34
- and Appendix 4-13 (Appendix 2-N OEB) Shared Services 2010 to 2014.

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Table 4-30 – 2010 Shared Services / Corporate Cost Allocation

Appendix 2-N Shared Services and Corporate Cost Allocation

Year: <u>2010 Actual</u>

Shared Services

N	lame of Company			Price for the	Cost for the
From To	Service Offered	Pricing Methodology	Service	Service	
	То		Wethodology	\$	\$
CNDHI	CND Energy Solutions	Street Light Maintenance	Cost	376,745	376,745
CNDHI	Energy Plus	Board of Directors	Cost	11,100	11,100
CNDHI	Energy Solutions	Board of Directors	Cost	11,100	11,100

Corporate Cost Allocation

Name of Company			Pricing	% of Corporate	Amount
		Service Offered		Costs Allocated	Allocated
From	То		Methodology	%	\$
CNDHI	Energy Plus	Accounting	Cost	2%	12,000
CNDHI	Energy Solutions	Accounting	Cost	1%	6,000

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Table 4-31 – 2011 Shared Services / Corporate Cost Allocation

		Appendix 2-N			
	Shared Serv	ices and Corporate	Cost Allocat	tion	
	Year	<u>2011 Actu</u>	<u>al</u>		
		Shared Services			
N	lame of Company			Price for the	Cost for the
		Service Offered	Pricing	Service	Service
From	То		Methodology	\$	\$
CNDHI	CND Energy Solutions	Street Light Maintenance	Cost	351,520	351,520
CNDHI	Energy Plus	Board of Directors	Cost	11,100	11,100
CNDHI	Energy Solutions	Board of Directors	Cost	11,100	11,100
		Corporate Cost Alloca	ition		
N	lame of Company	Service Offered	Pricing	% of Corporate	Amount
_	_	Service Offered	Methodology	Costs Allocated	Allocated
From	To State Plan			%	\$
CNDHI	Energy Plus	Accounting	Cost	2%	12,000
CNDHI	Energy Solutions	Accounting	Cost	1%	6,000

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Table 4-32 – 2012 Shared Services / Corporate Cost Allocation

		Appendix 2-N			
	Shared Serv	ices and Corporate	Cost Alloca	tion	
	Year:	2012 Actu	<u>al</u>		
		Shared Services			
Na	ame of Company				
142	Time of Company	Service Offered	Pricing Methodology	Price for the Service	Cost for the Service
From	То			\$	\$
CNDHI	CND Energy Solutions	Street Light Maintenance	Cost	506,973	506,973
CNDHI	Energy Plus	Board of Directors	Cost	11,100	11,100
CNDHI	Energy Solutions	Board of Directors	Cost	11,100	11,100
		Corporate Cost Alloca	tion		
Na	ame of Company			% of Corporate	Amount
		Service Offered	Pricing Methodology	Costs Allocated	Allocated
From	То			%	\$
CNDHI	Energy Plus	Accounting	Cost	2%	12,000
CNDHI	Energy Solutions	Accounting	Cost	1%	6,000

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Table 4-33 – 2013 Shared Services / Corporate Cost Allocation

	Shared Serv	ices and Corporate	Cost Allocat	tion	
	Year:	2013 Bridge Yea	<u>r</u>		
			_		
		Shared Services			
N:	ame of Company				
	anic or company	Service Offered	Pricing	Price for the Service	Cost for the Service
From	То	GOT VIGO GIIGIGA	Methodology	\$	\$
CNDHI	CND Energy Solutions	Street Light Maintenance	Cost	519,181	519,181
CNDHI	Energy Plus	Board of Directors	Cost	11,100	11,100
CNDHI	Energy Solutions	Board of Directors	Cost	11,100	11,100
		Corporate Cost Allocat	tion		
N	ame of Company			0/ - 5 0 1-	Amount
		Service Offered	Pricing Methodology	% of Corporate Costs Allocated	Allocated
From	То			%	\$
CNDHI	Energy Plus	Accounting	Cost	1.9%	12,000
CNDHI	Energy Solutions	Accounting	Cost	1.0%	6,000

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Table 4-34 – 2014 Test Year Shared Services / Corporate Cost Allocation

		Appendix 2-N			
	Shared Serv	ices and Corporate	Cost Allocat	tion	
	Year:	2014 Test Yea	<u>ar</u>		
		Shared Services			
N	ame of Company			Price for the	Cost for the
		Service Offered	Pricing	Service	Service
From	то		Methodology	\$	\$
CNDHI	CND Energy Solutions	Street Light Maintenance	Cost	538,181	538,181
CNDHI	Energy Plus	Board of Directors	Cost	11,100	11,100
CNDHI	Energy Solutions	Board of Directors	Cost	11,100	11,100
	Ű,			,	•
		Corporate Cost Alloca	tion		
		Corporate Cost Alloca			
N	ame of Company			% of Corporate	Amount
		Service Offered	Pricing	Costs Allocated	Allocated
From	То		Methodology	%	\$
CNDHI	Energy Plus	Accounting	Cost	2%	12,000
CNDHI	Energy Solutions	Accounting	Cost	1%	6,000
CHAIN	Lifeigy Solutions	recounting	0031	170	0,000

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PURCHASE OF NON-AFFILIATES SERVICES

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- 2 CND purchases products and services from a variety of vendors. Suppliers provide
- 3 operating expense and/or capital expense goods and services. CND has a Purchasing and
- 4 Contracts Policy which outlines the governing principles and procedures to be followed by
- 5 all employees of CND when purchasing a product or service. The Purchasing and
- 6 Contracts Policy is attached as Appendix 4-14.
- 7 Table 4-35 through Table 4-37 provides a summary of CND's purchases by vendor for
- 8 2010, 2011 and 2012, where the actual total expenditures exceed \$125,000.
- 9 For 2013 and 2014 CND anticipates that many of the same vendors will be used as was
- 10 used in prior years. However, CND is constantly searching for new suppliers in order to
- 11 purchase new services and material at prices, terms and quality of products and services
- that will benefit CND and ultimately, the customers.
- 13 The following methods of procurement are used to acquire goods and services throughout
- 14 the year to best suit the needs of the Company.

Methods of Procurement:

- **Tendered** Invited qualified vendors are sent a formal document and are asked to
- bid with a predetermined closing date. Low bid is awarded the contract, unless
- unique circumstances dictate otherwise, as approved by the CEO.
- 19 **Quoted** Obtain quotes for a specific product from qualified vendors. Business is
- awarded to vendor based on price, service and lead times.
- 21 **RFP** Request for Proposals is sent to vendors. Business is awarded to the vendor
- that best suits the needs of CND and its customers.
- 23 **Quoted/Negotiated** Obtain quotes/pricing from a vendor then work with them to
- 24 negotiate pricing that is agreeable to both parties.
- The advantage of this method is there is the opportunity to obtain both better service
- and reliability of product availability. For example, wood poles pricing stays constant

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for 2 years, they are dropped on-site and CND does not have to deal with rail cars/unloading/transporting and both parties agree on price.

Invoiced – Invoice is sent to us, pricing is not negotiated, i.e. municipal taxes, energy costs.

Quoted – Single Source Purchase – these products are specified by the department involved and are a single source purchase, i.e. specific types of switches, line trucks.

The reason why this method is utilized is to ensure the quality of the product or service, and to ensure it performs to the specific operational and engineering requirements as set by the department.

Partnership Agreement – Obtain pricing for the year, sometimes 2 years, and negotiate this pricing at an amount agreeable to both parties. Spot check pricing is done to ensure pricing is in line with market levels, i.e. transformers, some types of power cable.

Reasons for this Method:

- Steady supply of material at predetermined lead times, regardless of the market, i.e. market at various periods indicate delivery lead times of 20 to 40 weeks and the partnership agreement states 8 to 10 weeks.
 - Reliable supply of transformers and power cable are vital to ensure timely repairs and improvements, and therefore a partnership agreement is a most efficient manner of conducting business.
- 2. Fixed pricing for a 1 or 2 year period, lower lead times, valuable engineering services from vendor, faster turnaround on returns and repairs that are required.
- 3. Yearly rebate from vendor on sales.

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Table 4-35 2010 Non-Affiliates Purchases

Vendor Name	Description	Total Amount	Method of Purchase
A & W High Voltage Contracting Ltd.	Rebuilds, Linework	\$153,841	Tendered
Corporation of the City of Cambridge	Civil Work	\$259,469	Invoiced
Corporation of the City of Cambridge	Municipal Taxes	\$172,892	Invoiced
Davey Tree Expert Co. of Canada, Limited	Tree Trimming	\$176,703	Tendered
Dillon Consulting Ltd. London	Consulting Services	\$216,853	Quoted
Dundas Power Line Ltd.	Rebuilds, linework	\$202,040	Tendered
Elster Metering	Meter purchases	\$1,083,427	Tendered
Folmur Construction (2004) Ltd.		\$1,083,427	Tendered
	Civil Contracting Work Wire and Cable		Tendered/Quoted
General Cable Company	111100110	\$195,446	Tendered/Quoted
C'hadra Calata a La	IT Services - hardware, software,	¢254.645	0
Gibraltar Solutions Inc.	support	\$254,615	Quoted
Groundhog Contractors Limited	Secondary Services - Civil Work	\$130,249	Tendered
Guelph Utility Pole Company Ltd.	Wood pole purchases	\$329,829	Quoted/Negotiated
D.L. Hannon Inc.	Rebuilds, Linework	\$354,500	Tendered
Harris Computer Systems	Licensing	\$208,823	RFP
HD Supply Utilities	Pole line hardware	\$591,642	Tendered/Quoted
Hydro One Networks Inc.	Ayr/Sheffield Station, Hydro Payment	\$392,175	Invoiced
Jesstec Industries Inc.	Metering Supplies	\$222,816	Quoted
KTI Limited	Meters	\$827,494	Quoted
Mattamy (Hespeler) Limited	EEP Rebate	\$444,701	Invoiced
The MEARIE Group	Benefits	\$616,019	Tendered
	Conservation & Renewable Energy		
Minister of Finance	Costs	\$580,711	Invoiced
Moloney Electric Inc.	Transformers	\$1,282,401	Partnership Agreement
Nexans Canada Inc.	Wire and cable	\$262,683	Partnership Agreement
Oakhill Tree Service	Tree Trimming	\$205,327	Tendered
Olameter Inc.	Meters	\$703,603	Tendered
S & C Electric Canada Ltd.	Switches and SCADA Mates	\$277,730	Quoted - Single Source
Waterloo North Hydro Inc.	Meter Charges, transfers, services	\$547,816	Quoted
Westburne Ruddy Electric	Lugs, Sleeves, Lighting, Misc.	\$174,446	Tendered/Quoted

Table 4-36 2011 Non-Affiliates Purchases

Vendor Name	Description	Total Amount	Method of Purchase
Aecon Utilities	Rebuilds, Line work	\$400,876	Tendered
Aecon Industrial	Refund-GEN-150 Sheldon Dr.	\$172,876	Tendered
	Topobase-Drawing-Polygon	¢240.240	
Autodesk Incorporated	Implementation	\$210,249	Quoted
Badger Daylighting Inc.	Hydro vacuum work for poles	\$154,266	Quoted
BDO Canada LLP	ERP Software and Support	\$426,118	RFP
Black & McDonald Limited	Rebuilds, Line work	\$164,121	Tendered
Corporation of the City of Cambridge	Municipal Taxes	\$172,306	Invoiced
Davey Tree Expert Co. of Canada, Limited	Tree Trimming	\$307,387	Tendered
Folmur Construction (2004) Ltd.	Civil Contractor Work	\$295,840	Tendered
Guelph Utility Pole Company Ltd.	Wood Poles	\$259,372	Quoted/Negotiated
D.L. Hannon Inc.	Rebuilds, Line work	\$532,849	Tendered
HD Supply Utilities	Poleline Hardware	\$549,088	Tendered/Quoted
Hydro One Networks Inc.	Ayr/Sheffield Station, Hydro Payment	\$449,187	Invoiced
The MEARIE Group	Benefits	\$622,095	Tendered
Moloney Electric Inc.	Transformers	\$1,332,659	Partnership Agreement
Nexans Canada Inc.	Wire and Cable	\$241,185	Partnership Agreement
Olameter Inc.	Meter Services	\$188,461	Tendered
S & C Electric Canada Ltd.	Switches, SCADA Mates	\$386,093	Quoted - Single Source
Wajax Industries Limited	Line Truck	\$420,925	Tendered/Purchased
Westburne Ruddy Electric	Lugs, Sleeves, Lighting, Misc.	\$159,080	Tendered/Quoted

Table 4-37 2012 Non-Affiliates Purchases

Vendor Name	Description	Total Amount	Method of Purchase
Badger Daylighting Inc.	Hydro vacuum work for poles	\$160,281	Quoted
BDO Canada LLP	ERP Software Expenses	\$182,110	RFP
Corporation of the City of Cambridge	Municipal Taxes	\$169,039	Invoiced
Davey Tree Expert Co. of Canada, Ltd.	Tree Trimming	\$497,451	Tendered
Flynn Canada Ltd.	New Roof on Building	\$527,823	Tendered
Folmur Construction (2004) Ltd.	Civil Contractor Work	\$454,371	Tendered
Guelph Utility Pole Company Ltd.	Wood Pole Purchases	\$315,645	Quote/Negotiated
D.L. Hannon Inc.	Contractor, Build, Re-Build Work	\$492,793	Tendered
	Customer Care/Billing Software		
Harris Computer Systems	Expenses	\$228,218	RFP
HD Supply Power Solutions	Poleline Hardware	\$845,540	Tendered/Quoted
Hydro One Networks Inc.	Ayr/Sheffield Station/Hydro Payment	\$476,136	Invoiced
KTI Limited	Meters	\$380,324	Quoted
The MEARIE Group	Benefits	\$718,636	Tendered
Moloney Electric Inc.	Transformers	\$1,073,594	Partnership Agreement
Nexans Canada Inc.	Wire and Cable	\$350,992	Partnership Agreement
Noramco Wire & Cable	Wire and Cable	\$690,726	Quoted
Olameter Inc.	Meters	\$167,144	Tendered
Ontario Energy Board	Quarterly Assessments	\$156,521	Quoted
S&C Electric Canada Ltd.	Switches, SCADA Mates	\$242,829	Quoted
Siemens Canada Limited	Switch Gear	\$266,680	Quoted
Solotech	Control Room Display	\$303,409	Tendered
Southwest Power Corporation	Contractor Line Work	\$426,069	Tendered
Stantec Consulting Limited	Consulting Services	\$621,222	Quoted
Thomas & Betts	Switches	\$214,820	Quoted - Single Source
Westburne Ruddy Electric	Lugs, Sleeves, Lighting, Misc.	\$190,709	Tendered/Quoted

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DEPRECIATION, AMORTIZATION AND DEPLETION

2 **OVERVIEW**

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- 3 CND amortizes its capital assets available for use on a straight-line basis over their
- 4 estimated useful lives. Amortization is recorded at one-half of the annual rate for assets
- 5 placed into service or acquired in the current year, in accordance with Section 2.7.4 of
- 6 Chapter 2 of the Filing Requirements for Electricity Distribution Rate Applications.
- 7 At this time, CND does not have any Asset Retirement Obligations, and therefore no
- 8 associated depreciation.
- 9 Table 4-38 provides a summary of CND's amortization expense for 2010 Actual, 2011
- 10 Actual, 2012 Actual, 2013 Bridge, and 2014 Test Year:
- 11 Details of CND's depreciation expense and amortization expense are provided in Appendix
- 12 4-17 to 4-20. Fixed Asset Continuity Schedules are provided at Exhibit 2, Tab 1,
- 13 Appendix 2-1 to 2-6.

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Table 4-38 Summary of Depreciation/Amortization by Year

	DEPRECIATION EXPE	_		1		
	Depreciation	2010 Actual	2011 Actual	2012 Actual	2013 Bridge	2014 Test
	Depreciation	CGAAP	CGAAP	CGAAP	CGAAP	CGAAP
1805	Land					
1806	Land Rights					
1808	Building and Fixtures	135,865	135,058	21,409	21,351	21,351
1815	Transformer Station Equipment-Normally Primary above 50 kv	244,415	244,364	364,369	365,399	365,445
1820	Distribution Station Equipment-Normally Primary below 50 kv					
1830	Poles, Towers and Fixtures	1,048,309	983,534	347,909	404,621	511,463
1835	O/H Conductors & Devices	1,083,624	1,016,734	474,929	550,383	695,537
1840	Underground Conduit	840,472	911,479	176,381	188,599	212,324
1845	Underground Conductors and Devices	640,101	724,559	436,101	470,342	533,968
1850	Line Transformers	1,285,335	1,529,895	568,317	602,986	651,246
1855	Services	740,187	690,282			
1860	Meters	334,652	47,475	1,533,876	667,073	717,254
1908	Building and Fixtures			1,321,253	142,804	155,304
1915	Office Furniture and Fixtures	16,953	15,729	16,482	27,011	40,396
1920	Computer Equipment - Hardware	127,085	125,999	229,625	339,547	514,213
1925	Computer Software	168,328	297,875	420,631	512,400	677,095
1930	Transportation Equipment	245,266	284,840	141,103	182,646	233,631
1935	Stores Equipment					
1940	Tools, Shop and Garage Equipment	66,456	73,797	66,778	74,628	85,910
1945	Measurement and Testing Equipment					
1950	Power Operated Equipment					
1955	Communication Equipment					
1960	Miscellaneous Equipment					
1980	System Supervisory Equipment					
1995	Contributions and Grants	(585,890)	(648,820)	(331,862)	(368,521)	(425,260)
		6,391,158	6,432,800	5,787,301	4,181,269	4,989,877
Less : Ful	lly Allocated Depreciation					
	Transportation	(245,266)	(284,840)	(141,103)	(182,646)	(233,631)
	Smart Meters	, , ,	, ,	(873,857)	, , ,	
	Difference			1,714		
	Net Depreciation	6,145,892	6,147,960	4,774,055	3,998,623	4,756,246
Deprecia	ation As Per Audited Financial Statements	6,146,000	6,148,000	4,774,000	, ,	,,
	ition As Per Projected Budget	1, 1,100	, .,	, ,	3,998,623	4,756,246

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DEPRECIATION RATES AND METHODOLOGY

Useful Lives:

CND's estimated useful lives ("UL") were determined using the Kinetrics Useful Life Study

("CND Kinetrics Study") that was conducted on behalf of CND, Kitchener-Wilmot Hydro,

and Guelph Hydro (Exhibit 4, Tab 3, Appendix 4-15).

Table 4-39 summarizes the UL and depreciation rates for CND capital assets.

In selecting the useful life ("UL") of its assets, CND utilized the following principles:

Range for asset life expectancy based on the CND Kinetrics Study;

Local conditions, experiences and practices;

Practical replacement strategy, which incorporates the replacement of more than one asset

at the same time with different ranges of useful lives (i.e., 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 chosen

for both assets will be based on the typical life of the asset with a shorter life expectancy);

and

Consideration of other factors that may shorten an asset's UL (e.g. the frequency of road

rebuilding projects).

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Table 4-39 Summary of Useful Lives

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Asset I	Details		CND Kinet	rics Study	Useful Life	USoA Account	USoA Account Description	Prio	or to 2012	Cu	rrent
Category Com	ponent Type		MIN UL	TUL	MAX UL	Number	, i	Years	Rate	Years	Rate
outegoly con	Overall		40	45	50	1830	Poles, Towers and Fixtures	25	4%	50	2%
Fully Dressed Wood Poles		Wood	40	73	- 50	1030	Totes, Towers and Tixtures	23	470	30	2/0
.,	Cross Arm	Steel									
	Overall	•	35	60	80	1830	Poles, Towers and Fixtures	25	4%	35	3%
Fully Dressed Concrete Poles	Cross Arm	Wood									
	Closs Alm	Steel									
	Overall	•	60	60	80						
Fully Dressed Steel Poles	Cross Arm	Wood									
	Closs Allii	Steel									
OH Line Switch			30	50	60	1835	OH Conductors and Devices	25	4%	30	3%
OH Line Switch Motor			15	20	20	1835	OH Conductors and Devices	25	4%	20	5%
OH Line Switch RTU			15	20	30	1835	OH Conductors and Devices	25	4%	15	7%
OH Integral Switches			30	45	50						
OH Conductors			50	60	77	1835	OH Conductors and Devices	25	4%	50	2%
OH Transformers & Voltage Regulators			15	20	40	1835	OH Conductors and Devices	25	4%	20	5%
OH Shunt Capacitor Banks						1850	Line Transformers	25	4%	25	4%
Reclosers	Overall		30	40	60		OH Conductors and Devices	25	4%	50	2%
Danies Transformers	Bushing		32	45	55	1815	TS Equipment	40	3%	55	2%
Power Transformers	Tap Changer		20	30	40			40 40	3%	30	3%
Station Service Transformer	rap Changer		20	30	60	1850	line Transfermers	40	3% 3%	30 50	3%
Station Grounding Transformer			32 30	45 40	55 40	1030	Line Transformers	-10	3/0	30	2%
	Overall		Ju	+0	40	1815	TS Equipment	40	3%	30	3%
Station DC System	Battery Bank		10	20	30	1815	TS Equipment	40	3%	15	7%
	Charger		20	20	30	1815	TS Equipment	40	3%	20	5%
Station Metal Clad Switchgear	Overall			-20	30		TS Equipment	40	3%	60	2%
	Removable Break	ker	30	40	60		TS Equipment	40	3%	40	3%
Station Independent Breakers			25-30	30-45	50-60	-010		·	-/-		
Station Switch			30	45	50	1815	TS Equipment	40	3%	30	3%
Electromechanical Relays			20	30	50						
Solid State Relays			10	30	50						
Digital & Numeric Relays			10	15	20	1815	TS Equipment	40	3%	15	7%
Rigid Busbars			35	50	100	1815	TS Equipment	40	3%	55	2%
Steel Structure			35	50	100	1815	TS Equipment	50	2%	80	1%
Primary Paper Insulated Lead Covered	(PILC) Cables		70	70	85						
Primary Ethylene-Propylene Rubber (E											
Primary Non-Tree Retardant (TR) Cross											
Polyethylene (XLPE) Cables Direct Bur Primary Non-TR XLPE Cables in Duct	ied				-						
Primary TR XLPE Cables Direct Buried			20	20	25	1845	LIG Conductors and Dovices	25	4%	35	3%
Primary TR XLPE Cables in Duct			40	40	25 60	1845	UG Conductors and Devices UG Conductors and Devices	25	4%	50	2%
Secondary PILC Cables			40	40	- 00	1043	od Colluctors and Devices	23	4/0	30	2/0
Secondary Cables Direct Buried			20	30	35	1845	UG Conductors and Devices	25	4%	60	2%
Secondary Cables in Duct			40	40	60	1845	UG Conductors and Devices	25	4%	60	2%
	Overall		-10	-10	- 55	1013	oo conductors and bevices		470	- 00	270
Network Tranformers	Protector										
Pad-Mounted Transformers			30	40	60	1850	Line Transformers	25	4%	50	2%
Submersible/Vault Transformers			25	35	40	1850	Line Transformers	25	4%	25	4%
UG Foundation			30	60	80	1840	UG Conduit	25	4%	60	2%
UG Vaults	Overall		30	60	80	1840	UG Conduit	25	4%	60	2%
OG Vauits	Roof		20	25	40	1850	Line Transformers	25	4%	40	3%
UG Vault Switches	•		30	30	50	1845	UG Conductors and Devices	25	4%	30	3%
Pad-Mounted Switchgear			30	30	50	1845	UG Conductors and Devices	25	4%	30	3%
Ducts			30	50	75	1840	UG Conduit	25	4%	75	1%
Concrete Encased Duct Banks			30	50	80	1840	UG Conduit	25	4%	80	1%
Cable Chambers			50	60	80	1840	UG Conduit	25	4%	60	2%
Remote SCADA			10	20	30	1980	System Supervisory Equipment	15	7%	15	7%
			Use	ful Lives F	lange						
Office Equipment				5-15		1915	Office Furniture and Equipment	10	10%	10	10%
L	Trucks & Bucket	ts		5-15		1930	Transportation Equipment	8	13%	12	8%
Vehicles	Trailers			5-20		1930	Transportation Equipment	8	13%	20	5%
11	Vans			5-10		1930	Transportation Equipment	5	20%	8	13%
Administrative Buildings				50-75	dont	1908	Buildings and Fixtures	50	2%	80	1%
Leasenoid improvements	Station Duil-E		Le	ase depen	ueril	4000	0.1145		2-1	60	401
	Station Buildings	s .		50-75 25-30		1808	Buildings and Fixtures	50	2%	80	1%
Station Buildings	Parking					1808	Buildings and Fixtures	50	2%	25	4%
	Fence Roof			25-60 20-30		1808	Buildings and Fixtures	50 50	2% 2%	35	3% 5%
	Hardware			3-5		1808	Buildings and Fixtures			20	
Computer Equipment	Software			2-5		1920	Computer Hardware	5	20%	3	33%
	Power Operated			5-10		1925 1940	Computer Software Tools, Shop and Garage Equipment	5 10	20% 10%	5 10	20% 10%
	Stores			5-10		1940	Tools, Shop and Garage Equipment	10	10%	10	10%
Equipment	Tools, Shop, Gar	rage Equipment		5-10		1940	Tools, Shop and Garage Equipment	10	10%	10	10%
		Testing Equipment		5-10		1540	100.0, Shop and Garage Equipment	10	10/0	10	10/0
	Towers			60-70				50	2%	65	2%
Communication	Wireless			2-10				30	2/0	33	2/0
Residential Energy Meters	1			25-35							
Industrial/Commercial Energy Meters				25-35		1860	Meters	25	4%	25	4%
Wholesale Energy Meters				15-30		1860	Meters	25	4%	20	5%
Current & Potential Transformer (CT &	PT)			35-50		1860	Meters	25	4%	45	2%
Smart Meters				5-15		1860	Meters	15	7%	15	7%
Repeaters - Smart Metering				10-15							
Data Collectors - Smart Metering				15-20							

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REGULATORY ACCOUNTING CHANGES FOR DEPRECIATION AND CAPITALIZATION

In 2012, CND revised the estimated useful lives of its assets. CND undertook detailed analysis and computations in determining the estimated remaining useful lives of its assets within each asset class. Amortization on existing assets was recalculated using the net book value at December 31, 2011, based on the estimated remaining useful lives. All capital additions since 2012 are amortized based on the revised estimated useful lives.

Appendix 4-16 provides a summary of the service life comparison between CND's selected useful lives, which were based on CND's Kinetrics Study, and the Assets Depreciation Study for the Ontario Energy Board, Kinetrics Inc. for Distributors Sponsored by the Board report, dated July 8, 2010 ("Board's Kinetrics Report").

Appendices 4-17 through 4-20 provide depreciation computations for 2012 Actuals, 2013 Bridge Year, and 2014 Test Year.

As required, CND has provided the computation of the average remaining lives of the opening balance of assets as at January 1, 2012 using the Board's prescribed format as set out in Appendix 4-19. In completing Appendix 4-19, CND has provided the average useful lives remaining by the asset categories set out in the Accounting Procedures Handbook. CND submits that the average remaining life included in Appendix 4-19 represents the average remaining useful lives for each asset category and that within each asset category there may be multiple fixed asset components with varying useful lives. As a result, CND submits that there are differences in the depreciation amounts computed using the average remaining life computation, compared to the computation used by CND on an asset by asset basis that derived the depreciation amounts for 2013 Bridge Year and 2014 Test Year.

As provided in Appendix 4-18 Appendix 2-CO Depreciation and Amortization Expense – 2012 Revised CGAAP, CND has recorded depreciation expense for 2012 of \$5,787,302. This compares to the depreciation expense calculated in Appendix 4-18 of \$5,808,107. The overall variance of \$20,805 is not material. CND submits the following explanation for two material variances that warrant further explanation:

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• Smart Meter depreciation expense for 2012 Actual was \$1,245,373 compared to the

amount of \$256,035 computed using the Board prescribed computation. The

difference principally represents depreciation expense recorded by CND in 2012 for

prior years, as a result of the Board's Decision on CND's Smart Meter Application in

2012.

• Buildings and Fixtures depreciation expense for 2012 Actual was \$1,321,253

compared to the amount of \$157,814 computed using the Board prescribed

computation. The difference is attributable to depreciation expense recognized on

various components of CND's building assets (i.e. fixtures, roof, parking lot, and

fences) that historically had a useful life of 50 years, which were revised to between

20 and 35 years based on the componentization and revised useful lives.

As provided for in Appendix 4-19 Appendix 2-CP Depreciation and Amortization - 2013

Revised CGAAP, CND's 2013 Bridge Year depreciation expense is projected at \$4,181,269

compared to the amount calculated in Appendix 4-19 of \$6,512,294, a difference of

\$2,331,025.

As provided for in Appendix 4-20 Appendix 2-CQ Depreciation and Amortization - 2014

Revised CGAAP, CND's 2014 Test Year depreciation is projected at \$4,989,877 compared

to the amount calculated in Appendix 4-20 of \$7,194,193, a difference of \$2,204,316.

As explained previously, the differences in depreciation expense between CND's

computations and the computations using the Board's prescribed format, result in

differences in the depreciation expense. The calculations in Appendix 4-19 for 2013 and

Appendix 4-20 for 2014 do not reflect the individual useful lives of each asset component,

but rather uses averages to calculate the depreciation.

CND has compared its selected UL with the Board's Kinetrics Report. Table 4-40 provides

a comparison between the CND Kinetrics Study and the Board's Kinetrics Report.

Where CND has selected a UL that varies from the Typical Useful Life ("TUL") as provided

for in the Board's Kinetrics Report, CND has provided further explanation.

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Table 4-40 Comparison of Useful Lives

		Asse	t Details		OEB Kineti	rics Study L	Jseful Life	CND Kinet	trics Study	Useful Life
Parent*	#	Category Co	mponent Type		MIN UL	TUL	MAX UL	MIN UL	TUL	MAX UL
			Overall		35	45	75	40	45	50
	1	Fully Dressed Wood Poles	Cross Arm	Wood	20	40	55			
			Closs Allii	Steel	30	70	95			
			Overall		50	60	80	35	60	80
	2	Fully Dressed Concrete Poles	Cross Arm	Wood	20	40	55			
			Cross Arm	Steel	30	70	95			
			Overall		60	60	80	60	60	80
	3	Fully Dressed Steel Poles		Wood	20	40	55			
ОН			Cross Arm	Steel	30	70	95			
	4	OH Line Switch			30	45	55	30	50	60
ŀ	5	OH Line Switch Motor			15	25	25	15	20	20
-	6	OH Line Switch RTU			15	20	20	15	20	30
-	7	OH Integral Switches			35	45	60	30	45	50
-		OH Conductors								
-	9	OH Conductors OH Transformers & Voltage Regulato	re		50	60 40	75 60	50 15	60 20	77 40
-	_		10		30			15	20	40
-	10	OH Shunt Capacitor Banks			25	30	40	20	40	
-	11	Reclosers	Overe!!		25	40	55	30	40	60
			Overall		30	45	60	32	45	55
	12 Power Transformers		Bushing		10	20	30	20	30	40
-			Tap Changer		20	30	60	20	30	60
	13	Station Service Transformer			30	45	55	32	45	55
	14	Station Grounding Transformer			30	40	40	30	40	40
			Overall		10	20	30			
	15	Station DC System	Battery Bank		10	15	15	10	20	30
			Charger		20	20	30	20	20	30
TS & MS	10	Station Metal Clad Switchgear	Overall		30	40	60			
	16		Removable Brea	aker	25	40	60	30	40	60
	17	Station Independent Breakers	35	45	65	25-30	30-45	50-60		
-	18	Station Switch	30	50	60	30	45	50		
-	19	Electromechanical Relays			25	35	50	20	30	50
	20	Solid State Relays	10	30	45	10	30	50		
	21	Digital & Numeric Relays			15	20	20	10	15	20
-	22	Rigid Busbars			30	55	60	35	50	100
-	23	Steel Structure			35	50	90	35	50	100
	24	Primary Paper Insulated Lead Covere	60	65	75	70	70	85		
F	25	Primary Ethylene-Propylene Rubber (20	25	25	,,,	70	- 05
-		Primary Non-Tree Retardant (TR) Cro								
	26	Polyethylene (XLPE) Cables Direct B			20	25	30			
Ī	27	Primary Non-TR XLPE Cables in Duc			20	25	30			
ľ	28	Primary TR XLPE Cables Direct Burie	ed		25	30	35	20	20	25
Ī	29	Primary TR XLPE Cables in Duct			35	40	55	40	40	60
ľ	30	Secondary PILC Cables			70	75	80			
ľ	31	Secondary Cables Direct Buried			25	35	40	20	30	35
ŀ	32	Secondary Cables in Duct			35	40	60	40	40	60
ŀ			Overall		20	35	50		1.5	1
UG	33	Network Tranformers	Protector		20	35	40	l	1	+
}	34	Pad-Mounted Transformers			25	40	45	30	40	60
}		Submersible/Vault Transformers			25	35	45	25	35	40
-	35	UG Foundation								
}	36	OG I GUIIGATION	Overall		35	55	70	30	60	80
	37	UG Vaults			40	60	80	30	60	80
		LIC Voult Switches	Roof		20	30	45	20	25	40
	38	UG Vault Switches			20	35	50	30	30	50
_	39	Pad-Mounted Switchgear			20	30	45	30	30	50
ļ	40	Ducts			30	50	85	30	50	75
L	41	Concrete Encased Duct Banks			35	55	80	30	50	80
	42	Cable Chambers			50	60	80	50	60	80
S	43	Remote SCADA			15	20	30	10	20	30

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Overhead:

Overhead includes the installed cost of poles, used for supporting overhead distribution conductors and service wires, as well as overhead devices used for distribution purposes. Table 4-41 compares the overhead useful lives as per CND's Kinetrics Study and the Board's Kinetrics Report.

Table 4-41 Overhead Useful Lives Comparison

		Ass	Asset Details			OEB Kinetrics Study Useful Life			CND Kinetrics Study Useful Life		
Parent*	#	Category Component Type			MIN UL	TUL	MAX UL	MIN UL	TUL	MAX UL	
			Overall		35	45	75	40	45	50	
	1	Fully Dressed Wood Poles	Cross Arm	Wood	20	40	55				
			Closs Allii	Steel	30	70	95				
			Overall		50	60	80	35	60	80	
	2	Fully Dressed Concrete Poles	Cross Arm	Wood	20	40	55				
			Closs Allii	Steel	30	70	95				
		Fully Dressed Steel Poles	Overall	Overall		60	80	60	60	80	
	3		Cross Arm	Wood	20	40	55				
ОН			Closs Allii	Steel	30	70	95				
	4	OH Line Switch	·	*	30	45	55	30	50	60	
	5	OH Line Switch Motor			15	25	25	15	20	20	
	6	OH Line Switch RTU			15	20	20	15	20	30	
	7	OH Integral Switches			35	45	60	30	45	50	
	8	OH Conductors			50	60	75	50	60	77	
	9	OH Transformers & Voltage Regular	30	40	60	15	20	40			
	10	OH Shunt Capacitor Banks			25	30	40				
	11	Reclosers			25	40	55	30	40	60	

<u>Fully Dressed Wood Poles:</u> CND has used a MAX UL of 50 years, based upon the CND Kinetrics Study, compared to the TUL of 45 years in the Board's Kinetrics Report. CND has many wood poles which have reached or are approaching 50 years of age without the need for replacement. CND starts testing the integrity of poles at age 25 years and every 10 years thereafter. Based upon CND's experience, wood poles are lasting for a period longer than the Kinetrics Study TUL of 45 years.

<u>Fully Dressed Concrete Poles:</u> CND has used a MIN UL of 35 years, based upon the CND Kinetrics Study, compared to the TUL of 60 years in the Board's Kinetrics Report. Within CND's service territory, concrete poles are located near major roadways and, based upon CND's experience, are subject to higher levels of road salt, which causes faster degradation.

<u>OH Line Switch:</u> CND has used a MIN UL of 30 years, based upon the CND Kinetrics Study, compared to the TUL of 45 years in the Board's Kinetrics Report. CND uses these

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manual switches on a sporadic basis. When not in use, the switches are subjected to road

salt, which causes the switches to seize. Based on CND's experience, this results in a

shorter useful live for these assets.

OH Line Switch Motor: CND has used the TUL of 20 years from the CND Kinetrics Study,

which is lower than the Board's Kinetrics Report TUL of 25 years. CND's experience has

demonstrated that the switch motors do not function well as the component ages. CND is

currently in the process of replacing these switch motor operated switches with interrupter

switches.

OH Line Switch RTU: CND has used a MIN UL of 15 years, based on the CND Kinetrics

Study, compared to the Board's Kinetrics Report TUL of 20 years. CND has determined,

based on experience, that the changing technological environment would render the RTU

obsolete within 15 years.

OH Conductors: CND has used a MIN UL of 50 years, based on the CND Kinetrics Study,

compared to the Board's Kinetrics Report TUL of 60 years. CND has used the same TUL

as the Fully Dressed Wood Poles as the conductors are replaced when Wood Poles are

replaced.

OH Voltage Regulators: CND has used the TUL of 20 years, based on the CND Kinetrics

Study, which is lower than the Board's Kinetrics Report TUL of 40. In CND's experience,

the voltage regulators wear out earlier than overhead transformers; the voltage regulators

have internal parts that are moving thousands of times per year, which degrades the oil

within the unit.

OH Shunt Capacitor Banks: CND has used the MIN UL of 25 years, from the Board's

Kinetrics Report. This component was not isolated in the CND Kinetrics Study. CND has

selected the MIN UL as compared to the TUL of 30 years based upon its experience.

Although CND does not have any experience beyond 10 years, CND has experienced

failures with the capacitor banks due to manufacturer's defects.

Reclosers: CND has used a UL of 50 years, which is between the TUL and MAX UL in

CND's Kinetrics Study. The UL is higher than the Board's Kinetrics Report TUL of

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40 years. CND's UL is based on the UL of the Fully Dressed Wooden Poles as reclosers are replaced when the wooden poles are replaced.

Transformer Station Equipment ("TS and MS"):

TS and MS include the installed cost of transformers and switching equipment used for the purpose of stepping down from transmission to distribution voltages. Table 4-42 compares the transformer station useful lives as per CND's Kinetrics Study and the Board's Kinetrics Report.

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Table 4-42 Transformer Station Equipment Useful Lives Comparison

		Asse	OEB Kinetri	cs Study U	Iseful Life	CND Kinetrics Study Useful Life			
Parent*	#	Category Component Type		MIN UL	TUL	MAX UL	MIN UL	TUL	MAX UL
			Overall	30	45	60	32	45	55
	12	Power Transformers	Bushing	10	20	30	20	30	40
			Tap Changer	20	30	60	20	30	60
	13	Station Service Transformer	30	45	55	32	45	55	
	14	Station Grounding Transformer	30	40	40	30	40	40	
	15		Overall	10	20	30			
		Station DC System	Battery Bank	10	15	15	10	20	30
			Charger	20	20	30	20	20	30
TS & MS	10	Station Metal Clad Switchgear	Overall	30	40	60			
	16		Removable Breaker	25	40	60	30	40	60
	17	Station Independent Breakers		35	45	65	25-30	30-45	50-60
Ī	18	Station Switch		30	50	60	30	45	50
	19	Electromechanical Relays		25	35	50	20	30	50
	20	Solid State Relays		10	30	45	10	30	50
Ī	21	Digital & Numeric Relays	Digital & Numeric Relays		20	20	10	15	20
Ī	22	Rigid Busbars		30	55	60	35	50	100
	23	Steel Structure		35	50	90	35	50	100

<u>Power Transformers Overall:</u> CND has used a MAX UL of 55 years, based on the CND Kinetrics Study, compared to the Board's Kinetrics Report TUL of 45 years. The current transformers have new technology, complemented by better protection and online monitoring, and are expected to last beyond 45 years.

<u>Power Transformers Bushing:</u> CND has used the TUL of 30 years, based on the CND Kinetrics Study, compared to the OEB Kinetrics Study TUL of 20 years. Based on CND's experience, the porcelain bushing is expected to last longer than 20 years.

<u>Station Service Transformer:</u> CND has used a UL of 50 years, which is between the TUL and MAX UL in CND's Kinetrics Study. This compares to the Board's Kinetrics Report TUL of 45 years. CND's experience, based upon the rebuild history, has demonstrated that the majority of transformers have been lasting 50 years.

<u>Station DC System Overall:</u> CND has used the MAX UL of 30 years from the Board's Kinetrics Report. This component was not isolated in the CND Kinetrics Study. CND has selected the MAX UL as compared to the TUL of 20 years based upon its experience. CND's experience has been that connectors and wires last longer than batteries and chargers.

<u>Station Metal Clad Switchgear Overall:</u> CND has used the MAX UL of 60 years from the Board's Kinetrics Report. This component was not identified separately in the CND

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Kinetrics Study. CND has used the MAX UL of 60 years as compared to the TUL of

40 years. Based upon CND's experience, the switchgear is in a climate controlled

environment and not as susceptible to environmental elements, resulting in a longer

expected useful life.

Station Switch: CND has used the MIN TUL of 30 years, based on the CND Kinetrics

Study, compared to the Board's Kinetrics Report TUL of 50 years. CND has had to replace

components of its Station Switch on two occasions due to degradation.

<u>Digital & Numeric Relays:</u> CND has used the TUL of 15 years, based on CND's Kinetrics

Study. The Board's Kinetrics Report TUL is 20 years. The CND TUL recognizes the

changing technology with respect to this equipment, which is expected to result in a shorter

timeframe for upgrades and replacements.

Steel Structure: CND has used a UL of 80 years, which is between CND's TUL and MAX

UL in the CND Kinetrics Study. This compares to the Board's Kinetrics Report TUL of

50 years. CND believes that its transformer station, constructed in 2002, has an estimated

useful life of 80 years.

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Underground:

Underground includes the installed cost of underground conduit and tunnels used for housing distribution cables or wires, as well as the installed cost of overhead and underground distribution line transformers and voltage regulators owned by the utility, for use in transforming electricity to the voltage at which it is to be used by the customer, whether actually in service or held in reserve. Table 4-43 compares the underground useful lives as per CND's Kinetrics Study and the Board's Kinetrics Report.

Table 4-43 Underground Useful Lives Comparison

		А	Asset Details OEB Kinetrics Study Useful Life Category Component Type MIN UL TUL MAX I					rics Study	Useful Life
Parent*	#	Category	Component Type	MIN UL	TUL	MAX UL	MIN UL	TUL	MAX UL
	24	Primary Paper Insulated Lead Co	ered (PILC) Cables	60	65	75	70	70	85
	25	Primary Ethylene-Propylene Rubb		20	25	25			
	26	Primary Non-Tree Retardant (TR) Polyethylene (XLPE) Cables Direct	20	25	30				
	27	Primary Non-TR XLPE Cables in I	Primary Non-TR XLPE Cables in Duct			30			
	28	Primary TR XLPE Cables Direct B	25	30	35	20	20	25	
	29	Primary TR XLPE Cables in Duct	35	40	55	40	40	60	
	30	Secondary PILC Cables	70	75	80				
	31	Secondary Cables Direct Buried		25	35	40	20	30	35
	32	Secondary Cables in Duct		35	40	60	40	40	60
	33	Network Tranformers	Overall	20	35	50			
UG	33		Protector	20	35	40			
	34	Pad-Mounted Transformers		25	40	45	30	40	60
	35	Submersible/Vault Transformers		25	35	45	25	35	40
	36	UG Foundation		35	55	70	30	60	80
	37	UG Vaults	Overall	40	60	80	30	60	80
	3/	OG Vaults	Roof	20	30	45	20	25	40
	38	UG Vault Switches		20	35	50	30	30	50
	39	Pad-Mounted Switchgear		20	30	45	30	30	50
	40	Ducts		30	50	85	30	50	75
	41	Concrete Encased Duct Banks		35	55	80	30	50	80
	42	Cable Chambers		50	60	80	50	60	80

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Primary TR XLPE Cable Direct Buried: CND has used the MAX UL of 35 years, based

upon the Board's Kinetrics Report. CND is no longer using the direct buried methodology.

Based upon past experience and in consideration of its rebuild strategy, CND has used the

MAX UL of 35 years for existing assets.

Primary TR XLPE Cable in Duct: CND has used a UL of 50 years, which is between the

TUL and MAX UL of the CND Kinetrics Study. This compares to the Board's Kinetrics

Report TUL of 40 years. Based upon CND's experience, cable in duct has had a useful life

in excess of 40 years.

Secondary Cable Direct Buried: CND has used a UL of 60 years as compared to the

OEB Kinetrics Study TUL of 35 years. CND is no longer using the direct buried

methodology. Based upon past experience and in consideration of its rebuild strategy,

CND has used 60 years.

Secondary Cable in Duct: CND has used the MAX UL of 60 years, based on CND's

Kinetrics Study. The Board's Kinetrics Report TUL is 40 years. 60 years is still within the

range of the Board's Kinetrics Report. Based upon current experience with secondary

cable, which to-date has not required replacement, CND expects this component to have a

longer useful life.

Padmount Transformers: CND has used a UL of 50 years, which is between the TUL and

MAX TUL of CND's Kinetrics Study. The Board's Kinetrics Report TUL is 40 years. Based

on CND's experience, including its rebuild history, the majority of transformers are expected

to exceed the TUL of 40 years.

Submersible/Vault Transformers: CND has used a MIN UL of 25 years, based on CND's

Kinetrics Studies, which is consistent with the Board's Kinetrics Report MIN UL. This

compares to the Board's Kinetrics Report TUL of 35 years. CND has used the MIN UL

based upon its experience within its service territory and the amount of submersible

transformers in service compared to transformers contained within a vault. In CND's

experience, submersed transformers are subject to increased environmental exposure and

generally have a shorter life span.

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<u>UG Foundation:</u> CND has used a TUL of 60 years based on CND's Kinetrics Study, as compared to the Board's Kinetrics Report TUL of 55 years. CND's TUL is within the range

provided for in the Board's Kinetrics Report.

<u>UG Vaults Roof:</u> CND has used a MAX UL of 40 years, based on CND's Kinetrics Study, as compared to the Board's Kinetrics Report TUL of 30 years. Based on CND's experience

and service territory, the expected useful life is 40 years.

<u>UG Vault Switches</u> CND has used a TUL of 30 years based on the CND Kinetrics Study

as compared to the Board's Kinetrics Report TUL of 35 years.

<u>Ducts:</u> CND has used a MAX UL of 75 years, based on CND's Kinetrics Study, as compared to the Board's Kinetrics Report TUL of 50 years. The MAX TUL is within the overall range of the Board's Kinetrics Report. Within CND's territory, ducts are made of PVC and buried and are less likely to be disturbed or deteriorate. Based on CND's

experience, the ducts are expected to have a longer life expectancy.

<u>Concrete Encased Ducts:</u> CND has used a MAX UL of 80 years, based on CND's Kinetrics Study, as well as the Board's Kinetrics Report. This compares to the Board's Kinetrics Report TUL of 55 years. CND has existing concrete encased ducts that are

greater than 50 years old, which do not have any reported issues.

Scada:

Table 4-44 compares the SCADA useful lives as per CND's Kinetrics Study and the Board's

Kinetrics Report.

Table 4-44 SCADA Useful Lives Comparison

Remote SCADA: CND has used a UL of 15 years, which is between the MIN UL and TUL of the CND Kinetrics Study and is the MIN TUL in the Board's Kinetrics Report. The

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Board's Kinetrics Report TUL is 20 years. Based on CND's experience, and the frequency of changing technology, CND has assumed a life expectancy of 15 years.

Administrative Building: CND has used a UL of 80 years for its administrative building. The UL of 80 years is 5 years greater than the MAX UL in the Board's Kinetrics Report. CND's Kinetrics Study did not include this component. Based upon the construction of CND's administrative building, and its experience to-date, CND believes that the life expectancy is expected to exceed the MAX UL of 75 years.

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TAXES/PILs

OVERVIEW

CND is subject to the payment of PILs under Section 93 of the *Electricity Act, 1998,* as amended. CND 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.* A copy of the 2012 Federal and Ontario Provincial tax returns has been included as Appendix 4-21 in this Exhibit. Financial Statements to support the tax return are not different than those submitted in support of this Application. CND has used the Board Approved PILs model in the calculation of its taxes and the model is included as Appendix 4-22 in this Exhibit. CND has excluded Regulatory assets and liabilities from PILs calculations.

Table 4-45 below provides a summary of 2010 Board Approved, 2009 through 2012 actual income taxes included in the annual audited financial statements, the 2013 Bridge Year estimate using current tax rates and 2014 Test Year income taxes based on forecasted rates. The PILs amount included in the 2012 audited financial statements is based on estimates and differs from the actual PILs return. The difference between the 2012 actual and estimate will be included in the 2013 audited financial statements.

Table 4-45 Summary of PILs by Year

I	Summany of Dille													
H	Summary of PILs													
		2010 Board				2012	2013							
L	Description	Approved	2009 Actual	2010 Actual	2011 Actual	Actual	Bridge	2014 Test						
Т														
•	Ontario Capital Tax	\$67,581	\$224,377	\$77,423	\$0	\$0	\$0	\$0						
	Income Taxes	\$1,039,587	\$1,202,132	\$1,412,942	\$1,592,398	\$328,410	\$0	\$0						
ſ														
ŀ	Total Taxes	\$1,107,168	\$1,426,509	\$1,490,365	\$1,592,398	\$328,410	\$0	\$0						

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COMPUTATION OF PILS

CND is projecting a taxable loss for the 2013 Bridge Year, principally as a result of higher CCA deductions as compared to projected depreciation expense. 2014 Test Year taxable income is projected to be offset by the loss carry forward arising in 2013 Bridge Year. As a result, the effective tax rate for 2013 Bridge and 2014 Test Years is 0%. The calculation of taxable income is shown in Table 4-46.

As provided in Section 2.7.5 of the Chapter 2 Filing Requirements for Electricity Distribution Rate Applications, CND has excluded regulatory assets and liabilities from the PILs computations.

Table 4-46 Computation of Taxable Income

Determination of Taxable Income											
Description	2	013 Bridge		2014 Test							
Income before taxes		\$2,187,986		\$4,757,910							
Additions to Accounting Income:											
Amortization of tangible assets		\$4,181,269		\$4,989,877							
Non-deductible meals and enterta	inment	\$10,000		\$10,000							
Reserves from Financial Statement	s-end of year	\$2,156,000		\$2,068,000							
Investment Tax Credits		\$36,833		\$77,500							
		\$6,384,102		\$7,145,377							
Deductions form Accounting Incom	e:										
Capital Cost Allowance		\$8,644,912		\$9,527,511							
Cumulative Eligible Capital Deduct	ion	\$110,636		\$102,891							
Reserves from Financial Statement	s-beginning of year	\$2,134,935		\$2,156,000							
	<u>\$</u>	10,890,483		\$11,786,402							
Net (Loss) Income for Tax Purposes	; ((\$2,318,395)		\$116,885							
Application of Loss Carry Forward		<u>\$0</u>		(\$116,885)							
Taxable Income	((\$2,318,395)		\$0							

Descriptions of each of the adjustments to determine taxable income are presented below.

Amortization of tangible assets:

This amount represents the accounting depreciation/amortization to be added back to accounting income for tax purposes. Table 4-47 is a summary of the depreciation expense for the 2013 Bridge Year and 2014 Test Year.

Table 4-47 Depreciation Expense Table

DEPRECIATION EXPENSE TABLE										
	Depreciation	2013 Actual	2014 Actua							
	рергенации	CGAAP	CGAAP							
1805	Land									
1806	Land Rights									
1808	Building and Fixtures	21,351	21,351							
1815	Transformer Station Equipment-Normally Primary above 50 kv	365,399	365,445							
1820	Distribution Station Equipment-Normally Primary below 50 kv									
1830	Poles, Towers and Fixtures	404,621	511,46							
1835	O/H Conductors & Devices	550,383	695,53							
1840	Underground Conduit	188,599	212,32							
1845	Underground Conductors and Devices	470,342	533,96							
1850	Line Transformers	602,986	651,24							
1855	Services									
1860	Meters	667,073	717,25							
1908	Building and Fixtures	142,804	155,30							
1915	Office Furniture and Fixtures	27,011	40,39							
1920	Computer Equipment - Hardware	339,547	514,21							
1925	Computer Software	512,400	677,09							
1930	Transportation Equipment	182,646	233,63							
1935	Stores Equipment									
1940	Tools, Shop and Garage Equipment	74,628	85,91							
1945	Measurement and Testing Equipment									
1950	Power Operated Equipment									
1955	Communication Equipment									
1960	Miscellaneous Equipment									
1980	System Supervisory Equipment									
1995	Contributions and Grants	(368,521)	(425,26							
		4,181,269	4,989,87							
ss : Ful	ly Allocated Depreciation									
	Transportation	(182,646)	(233,63							
	Smart Meters	,								
	Difference									
	Net Depreciation	3,998,623	4,756,24							
eprecia	tion As Per Projected Budget	3,998,623	4,756,24							

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Non-deductible meals and entertainment:

CND adjusts its accounting income for the non-deductible portion of meals and

entertainment expenses it incurs during the year. The amount of \$10,000 is the estimated

amount for 2013 and 2014 based on the amounts claimed in prior years.

Reserves from Financial Statements:

The reserves recorded by CND represent the post retirement benefit obligations. As at

December 31, 2012 the post retirement benefit obligation was \$2,134,935. The post

retirement benefit obligations are projected to be \$2,156,000 and \$2,068,000 and the end

of 2013 and 2014 respectively. The employee post retirement obligations are described in

more detail in Exhibit 4, Tab 4, Schedule 4.

Investment Tax Credits:

CND has included the following estimated investment tax credits to calculate taxes.

Several of the programs are based on hiring apprentices. CND has taken advantage of the

programs available and anticipates doing the same in 2013 and 2014.

1. Estimated Ontario Apprentice Training Credits: \$30,833 for 2013 and \$67,500 for

2014.

The 2013 Credits are based on two apprenticeships at \$10,000 each and the partial

claim for apprenticeships hired during the year (three hired September 1, 2013 for a

claim of \$3,333 each), or completed their program during 2013 (one claim of \$833).

The 2014 Credits are based on six apprenticeships at \$10,000 each and an

apprentice who is completing their program during 2014 (one claim for \$7,500).

2. Estimated Apprenticeship Job Creation Credits: \$6,000 for 2013 and \$10,000 for

2014.

The 2013 Credits are based on three new apprentices hired during 2013 eligible for

a \$2,000 credit each for a total of \$6,000.

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The 2014 Credits are based on five apprentices (3 hired in 2013 and 2 hired in 2014) eligible for a \$2,000 credit each for a total of \$10,000.

CND does not anticipate claiming SR&ED expenditures in 2013 Bridge Year or 2014 Test Year.

Capital Cost Allowance:

Table 4-48 and 4-49 show the determination of the Capital Allowance claims for each year. Both tables are taken from the Income Tax/PILS Workform for 2014 Filers.

