



RATE BASE

1.0 INTRODUCTION

This Exhibit provides Hydro Ottawa Limited's ("Hydro Ottawa") distribution rate base forecast for 2011 and a discussion of the variances between 2008 Ontario Energy Board (the "Board") Approved, 2008 Actual, 2009 Actual, 2010 Budget and 2011 Budget rate bases. In accordance with the Board's Update to Chapter 2 of the Filing Requirements for Transmission and Distribution Applications, May 27, 2009, the rate base used to determine the revenue requirement for the Test Year includes a forecast of net fixed assets, calculated on a mid-year average basis, plus a working capital requirement. Net fixed assets are gross assets in service minus accumulated amortization and contributed capital. Table 1 shows the calculation of the 2011 rate base.

Table 1 – 2011 Rate Base¹

	2011 Adjustment \$000	2011 Rate Base \$000
2010 closing net asset balance		\$526,168
2010 Construction Work in Progress ("CIP")	\$19,632	
2011 capital expenditures (net of contributed capital)	78,721	
2011 CIP	(28,417)	
2011 deletions	0	
2011 capital additions (net of contributed capital)	69,936	
2011 Amortization	(47,450)	
Net Additions		22,486
2011 closing net asset balance		548,655
2011 average net asset balance		537,412
Working Capital		94,168
Total 2011 Rate Base		\$631,580

1. For audited financial statements, meters that have been replaced by Smart Meters have been removed from fixed assets. For regulatory purposes, they are still included.



1 **2.0 2008 ACTUAL RATE BASE VERSUS 2008 APPROVED**

2
3 Table 2 below compares the 2008 actual rate base to the 2008 approved rate base.
4 Hydro Ottawa's actual 2008 rate base was \$11.5M higher than approved primarily as a
5 result of the 2007 actual Construction Work in Progress ("CIP") being higher than
6 estimated and actual 2008 capital expenditures being higher than approved, as
7 described in Exhibit B4-2-1. The actual 2008 Working Capital Requirement was higher
8 than approved, due to the use of the calculated Working Capital Allowance of 14.1%
9 compared to the settled rate of 12.5%.

10
11 Table 3 below compares the actual 2008 rate base to the 2009 rate base. The 2009 rate
12 base is \$22.9M higher than the 2008 actual rate base, despite capital additions being
13 low as a result of the expense of the Ellwood substation still being in CIP.

14
15 Table 4 below shows the budgeted rate base for 2010 compared to the 2009 actual rate
16 base. In 2010 the capitalization of the Ellwood substation has been budgeted which
17 significantly increases the capital additions. At the end of 2009, a number of assets
18 were removed from Hydro Ottawa's rate base as they were considered to be non
19 distribution assets. One is the property at 90 Maple Grove. As described in the
20 Facilities Strategy, Exhibit B1-2-5, Hydro Ottawa plans to sell 90 Maple Grove in 2011.
21 The second is the solar panel installations on Hydro Ottawa facilities at Merivale Road
22 and Bank Street. Hydro Ottawa has received microFIT contracts for these installations
23 and as the revenue will not be used to offset distribution revenue, the assets had to be
24 removed from rate base.

25
26 Table 5 below shows the 2010 Budget rate base compared to the 2011 Budget rate
27 base.



1

Table 2 – 2008 Approved and Actual Rate Base¹

2008 Rate Base	Approved		Actual	
	Adjustment \$000	Rate Base \$000	Adjustment \$000	Rate Base \$000
2007 closing net asset balance		\$463,116		\$461,888
2007 CIP	\$13,548		\$24,141	
2008 capital expenditures (net of contributed capital)	56,681		63,133	
2008 CIP	(15,435)		(19,114)	
2008 deletions	0		(16)	
2008 capital additions (net of contributed capital)	54,794		68,144	
2008 Amortization	(40,822)		(41,576)	
Net Additions		13,972		26,568
2008 closing net asset balance		477,087		488,457
2008 average net asset balance		470,102		475,173
Working Capital Requirement		75,704		82,144
Total 2008 Rate Base		\$545,806		\$557,317

¹ The 2008 Approved and 2008 Actual rate bases shown include stranded meters, which have been removed for financial statements.