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Table 4-48 CCA for 2013

Schedule 8 CCA - Bridge Year

Class	Class Description	UCC Regulated Historic Year	A	Additions	Disposals (Negative)	C Before 1/2 Yr Adjustment	1/2 Year Rul Additions Disposa	ess	Reduced UCC	Rate %	Brid	lge Year CCA	UCC	End of Bridge Year
	Distribution System - post 1987	\$ 29,316,535				\$ 29,316,535	\$	-	\$ 29,316,535	4%	\$	1,172,661	\$	28,143,874
1 Enhanced	Non-residential Buildings Reg. 1100(1)(a.1) election	\$ 525,346				\$ 525,346	\$	-	\$ 525,346	6%	\$	31,521	\$	493,825
	Distribution System - pre 1988	\$ 24,878,489				\$ 24,878,489	\$	-	\$ 24,878,489	6%	\$	1,492,709	\$	23,385,780
8	General Office/Stores Equip	\$ 5,810,752	\$	303,951		\$ 6,114,703	\$ 15	1,976	\$ 5,962,728	20%	\$	1,192,546	\$	4,922,158
10	Computer Hardware/ Vehicles	\$ 822,159	\$	884,285		\$ 1,706,444	\$ 44	2,143	\$ 1,264,302	30%	\$	379,290	\$	1,327,154
10.1	Certain Automobiles					\$ -	\$	-	\$ -	30%	\$	-	\$	-
12	Computer Software	\$ 436,264	\$	312,900		\$ 749,164	\$ 15	3,450	\$ 592,714	100%	\$	592,714	\$	156,450
13 1	Lease # 1					\$ -	\$	-	\$ -		\$	-	\$	-
13 2	Lease #2					\$	\$	-	\$ -		\$	-	\$	-
13 3	Lease # 3					\$ -	\$	-	\$ -		\$	-	\$	-
13 4	Lease # 4					\$	\$	-	\$ -		\$	-	\$	-
14	Franchise					\$ -	\$	-	\$ -		\$	-	\$	-
17	New Electrical Generating Equipment Acq'd after Feb 27/00 Other Than Bldgs	\$ 190,429				\$ 190,429	\$	-	\$ 190,429	8%	\$	15,234	\$	175,195
42	Fibre Optic Cable					\$ -	\$	-	\$ -	12%	\$	-	\$	-
43.1	Certain Energy-Efficient Electrical Generating Equipment					\$	\$	-	\$ -	30%	\$	-	\$	-
43.2	Certain Clean Energy Generation Equipment					\$ -	\$	-	\$ -	50%	\$	-	\$	-
45	Computers & Systems Software acq'd post Mar 22/04	\$ 2,703				\$ 2,703	\$	-	\$ 2,703	45%	\$	1,216	\$	1,487
46	Data Network Infrastructure Equipment (acq'd post Mar 22/04)					\$ -	\$	-	\$ -	30%	\$	-	\$	-
47	Distribution System - post February 2005	\$ 36,568,034	\$	14,581,617		\$ 51,149,651	\$ 7,29	0,809	\$ 43,858,843	8%	\$	3,508,707	\$	47,640,944
50	Data Network Infrastructure Equipment - post Mar 2007	\$ 407,756				\$ 407,756	\$	-	\$ 407,756	55%	\$	224,266	\$	183,490
52	Computer Hardware and system software					\$	\$	-	\$ -	100%	\$	-	\$	-
	CWIP	\$ 3,827,597				\$ 3,827,597	\$	-	\$ 3,827,597		\$	-	\$	3,827,597
3	Buildings	\$ 625,728				\$ 625,728	\$	-	\$ 625,728	5%	\$	31,286	\$	594,442
6	Buildings	\$ 27,604				\$ 27,604	\$	-	\$ 27,604	10%	\$	2,760	\$	24,844
						\$	\$	-	\$ -		\$	-	\$	-
						\$ -	\$	-	\$ -		\$	-	\$	-
						\$ -	\$	-	\$ -		\$	-	\$	-
						\$ -	\$	-	\$ -		\$	-	\$	-
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						\$ -	\$	-	\$ -		\$	-	\$	-
						\$ -	\$	-	\$ -		\$	-	\$	-
						\$ -	\$	-	\$ -		\$	-	\$	-
	TOTAL	\$ 103,439,396	\$	16,082,753	\$ -	\$ 119,522,149	\$ 8,04	1,377	\$ 111,480,773		\$	8,644,912	\$	110,877,237

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Table 4-49 CCA for 2014

Schedule 8 CCA - Test Year

Class	Class Description	CC Test Year ening Balance	Additions	Disposals (Negative)	C Before 1/2 Yr Adjustment	1/2 Year Rule {1/2 Additions Less Disposals}	Reduced UCC	Rate %	Te	est Year CCA	UCO	C End of Test Year
1	Distribution System - post 1987	\$ 28,143,874			\$ 28,143,874	\$ -	\$ 28,143,874	4%	\$	1,125,755	\$	27,018,119
1 Enhanced	Non-residential Buildings Reg. 1100(1)(a.1) election	\$ 493,825			\$ 493,825	\$ -	\$ 493,825	6%	\$	29,630	\$	464,196
2	Distribution System - pre 1988	\$ 23,385,780			\$ 23,385,780	\$ -	\$ 23,385,780	6%	\$	1,403,147	\$	21,982,633
8	General Office/Stores Equip	\$ 4,922,158	189,400		\$ 5,111,558	\$ 94,700	\$ 5,016,858	20%	\$	1,003,372	\$	4,108,186
10	Computer Hardware/ Vehicles	\$ 1,327,154	1,271,500		\$ 2,598,654	\$ 635,750	\$ 1,962,904	30%	\$	588,871	\$	2,009,782
10.1	Certain Automobiles	\$ -			\$ -	\$ -	\$ -	30%	\$	-	\$	- 1
12	Computer Software	\$ 156,450	1,334,048		\$ 1,490,498	\$ 667,024	\$ 823,474	100%	\$	823,474	\$	667,024
13 1	Lease # 1	\$ -			\$ -	\$ -	\$ -		\$	-	\$	-
13 2	Lease #2	\$ -			\$ -	\$ -	\$ -		\$	-	\$	_
13 3	Lease # 3	\$ -			\$ -	\$ -	\$ -		\$	-	\$	-
13 4	Lease # 4	\$ -			\$ -	\$ -	\$ -		\$	-	\$	-
14	Franchise	\$ -			\$ -	\$ -	\$ -		\$	-	\$	_
17	New Electrical Generating Equipment Acq'd after Feb 27/00 Other Tha	\$ 175,195			\$ 175,195	\$ -	\$ 175,195	8%	\$	14,016	\$	161,179
42	Fibre Optic Cable	\$ -			\$ -	\$ -	\$ -	12%	\$	-	\$	-
43.1	Certain Energy-Efficient Electrical Generating Equipment	\$ -			\$ -	\$ -	\$ -	30%	\$	-	\$	-
43.2	Certain Clean Energy Generation Equipment	\$ -			\$ -	\$ -	\$ -	50%	\$	-	\$	-
45	Computers & Systems Software acq'd post Mar 22/04	\$ 1,487			\$ 1,487	\$ -	\$ 1,487	45%	\$	669	\$	818
46	Data Network Infrastructure Equipment (acg'd post Mar 22/04)	\$ -			\$ -	\$ -	\$ -	30%	\$	-	\$	-
47	Distribution System - post February 2005	\$ 47,640,944	14,854,435		\$ 62,495,379	\$ 7,427,218	\$ 55,068,161	8%	\$	4,405,453	\$	58,089,926
50	Data Network Infrastructure Equipment - post Mar 2007	\$ 183,490			\$ 183,490	\$ -	\$ 183,490	55%	\$	100,920	\$	82,571
52	Computer Hardware and system software	\$ -			\$ -	\$ -	\$ -	100%	\$	-	\$	-
95	CWIP	\$ 3,827,597			\$ 3,827,597	\$ -	\$ 3,827,597	0%	\$	-	\$	3,827,597
3	Buildings	\$ 594,442			\$ 594,442	\$ -	\$ 594,442	5%	\$	29,722	\$	564,720
6	Buildings	\$ 24,844			\$ 24,844	\$ -	\$ 24,844	10%	\$	2,484	\$	22,360
	-				\$ -	\$ -	\$ -	0%	\$	-	\$	-
					\$ -	\$ -	\$ -	0%	\$	-	\$	-
					\$ -	\$ -	\$ -	0%	\$	-	\$	-
					\$ -	\$ -	\$ -	0%	\$	-	\$	-
					\$ -	\$ -	\$ -	0%	\$	-	\$	
					\$ -	\$ -	\$ -	0%	\$	-	\$	
					\$ -	\$ -	\$ -	0%	\$	-	\$	-
					\$ -	\$ -	\$ -	0%	\$	-	\$	-
	TOTAL	\$ 110,877,238	\$ 17,649,383	\$ -	\$ 128,526,621	\$ 8,824,692	\$ 119,701,929		\$	9,527,511	\$	118,999,109

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Cumulative Eligible Capital Deduction:

- 2 Table 4-50 and 4-51 show the determination of the Cumulative Eligible Capital claims for
- 3 each year. Both tables are incorporated in the Income Tax/PILS Workform for 2014 Filers.

Table 4-50 CEC for 2013 Bridge Year

Schedule 10 CEC - Bridge Year				
Cumulative Eligible Capital				1,580,510
Additions Cost of Eligible Capital Property Acquired during Test Year				
Other Adjustments	0			
Subtotal	0	x 3/4 =	0	
Non-taxable portion of a non-arm's length transferor's gain realized on the transfer of an ECP to the Corporation after Friday, December 20, 2002	0	x 1/2 =	0	0
Amount transferred on amalgamation or wind-up of subsidiary	0	=		0
Subtotal			_	1,580,510
<u>Deductions</u>				
Proceeds of sale (less outlays and expenses not otherwise deductible) from the disposition of all ECP during Test Year				
Other Adjustments	0			
Subtotal	0	x 3/4 =	_	0
Cumulative Eligible Capital Balance				1,580,510
Current Year Deduction		1,580,510	x 7% =	110,636
Cumulative Eligible Capital - Closing Balance				1,469,874

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Table 4-51 CEC for 2014 Test Year

Schedule 10 CEC - Test Year					
Cumulative Eligible Capital					1,469,874
Additions					
Cost of Eligible Capital Property Acquired during Test Year		0			
Other Adjustments		0			
	Subtotal	0	x 3/4 =	0	
Non-taxable portion of a non-arm's length transferor's gain realized on the transfer of an ECP to the Corporation after Friday, December 20, 2002	ne	0	x 1/2 =	0	
			_	0	0
Amount transferred on amalgamation or wind-up of subsidiary		0			0
	Subtotal			-	1,469,874
<u>Deductions</u>					
Proceeds of sale (less outlays and expenses not otherwise deductible) from the disposition of all ECP during Test Year		0			
Other Adjustments		0			
	Subtotal	0	x 3/4 =	-	0
Cumulative Eligible Capital Balance					1,469,874
Current Year Deduction (Carry Forward to Tab "Test Year Taxable	e Income")	1,469,874	x 7% =	102,891
Cumulative Eligible Capital - Closing Balance					1,366,983

3 **Application of Loss Carry-Forward:**

- 4 Due to the taxable loss anticipated for 2013, it is anticipated that 2014 taxable income will
- 5 be reduced to zero by utilizing the loss carry forward from 2013. It is also anticipated that
- 6 any losses available for carry forward or carry back will be utilized in a manner that
- 7 maximizes the tax benefit for CND.

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1 **PROPERTY TAXES**

- 2 CND has estimated the property taxes for 2013 Bridge Year and 2014 Test Year will be
- 3 \$150,696 and \$155,664 respectively.

Cambridge and North Dumfries Hydro Inc. EB-2013-0116

Exhibit 4 Tab 8 Schedule 4

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INTEGRITY CHECKS

- 2 CND has completed the integrity checks for the following information as detailed in the filing
- 3 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 UCC/CCA schedule 8 agree with the
 rate base section for historic, bridge and test years.
- Schedule 8 of the most recent federal T2 tax return filed as a closing December 31st
 2012 UCC agrees with the opening Bridge Year 2013 UCC at January 1st, 2013.
- 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.
- Loss carry-forwards from the tax returns agree with those disclosed in the
 application.
- CCA is maximized even if there are any loss carry-forwards.
- A statement is included in the application as to when the losses will be fully utilized.
- 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 must be consistent with the utility's actual tax facts and the evidence filed in the proceeding.

Cambridge and North Dumfries Hydro Inc. EB-2013-0116 Exhibit 1 Appendix 4-7 Filed: October 1, 2013

APPENDIX 4-7 TOTAL COMPENSATION PHILOSOPHY

Cambridge North Dumfries Hydro Inc. ('CNDHI') Total Compensation Program

Introduction

CNDHI pursues a total compensation strategy, which ensures all employees are paid at market competitive rates. The organization engages the services of an independent external compensation consultant who works with the VP Human Resources and President & CEO to analyze the competitive markets and to establish total compensation that will attract, retain and motivate employees.

The HR Committee of the Board of directors, reviews compensation levels of members of CNDHI's executive team, evaluates individual performance and considers executive management succession and related matters. All decisions relating to the compensation of the executive team are reported and shared with the full Board of directors.

The President & CEO is accountable to manage, review and approve compensation matters as they relate to CNDHI's non-executive management team.

Pay Philosophy Statement

CNDHI recognizes the alignment of the contributions of its employees to the success of its business. The organization strives to pay competitively and equitably for employee performance, yet is cognizant of the budgetary and business constraints of operating in a regulated environment.

CNDHI bases its total compensation philosophy on its desire to attract, retain and motivate an outstanding workforce. CNDHI provides a total compensation program that establishes and maintains competitive salary levels within relevant markets and available resources, which is consistent with job content, responsibilities and expectations. The program emphasizes and encourages excellence by rewarding employee contributions, including performance that supports CNDHI's core values of Teamwork, Collaboration, Communication, Accountability and Innovation.

In addition to total cash compensation opportunities, CNDHI provides comprehensive benefit plans designed to address its employees' health and wellness, and encourages continuous professional development and career advancement through its performance management system and supporting programs.

Guiding Principles

In developing and administering its total compensation programs, the organization considers that the outputs should:

- Support the goals and core values of the organization
- Maintain fair and equitable compensation practices
- Maintain market-driven competitiveness
- Support a performance and results driven culture
- Be simple to administer and understand
- Be openly communicated to employees
- Be flexible to meet the unique needs that may exist within the organization

Market Position

The organization regularly monitors, analyzes and determines the market competitiveness of its executive and management teams' total compensation program. A comprehensive external market-comparator analysis is conducted at a minimum, once every three years. In the off years, the organization undertakes an external review against a set of benchmark positions, both executive and management to determine relativity and identify any substantive changes driven by market and/or environmental conditions.

Market Comparators

CNDHI attracts and recruits employees from both the LDC and the private sector markets, with particular emphasis on the LDC market. The organization reviews and analyzes its competitiveness against three market comparators to provide a robust and comprehensive review. Over and above the private and LDC markets, the organization recognizes the importance and community sensitivity of monitoring its position against the public sector.

Data Sources

CNDHI reviews, analyzes and determines its market position against the following market compensation data bases:

Broader Public Sector (BPS) Ontario - excluding GTA

• Includes public sector and non-profit organizations

Industrial Sector (Industrial) Ontario – excluding GTA

• Includes private organizations in a variety of industries

LDC Sector

 Includes LDC's of similar size and scope, and those that CNDHI considers its market competition for talent

Competitive Positioning

CNDHI considers its primary competition for talent its LDC market, yet recognizes the requirement to maintain a balanced review and approach against both the private and public sector markets.

The organization strives to maintains a 50th percentile position against the public and private sectors, with a primary focus on maintaining a 50th percentile position against its LDC market competition.

Total Compensation Elements

CNDHI maintains and executes on a performance management system that aligns employee performance to total compensation. The organization has developed and maintains a Balanced Scorecard ('BSC') and supporting documentation to help guide, direct and authenticate its position on merit and incentive pay.

Base Salary – Merit Pay

Merit pay is the portion of total compensation that is added to an individuals base salary. Merit pay rewards individuals for the growth, commitment, drive and achievement in the performance of their role in the organization. Job rate (100%) is the rate at which a fully experienced and competent individual achieves or is expected to operate at. Below job rate, the individual is considered developing. Achieving above job rate is possible for individuals who have demonstrated mastery or consistent superior performance in one or more roles.

CNDHI maintains a base salary band of 85%, 100%, 115% which:

- Provides sufficient opportunity to reward, retain and attract top talent beyond 100%
- Provides opportunity to mitigate compression issues
- Is consistent with best practice and its LDC market comparators
- Provides opportunity to place individuals new to the position in a developmental salary range

Incentive Opportunity

CNDHI's incentive pay is a lump sum payment not compounded or added to an individuals base salary. Incentive pay rewards individuals for objectives met, stretch target goals achieved and for adding value beyond the expected performance of their role in the organization. CNDHI utilizes a BSC approach to goal setting and annually assigns a weighted goal to each of the following four categories:

Profit	Service	People	Community
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Short-Term Incentive Plan ('STIP')

STIP pay is available to those individuals who contribute materially to the success of the organization through their direct ability to impact the business, their ingenuity, drive and leadership. The STIP is paid out through actual achievement of weighted objectives set out and clearly defined at the beginning of the performance year. The President & CEO determines and directs the payout opportunity criteria of achievement, as follows:

Achieveme	
Target Payout	100%
Threshold Payout	50%
Below Threshold	0%

^{*} Payout is linear and includes incremental achievement between Threshold and Target percentages.

Long-Term Incentive Plan ('LTIP')

The executive team is provided an LTIP opportunity aimed to reinforce and reward building longer-term, sustainable value while meeting the short-term business goals. LTIP awards are based on the achievement of, on average four critical key objectives with a direct alignment to CNDHI's Strategic Plan and each objective is weighted and clearly defined. Objectives are set once every three years, and are spaced throughout the three years dependent on ability to complete in one or two calendar years.

Payout is determined upon successful achievement of the objective within the three-year LTIP cycle. No payout is awarded if the results do not meet, at least the minimum threshold or are not completed within the timelines put forward.

Pay Mix

CNDHI's pay mix reflects the differences in the individual roles and responsibilities of the management group. The organizations most senior positions maintain a greater emphasis placed on variable pay in recognition of their ability to directly impact the organization's overall performance and drive results.

Position	STIP		LTIP	
	<u>Corporate</u>	<u>Individual</u>		
President & CEO	80%	20%	20%	
VP Positions	65%	35%	15%	
Non-Executive (eligible)	100%	N/A	N/A	

Performance Management System

CNDHI places considerable emphasis on a results-driven, performance-based system, which achieves success through the development of SMART (Specific, Measurable, Achievable, Relevant, Timebound) objectives. Goals are intended to challenge the organization to consider how it can improve overall and individual skills to maximize its potential and further enhance its contribution to the shareholder and community.

The program and supporting practices (succession planning, talent management, career development and recruitment) are influenced and directed by CNDHI's set of behavioural core competencies. CNDHI's Performance Management System assesses individuals in four major components:

Behavioural Core	Performance	Merit &	Professional & Career
Competencies	Appraisal	Incentive Pay	Development

Accountability

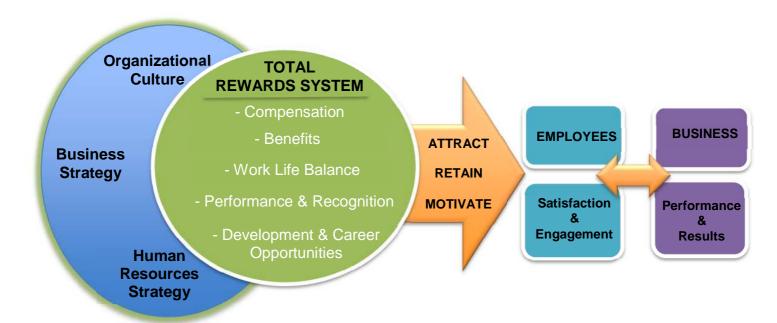
- 1. The President & CEO is accountable to interpret CNDHI's BSC incentive program, and may amend and/or cancel the program as any time, subject to the approval of the Board of directors.
- 2. The President & CEO and the Vice President of Human Resources are responsible to administer the program, undertake regular market driven reviews and support recommendations to the Board of Directors where required.
- 3. The Vice President of Human Resources is responsible to review, recommend and develop a total compensation program and performance management system that aligns with the organizations core competencies and values, reflects best practice and maintains the organizations compensation principles relative to its market position and competitive total compensation.
- 4. The Vice President of Human Resources is responsible to recommend modifications or program changes consistent with the strategic needs of the business, the evolving regulated environment and the challenges the organization may encounter relative to its talent management strategy.
- 5. The Vice President of Human Resources is responsible to ensure the accuracy of the financial calculations and that individual payments are made as soon as possible after the approvals are given.
- 6. Each Executive member has the responsibility to support the total compensation program criteria, align their team efforts with CNDHI's strategic goals, vision and core values and motivate their employees to achieve corporate and individual success (where eligible).
- 7. Each individual eligible under the program has the responsibility to follow the procedures and expectations as outlined in the Merit and BSC guidelines, as defined with their position of responsibility.

CNDHI's Total Compensation Model

The following model provides the elements required to feed into and support CNDHI's total rewards and compensation system. The organization will be better positioned to achieve its business goals, drive its

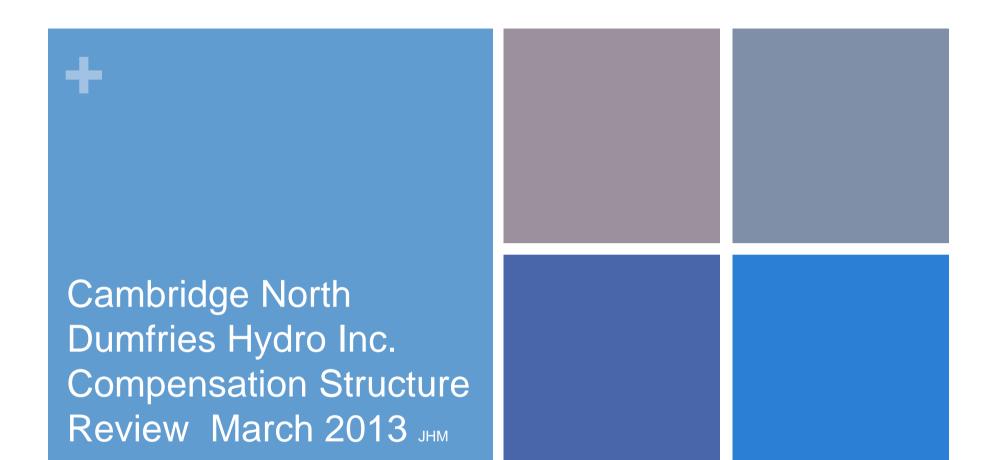
HR strategies and support an engaged and evolving employee culture operating within an aligned and integrated program.

Success will improve the organizations talent management and succession planning practices, while improving employee satisfaction and company performance.



Cambridge and North Dumfries Hydro Inc. EB-2013-0116 Exhibit 1 Appendix 4-8 Filed: October 1, 2013

APPENDIX 4-8 MARKET SURVEY







Introduction and Background

- Marjorie Richards was contracted to review the current Compensation structure at CNDHI relative to Market
- The review was initiated with a custom survey of 7 Utilities (Burlington Hydro, Enwin Power, Guelph Hydro, Kitchener-Wilmot Hydro, London Hydro, Oakville Hydro, Waterloo North Hydro)
- The review is supported by The Hay Group compensation database of Utilities
- The review is supported by The MEARIE Group LDC compensation survey of 2012
- The review is supported the Broader Public Sector Ontario and the Industrial Sector Ontario



Review Approach

Market Analysis

- The market analysis encompassed:
 - Base salaries and total cash (i.e. base salary plus annual incentive) for all of CNDHI's management team
- Position matches were made (where able) based on:
 - The LDC comparator positions as provided in the customer survey (primary match)
 - The MEARIE Group's 2012 LDC survey, utilizing recorded Hay Points (secondary match)

Comparator Markets

- Market data was analyzed based on the following sectors:
 - Broader Public Sector (BPS) Ontario excluding GTA
 - Includes public sector and non-profit organizations, for example:
 - Association of Universities & Colleges, Construction Sector Council, City of Brantford, Canadian Health Care Association, Bank of Canada, Canada Post, etc.
 - Industrial Sector (Industrial) Ontario excluding GTA
 - Includes organizations in a variety of industries, for example:
 - Brinks Canada, Engineering Canada, Henkell Canada Inc., Sleeman Breweries, Caterpillar of Canada, Chubb Edwards, etc.
 - LDC Custom Compensation Survey conducted in January 2013
 - Burlington Hydro, Enwin Power, Guelph Hydro, Kitchener-Wilmot Hydro, London Hydro, Oakville Hydro, and Waterloo North Hydro



Compensation Philosophy

- The organization's compensation philosophy provides a framework for the design and ongoing administration of compensation, and programs to support the organization's human capital requirements
- The compensation philosophy includes the following:
 - The comparator markets (recruiting & retention) for purposes of maintaining competitive compensation
 - The desired position in the market
 - The basis of comparison (i.e. base salary, total cash, etc.)
 - The desired pay mix (i.e. base salary versus variable pay or pay at risk)
 - The basis and methodology for internal equity (protocol's on moving beyond 100%, recognition of top talent, titles, etc.)
 - Performance alignment (i.e. the organization's goals versus individual performance) and such areas as the degree of performance differentiation (for purposes of compensation) between individual employees



Compensation Structure Overview 2013 CNDHI Current Structure

- Annually move Salary Bands based on approved Board adjustments
- Salary Bands are based on a two year stepped process
- Base Salary is considered maximum with no current potential to move beyond 100% competency
- Given normal market variability + / 10% is considered within competitive range
- Currently we have 15 salary bands
- Based on the review 7 of 15 grades were outside of market
- The current Management structure provides for incentive (variable) pay

Compensation Structure 2013 Recommendations from Survey

- Revise the structure to 11 bands
- Implement a 85% 100% 115% salary range for each grade
 - Aligns with best practice and LDC peers
 - Provides opportunity to place new recruits in a developmental salary range
 - Provides an opportunity to reward, retain, and attract top talent
 - Mitigates compression
 - Provides opportunity to move individuals based on performance
- Continue to review and adjust bands to remain competitive
- Maintain current incentive plan which aligns competitively with Total Cash



Compensation Structure 2013 Recommendations

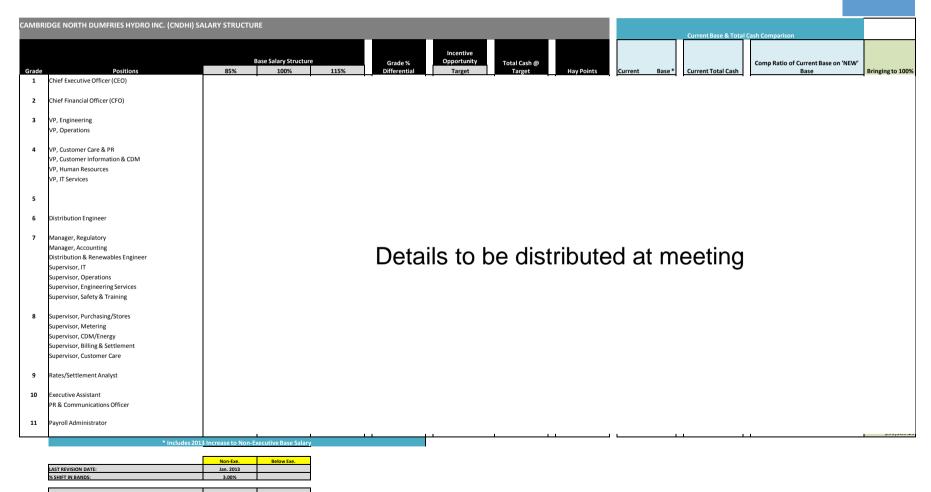
- President & CEO is not aligned to LDC comparators this falls at the low end of the compensation ratio range (91.2%)
- Vice Presidents are not aligned to LDC comparators they fall at the low end of the compensation ratio range (85.9%- 92.20%)
- Adjust salaries over a two (2) year period (2014 2015) to target 100% comp ratio, subject to merit.
- Minor adjustments will be made to realign some positions based on survey results
 - Title Change Distribution Engineer (remove Supervisor)
 - Modify EA Incentive from 10% to 8%
 - Adjust Payroll Administration to market
 - Settlement Analyst over market red circle
 - Realign Health & Safety position and Engineering position up one grade



PREVISIONS % SHIFT IN BANDS

New Proposed Salary Structure

Comparison to Current vs. New Base/Total Cash Includes 3% CNDHI Increase to Base for Non- Executive Positions

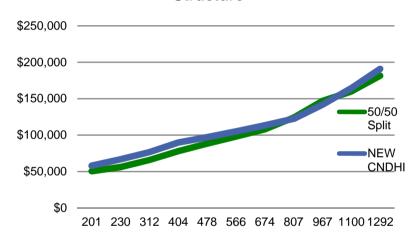




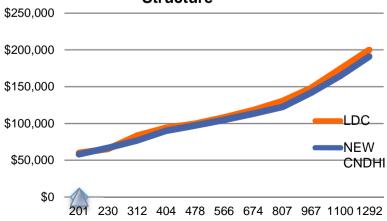
'NEW' Proposed Salary Structure

Base & Total Cash Trend Lines

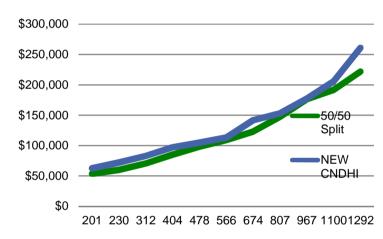
BPS/Industrial Split - 'NEW' CNDHI Structure



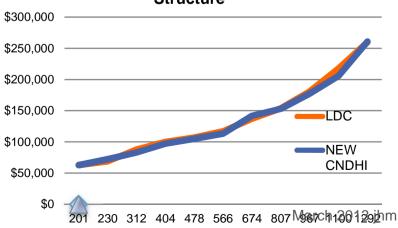
Base Salary CNDHI/LDC's - 'NEW' Structure



BPS/Industrial Split TOTAL CASH 'NEW' CNDHI Structure



Total Cash CNDHI/LDC's - 'NEW' Structure



Cambridge and North Dumfries Hydro Inc. EB-2013-0116 Exhibit 1 Appendix 4-9 Filed: October 1, 2013

APPENDIX 4-9 SHORT TERM INCENTIVE PROGRAM



Supervisor Performance Bonus Program



we deliver.

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Cambridge and North Dumfries Hydro Inc. Supervisor Performance Bonus Program

General Principles

Cambridge and North Dumfries Inc. believes that its Supervisor Team should have the opportunity to earn performance bonuses for achievement in the areas of management effectiveness and strategic initiatives that contribute to the growth and enhancement of the organization.

Participation

Participation is limited to those positions reporting directly to a member of the Senior Management Team.

Participants who join the Supervisor Team in the first six months of the calendar year will be eligible to participate in the Supervisor Performance Bonus Program. A supervisor joining the Supervisor Team in the last six months of the year will be eligible for the program in the following year.

Program Structure

Annual Cycle:

The Supervisor Performance Bonus Program will be a 12-month cycle, beginning in January and completing in December. Goal templates will be completed and signed off by February 15th. The Senior Management Team will provide final approval in February¹. Progress reviews will be completed in June. Evaluations will be completed and signed off by December 20th.

¹ This is due to the implications that may arise when two or more supervisors' goals are connected and/or integrated, therefore having implications for other supervisor's achievement.

Components:

There are two (2) components to the Management Performance Bonus Program.

- 1. Management Effectiveness
- 2. Management Initiatives

A template will be provided for each component.

Each component will be comprised of three (3) goal sections. There are six (6) goal sections in total.

The supervisor will be required to write five goals. A supervisor can select the sections in which they want to write their goals. Only one section may have a maximum of two goals. Therefore a minimum of four (4) sections will be completed with goals.

The person the supervisor reports to will meet with the Supervisor to discuss and approve all goals.

1. Management Effectiveness

Management Effectiveness will be comprised of the following areas and follow the template provided:

Goal Section #1: Project Management

This section will encompass goals relating to performance required to complete and accomplish projects. Project management includes the following types of skills:

Setting goals and objectives and identifying measurable targets Identifying problems and resolving issues
Planning effectively and producing results on a timely basis
Organizing resources for maximum achievement
Making decisions based on sound analysis and judgment
Managing time effectively and efficiently

Goal Section #2: People Management

This section will encompass goals relating to the ability of the supervisor to manage and motivate people under their direct responsibility. People management includes the following types of skills:

Delegating appropriately with assigned accountability
Team building
Completing performance appraisals in a timely and responsive manner
Developing people and providing opportunities for challenging work assignments
Facilitating change and managing conflict in a positive and fair manner

Goal Section #3: -Professional and Personal Development

This section will encompass goals relating to the supervisor's personal training and development in their current position and in preparation for future career plans. Professional and personal development includes the following types of skills:

Making a commitment to take on challenging assignments Identifying training and development objectives Attending courses and workshops both internally and externally

2. Management Initiatives:

Management Initiatives will be comprised of the following areas and follow the template provided:

Goal Section #4: Strategic Initiatives:

Goals will be based on objectives relating to growth, opportunities, new ideas, leadership roles and customer relations within the supervisor's department. The Cambridge and North Dumfries Hydro Inc. Strategic Business Plan will be a source for ideas in developing goals for this section.

Goal Section #5: Quality and Continuous Improvement Initiatives

Goals will be based on objectives relating to improvements in processes, efficiencies and effectiveness within the supervisor's department. Quality and continuous improvement projects should relate to the overall performance of the corporation and may involve creating project teams for a specified period of time.

Goal Section #6: Costs

Goals will be based on objectives relating to financial projects, plans and programs within the control of the supervisor's department. This section refers to goals that are within the control of the supervisor to change, reduce or modify.

Mid-Cycle Goal Changes and Revisions:

Throughout the cycle of the program there may arise circumstances that may cause a goal to be revised or changed. The person whom the supervisor reports to shall approve any changes or revisions to a supervisor's goals. The amended goals shall then be reviewed and approved by the Senior Management Team.

This is due to the implications that may arise when two or more supervisor's, goals are connected and/or integrated, therefore having implications for other supervisor's achievement. Any mid-cycle goal changes should be considered the exception and not the norm.

Templates:

There will be two templates:

- 1. Management Effectiveness
- 2. Management Initiatives.

The templates provided for the two components described above will incorporate sections for documenting goals, progress reviews, evaluations, ratings, and sign-offs by the supervisor and respective Director.

Definitions for ratings will also be provided on the templates.

Payment

The performance bonus will be calculated at eight percent (8%) of the supervisor's base salary as of December 31st of the current performance cycle.

Performance Bonus Payout Calculation Formula

Each of the five (5) goals will be rated out of a potential three (3) points. Therefore the potential maximum points to be earned will be fifteen (15) points.

Ratings will be defined as follows:

- 0 did not attempt any significant effort in initiating or accomplishing the goal
- 1 attempted the goal but did not complete the goal to a satisfactory level
- 3 completed goal

The final ratings will then be transferred to the chart described below for calculation of the payment.

Ratings/Payment Scale:

Ratings scale	tings scale Percentage of base salary payment		
0	0%		
1 – 2	1%		
3	2%		
4 - 5	3%		
6 – 7	4%		
8	5%		
9 - 10	6%		
11 – 13	7%		
14 – 15	8%		

Example:

The following chart shows a ratings and payment scale based on an average supervisor's salary of \$80,000; therefore at full payment of eight percent (8%) the recipient would receive \$6400.

Points	% Payout	Goal Completion examples	Payment
0	0%	no goals worthy of rating	\$ 0
1 – 2	1%	1 or 2 attempted	\$ 800
3	2%	1 goal completed or 3 attempted	\$1600
4 - 5	3%	1 goal completed and 1 or 2 attempted	\$2400
6 - 7	4%	2 goals completed or combination of completed and attempted	\$3200
8	5%	2 goals completed and 2 attempted	\$4000
9 - 10	6%	3 goals completed or 2 completed and 3 attempted	\$4800
11 - 13	7%	4 goals completed and 1 attempted 3 goals completed and 2 attempted	\$5600
14 – 15	8%	5 goals completed	\$6400

Conditions and Amendments

Performance Bonus payments are conditional on the corporation achieving a certain level of profitability and under certain circumstance no bonus payments (management effectiveness or management initiatives) will be made.

The Board of Directors and the President & CEO has the authority to amend the terms of the Supervisor Performance Bonus Program at any time. This includes the authority to amend the program to recognize extraordinary events, which affect the corporation or the bonus program.

The Senior Management Team will approve and initiate the payment of Bonuses, payable by April 30th of the following year. The payments will be deemed final at the point of payout.

A participant who leaves the employ of the organization prior to December 31st will forfeit their membership in the program and will not receive any payments. A participant who leaves the employ of the organization following December 31st shall be paid their bonus payment.

A participant who retires prior to December 31st shall receive an evaluation of the status of their goals and a bonus payment will be made equivalent to the achievement at date of retirement.

Cambridge and North Dumfries Hydro Inc. Supervisor Performance Bonus Program

Instructional Sheet

Key Dates:	
------------	--

Performance Cycle: January to December

Goal Writing and Sign Offs: February 15th

Senior Management Team Final Approval: February

Progress Reviews: June

Final Evaluation: December 20th

Definitions:

Management Effectiveness:

In this section of the Supervisor Performance Bonus Program goals will be written to reflect project management, people management and personal development. Documents, which will assist in writing stretch goals, will be the most recent performance evaluation and development plan, department meetings, committee and project plans and other such sources which provide an environment for the manager to demonstrate their effectiveness as a supervisor.

Management Initiatives:

In this section of the Supervisor Performance Bonus Program goals will be written to reflect the supervisor's contributions and participation in the organization's overall performance goals. Documents which will assist in writing stretch goals will be the Strategic Plan, the Senior Management Team's milestone goals, Departmental goals and objectives, and any organizational reports relating to strategies, quality and financial performance.

Approval Process:

The supervisor should write their goals first, present them to their Director and then schedule a meeting to discuss and finalize the goals. All goals will be presented and reviewed by the Senior Management Team and given final approval by February each year.

Appeal Process:

Any concerns should be discussed between the supervisor and their Director first. If the problem or issue cannot be resolved it will be directed to the President & CEO for final resolution.

Goal Writing:

An effective goal will have answered the six (6) critical questions for the reader: Who, What, Where, When, Why and How.

Goals should also follow the SMART principle: S – simple, M- measurable, A –attainable, R – results-focused, T – timely.

Examples:

Management Effectiveness:

Goal Section # 1: Project Management

Example 1:

Initiate a project to evaluate the process to handle a new connection. Identify areas of improvement, streamline and implement changes. Completion by September.

Example 2:

Participate in a team that examines and makes recommendations on ways to increase level of customer satisfaction on customer moves.

Example 3:

Research, select, and implement a "Secondary" system to reduce the volume of SPAM email messages CNDHI receives by 50% per day. Project plan by March.

Goal Section # 2: People Management:

Example 1:

Initiate, design and implement three team-building events every few months during the year. The events will address three key issues as identified by staff in a survey conducted at the beginning of the year. Evaluations will follow each event and the data collected will be used to improve future events. All events to be completed by December.

Goal Section #3: Personal Development

Example 1:

Register and attend two key training programs as identified in my performance appraisal action plan relating to one of the following:

1.	 	 	
2.			
3.			

eg. cost reduction best practices, inventory control, performance appraisals and developing people.

Programs to be completed by December.

Management Initiatives:

Goal Section #4: Strategic

Example 1

Work to enhance environmental stewardship in our community, in our operations and with our employees. Evaluate the Environmental Management System Program. Review and revamp the Program to accommodate our internal processes for implementation by July. This will require documenting the Plan to implement, the communication channels and the timing for review by June. Revisions and final changes to be completed by July. Full project evaluation to be completed by October.

Goal Section #5: Quality and Continuous Improvement

Example 1

Actively monitor the administrative work load for completing meter related service orders that the secretarial support normally processes to ensure all service orders are completed within five working days of the meters being changed or installed. Provide regular status updates to Operations. The focus will become more imperative as work is shifted from the Sub foreperson to clerical and the overtime is reduced for the Sub.

Example 2

Based on telephone answering stats for year, improve following year results up to November 30th by 8%.

Goal Section #6: Costs

Example 1

Establish the framework for written feedback on actual financial results versus budget on quarterly expense data. Draft in first quarter, preliminary usage in second quarter, refinement and implementation in third quarter.

Please note that it is required for all supervisors to discuss their goals with their Director prior to initiating any work. The goals will be given approval by the Supervisor's Director and a final review by the Senior Management Team.

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APPENDIX 4-10 LONG TERM INCENTIVE PROGRAM

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CAMBRIDGE AND NORTH DUMFRIES HYDRO INC.

Balanced Scorecard VARIABLE COMPENSATION PLAN

and

Long Term Incentive Plan

President & CEO

1. Purpose

1.1 The purpose of this Plan is to provide a means of paying variable compensation to employees of Cambridge and North Dumfries Hydro Inc. (CNDHI) who contribute materially to the success of the Corporation by their ability, ingenuity, drive and leadership.

2. Eligibility

- 2.1 The President and CEO, CFO, all Vice President positions.
- 2.2 Eligible positions and levels of participation shall be recommended by the President and CEO and approved by the Board of Directors.
- 2.3 Participants, in eligible positions, will not qualify for any payment unless they have six months of continuous service in any position covered by this Plan. Employees with less than six months may qualify for payment, at the discretion of the President and CEO.
- 2.4 An employee receiving an unsatisfactory performance rating for the year will be ineligible for any Variable Compensation Plan payment based either on the corporate or individual components of the Plan.

3. Definitions

- 3.1 "**Plan**" is the Balanced Scorecard Variable Compensation Plan as approved by the Board of Directors.
- 3.2 **Base Salary**" is the annualized base rate of pay of each of the participants at December 31 of the Plan year. If a participant becomes eligible during the course of the year, the participant will receive a prorated award pay-out based on the employment start date.
- 3.3 "Financial Target", for the Balanced Scorecard Variable Compensation Plan purposes, will be:

For all Participants in the Plan:

Consolidated Net Income for the Corporation as at December 31, 2013 (Unaudited IFRS, adjusted for regulatory assets / liabilities)

For the purpose of determining performance against financial targets, the calculation of Consolidated Net Earnings shall exclude bonus payments to all employees on the basis that this is a recursive formula.

Sale of assets will be excluded from performance figures and CNDHI actual regulated rate changes in year may result in the target being adjusted up or down.

The Board may exercise its ad hoc discretionary powers to ensure fairness.

4. Principal Provisions

- 4.1 The term of this Plan is January 1, 2013 to December 31, 2013 that reflects the fiscal calendar year reported by the Company in its annual filings.
- 4.2 The President and CEO retains the right to amend, suspend or cancel the whole or any part of this plan, subject to the prior approval of the Board of Directors.
- 4.3 The Plan shall provide variable compensation pay-outs, if any, to be paid in accordance with the Corporate Scorecard composed of the following four strategic imperatives: Value, Customer Service, People, and Community.
 - No payment may be made from the Variable Compensation Plan unless the Corporation on a consolidated basis has a positive EBIT.
- 4.4 Any exceptions will be brought to the Board for approval.

5. Payment

- Variable Compensation payments to participants under this plan will be made as soon as possible after the audited statements of the Corporation have been finalized and the Variable Compensation Plan recommendations, as prepared by the President and CEO have been approved by the Board of Directors. If financial statements are delayed, consideration will be given to making a partial pay-out.
- 5.2 Subject to the terms of this Plan including section 5.3 below, participants must be actively employed (or permanent, regular employees on an approved leave of absence) at the time that any payments under this Plan are paid in order to receive the payments. In the event of the following circumstances prior to the date of payments under this Plan, no payments will be paid on a pro-rata basis with respect to the period of employment completed during the Plan year nor in respect of any notice or severance period stipulated by statue (including the Employment Standards Act, 2000) common law, contract, in equity or otherwise):
 - 1) Termination with cause by the Company;
 - 2) Termination without cause by the Company;
 - 3) Voluntary Resignation by the employee;
 - 4) Constructive dismissal;
 - 5) Termination because of disability; and
 - 6) Any other circumstance of cessation of employment not listed above.
- 5.3 Notwithstanding section 5.2 above, in the event of the following circumstances prior to the date of payments under this Plan, the employee will receive a pro-rated payment with respect to the period of employment completed during the plan year

but not in respect of any notice or severance period stipulated by statute (including the *Employment Standards Act, 2000*), common law, contract, in equity or otherwise:

- 1) Death (in this event, the payments under the Plan will be made to the employee's estate);
- Retirement. This only includes an employee retiring from employment and choosing to immediately receive pension payments in accordance with the terms of the Company pension plan;
- 3) Where the President and CEO, with the approval of the Board of Directors, makes an exception in the sole discretion of the Company."
- Participants who become eligible during the Plan year or employees on approved leave of absence will have their payments calculated on a pro rata basis.
- 5.5 Participants who are promoted or transferred within the Company and who qualify for payments under a different Variable Incentive Target and weighting will have their payments calculated proportionately based on service in each position during the year.
- Award amounts paid under this plan will be subject to all legislated statutory deductions, such as those required under the Income Tax Act, and will be subject to any contributory earnings definition as per OMERS legislation.

6. Responsibilities

- 6.1 The President and CEO shall have responsibility to interpret the Plan, and may amend or cancel the Plan, subject to the approval of the Board of Directors.
- 6.2 The President and CEO and the Vice President of Human Resources shall be responsible to administer the Plan.
- 6.3 The recommendation for individual payments under the Plan shall be the responsibility of the President and CEO and approved by the Board of Directors except in the case of payments to the President and CEO which are recommended by the Human Resources Committee Chair and approved by the Board of Directors.
- 6.4 The Vice President of Human Resources is responsible to recommend modifications to the Plan consistent with the strategic needs of the business.
- 6.5 The Vice President of Human Resources is responsible to ensure the accuracy of the financial calculations and that individual payments are made as soon as possible after the approvals are given.
- 6.6 The President and CEO will provide quarterly updates inclusive of actual financial results versus plan targets on the Plan to eligible employees and to the Board and a forecast of the year-end if it is materially different from the reported actual.

President & CEO Total Cash Compensation and Incentive Compensation Model

General Overview

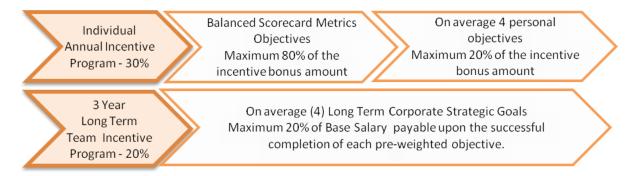
Compensation Guiding Principles are intended to frame The President & CEO pay decisions, and ensure consistency with business strategy and organizational values.

The Cambridge and North Dumfries Hydro Inc. compensation program is currently made up of 3 distinct pieces, base salary, annual incentive and long term incentive program (LTIP).

Base salary - fairly compensates the individual for in-the-business annual results, development and achievement of broad, strategic goals and overall long term business growth and success.

Annual Incentive Program - which, based on annualized performance, rewards the achievement of annual key business results not rewarded through base salary

New - Long Term Incentive Program - rewards the achievement of longer term strategic, 'on-the-business' goals and results.



Background

The compensation principles for Cambridge and North Dumfries Hydro Inc. are presented below. It is important that the various components are designed to support and reinforce the overall compensation philosophy of the company.

Compensation Program Objectives

(Defines the overall goals of the compensation program to ensure program components support these goals)

The objectives of the President & CEO compensation program are to:

- 1). attract and retain executive level talent, fully capable of achieving Cambridge and North Dumfries Hydro Inc.'s goals and mission.
- 2). differentiate and reward individual and corporate performance for the achievement of business mission and vision goals.

- 3). ensure retention of the key executive.
- 4). reinforce and reward building long term, sustainable value while meeting short-term business goals.
- 5). directly reinforce values, interests and needs of identified key stakeholders:
- Customers
- Employees
- Board Members
- Community

Pay Positioning

(Defines where Cambridge and North Dumfries Hydro Inc. management should be paid relative to the market)

Total direct cash compensation (base salary plus incentives) will be driven by Cambridge and North Dumfries Hydro Inc. business performance. Expected performance will result in compensation at industry/market place norms when compared with similar sized organizations.

Pay Mix

(Defines the pay components of the Cambridge and North Dumfries Hydro Inc. President & CEO compensation plan)

The mix of pay components (base salary and incentives) at Cambridge and North Dumfries Hydro Inc. will reflect differences in roles and responsibilities. The most senior position will have a greater emphasis placed on variable pay in recognition of their ability to directly impact the organization's overall performance. Indirect pay elements, including benefits, pensions, and perquisites will represent a more modest portion of total compensation.

Pay Prominence

(Defines the relative importance of executive compensation as part of the Cambridge and North Dumfries Hydro Inc. culture)

The Cambridge and North Dumfries Hydro Inc. will have business-driven reward programs that are defensible. Variable compensation will have greater prominence than has been the case historically, and become a more important tool to communicate and reward achievement of results on short and long term goals and objectives.

Cambridge and North Dumfries Hydro Inc. - Incentive Compensation Model

The remaining focus of this document will be on incentive compensation only.

Allocation of individual awards will be based on a blend of overall Cambridge and North Dumfries Hydro Inc. strategic achievement and individual achievement.

PLAN DETAILS

1. CORPORATE PERFORMANCE

FINANCIAL, SERVICE, PEOPLE, AND COMMUNITY TARGET PAYOUT:

Payout on each of Financial, Service, People, and Community will be made on the following basis:

Target achievement = 100% of Target Payout
Threshold achievement = 50% of Target Payout
Below Threshold = 0% of Target Payout

Payout will include incremental achievement between full percentage points.

2. EMPLOYEE PERFORMANCE (PERSONAL RESULTS) PAYOUT

Each employee's personal performance is evaluated by their Manager based on personal objectives established, *signed off by December 31* and rated using a template for each individual.

The Board will approve the personal objectives of the President and CEO.

The setting of the future year's objectives will be completed by the time the business plan is approved.

3. PAYOUT FORMULA

The following factors are used to calculate bonus payments:

Base Salary at December 31 x Variable Incentive Target %

X (Corporate Multiplier) + (Personal Multiplier)

4. 2013 CORPORATE BALANCED SCORECARD 2013

Strategic Imperatives and Weighting	Measures	Targets
PROFIT 50%	Consolidated Net Income* (IFRS, adjusted for regulatory assets/liabilities)	\$2.5M (Threshold)\$2.6M (Target)
SERVICE 20%	System Reliability SAIFI*** SAIDI*** CAIDI*** OEB Service Quality Indicators (SQI) Connection of new services Appointments met	CNDHI <u>current</u> YE five year rolling average compared to <u>previous</u> YE five year rolling provincial large utility average (MEARIE) SAIFI Target (+15%), Threshold (10%) SAIDI Target (+20%), Threshold (15%) CAIDI Target (+5%), Threshold (2.5%)
	 Customer access Locate service performance 	Performance against SQI standards on all four indices Connection new services – within 5 business days (OEB 90%) – Target (96%), Threshold (95%) Appointments met within 4 hours on the day promised (OEB 90%) - Target (99%), Threshold (98%) Customer Access – call answered within 30 seconds (OEB 65%) - Target (84%), Threshold (80%) Locate service performance – locates completed within 5 business days (OEB 90%) – Target (96%), Threshold (90%)
PEOPLE 15%	 Implementation of employee wellness programs Site Visits 	2 new programs implemented by Q3 Leadership Team individuals to conduct at least 6 site visits per year
COMMUNITY 15%	Implementation of CDM Program Program to date MW Savings Program to date Cumulative GWh Savings 51.4 Community Community Focused Initiatives specific to calendar year (8 events/quarter)	 90% of CDM targets (Threshold) 100% of CDM targets (Target) Meeting 70% achievement against plan (Threshold) Meeting 80% achievement against (Target)

Position	Variable % of Base	Balanced Corporate Scorecard Weighting	Personal Objectives Weighting
CEO	30%	80%	20%
VP's	20%	65%	35%

Notes for Corporate Balanced Scorecard Table:

- *Consolidated Net Income based on 2013 business plan.
- +This is the published forecasted Consolidated Net Income. The calculation for payout will be completed utilizing adjusted budget and adjusted actual results to eliminate the impact of regulatory assets and liabilities.
- ***SAIFI System Average Interruption Frequency Index (average number of interruptions experienced per customer served per year (measured in outages))
- ***SAIDI System Average Interruption Duration Index (average interruption duration per customer served per year (measured in hours))
- ***CAIDI Customer Average Interruption Duration Index (average interruption duration experienced by <u>interrupted</u> customers per year (measured in hours))

(Adjusted with CEO factor to account for unusual events outside CNDHI control e.g. major storms

5. INCENTIVE TARGETS-AT 100% BY POSITION

Refer to **Appendix** '**Table 1**' for specific positions and applicable incentive target percentages.

6. INCENTIVE TARGET WEIGHTING BETWEEN CORPORATE PERFORMANCE AND PERSONAL PERFORMANCE

The base percentage of employee incentive at 100% is split into 'Corporate Scorecard performance (corporate results)' and 'Personal Performance (individual results)'. The weighting of these two measures is determined by position.

Refer to **Appendix** '**Table 1**' for specific positions and the applicable Corporate Results and Personal Results weighting.

7. PAYOUT FORMULA EXAMPLE:

- Individual SMART objectives achievement at 90% of target
- Corporate Scorecard achievement multiplier at 100% of target (see calculation on pg. 8)
- Corporate vs. Individual weighting = 35/65
- VCP target award percentage is 20%
- Base Salary is \$100,000

35% corporate weighting @ 100% = 35.0% award 65% individual weighting @ 90% = 58.5% award

Total 93.5% award

93.5% award x 20% target VCP percentage x \$100,000 salary = \$18,700 payment

	710777077077	maraphor				
	Threshold Target	0.5 1	Payout will include incremental			
	rarget	•	achievement betw points	een full perc	entage	
Strategic Imperatives and Weighting	Measures	Targets	Achievement Multiplier based on results	Weight	Weighted Multiplier	
PROFIT - 50%	Financial Metric	XX (Threshold) XX (Target)	XX%	0.50	0.XX	
	Sub Metric A -	XX (Threshold) XX (Target)	XX%	TBD	0.XX	
SEDVICE 200/	Sub Metric B	XX (Threshold) XX (Target)	XX%	TBD	0.XX	
SERVICE - 20%	Sub Metric C	XX (Threshold) XX (Target)	XX%	TBD	0.XX	
	Sub Metric D	XX (Threshold) XX (Target)	XX%	TBD	0.XX	
DE 001 E 450/	Sub Metric A	XX (Threshold) XX (Target)	XX%	TBD	0.XX	
PEOPLE - 15%	Sub Metric B	XX (Threshold) XX (Target)	xx%	TBD	0.XX	
	Sub Metric A	XX (Threshold) XX (Target)	XX%	TBD	0.XX	
COMMUNITY - 15%	Sub Metric B	XX (Threshold) XX (Target)	XX%	TBD	0.XX	

Calculation of Corporate Multiplier

Multiplier

Achievement

100% Total 2013 Corporate Multiplier X.XX

The weightings of the metrics within the Strategic Imperatives (excluding Financial) will be based on the CEO

The weightings of the metrics within the Strategic Imperatives (excluding Financial) will be based on the CEC recommendation

LONG TERM INCENTIVE PLAN: PRESIDENT & CEO

The Long Term Incentive Plan (LTIP) award program provides for payout upon achievement of the weighted, pre-determined long term strategic goals as outlined in the LTIP document for each three year period. New objectives will be developed at the start of each new three year term.

The President &CEO is eligible for up to 20% of base salary over the 3 year LTIP cycle.

Long Term Incentive awards will be based on achievement of on average of 4 critical key objectives derived from the strategic plan, each worth a pre-determined percentage of the total available.

Payment will be made upon successful achievement of the objective measures within the 3 year LTIP cycle. No payout will be made if the results did not meet the at least the minimum threshold or was not completed within the timelines identified.

Each objective will be pre weighted and have a pre-set target completion date.

LTIP incentive available is as follows:

- Achievement of all goals will result in payout of the total eligible base salary of 20% over the 3 year term.
- Weighted payment will be made upon the successful completion of each specific objective.
- Payment will be calculated as a % of that year's base salary.

Example: 3 Objectives

- Objective 1. Weight 50% due by June of the second year of the program
- Objective 2. Weight 25% due by December of the second year of the program
- Objective 3. Weight 25% due by December of the third year of the program

Example: 4 Objectives

- Objective 1. Weight 20% due by September of the first year of the program
- Objective 2. Weight 25% due by March of the second year of the program
- Objective 3. Weight 35% due by June of the third year of the program
- Objective 4. Weight 20% due by December of the third year of the program

These amounts can be modified by the HR Committee, with full Board approval, depending on The President & CEO's performance as reflected in their annual performance review document(s) and the actual results achieved.

Cambridge and North Dumfries Hydro Inc. EB-2013-0116 Exhibit 1 Appendix 4-11 Filed: October 1, 2013

APPENDIX 4-11 2-K EMPLOYEE COMPENSATION

Cambridge and North Dumfries Hydro Inc.

File Number: EB-2013-0116 Exhibit: 4

Appendix: Appendix 4-11
Page: 1 of 1

Filed: October 1,2013

Appendix 2-K Employee Costs

	Last Rebasing Year - 2010- Board Approved	Last Rebasing Year - 2010- Actual	2011 Actuals	2012 Actuals	2013 Bridge Year	2014 Test Year
Number of Employees (FTEs including Part-Time) ¹						
Management (including executive)	20	19	20	21	23	25
Non-Management (union and non-union)	71	66	69	74	81	92
Total	91	85	89	95	104	117
Total Salary and Wages including ovetime and incentive pay						
Management (including executive)	\$ 2,108,000	\$ 2,126,864	\$ 2,344,286	\$ 2,511,257	\$ 2,653,264	\$ 2,883,848
Non-Management (union and non-union)	\$ 4,797,300	\$ 4,827,629	, ,	\$ 5,677,426	\$ 6,291,291	\$ 6,490,209
Total	\$ 6,905,300	\$ 6,954,493	\$ 7,782,485	\$ 8,188,683	\$ 8,944,555	\$ 9,374,057
Total Benefits (Current + Accrued)						
Management (including executive)	\$ 868,259	\$ 535,046	\$ 537,785	\$ 573,891	\$ 730,115	\$ 760,063
Non-Management (union and non-union)	\$ 2,006,570	\$ 1,416,686	\$ 1,516,512	\$ 1,679,223	\$ 1,976,353	\$ 2,114,468
Total	\$ 2,874,829	\$ 1,951,732	\$ 2,054,297	\$ 2,253,114	\$ 2,706,468	\$ 2,874,531
Total Compensation (Salary, Wages, & Benefits)						
Management (including executive)	\$ 2,976,259	\$ 2,661,910	\$ 2,882,071	\$ 3,085,148	\$ 3,383,379	\$ 3,643,911
Non-Management (union and non-union)	\$ 6,803,870	\$ 6,244,315	\$ 6,954,711	\$ 7,356,649	\$ 8,267,644	\$ 8,604,677
Total	\$ 9,780,129	\$ 8,906,225	\$ 9,836,782	\$ 10,441,797	\$ 11,651,023	\$ 12,248,588

Note:

 $^{^{\}rm 1}$ If an applicant wishes to use headcount, it must also file the same schedule on an FTE basis.

Cambridge and North Dumfries Hydro Inc. EB-2013-0116 Exhibit 1 Appendix 4-12 Filed: October 1, 2013

APPENDIX 4-12 ACTUARIAL VALUATION REPORT AS AT DECEMBER 31, 2012

Cambridge & North Dumfries Hydro Inc. ESTIMATED BENEFIT EXPENSE (CICA 3461) **FINAL**

Calendar	Year	2012
----------	------	------

Discount Rate - January 1 Discount Rate - December 31 Withdrawal Rate Assumed increase in Employer Contributions A. Determination of Benefit Expense	4.75% 3.75% 2.00% actual
Current Service Cost Interest on Benefits Expected Interest on Assets Past Service Cost Transitional Obligation/(Asset) Actuarial (Gain)/Loss	49,012 98,589 - - - 27,654
Benefit Expense	175,255

B. Reconciliation of Prepaid Benefit Asset (Liability)

Accrued Benefit Obligation (ABO) as at December 31 Assets as at December 31	2,318,654
Unfunded ABO Unrecognized Loss/(Gain) Unrecognized Transition	(2,318,654) 237,906 -
Prepaid Benefit Asset (Liability)	(2,080,749)
Prepaid Benefit/(Liability) as at January 1 Benefit Income/(Expense) Contributions/Benefit Payments by the Employer	(2,037,000) (175,255) 131,507
Prepaid Benefit Asset (Liability)	(2,080,749)

Cambridge & North Dumfries Hydro Inc. ESTIMATED BENEFIT EXPENSE (CICA 3461) FINAL

Calendar	Year	2012
----------	------	------

Discount Bata January 4	4.750/
Discount Rate - January 1 Discount Rate - December 31	4.75% 3.75%
Withdrawal Rate	2.00%
Assumed increase in Employer Contributions	actual
Additional increase in Employer Contributions	actual
C. Calculation of Component Items	
Calculation of the Service Cost	
- Current service cost	49,012
	-,-
Interest on Benefits	
- ABO at January 1	2,092,308
- Current service cost	49,012
- Benefit payments	(65,753)
- Accrued benefits	2,075,567
- Interest	98,589
Expected Interest on Assets	
- Assets at January 1	_
- Funding	65,753
- Benefit payments	(65,753)
- Expected assets	-
- Interest	-
Ermosted ABO or of December 21	
Expected ABO as at December 31 - ABO at January 1	2,092,308
- Current service cost	2,092,306 49,012
- Interest on benefits	98,589
- Benefit payments	(131,507)
- Expected ABO at December 31	2,108,403
·	
Expected Assets as at December 31	
- Assets at January 1	-
- Funding	131,507
- Interest on assets	(404 507)
- Benefit payments	(131,507)

- Expected Assets at December 31

Cambridge & North Dumfries Hydro Inc. ESTIMATED BENEFIT EXPENSE (CICA 3461) FINAL

	Calendar Year 2012
Discount Rate - January 1 Discount Rate - December 31 Withdrawal Rate Assumed increase in Employer Contributions	4.75% 3.75% 2.00% actual
D. Actuarial (Gain)/Loss	
(Gain)/Loss on ABO as at January 1 - Prepaid Benefit/(Liability) as at January 1 - Unamortized (Gain)/Loss - Expected ABO - Actual ABO - Total (Gain)/Loss on ABO	2,037,000 55,308 2,092,308 2,092,308 0
(Gain)/Loss on assets as at January 1 - Expected assets - Actual assets - (Gain)/Loss on assets	- - -
Total (Gain)/Loss as at January 1	55,308
10% of ABO as at January 1 Total (Gain)/Loss in excess of 10%	209,231
Expected average remaining service life (years)	11
Actual Amortization for current year*	27,654
(Gain)/Loss on ABO at December 31 due to change in d - Expected ABO - December 31 - Actual ABO - December 31 - (Gain)/Loss on ABO at December 31*	2,108,403 2,318,654 210,252

E. Amortization of Actuarial (Gain)/Loss

Unamortized (Gain)/Loss

	A	amortized amount at an 1, 2012	Years 2012 Remaining Amortization Amount		Unamortized Amount at Dec 31, 2012	
Arising in FY 2011	\$	55,308		2 \$	\$ 27,654	\$ 27,654
Arising in FY 2012						\$ 210,252

237,906

^{*} Pursuant to the Corporation's accounting policy, the amount of any actuarial gains or losses determined during a given period is amortized over the following 3 year period. CICA Section 3461 requires that the method of recognizing actuarial (gains)/losses be applied consistently from year to year, so we have maintained the above approach.



January 11, 2013

BY E-MAIL: AVisser@camhydro.com

Ms. Angela Visser Accounting Manager Cambridge and North Dumfries Hydro Inc. 1500 Bishop Street, PO Box 1060 Cambridge, ON N1R 5X6

Dear Ms. Visser:

Re: Cambridge and North Dumfries Hydro Inc. (the "Corporation")
Post-Retirement Non-Pension Benefit Plan – Extrapolations for FY 2012

This letter provides you with our calculation of the FY 2012 benefit expense and the December 31, 2012 Accrued Benefit Obligation ("ABO") for the above noted benefit plan.

The intended users of this letter and attachments include the Corporation and its auditors for financial reporting in compliance with CICA guidelines in respect of its post-retirement non-pension benefit plan.

The calculations were performed in accordance with the guidelines set forth in Section 3461 Employee Benefits of the Canadian Institute of Chartered Accountants (CICA) Handbook Accounting Part V Pre-Changeover Accounting Standards ("CICA Section 3461").

For the post-retirement non-pension benefit plan, the December 31, 2012 ABO is approximately \$2,319,000 and the FY 2012 benefit expense is approximately \$175,000 with their supporting calculations summarized in the accounting worksheets hereby attached.

We have performed our calculations based on the following:

- Plan provisions: You confirmed that there has been no change to the plan's provisions since our January 1, 2011 valuation. Said plan provisions are summarized in our January 1, 2011 actuarial valuation report for the post-retirement non-pension benefit plan ("Report").
- **Data**: We have used the membership data as at January 1, 2011 which is summarized in the Report, as you have indicated that there have not been significant demographic changes. A copy of the December 31, 2011 financial statements and the 2012 actual retiree benefit payments for post-retirement non-pension benefits were provided by the Corporation.



Assumptions: Pursuant to CICA Section 3461, a discount rate assumption of 3.75% per annum as at December 31, 2012 has been selected to reflect the current yields on high quality debt instruments. All other assumptions used in our calculations are as summarized in the Report and you have confirmed that they remain as management's best estimates as at December 31, 2012.

In regards to the discount rate assumption for December 31, 2012, as you are aware, the Canadian Institute of Actuaries ("CIA") released an Educational Note on the "Accounting Discount Rate Assumption for Pension and Post-employment Benefit Plans" (Educational Note) in September 2011. Along with the Educational Note, the CIA has also acquired the services of Fiera Capital Investment Management Inc. (a portfolio investment management firm in Canada) to produce a monthly spot rate curve that is derived using the methodology described in the Educational Note.

Based on the Corporation's expected projected benefit cash flows for post-retirement non-pension benefits and the applicable spot rate curve published by Fiera Capital (i.e. as at December 31, 2012, please see attached), a discount rate assumption of 3.75% per annum as at December 31, 2012 has been used. For your reference, a discount rate assumption of 4.75% per annum was used as at December 31, 2011.

- Method: We have done our calculations as at January 1, 2011 using the above information and the method described in the Report. The ABO as at December 31, 2012 is based on a roll forward of the January 1, 2011 ABO using the membership data at January 1, 2011 and management's best estimate assumptions as at December 31, 2012.
- Accounting policy: Pursuant to discussions with the Corporation, our understanding is that the Corporation has chosen to recognize the amount of actuarial gains or losses arising in a fiscal period over the following 3-year period.

As you can see in the attached accounting worksheets, the ABO at December 31, 2012 is approximately \$210,000 greater than the expected ABO at December 31, 2012 due to the reduction in the discount rate assumption.

We are not aware of any subsequent events that would have a significant impact on our calculations.



If you have any questions regarding the above or the attached accounting schedules, please do not hesitate to call.

Yours truly,

Stanley Caravaggio, FSA FCIA

Consulting Actuary

[E-mail: stanleyc@dion-durrell.com]

[Telephone: 416.408.5306]

Patrick G. Kavanagh, ASA

Actuarial Analyst

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SC/PK:ecs

Encls.

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Cambridge and North Dumfries Hydro Inc. EB-2013-0116 Exhibit 1 Appendix 4-13 Filed: October 1, 2013

APPENDIX 4-13 2-N SHARED SERVICES 2010 - 2014

Cambridge and North Dumfries Hydro Inc.

 File Number:
 EB-2013-0116

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Appendix 2-N Shared Services and Corporate Cost Allocation

Year: 2014 Test Year

Shared Services

Name of Company			Deleter	Price for the	Cost for the	
_		Service Offered	Pricing Methodology	Service	Service	
From	То			\$	\$	
CNDHI	CND Energy Solutions	Street Light Maintenance	Cost	538,181	538,181	
CNDHI	Energy Plus	Board of Directors	Cost	11,100	11,100	
CNDHI	Energy Solutions	Board of Directors	Cost	11,100	11,100	

Corporate Cost Allocation

Name of Company			Pricing	% of Corporate	Amount
		Service Offered	Methodology	Costs Allocated	Allocated
From	From To			%	\$
CNDHI	Energy Plus	Accounting	Cost	2.00%	12,000
CNDHI	Energy Solutions	Accounting	Cost	1.00%	6,000

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.

Cambridge and North Dumfries Hydro Inc.
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Appendix 2-N **Shared Services and Corporate Cost Allocation**

Year: 2013 Bridge Year

Shared Services

Name of Company			Pricing	Price for the	Cost for the
		Service Offered	Methodology	Service	Service
From	То		Wethodology	\$	\$
CNDHI	CND Energy Solutions	Street Light Maintenance	Cost	519,181	519,181
CNDHI	Energy Plus	Board of Directors	Cost	11,100	11,100
CNDHI	Energy Solutions	Board of Directors	Cost	11,100	11,100

Name of Company			Pricing	% of Corporate	Amount
		Service Offered	Methodology	Costs Allocated	Allocated
From	То		Wethodology	%	\$
CNDHI	Energy Plus	Accounting	Cost	1.90%	12,000
CNDHI	Energy Solutions	Accounting	Cost	1.00%	6,000

Cambridge and North Dumfries Hydro Inc.
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Appendix 2-N **Shared Services and Corporate Cost Allocation**

Year: 2012 Actual

Shared Services

Name of Company			Pricing	Price for the	Cost for the
		Service Offered	Methodology	Service	Service
From	То		Wethodology	\$	\$
CNDHI	CND Energy Solutions	Street Light Maintenance	Cost	506,973	506,973
CNDHI	Energy Plus	Board of Directors	Cost	11,100	11,100
CNDHI	Energy Solutions	Board of Directors	Cost	11,100	11,100

Name of Company			Pricing	% of Corporate	Amount
		Service Offered	Methodology	Costs Allocated	Allocated
From	То		Wethodology	%	\$
CNDHI	Energy Plus	Accounting	Cost	2.00%	12,000
CNDHI	Energy Solutions	Accounting	Cost	1.00%	6,000

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Appendix 2-N **Shared Services and Corporate Cost Allocation**

Year: 2011 Actual

Shared Services

Name of Company			Pricing	Price for the	Cost for the
		Service Offered	Methodology	Service	Service
From	То		Wethodology	\$	\$
CNDHI	CND Energy Solutions	Street Light Maintenance	Cost	351,520	351,520
CNDHI	Energy Plus	Board of Directors	Cost	11,100	11,100
CNDHI	Energy Solutions	Board of Directors	Cost	11,100	11,100

Name of Company			Pricing	% of Corporate	Amount
		Service Offered	Methodology	Costs Allocated	Allocated
From	То		ou.iouoiogy	%	\$
CNDHI	Energy Plus	Accounting	Cost	#DIV/0!	12,000
CNDHI	Energy Solutions	Accounting	Cost	#DIV/0!	6,000

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Appendix 2-N **Shared Services and Corporate Cost Allocation**

Year: 2010 Actual

Shared Services

Name of Company			Pricing	Price for the	Cost for the
		Service Offered	Methodology	Service	Service
From	То		Wethodology	\$	\$
CNDHI	CND Energy Solutions	Street Light Maintenance	Cost	376,745	376,745
CNDHI	Energy Plus	Board of Directors	Cost	11,100	11,100
CNDHI	Energy Solutions	Board of Directors	Cost	11,100	11,100

Name of Company			Pricing	% of Corporate	Amount
		Service Offered	Methodology	Costs Allocated	Allocated
From	То		moundadingy	%	\$
CNDHI	Energy Plus	Accounting	Cost	#DIV/0!	12,000
CNDHI	Energy Solutions	Accounting	Cost	#DIV/0!	6,000

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APPENDIX 4-14 PURCHASING POLICY

CAMBRIDGE AND NORTH DUMFRIES HYDRO INC.	PROCEDURE #	FIN-003
POLICIES	DATE ISSUED:	OCT. 4, 2006
PURCHASING & CONTRACTS POLICY	DATE REVISED:	June 26, 2013
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APPROVED BY: PRESIDENT & CEO	SIGNATURE:	

1.0 PURPOSE AND SCOPE

This policy outlines the guidelines and procedures that will be used by Cambridge and North Dumfries Hydro Inc. (the "Company") and its affiliate companies to purchase equipment, materials, supplies, and services required by our Company. The Purchasing Department has primary responsibility for procurement. Any employee or agent acting on behalf of the Company that engages in or supports the purchase or goods or services for use by the Company must follow the procedures outlined in this document.

2.0 GOVERNING PRINCIPLES

Goods and services shall be purchased with proper authorization and on the basis of quality, service, and price, while considering key environmental and social benefits over the entire lifecycle of the product or service including:

- Complies with the latest environmental, health and safety legislation, where applicable;
- Reduces waste and/or conserve natural resources;
- Can be recycled or re-used:
- Produced from recycled materials; and
- Product has a long service-life, can be economically and effectively repaired, refurbished or upgraded.

The Company will maintain an open and competitive process with respect to the purchase of goods and services. The Company reserves the right to purchase from a singularly approved vendor as outlined in Section 5.2.5.

3.0 PURCHASING DEPARTMENT RESPONSIBILITIES

The Purchasing Department shall provide and be held responsible for providing the following services necessary to ensure that the Company's purchasing objectives are met:

- Procure supplies, services, materials and equipment of specified quality and quantity at the best price, using recognized methods in securing competitive prices;
- Issue most Company-related invitations to tenders and obtain quotations. No formal negotiations with potential suppliers should be carried out without at least informing the Purchasing Department.

From time to time, vendors or suppliers may be contacted to provide materials or services that are deemed confidential and these transactions need not be disclosed to the Purchasing Department upon approval by a VP, the Chief Financial Officer ("CFO"), or President and CEO.

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APPROVED BY: PRESIDENT & CEO	SIGNATURE:		

- To group, correlate and unify, so far as possible, requirements of the various departments and, by standardization, to reduce the kinds of goods used to the smallest number based upon the needs of the various departments affected. This program shall be an on-going joint enterprise among the various departments.
- Estimates of requirements for future periods of time shall be collected to determine the quantities of goods, which should be contracted for in advance of actual current need.
- Assist in providing estimates of cost for budgeting and project study documents.
- All pricing, deliveries, terms and conditions, etc. should be left to the purchasing group.
 Engineering, Information Systems and Leadership Team may, of necessity, contact suppliers and sales representatives for technical information and similar type needs.
- A copy of all correspondence affecting purchasing, or a purchase order or product supply or approval between the using department and the suppliers should be forwarded to purchasing. Purchasing will obtain suppliers' catalogues and arrange demonstrations upon request.
 - Departments who wish to arrange demonstrations for their department's specialized needs may check with Purchasing for the appropriate contact person at the supplier. Purchasing should be advised as to the time and place of the demonstration as others may be interested.
- To visit suppliers, when necessary, to create goodwill and/or to expedite deliveries.
- Source potential suppliers, interview sales representatives, inform all applicable departments of the information received regarding new or existing materials, equipment, processes and techniques, and retain data on file for reference.
- Complete the purchase transaction by ensuring that all purchases follow the requisition approval process and a purchase order is issued with each order in excess of \$500. Purchasing will follow-up and/or expediting to ensure deliveries and schedules are met.
- Operate and maintain a stores warehouse and maintain inventory levels consistent with the needs and schedules of the various departments.

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4.0 AUTHORIZATION

4.1 Cheque Requisitions

Cheque requisition approval limits are based on the individual signing authority indicated in the Purchasing Requisition section.

The President and CEO or CFO has the authority to approve cheque requisitions for the following expenditures: corporate tax remittances, including HST, income taxes, and property taxes; payroll related remittances, including statutory deductions, OMERS, EHT, and group insurance, and investments.

4.2 Inventory Requisitions

All issues from the stockroom must occur in conjunction with the properly completed material requisition form. Stores personnel are responsible for ensuring that the material issued matches to the material requisition form.

Contractors and/or Sub-contractors must sign material requisition forms to acknowledge receipt and/or return of project materials. Stores Personnel must obtain signatures "before" the requisition forms are forwarded to Purchasing for processing.

4.3 Personal Expense Reports

Employee expense reports will be approved by the employee's direct supervisor. This approval will indicate that authorization was given for the expenses claimed and that Company policy has been complied with. Expense reports containing travel expenses are to be approved by the Vice President, CFO, or President and CEO in accordance with Policy COR-004 Travel Expenses.

Expense reports for the President & CEO or Member of the Board of Director's must be authorized by the Board Chair or Vice Chair.

Employee expense reports in excess of \$25 will be paid through payroll direct deposit; expense reports less than \$25 will be paid through the petty cash fund.

4.4 Petty Cash Payments

Petty cash vouchers must be approved by supervisory staff prior to payment by a custodian of a petty cash fund. Approval limits must follow the guidelines set in the Requisitioning Authority and Personal Expense Reports sections of this policy. Payments from the petty cash fund for expenses or cash purchases are limited to \$200.

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4.5 Purchasing Requisitions

4.5.1 Requisition Process:

Requisitions must be completed for most type of purchases except in the area of blanket purchase orders or inventory restocking requirements. Requisitions are required to be completed prior to the purchase or the goods or service, and prior to the commencement of the work (if possible) for items such as surveying, sub-contracting for field projects, major vehicle repairs, etc.

Annually, Purchasing will establish authorized vendors for items such as sod, automotive parts, building supplies, etc. Employees will then be able to purchase items (pick up) subject to their requisition dollar limit.

All low voltage non-distribution type equipment (i.e. power tools, battery chargers, and extension cords) purchased on behalf of the Company and not approved by the Engineering Department shall meet the requirements of the Electrical Safety Code (ESC). Equipment must be approved to Canadian standards. The CSA mark or a "C" outside the Entela, ETL, FM, MET signifies this, OMNI, TUV America, TUV Rheinland and UL marks. See ESC Bulletin 2-7-22 for more information. All items shall be checked upon receipt to ensure compliance with the above.

Any purchase requisitions for safety related goods and services (e.g. P.P.E., gas detectors, 'ergonomic' chairs, ladders etc.) must be approved by the requisitioning department Vice-President with input from the Department Supervisors and the Safety and Training Supervisor and/or the Joint Health and Safety Committee ("JHSC") to ensure that the goods or services meet all the requirements and standards specified in applicable regulations, legislation and/or standards documentation. Please refer to Appendix I for further details regarding the procedure to be followed.

4.5.2 Approval

It is the responsibility of the requisitioner to prepare/enter the requisition and provide all pertinent information, including general ledger account coding, department, project/work order reference, and references to drawings/specifications, if applicable. The requisitioner is also responsible to acquire the necessary approvals

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4.5 Purchasing Requisitions (Continued)

4.5.2 Approval

4.5.2.1 All goods and services, excluding inventory and consulting services

All Purchase Requisitions, excluding inventory and consulting services, are to be approved based on the following authority limits:

Position	Authority Limits Budgeted Operating and Capital Expenses	Authority Limits Non-budgeted Operating and Capital Expenses
Sub-Foreperson	<= \$500	Nil
Executive Assistant	<= \$1,000	Nil
Supervisor/Manager	<= \$5,000	Nil
Director	>= \$5,000 and <= \$25,000	Nil
Vice President	Up to \$75,000; Up to \$100,000 with	
	CFO	<= \$10,000
		Up to \$25,000 jointly with
Chief Financial Officer	<= \$100,000	another Vice President; Up to
		\$50,000 jointly with CEO
President and CEO	> \$100,000 and <= \$1MM	>= \$10,000 and <= \$100,000
Board Chair	> \$1MM	>= \$100,000 and <= \$1MM
Board of Directors	> \$1MM	> \$1MM

4.5.2.2 Inventory

All inventory related Purchase Requisitions, except for inventory purchases required to maintain approved minimum inventory levels, are to be approved based on the following authority limits:

<u>Position</u>	Authority Limits - Inventory
Supervisor/Manager	<= \$25,000
Director	> \$25,000 and <= \$50,000
Vice President	<= \$100,000
	<= \$100,000; Up to \$250,000 jointly
Chief Financial Officer	with the President and CEO
President and CEO	> \$100,000 <= \$1MM
Board Chair	> \$1MM

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4.5 Purchasing Requisitions (Continued)

4.5.2 Approval (Continued)

4.5.2.3 Consulting Services

Only Vice Presidents, CFO, and CEO may authorize consulting service expenditures, in accordance with the following authority limits:

<u>Position</u>	Authority Limits - Consulting
Vice President	<= \$10,000
Chief Financial Officer	<= \$10,000
President and CEO	> \$10,000 and <= \$50,000
Board	> \$50,000

4.5.2.4 Delegation of Authority

The President and CEO is authorized to delegate approval authority to an employee in accordance with the approval limits set out in this policy. The President and CEO or the Board Chair is authorized to delegate the approval authority of the President and CEO to the Chief Financial Officer in the case of an emergency, extended absence, or vacation.

5.0 PURCHASING AND TENDERING PRACTICES

5.1 General

All purchasing activities will be conducted through the Purchasing Department to ensure cost effective procurement of goods and services in a timely manner. Purchase orders must be issued for all purchases in excess of \$500. Purchase requisitions are to be prepared by the department requisitioning the goods or services and approved in accordance with the authority limits outlined in Section 4.0.

Purchase orders will be prepared by the Purchasing Department from the authorized purchase requisitions and sent to the appropriate supplier.

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5.0 PURCHASING AND TENDERING PRACTICES (Continued)

5.2 Purchasing Process

The following purchasing process shall be applied to the purchase of goods and services with corresponding monetary limits and authorization levels:

\$ Expenditure Limit	Purchasing Process
\$10,000 or less	Informal Purchasing Method –
	Verbal or written quotation.
>\$10,000 <= \$50,000	Written Quotations – 3 or
	more suppliers.
> \$50,000	Request for Tender/Proposal

The determination of the dollar limits, reflect the actual purchase or, in the case of on-going purchase commitments, the estimated annual expenditure would apply.

5.2.1 Informal Purchasing Methods

The informal purchasing methods will be used for smaller value goods and services that are used on a regular basis. The Supervisor of Purchasing will obtain offers from suppliers verbally or in writing. With assistance from and in agreement with the requisitioning department, an official purchase order will be issued to the lowest bidder meeting the specifications.

5.2.2 Verbal or Written Quotations

The Supervisor of Purchasing will obtain three competitive quotations (by fax, telephone or email), if possible. A record of quotation must be maintained. With assistance from and in agreement with the requisitioning department, an official purchase order will be issued to the successful bidder based upon price, specifications, and in accordance with the governing principles.

5.2.3 Request for Tender/Proposal

A formal Request for Tender ("RFT") or Request for Proposal ("RFP") will be issued for all purchases in excess of \$50,000. The RFT or RFP will provide complete scope of work, specifications, and evaluation criteria.

All specifications shall be reasonable, clear, without ambiguity, and shall be designed to allow submission of tenders and quotations by the maximum number of responsible vendors. The requisitioning department shall be responsible for the technical accuracy of the specifications. Any correspondence arising should include both the requisitioning department and the Purchasing Department, to maintain full co-ordination. Sufficient drawings and instructions should accompany each request for tender.

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5.2 Purchasing Process (Continued)

5.2.3 Request for Tender/Proposal (Continued)

The Supervisor of Purchasing is responsible for ensuring that all components of the tender are included in the package, and that sufficient bidding time is allowed and, further, that all qualified bidders have an opportunity to submit a tender.

The Supervisor of Purchasing will invite sealed tenders, or advertise for sealed tenders, and request sealed documents be addressed to the Company by the deadline and time. Any tender received after the deadline will not be accepted, except in unusual circumstances, and will be returned unopened to the supplier. The sealed tenders will be opened by the Purchasing Department with the requisitioning department present.

The Supervisor of Purchasing and the Vice President of the Department shall reach agreement on the recommendation of award. Where the total value of the RFP exceeds the approval limits as outlined in Section 4.5.2, or in the event a recommendation cannot be reached, a purchasing report is to be prepared for approval by the President and CEO.

In all cases, the Company reserves the right not to issue a Purchase Order following the purchase processes outlined in Section 5.2.1, 5.2.2, and 5.2.3.

5.2.4 Negotiating Prices

In special cases where negotiation will result in better prices or better deliveries, the Supervisor of Purchasing will have the authority to do so after consultation with and under the direction of the appropriate Vice President.

5.2.5 Singularly Approved Vendor

On singularly approved material and equipment and items of standardization, the Supervisor of Purchasing may purchase these items without competition when the price is considered fair, under proper evaluation. Singularly approved contractor situations may occur when other related business transactions require the use of that contractor without competitive tenders. The pricing will be reviewed by Engineering and Purchasing to ensure that the pricing is appropriate, fair and reasonable.

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5.2 Purchasing Process (Continued)

5.2.6 Prequalification of Contractors

Where pre-qualified contractors form the bidders list, it will be the responsibility of the Engineering Department to conduct pre-qualification. The Supervisor of Purchasing will have the right to submit names of contractors for consideration of pre-qualification.

Any additions, deletions, or any other changes should be reported at once to the Supervisor of Purchasing for tendering information.

5.2.7 Computer Equipment and Software

Departments requiring the acquisition of computer equipment and software shall contact the Information Systems ("IS") Department for instruction, research, assistance in system configuration, and approval. The IS Department shall prepare the appropriate specifications for use in obtaining competitive pricing.

5.2.8 Revealing of Prices

Prices will only be revealed to those who tendered a competitive quote. The price revealed will be the total price only of the bids received.

5.3 Purchase Order Approval Levels

All Purchase Orders are to be approved based upon the following authority limits:

5.3.1 Inventory Items

The Purchasing Supervisor is authorized to approve a Purchase Order for inventory items up to the amount of \$100,000 to an individual vendor. A Purchase Order shall not be split into two separate Purchase Orders to avoid going to the next level for approval. The Vice President of Operations, or the Vice President of Engineering, or the Chief Financial Officer, or the President must approve Purchase Orders in excess of \$100,000 for inventory items.

Inventory levels are to be maintained at the lowest possible level to reduce stock on hand, yet still meet the needs of the Corporation to have material on hand when required. On an annual basis, the Supervisor, Purchasing and Stores is to prepare an inventory listing of recommended Minimum and Maximum levels. The inventory listing is to be reviewed and approved by the Vice President, Operations, the Vice President, Engineering, and Chief Financial Officer.

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5.3 Purchase Order Approval Levels (Continued)

5.3.2 Non-Inventory Items

The Purchasing Supervisor is authorized to approve a Purchase Order for non-inventory items up to the amount of \$50,000 to an individual vendor. A Purchase Order shall not be split into two separate Purchase Orders to avoid going to the next level for approval. The Vice President of Operations, or the Vice President of Engineering, or the Chief Financial Officer, or the President must approve Purchase Orders in excess of \$50,000 for non-inventory items, providing that they have not originated or approved the requisition.

5.3.3 Emergency Purchase

Due to extra-ordinary and emergency circumstances, purchasing policies and procedures may be difficult to adhere to. An emergency shall be defined as any situation which, if not corrected immediately, would result in a hazard to persons or property, create improper working conditions, could result in damage to buildings or facilities, would result in a violation of law, statute or ordinance established by government regulation, or any other fashion, if not acted upon, would be seriously detrimental to the interest of the Company or its customers.

The President and CEO, CFO, or any Vice President may authorize any expenditure in the case of an emergency. The President and CEO should be consulted, as soon as practical, on all emergency purchases that exceed the approval limits as outlined in this policy.

If an emergency purchase is made during non-business hours, all supporting documentation must be forwarded to the appropriate approval authority the next business day, in order that a Purchase Order, if required, may be issued to the vendor. All special situations or deviations from policy should be documented on the paperwork.

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6.0 CONTRACTS

6.1. Contracts for Goods and Services

All contracts for the purchase of goods and services, including equipment maintenance agreements, will be approved based on the following:

<u>Position</u>	Authority Limits - Contracts
Vice President	<= \$75,000
Chief Financial Officer	<= \$100,000
President and CEO	> \$100,000 and <= \$1MM
Board Chair	> \$1MM

The value of the contract, for purposes of the authority limits, will be based on the actual amount of the contract over the term of the contract.

6.2 Agreements

Any one of the Chair, Vice-Chair or Chief Financial Officer, along with the President & CEO, or in his absence the designate where applicable, be authorized to sign and affix the Corporate Seal to all agreements on behalf of the Company.

Agreements would include, but are not limited to the following:

- Subdivision Agreements
- Easements
- Railway Crossings
- Joint Trench and Pole Attachment Agreements
- Property Sales and Purchase Agreements

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7.0 PURCHASING CARDS

7.1 General

Use of Purchase Cards ("P-Card") is encouraged for small purchases in order to reduce the number of cheques which are issued.

P-Cards will be issued to employees based upon a recommendation and approval by the department Vice President. Requests for P-Cards should be forwarded to the CFO. The CFO will be responsible for authorizing the request, in accordance with the terms of the Company's credit agreements.

The P-Card is not be used for any non-business related expenditures. Employees who receive a P-Card will be required to sign a Corporate Credit Card Assignment Form.

7.2 Process

All purchases using the P-Card are to be supported by invoices and/or receipts. Receipts are to be forwarded to Accounting (Attention: Accounts Payable) and should include the proper account coding, including cost centre, general ledger, and project number, if applicable.

7.3 Approvals

The monthly P-Card statement is to be approved by the Department management based upon the authority limits outlined in Section 4.0.

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APPENDIX 4-15 KINECTRICS USEFUL LIVES STUDY









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. Kinectrics Inc. 800 Kipling Avenue Toronto, ON M8Z 6C4 Canada www.kinectrics.com



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.

KINECTRICS ii K-418029-RA-001-R001

Kinectrics Inc. Report No: K-418029-RA-001-R001

March 24, 2010

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Dated: March 24, 2010

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Revision History

Revision Number	Date	Comments	Approved
R000	February 26, 2010	Initial Draft	N/A
	March 10, 2010	Meeting with Consortium to review R000	
R001	March 24, 2010	Final Report	Y. Tsimberg

KINECTRICS iv K-418029-RA-001-R001

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:

- 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

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 [§]	
FARENT		Category	- Component	- Туре	Min	Тур	Max	OP	MP	Туре	Schedule (years)
				Wood	40	45	50			RI	
	1	Fully Dressed Poles		Composite	45	70	100	_	✓		3-6
	1	rully Diessed Foles	Fully Dressed Poles	Concrete	35	60	80	_	ľ		3-0
				Steel	60	60	80				
				Porcelain	40	40	50				
	2	Insulators		Glass	40	40	50	-	√	RI	3-6
				Composite	25	45	50				
ОН	3	Fuse Cutouts				40	60	-	-	RI	3-6
	4	Manual Overhead Switches				50	60	✓	✓	RTM	2
	5	Local Motorized	Switch		30	50	60	/	✓	RTM	2
	,	Overhead Switches	Motor		15	20	20	•	,	IVIIVI	2
		Damata Automatad	Switch		30	50	60				
	6	Remote Automated Overhead Switches	Motor		15	20	20	✓	✓	RTM	2
		RTU			15	20	30				
	7	Integral Switch			30	45	50	✓	✓	RTM	2
1	OP	= Operating Practices	* OH = Overhe MP = Maintenance Practice	• • • • • • • • • • • • • • • • • • • •		1 = Rou	tine Tes	sting ar	nd Mair	ntenance	

D. A. D. C. A. C.		ASSET		US	USEFUL LIFE			FACTORS [#]		MAINTENANCE [§]			
PARENT*	#	Category	- Component	- Type	Min	Тур	Max	ОР	MP	Туре	Schedule		
				ACSR	50	60	77						
				AAC	50	60	77	1			3-6		
	8	Conductors	Primary & Secondary	Copper	50	60	77	-	-	RI			
ОН				Weather Protected	50	60	77						
ОП				Insulated Wire	50	60	77						
	9	Capacitor Banks		<u>.</u>	25	30	40	-	-	RI	3-6		
	10	Voltage Regulators	•			20	40	✓	-	RI	3-6		
	11	Reclosers	30	40	60	✓	✓	RTM	3-6				
	12	Pole Top Transformer				40	60	-	✓	RI	3-6		
	13	Pole-Tran				30	35	✓	✓	RTM	2		
	14	Pad Mounted	Transformer		30	40	60	_		RI	2.6		
		Transformer	Foundation 30		30	60	80		-	NI	3-6		
	15		Transformer		20	35	50						
					Vault		40	60	80				
		Network Transformer	Roof		20	25	40	✓	✓	RI	2		
DT				Transformer	High Voltage Switch		30	45	50				
			Secondary Network Prot	tector	20	35	40						
			Transformer		25	35	40						
	16	Submersible Transformer	Vault		40	60	80	80 40	✓	RI	2		
		Transformer	Roof		20	25	40						
			Transformer		25	35	40		✓				
	17	Indoor Vault Transformer	Vault		40	60	80	✓		RI	2		
		Transionine	Roof		20	25	40						

^{*} OH = Overhead Lines DT = Distribution Transformers $\sqrt{=}$ Applicable

DADENTÝ	.,	ASSET		USEFUL LIFE			FACTORS [¤]		MAINTENANCE [§]		
PARENT*	#	Category	- Compo	nent - Type	Min	Тур	Max	ОР	MP	Туре	Schedule
				Air Insulated	20	25	40				
	18	UG Switchgear		Gas Insulated	30	30	50	✓	✓	RI	3
				Solid Dielectric	30	30	50				
				PILC	70	75	80				
	19	Primary Cables		Solid Dielectric In Duct	40	40	60	-	-	RI	3-6
				Solid Dielectric Direct Buried	20	25	25				
	20	Secondary Cables		Solid Dielectric In Duct	40	40	60	-	-	RI	3-6
UG				Solid Dielectric Direct Buried	20	30	35				
				Concrete Encased	30	50	80				
	21	Ducts		PVC (Direct Buried)	30	50	75	_	_	_	_
	21	Ducts		HDPE (Direct Buried)	50	50	100				
				FRE (Direct Buried)	30	50	100				
	22	Cable Chambers		50	60	80	-	✓	RTM	3	
	23	Junction	Pads/bases		30	60	80		✓	RTM	3
	23	Cubicle/Service Box	Junction/switch	ing cabinets	25	40	50	_		KIIVI	
	24	Station Grounding Tra	nsformer		30	40	40	-	✓	RTM	3
	25	Station Service Transf	ormer		32	45	55	-	✓	RTM	3
TS & MS			Overall		32	45	55				
	26	TS Power Transformer	Bushing		20	30	40	✓	✓	RTM	2
		Transionner	Tap Changer		20	30	60				
	* LIG - Underground Systems TSPMS - Transformer and Municipal Stations Anniscable										

^{*} UG = Underground Systems TS&MS = Transformer and Municipal Stations $\sqrt{=}$ Applicable

PARENT*	#	ASSET			US	USEFUL LIFE			FACTORS [¤]		MAINTENANCE [§]	
		Category	- Component	- Туре	Min	Тур	Max	ОР	MP	Туре	Schedule	
TS & MS	27	MS Power Transformer	Overall Bushing		30	45	55	✓	✓	RTM	2	
					20	30	40					
			Tap Changer			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		Oil	30	45	60	~	✓	RTM	3		
		Independent Breakers Gas (SF6) Air Magnetic Air Blast Vacuum		Gas (SF6)	30	45					60	
				Air Magnetic	25	30					60	
				Air Blast	30	40					50	
				30	40	60						
	30	Protection & Control Devices	Panels Control Cable		40	40	60	_				
					25	40	50					
			Relays	Electromechanical	20	30	50	✓	-	RI	3-6	
				Solid State	10	30	50					
				Digital	10	15	20					
	31	Station Disconnect Switch				45	50	✓	✓	RTM	6	
	32	Batteries			10	20	30	✓	✓	RTM	1	
		DC System	Chargers		20	20	30					
			DC Distribution Equipment		10	20	30					

[¤] OP = Operating Practices MP = Maintenance Practices § RI = Routine Inspection RTM = Routine Testing and Maintenance

PARENT*	#	ASSET			USEFUL LIFE			FACTORS [#]		MAINTENANCE [§]		
		Category	-	Component	- Туре	Min	Тур	Max	ОР	MP	Туре	Schedule
TS & MS	33	Station Grounding System Ground Grid Neutral Reactors			25	40	50					
					Neutral Reactors	25	45	60	_	-	-	-
		Arresters Sky Wire		Arresters	10	20	30					
				30	45	50						
	34	Bus Work & Steel Structures				35	50	100	ı	-	1	ı
	35	Station Building	Struct	ture		30	50	80				
			Roof		15	20	30	-	✓	RI	1	
			Fence			30	35					60
S	36	Metering	Meter	Smart	15	15	20		-	-	-	
				Industrial/Commercial	20	30	60					
				Wholesale	20	30	60					
			Trans	formers (CTs, PTs)		30	45	50				
	37	SCADA	RTU Battery		10	20	30	~	-	-	-	
					10	15	15					
	38	Smart Fault Indicators	s			10	15	15	✓	-	-	-
	39	Communication Towers				35	65	100	1	-	RI	3-6

RESULTS AND FINDINGS

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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

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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 <u>steel pole</u> 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).

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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).

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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).

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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).

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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).

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7 Integral Switch

Integral switches are a type of overhead line switches that are 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).

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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

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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 CI 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 <u>AAC</u> 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).

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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).

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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).

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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).

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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).

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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 in 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

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- 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).

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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).

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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 inservice 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 <u>air insulated</u> 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.

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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).

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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 <u>direct buried solid dielectric</u> 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.

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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).

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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 <u>PVC duct</u> 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 <u>FRE duct</u> 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.

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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).

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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 subtransmission 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.

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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).

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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).

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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
 - o Gas (SF6) Insulated
- Removable Breaker
 - Air Magnetic
 - Vacuum
 - o 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 <u>air magnetic</u> 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).

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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

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- 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

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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

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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 <u>SF6</u> breaker is 30 to 60 years; typical life is 42 years.

29.3.3 Air Magnetic

The typical useful life range of the <u>air magnetic</u> 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).

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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

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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
 - o 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 <u>electromechanical type</u> 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

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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.

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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

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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

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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.

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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.

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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.

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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)

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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 <u>potential</u> 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 communication, 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

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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

T he 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

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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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Cambridge and North Dumfries Hydro Inc. EB-2013-0116 Exhibit 1 Appendix 4-16 Filed: October 1, 2013

APPENDIX 4-16 2BB - SERVICE LIFE COMPARISON

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

		Asset	Details			Useful Life	•	USoA Account		Cur	rent	Pro	posed
Parent*	#	Category Con	nponent Type		MIN UL	TUL	MAX UL	Number	USoA Account Description	Years	Rate	Years	Rate
			Overall		35	45	75	1830	Poles, Towers and Fixtures	25	4%	50	2%
	1	Fully Dressed Wood Poles	Cross Arm	Wood	20	40	55						ı
				Steel	30	70	95						ı
			Overall		50	60	80	1830	Poles, Towers and Fixtures	25	4%	35	3%
	2	Fully Dressed Concrete Poles	Cross Arm	Wood	20	40	55						
				Steel	30	70	95						1
			Overall		60	60	80						
	3	Fully Dressed Steel Poles	Cross Arm	Wood	20	40	55						<u> </u>
ОН				Steel	30	70	95						
	4	OH Line Switch			30	45	55	1835	OH Conductors and Devices	25	4%	30	3%
	5	OH Line Switch Motor			15	25	25	1835	OH Conductors and Devices	25	4%	20	5%
	6	OH Line Switch RTU			15	20	20	1835	OH Conductors and Devices	25	4%	15	7%
	7	OH Integral Switches			35	45	60						1
	8	OH Conductors			50	60	75	1835	OH Conductors and Devices	25	4%	50	2%
	9	OH Transformers & Voltage Regulators			30	40	60	1835	OH Conductors and Devices	25	4%	20	5%
	10	OH Shunt Capacitor Banks			25	30	40	1850	Line Transformers	25	4%	25	4%
	11	Reclosers			25	40	55	1835	OH Conductors and Devices	25	4%	50	2%
			Overall		30	45	60	1815	TS Equipment	40	3%	55	2%
	12	Power Transformers	Bushing		10	20	30						
			Tap Changer		20	30	60						
	13	Station Service Transformer			30	45	55	1850	Line Transformers	40	3%	50	2%
	14	Station Grounding Transformer			30	40	40						1
		_	Overall		10	20	30	1815	TS Equipment	40	3%	30	3%
	15	Station DC System	Battery Bank		10	15	15	1815	TS Equipment	40	3%	15	7%
		*	Charger		20	20	30	1815	TS Equipment	40	3%	20	5%
TS & MS	- 40	Station Metal Clad Switchgear	Overall		30	40	60	1815	TS Equipment	40	3%	60	2%
I S & IVIS	16		Removable Breaker		25	40	60	1815	TS Equipment	40	3%	40	3%
	17	Station Independent Breakers	1		35	45	65						
	18	Station Switch			30	50	60	1815	TC Equipment	40	3%	30	3%
								1815	TS Equipment	40	3%	30	3%
	19	Electromechanical Relays			25	35	50						
	20	Solid State Relays			10	30	45						
	21	Digital & Numeric Relays			15	20	20	1815	TS Equipment	40	3%	15	7%
	22	Rigid Busbars			30	55	60	1815	TS Equipment	40	3%	55	2%
	23	Steel Structure			35	50	90	1815	TS Equipment	50	2%	80	1%
	24	Primary Paper Insulated Lead Covered (R			60	65	75						
	25	Primary Ethylene-Propylene Rubber (EPI			20	25	25						1
	26	Primary Non-Tree Retardant (TR) Cross	Linked		20	25	30						ı
	20	Polyethylene (XLPE) Cables Direct Burie	d		20	23	30						1
	27	Primary Non-TR XLPE Cables in Duct			20	25	30						
	28	Primary TR XLPE Cables Direct Buried			25	30	35	1845	UG Conductors and Devices	25	4%	35	3%
	29	Primary TR XLPE Cables in Duct			35	40	55	1845	UG Conductors and Devices	25	4%	50	2%
	30	Secondary PILC Cables			70	75	80						i
	31	Secondary Cables Direct Buried			25	35	40	1845	UG Conductors and Devices	25	4%	60	2%
	32	Secondary Cables in Duct			35	40	60	1845	UG Conductors and Devices	25	4%	60	2%
			Overall		20	35	50						
UG	33	Network Tranformers	Protector		20	35	40						
ľ	34	Pad-Mounted Transformers			25	40	45	1850	Line Transformers	25	4%	50	2%
ŀ	35	Submersible/Vault Transformers			25	35	45	1850	Line Transformers	25	4%	25	4%
ŀ	36	UG Foundation			35	55	70	1840	UG Conduit	25	4%	60	2%
ŀ			Overall		40	60	80	1840	UG Conduit	25	4%	60	2%
	37	UG Vaults	Roof		20	30	45	1850	Line Transformers	25	4%	40	3%
-	38	UG Vault Switches	1		20	35	50	1845	UG Conduit and Devices	25	4%	30	3%
-	39	Pad-Mounted Switchgear			20	30	45	1845	UG Conduit and Devices	25	4%	30	3%
-	40	Ducts			30	50	85	1840	UG Conduit	25	4%	75	1%
F	41	Concrete Encased Duct Banks			35	55	80	1840	UG Conduit	25	4%	80	1%
}	42	Cable Chambers			50	60	80	1840	UG Conduit	25	4%	60	2%
s	43	Remote SCADA			15	20	30	1980	System Supervisory Equipment	15	7%	15	7%
3	40	Nemote SUADA			10	20	30	1900	System Supervisory Equipment	10	1 70	10	1 70

Table F-2 from Kinetrics Report¹

	A	sset Details	Useful Life Range	USoA Account	USoA Account Description	Cur	rent	Pro	posed
#	Category	Component Type	Oserui Life Range	Number	USOA Account Description	Years	Rate	Years	Rate
1	Office Equipment		5-15	1915	Office Equipment and Furniture	10	10%	10	10%
		Trucks & Buckets	5-15	1930	Transportation Equipment	8	13%	12	8%
2	Vehicles	Trailers	5-20	1930	Transportation Equipment	8	13%	20	5%
		Vans	5-10	1930	Transportation Equipment	5	20%	8	13%
3	Administrative Buildings	·	50-75	1908	Building and Fixtures	50	2%	80	1%
4	Leasehold Improvements		Lease dependent						
		Station Buildings	50-75	1808	Building and Fixtures	50	2%	80	1%
5	Station Buildings	Parking	25-30	1808	Building and Fixtures	50	2%	25	4%
5	Station Buildings	Fence	25-60	1808	Building and Fixtures	50	2%	35	3%
		Roof	20-30	1808	Building and Fixtures	50	2%	20	5%
6	Computer Equipment	Hardware	3-5	1920	Computer Hardware	5	20%	3	33%
	Computer Equipment	Software	2-5	1925	Computer Software	5	20%	5	20%
		Power Operated	5-10	1940	Tools,Shop and Garage Equipment	10	10%	10	10%
7	Equipment	Stores	5-10	1940	Tools,Shop and Garage Equipment	10	10%	10	10%
,	Equipment	Tools, Shop, Garage Equipment	5-10	1940	Tools, Shop and Garage Equipment	10	10%	10	10%
		Measurement & Testing Equipment	5-10						
8	Communication	Towers	60-70						
0		Wireless	2-10						
9	Residential Energy Meters		25-35						
10	Industrial/Commercial Energy Meter	'S	25-35	1860	Meters	25	4%	25	4%
11	Wholesale Energy Meters		15-30	1860	Meters	25	4%	20	5%
12	Current & Potential Transformer (C)	Γ & PT)	35-50	1860	Meters	25	4%	45	2%
13	Smart Meters		5-15	1860	Meters	15	7%	15	7%
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 Systems

Cambridge and North Dumfries Hydro Inc. EB-2013-0116 Exhibit 1 Appendix 4-17

Appendix 4-17 Filed: October 1, 2013

APPENDIX 4-17 2-CN DEPRECIATION AND AMORTIZATION EXPENSE - 2012 FORMER CGAAP

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Appendix 2-CN Depreciation and Amortization Expense

Assumes the applicant made capitalization and depreciation expense accounting policy changes under CGAAP effective January 1, 2012

Year 2012 Former CGAAP - CGAAP without the changes to the policies

			i cai	2012					out the changes to							
Account	Description	Gre	Opening Regulatory oss PP&E as Jan 1, 2012	ess Fully preciated		Net for Depreciation	,	Additions	Total for Depreciation	Years	Depreciation Rate	Depreciation Expense		12 Depreciation Expense per Appendix 2-B Fixed Assets, Column K	Va	ariance ²
			(a)	(b)		(c)		(d)	(e) = (c) + $\frac{1}{2}$ x (d) ¹	(f)	(g) = 1/(f)	(h) = (e) / (f)		(1)	(m)	= (h) - (l)
1611	Computer Software (Formally known as Account 1925)	\$	2,402,039	\$ 299,133	\$	2,102,906	\$	815,301	\$ 2,510,557	5.00	20.00%	\$ 502,111	\$	478,385	\$	23,726
1612	Land Rights (Formally known as Account 1906)				44	-			\$ -		0.00%				\$	-
1805	Land	\$	252,923		44	252,923			\$ 252,923		0.00%				\$	-
1808	Buildings	\$	1,190,197		44	1,190,197			\$ 1,190,197	50.00	2.00%		\$	25,577	-\$	1,773
1810	Leasehold Improvements				44	-			\$ -		0.00%				\$	-
1815	Transformer Station Equipment >50 kV	\$	9,777,744		44	9,777,744	\$	236,836	\$ 9,896,162	40.00	2.50%		\$	247,404	\$	0
1820	Distribution Station Equipment <50 kV				44	-			\$ -		0.00%				\$	-
1825	Storage Battery Equipment				44	-			\$ -		0.00%				\$	-
1830	Poles, Towers & Fixtures	\$	27,673,333		44	27,673,333	\$	524,147	\$ 27,935,407	25.00	4.00%	\$ 1,117,416	\$		\$	166,784
1835	Overhead Conductors & Devices	\$	32,247,582		44	32,247,582	\$	849,102	\$ 32,672,133	25.00	4.00%	\$ 1,306,885	\$	1,112,532	\$	194,353
1840	Underground Conduit	\$	25,645,937		\$	25,645,937	\$	232,094	\$ 25,761,984	25.00	4.00%	\$ 1,030,479	\$	875,914	\$	154,565
1845	Underground Conductors & Devices	\$	36,168,760		\$	36,168,760	\$	902,037	\$ 36,619,779	25.00	4.00%	\$ 1,464,791	\$	1,246,805	\$	217,986
1850	Line Transformers	\$	43,046,097		44	43,046,097	\$	1,167,732	\$ 43,629,963	25.00	4.00%	\$ 1,745,199	\$	1,337,317	\$	407,882
1855	Services (Overhead & Underground)				44	-			\$ -		0.00%				\$	-
1860	Meters	\$	847,732		\$	847,732	\$	8,667,394	\$ 5,181,429	25.00	4.00%	\$ 207,257	\$	575,340	-\$	368,083
1860	Meters (Smart Meters)				\$	-			\$ -		0.00%	\$ -			\$	-
1905	Land	\$	213,797		\$	213,797			\$ 213,797		0.00%	\$ -			\$	-
1908	Buildings & Fixtures	\$	4,693,847		\$	4,693,847	\$	493,500	\$ 4,940,597	50.00	2.00%	\$ 98,812	\$	114,591	-\$	15,779
1910	Leasehold Improvements				\$	-			\$ -		0.00%	\$ -			\$	-
1915	Office Furniture & Equipment (10 years)	\$	565,368	\$ 25,580	\$	539,788	\$	46,010	\$ 562,793	10.00	10.00%	\$ 56,279	\$	18,585	\$	37,694
1915	Office Furniture & Equipment (5 years)				\$	-			\$ -		0.00%	\$ -			\$	-
1920	Computer Equipment - Hardware	\$	1,950,065	\$ 105,068	\$	1,844,997	\$	434,387	\$ 2,062,191	5.00	20.00%	\$ 412,438	\$	209,681	\$	202,757
1920	Computer EquipHardware(Post Mar. 22/04)				\$	-			\$ -		0.00%	\$ -			\$	-
1920	Computer EquipHardware(Post Mar. 19/07)				\$	-			\$ -		0.00%	\$ -			\$	-
1930	Transportation Equipment	\$	3,844,415	\$ 75,130	\$	3,769,285	\$	22,863	\$ 3,780,717	6.00	16.67%	\$ 630,119	\$	273,940	\$	356,179
1935	Stores Equipment	\$	93,729	\$ 93,729	\$	-			\$ -		0.00%	\$ -			\$	-
1940	Tools, Shop & Garage Equipment	\$	1,023,853	\$ 12,565	\$	1,011,288	\$	59,566	\$ 1,041,071	10.00	10.00%	\$ 104,107	\$	71,801	\$	32,306
1945	Measurement & Testing Equipment				\$	· · ·		·	\$ -		0.00%	\$ -			\$	
1950	Power Operated Equipment				\$	-			\$ -		0.00%	\$ -			\$	-
1955	Communications Equipment				\$	-			\$ -		0.00%	\$ -			\$	-
1955	Communication Equipment (Smart Meters)				\$	-			\$ -		0.00%	\$ -			\$	-
1960	Miscellaneous Equipment				\$	-			\$ -		0.00%	\$ -			\$	-
1970	Load Management Controls - Customer Premises				\$	-			\$ -		0.00%	\$			\$	-
1975	Load Management Controls Utility Premises				\$				\$ -		0.00%	\$ -			\$	-
1980	System Supervisor Equipment	\$	714,214	\$ 714,214	\$	-			\$ -		0.00%				\$	-
1985	Miscellaneous Fixed Assets				\$	-			\$ -		0.00%	\$ -			\$	-
1990	Other Tangible Property				\$	-			\$ -		0.00%	\$ -			\$	-
1995	Contributions & Grants	-\$	16,891,915		-\$	16,891,915	-\$	367,721	-\$ 17,075,776	25.00	4.00%	-\$ 683,031	-\$	687,947	\$	4,916
2005	Property under Capital Lease	\$	61,873	\$ 61,873	\$	-			\$ -		0.00%	\$ -			\$	-
2055	Work in Process	\$	197,130		\$	197,130	\$	3,601,772	\$ 1,998,016		0.00%	\$ -			\$	-
2070	Other Utility Plant	\$	619,296		\$	619,296	-\$	590,602	\$ 323,995		0.00%	\$ -			\$	-
	Total	\$	176,338,016	\$ 1.387.292	\$	174,950,724	\$					\$ 8,264,072	\$	6,850,557	\$ 1	.413.515
	The state of the s		.,,	 , . –		,,.		, ,				, . ,,		-,,		,

Notes:

- 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.
- 2 The applicant must provide an explanation of material variances in evidence.

General Applicants must provide a breakdown of depreciation and amortization expense in the above format for all relevant accounts. Asset Retirement Obligations (AROs), depreciation and accretion expense should be disclosed separately consistent with the Notes of historical Audited Financial Statements.