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Table 3 – 2008 Actual and 2009 Actual Rate Base¹

	2008 Actual		2009 Actual	
	Adjustment \$000	Rate Base \$000	Adjustment \$000	Rate Base \$000
Previous year closing net asset balance		\$461,887		\$488,456
Previous year CIP capital expenditures (net of contributed capital)	\$24,141		\$19,114	
CIP deletions	63,133 (19,114)		60,681 (27,287)	
capital additions (net of contributed capital)	(16)		(116)	
	68,144		52,392	
Amortization	(41,576)		(43,898)	
Net Additions		26,568		8,494
Closing net asset balance		488,456		496,950
Average net asset balance		475,173		492,704
Working Capital Allowance		82,144		87,557
Total Rate Base		\$557,317		\$580,261

¹ The 2008 Actual and 2009 Actual rate bases shown include stranded meters, which have been removed for financial statements.



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Table 4 – Bridge Year (2010) Rate Base¹

	2009 Actual		2010 Budget	
	Adjustment \$000	Rate Base \$000	Adjustment \$000	Rate Base \$000
Previous year closing net asset balance		\$488,456		\$496,950
Previous year Construction in Progress ("CIP")	\$19,114		\$27,287	
Current year capital expenditures (net of contributed capital)	60,681		70,190	
Current year CIP	(27,287)		(19,632)	
Current year net deletions	(116)		0	
Capital additions (net of contributed capital)	52,392		77,845	
Amortization	(43,898)		(46,476)	
Net Additions		8,494		31,369
Net Removal From Rate Base (Atria and Solar Panels)				(2,151)
Closing net asset balance		496,950		526,168
Average net asset balance		492,704		511,560
Working Capital		87,557		95,399
Total Rate Base		\$580,261		\$606,959

¹ The 2009 Actual and 2010 Actual rate bases shown include stranded meters, which have been removed for financial statements.



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Table 5 – Test Year (2011) Rate Base¹

	2010 Budget		2011 Budget	
	Adjustment \$000	Rate Base \$000	Adjustment \$000	Rate Base \$000
Previous year closing net asset balance		\$496,950		\$526,168
Previous year Construction in Progress (“CIP”)	\$27,287		\$19,632	
Current year capital expenditures (net of contributed capital)	70,190		78,721	
Current year CIP	(19,632)		(28,417)	
Current year deletions	0		0	
Capital additions (net of contributed capital)	77,845		69,936	
Amortization	(46,476)		(47,450)	
Net Additions		31,369		22,486
Net Removal From Rate Base (Atria and Solar Panels)		(2,151)		
Closing net asset balance		526,168		548,655
Average net asset balance		511,560		537,412
Working Capital		95,399		94,168
Total Rate Base		\$606,959		\$631,580

2

¹ The 2010 and 2011 Budget rate bases shown include stranded meters, which have been removed for financial statements.
 2011 Electricity Distribution Rate Application



CAPITAL PLANNING PROCESS

1.0 CAPITAL BUDGET STRUCTURE

Hydro Ottawa Limited's ("Hydro Ottawa") capital budget is organized into four programs: Distribution Sustainment, Distribution Demand, General Plant and Green Energy Act. A capital program is the term used for the grouping of expenditures for planning purposes. A budget program is a subset of a capital program. Each capital program may have a number of budget programs within it.