Cambridge and North Dumfries Hydro Inc. EB-2013-0116 Exhibit 1

Appendix 4-18 Filed: October 1, 2013

APPENDIX 4-18 2-CO DEPRECIATION AND AMORTIZATION EXPENSE - 2012 REVISED CGAAP

 File Number:
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 October 1,2013

Appendix 2-CO

Depreciation and Amortization Expense

Assumes the applicant made capitalization and depreciation expense accounting policy changes under CGAAP effective January 1, 2012

Year 2012 Revised CGAAP or ASPE - CGAAP or ASPE with the changes to the policies

Account	Description	Opening NBV as at Jan 1, 2012 ⁵	Additions	Average Remaining Life of Opening NBV	Years (new additions only) 3	Depreciation Rate on New Additions	Depreciation Expense on Opening NBV	Depreciation Expense on Additions ¹	2012 Depreciation Expense	2012 Depreciation Expense per Appendix 2-B Fixed Assets, Column K	Variance ²	Depreciation Expense on 2012 Full Year Additions	Less Depreciation Expense on Assets Fully Depreciated during the year	2012 Full Year Depreciation ⁶
		(a)	(d)	(i)	(f)	(g) = 1 / (f)	(j) = (a) / (i)	(h)=((d)*0.5)/(f)	(k) = (j) + (h)	(1)	(m) = (k) - (l)	(n) = (d)/(f)	(0)	(p) = (j) + (n) - (o)
1611	Computer Software (Formally known as Account 1925)	\$ 2,402,039	\$ 815,301	4.79	5.00	20.00%	\$ 501,470	\$ 81,530	\$ 583,000	\$ 503,248	\$ 79,752	\$ 163,060		\$ 664,530
1612	Land Rights (Formally known as Account 1906)					0.00%	\$ -	\$ -	\$ -		\$ -	\$ -		\$ -
1805	Land	\$ 252,923				0.00%	\$ -	\$ -	\$ -		\$ -	\$ -		\$ -
1808	Buildings	\$ 1,190,197		58.41		0.00%	\$ 20,377	\$ -	\$ 20,377	\$ 21,409	-\$ 1,032	\$ -		\$ 20,377
1810	Leasehold Improvements					0.00%	\$ -	\$ -	\$ -		\$ -	\$ -		\$ -
1815	Transformer Station Equipment >50 kV	\$ 9,777,744	\$ 236,836	36.26	39.06	2.56%	\$ 269,656	\$ 3,032	\$ 272,688	\$ 364,369	-\$ 91,681	\$ 6,063		\$ 275,720
1820	Distribution Station Equipment <50 kV					0.00%	-	\$ -	\$ -		\$	\$ -		\$ -
1825	Storage Battery Equipment					0.00%	-	\$ -	\$ -		\$	\$ -		\$ -
1830	Poles, Towers & Fixtures		\$ 396,281	41.74	42.50	2.35%					\$ 319,746			\$ 672,317
1835	Overhead Conductors & Devices	\$ 32,247,582	\$ 700,100	39.26	36.88	2.71%					\$ 355,948		\$ 2,789	\$ 837,579
1840	Underground Conduit	\$ 25,645,937	\$ 113,596	72.89	78.50	1.27%			\$ 352,568		\$ 176,187			\$ 353,291
1845	Underground Conductors & Devices	\$ 36,168,760	\$ 734,917	46.51	41.43	2.41%			\$ 786,525		\$ 350,424		\$ 3,198	\$ 792,196
1850	Line Transformers	\$ 43,046,097	\$ 968,835	41.87	42.92	2.33%	\$ 1,028,089	\$ 11,287	\$ 1,039,376	\$ 568,317	\$ 471,059	\$ 22,573	\$ 934	\$ 1,049,728
1855	Services (Overhead & Underground)					0.00%	\$ -	\$ -	\$ -		\$ -	\$ -		\$ -
1860	Meters	\$ 847,732	\$ 986,343	18.51	30.00	3.33%	\$ 45,799	\$ 16,439	\$ 62,238	\$ 143,924	-\$ 81,686		\$ 22,763	\$ 55,914
1860	Meters (Smart Meters)		\$ 7,681,051	13.50	15.00	6.67%	\$ -	\$ 256,035	\$ 256,035	\$ 1,245,373	-\$ 989,338	\$ 512,070		\$ 512,070
1905	Land	\$ 213,797				0.00%	\$ -	\$ -	\$ -		\$ -	\$ -		\$ -
1908	Buildings & Fixtures	\$ 4,693,847	\$ 493,500	31.16	34.38	2.91%				\$ 1,321,253	-\$ 1,163,439	. , ,	\$ -	\$ 164,991
1910	Leasehold Improvements					0.00%	\$ -	\$ -	\$ -		\$ -	\$ -		\$ -
1915	Office Furniture & Equipment (10 years)	\$ 565,368	\$ 46,010	8.74	10.00	10.00%	\$ 64,687		\$ 66,988	\$ 16,482	\$ 50,506	\$ 4,601		\$ 69,288
1915	Office Furniture & Equipment (5 years)					0.00%	\$ -	\$ -	\$ -		\$ -	\$ -		\$ -
1920	Computer Equipment - Hardware	\$ 1,950,065	\$ 434,387	3.64	4.00	25.00%	\$ 535,732		\$ 590,031	\$ 291,588	7,		\$ 7,614	\$ 636,715
1920	Computer EquipHardware(Post Mar. 22/04)					0.00%	\$ -	\$ -	\$ -		\$ -	\$ -		\$ -
1920	Computer EquipHardware(Post Mar. 19/07)					0.00%	\$ -	\$ -	\$ -		\$ -	\$ -		\$ -
1930	Transportation Equipment	\$ 3,844,415	\$ 22,863	9.87	12.00	8.33%	\$ 389,505		\$ 390,458	\$ 141,103	\$ 249,355	, ,,,,,		\$ 391,410
1935	Stores Equipment	\$ 93,729				0.00%	\$ -	\$ -	\$ -		\$ -	\$ -		\$ -
1940	Tools, Shop & Garage Equipment	\$ 1,023,853	\$ 59,566	7.82	10.00	10.00%	\$ 130,927		\$ 133,906	\$ 66,778	\$ 67,128			\$ 136,884
1945	Measurement & Testing Equipment					0.00%	\$ -	\$ -	\$ -		\$ -	\$ -		\$ -
1950	Power Operated Equipment					0.00%	\$ -	\$ - \$ -	\$ -		\$ -	\$ -		\$ - \$ -
1955	Communications Equipment					0.00%	\$ -	\$ - \$ -	Ÿ		\$ - \$ -	\$ - \$ -		\$ - \$ -
1955	Communication Equipment (Smart Meters)					0.00%	\$ - \$ -	Ť	\$ -		\$ -	7		7
1960	Miscellaneous Equipment						¥	*	Ÿ			Ÿ		7
1970	Load Management Controls - Customer Premises	-				0.00%	\$ - \$ -	\$ - \$ -	\$ - \$ -		\$ - \$ -	\$ -		\$ - \$ -
1975	Load Management Controls Utility Premises	\$ 714.214				0.00%	\$ -	\$ -	\$ -			\$ - \$ -		\$ - \$ -
1980	System Supervisor Equipment Miscellaneous Fixed Assets	φ /14,214				0.00%	\$ -	\$ -	\$ -		\$ -	\$ -		\$ -
1985 1990	Other Tangible Property					0.00%	\$ -	\$ -	\$ -		\$ -	\$ -		\$ - \$ -
1990	Other Tangible Property Contributions & Grants	-\$ 16,891,915	-\$ 367,721	42.42	43.57	2.30%				-\$ 331.862	7			-\$ 406,646
2005	Property under Capital Lease	\$ 61.873	-φ 301,121	42.42	43.37	0.00%	\$ 390,200	\$ -	\$ 402,420	-φ 331,002	\$ -	\$ -		\$ -5
2005	Work in Process		\$ 3.601.772			0.00%	\$ -	\$ -	\$ -		\$ -	\$ -		\$ -
2070	Other Utility Plant	\$ 619.296	-\$ 590.602			0.00%	· -	\$ -			• .	\$ -		\$ -
2010	Total	\$ 176,338,016				0.00%	\$ 5,352,551	7	\$ 5,808,107	\$ 5,787,302	\$ 20.805	\$ 911,112	\$ 37,298	\$ 6.226.366
	I otal	φ 1/0,000,010	φ (0,000,000	I			φ υ,აυ∠,υυ1	φ 400,000	φ 3,000,107	φ 5,101,302	φ ∠υ,605	عا,اا≥ ب	φ 31,298	φ 0,220,300

Less: Fully Allocated Depreciation

 Transportation
 141,103

 Smart Meters
 873,857

 Difference
 1,714

 Net Depreciation
 \$4,774,056

Notes:

- 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.
- The applicant should ensure that the years for new additions of assets are the asset useful lives determined by management in accordance with the Board's regulatory accounting policies. The capitalization and depreciation expense accounting changes should be implemented consistent with the Board's regulatory accounting policies as set out for modified IFRS as contained in the Report of the Board, Transition to International Financial Reporting Standards, EB-2008-0408, the Kinectrics Report, and the Revised 2012 Accounting Procedures Handbook for Electricity Distributors ("APH").
- A recalculation should be performed to determine the average remaining life of opening balance of assets (i.e. excluding 2012 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, 2012, the effective date of the changes in policies, Asset A was 3 years depreciated. As a result, Asset A would have a remaining service life of 17 years (20 years less 3 years) as of January 1, 2012. Due to making the change in policies under CGAAP, management parassessed the asset useful lives and concluded that the revised CGAAP is now 30 years. Therefore, the average remaining useful life of the opening balance of Asset A is determined to be 27 years (30 years less 3 years) under the revised CGAAP as of January 1, 2012.
- NBV must exclude assets still on the books but which have been fully amortized or depreciated.
- This column refers to the calculated full year depreciation but excludes the depreciation expense on assets fully depreciated during the year. This column is used for the purpose of calculating depreciation expense in the following year on the next worksheet.

General: Applicants must provide a breakdown of depreciation and amortization expense in the above format for all relevant accounts. Asset Retirement Obligations (AROs), depreciation and accretion expense should be disclosed separately consistent with the Notes of historical Audited Financial Statements.

Cambridge and North Dumfries Hydro Inc. EB-2013-0116 Exhibit 1

Appendix 4-19 Filed: October 1, 2013

APPENDIX 4-19 2-CP DEPRECIATION AND AMORTIZATION EXPENSE - 2013 REVISED CGAAP, EFFEC. JAN. 1, 2012

File Number: EB-2013-0116
Exhibit: 4
Appendix: 4-19
Page: 1 of 1

Filed: October 1,2013

Appendix 2-CP Depreciation and Amortization Expense

Assumes the applicant made capitalization and depreciation expense accounting policy changes under CGAAP effective January 1, 2012

2013 Revised CGAAP or ASPE - CGAAP or ASPE with the changes to the policies

Account	Description	Additions	Years (new additions only)	Depreciation Rate on New Additions	2013 Depreciation Expense ¹	2013 Depreciation Expense per Apppendix 2-B Fixed Assets.	Variance ²	Depreciation Expense on 2013 Full Year Additions	Less Depreciation Expense on Assets Fully Depreciated	2013 Full Year Depreciation ³ (p) = 2012 Full
		(d)	(f)	(g) = 1 / (f)	(h)=2012 Full Year Deprecation + ((d)*0.5)/(f)	Column K (I)	(m) = (h) - (l)	(n)=((d))/(f)	during the year (o)	Year Depreciation + (n) - (o)
1611	Computer Software (Formally known as Account 1925)	\$ 312,900	5.00	20.00%	\$ 695,820	\$ 512,400	\$ 183,420	\$ 62,580	\$ 19,796	\$ 707,314
1612	Land Rights (Formally known as Account 1906)			0.00%	\$ -		\$ -	\$ -		\$ -
1805	Land			0.00%	\$ -		\$ -	\$ -		\$ -
1808	Buildings			0.00%	\$ 20.377	\$ 21,351	-\$ 974	\$ -		\$ 20,377
1810	Leasehold Improvements			0.00%	\$ -	, , , , , , , , , , , , , , , , , , , ,	\$ -	\$ -		\$ -
1815	Transformer Station Equipment >50 kV	\$ 3,600	39.06	2,56%	\$ 275,766	\$ 365,399	-\$ 89.633	\$ 92		\$ 275,812
1820	Distribution Station Equipment <50 kV	, , , , , , , , , , , , , , , , , , , ,		0.00%	\$ -		\$ -	\$ -		\$ -
1825	Storage Battery Equipment			0.00%	\$ -		\$ -	\$ -		\$ -
1830	Poles, Towers & Fixtures	\$ 4,436,401	42.50	2.35%	\$ 724.510	\$ 404,621	\$ 319.889	\$ 104,386		\$ 776,703
1835	Overhead Conductors & Devices	\$ 5,166,199	36.88	2.71%	\$ 907.620	\$ 550,383	\$ 357,237	\$ 140.081	\$ 1,358	\$ 976,303
1840	Underground Conduit	\$ 1,869,990	78.50	1.27%	\$ 365,202	\$ 188,599	\$ 176,603	\$ 23,822		\$ 377,113
1845	Underground Conductors & Devices	\$ 2,636,010	41.43	2.41%	\$ 824,009	\$ 470,342	\$ 353,667	\$ 63,626	\$ 737	\$ 855,085
1850	Line Transformers	\$ 2,147,400	42.92	2.33%	\$ 1,074,745	\$ 602,986	\$ 471,759	\$ 50.033	\$ 1,103	\$ 1.098.658
1855	Services (Overhead & Underground)			0.00%	\$ -		\$ -	\$ -		\$ -
1860	Meters	\$ 915,017	30.00	3,33%	\$ 71,164	\$ 667,073	-\$ 595.909	\$ 30.501	\$ 10.046	\$ 76,368
1860	Meters (Smart Meters)			0.00%	\$ 512,070		\$ 512,070	\$ -		\$ 512,070
1905	Land			0.00%	\$ -		\$ -	\$ -		\$ -
1908	Buildings & Fixtures	\$ 448,000	34.38	2.91%	\$ 171,507	\$ 142,804	\$ 28,703	\$ 13,031		\$ 178,022
1910	Leasehold Improvements			0.00%	\$ -		\$ -	\$ -		\$ -
1915	Office Furniture & Equipment (10 years)	\$ 187,301	10.00	10.00%	\$ 78,653	\$ 27,011	\$ 51,642	\$ 18,730	\$ 1,080	\$ 86,939
1915	Office Furniture & Equipment (5 years)			0.00%	\$ -		\$ -	\$ -		\$ -
1920	Computer Equipment - Hardware	\$ 296,500	4.00	25.00%	\$ 673,777	\$ 339,547	\$ 334,230	\$ 74,125	\$ 8,107	\$ 702,733
1920	Computer EquipHardware(Post Mar. 22/04)			0.00%	\$ -		\$ -	\$ -		\$ -
1920	Computer EquipHardware(Post Mar. 19/07)			0.00%	\$ -		\$ -	\$ -		\$ -
1930	Transportation Equipment	\$ 587,785	12.00	8.33%	\$ 415,901	\$ 182,646	\$ 233,255	\$ 48,982		\$ 440,392
1935	Stores Equipment			0.00%	\$ -		\$ -	\$ -		\$ -
1940	Tools, Shop & Garage Equipment	\$ 116,650	10.00	10.00%	\$ 142,717	\$ 74,628	\$ 68,089	\$ 11,665	\$ 774	\$ 147,775
1945	Measurement & Testing Equipment			0.00%	\$ -		\$ -	\$ -		\$ -
1950	Power Operated Equipment			0.00%	\$ -		\$ -	\$ -		\$ -
1955	Communications Equipment			0.00%	\$ -		\$ -	\$ -		\$ -
1955	Communication Equipment (Smart Meters)			0.00%	\$ -		\$ -	\$ -		\$ -
1960	Miscellaneous Equipment			0.00%	\$ -		\$ -	\$ -		\$ -
1970	Load Management Controls - Customer Premises			0.00%	\$ -		\$ -	\$ -		\$ -
1975	Load Management Controls Utility Premises			0.00%	\$ -		\$ -	\$ -		\$ -
1980	System Supervisor Equipment			0.00%	\$ -		\$ -	\$ -		\$ -
1985	Miscellaneous Fixed Assets			0.00%			\$ -	\$ -		\$ -
1990	Other Tangible Property			0.00%	\$ -		\$ -	\$ -		\$ -
1995	Contributions & Grants	-\$ 3,041,000	43.57	2.30%	-\$ 441,544	-\$ 368,521	-\$ 73,023	-\$ 69,796		-\$ 476,442
2005	Property under Capital Lease			0.00%	\$ -		\$ -	\$ -		\$ -
2055	Work in Process			0.00%			\$ -	\$ -		\$ -
2070	Other Utility Plant			0.00%	\$ -		\$ -	\$ -		\$ -
	Total	\$16,082,753			\$ 6,512,294	\$ 4,181,269	\$ 2,331,025	\$ 571,857	\$ 43,001	\$ 6,755,222

Less: Fully Allocated Depreciation

 Transportation
 182,646

 Communication
 0

 Net Depreciation
 \$ 3,998,623

Notes:

- 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.
- 2 The applicant must provide an explanation of material variances in evidence.
- This column refers to the calculated full year depreciation but excludes the depreciation expense on assets fully depreciated during the year. This column is used for the purpose of calculating depreciation expense in the following year on the next worksheet.

General: Applicants must provide a breakdown of depreciation and amortization expense in the above format for all relevant accounts. Asset Retirement Obligations (AROs), depreciation and accretion expense should be disclosed separately consistent with the Notes of historical Audited Financial Statements.

Cambridge and North Dumfries Hydro Inc. EB-2013-0116 Exhibit 1 Appendix 4-20

Appendix 4-20 Filed: October 1, 2013

APPENDIX 4-20 2-CQ DEPRECIATION AND AMORTIZATION EXPENSE - 2014 REVISED CGAAP, EFFEC. JAN. 1, 2012

Cambridge and North Dumfries Hydro Inc. File Number: EB-2013-0116 Exhibit: 4-20 Appendix: Page: 1 of 1 Filed: October 1,2013

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

Assumes the applicant made capitalization and depreciation expense accounting policy changes under CGAAP effective January 1, 2012

2014 Revised CGAAP or ASPE - CGAAP or ASPE with the changes to the policies

Account	Description	Additions	Years (new additions only)	Depreciation Rate on New Additions		2014 Depreciation Expense ¹ h)=2013 Full	2014 Depreciation Expense per Appendix 2-B Fixed		Variance ²
		(4)	(6)	(-) 4 ((6)	De	Year epreciation +	Assets, Column K (I)		() (h) (h)
		(d)	(f)	(g) = 1 / (f)		((d)*0.5)/(f)			(m) = (h) - (l)
1611	Computer Software (Formally known as Account 1925)	\$ 1,334,048	5.00	20.00%	\$	840,719	\$ 677,095	\$	163,624
1612	Land Rights (Formally known as Account 1906)			0.00%	\$			\$	-
1805	Land			0.00%	\$	-		\$	-
1808	Buildings			0.00%	\$	20,377	\$ 21,351	-\$	974
1810	Leasehold Improvements			0.00%	\$	-		\$	-
1815	Transformer Station Equipment >50 kV			0.00%	\$	275,812	\$ 365,445	-\$	89,633
1820	Distribution Station Equipment <50 kV			0.00%	\$	-		\$	-
1825	Storage Battery Equipment			0.00%	\$	-		\$	-
1830	Poles, Towers & Fixtures	\$ 4,538,305	42.50	2.35%	\$	830,095	\$ 511,463	\$	318,632
1835	Overhead Conductors & Devices	\$ 5,284,867	36.88	2.71%	\$	1,047,952	\$ 695,537	\$	352,415
1840	Underground Conduit	\$ 1,831,237	78.50	1.27%	\$	388,777	\$ 212,324	\$	176,453
1845	Underground Conductors & Devices	\$ 2,581,383	41.43	2.41%	\$	886.239	\$ 533,968	\$	352,271
1850	Line Transformers	\$ 2,003,000	42.92	2.33%	\$	1,121,992	\$ 651,246	\$	470,746
1855	Services (Overhead & Underground)			0.00%	\$	-		\$	-
1860	Meters	\$ 966,643	30.00	3.33%		92,479	\$ 717,254	-\$	624,775
1860	Meters (Smart Meters)			0.00%	\$	512,070		\$	512,070
1905	Land			0.00%	\$	-		\$	
1908	Buildings & Fixtures	\$ 55,000	34.38	2.91%		178.822	\$ 155,304	\$	23,518
1910	Leasehold Improvements			0.00%		-		\$	-
1915	Office Furniture & Equipment (10 years)	\$ 80,400	10.00	10.00%	\$	90,959	\$ 40,396	\$	50,563
1915	Office Furniture & Equipment (5 years)			0.00%	\$	-		\$	-
1920	Computer Equipment - Hardware	\$ 751,500	4.00	25.00%		796.670	\$ 514,213	\$	282.457
1920	Computer EquipHardware(Post Mar. 22/04)	, , , , , , , , , , , , , , , , , , , ,		0.00%	\$	-		\$	
1920	Computer EquipHardware(Post Mar. 19/07)			0.00%	\$	-		\$	-
1930	Transportation Equipment	\$ 520,000	12.00	8.33%		462,059	\$ 233,631	\$	228,428
1935	Stores Equipment	, , , , , , , , , , , , , , , , , , , ,		0.00%		-		\$	-
1940	Tools, Shop & Garage Equipment	\$ 109,000	10.00	10.00%	\$	153,225	\$ 85,910	\$	67,315
1945	Measurement & Testing Equipment	, , , , , , , , , , , , , , , , , , , ,		0.00%		-		\$	-
1950	Power Operated Equipment			0.00%		-		\$	-
1955	Communications Equipment			0.00%	\$	-		\$	
1955	Communication Equipment (Smart Meters)			0.00%	\$	-		\$	-
1960	Miscellaneous Equipment			0.00%	\$	-		\$	-
1970	Load Management Controls - Customer Premises			0.00%		-		\$	-
1975	Load Management Controls Utility Premises			0.00%	\$	-		\$	-
1980	System Supervisor Equipment			0.00%		-		\$	-
1985	Miscellaneous Fixed Assets			0.00%		-		\$	-
1990	Other Tangible Property			0.00%		-		\$	-
1995	Contributions & Grants	-\$ 2,406,000	43.57	2.30%		504,053	-\$ 425,260	-\$	78,793
etc.				0.00%		-	*	\$	-
				0.00%	\$	-		\$	-
	Total	\$17.649.383			\$	7.194.193	\$ 4.989.877	\$	2.204.316
	Total Depreciation expense to be included in the	, , ,, ,, , ,	enue require	ment	\$	7,194,193	, , , , , , , , , , , , , , , , , , , ,	•	, . ,

Less: Fully Allocated Depreciation

Transportation

233,631 **Net Depreciation** 4,756,246

Notes:

- 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.
- 2 The applicant must provide an explanation of material variances in evidence.

General: Applicants must provide a breakdown of depreciation and amortization expense in the above format for all relevant accounts. Asset Retirement Obligations (AROs), depreciation and accretion expense should be disclosed separately consistent with the Notes of historical Audited Financial Statements.

Cambridge and North Dumfries Hydro Inc. EB-2013-0116 Exhibit 1 Appendix 4-21 Filed: October 1, 2013

APPENDIX 4-21 2012 CORPORATE TAX RETURN

Attachment to T2 Corporations Tax Return

Cambridge & North Dumfries Hydro Inc. Ontario Corporation Tax Account # 1800065

Taxes payable for the year ended December 31, 2012 are comprised of:

Federal Part I Tax	\$ 208,498
Federal Part IV Tax	-
Dividend Refund	-
Provincial Corporations Tax	158,409
Provincial Corporate Minimum Tax	-
Provincial Capital Tax	
Total Provincial Payment in Lieu of Taxes	\$ 366,907
Less: Ontario Specified Tax Credits	\$ (38,497)
Less: Provincial instalments paid	 (1,940,000)
Balance owing (refund)	\$ (1,611,590)

Cambridge and North Dumfries Hydro Inc. Period ended December 31, 2012 Regulation 1101(5b.1) Election

The taxpayer hereby elects pursuant to subsection 1101(5b.1) of the Income Tax Regulations of Canada, to include each eligible non-residential building acquired during the year in a separate prescribed class.



Canada Revenue

Agence du revenu du Canada

Code 1201

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 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

Enter one of the following:
86569 7585 RC0001 Business Number (BN)
Social Insurance Number (SIN)
105 Telephone number/extension 110 Fax number (519) 621-3530
120 Telephone number/extension 125 Fax number
(519) 621-3530
1 Yes 2 No
156 % 157 BN or SIN

Part 2 - Project information

CRA internal form identifier 060 Code 1101

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.	
I elect to use the proxy method (Enter "0" on line 360. Complete Part 5 and you do not need to track any expenditure incurred for overhead)	
I choose to use the traditional method (Enter "0" on line 355. Complete line 360, and track any expenditure incurred for overhead)	

Outline D. Outline of the office of the outline outline of the outline outline of the outline outl	
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	144,897
b) Specified employees for work performed in Canada	144,077
	144,897
	144,077
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)	
• Salary or wages identified on line 315 in prior years that were paid in this tax year	
Salary or wages incurred in the year but not paid within 180 days of the tax year end	
• Cost of materials consumed in performing SR&ED	
• Cost of materials transformed in performing SR&ED	
Contract expenditures for SR&ED performed on your behalf:	
a) Arm's length contracts	39,850
b) Non-arm's length contracts	
• Lease costs of equipment used:	
a) All or substantially all (90% of the time or more) for SR&ED	
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)	
	104 747
Total current SR&ED expenditures (add lines 306 to 370; do not add line 315)	184,747
(Corporations need to adjust line 118 of schedule T2SCH1)	25 427
• Capital Expenditures (see guide for what qualifies for SR&ED) (Do not include those expital expenditures on schedule T2SCH8)	35,637
(Do not include these capital expenditures on schedule T2SCH8) Total allowable SR&ED expenditures (add lines 380 and 390) 400 =	220.204
Total allowable SR&ED expenditures (add lines 380 and 390)	220,384
Section C – Calculation of pool of deductible SR&ED expenditures (to the nearest dollar)	
Amount from line 400	220,384
Deduct	
• provincial government assistance for expenditures included on tine 400	9,917
• other government assistance for expenditures included on line 400	
• non-government assistance for expenditures included on line 400	
• SR&ED ITCs applied and/or refunded in the prior year (see guide)	90,136
• sale of SR&ED capital assets and other deductions	
Subtotal (line 420 minus lines 429 to 440)	120,331
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)	
• SR&ED expenditure pool transfer from amalgamation or wind-up	
• amount of SR&ED ITC recaptured in the prior year	
Amount available for deduction (add lines 442 to 453)	120,331
(enter positive amount only, include negative amount in income)	
• Deduction claimed in the year	120,331
Pool balance of deductible SR&ED expenditures to be carried forward to future years (line 455 minus 460) 470 =	

^{*} Form T1263, Third-Party Payments for Scientific Research and Experimental Development (SR&ED)

Part 4 – Calculation of qualified SR&ED expenditures for investment tax credit (ITC) purposes

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 line 380 and 390)	184,747	496	35,637
Add			
• payment of prior years' unpaid amounts (other than salary or wages)			
• prescribed proxy amount (complete Part 5)			
(Enter "0" if you use the traditional method)	88,134		
expenditures on shared-use equipment (see guide)		504 +	
• qualified expenditures transferred to you (complete Form T1146**) 508 +		510 +	
Subtotal (add lines 492 to 508, and add lines 496 to 510)	272,881	512 =	35,637
Deduct			
• provincial government assistance	12,279	514 -	1,604
• other government assistance		516 -	· · · · · · · · · · · · · · · · · · ·
• non-government assistance and contract payments		518 -	
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 expenditures included on lines 340 and 370 that were incurred after December 31, 2012			
• prescribed expenditures not allowed by regulations (see guide)		532	
other deductions (see guide)	<u> </u>	535 -	
• non-arm's length transactions	\ <i>/</i>		
- assistance allocated to you (complete Form T1145*)		540 -	
 expenditures for non-arm's length SR&ED contracts (from line 345) adjustments to purchases (limited to costs) of goods and services from 			
non-arm's length suppliers (see guide)		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 =	260,602	558 = _	34,033
Qualified SR&ED expenditures (add lines 557 and 558)		559 = _	294,635
Add		560 +	
repayments of assistance and contract payments made in the year		. 30U T	
Total qualified SR&ED expenditures for ITC purposes (add lines 559 and 560)		570 =	294,635

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

Section A - Salary base

Part 5 – Calculation of prescribed proxy amount (PPA)

A notional amount representing your overhead and other expenditures.

This part calculates the PPA to enter on line 502 in Part 4. Do not complete this part if you have chosen to use the traditional method in Part 3 (line 162). You can only claim a PPA if you elected to use the proxy method for the year in Part 3 (line 160).

Special rules apply for specified employees. Calculate your salary base in Section A and the PPA in section B.

I (line 810 minus 812)						. 814 =	
or wages of specified e	mployees						
850	852	854	856	858	860		
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6		
Name of specified employee	Total salary or wages for the year (SR&ED and non-SR&ED) excluding bonuses, remuneration based on profits, and taxable benefits (to the nearest dollar)	% of time spent on SR&ED (maximum 75%)	Amount in column 2 multiplied by percentage in column 3	2,5 x A x B/365 A = Year's maximum pensionable earnings B = Number of days employed in taxyear	Amount in column 4 or 5, whichever amount is less		

Section B – Prescribed proxy amount (PPA)		
Enter 65% of the salary base (line 818) less 5% of the salary base for the number of 2013 calendar days in the tax year		
	0 =	88,134
Enter the amount from line 820 on line 502 in Part 4 unless the overall cap on PPA applies to you.		
(See the guide for explanation and example of the overall cap on PPA)		

Part 6 - Project costs

Salary base (total of lines 814 and 816)

Information requested in this part must be provided for **all** SR&ED projects claimed in the year. Expenditures should be recorded and allocated on a project basis.

750	752	754	756
Project title or identification code	Salary or wages in the tax year	Cost of materials in the tax year	Contract expenditures for SR&ED performed on your behalf in the tax year
	(Total of lines 306 to 309)	(Total of lines 320 and 325)	(Total of lines 340 and 345)
CNH2012-03-01 Reliable/Real-time Smart Grid Techniques	144,897		39,850
Total	144,897		39,850

135,591

Part 7 – Additional information

Expenditures for SR&ED performed by you in Canada (line 400 minus lines 307, 309, 340, 345, and 370)		180,534
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 <u>600</u>	100.000	
Parent companies, subsidiaries, and affiliated companies	6	604
Federal grants (do not include funds or tax credits from SR&ED tax incentives)		
Federal contracts		
Provincial funding		
SR&ED contract work performed for other companies on their behalf	6	514
Other funding (e.g., universities, foreign governments) 616		518
Enter the number of SR&ED personnel in full-time equivalents (FTE):	_	
Scientists and engineers	6	332 1
Technologists and technicians	6	534 1
Managers and administrators	6	336 1
Other technical supporting staff	6	538 1

Part 8 - Claim checklist

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 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

PREPARED SOLELY FOR INCOME TAX PURPOSES WITHOUT AUDIT OR REVIEW FROM INFORMATION PROVIDED BY THE TAXPAYER.

Part 9 - Certification

	o commodicin		
I certi	ify that I have examined the information provided on this form and on the attachments	and it is true, correct, and complete.	
165	SARAH HUGHES		170 2013-06-25
	Name of authorized signing officer of the corporation, or individual	Signature	Date
175	KPMG LLP	_	
	Name of person/firm who completed this form		

^{**} 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 2 - Project information (continued)

Project number 1 CRA internal form identifier 060

Complete a separate Part 2 for each project claimed this year.	.01
Section A – Project identification	
200 Project title (and identification code if applicable)	
CNH2012-03-01 Reliable/Real-time Smart Grid Techniques	
Project start date 204 Completion or expected completion date 206 Field of science or technology code (See guide for list of codes)	
2011-11 2013-08	
Year Month Year Month 2.02.06 Communication engineering and systems	
Project claim history	
208 1 Continuation of a previously claimed project 210 1 X First claim for the project	
Was any of the work done jointly or in collaboration with other businesses?	_
If you answered yes to line 218, complete lines 220 and 221.	
220 Names of the businesses 221 BN	_
indiffes of the pushlesses	
	_
2	_
3	
The work was carried out (Check any that apply)	
223 1 In a laboratory 226 1 X In a commercial plant or facility	
224 1 In a dedicated research facility 228 1 Others, specify 229	
Purpose of the work	=
To achieve technological advancement for the purpose of creating new or improving existing materials, devices, products or processes. (Go to Section B – Experimental development) To achieve technological advancement for the purpose of creating new or improving existing materials, devices, products or processes. (Go to Section C – Basic or applied research)	
Section B – Experimental development	
The technological advancements you were trying to achieve with this work were required for:	
Materials, devices, or products Processes	
The creation of new 235 1 236 1	
The improvement of existing 1 X 238 1	
	_
What technological advancements were you trying to achieve? (Maximum 50 lines)	
1. Cambridge and North Dumfries Hydro Inc. (the Company, Cambridge Hydro) is a	
2. local electricity distribution company which delivers power to over 50,000	
3. homes and businesses in and around the City of Cambridge and the Township of	
4. North Dumfries. 5.	
6. Cambridge Hydro sought to develop techniques that would enable the Company to	
7. efficiently manage electric distribution within a real-time spatial framework.	
8. However, challenges were anticipated due to unsupported legacy issues	
9. associated with the existing spatial framework and the need to integrate a	
10. wide range of systems with disparate interfaces.	
11.	
12. This project represents a technological advancement in the field of	
13. communication engineering and systems. If this project is successful,	
14. Cambridge Hydro would have: 15.	
1-2.	
16 developed a reliable smart grid framework that can provide geo-referenced	
16 developed a reliable smart grid framework that can provide geo-referenced 17. monitoring and grid management for current operating and electric network	

What **technological** advancements were you trying to achieve? (*Maximum 50 lines*)

- 19. such as geographic information system (GIS), electric network control system,
- 20. etc.
- 21.

2.

- 22. developed flexible and reusable interfaces capable of secure and real-time
- 23. communications involving various distributed internal/external systems such as
- 24. customer information system (CIS), time of use (TOU) system, Meter Data
- 25. Management Repository (MDM/R), etc, while ensuring 100% accuracy for data
- 26. query and update.

What **technological** obstacles/uncertainties did you have to overcome to achieve the technological advancements described in Line 240? (Maximum 50 lines)

- 1. In FY2012, Cambridge Hydro addressed the following obstacles:
- 3. Cambridge Hydro sought to develop a reliable smart grid framework that can
- 4. provide geo-referenced monitoring and grid management. However, the legacy
- 5. control system could not provide reliable monitoring due to the isolated data
- 6. sources. Therefore, the Company was uncertain about how to develop techniques
- 7. to consolidate unstructured geographic data from various sources and how to
- 8. transform legacy connectivity data, etc. into structures that are easier to
- 9. manage. In addition, due to the large volume geographic data (i.e., more than
- 10. 3000 construction drawings), Cambridge Hydro was uncertain about how to
- 11. develop techniques to provide reliable monitoring and management while
- 12. ensuring seamless integration and interactions between internal and vendor-
- 13. based systems with disparate interfaces.
- 14.
- 15. Cambridge Hydro sought to develop flexible and reusable interfaces that can
- 16. provide secure and real-time communication between internal and external
- 17. systems that were not designed to work together. In order to achieve this, the
- 18. Company hypothesized that the development of an abstract layer would provide
- 19. real-time communication across multiple distributed systems. However, due to
- 20. incompatibilities between the new layer and legacy interfaces, achieving
- 21. reliable data exchange and access was a challenge. In addition, there were
- 22. uncertainties regarding secured data transmissions due to inherent
- 23. cryptographic limitations within proprietary systems.
- 24.

What work did you perform in the tax year to overcome the technological obstacles/uncertainties described in Line 242? (Summarize the systematic investigation) (Maximum 100 lines)

- In FY2012, Cambridge Hydro sought to a reliable smart grid framework to
- 2. provide geo-referenced monitoring and grid management for current operating
- 3. and electric network topology. In a quest to improve system efficiency and
- 4. transaction accuracy, the Company developed techniques to combine all control
- 5. models within a centralized controller. The techniques were based on reusable
- 6. interfaces that facilitated integration with disparate systems/devices. This
- 7. provided flexibility and traceability across various telemetric sources within
- 8. sub-seconds. However, Cambridge Hydro observed inconsistent data between the
- 9. backend control system and the various field devices. Further investigation
- 10. revealed that this issue was caused by changes occurring in the electrical 11. network topology that could not be reliably detected. To address this,
- 12. Cambridge Hydro developed dynamic techniques (such as segmental indexing,
- 13. distributed mapping, etc.) to reliably detect the modifications and validate
- 14. the accuracy of data and network connectivity. In addition, the Company
- 15. developed GIS-connectivity models to represent the field entities such as
- 16. poles, switches, etc. In particular, Cambridge Hydro developed electric map-
- 17. based control and monitoring techniques to provide interactive visualization
- 18. of spatial entities. The GIS-connectivity models were derived by consolidating
- 19. data from numerous sources (such as construction drawings, topographic
- 20. information, etc.). However, the Company observed that the data overlaps as
- 21. the framework was expanded to include 3000 construction drawings. To resolve

	What work did you perform in the tax year to overcome the technological obstacles/uncertainties described in Line 242? (Summarize the systematic investigation) (<i>Maximum 100 lines</i>)
22.	this problem, Cambridge Hydro developed dynamic cross-checking techniques to
23.	validate entity relationships and eliminate redundancy. In addition, in order
24.	to seamless integrate with external geographic systems, the Company developed
25.	techniques to dynamically and automatically parse and consolidate the incoming
26.	data. By the end of FY, these techniques allowed Cambridge Hydro to provide
27.	reliable and efficient grid management and monitoring. In the upcoming FY,
28.	Cambridge Hydro will continue to investigate techniques to improve the system
29.	scalability while ensuring the data accuracy.
30.	
31.	As part of the development of the real-time grid management, Cambridge Hydro
32.	also sought to investigate techniques for efficient energy management and
33.	flexible integration of electric vehicles (EV). To this end, a pilot study was
34.	initiated to investigate and model the impact of EV load profiles on the grid.
35. 36.	Cambridge Hydro was particularly uncertain about how charging frequencies and
37.	battery autonomy would contribute to peak loads or peak demand shavings. Therefore, through an experimental procedure that involved telemetric
38.	monitoring driving patterns, data was gathered for sensitivity analysis and
39.	long term forecasting. The results would enable the Company to determine
40.	intervention points (e.g., device capacities, protection systems, etc.) for
41.	improving power distribution reliability and efficiencies. This experimental
42.	research will continue in the upcoming FY.
43.	Tobodien will concerne in one apocuming it.
44.	Throughout FY12, Cambridge Hydro sought to develop flexible and reusable
45.	interfaces that would provide secure and real-time communications among
46.	various distributed systems. As the first attempt, the Company developed an
47.	abstract layer to interface with various internal/external systems such as
48.	CIS, TOU, etc. In particular, domain-specific models were developed to provide
49.	real-time data query, computation and update across multiple distributed
50.	systems. However, test results revealed security issues such as the risk of
51.	code injection, etc. Test results revealed that this was caused by the
52.	inherent limitations of the third-party systems (e.g., DotNet Nuke 4) to offer
53.	advanced cryptographies. In addition, the Company also observed compatibility
54.	issues (such as access issues, TOU data fransfer issues, etc.) between the
55.	legacy systems and the new layer. To address these issues, experimentations
56.	were undertaking with vendors to develop secure communication and seamless
57.	integration techniques. The techniques were combined with logic that
58.	dynamically controlled data access and coordinated object inheritance across
59.	various secure domains. In addition, socket-based techniques were developed to
60.	secure the real-time communication and binary data exchange. By the end of FY,
61.	these techniques allowed the company to provide real-time data access while
62.	ensuring 100% data accuracy and data integrity. In the upcoming FY, Cambridge
63.	Hydro will continue improving the system reliability and security.
64.	
Sooti	ion C – Basic or applied research
	What advancements in scientific knowledge were you trying to achieve? (Maximum 50 lines)
1.	
2.	
3.	
4.	
252 \	What work did you perform in the tax year, how did that work contribute to the advancements described in Line 250?
	(Summarize the systematic investigation) (Maximum 100 lines)
1.	
2.	
3.	
4.	

Section D – Additional project information				
Who prepared the responses for Section B or Section C?				
253 Employee directly involved in 254 Name				
Brad Boomer / F	Heath Higgins			
255 1 Other employee of the company	2 5555			
257 1 X External consultant	259 Firm			
KPMG LLP	KPMG LLP			
List the key individuals directly involved in the project and indicate their qualification. Names	- Add			
Names	Qualifications/experience and position title			
1 Sinclair, Ron	Director, Engineering, P.Eng, Bachelor of Applied Science, University of Waterloo, 1988			
2 Higgins, Heath	Supervisor, Information Systems, 14 years IT experience, Honours Bachelor of Commerce, Management Information Systems (MIS), Lakehead University, 2000			
3 Boomer, Brad	Mapping/Surveying Technician, 6 years experience in GIS, Construction Technology Engineering, Conestoga College, 1992			
Are you claiming expenditures for SR&ED carried out on behalf of anothe Are you claiming expenditures for SR&ED performed by people other than				
If you answered yes to line 267, complete lines 268 and 269.				
268 Names of individuals or compar	nies BN			
1 University of Waterloo	11926 0685 RC0001			
2 Eastbridge Electric Ltd.	88887 1118 RC0001			
3 SentryMetrics	86247 4301 RC0001			
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 require	after retain them in the event of a review			
270 1 Project planning documents 276 2 276 2 277 1 Records of resources allocated to the project,	Progress reports, minutes of project meetings Test protocols, test data, analysis of test results,			
1 X Records of resources allocated to the project, time sheets less thanks analysis of test results, conclusions				
272 1 Design of experiments	Photographs and videos			
273 1 Project records, laboratory notebooks 279 1 Samples, prototypes, scrap or other artefacts				
274 1 X Design, system architecture and source code 280 1 X Contracts				
275 1 Records of trial runs 281	1 Others, specify 282			

Federal Tax Instalments

Federal tax instalments

For the taxation year ended 2013-12-31

Business number 86569 7585 RC0001

The following is a list of federal instalments payable for the current taxation year. The last column indicates the instalments payable to Revenue Canada. The instalments are due no later than on the dates indicated, otherwise non-deductible interest will be charged. A cheque or money order should be made payable to the Receiver General. Payment may be made by cheque or money order payable to the Receiver General either to an authorized financial institution or filed with the appropriate remittance voucher to the following address:

Canada Revenue Agency 875 Heron Road Ottawa ON K1A 1B1

Note that you may also be able to pay by telephone or Internet banking. For more information, consult the Corporation Instalment Guide.

Monthly instalment workchart

Date	Monthly tax instalments	Refund transferred to instalments	Instalments paid	Cumulative difference	Instalments payable
_2013-01-31	135,607		120,000	15,607	
2013-02-28	135,607		120,000	31,214	
2013-03-31	5,720		120,000	-83,066	
2013-04-30	5,720		120,000	-197,346	
2013-05-31	5,720			-191,626	
2013-06-30	5,720			-185,906	
2013-07-31	5,720			-180,186	
2013-08-31	5,720			-174,466	
2013-09-30	5,720			-168,746	
2013-10-31	5,720			-163,026	
2013-11-30	5,720			-157,306	
2013-12-31	5,716			-151,590	
2014-01-31	<u> </u>			·	27,368
2014-02-28					27,368
Totals	328,410		480,000		54,736



Canada Revenue

Agence du revenu du Canada

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*. 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 www.cra.gc.ca or Guide T4012, T2 Corporation – Income Tax Guide.

055	Do not use this area

┌ Identification ─────		
Business number (BN) 001 86569 7585 RC0001		
Corporation's name	To which tax year does this return apply?	
002 CAMBRIDGE AND NORTH DUMFRIES HYDRO INC.	Tax year start	Tax year-end
Address of head office		61 2012-12-31
Has this address changed since the last	YYYY MM DD	YYYY MM DD
time we were notified?	Has there been an acquisition of control to which subsection 249(4) applies since	
(If yes, complete lines 011 to 018.)	the previous tax year?	63 1 Yes 2 No X
011 1500 BISHOP ST. N.	If yes , provide the date	_
D12 P.O. BOX 1060 City Province, territory, or state	control was acquired	65
015 CAMBRIDGE 016 ON		YYYY MM DD
Country (other than Canada) Postal code/Zip code	Is the date on line 061 a deemed tax year-en	_
017 018 N1R 5X6		64 1 Yes 2 No X
Mailing address (if different from head office address)	subsection 249(3.11)?	66 1 Yes 2 No X
Has this address changed since the last	Is the corporation a professional	
time we were notified? 020 1 Yes 2 No X	corporation that is a member of a partnership?	67 1 Yes 2 No X
(If yes, complete lines 021 to 028.)		01 1100 Z 110 X
021 c/o	Is this the first year of filing after:	70 1 Yes 2 No X
022 1500 BISHOP ST. N. 023 P.O. BOX 1060		<u> </u>
City Province, territory, or state	Amalgamation?	
025 CAMBRIDGE 026 ON		ledule 24.
Country (other than Canada) Postal code/Zip code	Has there been a wind-up of a subsidiary under section 88 during the	
027 028 N1R 5X6	current tax year?0	72 1 Yes 2 No X
Location of books and records	If yes , complete and attach Schedule 24.	
Has the location of books and records	Is this the final tax year	76 1 Yes 2 No X
changed since the last time we were notified?		70 Tres ZINO A
(If yes, complete lines 031 to 038.)	Is this the final return up to dissolution?	78 1 Yes 2 No X
031 1500 BISHOP ST. N.		76 1103 ZIVO X
032 P.O. BOX 1060	If an election was made under section 261, state the functional	
City Province, territory, or state	currency used	79
035 CAMBRIDGE 036 ON	Is the corporation a resident of Canada?	
Country (other than Canada) Postal code/Zip code		untry of residence on line
038 N1R 5X6		e and attach Schedule 97.
040 Type of corporation at the end of the tax year	081	
1 X Canadian-controlled 1 X Canadian-controlled 4 Corporation controlled	Is the non-resident corporation	
private corporation (CCPC)	claiming an exemption under an income tax treaty?	82 1 Yes 2 No X
2 Other private corporation 5 Other corporation (specify, below)	If yes , complete and attach Schedule 91.	
□ Dublic	If the corporation is exempt from tax under	section 149,
3 Corporation	tick one of the following boxes: 085 1 Exempt under paragraph 1490	(1)(0) 0 (1)
If the type of corporation changed during	085 1 Exempt under paragraph 149(2 Exempt under paragraph 149(
the tax year, provide the effective date of the change	3 Exempt under paragraph 149(
date of the change	4 Exempt under other paragraph	
		113 01 30011011 1 73
Do not use th	is area	
095	096	



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.	
Ye	s Schedule
Is the corporation related to any other corporations?	9
Is the corporation an associated CCPC?	23
Is the corporation an associated CCPC that is claiming the expenditure limit?	49
Does the corporation have any non-resident shareholders who own voting shares?	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	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?	44
Has the corporation paid any royalties, management fees, or other similar payments to residents of Canada?	14
Is the corporation claiming a deduction for payments to a type of employee benefit plan?	15
Is the corporation claiming a loss or deduction from a tax shelter acquired after August 31, 1989?	T5004
Is the corporation a member of a partnership for which a partnership account number has been assigned?	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	_ 13013
with the corporation have a beneficial interest in a non-resident discretionary trust (without reference to section 94)?	22
	25
Has the corporation made any payments to non-residents of Canada under subsections 202(1) and/or 105(1) of the federal <i>Income Tax Regulations</i> ?	20
	29
	T106
For private corporations: Does the corporation have any shareholders who own 10% or more of the corporation's common and/or preferred shares?	50
Has the corporation made payments to, or received amounts from, a retirement compensation plan arrangement during the year?	
, , , , , , , , , , , , , , , , , , ,	1
	1
Has the corporation made any charitable donations; gifts to Canada, a province, or a territory; gifts of cultural or ecological property; or gifts of medicine?	_
Has the corporation received any dividends or paid any taxable dividends for purposes of the dividend refund?	_
Is the corporation claiming any type of losses?	4
Is the corporation claiming a provincial or territorial tax credit or does it have a permanent establishment	٦
in more than one jurisdiction?	5
Has the corporation realized any capital gains or incurred any capital losses during the tax year?	6
i) Is the corporation claiming the small business deduction and reporting income from: a) property (other than dividends deductible on line 320 of the T2 return), b) a partnership, c) a foreign business, or d) a personal services business; or	7 _
III/ doos tile so peration in a caggiogate in social at inite in a	7
	-
Does the corporation have any property that is eligible capital property?	10
Does the corporation have any resource-related deductions?	12
Is the corporation claiming deductible reserves (other than transitional reserves under section 34.2)?	13
Is the corporation claiming a patronage dividend deduction 2	16
Is the corporation a credit union claiming a deduction for allocations in proportion to borrowing or an additional deduction?	17
Is the corporation an investment corporation or a mutual fund corporation?	18
Is the corporation carrying on business in Canada as a non-resident corporation?	20
Is the corporation claiming any federal or provincial foreign tax credits, or any federal or provincial logging tax credits?	21
Does the corporation have any Canadian manufacturing and processing profits?	27
Is the corporation claiming an investment tax credit?	31
Is the corporation claiming any scientific research and experimental development (SR&ED) expenditures?	_
Is the total taxable capital employed in Canada of the corporation and its related corporations over \$10,000,000?	_
Is the total taxable capital employed in Canada of the corporation and its associated corporations over \$10,000,000?	_
	37
	38
· · · · · · · · · · · · · · · · · · ·	42
	43
Is the corporation agreeing to a transfer of the liability for Part VI.1 tax?	45
Is the corporation subject to Part II - Tobacco Manufacturers' surtax?	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?	200
	39
	T1131
Is the corporation claiming a film or video production services tax credit refund?	T1177
Is the corporation subject to Part XIII.1 tax? (Show your calculations on a sheet that you identify as Schedule 92.)	92

Attachments – continued from page 2	Yes Schedule
Did the corporation have any foreign affiliates that are not controlled foreign affiliates?	T1134
Did the corporation have any controlled foreign affiliates?	T1134
Did the corporation own specified foreign property in the year with a cost amount over \$100,000?	T1135
Did the corporation transfer or loan property to a non-resident trust?	T1141
Did the corporation receive a distribution from or was it indebted to a non-resident trust in the year?	T1142
Has the corporation entered into an agreement to allocate assistance for SR&ED carried out in Canada?	T1145
Has the corporation entered into an agreement to transfer qualified expenditures incurred in respect of SR&ED contracts?	T1146
Has the corporation entered into an agreement with other associated corporations for salary or wages of specified employees for SR&ED?	T1174
Did the corporation pay taxable dividends (other than capital gains dividends) in the tax year?	X 55
Has the corporation made an election under subsection 89(11) not to be a CCPC?	T2002
Has the corporation revoked any previous election made under subsection 89(11)?	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?	X 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? 269	54
□ Additional information ─	
Did the corporation use the International Financial Reporting Standards (IFRS) when it prepared its financial statements? 270 1 Yes	2 No X
Is the corporation inactive?	2 No X
What is the corporation's main	
revenue-generating business activity? 221122 _ Electric Power Distribution	
Specify the principal product(s) mined, manufactured, 284 Electricity Distribution	00.000 %
sold, constructed, or services provided, giving the	%
approximate percentage of the total revenue that each product or service represents.	%
	2 No X
	2 No X
	2 No
If the corporation was eligible to remit instalments on a quarterly basis for part of the tax year, provide	2110
the date the corporation ceased to be eligible	
If the corporation's major business activity is construction, did you have any subcontractors during the tax year? 1 Yes	MM DD 2 No
Taxable income	
Net income or (loss) for income tax purposes from Schedule 1, financial statements, or GIFI.	,820,206 A
Deduct: Charitable donations from Schedule 2 10,700	
Gifts to Canada, a province, or a territory from Schedule 2	
Cultural gifts from Schedule 2 313	
Ecological gifts from Schedule 2	
Gifts of medicine from Schedule 2	
Taxable dividends deductible under section 112 or 113, or subsection 138(6) from Schedule 3	
Part VI.1 tax deduction*	
Non-capital losses of previous tax years from Schedule 4	
Net capital losses of previous tax years from Schedule 4	
Restricted farm losses of previous tax years from Schedule 4	
Farm losses of previous tax years from Schedule 4	
Limited partnership losses of previous tax years from Schedule 4	
Taxable capital gains or taxable dividends allocated from	
a central credit union	
Subtotal	10,700 в
	,809,506 C
Add: Section 110.5 additions or subparagraph 115(1)(a)(vii) additions	D
	,809,506
Income exempt under paragraph 149(1)(t)	000 F0/
	,809,506 z
* This amount is equal to 3.5 times the Part VI.1 tax payable at line 724 on page 8. Use 3.2 for tax years ending before 2012.	

Once II have been and a desertion		00000 1000 11000	
Small business deduction Canadian-controlled private corporations (CCPCs) throughout the tax year			
	400	1 020 207	
Income from active business carried on in Canada from Schedule 7	400	1,820,206	A
Taxable income from line 360 on page 3, minus 100/28* 3.57143 of the amount on line 632** on page 7, minus 1/(0.38 - X***) 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	1,809,506	В
Business limit (see notes 1 and 2 below)	410	500,000	С
Notes:			
1. For CCPCs that are not associated, enter \$ 500,000 on line 410. However, if the corporation's tax year is les prorate this amount by the number of days in the tax year divided by 365, and enter the result on line 410.	s than 51 weeks	,	
2. 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 **** 280,421 D =	<u> </u>	12,463,156	E
11,250			
Reduced business limit (amount C minus amount E) (if negative, enter "0")	425		F
Small business deduction			
Amount A, B, C, or F, whichever is the least x 17 % =	430		G
Enter amount G on line 1 on page 7.			
* 10/3 for tax years ending before November 1, 2011. The result of the multiplication by line 632 has to be pro-rated based tax year that are in each period: before November 1, 2011, and after October 31, 2011.	on the number o	of days in the	
** Calculate the amount of foreign non-business income tax credit deductible on line 632 without reference to the refundable investment income (line 604) and without reference to the corporate tax reductions under section 123.4,	tax on the CCP	C's	
*** General rate reduction percentage for the tax year. It has to be pro-rated based on the number of days in the tax year that See page 5.	are in each caler	ndar year.	
**** Calculate the amount of foreign business income tax credit deductible on line 636 without reference to the corporation tax	reductions unde	er 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 4	15 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.

Taxable income fr	om line 360 on page 3*				1,809,506 A
	1 0	9 of Schedule 27			1,007,000
	Part 13 of Schedule 27				
	ousiness income**	43	32	0	
	alculate the credit union ded	·			
		ge 4, whichever is the least			
	nent income from line 440 or			·	
Total of amounts E					⊢
	amount H (if negative, enter		'	<u></u>	1,809,506
Amount A minus	amount ii (ii negative, enter			· · · · · · · · · · · · · · · · · · ·	<u> </u>
Λ ma a m t . l	1 000 506 X	Number of days in the tax year before	Х	10 % =	,
Amount I	1,809,506 ×	January 1, 2011 Number of days in the tax year	^ 366	10 % =	J
		•	300		
Amount I	1,809,506 ×	Number of days in the tax year after December 31, 2010, and before January 1, 2012	х	11.5 % =	k
		Number of days in the tax year	366		,`
		Number of days in the tax year after	550		
Amount I	1,809,506 x	December 31, 2011	366 x	13 % =	235,236 г
		Number of days in the tax year			
Conoral tay radu	ction for Canadian contro	elled private corporations – Total of amounts J to L			235,236 _M
* For tax years	n line 638 on page 7.	11, line 360 or amount Z, whichever applies.			
* For tax years ** For tax years *** Except for a c	ending after October 31, 20 beginning after October 31, corporation that is, throughout	11, line 360 or amount Z, whichever applies.	ssigned by subse	ection 136(2)) or a crec	lit union.
* For tax years ** For tax years *** Except for a c	ending after October 31, 20 beginning after October 31, corporation that is, throughoureduction	11, line 360 or amount Z, whichever applies. 2011. ut the year, a cooperative corporation (within the meaning at			
* For tax years ** For tax years *** Except for a c General tax Do not complete	ending after October 31, 20 beginning after October 31, corporation that is, throughout reduction this area if you are a Cana	11, line 360 or amount Z, whichever applies. 2011. ut the year, a cooperative corporation (within the meaning a	orporation, a mo	ortgage investment c	
* For tax years ** For tax years *** Except for a c General tax On ont complete	ending after October 31, 20 beginning after October 31, corporation that is, throughout reduction this area if you are a Cana	11, line 360 or amount Z, whichever applies. 2011. ut the year, a cooperative corporation (within the meaning at	orporation, a mo	ortgage investment c	
* For tax years ** For tax years *** Except for a c General tax Do not complete a mutual fund co	ending after October 31, 20 beginning after October 31, corporation that is, throughout reduction this area if you are a Cana	11, line 360 or amount Z, whichever applies. 2011. ut the year, a cooperative corporation (within the meaning as adian-controlled private corporation, an investment cotion with taxable income that is not subject to the corporation, whichever applies)	orporation, a mo	ortgage investment c e of 38%.	orporation,
* For tax years ** For tax years *** Except for a c *** General tax Do not complete a mutual fund co Taxable income fr	ending after October 31, 20 beginning after October 31, corporation that is, throughout reduction this area if you are a Canarporation, or any corporation	11, line 360 or amount Z, whichever applies. 2011. ut the year, a cooperative corporation (within the meaning at adian-controlled private corporation, an investment cotion with taxable income that is not subject to the corporation, whichever applies)	orporation, a mo	ortgage investment c e of 38%.	orporation,
* For tax years ** For tax years *** Except for a c General tax Do not complete a mutual fund co Taxable income fr Lesser of amounts	ending after October 31, 20 beginning after October 31, 20 beginning after October 31, corporation that is, throughout reduction this area if you are a Canarporation, or any corporation and page 3 (line 360 or amous V and Y (line Z1) from Part Part 13 of Schedule 27	11, line 360 or amount Z, whichever applies. 2011. ut the year, a cooperative corporation (within the meaning at adian-controlled private corporation, an investment cotion with taxable income that is not subject to the corporation, whichever applies) 19 of Schedule 27	orporation, a mooration tax rate	ortgage investment c	orporation,
* For tax years ** For tax years *** Except for a c General tax Do not complete a mutual fund co Taxable income fr Lesser of amounts	ending after October 31, 20 beginning after October 31, 20 beginning after October 31, corporation that is, throughout reduction this area if you are a Canarporation, or any corporation and page 3 (line 360 or amous V and Y (line Z1) from Part Part 13 of Schedule 27	11, line 360 or amount Z, whichever applies. 2011. ut the year, a cooperative corporation (within the meaning at adian-controlled private corporation, an investment cotion with taxable income that is not subject to the corporation, whichever applies) 19 of Schedule 27	orporation, a mooration tax rate	ortgage investment c	orporation,
* For tax years ** For tax years *** Except for a c General tax Do not complete a mutual fund co Taxable income from the complete of a mounts Amount QQ from the complete of a mounts Personal service by	ending after October 31, 20 beginning after October 31, 20 beginning after October 31, corporation that is, throughout reduction this area if you are a Canarporation, or any corporation and page 3 (line 360 or amous V and Y (line Z1) from Part Part 13 of Schedule 27	11, line 360 or amount Z, whichever applies. 2011. ut the year, a cooperative corporation (within the meaning as adian-controlled private corporation, an investment contion with taxable income that is not subject to the corporation, whichever applies) 19 of Schedule 27	orporation, a mo	ortgage investment c e of 38%. O P	orporation,
* For tax years ** For tax years *** Except for a c General tax Do not complete a mutual fund co Taxable income from the complete of a mounts Amount QQ from the complete of a mounts Personal service by	ending after October 31, 20 beginning after October 31, 20 reduction this area if you are a Canarporation, or any corporation or any corporation are a Canarporation, or any corporation and 20 beginning after October 31, 20 this area if you are a Canarporation, or any corporation are a Canarporation and 20 solvent 13 of Schedule 27 business income* alculate the credit union deduction	11, line 360 or amount Z, whichever applies. 2011. ut the year, a cooperative corporation (within the meaning as adian-controlled private corporation, an investment contion with taxable income that is not subject to the corporation, whichever applies) 19 of Schedule 27	orporation, a mo	ortgage investment c e of 38%. O P	orporation,
* For tax years ** For tax years *** Except for a c General tax Do not complete a mutual fund co Taxable income from Lesser of amounts Amount QQ from Personal service b Amount used to ca Total of amounts of	ending after October 31, 20 beginning after October 31, 20 reduction this area if you are a Canarporation, or any corporation or any corporation are a Canarporation, or any corporation and 20 beginning after October 31, 20 this area if you are a Canarporation, or any corporation are a Canarporation and 20 solvent 13 of Schedule 27 business income* alculate the credit union deduction	11, line 360 or amount Z, whichever applies. 2011. ut the year, a cooperative corporation (within the meaning at adian-controlled private corporation, an investment contion with taxable income that is not subject to the corporation, and investment in the corporation of Schedule 27. 19 of Schedule 27. 42. uction from Schedule 17.	orporation, a mo	ortgage investment c e of 38%. O P	orporation,
* For tax years ** For tax years *** Except for a c General tax Do not complete a mutual fund co Taxable income from Lesser of amounts Amount QQ from Personal service b Amount used to ca Total of amounts of	ending after October 31, 20 beginning after October 31, 20 beginning after October 31, 20 beginning after October 31, 20 reduction this area if you are a Canarporation, or any corporation om page 3 (line 360 or amous V and Y (line Z1) from Part Part 13 of Schedule 27 business income*	11, line 360 or amount Z, whichever applies. 2011. If the year, a cooperative corporation (within the meaning as adian-controlled private corporation, an investment contion with taxable income that is not subject to the corporation, whichever applies) 19 of Schedule 27 I uction from Schedule 17	orporation, a mo	ortgage investment c e of 38%. O P	orporation,
* For tax years *** For tax years *** Except for a c General tax Do not complete a mutual fund co Taxable income fr Lesser of amounts Amount QQ from I Personal service b Amount used to ca Total of amounts of	ending after October 31, 20 beginning after October 31, 20 beginning after October 31, 20 beginning after October 31, 20 reduction this area if you are a Canarporation, or any corporation om page 3 (line 360 or amous V and Y (line Z1) from Part Part 13 of Schedule 27 business income*	11, line 360 or amount Z, whichever applies. 2011. It the year, a cooperative corporation (within the meaning as adian-controlled private corporation, an investment contion with taxable income that is not subject to the corporation and investment contion with taxable income that is not subject to the corporation and investment contion with taxable income that is not subject to the corporation and investment contion with taxable income that is not subject to the corporation (within the meaning as adian-controlled private corporation and investment controlled private corporati	orporation, a mooration tax rate	ortgage investment ce of 38%. O P Q R R	orporation,
* For tax years *** For tax years *** Except for a c General tax Do not complete a mutual fund co Taxable income fr Lesser of amounts Amount QQ from I Personal service b Amount used to ca Total of amounts of	ending after October 31, 20 beginning after October 31, 20 beg	11, line 360 or amount Z, whichever applies. 2011. If the year, a cooperative corporation (within the meaning as adian-controlled private corporation, an investment contion with taxable income that is not subject to the corporation and investment contion with taxable income that is not subject to the corporation and investment contion with taxable income that is not subject to the corporation and investment contion with taxable income that is not subject to the corporation (within the meaning as addian-controlled private corporation).	orporation, a mooration tax rate	ortgage investment c e of 38%. O P	orporation,
* For tax years *** For tax years *** Except for a c General tax Do not complete a mutual fund co Taxable income fr Lesser of amounts Amount QQ from I Personal service b Amount used to ca Total of amounts of	ending after October 31, 20 beginning after October 31, 20 beg	11, line 360 or amount Z, whichever applies. 2011. If the year, a cooperative corporation (within the meaning at adian-controlled private corporation, an investment contion with taxable income that is not subject to the corporation, whichever applies) 19 of Schedule 27 I uction from Schedule 17 I wumber of days in the tax year before January 1, 2011 Number of days in the tax year	orporation, a mooration tax rate	ortgage investment ce of 38%. O P Q R R	orporation,
* For tax years ** For tax years *** Except for a c General tax Do not complete a mutual fund co Faxable income fr Lesser of amounts Amount QQ from Personal service be Amount used to ca Fotal of amounts Amount N minus Amount T	ending after October 31, 20 beginning after October 31, 20 beg	11, line 360 or amount Z, whichever applies. 2011. If the year, a cooperative corporation (within the meaning as adian-controlled private corporation, an investment contion with taxable income that is not subject to the corporation and investment contion with taxable income that is not subject to the corporation and investment contion with taxable income that is not subject to the corporation and investment contion with taxable income that is not subject to the corporation (within the meaning as addian-controlled private corporation).	orporation, a mooration tax rate	ortgage investment ce of 38%. OPP P Q R N 10 % =	orporation,
* For tax years ** For tax years *** Except for a c General tax Do not complete a mutual fund co Taxable income fr Lesser of amounts Amount QQ from Personal service b Amount used to ca Total of amounts Amount N minus Amount T	ending after October 31, 20 beginning after October 31, 20 beginning after October 31, 20 reduction this area if you are a Canarporation, or any corporation om page 3 (line 360 or amous V and Y (line Z1) from Part Part 13 of Schedule 27 business income* alculate the credit union deductor of R amount S (if negative, enter	11, line 360 or amount Z, whichever applies. 2011. In the year, a cooperative corporation (within the meaning as adian-controlled private corporation, an investment contion with taxable income that is not subject to the corporation and the corporation are subject to the corporation are subj	orporation, a motoration tax rate	ortgage investment ce of 38%. O P Q R R	orporation,
* For tax years ** For tax years *** Except for a c General tax Do not complete a mutual fund co Taxable income fr Lesser of amounts Amount QQ from Personal service b Amount used to ca Total of amounts Amount N minus Amount T	ending after October 31, 20 beginning after October 31, 20 beginning after October 31, 20 reduction this area if you are a Canarporation, or any corporation om page 3 (line 360 or amous V and Y (line Z1) from Part Part 13 of Schedule 27 business income* alculate the credit union deductor of R amount S (if negative, enter	11, line 360 or amount Z, whichever applies. 2011. ut the year, a cooperative corporation (within the meaning at adian-controlled private corporation, an investment contion with taxable income that is not subject to the corporation (within the meaning at adian-controlled private corporation, an investment contion with taxable income that is not subject to the corporation (within the meaning at adian-controlled private corporation, an investment contion with taxable income that is not subject to the corporation (within the meaning at adian-controlled private corporation, an investment contion with taxable income that is not subject to the corporation (within the meaning at adian-controlled private corporation). 19 of Schedule 27 10 of Schedule 27 10 of Schedule 27 10 of Schedule 27 10 of Schedule 27 11 Number of days in the tax year before January 1, 2011 Number of days in the tax year after December 31, 2010, and before January 1, 2012 Number of days in the tax year after December 31, 2010, and before January 1, 2012	orporation, a motoration tax rate	Ortgage investment coe of 38%. O P Q R R M M M M M M M M M M M M M M M M M	orporation,
* For tax years ** For tax years *** Except for a c General tax Do not complete a mutual fund co Taxable income from Lesser of amounts Amount QQ from Personal service b Amount used to ca Total of amounts of	ending after October 31, 20 beginning after October 31, 20 beginning after October 31, 20 reduction this area if you are a Canarporation, or any corporation om page 3 (line 360 or amous V and Y (line Z1) from Part Part 13 of Schedule 27 business income* alculate the credit union deductor of R amount S (if negative, enter	11, line 360 or amount Z, whichever applies. 2011. If the year, a cooperative corporation (within the meaning as adian-controlled private corporation, an investment contion with taxable income that is not subject to the corporation and the corporation are subject to the corporation are subject to the corporation and the corporation are subject to the corporation are subject to the corporation and subject to the corporation are subject to the	orporation, a motoration tax rate	ortgage investment ce of 38%. OPP P Q R N 10 % =	orporation,

* For tax years beginning after October 31, 2011.

┌ Refundable portion of Part I tax	Υ	
Canadian-controlled private corporations		
Aggregate investment income from Schedule 7	440 x 26 2 / 3 % =	A
Foreign non-business income tax credit from I	line 632 on page 7	
Deduct:		
Foreign investment income from Schedule 7	445 x 9 1 / 3 % = (if negative, enter "0") ►	В
Amount A minus amount B (if negative, enter	er "0")	c
Taxable income from line 360 on page 3	1,809,506	
Deduct:		
Amount from line 400, 405, 410, or 425 on p whichever is the least	page 4, · · · · · · · · · · · · · · · ·	
Foreign non-business	25/9*	
income tax credit from line 632 on page 7		
Foreign business income		
tax credit from line 636 on	1(0.38 - X**)	
page 7	x	
	1,809,506	
		2,535 _D
Part I tax payable minus investment tax credit	it refund (line 700 minus line 780 from page 8)	8,498 E
Refundable portion of Part I tax – Amount 0	C, D, or E, whichever is the least	F
* 100/35 for tax years beginning after Octob		
	e tax year. It has to be pro-rated based on the number of days in the tax year that are in each calendar year.	
See page 5.		
┌ Refundable dividend tax on har	nd —————	
Refundable dividend tax on hand at the end of		
Deduct: Dividend refund for the previous tax y	year	
Add the total of:		G
Refundable portion of Part I tax from line 450	i0 above	
Total Part IV tax payable from Schedule 3		
Net refundable dividend tax on hand transfer		
amalgamation, or from a wound-up subsidiar	ary corporation	
		H
Refundable dividend tax on hand at the er	end of the tax year — Amount G plus amount H	
Dividend refund		
Dividend refund	me taxable dividends were paid in the tax year	
		2,667 I
Taxable dividends paid in the tax year from li	· · · · · · · · · · · · · · · · · · ·	<u>4,007</u> I
Refundable dividend tax on hand at the end	of the tax year from line 485 above	J
Dividend refund – Amount I or J, whichever	r is less (enter this amount on line 784 on page 8)	

Part I tax			
Base amount of Part I tax – Taxable income from page 3 (line 360 or amount			687,612_ A
Recapture of investment tax credit from Schedule 31 Calculation for the refundable tax on the Canadian-controlled private co	orporation's (CCPC) investment in		6
(if it was a CCPC throughout the tax year)	, , , , , , , , , , , , , , , , , , , ,		
	<u> </u>	i	
Taxable income from line 360 on page 3	1,809,506		
Deduct: Amount from line 400, 405, 410, or 425 on page 4, whichever is the least			
Net amount		1,809,506 ii	
Refundable tax on CCPC's investment income – 6 2 / 3 % of v	· · · · · · · · · · · · · · · · · · ·	604	
Refundable tax on CCPC's investment income – 6 2 / 3 % OIV	whichever is less; amount for ii		
	Subto	otal (add amounts A to C)	687,612 D
Deduct:			
Small business deduction from line 430 on page 4		1	
Federaltaxabatement		180,951	
Manufacturing and processing profits deduction from Schedule 27	616		
Investment corporation deduction		<u> </u>	
Taxed capital gains 624			
Additional deduction – credit unions from Schedule 17	628		
Federal foreign non-business income tax credit from Schedule 21			
Federal foreign business income tax credit from Schedule 21	636		
General tax reduction for CCPCs from amount M on page 5	A 100 No.	235,236	
General tax reduction from amount X on page 5			
Federal logging tax credit from Schedule 21			
Federal qualifying environmental trust tax credit			
Investment tax credit from Schedule 31	652	62,927	
	Subtotal	479,114	479,114 E
	<u></u>		
Part I tax payable – Amount D minus amount E)		208,498 F
Enter amount F on line 700 on page 8.			

┌ Summary of tax and credits ────	
Federal tax	
Part I tax payable from page 7	
Part II surtax payable from Schedule 46	
Part III.1 tax payable from Schedule 55	
Part IV tax payable from Schedule 3	
Part IV.1 tax payable from Schedule 43	
Part VI tax payable from Schedule 38	
Part VI.1 tax payable from Schedule 43	707
Part XIII.1 tax payable from Schedule 92	
Part XIV tax payable from Schedule 20	
Add provincial or territorial tax:	Total federal tax208,498
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)	760 119,912
Provincial tax on large corporations (Nova Scotia Schedule 342)	765
(The Nova Scotia tax on large corporations is eliminated effective July 2012.)	119,912 > 119,912
Deduct other credits:	Total tax payable 770 328,410_ A
Investment tax credit refund from Schedule 31	780
Dividend refund from page 6	784
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	
Provincial and territorial capital gains refund from Schedule 18	808
Provincial and territorial refundable tax credits from Schedule 5	812 840 1,940,000
Tax instalments paid	
Refund code 894 1 Overpayment1,611,590 ◀	Balance (amount A minus amount B)
Direct deposit request	If the result is negative, you have an overpayment .
To have the corporation's refund deposited directly into the corporation's bank	If the result is positive, you have a balance unpaid .
account at a financial institution in Canada, or to change banking information you	Enter the amount on whichever line applies.
already gave us, complete the information below:	Generally, we do not charge or refund a difference
Start Change information 910 Branch number	of \$2 or less.
914	Balance unpaid
Institution number Account number	Enclosed payment 898
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?	
If this return was prepared by a tax preparer for a fee, provide their EFILE number	
L CONTROL OF THE CONT	
PREPARED SOLELY-FOR-INCOME TAX PURPOSES WITHOUT AUDIT OR REVIEW FR	OM INFORMATION PROVIDED BY THE TAXPAYER.
	050
I, 950 HUGHES 951 SARAH Last name (print) First name (print)	954 CFO
Last name (print) First name (print) am an authorized signing officer of the corporation. I certify that I have examined this return, inc	,
the information given on this return is, to the best of my knowledge, correct and complete. I also	o 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	ent attached to this return.
955 2013-06-25	956 (519) 621-3530
Date (yyyy/mm/dd) Signature of the authorized signing officer of the	·
Is the contact person the same as the authorized signing officer? If no , complete the information	
958	959
Name (print)	Telephone number
Language of correspondence – Langue de correspondance	
Indicate your language of correspondence by entering 1 for English or 2 for French.	990 1
Indiquez votre langue de correspondance en inscrivant 1 pour anglais ou 2 pour français.	990 1

2012-12-31



Canada Revenue Agency

Agence du revenu du Canada

SCHEDULE 100

GENERAL INDEX OF FINANCIAL INFORMATION – GIFI

Form identifier 100	GENERAL INDEX OF FINANCIAL INFORMATION – GIFI			
Name of corporation		Business Number	Tax year end Year Month Day	
CAMBRIDGE AND NORTH D	UMFRIES HYDRO INC.	86569 7585 RC0001	2012-12-31	

Balance sheet information

Account	Description	GIFI	Current year	Prior year
Assets —				
	Total current assets	1599 +	49,626,000	38,489,000
	Total tangible capital assets	2008 +	192,671,000	176,338,000
	Total accumulated amortization of tangible capital assets	2009 –	96,587,000	90,948,000
	Total intangible capital assets	. 2178 +		
	Total accumulated amortization of intangible capital assets	2179 –		
	Total long-term assets	2589 +	33,455,000	20,111,000
	*Assets held in trust	2590 +		
	Total assets (mandatory field)	2599 = _	179,165,000	143,990,000
Liabilities				
	Total current liabilities	🦲 3139 ↔	34,027,000	27,232,000
	Total long-term liabilities	3450 +	74,882,000	48,797,000
	* Subordinated debt	3460 +		
	*Amounts held in trust). <mark>3470</mark> + _		
	Total liabilities (mandatory field)	3499 =	108,909,000	76,029,000
Sharehol	der equity			
	Total shareholder equity (mandatory field)	3620 +	70,256,000	67,961,000
	Total liabilities and shareholder equity	3640 = _	179,165,000	143,990,000
Retained	earnings			
		3849 =	32,032,000	29,737,000

^{*} Generic item

PREPARED SOLELY FOR INCOME TAX PURPOSES WITHOUT AUDIT OR REVIEW FROM INFORMATION PROVIDED BY THE TAXPAYER.



Canada Revenue

Agence du revenu du Canada

SCHEDULE 125

Form identifie	GENERAL INDEX OF FINANCIAL INFORMATIO	N – GIFI	
Name of corpo	pration	Business Number	Tax year end Year Month Day
CAMBRIDG	E AND NORTH DUMFRIES HYDRO INC.	86569 7585 RC0001	2012-12-31
Income st	atement information		
Description	GIFI		
Operating nam			
Description of			
Sequence nun	nber 0003 <u>01</u>		
Account	Description GIF	FI Current year	Prior year
Income s	tatement information		
	_ Total sales of goods and services	191,523,000	
	Cost of sales	8 – 166,496,000	131,568,000
	Gross profit/loss	9 25,027,000	23,655,000
	Cost of sales	166,496,000	131,568,000
	Total operating expenses936		
	Total expenses (mandatory field) 936	187,636,000	150,806,000
	Total revenue (mandatory field)	9 + 193,282,000	159,164,000
	Total expenses (mandatory field) 936		
	Net non-farming income 936		_
- Farming	income statement information		
	_ Total farm revenue (mandatory field)		
	_ Total farm expenses (mandatory field)		_
	Net farm income	9 =	= ======
	Net income/loss before taxes and extraordinary items	5,646,000	8,358,000

PREPARED SOLELY FOR INCOME TAX PURPOSES WITHOUT AUDIT OR REVIEW FROM INFORMATION PROVIDED BY THE TAXPAYER.

9998 =

9975

9976

9980

9985

9995

9998

9999

403,000

5,243,000

1,458,000

6,900,000

Total other comprehensive income

Future (deferred) income tax provision

Total-Other comprehensive income

Extraordinary item(s)

Unrealized gains/losses

Current income taxes

Legal settlements

Unusual items

Extraordinary items and income (linked to Schedule 140)

Net income/loss after taxes and extraordinary items (mandatory field)



Canada Revenue

Agence du revenu du Canada

Schedule 141

Notes checklist

Corporation's name	Business number	Tax year-end Year Month Day
CAMBRIDGE AND NORTH DUMFRIES HYDRO INC.	86569 7585 RC0001	2012-12-31

- 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 Guide 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?	
Is the accountant connected* with the corporation?	=
* 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.	
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.	
Part 2 – Type of involvement with the financial statements	
Choose the option that represents the highest level of involvement of the accountant:	
Completed an auditor's report	X
Completed a review engagement report	
Conducted a compilation engagement	
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?	X
¬ 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:	
Prepared the tax return (financial statements prepared by client)	
Prepared the tax return and the financial information contained therein (financial statements have not been prepared)	
Were notes to the financial statements prepared? 101 1 Yes X 2 No	
If yes, complete lines 104 to 107 below:	
Are subsequent events mentioned in the notes? 2 No	X
Is re-evaluation of asset information mentioned in the notes?	X
Is contingent liability information mentioned in the notes? 2 No	X
Is information regarding commitments mentioned in the notes?	
Does the corporation have investments in joint venture(s) or partnership(s)?	X



Part 4 – Other information (continued)					
Impairment and fair value changes					
In any of the following assets, was an amount recognized in net incon result of an impairment loss in the tax year, a reversal of an impairme change in fair value during the tax year?		ax year, or a	. 200 1	Yes	2 No X
If yes, enter the amount recognized:	In net income Increase (decrease)	In OCI Increase (decrease)			
Property, plant, and equipment	0	211	_		
Intangible assets	5	216	_		
Investment property	0				
Biological assets	5				
Financial instruments		231	_		
Other 235	5	236	_		
Financial instruments					
Did the corporation derecognize any financial instrument(s) during the	e tax year (other than trade receiv	ables)?	. 250 1	Yes	2 No X
Did the corporation apply hedge accounting during the tax year?			. 255 1 Y	Yes	2 No X
Did the corporation discontinue hedge accounting during the tax year	?		. 260 1 Y	Yes	2 No X
Adjustments to opening equity					
Was an amount included in the opening balance of retained earnin recognize a change in accounting policy, or to adopt a new account			. 265 1 Y	Yes	2 No X
If yes , you have to maintain a separate reconciliation.					

| * |

Canada Revenue Agency Agence du revenu du Canada

Net Income (Loss) for Income Tax Purposes

SCHEDULE 1

Corporation's name	Business Number	Tax year end
		Year Month Day
CAMBRIDGE AND NORTH DUMFRIES HYDRO INC.	86569 7585 RC0001	2012-12-31

- 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*.

Amount calculated on line 9999 from Schedule 125			5,243,000 A
Add:			
Provision for income taxes – current		403,000	
Interest and penalties on taxes	103	707	
Amortization of tangible assets		4,919,000	
Charitable donations and gifts from Schedule 2		10,700	
Scientific research expenditures deducted per financial statements .		184,747	
Non-deductible meals and entertainment expenses		11,888	
Reserves from financial statements – balance at the end of the year		2,134,935	
	Subtotal of additions	7,664,977	7,664,977
Other additions:			
Miscellaneous other additions:			
Inducement - ITA 12(1)(x)	49,717	7	
Total _	49,717 293	49,717	
604			
Total _	294		
•	Subtotal of other additions 199	49,717 ▶	49,717
	Total additions 500	7,714,694	7,714,694 B
Amount A plus amount B		<u> </u>	12,957,694
Deduct:			
Gain on disposal of assets per financial statements	401	36,000	
Capital cost allowance from Schedule 8		8,825,089	
Cumulative eligible capital deduction from Schedule 10		118,963	
SR&ED expenditures claimed in the year from Form T661 (line 460)	<mark>411</mark>	120,331	
Reserves from financial statements – balance at the beginning of the year	414	2,037,105	
Other deductions:	Subtotal of deductions	11,137,488	11,137,488
Miscellaneous other deductions: 704			
Total _	394		
Su	ubtotal of other deductions 499	0	0
	Total deductions 510	11,137,488	11,137,488
Net income (loss) for income tax purposes – enter on line 300 of the T2	? return	· · · · · · · · · · · · · · · · =	1,820,206

T2 SCH 1 E (12)

Canad'ä

Tax credits whose amount should be added to income

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.

Select	t this check box to add all the amounts to income calculated in Schedule 1.	
Fede	eral	
A X	Investment tax credit from apprenticeship job creation expenditures	4,000
	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.	
	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.	
Onta	rio	
X	Portion of the Ontario research and development tax credit that relates to the prescribed proxy amount (PPA)	7,220
П	Ontario co-operative education tax credit	,
X	Ontario apprenticeship training tax credit	38,497
	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.	
	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.	
	Ontario production services tax credit* * Please verify if the credit amount relates to depreciable property. For more information, press F1 to consult the Help.	
	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.	
	Ontario sound recording tax credit* * Please verify if the credit amount relates to depreciable property. For more information, press F1 to consult the Help	
	Ontario book publishing tax credit	
	Portion of the Ontario innovation tax credit that relates to the prescribed proxy amount (PPA)	
	Ontario business-research institute tax credit	
	Ontario public transit expense tax credit	

Tax credits whose amount should reduce the capital cost of property



Agence du revenu du Canada

SCHEDULE 2

CHARITABLE DONATIONS AND GIFTS

Name of corporation	Business Number	Tax year-end Year Month Day
CAMBRIDGE AND NORTH DUMFRIES HYDRO INC.	86569 7585 RC0001	2012-12-31

- For use by corporations to claim any of the following:
 - -charitable donations:
 - gifts to Canada, a province, or a territory;
 - gifts of certified cultural property;
 - gifts of certified ecologically sensitive land; or
 - additional deduction for gifts of medicine.
- The donations and gifts are eligible for a five-year carryforward.
- Use this schedule to show a credit transfer following an amalgamation or the wind-up of a subsidiary as described under subsections 87(1) and 88(1) of the Income Tax Act.
- For donations and gifts made after March 22, 2004, subsection 110.1(1.2) of the Income Tax Act 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.
- Under proposed changes, the eligible amount of a charitable gift is the amount by which the fair market value of the gift exceeds the amount of an advantage, if any, for the gift.
- Under proposed changes, a gift of medicine made after March 18, 2007, to qualifying organizations for activities outside of Canada, may be eligible for an additional deduction if the gift is an eligible medical gift. This additional deduction is calculated in Part 6.
- File one 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		7	
y	$\nearrow (\nearrow \nearrow)$;	7	Λ
Charity/Recipient			Amount (\$100 or more only)
Conestoga College			5,000
Cambridge Memorial Hospital Foundation	. //		500
United Way of Cambridge & N. Dumfries			3,800
United Way of Cambridge & N. Dumfries			500
Ontario Plowmen's Association			900
		Subtota	10,700
	Add: Total don	ations of less than \$100 each	<u> </u>
		l donations in current tax yea	10 700
	Federal	Québec	Alberta
Charitable donations at the end of the previous tax year			
Deduct: Charitable donations expired after five tax years* 239			
Charitable donations at the beginning of the tax year 240			
Add:			
Charitable donations transferred on an amalgamation or the			
wind-up of a subsidiary			
Total current-year charitable			
donations made (enter this amount on line 112 of Schedule 1)		10,700	
,	10 700		10 700
Subtotal (line 250 plus line 210)	10,700	10,700	10,700
Deduct: Adjustment for an acquisition of control (for donations made after March 22, 2004)			
Total charitable donations available	10,700	10,700	10,700
Deduct: Amount applied against taxable income (cannot be			
more than amount K in Part 2) (enter this amount on	10 700	10.700	10 700
line 311 of the T2 return)	10,700	10,700	10,700
Charitable donations closing balance			
* For the federal and Alberta, the gifts expire after five tax years. For Québec, gifts made	in a tax year that end	ed before March 24, 2006, ex	cpire after five

tax years and gifts made in a tax year that ended after March 23, 2006, expire after twenty tax years.

Year of origin:		Federal	Québec	Alberta
1 st prior year		1-12-31		
2 nd prior year)-12-31		-
3 rd prior year		9-12-31		
4 th prior year		3-12-31		
5 th prior year		7-12-31		-
6 th prior year*		<u> </u>		
7 th prior year		5-12-31		-
8 th prior year		1-12-31		
9 th prior year	· · · · · · · · · · · · · · · · · · ·	3-12-31		
10 th prior year		2-12-31		
11 th prior year		I-12-31		
12 th prior year		D-12-31		
13 th prior year		9-12-31		
14 th prior year		3-12-31		
15 th prior year		7-12-31		
16 th prior year	1996			
17 th prior year		5-12-31		
18 th prior year		1 -12-31	<u> </u>	
19 th prior year		3-12-31	2	
20 th prior year		2-12-31		
21 st prior year*	199	I-12-31		
Total (to line A)				
March 24, 200	l and Alberta, the 6 th prior year gifts expire in the curre 6, expire in the current year and the 21 st prior year gift	s made in a tax year that ended after N	March 23, 2006, expire in the curre	before nt year.
– Part 2 – Ca	lculation of the maximum allowable de	eduction for charitable don	ations ————	
Net income for ta	ax purposes* multiplied by 75 %	()		1,365,155 B
Tavable canital	gains arising in respect of gifts of capital property inclu	uded in Part 1**	25 C	
	gains ansing in respect of gifts of capital property incid gain in respect of deemed gifts of non-qualifying			
securities per su	bsection 40(1.01)	2	27 D	
	the recapture of capital cost	230		
Proceeds of dis	spect of charitable giftsspecifical less	280		
outlays and exp				
Capital cost**		F		
'	whichever is less	235		
Amount on line 2	230 or 235, whichever is less		G	
		Subtotal (add amounts C, D, and	G) H	
	The state of the s	А	mount H multiplied by 25 %	1
	A		btotal (amount B plus amount I)	1,365,155 J
	vable deduction for charitable donations lenter am	nount A from Part 1, amount J, or net in	ncome	10,700 K
for tax purposes	, whichever is less)		· · · · · · · · · · · · · · · · · <u> </u>	10,700 K

For credit unions, 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.

ts to Canada	, a province, or a territory at the end of the previous tax year	<u></u> _		
	Canada, a province, or a territory expired after five tax years	339		
fts to Canada	, a province, or a territory at the beginning of the tax year	340	>	
	Canada, a province, or a territory transferred on an amalgamation	350		
	ndup of a subsidiary rrent-year gifts made to Canada, a province, or a territory*			
Total cui	Trefit-year girls made to Canada, a province, or a territory		ototal (line 350 plus line 310)	
educt: Adiust	ment for an acquisition of control (for gifts made after March 22, 2004)			
•				
-	nt applied against taxable income (enter this amount on line 312 of the	T2 return)		
ifts to Canada	, a province, or a territory closing balance			
	e for gifts made after February 18, 1997, unless a written agreement wa	as made before this date	. If no written	
igreement exi	sts, enter the amount on line 210 and complete Part 2.			
Part 4 – Gi	ifts of certified cultural property —			
		Federal	Québec	Alberta
ifts of certified	cultural property at the end of the previous tax year			
	of certified cultural property expired after five			
tax ye	ars*		<u> </u>	
	certified cultural property transferred on an	&		
	nation or the windup of a subsidiary			
Total cui	rrent-year gifts of certified cultural property 410			
	Subtotal (line 450 plus line 410)		\	
	tment for an acquisition of control (for gifts	V		
made			9	
	after March 22, 2004)		<u> </u>	
otal gifts of cer	after March 22, 2004) 455 tified cultural property available nt applied against taxable income (enter this		/	
otal gifts of cer	after March 22, 2004) 455		7	
otal gifts of cer Deduct: Amou amou	after March 22, 2004) 455 tified cultural property available nt applied against taxable income (enter this		7 	
otal gifts of cer leduct: Amou amou Sifts of certified For the federa	after March 22, 2004) tified cultural property available nt applied against taxable income (enter this nt on line 313 of the T2 return) cultural property closing balance al and Alberta, the gifts expire after five tax years. For Québec, gifts ma		ed before March 24, 2006, ex	pire after five
otal gifts of cer educt: Amou amou lifts of certified For the federa	after March 22, 2004) tified cultural property available nt applied against taxable income (enter this nt on line 313 of the T2 return) l cultural property closing balance 455 460 480		ed before March 24, 2006, ex	pire after five
otal gifts of cer educt: Amou amou ifts of certified For the federa tax years and	after March 22, 2004) tified cultural property available nt applied against taxable income (enter this nt on line 313 of the T2 return) cultural property closing balance al and Alberta, the gifts expire after five tax years. For Québec, gifts ma		ed before March 24, 2006, ex	pire after five
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otal gifts of cer educt: Amou amou ifts of certified For the federa tax years and Amount ca	after March 22, 2004) tified cultural property available nt applied against taxable income (enter this nt on line 313 of the T2 return) cultural property closing balance al and Alberta, the gifts expire after five tax years. For Québec, gifts male gifts made in a tax year that ended after March 23, 2006, expire after the	wenty tax years.		
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cotal gifts of cer educt: Amou amoun ifts of certified For the federa tax years and Amount ca ear of origin: the prior year he prior year	after March 22, 2004) tified cultural property available nt applied against taxable income (enter this nt on line 313 of the T2 return) I cultural property closing balance al and Alberta, the gifts expire after five tax years. For Québec, gifts male gifts made in a tax year that ended after March 23, 2006, expire after the cultural property arried forward – Gifts of certified cultural property 2011, 12-31 2010-12-31 2008-12-31 2008-12-31 2006-12-31 2004-12-31 2001-12-31	wenty tax years.		
cotal gifts of cereduct: Amou amount ifts of certified that years and amount cate ar of origin: and prior year prior yea	after March 22, 2004) tified cultural property available nt applied against taxable income (enter this nt on line 313 of the T2 return) I cultural property closing balance al and Alberta, the gifts expire after five tax years. For Québec, gifts mal gifts made in a tax year that ended after March 23, 2006, expire after to arried forward — Gifts of certified cultural property 2011_42-31 2010-42-31 2008-12-31 2008-12-31 2006-12-31 2004-12-31 2004-12-31 2002-12-31 2001-12-31	wenty tax years.		
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otal gifts of cer educt: Amou amour ifts of certified For the federa tax years and Amount ca ear of origin: The prior year	after March 22, 2004) tified cultural property available nt applied against taxable income (enter this nt on line 313 of the T2 return) I cultural property closing balance al and Alberta, the gifts expire after five tax years. For Québec, gifts ma	wenty tax years.		
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otal gifts of cer educt: Amou amoul ifts of certified For the federa tax years and Amount ca ear of origin: triprior year prior year	after March 22, 2004) tified cultural property available Intapplied against taxable income (enter this int on line 313 of the T2 return) I cultural property closing balance I al and Alberta, the gifts expire after five tax years. For Québec, gifts male gifts made in a tax year that ended after March 23, 2006, expire after five tax years. I cultural property closing balance I al and Alberta, the gifts expire after five tax years. For Québec, gifts male gifts made in a tax year that ended after March 23, 2006, expire after five tax years. I cultural property I cultural property deficiency and the surface of the	wenty tax years.		
otal gifts of cer educt: Amou amoun ifts of certified For the federa tax years and Amount ca ear of origin: the prior year	after March 22, 2004) tified cultural property available Int applied against taxable income (enter this int on line 313 of the T2 return) I cultural property closing balance I al and Alberta, the gifts expire after five tax years. For Québec, gifts may gifts made in a tax year that ended after March 23, 2006, expire after for the arried forward — Gifts of certified cultural property 2011, 12-31 2010-12-31 2008-12-31 2008-12-31 2006-12-31 2004-12-31 2004-12-31 2002-12-31 2001-12-31	wenty tax years.		

	Federal	Québec	Alberta
Gifts of certified ecologically sensitive land at the end of the previous tax year Deduct: Gifts of certified ecologically sensitive land expired after five tax years*			
Sifts of certified ecologically sensitive land at the beginning of ne tax year			
Add: Gifts of certified ecologically sensitive land transferred on an amalgamation or the windup of a subsidiary			
Total current-year gifts of certified ecologically sensitive land 510			
Subtotal (line 550 plus line 510)			
Deduct: Adjustment for an acquisition of control (for gifts made after March 22, 2004) 555			
otal gifts of certified ecologically sensitive land available			
Deduct: Amount applied against taxable income (enter this amount on line 314 of the T2 return)			
Sifts of certified ecologically sensitive land closing balance			
For the federal and Alberta, the gifts expire after five tax years. For Québec, gifts matax years and gifts made in a tax year that ended after March 23, 2006, expire after the state of the federal and gifts made in a tax year that ended after March 23, 2006, expire after the state of the federal and state of the federa		ed before March 24, 2006, ex	pire after five

_ Amounts o	carried forward – Gifts of certified ecologically sensitive land ————	
Year of origin:	Federal	Québec Alberta
1 st prior year	2011-12-31	
2 nd prior year		
3 rd prior year		
4 th prior year		
5 th prior year		
6 th prior year*	2006-12-31	
7 th prior year		
8 th prior year		
9 th prior year		
10 th prior year		
11 th prior year		
12 th prior year		
13 th prior year		
14 th prior year		
15 th prior year		
16 th prior year	1996-12-31	
17 th prior year		
18 th prior year		
19 th prior year		
20 th prior year		
21st prior year*	<u>1</u> 991-12-31	
Total		

^{*} For the federal and Alberta, the 6th prior year gifts expire in the current year. For Québec, the 6th prior year gifts made in a tax year that ended before March 24, 2006, expire in the current year and the 21st prior year gifts made in a tax year that ended after March 23, 2006, expire in the current year.

Part 6 − Additional deduction for g	ifts of medicine ———			
		Federal	Québec	Alberta
Additional deduction for gifts of medicine at the en- Deduct: Additional deduction for gifts of medicine after five tax years	expired			
Additional deduction for gifts of medicine at the beof the tax year	0.40			
Add: Additional deduction for gifts of medicine tr on an amalgamation or the wind-up of a su				
Additional deduction for gifts of medicine for the cu	rrent year:			
Proceeds of disposition	602	1		11
Cost of gifts of medicine	<mark>601</mark>	2		2 2
	Subtotal (line 1 minus line 2)			
Line 3 multiplied by 50 %	<u></u> .	4		44
Eligible amount of gifts	600	5		5 5
	Additional			
Federal	deduction for gifts of medicine for			
A x / B	the current year 610			
(c	-) · · —			
	Additional deduction for gifts	A		
Québec	of medicine for			
A x / B	_ the current year			
\ c) Additional			
	deduction for gifts			
Alberta	of medicine for			
A x (B	_ = the current year			· · <u> </u>
\ c	,			
where:				
A is the lesser of line 2 and line 4				
B is the eligible amount of gifts (line 600)		1		
C is the proceeds of disposition (line 602)				
	Subtotal (line 650 plus line 610)			
Deduct: Adjustment for an acquisition of control	<u>655</u>) _		
Total additional deduction for gifts of medicine avail	lable			
Deduct: Amount applied against taxable income (enter this amount on line 315 of the T2 r	eturn) 660			
Additional deduction for gifts of medicine closing b	/ A >/ n D			
	nol Abel William for althou	f madiaina		
Amounts carried forward – Additio	nar deduction for gifts o	r meaicine		
Year of origin:		Federal	Québec	Alberta
1 st prior year				
2 nd prior year	2010-12-31			
3 rd prior year	2009-12-31			
4 th prior year	2008-12-31			
5 th prior year	2007-12-31			
6 th prior year*				
Total				
* These donations expired in the current year.				
,				

Ouábaa (Sifts of musical instruments		86569 7585 RC00
	Sifts of musical instruments		
	nstruments at the end of the previous tax year		
	musical instruments expired after twenty tax years	<u>-</u>	
	nstruments at the beginning of the tax year	· · · · · · · · · · · · · · · · · · ·	
Add:			
	instruments transferred on an amalgamation or the wind-up of a subsidiary		
i otai current-ye	ear gifts of musical instruments	D plus line E)	
	Subtotal (line	D plus line E)	
Deduct: Adjustm	nent for an acquisition of control	<u> </u>	
Total gifts of mus	ical instruments available	· · · · · · · · ·	
Deduct: Amount	applied against taxable income		
	nstruments closing balance		
Onto or musical r	institution to do sing balance		
- Amounts c	arried forward – Gifts of musical instruments		
			Ouébaa
Year of origin:		11 10 01	Québec
1 st prior year		<u>)11-12-31</u>	
2 nd prior year)10-12-31	
3 rd prior year	Α —	009-12-31	
4 th prior year		008-12-31	
5 th prior year		007-12-31	
6 th prior year*		006-12-31	
7 th prior year		005-12-31 004-12-31	
8 th prior year		004-12-31 003-12-31	
9 th prior year 10 th prior year		003-12-31 002-12-31	
11 th prior year		001-12-31	
12 th prior year		000-12-31	
13 th prior year	18 18 18 18 18 18 18 18 18 18 18 18 18 1	999-12-31	
14 th prior year		998-12-31	
15 th prior year		97-12-31	
16 th prior year	V	96-12-31	
17 th prior year		95-12-31	
18 th prior year		94-12-31	
19 th prior year	AN \ \	993-12-31	
20 th prior year		992-12-31	
21 st prior year*		991-12-31	
Total	——————————————————————————————————————		

T2 SCH 2 E (07)

These gifts expired in the current year.

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DIVIDENDS RECEIVED, TAXABLE DIVIDENDS PAID, AND PART IV TAX CALCULATION

SCHEDULE 3

Name of corporation	Business Number	Tax year-end Year Month Day
CAMBRIDGE AND NORTH DUMFRIES HYDRO INC.	86569 7585 RC0001	2012-12-31

- This schedule is for the use of any corporation 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), (b) or (d); or
 - taxable dividends paid in the tax year that qualify for a dividend refund.
- The calculations in this schedule apply only to private or subject corporations.
- Parts, sections, subsections, and paragraphs referred to on this schedule are from the federal Income Tax Act.
- 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.
- File one completed copy of this schedule with your T2 Corporation Income Tax Return.
- Column A Enter "X" if dividends received from a foreign source (connected corporation only).
- 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.
- Column F3 Enter if dividends have been received or not after December 20, 2012. This information is required for corporations that must complete Schedules 71 and 72. For more details with regards to this column, consult the Help.

Name of payer corporation (from which the corporation received the dividend) A B Enter 1 of connected corporation is connected	pration is connected	
	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 (See note)	E Non-taxable dividend unde section 83
200 205 210	220	230

Note: If your corporation's tax year-end is different than that of the connected payer corporation, your corporation could have received dividends from more than one tax year of the payer corporation. If so, use a separate line to provide the information for each tax year of the payer corporation. For more details, consult the Help.

			/	Complete if payer col	poration is connected	
	F	f 1 f .	2 F3	_	Н	I
	Taxable dividends	Eligible dividends		Total taxable	Dividend refund	Part IV tax
	deductible from taxable	(included in		dividends paid	of the connected	before deductions
	income under section 112, subsections 113(2) and	column F)		by connected payer corporation	payer corporation (for tax year	F x 1 / 3 ***
	138(6), and paragraphs			(for tax year	in column D)**	
	113(1)(a), (b), or (d)*			in column D)	co.a 27	
				,		
	240			250	260	270
-						

Total (enter the amount from column F on line 320 of the T2 return and amount J in Part 2)

- * 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. Life insurers are not subject to Part IV tax on subsection 138(6) dividends.
- ** 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.

*** For dividends received from connected corporations:	Part IV tax =	Column F x Column H	
		Column G	

	Part 2 Calcu	ulation of Part IV tax p	aayabla ———		86569 7585 RC000
		_			
Part I	V tax before deductions (amount J in Part 1)				
Dedu				200	
Pa	rt IV.I tax payable on dividends subject to Part IV tax				
				Subiolal	
Dedu		330			
	n-capital losses from previous years claimed to reduce Part IV tax	335			
	rrent-year farm loss claimed to reduce Part IV tax				
Fai					
	Total losses a	pplied against Part IV tax			
Part I	V tax payable (enter amount on line 712 of the T2 return)				
	Part 3 – Taxable dividends paid	in the tax year that qu	ualify for a div	idend refund —	
	A	В	С	D	D1
	Name of connected recipient corporation	Business Number	Tax year end of connected recipient corporation in	Taxable dividends paid to connected corporations	Eligible dividends (included in column D)
			which the dividends in column D were received YYYY/MM/DD (See note)		
	400	410	420	430	
1	CAMBRIDGE & NORTH DUMFRIES ENERGY PLUS INC.	88102 0127 RC0001	2012-12-31	2,948,000	
Note					
coulc	ir corporation's tax year-end is different than that of the connected red I have paid dividends in more than one tax year of the recipient corpo de the information for each tax year of the recipient corporation. For r	oration. If so, use a separate lir	ne to	Total	2,948,000
				450	
	taxable dividends paid in the tax year to other than connected corpor ble dividends (included in line 450)	450a			
	taxable dividends paid in the tax year that qualify for a dividend refur of column D above plus line 450)	Name of the second seco		460	2,948,000
	Part 4 - Total	dividends paid in the	tax vear —		
	plete this part if the total taxable dividends paid in the tax year that quends paid in the tax year.	•		erent from the total	
Total	taxable dividends paid in the tax year for the purposes of a dividend	refund (from above)			2,948,000
	VIII I				
Total	dividends paid in the tax year			<mark>500</mark>	2,948,000
Dedu	uct:				
Div	ridends paid out of capital dividend account	<mark>510</mark>			
	pital gains dividends	520		<u> </u>	
	• • • • • • • • • • • • • • • • • • • •				
	xable dividends paid to a controlling corporation that was bankrupt any time in the year				
	•	Subtotal		<u> </u>	_
Total	taxable dividends paid in the tax year that qualify for a dividend refur	nd			2,948,000

T2 SCH 3 E (10)



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SCHEDULE 4

CORPORATION LOSS CONTINUITY AND APPLICATION

Name of corporation	Business number	Tax year-end Year Month Day
CAMBRIDGE AND NORTH DUMFRIES HYDRO INC.	86569 7585 RC0001	2012-12-31

- Use this form to determine the continuity and use of available losses; to determine a current-year non-capital loss, farm loss, restricted farm loss, or limited partnership loss; to determine the amount of restricted farm loss and limited partnership loss that can be applied in a year; and to ask for a loss carryback to previous years.
- A corporation can choose whether or not to deduct an available loss from income in a tax year. The corporation can deduct losses in any order. However, for each type of loss, deduct the oldest loss first.
- According to subsection 111(4) of the Income Tax Act, when control has been acquired, no amount of capital loss incurred for a tax year ending (TYE) before that time is deductible in computing taxable income in a TYE after that time. Also, no amount of capital loss incurred in a TYE after that time is deductible in computing taxable income of a TYE before that time.
- When control has been acquired, subsection 111(5) provides for similar treatment of non-capital and farm losses, except as listed in paragraphs 111(5)(a) and (b).
- For information on these losses, see the T2 Corporation Income Tax Guide.
- File one completed copy of this schedule with the T2 return, or send the schedule by itself to the tax centre where the return is filed.
- Parts, sections, subsections, paragraphs, and subparagraphs mentioned in this schedule refer to the Act.

Determination of current-year non-capital loss			
Net income (loss) for income tax purposes		1,820,20	<u>)6</u> A
Deduct: (increase a loss)			
Net capital losses deducted in the year (enter as a positive an	mount)	_ a	
Taxable dividends deductible under sections 112, 113(1), or	subsection 138(6)	_ b	
Amount of Part VI.1 tax deductible	<u>.</u>	_ c	
Amount deductible as prospector's and grubstaker's shares -	– Paragraph 110(1)(d.2)	_ d	
	Subtotal (total of amounts a to d)	_	В
	Subtotal (amount A minus amount B; if positive, et	 nter "0")	c
Deduct: (increase a loss)			
Section 110.5 or subparagraph 115(1)(a)(vii) – Addition for fo	oreign tax deductions		D
	Subtotal (amount C minus amount C mi	ount D)	Е
Add: (decrease a loss)		,	
	arming or fishing included in the income, or the non-capital loss		
before deducting the farm loss. Enter amount F on line 310)	() · ·) · · · · · · · · · · · · · · ·		F
Current-year non-capital loss (amount E plus amount F; if pos	sitive, enter "0"; if negative, enter amount G on line 110 as a positive)	·	G
Continuity of non-capital losses and request for a carryb	ack >		
Non-capital loss at the end of the previous tax year		е	
Deduct: Non-capital loss expired*	100	_ 	
Non-capital losses at the beginning of the tax year (amount e/n		- <u>'</u>	н
Non capital losses at the beginning of the tax year fallounce in		=	—'''
Add:			
Non-capital losses transferred on an amalgamation or the wir	nd-up of a subsidiary corporation . 105	_ g	
Current-year non-capital loss (amount G above)		_ h	
	Subtotal (amount g plus amount h)	<u> </u> ▶	ı
	Subtotal (amount H plus an	nount I)	J

- after 20 tax years if it arose in a tax year ending after 2005.

An allowable business investment loss becomes a net capital loss as follows:

- after 7 tax years if it arose in a tax year ending before March 23, 2004; and
- after 10 tax years if it arose in a tax year ending after March 22, 2004.



┌ Part 1 – Non-capital losses (continued) ────────────────────────────────────	
Amount J from page 1	
Deduct:	
Other adjustments (includes adjustments for an acquisition of control)	
Section 80 – Adjustments for forgiven amounts j	
Subsection 111(10) – Adjustments for fuel tax rebate j.1	
Non-capital losses of previous tax years applied in the current tax year (enter on line 331 of the T2 Return) k	
(enter on line 331 of the T2 Return)	
subject to Part IV tax (enter on lines 330 and 335 of Schedule 3, Dividends Received.	
Taxable Dividends Paid, and Part IV Tax Calculation, respectively)	
Subtotal (total of amounts i to I)	k
Non-capital losses before any request for a carryback (amount J minus amount K)	l
Deduct – Request to carry back non-capital loss to:	
First previous tax year to reduce taxable income	
Second previous tax year to reduce taxable income n	
Third previous tax year to reduce taxable income	
First previous tax year to reduce taxable dividends subject to Part IV tax 911	
Second previous tax year to reduce taxable dividends subject to Part IV tax 912 q	
Third previous tax year to reduce taxable dividends subject to Part IV tax 913 r	
Total of requests to carry back non-capital losses to previous tax years (total of amounts m to r)	N
Closing balance of non-capital losses to be carried forward to future tax years (amount L minus amount M) 180	1
Part 2 – Capital losses	
Continuity of capital losses and request for a carryback	
Capital losses at the end of the previous tax year	
Capital losses transferred on the amalgamation or the wind-up of a subsidiary corporation b	
Subtotal (amount a plus amount b) 138,126 ▶	138,126 A
Deduct:	
Other adjustments (includes adjustments for an acquisition of control)	
Section 80 – Adjustments for forgiven amounts	
Subtotal (amount c plus amount d)	E
Subtotal (amount A minus amount B)	138,126
Add: Current-year capital loss (from the calculation on Schedule 6)	
Unused non-capital losses that expired in the tax year*	
Allowable business investment losses (ABIL) that expired as non-capital losses in the tax year** f	
Enter amount e or f, whichever is less	
ABILs expired as non-capital loss: line 215 divided by 0,500000	E
Subtotal (total of amounts C to E)	138,126 F
Note	
If there has been an amalgamation or a windup of a subsidiary, do a separate calculation of the ABIL expired as non-capital loss for each predecessor or subsidiary. Add all these amounts and enter the total on line 220 above.	
* If the losses were incurred in a tax year ending before March 23, 2004, enter the losses from the 8th previous tax year. If the losses were incurred in a	
tax year ending after March 22, 2004, and before 2006, enter the losses from the 11th previous tax year. Enter the losses from the 21st previous tax year if the losses were incurred in a tax year ending after 2005. Enter the part that was not used in previous years and the current year on line e.	
** If the losses were incurred in a tax year ending before March 23, 2004, enter the losses from the 8th previous tax year. If the losses were incurred in a tax year ending after March 22, 2004, enter the losses from the 11th previous tax year. Enter the full amount on line f.	

┌ Part 2 – Capital losses (continued) ————				
			Amount F from page 2	138,126
Deduct: Capital losses from previous tax years applied against the	current-year net capital gain (s	see Note 1)	225	G
Capital	losses before any request for	a carryback (amo	unt F minus amount G)	<u>138,126</u> H
Deduct – Request to carry back capital loss to (see Note 2):				
	Capital gain (100%)	Amo	unt carried back (100%)	
First previous tax year		951	g	
Second previous tax year		952	h	
Third previous tax year		953	i	
	Subtotal (total of amou		<u> </u>	1
Closing balance of capital losses to b		-		138,126 ј
Note 1			· —	
To get the net capital losses required to reduce the taxable capital amount from line 225 multiplied by 50% on line 332 of the T2 retu Note 2		ne (loss) for the pu	rpose of current-year tax, enter	the
On line 225, 951, 952, or 953, whichever applies, enter the actual rate.	amount of the loss. When the	loss is applied, m	ultiply this amount by the 50%	inclusion
- Part 3 - Farm losses -				
Continuity of farm losses and request for a carryback				
Farm losses at the end of the previous tax year		~~(:: <u> </u>)::/	a	
Deduct : Farm loss expired*	<u>/</u>		b	
Farm losses at the beginning of the tax year (amount a minus amou	untb)	302	<u> </u>	A
Add:				
Farm losses transferred on the amalgamation or the windup of a su	ıbsidiary corporation	305	c	
Current-year farm loss	////	310	d	
	Subtotal (amount c plus a	amount d)	>	B
	M	Subtotal (ar	nount A plus amount B)	C
Deduct:				
Other adjustments (includes adjustments for an acquisition of cont	:rol)	350	e	
Section 80 – Adjustments for forgiven amounts Farm losses of previous tax years applied in the current tax year		340	f	
(enter on line 334 of the T2 Return)	♪\\\\\	330	g	
Current and previous year farm losses applied against current-year	rtaxable dividends			
subject to Part IV tax (enter on lines 340 and 345 of Schedule 3, L Taxable Dividends Paid, and Part IV Tax Calculation, respectively)		335	h	
	Subtotal (total of amou	ints e to h)	<u> </u>	D
Farm	√ Iosses before any request for	a carryback (amo	unt C minus amount D)	E
Deduct – Request to carry back farm loss to:		,		
		921	i	
		922	j	
Third previous tax year to reduce taxable income		923	k	
First previous tax year to reduce taxable dividends subject to Part I	V tax	931	I	
Second previous tax year to reduce taxable dividends subject to Pa	art IV tax	932	m	
Third previous tax year to reduce taxable dividends subject to Part	IV tax	933	n	
	Subtotal (total of amou	unts i to n)	<u> </u>	F
Closing balance of farm losses to b	e carried forward to future tax	years (amount E	minus amount F) 380	G
* A farm loss expires as follows:				
 after 10 tax years if it arose in a tax year ending before 2006; 	and			

• after 20 tax years if it arose in a tax year ending after 2005.

	cted farm losses ——				
Current-year restric				485	
1	ear from farming business			465	A
Minus the deductib					
(amount A above		\$2,500) divided by 2 =	a		
Amount a or \$	6,250, whichever is less	· · · · · · · · · · · · · · · · · · ·	>	b	
				2,500 c	
		Subtotal (am	ount b plus amount c)	2,500	2,500 B
	Cu	rent-year restricted farm loss (an	nount A minus amount B; ent	er amount C on line 410)	C
Continuity of restric	cted farm losses and reques	t for a carryback			
Restricted farm losse	s at the end of the previous tax	year	<u> </u>	d	
Deduct: Restricted fa	arm loss expired*		400	e	
Restricted farm losse	es at the beginning of the tax ye	ar (amount d minus amount e)	402	>	D
Add:					
	ses transferred on the amalgan	nation or the wind-up	405	£	
of a subsidiary corpo	ted farm loss (enter on line 233			1	
Current-year restric	ted farm 1033 (enter on line 23)	,		9 	_
		Subtotal (an	nount f plus amount g)		E
			Subtotal (a	mount D plus amount E)	F
Deduct: Restricted farm loss (enter on line 333 of		olied against current farming inco		h	
Section 80 – Adjusti	ments for forgiven amounts		440	i	
Other adjustments				j	
		Subtotal ((total of amounts h to j)	>	G
		Restricted farm losses before an	request for a carryback (am	ount F minus amount G)	Н
_	o carry back restricted farm	loss to:	044		
	ar to reduce farming income		941	k	
	year to reduce farming income	[\(\tau_{\\ \tau_{\tau_{\tau_{\\ \tau_{\tau_{\tau_{\tau_{\tau_{\\ \tau_{\\ \tau_{\\ \tau_{\\ \tau_{\\ \tau_{\\ \tau_{\\ \tau_{\\ \tau_{\\ \\ \tau_{\\ \tau_{\\ \tau_{\\ \tau_{\\ \tau_{\\ \tau_{\\ \tau_{\\ \tau_{\\ \\ \tau_{\\ \tau_{\\ \tau_{\\ \ \tau_{\\ \tau_{\\ \\ \tau_{\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	0.40		
I nira previous tax ye	ear to reduce farming income		<i>y</i> 	m	
		Z88887	otal of amounts k to m)		
	Closing balance of restricted	farm losses to be carried forward	d to future tax years (amount F	480	J
Note The total losses fo	r the year from all farming busi	nesses are calculated without inc	luding scientific research exp	enses	
		A A A A A A A A A A A A A A A A A A A	.aag Joionano roodaron exp		
	oss expires as follows:	20000			
	ars if it arose in a tax year endir ars if it arose in a tax year endir	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~			
anter zu tax yea	ars ir it arose iri a tax year endir	ig aiter 2005/			

Part 5 – Listed personal property losses		
Continuity of listed personal property loss and request for a carryback		
Listed personal property losses at the end of the previous tax year	a	
	500 b	
Listed personal property losses at the beginning of the tax year (amount a minus a	amountb) 502	A
Add: Current-year listed personal property loss (from Schedule 6)		В
	Subtotal (amount A plus amount B)	C
Deduct: Previous year personal property losses applied in the current tax year against list personal property gains (enter on line 655 of Schedule 6) Other adjustments	ed c 	
•	(amount c plus amount d)	D
Listed personal property losses remaining before	any request for a carryback (amount C minus amount D)	E
Deduct – Request to carry back listed personal property loss to:		
First previous tax year to reduce listed personal property gains	961 e	
Second previous tax year to reduce listed personal property gains	962 f	
Third previous tax year to reduce listed personal property gains	g	
Subtota	al (total of amounts e to g)	F
Closing balance of listed personal property losses to be carried forward	ard to future tax years (amount F minus amount F) 580	G

Part	7 –	Limited	partnership	losses -
-------------	-----	---------	-------------	----------

urrent-year limited	d partnership losse	s				
1	2	3	4	5	6	7
Partnership identifier	Tax year ending YYYY/MM/DD	Corporation's share of limited partnership loss	Corporation's at-risk amount	Total of corporation's share of partnership investment tax credit, farming losses, and resource expenses	Column 4 minus column 5 (if negative, enter "0")	Current-year limited partnership losses (column 3 minus 6)
600	602	604	606	608		620

Total (enter this amount on line 222 of Schedule 1)

Limited partnership losses from previous tax years that may be applied in the current year

1	2	3	4	5	6	7
Partnership identifier	Tax year ending YYYY/MM/DD	Limited partnership losses at the end of the previous tax year	Corporation's at-risk amount	Total of corporation's share of partnership investment tax credit, business or property losses, and resource expenses	Column 4 minus column 5 (if negative, enter "0")	Limited partnership losses that may be applied in the year (the lesser of columns 3 and 6)
630	632	634	636	638		650
					\	

Continuity of limited partnership losses that can be carried forward to future tax years'

1	2	3	4	5	6
Partnership identifier	Limited partnership losses at the end of the previous tax year	Limited partnership losses transferred on an amalgamation or the windup of a subsidiary	Current-year limited partnership losses (from column 620)	Limited partnership losses applied in the current year (cannot be more than column 650)	Current year limited partnership losses closing balance to be carried forward to future years (662 + 664 + 670 – 675)
660	662	664	670	675	680
			S		

Total (enter this amount on line 335 of the T2 return)

Note

If you have any current-or previous-year losses, enter your parmership identifier on line 600, 630, or 660.