1.1 Distribution Sustainment

Sustainment expenditures are done to enhance, strengthen or support the distribution system so it will continue to function as intended, within acceptable reliability tolerances. Activities include installation, reinforcement, betterment, extension, relocation, or replacement of distribution plant and are mainly driven by recurring or imminent system failures, capacity constraints, or general growth. These activities are driven by an internal Asset Management Strategy and not by external parties. Sustainment expenditures are grouped into larger programs for ease of planning and tracking. Table 1 is a summary of sustainment activities by both capital program and budget program. Each capital program may have a number of budget programs associated with it.

Distribution sustainment capital planning for 2011 was performed using the methodology and results outlined in the *2010 Asset Management Plan Report* ("2010 AMP") as described in and attached to Exhibit B1-2-2.

In its distribution capital expenditures, Hydro Ottawa refers to distribution assets and stations assets. Both of these assets are considered distribution plant for regulatory purposes, Hydro Ottawa uses the terminology internally to differentiate between what is within and outside of substation properties.



1

Table 1 – Distribution Capital, Sustainment

Capital Program	Budget Program
Stations Asset	Stations Transformer Replacement
	Stations Battery Replacement
	Stations Switchgear Replacement
	Stations Relay Replacement
	Station Conductor Replacement
	Stations Plant Failure Capital
Stations Capacity	Stations New Capacity
Stations Enhancement	Station Enhancements
Distribution Asset	Cable Replacement Program
	Pole Replacement
	Insulator Replacement Program
	Elbow and Insert Replacement
	Splice Replacement Program
	Distribution Transformer Replacement
	Vault Rehabilitation or Removal
	Civil Rehabilitation Program
	Switchgear New and Rehabilitated
	Overhead Equipment New and Rehabilitated
	Plant Failure Capital
Distribution Enhancement	Vault Space Capital Leasing
	Line Extensions
	System Voltage Conversion
	System Reliability
	Distribution Minor Enhancements
Distribution Automation¹	Distribution Automation
Stations Automation¹	Substation Automation
System Operations Automation¹	SCADA Upgrades
	RTU - Additions

2

¹ Combined into a single Capital Program in 2011; "Automation".



1 **1.2 Distribution Demand**

2
3 Demand capital expenditures are incurred to satisfy requests from external parties for
4 connection to, or relocation of, Hydro Ottawa’s distribution system plant, or to repair
5 equipment damaged by external parties. These activities result in a repair, relocation,
6 change or expansion of the Hydro Ottawa distribution system. External parties may be a
7 regulator, a road authority, a developer or an individual customer. Hydro Ottawa is
8 required to provide timely service for these activities. Many of the demand activities
9 include a financial contribution by the external party. Demand expenditures are grouped
10 into larger programs for ease of planning and tracking. Table 2 is a summary of demand
11 activities.

12
13 **Table 2 – Distribution Capital, Demand**

Capital Program	Budget Program
Commercial	New Commercial Development
Damage To Plant	Damage to Plant
Infill & Upgrade	Infill Service
Metering	Metering – Reverification
	Wholesale Meter (IESO meter upgrades)
	Smart Meters
	Remote Disconnected Smart Meter
	Suite Metering
Plant Relocation	Plant Relocation and Upgrade
Residential	Residential Subdivisions
Stations Demand Projects	Embedded Generation Projects
System Expansion	System Expansion Demand
	Long Term Load Transfers

14
15



1 **1.3 General Plant**

2
3 General plant capital expenditures are done to ensure staff have available the tools and
4 facilities required to perform their jobs safely and efficiently. Tool replacements are
5 needed to carry out the distribution maintenance and capital program efficiently and
6 effectively. Strategically, the Geographic Information System (“GIS”) provides
7 intelligence for planning, managing and recording assets. Operationally, the Outage
8 Management System (“OMS”) and Supervisory Control and Data Acquisition (“SCADA”)
9 provide information and response for system operation/control. Functionally, the
10 Information Technology (“IT”) Strategy (Exhibit B1-2-4), the Facilities Strategy (Exhibit
11 B1-2-5), the Customer Information System (“CIS”) Transition Project (Exhibit B1-2-7) and
12 the Fleet Strategy (Exhibit B1-2-6), support the overall operation of the company. These
13 are all inputs to the General Plant Capital Plan. Table 3 is a summary of general plant
14 activities.