-Part 8 – Election under paragraph 88(1<mark>.1)(f</mark>)

If you are making an election under paragraph 88(1.1)(f), check the b	ох
---	----

100 Yes

Further to a winding-up of a subsidiary, the portion of a non-capital loss, restricted farm loss, farm loss, or limited partnership loss from a wholly-owned subsidiary is deemed to be the loss of a parent from its tax year starting after the commencement of the winding-up.

Note

This election is only applicable for wind-ups under 88(1) that are reported on Schedule 24, First-Time Filer after Incorporation, Amalgamation, or Winding-up of a Subsidiary into a Parent, and the deemed provision is only for the tax years that start after the commencement of the wind-up.



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TAX CALCULATION SUPPLEMENTARY - CORPORATIONS

86569 7585 RC0001

Schedule 5

Corporation's name	Business Number	Tax year-end Year Month Day
CAMBRIDGE AND NORTH DUMFRIES HYDRO INC.	86569 7585 RC0001	2012-12-31

- Use this schedule if, during the tax year, the 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).
- Regulations mentioned in this schedule are from 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 − Alloc 100	ation of ta	xable income ———		Enter the Regulation that applie	es (402 to 413).	
A		В	С	D D	E	F
Jurisdiction Tick yes if the contract had a permant establishment jurisdiction during the	orporation anent in the	Total salaries and wages paid in jurisdiction	(B x taxable income**) / G	Gross revenue	(D x taxable income**) / H	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	1 Yes	103		143		
Newfoundland and Labrador offshore	1 Yes	104		144		
Prince Edward Island	005 1 Yes	105		145		
Nova Scotia	007 1 Yes	107		147		
Nova Scotia offshore	008 1 Yes	108		148		
New Brunswick	009 1 Yes	109		149		
Quebec	011 1 Yes	111	,	151		
Ontario	013 1 Yes	113		153		
Manitoba	015 1 Yes	115		155		
Saskatchewan	017 1 Yes	117		157		
Alberta	019 1 Yes	119		159		
British Columbia	021 1 Yes	121		161		
Yukon	023 1 Yes	123	7	163		
Northwest Territories	025 1 Yes	125		165		
Nunavut	026 1 Yes	126		166		
Outside Canada	027 1 Yes	127		167		
Total		129 G		169 H		

[&]quot;Permanent establishment" is defined in Regulation 400(2).



^{**} If the corporation has income or loss from an international banking centre: the taxable income is the amount on line 360 or line Z of the T2 return plus the total amount not required to be included, or minus the total amount not allowed to be deducted, in calculating the corporation's income under section 33.1 of the federal Income Tax Act.

^{***} For corporations other than those described under Regulation 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.

- Part 2 – Ontari	o tax payable, ta	x credits, and re	bates
T : 1: 11	1 12 21 1	Б	

Total taxable income	Income eligible for small business deduction	Provincial or territorial allocation of taxable income	Provincial or territorial tax payable before credits			
1,809,506		1,809,506	173,093			
Ontario basic incom	e tax (from Schedule	500)		270	208,093	
Deduct: Ontario smal	l business deduction (from Schedule 500)		402	35,000	
				Subtotal	173,093	173,093_ A6
Add:		Oakadala 504)		274		
	ix re Crown royalties (f tax debits (from Sched			0=0		
	`	pment tax credit (from S		277		
r todaptaro di Oman	0.0000.0.0.0.0.0	pinoni tax oroan (iroin o		Subtotal	<u> </u>	B6
						173,093 C6
Deduct:				Subtotal (amou	unt A6 plus amount B6)	173,093 (6
	credit (from Schedule	e 504)		404		
	•	rocessing (from Schedu		406		
	credit (from Schedule 2					
· ·	tax reduction (from So					
Ontario transitional	tax credits (from Sche	dule 506)		/23	801	
Ontario political con	tributions tax credit (fro	om Schedule 525)		415		
			<i>(</i> -	Subtotal	<u>801</u> ►	801 De
			Subtotal (amou	nt C6 minus amount D6	6) (if negative, enter "0")	172,292 E6
Daduati Ontaria rasa	arch and dayalanment	tax credit (from Schedu	\mathcal{A}		416	13,883
	ome tax payable before	Ontario corporate minir	mum tax credit (amoun	xxxxxxy/		158,409 F6
(ii nogalivo, ontor o)						<u> </u>
Deduct: Ontario corpo	orate minimum tax cre	dit (from Schedule 510)			418	
Ontario corporate inco	me tax pavable (amou	ınt F6 minus amount on	line 418) (if negative	enter "O")		158,409 G6
Add:	mo tax payable (ambe	intro ininas amounton	iiio i i i i i i i i i i i i i i i i i	onto: 0)		
	inimum tax (from Sche	edule 510)	S. M	278		
Ontario special addi	tional tax on life insura	ince corporations (from	Schedule 512)	280		
				Subtotal	>	H6
Total Ontario tax pava	ble before refundable	credits (amount G6 plus	amount H6)			158,409 16
	bio boio io io idiidabio		Jamount 10)			
Deduct:				450		
	nvironmental trust tax o	VIIIA III		450 452		
•	e education tax credit (hip training tax credit (\		454	38,497	
• •		ffects tax credit (from Sc	thedule 554)	456	30,477	
•	vision tax credit (from	,		458		
	services tax credit (fror			460		
•	ligital media tax credit	•		462		
Ontario sound recor	ding tax credit (from S	chedule 562)		464		
Ontario book publis	hing tax credit (from So	chedule 564)		466		
	ax credit (from Schedu			468		
		edit (from Schedule 568)		<u>470</u>		
Other Ontario tax cr	edits				38,497	20 107
				Subtotal		38,497 J6
Net Ontario tax paya	ble or refundable cr	edit (amount 16 minus a	amount J6)		<u>290</u>	119,912 K6
if a credit, enter a neg						

Summary -

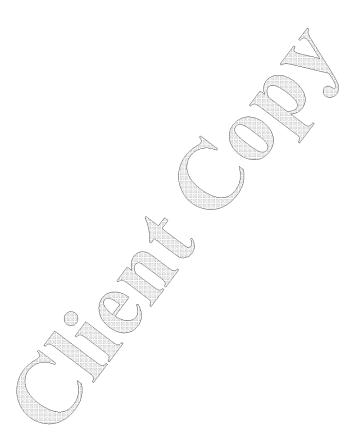
Enter the total net tax payable or refundable credits for all provinces and territories on line 255.

Net provincial and territorial tax payable or refundable credits

255

119,912

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.



SCHEDULE 8



Agence du revenu du Canada

CAPITAL COST ALLOWANCE (CCA)

Name of corporation	Business Number	Tax year end Year Month Day
CAMBRIDGE AND NORTH DUMFRIES HYDRO INC.	86569 7585 RC0001	2012-12-31

For more information, see the section called "Capital Cost Allowance" in the T2 Corporation Income Tax Guide.

Is the corporation electing under regulation 1101(5q)?

101	1 Yes	2 No	Χ	

	1		2	3	4	5	6	7	8	9	10	11	12
	Class number (See Note)		Undepreciated capital cost at the beginning of the year (undepreciated capital cost at the end of last year)	Cost of acquisitions during the year (new property must be available for use)*	Net adjustments**	Proceeds of dispositions during the year (amount not to exceed the capital cost)	50% rule (1/2 of the amount, if any, by which the net cost of acquisitions exceeds column 5)***	Reduced undepreciated capital cost	CCA rate %	Recapture of capital cost allowance (line 107 of Schedule 1)	Terminal loss (line 404 of Schedule 1)	Capital cost allowance (for declining balance method, column 7 multiplied by column 8, or a lower amount) (line 403 of Schedule 1)	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		30,538,057			0/		30,538,057	4	0	0	1,221,522	29,316,535
2.	3		658,661			0		658,661	5	0	0	32,933	625,728
3.	2		26,466,478			0		26,466,478	6	0	0	1,587,989	24,878,489
4.	17		206,988			0		206,988	8	0	0	16,559	190,429
5.	6		30,671					30,671	10	0	0	3,067	27,604
6.	8		5,968,582	1,190,253	4	39,268	575,493	6,544,074	20	0	0	1,308,815	5,810,752
7.	45		4,914			0		4,914	45	0	0	2,211	2,703
8.	10		1,030,165	123,836		4,961	59,438	1,089,602	30	0	0	326,881	822,159
9.	12		599,812	874,867		2,340	436,264	1,036,075	100	0	0	1,036,075	436,264
10.	47		36,731,692	2,890,497		0	1,445,249	38,176,940	8	0	0	3,054,155	36,568,034
11.	50		164,598	460,542		285	230,129	394,726	55	0	0	217,099	407,756
12.	1b	New Buildings	49,629	493,500		0	246,750	296,379	6	0	0	17,783	525,346
13.	95	Transformers in WIP		287,310	9	0	143,655	143,655	0	0	0		287,310
14.	95	Assets not in use		28,694		0	14,347	14,347	0	0	0		28,694
15.	95	WIP net of Transformers		3,511,593		0	1,755,797	1,755,796	0	0	0		3,511,593
		Totals	102,450,247	9,861,092		46,854	4,907,122	107,357,363				8,825,089	103,439,396

Note: Class numbers followed by a letter indicate the basic rate of the class taking into account the additional deduction allowed. Class 1a: 4% + 6% = 10% (class 1 to 10%), class 1b: 4% + 2% = 6% (class 1 to 6%).

- * Include any property acquired in previous years that has now become available for use. This property would have been previously excluded from column 3. List separately any acquisitions that are not subject to the 50% rule, see Regulation 1100(2) and (2.2).
- ** Include amounts transferred under section 85, or on amalgamation and winding-up of a subsidiary. See the *T2 Corporation Income Tax Guide* for other examples of adjustments to include in column 4.
- *** The net cost of acquisitions is the cost of acquisitions (column 3) **plus** or **minus** certain adjustments from column 4. For exceptions to the 50% rule, see Interpretation Bulletin IT-285, *Capital Cost Allowance General Comments*.
- **** Enter a rate only, if you are using the declining balance method. For any other method (for example the straignt-line method, where calculations are always based on the cost of acquisitions), enter N/A. Then enter the amount you are claiming in column 11.
- ***** If the tax year is shorter than 365 days, prorate the CCA claim. Some classes of property do not have to be prorated. See the *T2 Corporation Income Tax Guide* for more information.

T2 SCH 8 (11)

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Canada Revenue

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SCHEDULE 9

RELATED AND ASSOCIATED CORPORATIONS

Name of corporation	Business Number	Tax year end Year Month Day
CAMBRIDGE AND NORTH DUMFRIES HYDRO INC.	86569 7585 RC0001	2012-12-31

- Complete this schedule if the corporation is related to or associated with at least one other corporation.
- For more information, see the T2 Corporation Income Tax Guide.

	Name	Country of resi- dence (other than Canada)	Business number (see note 1)	Relationship code (see note 2)	Number of common shares you own	% of common shares you own	Number of preferred shares you own	% of preferred shares you own	Book value of capital stock
	100	200	300	400	500	550	600	650	700
1.	Cambridge and North Dumfries Ene		88102 0127 RC0001	1					
2.	Cambridge and North Dumfries Ene		88102 0325 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

T2 SCH 9 (11)





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SCHEDULE 10

CUMULATIVE ELIGIBLE CAPITAL DEDUCTION

Name of corporation	Business Number	Tax year-end Year Month Day
CAMBRIDGE AND NORTH DUMFRIES HYDRO INC.	86569 7585 RC0001	2012-12-31

- For use by a corporation that has eligible capital property. For more information, see the T2 Corporation Income Tax Guide.
- A separate cumulative eligible capital account must be kept for each business.

	Part 1 – Calculation of current year deduction	on and carry-forward -		
	tive eligible capital - Balance at the end of the preceding taxation year (if negative, en	ter "0")	200	1,699,473 A
Add:	Cost of eligible capital property acquired during the taxation year			
	Other adjustments			
	Subtotal (line 222 plus line 226) x 3	/ 4 =	В	
	Non-taxable portion of a non-arm's length transferor's gain realized on the transfer of an eligible capital property to the corporation after December 20, 2002	/2 =	С	
	amount B minus amount C (if negative, er		•	D
	Amount transferred on amalgamation or wind-up of subsidiary	<u>— — — — — — — — — — — — —</u>	224	E
		ototal (add amounts A, D, and E)	230	1,699,473 F
Deduct:	Proceeds of sale (less outlays and expenses not otherwise deductible) from the disposition of all eligible capital property during the taxation year The gross amount of a reduction in respect of a forgiven debt obligation as provided for in subsection 80(7) Other adjustments (add amounts G.H. and I)	G H I x 3/4 =	248	J
Cumula	tive eligible capital balance (amount F minus amount J)	D 		1,699,473 K
(if amour	nt K is negative, enter "0" at line M and proceed to Part 2)	<u></u>		
Cumulat	ive eligible capital for a property no longer owned after ceasing to carry on that business	249		
	amount K 1,699,473			
	less amount from line 249			
Current	year deduction		*	
	(line 249 plus line 250) (enter this amount at line 405 of Scheo	dule 1)118,963	<u> </u>	118,963 L
Cumula	tive eligible capital – Closing balance (amount K minus amount L) (if negative, enter "0")		300	1,580,510 M
	u can claim any amount up to the maximum deduction of 7%. The deduction may not exceed ount prorated by the number of days in the taxation year divided by 365.	d the maximum		



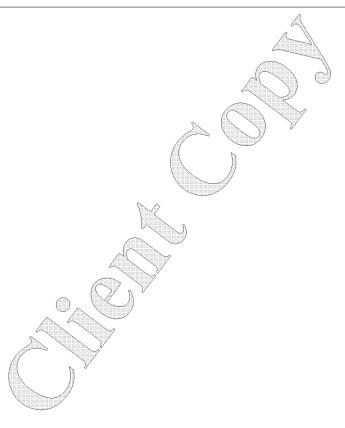
Part 2 – Amount to be included in income (complete this part only if the amount at		sposition ————	
Amount from line K (show as positive amount)			N
Total of cumulative eligible capital (CEC) deductions from income for taxation years	400		
beginning after June 30, 1988		1	
Total of all amounts which reduced CEC in the current or prior years under subsection 80(7)	401	2	
Total of CEC deductions claimed for taxation years beginning before July 1, 1988			
	3		
Negative balances in the CEC account that were included in income for taxation years beginning before July 1, 1988 408	4		
Line 3 minus line 4 (if negative, enter "0")	_ <u>`</u>	5	
Total of lines 1, 2 and 5	<u> </u>		
Amounts included in income under paragraph 14(1)(b), as that paragraph applied to taxation years ending after June 30, 1988 and before February 28, 2000, to the extent that it is for an amount described at line 400	7	v	
Amounts at line T from Schedule 10 of previous taxation years			
ending after February 27, 2000	8		
Subtotal (line 7 plus line 8) 409	_ ▶	9	
Line 6 minus line 9 (if negative, enter "0")	<u></u>	>	0
Line N minus line O (if negative, enter "0")			P
Li	ine 5	x 1 / 2 =	Q
Line P minus line Q (if negative, enter "0")	, 🛝		R
Amou	ınt R	x 2 / 3 =	S
Amount N or amount O, whichever is less			Т
Amount to be included in income (amount S plus amount T) (enter this amount on line 108	of Schedule 1)	410	

Continuity of financial statement reserves (not deductible)

- Financial	statement	rasarvas	(not	deducti	hle) –
– Fillaliciai	Statement	16261 V62	HIOL	aeaucu	DIE) –

	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 Liabil	2,037,105		2,134,935	2,037,105	2,134,935
	Reserves from Part 2 of Schedule 13					
·	Totals	2,037,105		2,134,935	2,037,105	2,134,935

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.



Canada Revenue Agence du revenu Agency du Canada

SCHEDULE 23

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* (ITA) 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 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. The business limit is computed at line 4 on page 4 of each respective corporation's T2 return.
 - **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 falls within the range for the calendar year to which the agreement applies:

	Acceptable range	Calendaryear
1	maximum \$300,000	2006
2000000	\$300,001 to \$400,000	2007

Calendaryear	Acceptable range			
2008	maximum \$400,000			
2009	\$400,001 to \$500,000			

If the calendar year to which this agreement applies is after 2009, ensure that the total at line A does not exceed \$500,000.

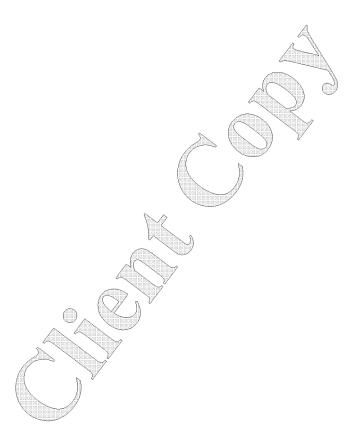
– Alle	ocating the business limit —————						
	filed (do not use this area)				025	Year Month Day	
Enter	the calendar year to which the agreement applies	Ŋ.,			050	2012	
	s this an amended agreement for the above-noted calendar year that is intended to replace an agreement previously iled by any of the associated corporations listed below? 2 No X						
	Names of associated corporations	2 Business Number of associated corporations	3 Asso- ciation code	4 Business limit for the year (before the allocation) \$	5 Percentage of the business limit %	6 Business limit allocated* \$	
	100	200	300		350	400	
1	CAMBRIDGE AND NORTH DUMFRIES HYDRO I 865	569 7585 RC0001	1	500,000	100.0000	500,000	
2	Cambridge and North Dumfries Energy Plus Inc 88°	102 0127 RC0001	1	500,000			
3	Cambridge and North Dumfries Energy Solution 88°	102 0325 RC0001	1	500,000			
				Total	100.0000	500,000	

Business limit reduction under subsection 125(5.1) of the ITA

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. If the corporation is a member of an associated group** of corporations in the current tax year, the amount at line 415 of the T2 return is equal to 0.225% x (A - \$10,000,000) where, "A" is the total of taxable capital employed in Canada*** of each corporation in the associated group for its last tax year ending in the preceding calendar year.

- * 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 apply if a CCPC has more than one tax year ending in a calendar year and is associated in more than one of those years with another CCPC that has a tax year ending in the same calendar year. If the tax year straddles January 1, 2009, the business limit for the second (or subsequent) tax year(s) will be equal to the lesser of the business limit that would have been determined for the first tax year ending in the calendar year, if \$500,000 was used in allocating the amounts among associated corporations and the business limit determined for the second (or subsequent) tax year(s) ending in the same calendar year. Otherwise, the business limit for the second (or subsequent) tax year(s) will be equal to the lesser of the business limit determined for the first tax year ending in the calendar year and the business limit determined for the second (or subsequent) tax year(s) ending in the same calendar year.
- ** The associated group includes the corporation filing this schedule and each corporation that has an "association code" of 1 or 4 in column 3.
- *** "Taxable capital employed in Canada" has the meaning assigned by subsection 181.2(1) or 181.3(1) or section 181.4 of the ITA.

T2 SCH 23 (09) Canadä



Canada Revenue Agency Agence du revenu du Canada

Schedule 31

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 wind-up of a subsidiary, as described under subsections 87(1) and 88(1) of the federal *Income Tax Act*;
 - to request a credit carryback to one or more previous years; or
 - if you are subject to a recapture of ITC.
- 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.
- All legislative references are to the federal Income Tax Act and Income Tax Regulations.
- Investments or expenditures, described in subsection 127(9) of the Act and Part XLVI of the Regulations, that earn an ITC are:
 - qualified property and qualified resource property (Parts 4 to 7 of this schedule);
 - expenditures that are part of the SR&ED qualified expenditure pool (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).
- Include a completed copy of this schedule with the T2 Corporation Income Tax Return. If you need more space, attach additional schedules.
- For more information on ITCs, see the section called "Investment Tax Credit" in Guide T4012, T2 Corporation—Income Tax Guide, Information Circular IC 78-4, Investment Tax Credit Rates, and its related Special Release.
- For more information on SR&ED, see Brochure RC4472, Overview of the Scientific Research and Experimental Development Program (SR&ED) Tax Incentive Program; Brochure RC4467, Support for your R&D in Canada, and T4088, Guide to Form T661 Scientific Research and Experimental Development (SR&ED) Expenditures Claim. Also see the Eligibility of Work for SR&ED Investment Tax Credits Policy at www.cra.gc.ca//txcrdt/sred-rsde/clmng/lgbltywrkfrsrdnvstmnttxc/dts-eng.html.

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 of the Act), determined without reference to subsections 13(7.1) and 13(7.4), minut 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 the capital cost of that property in the next tax year. It also reduces 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.
- Partnership allocations Subsection 127(8) provides for the allocation of the amount that may reasonably be considered to be a partner's share of the ITCs of the partnership at the end of the fiscal period of the partnership. An allocation of ITCs is generally considered to be the partner's reasonable share of the ITCs if it is made in the same proportion in which the partners have agreed to share any income or loss and if section 103 is not applicable for the agreement to share any income or loss. Special rules apply to specified and limited partners. For more information, see Guide T4068, Guide for the Partnership Information Return.
- For SR&ED expenditures, the expression in Canada includes the "exclusive economic zone" (as defined in the *Oceans Act* to generally consist of an area that is within 200 nautical miles from the Canadian coastline), including the airspace, seabed and subsoil for 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) of the Act for more details.
- 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) of the Act for more details.



Detailed information (continued) -

- For the purpose of this schedule, **pre-production mining exploration expenditures** are expenses 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 details.
- For the purpose of this schedule, **pre-production mining development expenditures** are expenses 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 details.

¬ Part 1 – Investments, expenditures and percentages	
Investments	Specified percentage
Qualified property acquired primarily for use in Atlantic Canada	10 %
Qualified resource property acquired primarily for use in Atlantic Canada and acquired:	.0 70
- after March 28, 2012, and before 2014	10 %
- after 2013 and before 2016	5 %
- after 2015*	0 %
and 2010	0 70
Expenditures	
If you are a Canadian-controlled private corporation (CCPC), this percentage may apply to the portion that you	25.0/
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 the corporation's expenditure limit (see Part 10), the excess is eligible for an ITC calculated at the 20 % 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 eligible expenditures after March 18, 2007, for the creation of licensed child care spaces for the	or 0/
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 details.
- ** 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.
- *** Pre-production mining exploration expenditures are described in subparagraph (a)(i) of the definition of **pre-production mining expenditure** in subsection 127(9).
- **** A transitional relief rate of 10% 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 subparagraph (k)(ii) of the definition of specified percentage in subsection 127(9) for more details. Pre-production mining development expenditures are described in subparagraph (a)(ii) of the definition of pre-production mining expenditure in subsection 127(9).

Cambridge a	nd North Dumfries Hydro Inc Dec12 PILS.212	2012-12-31	CAMBRIDGE AND NOR	86569 7585 RC000
Corporation's	name		Business number	Tax year-end Year Month Day
CAMBRIDO	GE AND NORTH DUMFRIES HYDRO INC.		86569 7585 RC0001	2012-12-31
– Part 2 – ∣	Determination of a qualifying corporation —			
Is the corpora	ntion a qualifying corporation?			Yes 2 No X
taxable incon corporation is	ose of a refundable ITC, a qualifying corporation is defined unine (before any loss carrybacks) for its previous tax year cannot be associated with any other corporations during the tax year, the (before any loss carrybacks), for their last tax year ending in the allar tax year.	be more than its qualifying inco total of the taxable incomes of th	me limit for the particular tax ye corporation and the associate	rear. If the ed
	CPC calculating a refundable ITC, is considered to be associate ubsection 256(1), except where:	ed with another corporation if it i	neets any of the conditions	
	one corporation is associated with another corporation solely be stock of both corporations; and one of the corporations has at least one shareholder who is not	·	shares of the capital	
for SR&ED, u	ualifying corporation, you will earn a 100% refund on your share up to the allocated expenditure limit. The 100% refund does not a religible for the 40% refund*.			
current expe	s that are not qualifying corporations may also earn a 100% re enditures for SR&ED, up to the allocated expenditure limit. The e by to qualified capital expenditures eligible for the 35% credit rat	expenditure limit can be determin	ned in Part 10. The 100% refun	
	fund will not be available to a corporation that is an excluded co poration if, at any time during the year, it is a corporation that is e			
a) one or mo	ore persons exempt from Part I tax under section 149;			
b) Her Majes	sty in right of a province, a Canadian municipality, or any other p	ublic authority; or		
c) any comb	ination of persons referred to in a) or b) above.		V	
* Capital exp purchased	enditures incurred after December 31, 2013, including lease pardirectly, are not qualified SR&ED expenditures and are not elig	yments for property that would h ible for an ITC on SR&ED expe	ave been a capital expenditure nditures.	if
– Part 3 –	Corporations in the farming industry ———			
Complete this	s area if the corporation is making SR&ED contributions.			
	ation claiming a contribution in the current year to an agricultural s to finance SR&ED work (for example, check-off dues)?	organization	<u> </u>	Yes 2 No X
Contributions	to agricultural organizations for SR&ED*		103	
	ete Schedule 125, <i>Income Statement Information</i> , to identify the 125, see the <i>Guide to the General Index of Financial Information</i>			
* Enter only on made after	contributions not already included on Form T661. Include all of the 2012.	he contributions made before 20	013 and 80% of the contribution	s
	Qualified Property ar	nd Qualified Resource	Property	
– Part 4 – ∣	Eligible investments for qualified property an	d qualified resource pr	operty from the currer	nt tax year ———
CCA* o	·	Date available for use	Location used (province or territory)	Amount of investment
10:	_ <u></u>	115	120	125

CCA* class number	Description of investment	Date available for use	Location used (province or territory)	Amount of investment
105	110	115	120	125
* CCA: canital cost allow		for qualified property and qu	ualified resource property	

 Part 5 – Current-year credit and account balances – ITC from investments in qualified property and qualified resource property 	y ————
ITC at the end of the previous tax year	В
Deduct:	- · · · · <u></u>
Credit deemed as a remittance of co-op corporations	
Credit expired	
Subtotal (line 210 plus line 215)	_ c
ITC at the beginning of the tax year (amount B minus amount C)	220
Add:	
Credit transferred on amalgamation or wind-up of subsidiary 230	
ITC from repayment of assistance	
Qualified property; and qualified resource property acquired after March 28, 2012, and before January 1, 2014* (applicable part of amount A from Part 4)	
Qualified resource property acquired after December 31, 2013, and before January 1, 2016 (applicable part of amount A from Part 4)	
Credit allocated from a partnership	
Subtotal (total of lines 230 to 250)	D
Total credit available (line 220 plus amount D)	E
Deduct: Credit deducted from Part I tax (enter at amount D in Part 30)	
Credit carried back to the previous year(s) (amount H from Part 6)	a
Credit transferred to offset Part VII tax liability	
Subtotal (total of line 260, amount a, and line 280)	▶ F
Credit balance before refund (amount E minus amount F)	G
Deduct:	
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 G 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 remains a company of the com	esource property———
Year Month Day	occurred property
1st previous tax year	901
3rd previous tax year	903 H
Total (enter at amount a mi	art 9) 11
Part 7 – Refund for qualifying corporations on investments from qualified property and qualif	ied resource property —
Current-year ITCs (total of lines 240, 242, and 250 from Part 5)	<u> </u>
Credit balance before refund (amount G from Part 5)	<u> </u>
Refund (40 % of amount I or J, whichever is less)	K
Enter amount K or a lesser amount on line 310 in Part 5 (also enter it on line 780 of the T2 return if the corporation does not claim an	SR&ED ITC refund).

SR&ED

- Part 8 – Qualified SR&ED expenditures ————————————————————————————————————
Current expenditures
Current expenditures (from line 557 on Form T661)
Add: Contributions to agricultural organizations for SR&ED*
Current expenditures (line 557 on Form T661 plus line 103 from Part 3)*
Capital expenditures incurred before 2014 (from line 558 on Form T661)**
Repayments made in the year (from line 560 on Form T661)
Qualified SR&ED expenditures (total of lines 350 to 370) 294,635
* 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.
- Part 9 – Components of the SR&ED expenditure limit calculation ————————————————————————————————————
Part 9 only applies if the corporation is a CCPC.
Note: A CCPC that calculates SR&ED expenditure limit is considered to be associated with another corporation if it meets any of the conditions in subsection 256(1), except where:
 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 X 2 No
Complete lines 390 and 398, if you answered no to the question at line 385 above or if the corporation is not associated with any other corporations (the amounts for associated corporations will be determined on Schedule 49).
Enter your taxable income for the previous tax year* (prior to any loss carry-backs applied)
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
* If either of the tax years referred to at line 390 is less than 51 weeks, multiply the taxable income by the following result: 365 divided by the number of days in these tax years.
- Part 10 – SR&ED expenditure limit for a CCPC
For a stand-alone corporation: \$8,000,000
Deduct:
Taxable income for the previous tax year (line 390 from Part 9) or \$500,000, whichever is more x 10 =
Excess (\$8,000,000 minus amount A; if negative, enter "0")
\$ 40,000,000 minus line 398 from Part 9
Amount a divided by \$ 40,000,000
Expenditure limit for the stand-alone corporation (amount B multiplied by amount C)
For an associated corporation:
If associated, the allocation of the SR&ED expenditure limit as provided on Schedule 49
Where the tax year of the corporation is less than 51 weeks, calculate the amount of the expenditure limit as follows:
Amount D or E X Number of days in the tax year 366_ = 365
Your SR&ED expenditure limit for the year (enter the amount from line D, E, or F, whichever applies)
* Amount D or F cannot be more than \$3,000,000

Part 11 – Investment tax credits on SR&ED expenditures			
Current expenditures (line 350 from Part 8) or the expenditure limit (line 410 from Part 10), whichever is less*	_ x35 ⁽	% =	G
Line 350 minus line 410 (if negative, enter "0")**	x 20	% = 52,	<u>,120</u> н
Line 410 minus line 350 (if negative, enter "0")	_ b		
Capital expenditures (line 360 from Part 8) or amount b above, whichever is less*	x 35	% =	1
Line 360 minus amount b above (if negative, enter "0")**	x 20	% =6,	,807_J
Repayments (amount from line 370 in Part 8)			
of qualified expenditures for ITC purposes, the amount of the repayment is eligible for a credit at the rate that would have applied to the repaid amount. Enter the amount of the repayment on 480 Subtotal (amount c plus amount d)			к
the line that corresponds to the appropriate rate.**		50	,927 L
Current-year SR&ED ITC (total of amounts G to K; enter on line 540 in Part 12)			, <u>721</u> L
* For corporations that are not CCPCs, enter "0" for amounts G and I. ** For tax years that end after 2013, the general SR&ED rate is reduced from 20% to 15%, except that, for 2014 to reduction is pro-rated based on the number of days in the tax year that are after 2013.	x years that start b	efore 2014, the	
─ Part 12 – Current-year credit and account balances – ITC from SR&ED expenditu	ıres ———		
ITC at the end of the previous tax year			М
Deduct: Credit deemed as a remittance of co-op corporations			
Credit expired 515 Subtotal (line 510 plus line 515)		•	N
		520	'\
Add:			
Credit transferred on amalgamation or wind-up of subsidiary			
Total current-year credit (from amount L in Part 11)	58,927		
Credit allocated from a partnership			
Subtotal (total of lines 530 to 550)	58,927	▶ 58,	<u>,927</u> o
Total credit available (line 520 plus amount O)		58	<u>,927</u> P
Deduct: Credit deducted from Part I tax (enter at amount E in Part 30)	58,927		
Credit carried back to the previous year(s) (amount S from Part 13)		e	
Credit transferred to offset Part VII tax liability			
Subtotal (total of line 560, amount e, and line 580)	58,927	▶ <u>58</u>	<u>,927</u> Q
Credit balance before refund (amount P minus amount Q)			R
Deduct: Refund of credit claimed on SR&ED expenditures (from Part 14 or 15, whichever applies)		610	
ITC closing balance on SR&ED (amount R minus line 610)		620	

ITC closing balance on SR&ED (amount R minus line 610)

	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 (enter at amount e in Part 12)	S
- Part 14 – Refund of I⁻	ΓC for qualifying corporat	ions – SR&ED	
Complete this part only if you a	re a qualifying corporation as determ	nined at line 101 in Part 2.	
Is the corporation an excluded	corporation as defined under subsec	ction 127.1(2)? 650 1 Yes	2 No X
Current-year ITC (lines 540 plu	us 550 from Part 12 minus amount	K from Part 11) f	
Refundable credits (amount f a	bove or amount R from Part 12, which	ichever is less)*	т
Deduct: Amount T or amount G from Page 1	art 11, whichever is less .	· · · · · · · · · · · · · · · · · · ·	U
Net amount (amount T minus	amount U; if negative, enter "0")	· · · · · · · · · · · · · · · · · · ·	V
Amount V multiplied by	40 %		W
Amount v multiplied by	40 %		vv
Add: Amount U	40 %		
Add: Amount U	s amount X – enter this, or a lesser	amount, on line 610 in Part 12)	x y
Add: Amount U Refund of ITC (amount W plu Enter the total of lines 310 from	s amount X – enter this, or a lesser Part 5 and 610 from Part 12 on line proporation [as defined in subsection	amount, on line 610 in Part 12)	x
Add: Amount U Refund of ITC (amount W plu Enter the total of lines 310 from * If you are also an excluded coas your refund of ITC for amount	s amount X – enter this, or a lesser Part 5 and 610 from Part 12 on line proporation [as defined in subsection punt Y.	amount, on line 610 in Part 12)e 780 of the T2 return.	X
Add: Amount U Refund of ITC (amount W plu Enter the total of lines 310 from * If you are also an excluded c as your refund of ITC for amo	s amount X – enter this, or a lesser in Part 5 and 610 from Part 12 on line proporation [as defined in subsection bunt Y. TC for CCPCs that are not	amount, on line 610 in Part 12) e 780 of the T2 return. 127.1(2)], this amount must be multiplied by 40%. Claim this, or a lesser amount,	X
Add: Amount U Refund of ITC (amount W plu Enter the total of lines 310 from * If you are also an excluded c as your refund of ITC for amo - Part 15 — Refund of IT Complete this box only if you a	as amount X – enter this, or a lesser in Part 5 and 610 from Part 12 on line or poration [as defined in subsection ount Y. TC for CCPCs that are not re a CCPC that is not a qualifying or the subsection of the component of the	amount, on line 610 in Part 12) e 780 of the T2 return. 127.1(2)], this amount must be multiplied by 40%. Claim this, or a lesser amount, a qualifying or excluded corporations – SR&ED	X
Add: Amount U Refund of ITC (amount W plu Enter the total of lines 310 from * If you are also an excluded c as your refund of ITC for amo	as amount X – enter this, or a lesser in Part 5 and 610 from Part 12 on line or poration [as defined in subsection ount Y. TC for CCPCs that are not re a CCPC that is not a qualifying or the subsection of the component of the	amount, on line 610 in Part 12) e 780 of the T2 return. 127.1(2)], this amount must be multiplied by 40%. Claim this, or a lesser amount, a qualifying or excluded corporations – SR&ED	X
Add: Amount U Refund of ITC (amount W plu Enter the total of lines 310 from * If you are also an excluded coas your refund of ITC for amount - Part 15 - Refund of ITC Complete this box only if you and Credit balance before refund (a	as amount X – enter this, or a lesser in Part 5 and 610 from Part 12 on line proporation [as defined in subsection bunt Y. FC for CCPCs that are not a CCPC that is not a qualifying or amount R from Part 12)	amount, on line 610 in Part 12) e 780 of the T2 return. 127.1(2)], this amount must be multiplied by 40%. Claim this, or a lesser amount, a qualifying or excluded corporations – SR&ED	X
Add: Amount U Refund of ITC (amount W plu Enter the total of lines 310 from * If you are also an excluded coas your refund of ITC for amount - Part 15 — Refund of ITC Complete this box only if you and Credit balance before refund (and Deduct: Amount Z or amount G from Part	as amount X – enter this, or a lesser in Part 5 and 610 from Part 12 on line proporation [as defined in subsection bunt Y. FC for CCPCs that are not a CCPC that is not a qualifying or amount R from Part 12)	amount, on line 610 in Part 12) e 780 of the T2 return. 127.1(2)], this amount must be multiplied by 40%. Claim this, or a lesser amount, qualifying or excluded corporations – SR&ED excluded corporation as determined at line 101 in Part 2.	X
Add: Amount U Refund of ITC (amount W plue Enter the total of lines 310 from If you are also an excluded coasyour refund of ITC for amount To the enterth of ITC for amount To the enterth of ITC complete this box only if you and Credit balance before refund (and Deduct: Amount Z or amount G from Page 1 amount Z or amount Z minus and ITC for ITC for amount Z minus and ITC for ITC f	as amount X – enter this, or a lesser in Part 5 and 610 from Part 12 on line or portation [as defined in subsection ount Y. TC for CCPCs that are not a qualifying or amount R from Part 12) art 11, whichever is less amount AA; if negative, enter "0")	amount, on line 610 in Part 12) e 780 of the T2 return. 127.1(2)], this amount must be multiplied by 40%. Claim this, or a lesser amount, a qualifying or excluded corporations – SR&ED excluded corporation as determined at line 101 in Part 2.	X
Add: Amount U Refund of ITC (amount W plue Enter the total of lines 310 from It If you are also an excluded coasyour refund of ITC for amount It	as amount X – enter this, or a lesser in Part 5 and 610 from Part 12 on line or portation [as defined in subsection ount Y. TC for CCPCs that are not a qualifying or amount R from Part 12) art 11, whichever is less amount AA; if negative, enter "0")	amount, on line 610 in Part 12) e 780 of the T2 return. 127.1(2)], this amount must be multiplied by 40%. Claim this, or a lesser amount, a qualifying or excluded corporations – SR&ED excluded corporation as determined at line 101 in Part 2.	X
Add: Amount U Refund of ITC (amount W pluse Enter the total of lines 310 from the street of t	as amount X – enter this, or a lesser in Part 5 and 610 from Part 12 on line proporation [as defined in subsection punt Y. FC for CCPCs that are not a qualifying or amount R from Part 12) art 11, whichever is less amount AA; if negative, enter "0") art 11, whichever is less	amount, on line 610 in Part 12) e 780 of the T2 return. 127.1(2)], this amount must be multiplied by 40%. Claim this, or a lesser amount, a qualifying or excluded corporations – SR&ED excluded corporation as determined at line 101 in Part 2.	
Add: Amount U Refund of ITC (amount W plu Enter the total of lines 310 from * If you are also an excluded coas your refund of ITC for amount - Part 15 — Refund of ITC Complete this box only if you and Credit balance before refund (and Deduct: Amount Z or amount G from Part	as amount X – enter this, or a lesser in Part 5 and 610 from Part 12 on line proporation [as defined in subsection punt Y. FC for CCPCs that are not a qualifying or amount R from Part 12) art 11, whichever is less amount AA; if negative, enter "0") art 11, whichever is less	amount, on line 610 in Part 12) e 780 of the T2 return. 127.1(2)], this amount must be multiplied by 40%. Claim this, or a lesser amount, a qualifying or excluded corporations – SR&ED excluded corporation as determined at line 101 in Part 2.	X

Recapture - SR&ED

Part 16 – Recapture of ITC for corporations and corporate 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, if 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 Amount calculated using ITC rate Amount from column 700 or 710, for the property you acquired, or the at the date of acquisition whichever is less original user's ITC where you acquired the (or the original user's date of acquisition) property from a non-arm's length party, as on either the proceeds of disposition described in the note above (if sold in an arm's length transaction) or the fair market value of the property (in any other case) 700 710 Subtotal (enter this amount at amount C in Part 17)

A /	В	С
Rate that the transferee used in determining its ITC for qualified expenditures under a subsection 127(13) agreement	Proceeds of disposition of the property if you dispose of it to an arm's length person; or, in any other case, enter the fair market value of the property at conversion or disposition	Amount, if any, already provided for in Calculation 1 (This allows for the situation where only part of the cost of a property is transferred under a subsection 127(13) agreement.)
720	730	740
	ferred all or a part of the qualified expenditure to section 127(13); otherwise, enter nil in amount B I	
described in sub	section 127(13); otherwise, enter nil in amount B I	pelow.
described in sub D Amount determined by the formula	section 127(13); otherwise, enter nil in amount B I E ITC earned by the transferee for the	F Amount from column D or E,

- 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 below.

Corporate partner's share of the excess of SR&ED ITC (amount to be reported at amount E in Part 17) 760

Part 17 – Total recapture of SR&ED investments are approximately ITC for calculation 1 from amount A in Part 16		С
Recaptured ITC for calculation 2 from amount B in Part 16		D
Recaptured ITC for calculation 3 from line 760 in Part 16	· · · · · · · · · · · · · · · · · · ·	E
Total recapture of SR&ED investment tax credit – total of a Enter amount F at amount A in Part 29.	mounts C to E	F

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	
L	Pre-production n	nining expenditures*	
Explor	ation:		
	oduction mining expenditures that the corporation incurred in the tax year fo ce, location, extent, or quality of a mineral resource in Canada:	r the purpose of determining the	
·		811	
	ical, geophysical, or geochemical surveys		
Drilling	by rotary, diamond, percussion, or other methods	812	
Trenchi	ing, digging test pits, and preliminary sampling	813	
Develo	pment:		
Pre-pro	oduction mining expenditures incurred in the tax year for bringing a new min tion in reasonable commercial quantities and incurred before the new mine	e in a mineral resource in Canada into	
		820	
	g, removing overburden, and stripping		
Sinking	g a mine shaft, constructing an adit, or other underground entry	⁷	
0	ther pre-production mining expenditures incurred in the tax year.		
	Description 825	Amount 826	
	Ad	d amounts in column 826	
Total pr	re-production mining expenditures (total of lines 810 to 821 and amount A)		
Deduct			
	fall assistance (grants, subsidies, rebates, and forgivable loans) or reimbured or is entitled to receive in respect of the amounts referred to at line 830 ab		
Excess	(line 830 minus line 832) (if negative, enter "0")		
Add:			
Repayr	ments of government and non-government assistance		
Pre-pro	oduction mining expenditures (amount B plus line 835)	<u> </u>	
	re-production mining expenditure is defined under subsection 127(9).		

- Part 19 – Current-year cı	edit and account balan	ices – ITC fron	n pre-production min	ing expenditures	
ITC at the end of the previous tax ye	ear				[
Deduct:					
Credit deemed as a remittance of co	o-op corporations				
Credit expired			845		
		Subtotal (line 84	1 plus line 845)	>	[
ITC at the beginning of the tax year	(amount D minus amount E)				
Add:	,				
Credit transferred on amalgamation	or wind-up of subsidiary			860	
Pre-production mining expenditures	*				
incurred before January 1, 2013 (applicable part of amount C from P	Part 18) 870	x	10 % =	а	
Pre-production mining exploration	ait 10)		10 78	a	
expenditures incurred in 2013	0.0				
(applicable part of amount C from P	Part 18) 872	x	5 % =	b	
Pre-production mining development expenditures incurred in 2014					
(applicable part of amount C from P	Part 18) 874	x	7 % =	с	
Pre-production mining development					
expenditures incurred in 2015 (applicable part of amount C from P	Part 18) 876	x	4 % =	d	
(applicable part of amount o from		redit (total of amour	4		
		redit (total of amour	ilisatou) eeo		
Total credit available (total of lines 8	350, 860, and amount F)				(
Deduct:		A STATE OF	885		
Credit deducted from Part I tax (ent	er at amount F in Part 30) .	· · · · · · · · · · /(·			
Credit carried back to the previous y	/ear(s) (amount I from Part 20)		· · · · · // · · · · ·	е	
		Subtotal (line 885	plus amount e)	>	
ITC closing balance from pre-pro	duction mining expenditures	(amount G minus a	amount H)	890	
* Also include pre-production minin	g development expenditures incu	urred before 2014 ar	nd pre-production mining dev	elopment expenditures i	ncurred after
2013 and before 2016 that are elig	gible for transitional relief.				
- Part 20 – Request for ca	rryback of credit from p	re-production	mining expenditure	s	
Tail 20 Roquestiei ea	Year Month Day		g expenditure	-	
1st previous tax year	Teal WORLT Day		Credit	to be applied 921	
2nd previous tax year		> .	Credit		
3rd previous tax year			Credit		
			Total (enter a	at amount e in Part 19)	
	Apr	prenticeship J	ob Creation		
- Part 21 – Total current-y	ear credit – ITC from ap	prenticeship j	ob creation expendi	tures ———	
If you are a related person as define	ed under subsection 251(2), has i	it been agreed in wr	iting that you are the only		
employer who will be claiming the a	pprenticeship job creation tax cre	edit for this tax year f	or each apprentice whose	611	.,
contract number (or social insuranc	,	, ,,	,		Yes 2 No
For each apprentice in their first 24 territory, under an apprenticeship p					
there is no contract number, enter the					aa
A Contract number	B Name of eligil	ible trade	C Eligible salary and	D Column C x	E Lesser of
(SIN or name of apprentic		-	wages*	10 %	column D or
		•			\$ 2,000
601	602	1	603	604	605
1. Hann, Justin	Power Lineworker		42,286	4,229	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
. D'Arcy, Keegan	Power Lineworker	24,777	2,478	2,000
		Total current-year credit (enter	at line 640 in Part 22)	4,000
t of any other government or non-go	vernment assistance received or to be rec	ceived.		

	or non government assistance received			
- Part 22 – Current-yea	ar credit and account balanc	ces – ITC from apprenticeship	p job creation expendi	tures
ITC at the end of the previous	tax year			B
Deduct: Credit deemed as a remittance	e of co-op corporations	612		
Credit expired after 20 tax year	rs			
		Subtotal (line 612 plus line 615) =	>	C
ITC at the beginning of the tax	year (amount B minus amount C)		<u>625</u>	
Add: Credit transferred on amalgam	nation or wind-up of subsidiary .	630		
ITC from repayment of assista	nce			
Total current-year credit (amo	unt A from Part 21)	640	4,000	
Credit allocated from a partner	rship		7	
		Subtotal (total of lines 630 to 655)	4,000	4,000 D
Total credit available (line 625	plus amount D)			4,000 E
Deduct:	(660	4.000	
Credit deducted from Part I tax	x (enter at amount G in Part 30)		4,000	
Credit carried back to the prev	ious year(s) (amount G from Part 23)	· · · · · · · · · · · · · · · · · · ·	a	
		Subtotal (line 660 plus amount a)	4,000	4,000 F
ITC closing balance from ap	prenticeship job creation expenditu	ires (amount E minus amount F)	690 ₌	
- Part 23 – Request for	r carryback of credit from a	prenticeship job creation ex	penditures —	
	Year Month Day			
1st previous tax year		y		
2nd previous tax year			• • • • • • • • • • • • • • • • • • • •	
3rd previous tax year			Credit to be applied 933	
		Total ((enter at amount a in Part 22) $_{=}$	G

Child Care Spaces

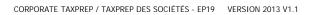
tor the eligible expanditures that the	spaces expenditures corporation incurred to create licensed child care spaces for the	no objidrop of the employees and note	ntially for	
	e carrying on a child care services business. The eligible exp		ritially, for	
• the cost of depreciable property (oth	er than specified property); and			
the specified child care start-up experience.	·			
acquired or incurred only to create new	child care spaces at a licensed child care facility.			
Cost of depreciable property	from the current tax year —			
CCA* class number	Description of investment	Date available for use	Amount of investment	
665	675	685	695	
1.				
	Total cost of depreciable pr	roperty from the current tax year 715		
Add:			•	
Specified child care start-up expenditure	es from the current tax year	705		
Total gross eligible expenditures for chil	d care spaces (line 715 plus line 705)		•	Α
Deduct:				
	subsidies, rebates, and forgivable loans) or reimbursements receive in respect of the amounts referred to at line A)	that the 725	1	
•	,			_
Excess (amount A minus line 725) (if no	egative, enter "0")		•	В
Add:				
Repayments of government and non-government	vernment assistance	735		
Total eligible expenditures for child	care spaces (amount B plus line 735)	745		
* CCA: capital cost allowance				

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	t
care facility.	

 Eligible expenditures (from line 745)
 x
 25 % =
 C

 Number of child care spaces
 x
 10,000 =
 D

ITC from child care spaces expenditures (amount C or D, whichever is less)



– Part 26 – Current-ye	ear credit and account bala	ances – ITC from child care space	es expenditures ————	
ITC at the end of the previous	s tax year			F
Deduct:				
Credit deemed as a remittand	ce of co-op corporations			
Credit expired after 20 tax year	ars			
		Subtotal (line 765 plus line 770)	<u> </u>	G
ITC at the beginning of the ta	x year (amount F minus amount G)			
Add:				
Credit transferred on amalga	mation or wind-up of subsidiary			
Total current-year credit (am-	ount E from Part 25)	780		
Credit allocated from a partne	ership			
		Subtotal (total of lines 777 to 782)	<u> </u>	н
Total credit available (line 775	5 plus amount H)			I
Deduct:				
Credit deducted from Part I ta	ax (enter at amount H in Part 30)		<u></u>	
Credit carried back to the pre	vious year(s) (amount K from Part 2	7)	a	
		Subtotal (line 785 plus amount a)	>	J
ITC closing balance from c	child care spaces expenditures (a	mount I minus amount J)	790	
– – Part 27 – Request fo	or carryback of credit from	child care space expenditures	4	
	Year Month Day			
1st previous tax year	2011-12-31		redit to be applied 941	
2nd previous tax year	2010-12-31			
3rd previous tax year	2009-12-31			
		Total (en	ter at amount a in Part 26)	K
		1000000		

Recapture – Child Care Spaces

- Part 28 – Recapture of ITC for corporations and corporate 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))	
In the case of eligible expenditures (paragraph 127(27.12)(b)), the lesser of:	
The amount that can reasonably be considered to have been included in the original ITC 795	
25% of either the proceeds of disposition (if sold in an arm's length transaction) or the fair market value (in any other case) of the property	
Amount from line 795 or line 797, whichever is less	A
Corporate 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 Total recapture of child care spaces investment tax credit (total of line 792, amount A, and line 799) Enter amount B at amount B in Part 29.	В
Summary of Investment Tax Credits	
- Part 29 – Total recapture of investment tax credit	
Recaptured SR&ED ITC (from amount F in Part 17)	
Recaptured child care spaces ITC (from amount B in Part 28)	В
Total recapture of investment tax credit (amount A plus amount B) Enter amount C on line 602 of the T2 return.	C
- Part 30 - Total ITC deducted from Part I tax	
ITC from investments in qualified property deducted from Part I tax (from line 260 in Part 5)	D
ITC from SR&ED expenditures deducted from Part I tax (from line 560 in Part 12)	58,927 E
ITC from pre-production mining expenditures deducted from Part I tax (from line 885 in Part 19)	F
	4,000 G

Privacy Act, Personal Information Bank number CRA PPU 047

Summary of Investment Tax Credit Carryovers

CCA class number 97	Apprenticeship j	ob 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)
	4,000	4,000			
Prior years					
Taxation year		ITC beginning of year (E)	Adjustments (F)	Applied current year (G)	ITC end of year (E-F-G)
2011-12-31					
2010-12-31					
2009-12-31					
2008-12-31					
2007-12-31					
2006-12-31			A		
2005-12-31				\ <u> </u>	
2004-12-31				<u></u>	
2003-12-31					
2002-12-31					
2001-12-31			4		
2000-12-31				ý	
1999-12-31				·	
1998-12-31					
1997-12-31		\mathbb{A}_{-}	<u> </u>		
1996-12-31					
1995-12-31					
1994-12-31			- Congress		
1993-12-31					
1992-12-31					
	Total				
B+C+D+G				Total ITC utilized	4

^{*} 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 will only expire at the beginning of the subsequent fiscal period. Consequently, this amount will be posted on line 215, 515, 615, 770 or 845, as applicable, in Schedule 31 of the subsequent fiscal year.

Summary 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	ITC end of year (A-B-C-D)
	58,927	58,927			
Prior years					
Taxation year		ITC beginning of year (E)	Adjustments (F)	Applied current year (G)	ITC end of year (E-F-G)
2011-12-31					
2010-12-31					
2009-12-31					
2008-12-31					
2007-12-31					
2006-12-31					
2005-12-31				\	
2004-12-31				<u> </u>	
2003-12-31					
2002-12-31					
2001-12-31					
2000-12-31				?	
1999-12-31		2			
1998-12-31					
1997-12-31					
1996-12-31					
1995-12-31			<u> </u>		
1994-12-31					
1993-12-31					
1992-12-31					·
	Total				
B+C+D+G				Total ITC utilized	58,

* 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 will only expire at the beginning of the subsequent fiscal period. Consequently, this amount will be posted on line 215, 515, 615, 770 or 845, as applicable, in Schedule 31 of the subsequent fiscal year.