15
16 **Table 3 – General Plant Capital**

Budget Program
Buildings - Facilities
CIS Enhancements
Electronic Collection Field Activities
Environmental Sustainability Strategy
Fleet Replacement
Furniture & Equipment
GIS/OMS/CIS/IVR Integration
GRM System Enhancements
Info Services & Tech
ERP / JDE Project
New PC & Peripheral
Outbound Calling Auto-Dialer
PC/Peripheral Replacement
Tools Replacement
Website Enhancements

17



1 **1.4 Green Energy Act**

2
3 Green Energy Act expenditures are done as a result of the *Green Energy and Green*
4 *Economy Act, 2009* (“GEA”). Hydro Ottawa has prepared a Basic GEA Plan that
5 includes capital and operating expenditures for the period 2011 through 2015. In
6 preparing the plan, Hydro Ottawa has identified investments that will be necessary to
7 facilitate the connection of renewable generation to the distribution system and has
8 prioritized them based on where the highest likelihood of connection requests exists.
9 Refer to Exhibit B1-2-3 for details of Hydro Ottawa’s Basic GEA Plan.

10
11 **1.5 Expenditures by Uniform System of Accounts**

12
13 The programs/projects over the past five historic years, the bridge year (2010) and the
14 test year (2011) can be related to the Uniform System of Accounts, as shown in Exhibit
15 B4-6-1.

16
17
18 **2.0 PLANNING PROCESS**

19
20 Distribution system capital planning is a critical activity as the distribution capital budget
21 represents a large portion of the overall capital budget. The capital plans, as well as the
22 maintenance activities, are investments in the distribution system performance for the
23 safety of the public and workers, ability to connect new customers and accommodate
24 load growth. The overall capital budget sets the requirements for such peripheral
25 demands such as equipment procurement, staff levels, and fleet requirements. The
26 capital plan each year is an input to the labour requirements, and the capital and
27 maintenance budgets combined ensure the distribution system is able to continue
28 performing reliably.

29
30 Distribution capital planning and budgeting is done by the engineering (Asset Planning)
31 department. Equipment demographics, failure statistics and condition testing, as well as



1 system loading, reliability performance and predicted load growth are used in distribution
2 capital planning. The distribution capital planning process and results are outlined in the
3 2010 Asset Management Plan (Exhibit B1-2-2).

4
5 Hydro Ottawa has implemented management systems in other areas of the organization,
6 such as metering (ISO9001:2008), environmental (ISO14001:2004), health and safety
7 (OHSAS 18001:2007) and in the design-construction processes required by Ontario
8 Regulation 22/04.

10 **2.1 Sustainment Planning**

12 2.1.1 Supply and Capacity Planning

14 Supply and capacity planning supports the Sustainment portion of the distribution capital
15 budget.

17 The purpose of Supply and Capacity Planning is to ensure that Hydro Ottawa will be
18 capable of supplying both existing and future customer load. Using projections of load
19 demand for proposed major residential and commercial/industrial projects, as well as
20 growth estimates, a forecast is developed for peak summer and winter electricity
21 demand, over a 10-year planning horizon. The forecasts are prepared for several
22 different electricity supply areas as defined by geographic area, and the distribution
23 network configuration.

25 An assessment is made of the current supply capability of each substation and
26 distribution feeder that delivers power into the defined supply areas. The available
27 capacity generally considers a deterministic single contingency outage event, such that
28 in the event of the failure of the largest station transformer, or a feeder, in a particular
29 area, the winter or summer peak loads can be supplied without taxing the system
30 beyond its established ratings. Any planned retirement of plant is also considered in
31 these assessments.