Canada Revenue

Agence du revenu du Canada

SCHEDULE 50

SHAREHOLDER INFORMATION

Name of corporation	Business Number	Tax year end Year Month Day
CAMBRIDGE AND NORTH DUMFRIES HYDRO INC.	86569 7585 RC0001	2012-12-31

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 o	ne number per sha	reholder		
	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	Cambridge & North Dumfries Energy Plus Inc.	88102 0127 RC0001			100.000	
2						
3						
4						
5						
6						
7						
8		4				
9						
10						





Canada Revenue

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SCHEDULE 53

GENERAL RATE INCOME POOL (GRIP) CALCULATION

Name of corporation	Business Number	Tax year-end Year Month Day
CAMBRIDGE AND NORTH DUMFRIES HYDRO INC.	86569 7585 RC0001	2012-12-31

On: 2012-12-31

- 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).
- When an eligible dividend was paid in the tax year, 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.
- Subsections referred to in this schedule are from the Income Tax Act.
- 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 X 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	2006-12-31
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?	X Yes No
5. Corporations that become a CCPC or a DIC	Yes X 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 X 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. Corporations that wound-up a subsidiary	Yes X 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? If the answer to question 10 is yes, complete Part 4.	Yes No
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.	1 es 1 NO



Part 1 – Calculation of general rate income pool (GRIP)			_
GRIP at the end of the previous tax year	100	24,689,460	Α
Taxable income for the year (DICs enter "0") *	В		
Income for the credit union deduction * (amount E in Part 3 of Schedule 17)			
Amount on line 400, 405, 410, or 425 of the T2 return, whichever is less *			
For a CCPC, the lesser of aggregate investment income (line 440 of the T2 return) and taxable income *			
Subtotal (add lines 120, 130, and 140)	С		
Income taxable at the general corporate rate (line B minus line C) (if negative enter "0") 150			
After-tax income (line 150 x general rate factor for the tax year ** 0.72)	190	1,302,844	D
Eligible dividends received in the tax year			
Dividends deductible under section 113 received in the tax year	_		_
Subtotal (add lines 200 and 210)	—		Ε
GRIP addition: Becoming a CCPC (line PP from Part 4)			
Becoming a CCPC (line PP from Part 4)			
Post-wind-up (total of lines EE from Part 3 and lines PP from Part 4)			
All San Control of the Control of th	290		F
Subtotal (add lines A, D, E		25,992,304	G
	,		_
Eligible dividends paid in the previous tax year			
Excessive eligible dividend designations made in the previous tax year			
Note: If becoming a CCPC (subsection 89(4) applies), enter "0" on lines 300 and 310. Subtotal (line 300 minus line 310)			Н
GRIP before adjustment for specified future tax consequences (line G minus line H) (amount can be negative)		25,992,304	
Total GRIP adjustment for specified future tax consequences to previous tax years (amount W from Part 2)	560		
GRIP at the end of the tax year (line 490 minus line 560) Enter this amount on line 160 of Schedule 55.	590	25,992,304	
* For lines 110, 120, 130, and 140, the income amount is the amount before considering specified future tax consequences. This	phrasa is defined	in	
subsection 248(1). It includes the deduction of a loss carryback from subsequent tax years, a reduction of Canadian exploration Canadian development expenses that were renounced in subsequent tax years (e.g., flow-through share renunciations), reversa inclusions where an option is exercised in subsequent tax years, and the effect of certain foreign tax credit adjustments.	expenses and	""	
** The general rate factor for a tax year is 0.68 for any portion of the tax year that falls before 2010, 0.69 for any portion of the tax that falls in 2010, 0.70 for any portion of the tax year that falls in 2011, and 0.72 for any portion of the tax year that falls after 201 Calculate the general rate factor in Part 5 for tax years that straddle these dates.			
Dort 2 CDID adjustment for an extension			_
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 defined in subsection 248(1) from the current tax year. Otherwise, enter "0" on line 560.	x consequences		
First previous tax year 2011-12-31			
Taxable income before specified future tax consequences			
from the current tax year			
Enter the following amounts before specified future tax consequences from the current tax year:			
Income for the credit union deduction (amount E in Part 3 of Schedule 17) K1			
Amount on line 400, 405, 410, or 425 of the T2 return, whichever is less L1			
Aggregate investment income			
(line 440 of the T2 return) M1			
Subtotal (add lines K1, L1, and M1) N1	_		
Subtotal (line J1 minus line N1) (if negative, enter "0")	O1		

Non-capital loss carry-back (paragraph 111 (1)(a) ITA) Capital loss carry-back Capital loss carry-back loss carry-back Deleincome after specified future tax consequences the following amounts after specified future tax consequences: the for the credit union deduction ant E in Part 3 of Schedule 17) and on line 400, 405, 410, or 425 T2 return, whichever is less gate investment income Restricted farm loss carry-back Restricted farm loss carry-back	T1 ►	Other	Total carrybacks
(paragraph 111 (1)(a) ITA) carry-back loss carry-back able income after specified future tax consequences er the following amounts after specified future tax consequences: me for the credit union deduction ount E in Part 3 of Schedule 17) Q1 ount on line 400, 405, 410, or 425 e T2 return, whichever is less regate investment income 440 of the T2 return) S1 Subtotal (add lines Q1, R1, and S1)	carry-back P1 T1 ▶	Other	
er the following amounts after specified future tax consequences: me for the credit union deduction ount E in Part 3 of Schedule 17) Q1 ount on line 400, 405, 410, or 425 e T2 return, whichever is less R1 regate investment income 440 of the T2 return) S1 Subtotal (add lines Q1, R1, and S1)	T1 ►		
P adjustment for specified future tax consequences to the first previous V1 multiplied by the general rate factor for the tax year 0.72) . cond previous tax year2010-12-31 able income before specified future tax consequences from surrent tax year er the following amounts before specified future tax sequences from the current tax year: me for the credit union deduction	s tax year	V	
bunt E in Part 3 of Schedule 17)	N2		
Subtotal (line J2 minus line N2) (if negative, enter "0")	<u></u> 5,199,797 ✓	5,199,797 C	2
Future tax consequences	that occur for the current	year	
Amount carried back from Non-capital loss	the current year to a prior y	ear	
carry-back (paragraph 111 (1)(a) ITA) Capital loss Restricted farm loss carry-back loss carry-back	Farm loss carry-back	Other	Total carrybacks
able income after specified future tax consequences	P2		
er the following amounts after specified future tax consequences: me for the credit union deduction bunt E in Part 3 of Schedule 17) Q2 bunt on line 400, 405, 410, or 425 e T2 return, whichever is less R2 regate investment income			
440 of the T2 return)	T2		
Subtotal (line P2 minus line T2) (if negative, enter "0")	<u> </u>	U	2

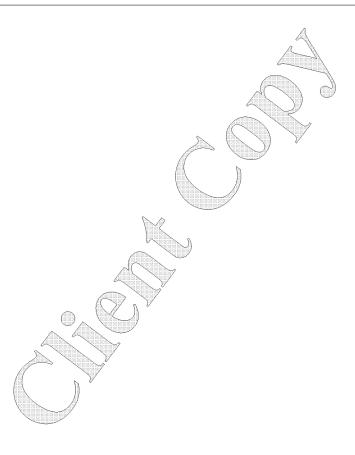
(line V2 multiplied by the general rate factor for the tax year

– Part 2	- GRIP adjustmer	nt for specified fu	ture tax conseque	ences to previous	s tax years (contin		585 RC0001
	evious tax year 2009	-		,		,	
	ncome before specified fu		from				
				3,748,525 J3			
	following amounts before	specified future tax					
-	ences from the current tax or the credit union deduction						
	E in Part 3 of Schedule 17		K3				
Amount o	n line 400, 405, 410, or 4 return, whichever is less	25					
	e investment income		L3				
	of the T2 return)	<u></u>	M3				
Su	btotal (add lines K3, L3,	and M3)	>	N3			
	Subtotal (line J3 I	minus line N3) (if negati	ve, enter "0")	3,748,525	3,748,525 ₀	3	
		Futui	re tax consequences th	nat occur for the curre	ent year		
		Am	ount carried back from th	ne current year to a prio	ryear		
	Non-capital loss	.	D				
	carry-back (paragraph 111 (1)(a) ITA)	Capital loss carry-back	Restricted farm loss carry-back	Farm loss carry-back	Other	Total carrybacks	
	(1)(0)1174)						
Tavable ir	ncome after specified futu	re tay consequences		D3 (_
	following amounts after s	•	-	13			
Income fo	r the credit union deducti	on	•)		
	in Part 3 of Schedule 17		Q3				
	n line 400, 405, 410, or 4 return, whichever is less		R3		V		
	e investment income						
	of the T2 return)	· · · · · · · <u> </u>	S3				
Su	btotal (add lines Q3, R3,			T3			
	Subtotal (line P3)	minus line T3) (if negati			U		
		Subtotal (I	line O3 minus lin e U3) (i	r negative, enter "0") _	V3	3	
_	ustment for specified for					E40	
`	nultiplied by the general	•				540	
	IP adjustment for speci s 500, 520, and 540) (if ne						W
-	ount W on line 560.	,					
Part 3	- Worksheet to ca	alculate the GRIP	addition post-am a CCPC or a DIC i	algamation or po	ost-wind-up ——— '\		
-h 4				ii its iast tax year	,		
nb. 1	Post amalgamation		,		(4)		,
and the pr	redecessor or subsidiary	corporation was a CCP0 redecessor corporation	C or a DIC in its last tax yowas its tax year that ende	ear. In the calculation bed immediately before the	1)) or a wind-up (to which selow, corporation means ne amalgamation and for a	a predecessor or a	3)
For a pos	, ,	IP addition in calculating			t immediately follows the ta	ax year during which it	
Complete		each predecessor and	each subsidiary that was	s a CCPC or a DIC in its	s last tax year. Keep a cop	y of this calculation for	
*	on's GRIP at the end of its						AA
Eligible di	vidends paid by the corpo	oration in its last tax year			BE	3	
Excessive	e eligible dividend designa	ations made by the corpo	oration in its last tax vear		C(
	5		•	BB minus line CC)			DD
	lition post-amalgamation	on or post-wind-up (pr				_	
`	ninus line DD)					· · · · · <u> </u>	EE
_	complete this calculation line 230 for post-amalga line 240 for post-wind-up	mation; or	nd each subsidiary, calcu	ılate the total of all the E	EE lines. Enter this total am	nount on:	

Part 4 – Worksheet to calculate the GRIP addition post-amalgamation, post-wind-up————————————————————————————————————	
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. Also, use this part for a corporation becoming a CCPC. In the calculation below, corporation means a corporation becoming a CCPC, a predecessor, or a subsidiary.	
For a post-wind-up, include the GRIP addition in calculating the parent's GRIP at the end of its tax year that immediately follows the tax year during which it receives the assets of the subsidiary.	
Complete a separate worksheet for each predecessor and each subsidiary that was not a CCPC or a DIC in its last tax 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	_FF
The corporation's money on hand immediately before the end of its previous/last tax year	_GG
Unused and unexpired losses at the end of the corporation's previous/last tax year:	
Non-capital losses Net capital losses Farm losses Restricted farm losses Limited partnership losses	
Subtotal (add lines FF, GG, and HH)	_HH II
All the corporation's debts and other obligations to pay that were outstanding immediately before the end of its previous/last tax year	- "
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 KK	
All the corporation's reserves deducted in its previous/last tax year LL	
The corporation's capital dividend account immediately before the end of its previous/last tax year	
The corporation's low rate income pool immediately before the end of its previous/last tax year	
Subtotal (add lines JJ, KK, LL, MM, and NN)	_00
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 (line il minus line OO) (if negative, enter "0")	PP
After you complete this worksheet for each predecessor and each subsidiary, calculate the total of all the PP lines. 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.	=

$_{ m extsf{ iny}}$ Part 5 – General rate factor for the tax year -

0.68	x	number of days in the tax year before January 1, 2010		= <u></u>	QQ	
		number of days in the tax year	366			
0.69	x	number of days in the tax year in 2010		=	RR	
		number of days in the tax year	366			
0.7	x	number of days in the tax year in 2011		=	SS	
		number of days in the tax year	366			
0.72	x	number of days in the tax year after December 31, 2011		= <u></u>	<u>0.72000</u> TT	
		number of days in the tax year	366			





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SCHEDULE 55

PART III.1 TAX ON EXCESSIVE ELIGIBLE DIVIDEND DESIGNATIONS

Name of corporation	Busir	ness Number	Tax year-end Year Month Day	
CAMBRIDGE AND NORTH DUMFRIES HYDRO INC.	86569	7585 RC0001	2012-12-31	
• 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.	l	Do no	t use this area	
 Canadian-controlled private corporations (CCPC) and deposit insurance corporations (DIC) must complete Part 1 of this schedule. All other corporations must complete Part 2. 				
• Every corporation that has paid an eligible dividend must also file Schedule 53, General Rate Income Pool (GRIP) Calculation, or Schedule 54, Low Rate Income Pool (LRIP) Calculation, whichever is applicable.				
• File the completed schedules with your <i>T2 Corporation Income Tax Return</i> no later than six months from the end of the tax year.				
All legislative references on this schedule are to the federal <i>Income Tax Act</i> .				
• Subsection 89(1) defines the terms eligible dividend, excessive eligible dividend designation, general rate in low rate income pool (LRIP).	icome poo	(GRIP), and		
 The calculations in Part 1 and Part 2 do not apply if the excessive eligible dividend designation arises from the paragraph (c) of the definition of excessive eligible dividend designation in subsection 89(1). This paragraph dividend is paid to artificially maintain or increase the GRIP or to artificially maintain or decrease the LRIP. 				
- Part 1 – Canadian-controlled private corporations and deposit insurance corp	oration	ıs ———		
Taxable dividends paid in the tax year not included in Schedule 3	10			
Taxable dividends paid in the tax year included in Schedule 3	2,948	3,000		
Total taxable dividends paid in the tax year	<u>/</u> 2,948	3,000		
Total eligible dividends paid in the tax year		150		Α
GRIP at the end of the tax year (line 590 on Schedule 53) (if negative, enter "0")		160	25,992,304	В
Excessive eligible dividend designation (line 150 minus line 160)				С
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)		Ε
Part III.1 tax on excessive eligible dividend designations – CCPC or DIC (amount E multiplied by	20 %	%) <mark>190</mark>		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				
Tatal associate alimital administration in the tasses of form line A of Cohe dule 54)				_
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		Н
		minus amount H)		 I
Part III.1 tax on excessive eligible dividend designations – Other corporations (amount I multiplied by	a. Hourit G	20 %) . 290		•
Tark in Francisco Control Cont		20 /0) . 230		J

* 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**.



Enter the amount from line 290 on line 710 of the T2 return.



Canada Revenue Agence du revenu du Canada

Schedule 500

Ontario Corporation Tax Calculation

Corporation's name	Business number	Tax year-end Year Month Day
CAMBRIDGE AND NORTH DUMFRIES HYDRO INC.	86569 7585 RC0001	2012-12-31

- Use this schedule if the corporation had a permanent establishment (as defined in section 400 of the federal *Income Tax Regulations*) in Ontario at any time in the tax year and had Ontario taxable income in the year.
- All legislative references are to the federal Income Tax Act and Income Tax Regulations.
- This schedule is a worksheet only. You do not have to file it with your T2 Corporation Income Tax Return.

- Part 1 -	Calculation of	Ontario	basic rate of	f tax for the	vear -
------------	----------------	---------	---------------	---------------	--------

Number of days in the tax year before July 1, 2011 Number of days in the tax year	366	x	12.00 %	=	
Number of days in the tax year after June 30, 2011 Number of days in the tax year	<u>366</u> 366	x	11.50 %	=	11.50000 %_ A2

Ontario basic rate of tax for the year (rate A1 plus A2) 11.50000 11.50000 11.50000 A3

Part	2 _	Calculation	of Ontario	hasic	income	tav.
Part	z –	Calculation	or Ontario) Dasic	ıncome	tax:

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.

* If the corporation has a permanent establishment only in Ontario, enter the amount from line 360 or line Z, whichever applies, of the T2 return. Otherwise, enter the taxable income allocated to Ontario from column F in Part 1 of Schedule 5.



- Part 3 - Ontario small	business deduction (OSBD) ———			
Complete this part if the corporal subsection 125(5.1) had not bee		ousiness deduction u	nder subsection	125(1) or would have claimed it if	
Income from active business car	rried on in Canada (amount fro	m line 400 of the T2 r	eturn)	<u> </u>	1,820,206 1
Federal taxable income, less adj	justment for foreign tax credit (a	amount from line 405	of the T2 return)	1,809,506 2
Federal business limit before the	e application of subsection 125	(5.1) (amount from li	ne 410 of the T2	return)	500,000 3
Enter the least of amounts 1, 2,	and 3			<u> </u>	500,000 D
Ontario domestic factor:	Ontario taxa	able income *		1,809,506.00 =	1.00000 E
_	Taxable income earned in a	III provinces and terri	tories **	1,809,506	
Amount D x factor E	500,000_ a				
Ontario taxable income (amount B from Part 2)	1,809,506 b				
Ontario small business income (lesser of amount a and amount	t b)			500,000 F
	of days in the tax year ore July 1, 2011	x	7.50 %	= % G1	
Number o	of days in the tax year	366			
	lays in the tax year after une 30, 2011	_366_ ×	7.00 %	7.00000 % G2	
Number o	of days in the tax year	366			
OSBD rate for the year (rate G1	plus G2)		()	7.00000 % G3	
Ontario small business deduc	tion: amount F multiplied by 0	OSBD rate for the ye	ar (rate G3)	<u> </u>	35,000 H
Enter amount H on line 402 of So	chedule 5.	X	A		
* Enter amount B from Part 2.			J		
** Includes the offshore jurisdic	ctions for Nova Scotia and New	foundland and Labra	idor.		
⊢ Part 4 – Ontario adjus	ted small business inc	come			_
Complete this part if the corporat manufacturing and processing o			hroughout the ta	ax year and is claiming the Ontario tax credit t	·or
Ontario adjusted small busine	ess income (lesser of amount)	D and amount b from	n Part 3) .	·····=	500,000
Enter amount I on line K in Part swhichever applies.	5 of this schedule or on line B in	n Part 2 of Schedule	502, Ontario Ta	ax Credit for Manufacturing and Processing,	

865	69 7585 RC000
Part 5 – Calculation of credit union tax reduction	
Complete this part and Schedule 17, Credit Union Deductions, if the corporation was a credit union throughout the tax year.	
Amount D from Part 3 of Schedule 17 J	
Deduct:	
Ontario adjusted small business income (amount I from Part 4)	
Subtotal (amount J minus amount K) (if negative, enter "0")	
OSBD rate for the year (rate G3 from Part 3)	
Amount L multiplied by the OSBD rate for the year	M
Ontario domestic factor (factor E from Part 3)	1.00000 N
Ontario credit union tax reduction (amount M multiplied by factor N)	0
Enter amount O on line 410 of Schedule 5.	

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SCHEDULE 506

ONTARIO TRANSITIONAL TAX DEBITS AND CREDITS

Name of corporation	Business Number	Tax year-end Year Month Day
CAMBRIDGE AND NORTH DUMFRIES HYDRO INC.	86569 7585 RC0001	2012-12-31

- Complete this schedule if you are a specified corporation that is subject to the Ontario transitional tax debit or are claiming the Ontario transitional tax credit.
- Unless otherwise noted, all legislative references are to the federal Income Tax Act.
- File this schedule with the T2 Corporation Income Tax Return.
- Unless otherwise noted, terms on this page are defined under subsection 46(1) of the Taxation Act, 2007 (Ontario).
- Specified corporation is defined under subsection 46(5) of the Taxation Act, 2007 (Ontario) as a corporation:
 - that is not exempt at or immediately before its transition time from tax payable under Part I of the federal Act;
 - that has a tax year that ends before 2009 and a tax year that includes January 1, 2009; or has a tax year that begins after 2008 and a tax year that is deemed to end on December 31, 2008, under subsection 249(3) of the federal Act;
 - that has a permanent establishment (PE) in Ontario at its transition time;
 - that had a PE in Ontario at any time in its last tax year ending before 2009, and was subject to tax under Part II of the Corporations Tax Act (Ontario) for that tax year; and
 - whose assets have not been distributed in an eligible pre-2009 windup.
- A specified corporation also includes, under subsection 51(1) of the Taxation Act, 2007 (Ontario), the parent corporation of an eligible post-2008 windup and the new corporation of an eligible amalgamation.
- A specified corporation may be subject to the Ontario transitional tax debit if:
 - the corporation's total federal balance is more than the total Ontario balance at the end of the tax year, or
 - the corporation has a post-2008 scientific research and experimental development (SR&ED) balance, as defined under subsection 49(2) of the Taxation Act, 2007 (Ontario), and a federal SR&ED transitional balance, as defined under subsection 49(4) of the Taxation Act, 2007 (Ontario), at the end of the tax year.
- A specified corporation may be able to claim the Ontario transitional tax credit if:
 - the corporation's total Ontario balance is more than the total federal balance at the end of the tax year; or
 - the corporation has an unused transitional tax credit balance from previous tax years.
- Transition time means:
 - the beginning of the corporation's first tax year that starts after 2008 if the previous tax year is deemed under subsection 249(3) of the federal Act to end on December 31, 2008, or
 - the beginning of the corporation's tax year that includes January 1, 2009, in any other case.
- An eligible amalgamation means an amalgamation or merger of a particular corporation and one or more other corporations to form a new corporation where:
 - the amalgamation or merger occurs after December 31, 2008, and does not occur at the new corporation's transition time;
 - the new corporation has a PE in Ontario immediately after the amalgamation or merger;
 - the particular corporation has a PE in Ontario immediately before the amalgamation or merger;
 - the particular corporation is a specified corporation at its transition time or at any time before the amalgamation or merger;
 - the amalgamation or merger occurs in the amortization period of the new corporation;
 - the amortization period of the new corporation does not end immediately after the beginning of its reference period; and
 - the amortization period of the particular corporation does not end before the amalgamation or merger.
- An eligible post-2008 windup means the windup of a subsidiary corporation into its parent corporation under subsection 88(1) where:
 - the completion time of the windup is after December 31, 2008, and the time immediately after the completion time is within the amortization periods of the subsidiary and parent;
 - the parent's tax year (during which it received the assets of the subsidiary) ends after December 31, 2008;
 - the subsidiary has a PE in Ontario during its tax year ending at the completion time; and
 - the parent has a PE in Ontario during its tax year in which it received the assets from the subsidiary.
- An eligible pre-2009 windup means the windup of a subsidiary under subsection 88(1) where:
 - the completion time of the windup is after December 31, 2008, and the parent's tax year (during which it received the assets of the subsidiary) ended before January 1, 2009; or
 - the completion time of the windup is before January 1, 2009, and the parent's tax year (during which it received the assets of the subsidiary) ended after December 31, 2008.
- The completion time of a windup means the end of the tax year of the subsidiary during which the subsidiary distributes its assets to the parent for the purposes of paragraph 88(1)(e.2).
- A specified pre-2009 transfer under section 52 of the Taxation Act, 2007 (Ontario) means a transfer of property between corporations not at arm's length that changes the total federal or Ontario balance of either the transferee or the transferor and that occurs:
 - before 2009;
 - at different values under the Corporations Tax Act (Ontario) and the federal Act;
 - in a tax year ending after 2008 for either the transferee or the transferor corporation, and that corporation is a specified corporation; and
 - in a tax year of the other corporation ending before 2009, in which the other corporation has a PE in Ontario.



Part 1 – Total federal balance -

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).

If this is the first year after amalgamation, include the total of all amounts from the predecessor corporations that had a PE in Ontario immediately before the amalgamation.

If the corporation is a life insurer or a non-resident corporation, do not include the amounts under the additional rules in subsection 48(8) of the *Taxation Act*, 2007 (Ontario).

For other tax years, go to Part 3.

Total undepreciated capital cost of depreciable properties (total of column 220 from Schedule 8, Capital Cost Allowance (CCA))	110
Charitable donations not yet deducted from income (from line 280 of Schedule 2, Charitable Donations and Gifts) (see Note 1)	112
Gifts to Canada, a province, or a territory (from line 380 of Schedule 2) (see Note 1)	114
Gifts of certified cultural property (from line 480 of Schedule 2) (see Note 1)	116
	118
Gifts of medicine (from line 680 of Schedule 2) (see Note 1)	120
Federal SR&ED expenditure pool (from line 470 of Form T661, Scientific Research and Experimental	122
Cumulative Canadian exploration expense (from line 249 of Schedule 12, Resource-Related Deductions) (see Note 2)	128
Cumulative Canadian development expense (from line 349 of Schedule 12) (see Note 2)	130
Cumulative Canadian oil and gas property expense (from line 449 of Schedule 12) (see Note 2)	132
Federal balances at the beginning of the current tax year	
Non-capital losses (line 102 of Schedule 4, Corporation Loss Continuity and Application, of the current tax year) (see Note 2 and Note 4)	134
Net capital losses (from line 200 of Schedule 4 of the current tax year x 50 %) (see Note 2 and Note 4)	136
Amounts included in the calculation of the Ontario income tax in the previous tax year	
Total reserves deducted under paragraph 20(1)(I), (I.1), (m), (m.1), (n), or (o), subsection 32(1), section 61.4 or subparagraph	
138(3)(a)(i), (ii), or (iv) of the federal Act, as it applies for the purposes of the <i>Corporations Tax Act</i> (Ontario)	150
One half of the total reserves deducted under subparagraph 40(1)(a)(iii) or 44(1)(e)(iii) of the federal Act, as it applies under the Corporations Tax Act (Ontario)	152
Other discretionary deductions claimed for Ontario income tax, but not claimed federally in the tax years ending after December 12, 2006, and before the transition time	154
Other amounts	
Total adjusted cost base of partnership interests owned by the corporation, under the federal Act, at the beginning of the tax year (see Note 5)	160
Gain from a negative adjusted cost base of a partnership interest under subsection 40(3) of the federal Act, as it applies under the <i>Corporations Tax Act</i> (Ontario), as if all partnership interests were	162
	164
/ o	
Federal balance before election (total of lines 110 to 1	04) A
Deduct:	
	170
Total federal balance (amount A minus line 170) Enter amount on line 300 in Part 3.	180
Note 1: Enter "0" if the corporation was non-resident immediately before its transition time.	
I	

Note 2: Enter "0" if control of the corporation was acquired at transition time.

Note 4: Do not include losses that arose before control of the corporation was last acquired. Note 5: The adjusted cost base of any particular partnership interest cannot be less than "0".

Note 3: Do not include the SR&ED expenditure pool earned before control of the corporation was last acquired.

Part 2 – Total Ontario balance

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).

If this is the first year after amalgamation, include the total of all amounts from the predecessor corporations that had a PE in Ontario immediately before the amalgamation.

If the corporation is a life insurer or a non-resident corporation, do not include the amounts under the additional rules in subsection 48(8) of the *Taxation Act*, 2007 (Ontario).

For other tax years, go to Part 3.

Ontario balances at the end of the previous tax year (tax year ending in 2008)

Total undepreciated capital cost of depreciable properties (total of column 13 from Ontario Schedule 8, Ontario Capital Cost Allowance)
Charitable donations (amount I from Ontario Schedule 2, Ontario Charitable Donations and Gifts) (see Note 1)
Gifts to Canada, a province, or a territory (total of closing balance amounts from parts 3 and 5 of Ontario Schedule 2) (see Note 1)
Gifts of certified cultural property (closing balance amount from Part 6 of Ontario Schedule 2) (see Note 1)
Gifts of certified ecologically sensitive land (closing balance amount from Part 7 of Ontario Schedule 2) (see Note 1)
Gifts of medicine (see Note 1)
Cumulative eligible capital (amount Q from Ontario Schedule 10, Ontario Cumulative Eligible Capital Deduction)
Ontario SR&ED expenditure pool (line 480 from Ontario CT23 Schedule 161, Ontario Scientific Research and Experimental Development Expenditures) (see Note 2 and Note 3)
Adjusted Ontario SR&ED incentive balance (see Note 2 and Note 5)
Cumulative Canadian exploration expense (closing balance of Regular Expenses from Part 2 of Ontario Schedule 12, Ontario Exploration Expenses) (see Note 2) 228
Cumulative Canadian development expense (closing balance of Regular Expenses, Canadian CCDE Expenses, from Part 3 of Ontario Schedule 12) (see Note 2)
Cumulative Canadian oil and gas property expense (closing balance of Regular Expenses from Part 4 of Ontario Schedule 12) (see Note 2)
Non-capital losses (from line 709 of Ontario Corporations Tax Return CT8 or CT23 Corporations Tax and Annual Return) (see Note 2 and Note 4)
Net capital losses (from line 719 of CT8 or CT23 x 50 %) (see Note 2 and Note 4)
Amounts included In the calculation of the federal income tax in the previous tax year
Total reserves deducted under paragraph 20(1)(I), (I.1), (m), (m.1), (n), or (o), subsection 32(1), section 61.4 or subparagraph 138(3)(a)(i), (ii), or (iv)
One half of the total reserves deducted under subparagraph 40(1)(a)(iii) or 44(1)(e)(iii)
Other amounts
Total adjusted cost base of partnership interests owned by the corporation, for the purposes of the Corporations Tax Act (Ontario), at the beginning of the tax year (see Note 6)
Gain from a "negative" adjusted cost base of a partnership interest under subsection 40(3) determined as if all partnership interests were disposed of at the beginning of the tax year
Amount of farming income in the previous tax year specified under paragraph 28(1)(b) of the federal Act, as it applies for the purposes of the Corporations Tax Act (Ontario)
Total Ontario balance (total of lines 210 to 264)

Enter amount on line 340 in Part 3.

- Note 1: Enter "0" if the corporation was non-resident immediately before its transition time.
- Note 2: Enter "0" if control of the corporation was acquired at transition time.
- Note 3: Do not include the SR&ED expenditure pool earned before control of the corporation was last acquired.
- Note 4: Do not include losses that arose before control of the corporation was last acquired.
- Note 5: The adjusted Ontario SR&ED incentive balance under subsection 49(7) of the *Taxation Act, 2007* (Ontario) is the total of federal investment tax credits that:
 - -have been earned and are available without restriction to the corporation;
 - are attributable to qualifying Ontario SR&ED expenditures;
 - have not been deducted under subsection 127(5) or (6) of the federal Act at the end of the corporation's tax year ending immediately before its transition time; and
 - do not expire in the first tax year ending in 2009 under the 10-year carryforward limit,
 - divided by the relevant Ontario allocation factor as calculated in Part 11.

Note 6: The adjusted cost base of any particular partnership interest cannot be less than "0".

Total federal balance: Total federal balance (amount from line 180 in Part 1, or amount from line 330 in Part 3 of Schedule 506 for the previous tax year)	
Add:	
Amount from eligible amalgamation* Amount from eligible post-2008 windup* Amount from eligible pre-2009 windup* Amount from specified pre-2009 transfers* 310 315 320 Amount from specified pre-2009 transfers*	
Total federal balance at the end of the tax year	,911,370
Total Ontario balance: Total Ontario balance (amount from line 280 in Part 2, or amount from line 370 in Part 3 of Schedule 506 for the previous tax year)	
Add:	
Amount from eligible amalgamation*	
Amount from eligible post-2008 windup*	
Amount from eligible pre-2009 windup*	
Amount from specified pre-2009 transfers*	
Total Ontario balance at the end of the tax year	,946,210
Transitional balance at the end of the tax year (line 330 minus line 370)	-34,840
If line 390 is positive, the corporation may be subject to a transitional tax debit. Complete Part 7 of this schedule. If line 390 is negative, the corporation may be eligible to claim a transitional tax credit. Complete Part 8 of this schedule.	
* See page 1 for definitions of eligible amalgamation, eligible post-2008 windup, eligible pre-2009 windup, and specified pre-2009 transfers. To calculate these amounts, you can use Schedule 507, Ontario Transitional Tax Debits and Credits Calculation.	
Part 4 – Election to reduce federal SR&ED expenditure pool	
The corporation may make this election 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).	
Are you making an election under clause (b) of the definition of "I" in paragraph of subsection 48(4) of the <i>Taxation Act</i> , 2007 (Ontario)?	2 No X
If you answered no to the question at line 400, go to Part 5. If you answered yes to the question at line 400, complete the following calculation:	
Federal SR&ED expenditure pool closing balance at the end of the previous tax year (amount from line 124 in Part 1)	В
Deduct:	
Deduct: Adjusted Ontario SR&ED incentive balance at the end of the previous tax year (amount from line 226 in Part 2)	
Adjusted Ontario SR&ED incentive balance at the end of the previous tax year	
Adjusted Ontario SR&ED incentive balance at the end of the previous tax year (amount from line 226 in Part 2) 1 Ontario SR&ED expenditure pool closing balance at the end of the previous tax year	c
Adjusted Ontario SR&ED incentive balance at the end of the previous tax year (amount from line 226 in Part 2)1 Ontario SR&ED expenditure pool closing balance at the end of the previous tax year (amount from line 224 in Part 2)	C
Adjusted Ontario SR&ED incentive balance at the end of the previous tax year (amount from line 226 in Part 2)	
Adjusted Ontario SR&ED incentive balance at the end of the previous tax year (amount from line 226 in Part 2)	
Adjusted Ontario SR&ED incentive balance at the end of the previous tax year (amount from line 226 in Part 2)	
Adjusted Ontario SR&ED incentive balance at the end of the previous tax year (amount from line 226 in Part 2)	
Adjusted Ontario SR&ED incentive balance at the end of the previous tax year (amount from line 226 in Part 2)	

Cambridge and North Dumfries Hydro Inc	Dec12 PILS.212	2012-12-31	CAMBRIDGE AND NORTH DUMFRIES HYDRO INC 86569 7585 RC000
┌ Part 5 – Reference period and a	mortization period	d	
Reference period			
The reference period starts at the beginning o ends on whichever date is earlier: — five calendar years after the time immediat — December 31, 2013.	·	,	
Number of days in the corporation's reference (do not include February 29, 2008, and February 29, 2008).		0 1,825	
* The number of days in the corporation's re — the previous tax year-end is deemed to days from the beginning of the 2009 ta — the corporation was incorporated or an date of incorporation or date of amalga	be December 31, 2008, x year to December 31, 2 nalgamated after January	under subsection 249(3). In t 2013; or y 1, 2009. In this case, count tl	
Amortization period			
The amortization period starts at the beginning — the end of the corporation's reference perio		erence period and ends on whi	ichever date is earlier:
- the early termination date as indicated und	er line 430.		
Number of days in the amortization period that in the tax year** (do not include February 29, 2 or February 29, 2012)	2008,	20 365_	A
the end of the reference period; or	the reference period. In ation period before the er	this case, count the number of	e tax year unless: of days from the beginning of the tax year to count the number of days from the beginning
Early termination of the amortization period	od		
The amortization period of the corporation usu period ends in the tax year and before the refe			
430 The corporation:			
ceases to have a PE in Ontario i or eligible post-2008 windup.	n the tax year for any rea	ison other than an eligib le ama	algamation
2 – becomes exempt from tax unde	r Part I of the federal Act	immediately after the end of the	he tax year.
elects under subsection 47(2) o Note: The Ontario Allocation Fa line 390 in Part 3 is not more that	actor, calculated in Part 6		
4 — does not object to early terminat under subsection 46(3) of the 7 Note: Amount T in Part 8 cannot	axation Act, 2007 (Ontar		nt of the transitional tax credit,
If you ticked one of the above boxes: — enter the date of the early termination, if the ticked box 1 at line 430	e date is different from th	e tax year-end and you	
enter the number of days from the first day reference period (do not include February			440
⊢ Part 6 – Calculation of Ontario a	Illocation factor (0	OAF)	
If the provincial or territorial jurisdiction entere		•	line F. e following calculation and enter the result on line F:
Ontario taxable income* Taxable income**	= <u></u>		
i axable ilicollie			
Ontario allocation factor (OAF)			<u>1.00000</u> F

Enter the amount allocated to Ontario from column F in Part 1 of Schedule 5, *Tax Calculation Supplementary – Corporations*. If taxable income is nil, calculate the amount in column F as if taxable income were \$1,000.

** Enter taxable income from line 360 or amount Z of the T2 return, whichever applies. If taxable income is nil, enter "1,000."

	in Part 3 is positiv			
Amount from line 390 in Part 3				
Amount G x Ontario basic rate of tax*	11.5 % =			
Amount H x OAF (from line F in Part 6)	1.00000		· I	
Number of days from line 4 (if applicable) or line 420 in P		365 =	0.20000 J	
Number of days in the corpora reference period from line 410 in		1,825		
Transitional tax debit before tax on elected	reduced SR&ED p	oool (amount I multiplied by amount J)		
Post-2008 SR&ED balance at the end of the year (amount HH from Part 12)		460		
Federal SR&ED transitional balance at the end of the year (amount QQ from Part 14)		470		
Tax on elected reduced SR&ED pool (the le		and 470)	····· <u> </u>	
Enter amount M on line 276 of Schedule 5.	,			
- Part 8 – Transitional tax credi				
Complete this part if the amount on line 390) in Part 3 is negat	ive.		
Amount C6 from Schedule 5			. 173,093 N	
Deduct:				
Ontario resource tax credit (from line 404 o Ontario tax credit for manufacturing and pro (from line 406 of Schedule 5)	,			
Ontario foreign tax credit (from line 408 of S	,			
Ontario credit union tax reduction (from line	e 410 of Schedule	·	2	
		Subtotal Subtotal (applied National Applied Subtotal (applied National Applied National App	O 173,093 _P	
	_	Subtotal (amount N minus amount 0)		
Number of days from line 420 in Par Number of days in the tax year (do not in		365	. <u>1.00000</u> Q	
February 29, 2008, or February 29, 20		365		
Ontario tax payable for purposes of the curr	rent year transition	al tax credit (amount P multiplied by amo	unt Q)	173,093
Amount from line 390 in Part 3 (enter as a p	ositive amount)		840_ R	
Amount R x Ontario basic rate of tax*	11.5 % =	\.\\/	s	
Amount S x OAF (from line F in Part 6)	(7	т	
Number of days from line 440 (if applicable) or line 420 in Part 5		365 =	0.20000 U	
Number of days in the corporation' reference period on line 410 in Part		1,825		
Current-year transitional tax credit (amount	T multiplied by a	mount U)	520	801
Ontario tax payable for purposes of the unu (line 510 minus line 520) (if negative, enter		x credit carryforward	<u>530</u>	172,292
Transitional tax credit:				
Lesser of amounts on line 510 and 520			·····	801
				,
Lesser of unused transitional tax credit ava Transitional tax credits (amount V plus a	•	om Part 9) and amount on line 530	· · · · · · · · · · · · · · · · · · ·	\ 801

^{*} Enter the rate calculated in Part 1 of Schedule 500, Ontario Corporation Tax Calculation.

Part 9 – Unused transitional tax credit		
Unused transitional tax credit carryforward from previous year (amount from line 580 of the previous year)*	1	
Add:		
Unused transitional tax credit transferred from a predecessor corporation or a subsidiary on an eligible amalgamation or an eligible post-2008 windup*	2	
subsidiary on an eligible amalgamation or an eligible post-2008 windup*	— <u>²</u>	Y
Add:		'
Current-year transitional tax credit (amount from line 520 in Part 8)	<u> </u>	801 z
Subtotal (amount Y	plus amount Z)	801 3
Deduct:	,	
Transitional tax credit applied (amount X from Part 8)		801 aa
Unused transitional tax credit (available for later years) (amount 3 minus amount AA)	580	
* Enter "0" if this is the first tax year ending after 2008.		
Complete parts 40 to 44 if the correction are predesessor made on election in Part 4 at the transition time		
Complete parts 10 to 14 if the corporation or a predecessor made an election in Part 4 at the transition time.		
Part 10 – Federal current SR&ED limit and federal current SR&ED deficit		
Current SR&ED expenditures in the year under paragraph 37(1)(a)		
Capital SR&ED expenditures in the year under paragraph 37(1)(b)		
Investment tax credit recaptured under subsections 127(27), (29), and (34)		
in the previous tax year		
Subtotal (total of lines 610 to 624)	<u></u> ▶	BB
Deduct:		
Deduct: Assistance under paragraph 37(1)(d)		
Investment tax credits deducted under paragraph 37(1)(e)	<u></u>	
Subtotal (line 638 plus line 644)	>	CC
Federal current SR&ED limit or federal current SR&ED deficit (amount BB minus amount CC)	650	
If the amount on line 650 is positive, enter it on line II In Part 13.		
If the amount on line 650 is negative, enter it as a positive amount on line DD in Part 12.		
Part 11 – Relevant OAF		
Enter on line 660 whichever of the following amounts is greatest: — the corporation's OAF for the tax year that includes its transition time		
(from line F in Part 6)	<u>%</u>	
as determined under subsection 12(1) of the Corporations Tax Act (Ontario)	<u>%</u>	
the greatest of the weighted OAFs* of the corporation and its designated corporations** for 2006, 2007, and 2008	%	
Relevant OAF	660	%
* The weighted OAF for two or more corporations for their tax years ending in 2006, 2007, or 2008 is the total of the follow	ving for each corporation:	
 the corporation's OAF as determined under subsection 12(1) of the Corporations Tax Act (Ontario) for the tax year recorporation's and its share of partnerships' qualified Ontario SR&ED expenditures in the tax year, divided by the total corporations' and their shares of partnerships' qualified Ontario SR&ED expenditures in the tax year. 		
Qualified Ontario SR&ED expenditure is defined in section 11.2 of the Corporations Tax Act (Ontario).		
** A designated corporation in respect of a particular corporation is:		
1) a corporation that amalgamated with the particular corporation under section 87;		
2) a corporation that wound up into the particular corporation under subsection 88(1); or		
3) a designated corporation to a corporation identified in 1) or 2).		

Part 12 – Post-2008 SR&ED balance			
Federal current SR&ED deficit for the year (amount from line 650	in Part 10, if negative) (enter as a positive amo	ount)	DD
SR&ED expenditure amount deducted in the year under subsecti	ion 37(1)		
Deduct:			
Cumulative post-2008 SR&ED limit at the end of the year (amour	nt LL from Part 13) 675		
Subtotal (line 670 ı	minus line 675) (if negative, enter "0")	>	EE
	Subtotal (am	ount DD plus amount EE)	FF
	Am	nount FF x 14 %	GG
Post-2008 SR&ED balance at the end of the year (amount GG Enter amount HH on line 460 in Part 7.	multiplied by line 660 from Part 11) .	<u> </u>	НН
┌ Part 13 – Cumulative post-2008 SR&ED limit a	at the end of the year ————		
Federal current SR&ED limit for the year (amount from line 650 in	n Part 10, if positive)		II
Total of all federal SR&ED limits from previous tax years ending a		700	"
		ptotal (line II plus line 700)	JJ
Total of all amounts deducted under subsection 37(1) for previous tax years ending after December 31, 2008			
Total of all transitional tax debits on elected reduced SR&ED pool calculated under subsection 48(3) of the <i>Taxation Act, 2007</i> (Ontario) in the previous years (total of line L in Part 7 for previous years)	. 710		
Deduct:		1	
Amounts included in line 710 that are reasonably attributable to the federal current SR&ED deficit for the year	715		
Subtotal (line 710 minus line 715			
Line 720		KK	
Relevant OAF (from line 660 in Part 11) x 14 %			
	Cultural (iii.	> 730	
	Subtotal (line 705 minus amount KK)		
Cumulative post-2008 SR&ED limit at the end of the year (an Enter amount LL on line 675 in Part 12.	nount di minus line 730) (if negative, enter "0")	LL
Part 14 – Federal SR&ED transitional balance	at the end of the year —	_	
Amount from line 170 in Part 1 (see Note)	735	MM	
Relevant OAF (from line 660) (see Note) multiplied by amount A	1M/	NN	
Amount NN x 14 %	J <u></u>	>	00
Federal SR&ED transitional balance transferred on an			
eligible amalgamation or an eligible post-2008 wind-up			
	Subtotal (amount OO plus line 740)	PP
Deduct: Total of all transitional tax debits on elected reduced SR&ED poothe <i>Taxation Act, 2007</i> (Ontario) in the previous years (total of lin			
Federal SR&ED transitional balance at the end of the year (a	amount PP minus line 750)	<u></u>	QQ
Enter amount QQ on line 470 in Part 7.			
Note: For tax years ending after 2009, enter the amount from line	e 170 and the relevant OAF from the 2009 tax y	ear.	



Canada Revenue Agency Agence du revenu du Canada

SCHEDULE 508

ONTARIO RESEARCH AND DEVELOPMENT TAX CREDIT

Name of corporation	Business Number	Tax year-end Year Month Day
CAMBRIDGE AND NORTH DUMFRIES HYDRO INC.	86569 7585 RC0001	2012-12-31

- · 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 to reduce Ontario corporate income tax payable in any of the three previous tax years, but not to a tax year that ends before January 1, 2009;
 - add an ORDTC that was allocated to the corporation by a partnership of which it was a member;
 - transfer an ORDTC after an amalgamation or windup; or

Part 1 – Ontario SR&ED expenditure pool

- calculate a recapture of the ORDTC.
- The ORDTC is a 4.5% non-refundable tax credit on eligible expenditures incurred by a corporation in a tax year that ends after December 31, 2008.
- 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.
- Attach a completed copy of this schedule to the T2 Corporation Income Tax Return.

Total eligible expenditures incurred by the corporation in Ontario in the tax year	. A
Deduct: Government assistance, non-government assistance, or a contract payment for eligible expenditures	В
Net eligible expenditures for the tax year (amount A minus amount B) (if negative, enter "0")	С
Add: Eligible expenditures transferred to the corporation by another corporation	D
Subtotal (amount C plus amount D) 308,518	▶ 308,518 E
Deduct: Eligible expenditures the corporation transferred to another corporation	115 F
Ontario SR&ED expenditure pool (amount E minus amount F) (if negative, enter "0")	120 308,518 G
Part 2 – Calculation of the current part of the ORDTC	
Ontario SR&ED expenditure pool (amount G in Part 1)	200 13,883 H
ORDTC allocated to a corporation by a partnership of which it is a member (other than a specified member) for a fiscal period that ends in the corporation's fax year *	205
* If there is a disposal or change of use of eligible property, see Part 6	
Repayment made in the tax year of government or non-government assistance or a contract payment that reduced an eligible expenditure other than for first term or second term shared-use equipment	215 J
Repayment made in the tax year of government or non-government assistance or a contract payment that reduced an	
eligible expenditure for first term or second term	
shared-use equipment 220 x 1 / 4 = x 4.50 % =	225 K
Current part of the ORDTC (total of amounts H to K)	230 13,883 L



- Part 3 - Calculation	n of ORDTC available for deduction and ORDTC balance	9		
ORDTC balance at the end	of the previous tax year	M		
Deduct: ORDTC expired	after 20 tax years) N		
ORDTC at the beginning of	the tax year (amount M minus amount N)	oo		
Add:				
ORDTC transferred on ama	algamation or windup	P		
Current part of ORDTC (am	nount L in Part 2)			
Are you waiving all or part or current part of the ORDTC?				
If you answered yes at line the tax credit waived on line	315, enter the amount of 320.			
If you answered no at line 3	315, enter "0" on line 320.			
Deduct: Waiver of the curre	ent part of the ORDTC 320 R	A		
	Subtotal (amount Q minus amount R) 13,883	13,883 s		
ORDTC available for deduc	ction (total of amounts O, P and S)	. 13,883 ► 13,883 T		
Deduct:				
ORDTC claimed * (Enter an Supplementary – Corporation	mount U on line 416 of Schedule 5, Tax Calculation ions)	13,883_ U		
ORDTC carried back to a pr	revious tax year (from Part 4)	V		
	Subtotal (amount U plus amount V)	13,883 ► 13,883 W		
ORDTC balance at the en	ad of the tax year (amount T minus amount W)	325 X		
I his amount cannot be mORDTC available for d	nore than the lesser of the following amounts: deduction (amount T); or			
- Ontario corporate income tax payable before the ORDTC and the Ontario corporate minimum tax credit (amount from line E6 of Schedule 5).				
Part 4 – Request for carryback of tax credit				
	Year Month Day			
1 st previous tax year	2011-12-31	· Credit to be applied 901		
2 nd previous tax year	2010-12-31	Credit to be applied 902		
3 rd previous tax year	2009-12-31	. Credit to be applied 903		
	Total (e	enter amount on line V in Part 3)		

Current tax year

Part 5 – Analysis of tax credit available for carryforward by tax year of origin -

You can complete this part to show all the credits from preceding tax years available for carryforward, by year of origin. This will help you determine the amount of credit that could expire in following years.

Tax year of origin (earliest tax year first)

(Carii	col lan y ca	111131)	
Year	Month	Day	Creditavailable
1	992-12-3	31	
1993-12-31		31	
1	994-12-3	31	
1	995-12-3	31	
1	996-12-3	31	
1	997-12-3	31	
1	998-12-3	31	
1	999-12-3	31	
2	000-12-3	31	
2	001-12-3	31	

Tax year of origin (earliest tax year first)

,	,	,	
Year	Month	Day	Creditavailable
2002-12-31		31	
2003-12-31		31	
2	004-12-3	31	
2	005-12-3	31	
2	006-12-3	31	
2	007-12-3	31	
2	008-12-3	31	
2	009-12-3	31	
2	010-12-3	31	
2	011-12-3	31	
2	012-12-3	31	

Total (equals line 325 in Part 3)

The amount available from the 20th preceding 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 6 – 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 (Ontano) 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-am'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.

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.

* 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 - If you meet all of the above conditions

	Y	Z	AA
	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) 710	Amount from column 700 or 710, whichever is less
1.			

Subtotal (enter amount BB, on line KK in Part 7)

2012-12-31

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 II. CC DD ΕE The amount, if any, already provided for in The rate percentage that the transferee used to The proceeds of disposition of the property if you determine its federal ITC for a qualified dispose of it to a person at arm's length; or, in any Calculation 1 (this allows for the situation where expenditure that was transferred under an other case, the fair market value of the property at only part of the cost of a property is transferred agreement under subsection 127(13) conversion or disposition for an agreement under subsection of the federal Act 127(13) of the federal Act) 720 730 740 1. FF GG НН Amount determined by the formula The federal ITC earned by the transferee for the Amount from column FF or GG, whichever is less (CC x DD) – EE qualified expenditure that was transferred (using the columns above) 750 1. Subtotal (enter amount II on line LL below) Ш 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 in Part 2. 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 JJ. Corporate partner's share of the excess of ORDTC (enter amount JJ at line NN below) JJ

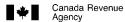
Part 7 – Total recapture of ORDTC		
Recaptured federal ITC for Calculation 1 (amount from line BB)	KK	
Recaptured federal ITC for Calculation 2 (amount from line II) above	11	
Amount KK plus amount LL	x 23.56 % =	MM
Add Comparts and all about of the support of Control of		NINI
Add: Corporate partner's share of the excess of ORDTC for Calculation 3 (amount from line JJ above)		NN
Recapture of ORDTC (amount MM plus amount NN) (enter amount OO on line 277 of Schedule 5)		00

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	184,747	35,637
Add		
 payment of prior years' unpaid expenses (other than salary or wages) +		
 prescribed proxy amount (Enter "0" if you use the traditional method) +	88,134	
• expenditures on shared-use equipment		+
• other additions		+
Subtotal =	272,881	= 35,637
 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 prescribed expenditures not allowed by regulations)	_
• other deductions	7	_
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 =	272,881	= 35,637
otal eligible expenditures incurred by the corporation in Ontario in the tax year (add amount I and II)		= 308,518
Enter amount III on line 100 of Schedule 508.		



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Schedule 510

Ontario Corporate Minimum Tax

Corporation's name	Business number	Tax year-end Year Month Day
CAMBRIDGE AND NORTH DUMFRIES HYDRO INC.	86569 7585 RC0001	2012-12-31

- 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.

	179,165,000
	42,471,000
	221,636,000
	193,282,000
)	3,565,000
	196,847,000
	114 116 116 142 144

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 CMT loss carryforward, a current year CMT loss, or SAT payable in the year.

* Rules for total assets

- Report total assets according to generally accepted accounting principles, adjusted so that consolidation and equity methods are not used.
- Do not include unrealized gains and losses on assets and foreign currency gains and losses on assets that are included in net income for accounting purposes but not in income for corporate income tax purposes.
- The amount on line 114 is determined at the end of the last fiscal period of the partnership or joint venture that ends in the tax year of the corporation. Add the proportionate share of the assets of the partnership(s) and joint venture(s), and deduct the recorded asset(s) for the investment in partnerships and joint ventures.
- A corporation's share in a partnership or joint venture is determined under paragraph 54(5)(b) of the Ontario Act and, if the partnership or joint venture had no income or loss, is calculated as if the partnership's or joint venture's income were \$1 million. For a corporation with an indirect interest in a partnership or joint venture, determine the corporation's share according to paragraph 54(5)(c) of the Ontario Act.

** Rules for total revenue

- Report total revenue in accordance with generally accepted accounting principles, adjusted so that consolidation and equity methods are not used.
- If the tax year is less than 51 weeks, multiply the total revenue of the corporation or the partnership, whichever applies, by 365 and divide by the number of days in the tax year.
- The amount on line 144 is determined for the partnership or joint venture fiscal period that ends in the tax year of the corporation. If the partnership or joint venture has 2 or more fiscal periods ending in the filing corporation's tax year, **multiply** the sum of the total revenue for each of the fiscal periods by 365 and **divide** by the total number of days in all the fiscal periods.
- A corporation's share in a partnership or joint venture is determined under paragraph 54(5)(b) of the Ontario Act and, if the partnership or joint venture had no income or loss, is calculated as if the partnership's or joint venture's income were \$1 million. For a corporation with an indirect interest in a partnership or joint venture, determine the corporation's share according to paragraph 54(5)(c) of the Ontario Act.



┌ Part 2 – Adjusted net income/loss for CMT purposes ─────		
Net income/loss per financial statements *		5,243,000
Add (to the extent reflected in income/loss):		
Provision for current income taxes/cost of current income taxes	403,000	
Provision for deferred income taxes (debits)/cost of future income taxes		
Equity losses from corporations		
Financial statement loss from partnerships and joint ventures		
Other additions (see note below):		
Share of adjusted net income of partnerships and joint ventures **		
Total patronage dividends received, not already included in net income/loss		
281 282		
283 284		
Subtotal	403,000	403,000 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		
Equity income from corporations		
Financial statement income from partnerships and joint ventures		
Dividends deductible under section 112, section 113, or subsection 138(6) of the federal Act	<u> </u>	
Dividends not taxable under section 83 of the federal Act (from Schedule 3)		
Gain on donation of listed security or ecological gift		
Accounting gain on transfer of property to a corporation under section 85 or 85.1 of the federal Act ***	<u> </u>	
Accounting gain on transfer of property to/from a partnership under section 85 or 97 of the federal Act ****		
Accounting gain on disposition of property under subsection 13(4), subsection 14(6), or section 44 of the federal Act *****		
Accounting gain on a windup under subsection 88(1) of the federal Act or an amalgamation under section 87 of the federal Act		
Other deductions (see note below):		
Share of adjusted net loss of partnerships and joint ventures **		
Tax payable on dividends under subsection 191.1(1) of the federal Act 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		
Patronage dividends paid (from Schedule 16) not already included in net income/loss 338		
381		
383		
385 386		
387 388		
389 390		
Subtotal _	<u> </u>	В
Adjusted net income/loss for CMT purposes (line 210 plus amount A minus amount B)		5,646,000

If the amount on line 490 is positive and the corporation is subject to CMT as determined in Part 1, enter the amount on line 515 in Part 3.

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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 – Adjusted net income/loss for CMT purposes (continued)

- Life insurance corporations must report net income/loss as per the report accepted by the federal Superintendent of Financial Institutions or equivalent provincial insurance regulator, before SAT and adjusted so consolidation and equity methods are not used. If the life insurance corporation is resident in Canada and carries on business in and outside of Canada, multiply the net income/loss by the ratio of the Canadian reserve liabilities divided by the total reserve liability. The reserve liabilities are calculated in accordance with Regulation 2405(3) of the federal Act.
- Other corporations must report net income/loss in accordance with generally accepted accounting principles, except that consolidation and equity methods must not be used. When the equity method has been used for accounting purposes, equity losses and equity income are removed from book income/loss on lines 224 and 324 respectively.
- Corporations, other than insurance corporations, should report net income from line 9999 of the GIFI (Schedule 125) on line 210.
- ** The share of the adjusted net income of a partnership or joint venture is calculated as if the partnership or joint venture were a corporation and the tax year of the partnership or joint venture were its fiscal period. For a corporation with an indirect interest in a partnership through one or more partnerships, determine the corporation's share according to clause 54(5)(c) of the Ontario Act.
- *** A joint election will be considered made under subsection 60(1) of the Ontario Act if there is an entry on line 342, and an election has been made for transfer of property to a corporation under subsection 85(1) of the federal Act.
- **** A joint election will be considered made under subsection 60(2) of the Ontario Act if there is an entry on line 344, and an election has been made under subsection 85(2) or 97(2) of the federal Act.
- ***** A joint election will be considered made under subsection 61(1) of the Ontario Act if there is an entry on line 346, and an election has been made under subsection 13(4) or 14(6) and/or section 44 of the federal Act.

For more information on how to complete this part, see the T2 Corporation - Income Tax Guide.

┌ Part 3 – CMT payable ────────────────────────────────────		
Adjusted net income for CMT purposes (line 490 in Part 2, if positive)		
Deduct: CMT loss available (amount R from Part 7) Minus: Adjustment for an acquisition of control *		
Net income subject to CMT calculation (if negative, enter "0") 5,646,000		
Amount from line 520 5,646,000 × Number of days in the tax year before July 1, 2010 Number of days in the tax year 1		
Amount from line 520 5,646,000 × Number of days in the tax year after June 30, 2010 366 × 2.7 % = 152,442 2 Number of days in the tax year		
Subtotal (amount 1 plus amount 2)		
	152,442	
	152,442	D
Deduct:	150 400	
Ontario corporate income tax payable before CMT credit (amount F6 from Schedule 5) Net CMT payable (if negative, enter "0")	158,409	Е
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 – CMT credit carryforward		
CMT credit carryforward at the end of the previous tax year *	G	
Deduct:		
CMT credit expired *		
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 bel	low)	
, and the second	· · · · · · · · · · · · · · · · · · ·	Н
Deduct:		
CMT credit deducted in the current tax year (amount P from Part 5)		!
	I (amount H minus amount I)	J
Add: Net CMT payable (amount E from Part 3)		
SAT payable (amount 0 from Part 6 of Schedule 512)		
Subtotal		K
		``
CMT credit carryforward at the end of the tax year (amount J plus amount K)	<u>670</u>	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;	A	
- for line 620, enter the amount from line 2336 of Ontario CT23 Schedule 101, Corporate Minimum Ta	ax (CMT), for the last tax year that end	ed 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.		
The state of the s		
- Part 5 - CMT credit deducted from Ontario corporate income tax payable ←		
A Control of the cont		
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)	<u>158,409</u> 1	
For a corporation that is not a life insurance corporation:		
CMT after foreign tax credit deduction (amount D from Part 3) 152,442 2		
Civil alter loreign tax credit deduction (amount Dirom Fart 3)		
For a life insurance corporation:		
Gross CMT (line 540 from Part 3)		
Gross SAT (line 460 from Part 6 of Schedule 512) 4		
The greater of amounts 3 and 4		
Deduct: line 2 or line 5, whichever applies:	152,442 6	
Subtotal (if negative, enter "0")	<u>5,967</u> ►	5,967 N
Ontario corporate income tax payable before CMT credit (amount F6 from Schedule 5)	158,409	
Deduct:	130,407	
Total refundable tax credits excluding Ontario qualifying environmental trust tax credit		
(amount J6 minus line 450 from Schedule 5)	38,497	
Subtotal (if negative, enter "0")	<u>119,912</u> ►	119,912 o
CMT credit deducted in the current tax year (least of amounts M, N, and O)		D
Civil Great deducted in the current tax year (least of amounts w, N, and O)	· · · · · · · · · · · · · · · · · · ·	「
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?		2 No X
i i		
If you answered yes to the question at line 675, the CMT credit deducted in the current tax year may be restricted, see subsections 53(6) and (7) of the Ontario Act.	cted. For information on how the deduc	tion

Part 6 - 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.