1 By comparing the available supply capacity, and the forecast load for each area, over a
2 ten year horizon, the dates at which existing supply may be incapable of meeting the
3 supply criteria can readily be determined. For the areas in which the available supply is
4 projected to be inadequate in the near term, typically one to three years, an expansion
5 plan is developed to address the issue. This consists of evaluating available options to
6 expand the supply capability in a particular area. Initial evaluation of the technical
7 characteristics, land availability, environmental characteristics, and the capital and
8 operating costs is performed for each of the possible alternatives.

9
10 2.1.2 Distribution Asset and Station Asset Planning

11
12 Asset planning supports the Sustainment portion of the distribution capital budget.

13
14 Asset Planning involves review, by asset class, of the recommendations of the Asset
15 Management Plan and the creation of a more detailed plan and budget. For example, if
16 Hydro Ottawa has decided to replace poles each year per the 2010 AMP, the
17 sustainment planning activity around pole replacement is to evaluate the number of
18 poles to be replaced based on the plan and other operational requirements, and to then
19 identify the specific poles to be replaced. Operational, budgetary and practical
20 implications need to be weighed against the recommendations of the 2010 AMP.

21
22 Asset replacement also includes Plant Failure Capital, the unplanned replacement of
23 failed assets. These failures must be attended to during the same outage response visit
24 and could include failed insulators, transformers or any other distribution or stations
25 asset. The cost for this program is based on historical levels. Hydro Ottawa's
26 distribution infrastructure demographics is of an ageing distribution system. Tracking
27 plant failures is one tool to provide feedback into the asset management process
28 regarding its success. Although elimination of all plant failures would be cost prohibitive
29 and irresponsible, the amount of failures and the impacts of the failures can be managed
30 to within acceptable limits.

31



1 2.1.3 Enhancement Planning

2

3 Sustainment planning also includes enhancement planning, modification to an existing
4 system that is made for purposes of improving operating characteristics such as
5 reliability or power quality, or for relieving system capacity constraints resulting from
6 general load growth. Enhancement planning involves evaluation of operational concerns
7 identified by staff and system performance issues identified by monitoring performance
8 measures to determine optimal solutions. Enhancement expenditures include both
9 Distribution Enhancements and Stations Enhancements.

10

11 2.1.3 Automation Planning

12

13 Sustainment planning also includes automation planning. Currently, automation at
14 Hydro Ottawa includes the installation of equipment for the remote interrogation and
15 operation of field devices. Automation projects are identified by evaluation of additional
16 real time information required to operate and maintain the distribution system and time
17 required to perform planned and unplanned switching, to impact the greatest number of
18 customers.

19

20 **2.2 Demand Planning**

21

22 Demand planning supports the Demand portion of the distribution capital budget.

23

24 Demand capital expenditures address external requests for connection to, or relocation
25 of, Hydro Ottawa's distribution system plant, and the repair of equipment damaged by
26 external parties. Hydro Ottawa has an obligation to perform demand activities, once
27 applicable technical and financial requirements are met. The following sections explain
28 Hydro Ottawa's demand capital budget categories.

29



1 Demand project costs are fully or partially recoverable. Customers must provide Hydro
2 Ottawa sufficient time to appropriately plan, design, and schedule, which could be as
3 long as one to two years for major infrastructure projects.

4
5 Demand planning involves forecasting demand activity based on historic trending and a
6 number of external factors, such as developer requests, economic conditions and City of
7 Ottawa (the “City”) works projects. Demand planning contains a fair level of uncertainty
8 as it involves estimating future activity of external parties without financial commitments
9 or a concrete plan for future years. Hydro Ottawa actively monitors pending demand
10 projects through such activities as participation in the City Utility Coordinating Committee
11 and Engineering Liaison Sub-Committee, participation in the City project specific
12 Technical Advisory Committees, review of development circulations such as Site Plans
13 and Zoning Amendments from the City, as well as communication and cooperation with
14 developers and consultants.