Do not include an amount from a predecessor corporation if it was controlled at any time before the amalgamation by any

** Must equal the total of the amounts entered on lines 620 and 650 in Part 4.

Must equal the total of the amounte entered of miles ozo and soo in a tra-	
- Part 7 - CMT loss carryforward	
CMT loss carryforward at the end of the previous tax year *	
Deduct:	
CMT loss expired *	
CMT loss carryforward at the beginning of the tax year * (see note below)	
Add:	
CMT loss transferred on an amalgamation under section 87 of the federal Act ** (see note below)	
CMT loss available (line 720 plus line 750)	R
Deduct:	
CMT loss deducted against adjusted net income for the tax year (lesser of line 490 (if positive) and line C in Part 3)	
Add: Subtotal (if negative, enter "0")	S
Adjusted net loss for CMT purposes (amount from line 490 in Part 2, if negative) (enter as a positive amount)	
Adjusted net loss for CMT purposes (amount from line 490 in Part 2, if negative) (enter as a positive amount)	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.	

Note: If you entered an amount on line 720 or line 750, complete Part 8.

of the other predecessor corporations.

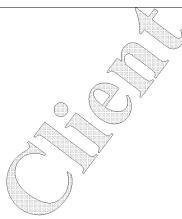
- Part 8 - CMT loss available for carryforward by year of origin -

Complete this part if:

- the tax year includes January 1, 2009; or
- the previous tax year-end is deemed to be December 31, 2008, under subsection 249(3) of the federal Act.

Year of origin	Balance earned in a tax year ending before March 23, 2007 *	Balance earned in a tax year ending after March 22, 2007 **
10th previous tax year	810	820
9th previous tax year	811	821
8th previous tax year	812	822
7th previous tax year	813	823
6th previous tax year	814	824
5th previous tax year	815	825
4th previous tax year	816	826
3rd previous tax year	817	827
2nd previous tax year	818	828
1st previous tax year		829
Total ***		

- * Adjusted net loss for CMT purposes that was earned (by the corporation, by subsidiaries wound up into or amalgamated with the corporation before March 22, 2007, and by other predecessors of the corporation) in each of the previous 10 (tax years that ended before March 23, 2007, and has not been deducted.
- ** Adjusted net loss for CMT purposes that was earned (by the corporation and its predecessors, but not by a subsidiary predecessor) in each of the previous 20 tax years that ended after March 22, 2007, and has not been deducted.
- *** The total of these two columns must equal the total of the amounts entered on lines 720 and 750.





Agence du revenu du Canada

SCHEDULE 511

ONTARIO CORPORATE MINIMUM TAX – TOTAL ASSETS AND REVENUE FOR ASSOCIATED CORPORATIONS

Name of corporation	Business Number	Tax year-end Year Month Day
CAMBRIDGE AND NORTH DUMFRIES HYDRO INC.	86569 7585 RC0001	2012-12-31

- 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	Cambridge and North Dumfries Energy Plus Inc.	88102 0127 RC0001	42,155,000	3,000,000
2	Cambridge and North Dumfries Energy Solutions Inc.	88102 0325 RC0001	316,000	565,000
			450	550
		Total	42,471,000	3,565,000

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.

T2 SCH 511 Canadä



Canada Revenue Agency Agence du revenu du Canada

SCHEDULE 546

CORPORATIONS INFORMATION ACT ANNUAL RETURN FOR ONTARIO CORPORATIONS

Name of corporation	Business Number	Tax year-end Year Month Day
CAMBRIDGE AND NORTH DUMFRIES HYDRO INC.	86569 7585 RC0001	2012-12-31

- 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.

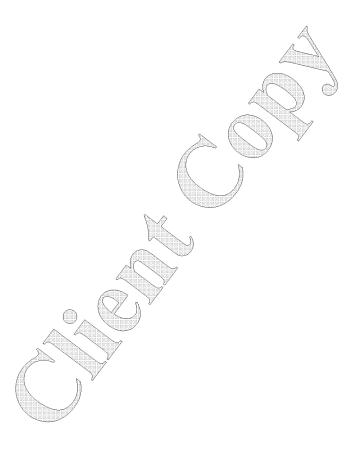
income tax return.			
 It is the corporation's responsibility to ensure that the inf shown for the corporation on the public record maintaine information. 			
This schedule contains non-tax information collected un MGS for the purposes of recording the information on the			ormation will be sent to the
Part 1 – Identification			
100 Corporation's name (exactly as shown on the MGS CAMBRIDGE AND NORTH DUMFRIES HYD			
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 2000-01-01	120 Ontario Corporation No.
Part 2 − Head or registered office addres	es (P.O. hoy not accentable as	s stand-alone addres	s)
200 Care of (if applicable)	5 (F.O. DOX HOL acceptable as	s stand-alone addres	
Care of (if applicable)			
210 Street number 220 Street name/Rural route/L 1500 BISHOP ST N	ot and Concession number	230 Suite number	
240 Additional address information if applicable (line 22 PO BOX 1060	:0 must be completed first)		
250 Municipality (e.g., city, town) CAMBRIDGE	260 Province/state 270	Country 280	Postal/zip code N1R 5X6
CAMBRIDGE	JUN	CA	NIK 5X0
Part 3 – Change identifier Have there been any changes in any of the information m names, addresses for service, and the date elected/appo senior officers, or with respect to the corporation's mailing public record maintained by the MGS, obtain a Corporation of the corporation of the maintained by the MGS, obtain a Corporation of the maintained by the MGS, obt	ointed and, if applicable, the date the elect g address or language of preference? To on Profile Report. For more information, v his box and then go to "Part 4 – Certificati	tion/appointment ceased of the review the information show visit www.ServiceOntario.cation."	ne directors and five most n for the corporation on the a.
Part 4 – Certification ————————————————————————————————————			
I certify that all information given in this Corporations Info	ormation Act Annual Return is true, corre	ct, and complete.	
450 HUGHES	451 SARAH		
Lastname		First name	

- Part 4	4 – Certification 				
I certify	that all information given in this Corporations Information Act Annual Retu	ırn is true, correct, and complete.			
450	HUGHES 451	SARAH			
	Lastname	First name			
454	Middle name(s)				
460	Please enter one of the following numbers in this box for the above-knowledge of the affairs of the corporation. If you are a director and	named person: 1 for director, 2 for officer, or 3 for other individual having officer, enter 1 or 2.			
Note: S	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.

⊢ Pa	art 5 – Mailing address —————				•
500	2 ·	 The corporation's registered office ac 	nailing ad Idress in	n the MGS public reco ddress is the same as Part 2 of this schedule	the head or e.
	3 -	 The corporation's c 	omplete	mailing address is as t	ollows:
510	Care of (if applicable)				
520	Street number 530 Street name/Rural route/Lot and Conces	ssion number		540 Suite numbe	г
550	Additional address information if applicable (line 530 must be cor	mpleted first)			
560	Municipality (e.g., city, town) 570	Province/state	580	Country	590 Postal/zip code
– Pa	art 6 – Language of preference				
600	Indicate your language of preference by entering 1 for Engl record for communications with the corporation. It may be				nce recorded on the MGS public





Canada Revenue Agency

Agence du revenu du Canada

SCHEDULE 552

ONTARIO APPRENTICESHIP TRAINING TAX CREDIT

Name of corporation	Business Number	Tax year-end Year Month Day
CAMBRIDGE AND NORTH DUMFRIES HYDRO INC.	86569 7585 RC0001	2012-12-31

- 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. Before March 27, 2009, the maximum credit for each apprentice is \$5,000 per year to a maximum credit of \$15,000 over the first 36-month period of the qualifying apprenticeship. After March 26, 2009, the maximum credit for each apprentice is \$10,000 per year to a maximum credit of \$40,000 over the first 48-month period of the qualifying apprenticeship. The maximum credit amount is prorated for an employment period of an apprentice that straddles March 26, 2009.
- 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 36 months of the apprenticeship program, if incurred before March 27, 2009; and
 - for services provided by the apprentice during the first 48 months of the apprenticeship program, if incurred after March 26, 2009.
- 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); 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.
- Make sure you keep a copy of the training agreement or contract of apprenticeship to support your claim. Do not submit the training agreement or contract of apprenticeship with your T2 Corporation Income Tax Return.
- File this schedule with your T2 Corporation Income Tax Return.

¬ Part 1 – Corporate information (please print) ————				
110 Name of person to contact for more information		120 Telephone number incl	uding area co	de
SARAH HUGHES		(519) 621-3530		
Is the claim filed for an ATTC earned through a partnership?*	<u> </u>		1 Yes	2 No X
If 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				%
* When a corporate member of a partnership is claiming an amount for elig partnership as if the partnership were a corporation. Each corporate partnership artner's share of the partnership's ATTC. The total of the partners	ner, other than a limited p	partner, should file a separate Schedule 55.	2 to claim	
┌ Part 2 – Eligibility —————				
1. Did the corporation have a permanent establishment in Ontario in the tax	year?		1 Yes X	2 No
2. Was the corporation exempt from tax under Part III of the Taxation Act, 2	2007(Ontario)? .		1 Yes	2 No X
If you answered no to guestion 1 or yes to guestion 2, then you are not 6	eligible for the ATTC			

Part	3 –	Specified	percentage -
-------------	-----	-----------	--------------

7,106,153

35.000 %

For eligible expenditures incurred before March 27, 2009:

- If line 300 is \$400,000 or less, enter 30% on line 310.
- If line 300 is \$600,000 or more, enter 25% 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:

For eligible expenditures incurred after March 26, 2009:

- 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:

Specified percentage

* 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 – Calculation of the Ontario apprenticeship training tax credit

Complete a **separate entry** for each apprentice that is in a 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	Andrew Grant
2.	434a	Powerline Technician	Justin Hann
3.	434a	Powerline Technician	Keegan D'Arcy
4.	434a	Powerline Technician	Mitch Black

	Original contract or training agreement number	E Original registration date of apprenticeship contract or training agreement (see note 1 below)	F Start date of employment as an apprentice in the tax year (see note 2 below)	G End date of employment as an apprentice in the tax year (see note 3 below)
1.	PC7053	2009-02-03	2012-01-01	2012-12-31
2.	PD2678	2011-07-11	2012-01-01	2012-12-31
3.	PD5705	2010-09-28	2012-01-01	2012-12-31
4.	PB3811	2008-11-07	2012-01-01	2012-11-06

- Note 1: Enter the original registration date of the apprenticeship contract or training agreement in all cases, even when multiple employers employed the apprentice.
- Note 2: When there are multiple employment periods as an apprentice in the tax year with the corporation, enter the date that is the first day of employment as an apprentice in the tax year with the corporation. When claiming an ATTC for repayment of government assistance, enter the start date of employment as an apprentice for the tax year in which the government assistance was received.
- Note 3: When there are multiple employment periods as an apprentice in the tax year with the corporation, enter the date that is the last day of employment as an apprentice in the tax year with the corporation. When claiming an ATTC for repayment of government assistance, enter the end date of employment as an apprentice for the tax year in which the government assistance was received.

Part 4 – Calculation of the Onta	rio apprenticeship training tax	c credit (continued) ———	
	g		
H1 Number of days employed as an apprentice in the tax year before March 27, 2009 (see note 1 below)	H2 Number of days employed as an apprentice in the tax year after March 26, 2009 (see note 1 below)	H3 Number of days employed as an apprentice in the tax year (column H1 plus column H2)	I Maximum credit amount for the tax year (see note 2 below)
441	442	440	445
	366	366	10,000
	366	366	10,000
	366	366	10,000
	311	311	8,49
J1	J2		K
Eligible expenditures before March 27, 2009 (see note 3 below)	Eligible expenditures after March 26, 2009 (see note 3 below)	Eligible expenditures for the tax year (column J1 plus column J2)	Eligible expenditures multiplied by specified percentage (see note 4 below)
451	452	450	460
	62,631	62,631	21,92
	52,286	52,286	18,30
	46,369	46,369	16,22
	78,816	78,816	27,58
	ATTC on eligible expenditures (lesser of columns I and K)	ATTC on repayment of government assistance (see note 5 below)	N ATTC for each apprentice (column L or column M, whichever applies)
	470	480	490
1.	10,000		10,00
2.	10,000		10,00
3.	10,000		10,00
4.	8,497		8,49
On	tario apprenticeship training tax credi	t (total of amounts in column N) 500	38,49
the corporation answered yes at line 15	0 in Part 1, determine the partner's share	of amount O:	
ount O ^X pe	ercentage on line 170 in Part 1	<u>%</u> =	
er amount O or P, whichever applies, on edule 552, add the amounts from line O	line 454 of Schedule 5, Tax Calculation S or P, whichever applies, on all the schedu	upplementary – Corporations. If you are les, and enter the total amount on line 45	filing more than one i4 of Schedule 5.
the individual was not employed as ar For H1: The days employed as an a	periods as an apprentice in the tax year was apprentice. apprentice must be within 36 months of the apprentice must be within 48 months of the	e registration date provided in column E.	
2: Maximum credit = (\$5,000 x H1/365* * 366 days, if the tax year includes Fe) + (\$10,000 x H2/365*)	_ ,	
corporation has received, is entitled to filing due date of the T2 Corporation		eive, in respect of the eligible expenditur	es, on or before the
apprenticeship program.	e March 27, 2009, must be for services pro March 26, 2009, must be for services prov		

Note 4: Calculate the amount in column K as follows:

apprenticeship program.

Column K = (J1 x line 310) + (J2 x line 312)

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.

Corporate Taxpayer Summary

- Corpo	rate info	rmatio	n ——												
•	on's name			. CAMBI	RIDGE AN	D NORT	H DUMFF	RIES HYD	DRO INC.						
Taxation`	Year			. 2012-0	01-01 to	201	2-12-31								
Jurisdiction	on			. Ontari	0			_							
ВС	AB	SK	MB	ON	QC	NB	NS	NO	PE	NL	ХО	YT	NT	NU	ОС
				X											
Corporati	on is associa	ited .		. Y											
Corporati	ion is related			. Y											
Number	of associated	corpora	tions	. 2											
	orporation	•			ian-Contro	olled Pri	vate Corr	ooration							
	ount due (refu														
and provi				•	-1,611,5	90									
* The am	ounts displa	yed on lir	nes "Total a	amount du	e (refund) fe	deral and	d provincial	l" are all lis	ted in the h	elp. Press	F1 to cons	ult the cont	text-sensat	ive help.	
Sumn	nary of fe	deral i	informat	tion —						A					
Netincon	-									a . N .				1,	820,206
Taxableir	ncome										X			1,	809,506
Donations	8								6					·	10,700
	on of income								(\$					1	820,206
Dividends															948,000
	•									3/		2.948		Ζ,	740,000
	nds paid – Re nds paid – Eli	•									· ·	,	,		
	of the low rate	•							n		· ·				
							,		Δ						
	of the low rate								<i>J.</i>					24	400 440
	of the genera						\ \//								689,460
	of the genera		ome pool a	at the end c	of the year		$\cdots \wedge \cdots \wedge$	\sim							992,304
Part I tax	(base amour	nt)						V.					• • • • —	-	687,612
Credits a	against part	l tax			Summ	ary of ta	x			Re	efunds/cre	edits			
Small bus	siness deduc	tion .			Part I	100			20	18,498 IT	C refund				
M&P ded	uction				Part IV	\ <i>\.</i> \	.) <u>)</u>			Di	vidends ref	fund			
Foreign ta	ax credit .				Part III.	1, `	<i>7.</i>			In:	stalments			1,	940,000
Investme	nt tax credits				27 Other*	\					ırtax credit				
Abateme	nt/Other* .			416,1	87 Provinc	cial or terr	ritorial tax		11	9,912 O	ther*				
				A	b	V					Balance	due/refui	nd (–)	-1.	611,590
* The am	ounts display	ed on lir	nas "Othar"	are all list	ad in the He	In Prace	E1 to cons	ult the con	tavt-sansit	ive heln			(/	,	, , , , , , ,
THE arm		,ca on iii	Ollici	arc annou		ip. 1 1033	1 1 10 00113		itext serioit	те псір.					
Sumn	nary of fe	deral o	carryfor	ward/ca	rryback	inform	ation —								
Carryfor	ward baland	es	•												
Capital lo	sses/L.P.P.														138,126
Cumulativ	ve eligible ca	pital													580,510
Financial	statement re	serve												2,	134,935

Summary of provincial information – provincial income tax pa	yable ————		
	Ontario	Québec (CO-17)	Alberta (AT1)
let income	1,820,206		
axable income	4 000 504		
6 Allocation	100.00		
attributed taxable income			
ax payable before deduction*	208,093		
eductions and credits			
lettax payable	450 400		
ttributed taxable capital	N/A		N/A
apital tax payable**			N/A
otal tax payable***	158,409		
stalments and refundable credits			
Balance due/Refund (-)	440.040		
ogging tax payable (COZ-1179)			
axpayable	N/A		N/A

^{*} For Québec, this includes special taxes.

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
CAMBRIDGE AND NORTH DUMFRIES HYDRO INC.		134,309,746	134,309,746	125,847,935	125,847,935
Cambridge and North Dumfries Energy Plus Inc.		87,000	87,000	48,000	48,000
Cambridge and North Dumfries Energy Solutions Inc.		235,000	235,000	247,000	247,000
	Total	134,631,746	134,631,746	126,142,935	126,142,935

Québec

Corporate name		Paid-up capital used to calculate the Québec business limit reduction (CO-771 and CO-771.1.3)	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)
CAMBRIDGE AND NORTH DUMFRIES HYDRO INC.	134,309,746
Cambridge and North Dumfries Energy Plus Inc.	

^{**} 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.

Ontario

Corporate name	Specified capital used to calculate the expenditure limit – Ontario innovation tax credit (Schedule 566)
Cambridge and North Dumfries Energy Solutions Inc.	
Total	134,309,746

Other provinces

Corporate name	Capital used to calculate the Newfoundland and Labrador capital deduction on financial institutions (Schedule 306)	Taxable capital used to calculate the Nova Scotia capital deduction on large corporations (Schedule 343)
Total		

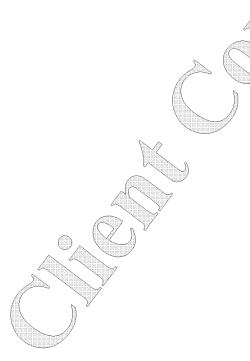
Five-Year Comparative Summary

	Currentyear	1st prior year	2nd prior year	3rd prior year	4th prior year
- Federal information (T2) —					
Taxation year end	2012-12-31	2011-12-31	2010-12-31	2009-12-31	2008-12-31
Net income	1,820,206	6,321,972	5,199,797	3,732,160	5,527,100
Taxable income	1,809,506	6,300,306	5,199,797	3,732,160	5,527,100
Active business income	1,820,206	6,310,242	5,199,797	3,732,160	5,527,100
Dividends paid	2,948,000	2,563,000	1,345,000	1,717,000	-,- ,
Dividends paid – Regular	2,948,000	2,563,000	1,345,000		
Dividends paid – Eligible LRIP – end of the previous year					
LRIP – end of the year					
GRIP – end of the					
previous year	24,689,460	20,279,246	16,691,386	14,136,381	
GRIP – end of the year	25,992,304	24,689,460	20,279,246	16,674,250	3,758,428
Donations	10,700	9,936			
Balance due/refund (-)	1,611,590	-199,202	-341,297	40,509	
- Federal taxes					
Part I before surtax	208,498	945,414	800,885	707,111	1,038,229
Surtax		710,111	300,000	707,111	1,000,227
Part I.3					
Part IV					
Part I & Surtax	208,498	945,414	800,885	707,111	1,038,229
Part III.1					.,,==:
Other*					
* The amounts displayed on lines "Otho	er" are all listed in the help. I	Press F1 to consult the co	entext-sensative help.		
- Credits against part I tax -					
Small business deduction					
M&P deduction					
Foreign tax credit					
Political contribution					
Investment tax credit	62,927	94,136	135,078	2,000	39,555
Abatement/other*	416,187	1,354,566	1,039,960	709,110	1,022,514
* The amounts displayed on lines "Othe				707/110	1,022,011
The amounts displayed of lines. Our	or are all listed in the resp. I	7	micki dendative neip.		
Refunds/credits ———		<u>′</u>			
ITC refund					
Dividend refund					
	2000	1,791,600	1,831,662	1,386,000	1,038,229
Instalments	1,940,000	1,771,000	.,00.,002		
Instalments Surtax credit	1,940,000	1,771,000	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		

┌ Ontario ───					
Taxation year end	2012-12-31	2011-12-31	2010-12-31	2009-12-31	2008-12-31
Netincome	1,820,206	6,321,972	5,199,797	3,732,160	5,527,100
Taxable income	1,809,506_	6,300,306	5,199,797	3,732,160	5,527,100
% Allocation	100.00	100.00	100.00	100.00	100.00
Attributed taxable income	1,809,506_	6,300,306	5,199,797	3,732,160	5,527,100
Surtax			39,979	42,500	42,500
Income tax payable before deduction	208,093	740,156	675,547	522,502	773,794
Income tax deductions /credits	49,684	58,295	72,237	43,476	58,060
Net income tax payable	158,409	681,861	643,289	521,526	758,234
Taxable capital			118,728,303	114,684,640	100,563,843
Capitaltaxpayable			77,423	224,377	193,837
Total tax payable*	158,409	681,861	720,712	745,903	952,071
Instalments and refundable credits	38,497	34,877	31,232	26,505	986,911
Balance due/refund**	119,912	646,984	689,480	719,398	-34,840

^{*} 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.



Cambridge and North Dumfries Hydro Inc. EB-2013-0116 Exhibit 1 Appendix 4-22 Filed: October 1, 2013

APPENDIX 4-22

OEB PILS MODEL



Version 2.0

Last COS Re-based Year	2010	
Date	01-Oct-13	
Email Address	gbrooker@camhydro.com	
Phone Number	519.621.8405 ext. 2340	
Name and Title	Grant Brooker, Manager, Regulatory Affairs	
Assigned EB Number	EB-2013-0116	
Utility Name	Cambridge and North Dumfries Hydro Inc.	

Note: Drop-down lists are shaded blue; Input cells are shaded green.

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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.



1. Info

A. Data Input Sheet

B. Tax Rates & Exemptions

C. Sch 8 Hist

D. Schedule 10 CEC Hist

E. Sch 13 Tax Reserves Hist

F. Sch 7-1 Loss Cfwd Hist

G. Adj. Taxable Income Historic

H. PILs, Tax Provision Historic

I. Schedule 8 CCA Bridge Year

J. Schedule 10 CEC Bridge Year

K. Sch 13 Tax Reserves Bridge

L. Sch 7-1 Loss Cfwd Bridge

M. Adj. Taxable Income Bridge

N. PILs, Tax Provision Bridge

O. Schedule 8 CCA Test Year

P. Schedule 10 CEC Test Year

Q Sch 13 Tax Reserve Test Year

R. Sch 7-1 Loss Cfwd

S. Taxable Income Test Year

T. PILs, Tax Provision



Rate Base			\$ 132,458,506	
Return on Ratebase				
Deemed ShortTerm Debt %	4.00%	Т	\$ 5,298,340	W = S * T
Deemed Long Term Debt %	56.00%	U	\$ 74,176,763	X = S * U
Deemed Equity %	40.00%	٧	\$ 52,983,402	Y = S * V
Short Term Interest Rate	2.07%	Z	\$ 109,676	AC = W * Z
Long Term Interest	4.96%	AA	\$ 3,682,618	AD = X * AA
Return on Equity (Regulatory Income)	8.98%	AB	\$ 4,757,910	AE = Y * AB
Return on Rate Base			\$ 8,550,203	AF = AC + AD + AE

Questions that must be answered

- 1. Does the applicant have any Investment Tax Credits (ITC)?
- 2. Does the applicant have any SRED Expenditures?
- 3. Does the applicant have any Capital Gains or Losses for tax purposes?
- 4. Does the applicant have any Capital Leases?
- 5. Does the applicant have any Loss Carry-Forwards (non-capital or net capital)?
- 6. Since 1999, has the applicant acquired another regulated applicant's assets?
- 7. Did the applicant pay dividends?

 If Yes, please describe what was the tax treatment in the manager's summary.
- 8. Did the applicant elect to capitalize interest incurred on CWIP for tax purposes?

Historic	Bridge	Test Year
Yes	Yes	Yes
Yes	No	No
Yes	Yes	Yes
No	No	No
No	No	No
No	No	No
Yes	Yes	Yes
No	No	No



Tax Rates Federal & Provincial As of June 20, 2012	Effective January-01-11	Effective January-01-12	Effective January-01-13	Effective January-01-14
Federal income tax General corporate rate	38.00%	38.00%	38.00%	38.00%
Federal tax abatement	-10.00%	-10.00%	-10.00%	-10.00%
Adjusted federal rate	28.00%	28.00%	28.00%	28.00%
Rate reduction	-11.50% 16.50%	-13.00% 15.00%	-13.00% 15.00%	-13.00% 15.00%
Ontario income tax	11.75%	11.50%	11.50%	11.50%
Combined federal and Ontario	28.25%	26.50%	26.50%	26.50%
Federal & Ontario Small Business Federal small business threshold Ontario Small Business Threshold	500,000 500,000	500,000 500,000	500,000 500,000	500,000 500,000
Federal small business rate	11.00%	11.00%	11.00%	11.00%
Ontario small business rate	4.50%	4.50%	4.50%	4.50%



Schedule 8 - Historical Year

Class	Class Description	UCC End of Year Historic per tax returns	Less: Non- Distribution Portion	UCC Regulated Historic Year
1	Distribution System - post 1987	29,316,535		29,316,535
1 Enhanced	Non-residential Buildings Reg. 1100(1)(a.1) election	525,346		525,346
2	Distribution System - pre 1988	24,878,489		24,878,489
8	General Office/Stores Equip	5,810,752		5,810,752
10	Computer Hardware/ Vehicles	822,159		822,159
10.1	Certain Automobiles			0
12	Computer Software	436,264		436,264
13 ₁	Lease # 1			0
13 2	Lease #2			0
13 ₃	Lease # 3			0
13 4	Lease # 4			0
14	Franchise			0
17	New Electrical Generating Equipment Acq'd after Feb 27/00 Other Than Bldgs	190,429		190,429
42	Fibre Optic Cable	·		0
43.1	Certain Energy-Efficient Electrical Generating Equipment			0
43.2	Certain Clean Energy Generation Equipment			0
45	Computers & Systems Software acq'd post Mar 22/04	2,703		2,703
46	Data Network Infrastructure Equipment (acq'd post Mar 22/04)			0
47	Distribution System - post February 2005	36,568,034		36,568,034
50	Data Network Infrastructure Equipment - post Mar 2007	407,756		407,756
52	Computer Hardware and system software			0
95	CWIP	3,827,597		3,827,597
3		625,728		625,728
6		27,604		27,604
		0		0
				0
				0
				0
				0
				0
				0
				0
	SUB-TOTAL - UCC	103,439,396	0	103,439,396



Schedule 10 CEC - Historical Year

Cumulative Eligible Capital				1,699,473
Additions Cost of Eligible Capital Property Acquired during Test Year				
Other Adjustments	0			
Subtotal	0	x 3/4 =	0	
Non-taxable portion of a non-arm's length transferor's gain realized on the transfer of an ECP to the Corporation after Friday, December 20, 2002	0	x 1/2 =	0	
		=	0	0
Amount transferred on amalgamation or wind-up of subsidiary	0			0
Subtota			- -	1,699,473
<u>Deductions</u>				
Proceeds of sale (less outlays and expenses not otherwise deductible) from the disposition of all ECP during Test Year				
Other Adjustments	0			
Subtota	0	x 3/4 =	_	0
Cumulative Eligible Capital Balance				1,699,473
Current Year Deduction		1,699,473	x 7% =	118,963
Cumulative Eligible Capital - Closing Balance				1,580,510



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)(I)			0
Reserve for goods and services not delivered			0
ss. 20(1)(m)			
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
			0
Total	0	0	0
Financial Statement Reserves (not deductib	le for Tax Purposes)		
General Reserve for Inventory Obsolescence			0
(non-specific)			· ·
General reserve for bad debts			0
Accrued Employee Future Benefits:	2,134,935		2,134,935
- Medical and Life Insurance			0
-Short & Long-term Disability			0
-Accmulated 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			0
Days of Year-End ss. 78(4)			Ü
Unpaid Amounts to Related Person and Not			0
Paid Within 3 Taxation Years ss. 78(1)			0
Other			0
			0
			0
Total	2,134,935	0	2,134,935



Schedule 7-1 Loss Carry Forward - Historic

Corporation Loss Continuity and Application

Non-Capital Loss Carry Forward Deduction	Total	Non- Distribution Portion	Utility Balance
Actual Historic			0

Net Capital Loss Carry Forward Deduction	Total	Non- Distribution Portion	Utility Balance
Actual Historic	138,126		138,126



Adjusted Taxable Income - Historic Year

		Total for Legal	Non-Distribution	Historic
	T2S1 line #	Entity	Eliminations	Wires Only
Income before PILs/Taxes	Α	5,646,000		5,646,000
Additions:		-,,		
Interest and penalties on taxes	103	707		707
Amortization of tangible assets	104	4,919,000		4,919,000
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			C
Charitable donations	112	10.700		10,700
Taxable Capital Gains	113	10,100		0
Political Donations	114			0
Deferred and prepaid expenses	116			0
Scientific research expenditures deducted on financial statements	118	184,747		184,747
Capitalized interest	119	107,747		10.,747
Non-deductible club dues and fees	120			0
Non-deductible meals and entertainment expense	121	11,888		11,888
Non-deductible automobile expenses	122	11,000		11,000
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	125	2,134,935		2,134,935
Soft costs on construction and renovation of buildings	120	2,134,935		2,134,933
Book loss on joint ventures or partnerships	205			0
Capital items expensed	205			0
· ·	208			0
Debt issue expense	212			0
Development expenses claimed in current year	212			0
Financing fees deducted in books				0
Gain on settlement of debt	220			0
Non-deductible advertising	226			
Non-deductible interest	227			0
Non-deductible legal and accounting fees	228			
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))		49,717		49,717
Lease Inducements Received (ITA 12(1)(x))				0
Deferred Revenue (ITA 12(1)(a))				0
Prior Year Investment Tax Credits received				0
				0

Total Additions		7,311,694	0	7,311,69
Total Additions		7,311,094	U	7,311,09
Deductions:				
	401	36,000		36,00
Gain on disposal of assets per financial statements	401	36,000		36,00
Dividends not taxable under section 83		0.005.000		0.005.00
Capital cost allowance from Schedule 8	403	8,825,089		8,825,08
Terminal loss from Schedule 8	404	110,000		440.00
Cumulative eligible capital deduction from Schedule 10	405	118,963		118,96
Allowable business investment loss	406			
Deferred and prepaid expenses	409	100.051		
Scientific research expenses claimed in year	411	120,331		120,33
Tax reserves claimed in current year	413	0		
Reserves from financial statements - balance at beginning of year	414	2,037,105		2,037,10
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			
	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)				
Total Deductions		11,137,488	0	11,137,48
		, , , , ,	-	, - /
Net Income for Tax Purposes		1,820,206	0	1,820,20
·	•	, , , , , ,		,,
Charitable danations from Cabadula C	011	40.700		10 =
Charitable donations from Schedule 2	311	10,700		10,70
Faxable dividends deductible under section 112 or 113, from Schedule 3 (item 82)	320			
Non-capital losses of preceding taxation years from Schedule 4	331			
Net-capital losses of preceding taxation years from Schedule 4 (Please include explanation and	332			
calculation in Manager's summary) Limited partnership losses of preceding taxation years from Schedule 4				
Limited partnership losses of preceding taxation years from Schedule 4	335			
FAVARI E INCOME	+	4 000 500		4 000
TAXABLE INCOME		1,809,506	0	1,809,50



PILs Tax Provision - Historic Year

Note: Input the actual information from the tax returns for the historic year.								W	ires Only
Regulatory Taxable Income								\$	1,809,506 A
Ontario Income Taxes Income tax payable	Ontario Income Tax	6.63	%	В	\$	119 912	C = A * B		
Small business credit	Ontario Small Business Threshold	\$ 500	,000	D					
	Rate reduction (negative)			E			F = D * E		
Ontario Income tax								\$	119,912 J = C + F
Combined Tax Rate and PILs	Effective Ontario Tax Rate Federal tax rate Combined tax rate					6.63% 38.00%	K = J / A		44.63% M = K + L
Total Income Taxes Investment Tax Credits Miscellaneous Tax Credits Total Tax Credits								\$ \$ \$	807,525 N = A * M 62,928 O 416,187 P 479,115 Q = O + P
Corporate PILs/Income Tax Provi	sion for Historic Year							\$	328,410 R = N - Q



Schedule 8 CCA - Bridge Year

Class	Class Description	ICC Regulated Historic Year	Additions	Disposals (Negative)	 C Before 1/2 Yr Adjustment	Ad	Year Rule {1/2 ditions Less Disposals}	Re	educed UCC	Rate %	Bridge Yea	ar CCA	ucc	End of Bridge Year
1	Distribution System - post 1987	\$ 29,316,535			\$ 29,316,535	\$	-	\$	29,316,535	4%	\$ 1,1	72,661	\$	28,143,874
1 Enhanced	Non-residential Buildings Reg. 1100(1)(a.1) election	\$ 525,346			\$ 525,346	\$	-	\$	525,346	6%	\$	31,521	\$	493,825
2	Distribution System - pre 1988	\$ 24,878,489			\$ 24,878,489	\$	-	\$	24,878,489	6%	\$ 1,4	92,709	\$	23,385,780
8	General Office/Stores Equip	\$ 5,810,752	\$ 303,951		\$ 6,114,703	\$	151,976	\$	5,962,728	20%	\$ 1,1	92,546	\$	4,922,158
10	Computer Hardware/ Vehicles	\$ 822,159	\$ 884,285		\$ 1,706,444	\$	442,143	\$	1,264,302	30%	\$ 3	79,290	\$	1,327,154
10.1	Certain Automobiles				\$ -	\$	-	\$	-	30%	\$	-	\$	-
12	Computer Software	\$ 436,264	\$ 312,900		\$ 749,164	\$	156,450	\$	592,714	100%	\$ 5	92,714	\$	156,450
13 1	Lease # 1				\$ -	\$	-	\$	-		\$	-	\$	-
13 2	Lease #2				\$ -	\$	-	\$	-		\$	-	\$	-
13 3	Lease # 3				\$ -	\$	-	\$	-		\$	-	\$	-
13 4	Lease # 4				\$ -	\$	-	\$	-		\$	-	\$	-
14	Franchise				\$ -	\$	-	\$	-		\$	-	\$	-
17	New Electrical Generating Equipment Acq'd after Feb 27/00 Other Than Bldgs	\$ 190,429			\$ 190,429	\$	-	\$	190,429	8%	\$	15,234	\$	175,195
42	Fibre Optic Cable				\$ -	\$	-	\$	-	12%	\$	-	\$	-
43.1	Certain Energy-Efficient Electrical Generating Equipment				\$ -	\$	-	\$	-	30%	\$	-	\$	-
43.2	Certain Clean Energy Generation Equipment				\$ -	\$	-	\$	-	50%	\$	-	\$	-
45	Computers & Systems Software acq'd post Mar 22/04	\$ 2,703			\$ 2,703	\$	-	\$	2,703	45%	\$	1,216	\$	1,487
46	Data Network Infrastructure Equipment (acq'd post Mar 22/04)				\$ -	\$	-	\$	-	30%	\$	-	\$	-
	Distribution System - post February 2005	\$ 36,568,034	\$ 14,581,617		\$ 51,149,651	\$	7,290,809	\$	43,858,843	8%	\$ 3,5	08,707	\$	47,640,944
50	Data Network Infrastructure Equipment - post Mar 2007	\$ 407,756			\$ 407,756	\$	-	\$	407,756	55%	\$ 2	24,266	\$	183,490
	Computer Hardware and system software				\$ -	\$	-	\$	-	100%	\$	-	\$	-
95	CWIP	\$ 3,827,597			\$ 3,827,597	\$	-	\$	3,827,597		\$	-	\$	3,827,597
3	Buildings	\$ 625,728			\$ 625,728	\$	-	\$	625,728	5%	\$	31,286	\$	594,442
6	Buildings	\$ 27,604			\$ 27,604	\$	-	\$	27,604	10%	\$	2,760	\$	24,844
					\$ -	\$	-	\$	-		\$	-	\$	-
					\$ -	\$	-	\$	-		\$	-	\$	-
					\$ -	\$	-	\$	-		\$	-	\$	-
					\$ -	\$	-	\$	-		\$	-	\$	-
					\$ -	\$	-	\$	-		\$	-	\$	-
					\$ -	\$	-	\$	-		\$	-	\$	-
					\$ -	\$	-	\$	-		\$	-	\$	-
					\$ -	\$	-	\$	-		\$	-	\$	-
	TOTAL	\$ 103,439,396	\$ 16,082,753	\$ -	\$ 119,522,149	\$	8,041,377	\$	111,480,773		\$ 8,6	44,912	\$	110,877,237



Schedule 10 CEC - Bridge Year

Cumulative Eligible Capital				1,580,510
Additions Cost of Eligible Capital Property Acquired during Test Year				
Other Adjustments	0			
Subtotal	0	x 3/4 =	0	
Non-taxable portion of a non-arm's length transferor's gain realized on the transfer of an ECP to the Corporation after Friday, December 20, 2002	0	x 1/2 =	0	0
Amount transferred on amalgamation or wind-up of subsidiary	0			0
Subtotal			-	1,580,510
<u>Deductions</u>				
Proceeds of sale (less outlays and expenses not otherwise deductible) from the disposition of all ECP during Test Year				
Other Adjustments	0			
Subtotal	0	x 3/4 =	-	0
Cumulative Eligible Capital Balance				1,580,510
Current Year Deduction		1,580,510	x 7% =	110,636
Cumulative Eligible Capital - Closing Balance				1,469,874



Schedule 13 Tax Reserves - Bridge Year

Continuity of Reserves

				Bridge Year	Adjustments			
Description	Historic Utility Only	Eliminate Amounts Not Relevant for Bridge Year	Adjusted Utility Balance	Additions	Disposals	Balance for Bridge Year	Change During the Year	Disallowed Expenses
	1	ı			ı			
Capital Gains Reserves ss.40(1)	0		0			0	0	
Tax Reserves Not Deducted for accounting purposes								
Reserve for doubtful accounts ss. 20(1)(I)	0		0			0		
Reserve for goods and services not delivered ss. 20(1)(m)	0		0			0		
Reserve for unpaid amounts ss. 20(1)(n)	0		0			0	-	
Debt & Share Issue Expenses ss. 20(1)(e)	0		0			0	-	
Other tax reserves	0		0			0	0	
	0		0			0	0	
	0		0			0	0	
Total	0	0	0	0	0	0	0	0
Financial Statement Reserves (not deductible for Tax Purposes)								
General Reserve for Inventory Obsolescence (non-specific)	0		0			0	0	
General reserve for bad debts	0		0			0	0	
Accrued Employee Future Benefits:	2,134,935		2,134,935	2,156,000	2,134,935	2,156,000	21,065	
- Medical and Life Insurance	0		0			0	-	
-Short & Long-term Disability	0		0			0	0	
-Accmulated Sick Leave	0		0			0	0	
- Termination Cost	0		0			0	0	
- Other Post-Employment Benefits	0		0			0	0	
Provision for Environmental Costs	0		0			0	0	
Restructuring Costs	0		0			0	0	
Accrued Contingent Litigation Costs	0		0			0	0	
Accrued Self-Insurance Costs	0		0			0	0	
Other Contingent Liabilities	0		0			0	0	
Bonuses Accrued and Not Paid Within 180 Days of Year-End ss. 78(4)	0		0			0	0	
Unpaid Amounts to Related Person and Not Paid Within 3 Taxation Years ss. 78(1)	0		0			0	0	
Other	0		0			0	0	
	0		0			0	0	
	0		0			0	0	
Total	2,134,935	0	2,134,935	2,156,000	2,134,935	2,156,000	21,065	0



Corporation Loss Continuity and Application

Schedule 7-1 Loss Carry Forward - Bridge Year

Non-Capital Loss Carry Forward Deduction	Total
Actual Historic	0
Application of Loss Carry Forward to reduce taxable income in Bridge Year	
Other Adjustments Add (+) Deduct (-)	
Balance available for use in Test Year	0
Amount to be used in Bridge Year	
Balance available for use post Bridge Year	0

Net Capital Loss Carry Forward Deduction	Total	
Actual Historic	138,126	
Application of Loss Carry Forward to reduce taxable income in Bridge Year		
Other Adjustments Add (+) Deduct (-)		
Balance available for use in Test Year	138,126	
Amount to be used in Bridge Year		
Balance available for use post Bridge Year	138,126	



Adjusted Taxable Income - Bridge Year

	T2S1 line #	Total for Regulated Utility
Income before PILs/Taxes	Α	2,187,986
_		•
Additions:		
Interest and penalties on taxes	103	
Amortization of tangible assets	104	4,181,269
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	10,000
Non-deductible automobile expenses	122	
Non-deductible life insurance premiums	123	
Non-deductible company pension plans	124	
Tax reserves deducted in prior year	125	(
Reserves from financial statements- balance at end of year	126	2,156,000
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	



Adjusted Taxable Income - Bridge Year

Other Additions		
	200	
Interest Expensed on Capital Leases Realized Income from Deferred Credit	290	
Accounts	291	
Pensions	292	
Non-deductible penalties	293	
Non-deductible periatiles	293	
	294	
	295	
ARO Accretion expense		
Capital Contributions Received (ITA 12(1)(x))		36,833
Lease Inducements Received (ITA 12(1)(x))		
Deferred Revenue (ITA 12(1)(a))		
Prior Year Investment Tax Credits received		
Total Additions		6,384,102
Deductions:		
Gain on disposal of assets per financial statements	401	
Dividends not taxable under section 83	402	
Capital cost allowance from Schedule 8	403	8,644,912
Terminal loss from Schedule 8	404	0,044,512
Cumulative eligible capital deduction from		
Schedule 10	405	110,636
Allowable business investment loss	406	
Deferred and prepaid expenses	409	
Scientific research expenses claimed in year	411	
Tax reserves claimed in current year	413	0
Reserves from financial statements - balance		
at beginning of year	414	2,134,935
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)		
a.cataro or the horny	1	



Adjusted Taxable Income - Bridge Year

Interest capitalized for accounting deducted	390	
for tax 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)		
Total Deductions		10,890,483
Net Income for Tax Purposes	044	-2,318,394
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	
Net-capital losses of preceding taxation years from Schedule 4 (<i>Please include explanation and calculation in Manager's summary</i>)	332	
Limited partnership losses of preceding taxation years from Schedule 4	335	
	ı	1
TAXABLE INCOME		-2,318,394



PILS Tax Provision - Bridge Year

Wires Only

Regulatory Taxable Income						-\$ 2,318,394 A
Ontario Income Taxes Income tax payable	Ontario Income Tax	4.50%	В	\$ -	C = A * B	1
Small business credit	Ontario Small Business Threshold Rate reduction	\$ - -7.00%	D E	\$ -	F = D * E	
Ontario Income tax						\$ - J = C + F
Combined Tax Rate and PILs	Effective Ontario Tax Rate Federal tax rate Combined tax rate			0.00% 0.00%	K = J / A L	0.00% M = K + L
Total Income Taxes Investment Tax Credits Miscellaneous Tax Credits Total Tax Credits						\$ - N = A * M \$ 36,833
Corporate PILs/Income Tax Provi	sion for Bridge Year					\$ - R = N - Q

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.



Schedule 8 CCA - Test Year

Class	Class Description	CC Test Year ening Balance	Additions	Disposals (Negative)	 Before 1/2 Yr Adjustment	1/2 Year Rule {1/2 Additions Less Disposals}	Reduced UCC	Rate %	Te	est Year CCA	UC	C End of Test Year
1	Distribution System - post 1987	\$ 28,143,874			\$ 28,143,874	\$ -	\$ 28,143,874	4%	\$	1,125,755	\$	27,018,119
1 Enhanced	Non-residential Buildings Reg. 1100(1)(a.1) election	\$ 493,825			\$ 493,825	\$ -	\$ 493,825	6%	\$	29,630	\$	464,196
2	Distribution System - pre 1988	\$ 23,385,780			\$ 23,385,780	\$ -	\$ 23,385,780	6%	\$	1,403,147	\$	21,982,633
8	General Office/Stores Equip	\$ 4,922,158	189,400		\$ 5,111,558	\$ 94,700	\$ 5,016,858	20%	\$	1,003,372	\$	4,108,186
10	Computer Hardware/ Vehicles	\$ 1,327,154	1,271,500		\$ 2,598,654	\$ 635,750	\$ 1,962,904	30%	\$	588,871	\$	2,009,782
10.1	Certain Automobiles	\$ -			\$ -	\$ -	\$ -	30%	\$		\$	-
12	Computer Software	\$ 156,450	1,334,048		\$ 1,490,498	\$ 667,024	\$ 823,474	100%	\$	823,474	\$	667,024
13 1	Lease # 1	\$ -			\$ -	\$ -	\$ -		\$	-	\$	-
13 2	Lease #2	\$ -			\$ -	\$ -	\$ -		\$	-	\$	-
13 3	Lease # 3	\$ -			\$ -	\$ -	\$ -		\$	-	\$	-
13 4	Lease # 4	\$ -			\$ -	\$ -	\$ -		\$	-	\$	-
14	Franchise	\$ -			\$ -	\$ -	\$ -		\$	-	\$	-
17	New Electrical Generating Equipment Acq'd after Feb 27/00 Other Than BI	\$ 175,195			\$ 175,195	\$ -	\$ 175,195	8%	\$	14,016	\$	161,179
	Fibre Optic Cable	\$ -			\$ -	\$ -	\$ -	12%	\$	-	\$	-
43.1	Certain Energy-Efficient Electrical Generating Equipment	\$ -			\$ -	\$ -	\$ -	30%	\$		\$	-
	Certain Clean Energy Generation Equipment	\$ -			\$ -	\$ -	\$ -	50%	\$	-	\$	-
45	Computers & Systems Software acq'd post Mar 22/04	\$ 1,487			\$ 1,487	\$ -	\$ 1,487	45%	\$	669	\$	818
46	Data Network Infrastructure Equipment (acq'd post Mar 22/04)	\$ -			\$ -	\$ -	\$ -	30%	\$		\$	-
47	Distribution System - post February 2005	\$ 47,640,944	14,854,435		\$ 62,495,379	\$ 7,427,218	\$ 55,068,161	8%	\$	4,405,453	\$	58,089,926
50	Data Network Infrastructure Equipment - post Mar 2007	\$ 183,490			\$ 183,490	\$ -	\$ 183,490	55%	\$	100,920	\$	82,571
52	Computer Hardware and system software	\$ -			\$ -	\$ -	\$ -	100%	\$	-	\$	-
95	CWIP	\$ 3,827,597			\$ 3,827,597	\$ -	\$ 3,827,597	0%	\$		\$	3,827,597
3	Buildings	\$ 594,442			\$ 594,442	\$ -	\$ 594,442	5%	\$	29,722	\$	564,720
6	Buildings	\$ 24,844			\$ 24,844	\$ -	\$ 24,844	10%	\$	2,484	\$	22,360
					\$ -	\$ -	\$ -	0%	\$	-	\$	-
					\$ -	\$ -	\$ -	0%	\$		\$	-
					\$ -	\$ -	\$ -	0%	\$		\$	-
					\$ -	\$ -	\$ -	0%	\$	-	\$	-
					\$ -	\$ -	\$ -	0%	\$	-	\$	-
_					\$ -	\$ -	\$ -	0%	\$	-	\$	-
					\$ -	\$ -	\$ -	0%	\$	-	\$	-
					\$ -	\$ -	\$ -	0%	\$	-	\$	-
	TOTAL	\$ 110,877,238	\$ 17,649,383	\$ -	\$ 128,526,621	\$ 8,824,692	\$ 119,701,929		\$	9,527,511	\$	118,999,109



Schedule 10 CEC - Test Year

Cumulative Eligible Capital					1,469,874
Additions Cost of Eligible Capital Property Acquired during Test Year		0			
Other Adjustments		0			
	Subtotal	0	x 3/4 =	0	
Non-taxable portion of a non-arm's length transferor's gain realized on the transfer of an ECP to the Corporation after Friday, December 20, 2002		0	x 1/2 =	0	0
Amount transferred on amalgamation or wind-up of subsidiary		0	=		0
	Subtotal			-	1,469,874
<u>Deductions</u>					
Proceeds of sale (less outlays and expenses not otherwise deductible) from the disposition of all ECP during Test Year		0			
Other Adjustments		0			
	Subtotal	0	x 3/4 =	-	0
Cumulative Eligible Capital Balance					1,469,874
Current Year Deduction (Carry Forward to Tab "Test Year Taxable Inc	come")		1,469,874	x 7% =	102,891
Cumulative Eligible Capital - Closing Balance					1,366,983



Schedule 13 Tax Reserves - Test Year

Continuity of Reserves

Continuity of Reserves				Test Year Adjustments		1		
Description	Bridge Year	Eliminate Amounts Not Relevant for Bridge Year	Adjusted Utility Balance	Additions	Disposals	Balance for Test Year	Change During the Year	Disallowed Expenses
Capital Gains Reserves ss.40(1)	0		0			0	0	
Tax Reserves Not Deducted for accounting purposes								
Reserve for doubtful accounts ss. 20(1)(I)	0		0			0	0	
Reserve for goods and services not delivered ss. 20(1)(m)	0		0			0	0	
Reserve for unpaid amounts ss. 20(1)(n)	0		0			0	0	
Debt & Share Issue Expenses ss. 20(1)(e)	0		0			0	0	
Other tax reserves	0		0			0	0	
	0		0			0	0	
	0		0			0	0	
Total	0	0	0	0	0	0	0	0
Financial Statement Reserves (not deductible for Tax Purposes)								
			0					
General Reserve for Inventory Obsolescence (non-specific)	0		0			0	0	
General reserve for bad debts	0 450 000		ů	0.000.000	0.450.000	-	-	
Accrued Employee Future Benefits:	2,156,000		2,156,000	2,068,000	2,156,000	2,068,000	-88,000	
- Medical and Life Insurance	0		0			0	0	
-Short & Long-term Disability -Accmulated Sick Leave	0		0			0	0	
	0		0				0	
- Termination Cost	0		0			0	0	
- Other Post-Employment Benefits	0		0			0	0	
Provision for Environmental Costs	0		0			0	0	
Restructuring Costs	0		0			0	0	
Accrued Contingent Litigation Costs	0		0			0	0	
Accrued Self-Insurance Costs	0		0			0	0	
Other Contingent Liabilities	U		0			0	0	
Bonuses Accrued and Not Paid Within 180 Days of Year-End ss. 78(4)	0		0			0	0	
Unpaid Amounts to Related Person and Not Paid Within 3 Taxation Years ss. 78(1)	0		0			0	0	
Other	0		0			0	0	
	0		0			0	0	
	0		0			0	0	
Total	2,156,000	0	2,156,000	2,068,000	2,156,000	2,068,000	-88,000	0



Schedule 7-1 Loss Carry Forward - Test Year

Corporation Loss Continuity and Application

Non-Capital Loss Carry Forward Deduction	Total	Non- Distribution Portion	Utility Balance
Actual/Estimated Bridge Year			0
Application of Loss Carry Forward to reduce taxable income in 2005			0
Other Adjustments Add (+) Deduct (-)			0
Balance available for use in Test Year	0	0	0
Amount to be used in Test Year			0
Balance available for use post Test Year	0	0	0

Net Capital Loss Carry Forward Deduction	Total	Non- Distribution Portion	Utility Balance
Actual/Estimated Bridge Year	138,126		138,126
Application of Loss Carry Forward to reduce taxable income in 2005			0
Other Adjustments Add (+) Deduct (-)			0
Balance available for use in Test Year	138,126	0	138,126
Amount to be used in Test Year			0
Balance available for use post Test Year	138,126	0	138,126



Taxable Income - Test Year

Taxable moonie Test Teal	Test Year Taxable
	Income
Net Income Before Taxes	4,757,910

	T2 S1 line #	
Additions:		
Interest and penalties on taxes	103	
Amortization of tangible assets		4 000 077
2-4 ADJUSTED ACCOUNTING DATA P489	104	4,989,877
Amortization of intangible assets	106	
2-4 ADJUSTED ACCOUNTING DATA P490	100	
Recapture of capital cost allowance from	107	
Schedule 8		
Gain on sale of eligible capital property from	108	
Schedule 10		
Income or loss for tax purposes- joint ventures or	109	
partnerships	440	
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	118	
financial statements	110	
Capitalized interest	119	
Non-deductible club dues and fees	120	
Non-deductible meals and entertainment expense	121	10,000
Non-deductible automobile expenses	122	
Non-deductible life insurance premiums	123	
Non-deductible company pension plans	124	
Tax reserves beginning of year	125	0
Reserves from financial statements- balance at end of year	126	2,068,000
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	
Other Additions: (please explain in detail the nature of the item)		
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))		77,500
Lease Inducements Received (ITA 12(1)(x))		
Deferred Revenue (ITA 12(1)(a))		
Prior Year Investment Tax Credits received		
Total Additions		7,145,377
Deductions:		, ,
Gain on disposal of assets per financial statements	401	
Dividends not taxable under section 83	402	
Capital cost allowance from Schedule 8	403	9,527,511
Terminal loss from Schedule 8	404	3,327,311
Cumulative eligible capital deduction from	405	102,891
Schedule 10 CEC		.02,00.
Allowable business investment loss	406	
Deferred and prepaid expenses	409	
Scientific research expenses claimed in year	411	
Tax reserves end of year	413	0
Reserves from financial statements - balance at beginning of year	414	2,156,000
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	390	
tax Capital Lease Payments	391	
Capital Loudo Faymonia		

Non-taxable imputed interest income on deferral and variance accounts	392	
	393	
	394	
	395	
	396	
	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)		
Financing lees for tax ITA 20(1)(e) and (e.1)		
Total Deductions		11,786,403
NET INCOME FOR TAX PURPOSES		116,884
Charitable donations	311	
Taxable dividends received under section 112 or		
113	320	
Non-capital losses of preceding taxation years from Schedule 7-1	331	
Net-capital losses of preceding taxation years (Please show calculation)	332	
Limited partnership losses of preceding taxation vears from Schedule 4	335	
Journal Comments of the Commen		
REGULATORY TAXABLE INCOME		116,884



PlLs Tax Provision - Test Year

Regulatory Taxable Income						\$ 116,884 A
Ontario Income Taxes Income tax payable	Ontario Income Tax	4.50%	В	\$ 5,260	C = A * B	
Small business credit	Ontario Small Business Threshold Rate reduction	\$ - -7.00%	D E	\$ -	F = D * E	
Ontario Income tax						\$ 5,260 J = C + F
Combined Tax Rate and PILs	Effective Ontario Tax Rate Federal tax rate Combined tax rate			4.50% 11.00%	K = J / A L	15.50% M = K + L
Total Income Taxes Investment Tax Credits Miscellaneous Tax Credits Total Tax Credits						\$ 18,117 N = A * M \$ 77,500 O \$ - P \$ 77,500 Q = O + P
Corporate PILs/Income Tax Provis	sion for Test Year					\$ - R = N - Q
Corporate PILs/Income Tax Provision	n Gross Up ¹			84.50%	S = 1 - M	\$ - T = R / S - R

Note:

Income Tax (grossed-up)

1. This is for the derivation of revenue requirement and should not be used for sufficiency/deficiency calculations.

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- U = R + T