15 16 2.2.1 Plant Relocation and Upgrades

17
18 Hydro Ottawa installs the majority of its distribution infrastructure along road right of
19 ways that are owned and managed by the City. The City road works program largely
20 drives plant relocation. There typically is some capital contribution as per the *Public*
21 *Service Works on Highways Act*.

22
23 The Plant Relocation program does not include work for others; that is, where the
24 construction of privately owned facilities necessitates the relocation of Hydro Ottawa
25 plant. This work is done at the request of owners/developers at their expense.

26
27 The projects can be located throughout Hydro Ottawa’s service area depending on the
28 City roadwork plan, and impact both overhead and underground distribution plant.

29
30 Plant relocation is primarily dependent on the local economy and on various levels of
31 government funding. The City establishes a road works program for each year. The



1 road works plan may not be finalized until the year in which the works will occur. Hydro
2 Ottawa's ability to accurately forecast is based on City plans.

3
4 Hydro Ottawa does stay abreast of possible pending works through participation in the
5 City Utility Coordinating Committee and through review of City Circulations such as
6 Zoning Amendments and Community Design Plans.

7
8 Plant relocation projects also arise due to requests from private developers. These
9 projects are typically 100 percent contributed by the requester, and include projects such
10 as moving a pole to accommodate driveway location for infill development, replacing
11 poles with taller poles to provide new construction with required clearances from
12 overhead medium voltage conductors, and relocating underground structures to
13 coordinate construction of new, third party, utility plant.

14 15 2.2.2 Residential Subdivisions

16
17 Residential subdivision expenditures are to service new residential developments as
18 requested by owners/developers that Hydro Ottawa is obligated to connect. These
19 expenditures do not include secondary "in-fill" type services. Residential subdivision
20 expenditures do not include apartment buildings, which have larger amperage services
21 requiring commercial servicing. Residential subdivision capital expenditures are partially
22 funded by developers through contributions in aid of construction, as determined by the
23 requirements of the *Distribution System Code*. Only the net between the capital
24 expenditures and the contributions is included in Hydro Ottawa's rate base.

25
26 Residential development is primarily dependent on the local economy. The majority of
27 the residential work is in the west, south and east suburbs in the City. Growth in the
28 suburban areas since 2000 has been steady.



1 The majority of new residential subdivisions service costs typically occur prior to home
2 construction, so there is not a direct correlation between annual capital expenditures and
3 services energized or customer number increases.

4

5 2.2.3 Commercial Development

6

7 Commercial developments are new or upgraded primary services. These services are at
8 the request of owners/developers that Hydro Ottawa is obligated to connect.

9

10 The majority of the commercial work is in the west, south and east suburbs of the City.
11 Growth in the suburban areas since 2000 has been steady. Commercial development is
12 primarily dependent on the local economy.

13

14 2.2.4 System Expansion

15

16 System expansion represents an addition to a distribution system in response to a
17 request for additional customer connections that otherwise could not be made; for
18 example, by increasing the length of the distribution system.

19

20 Commercial or residential development, in areas with no current infrastructure requires
21 expansion for Hydro Ottawa to provide service. Activity follows growth and government
22 infrastructure investment patterns.

23

24 These projects are relatively unpredictable in timing as they are dependent on needs or
25 requests of external parties.

26

27 2.2.5 Embedded Generation

28

29 Stations Embedded Generation projects are customer driven projects. Hydro Ottawa
30 undertakes these projects to ensure substations can accept the customer embedded



1 generation connections while ensuring reliability of the existing distribution system is
2 maintained.

3

4 These projects are typically 100 percent contributed capital, as the work would only have
5 been done to accommodate the additional generation. This category is not related to
6 expenditures covered by the Green Energy Act. Contributions for renewable generation
7 projects would follow the requirements of the *Distribution System Code*.

8

9 2.2.6 Infill Services

10

11 Infill Services are new customer services which were not part of a pre-planned
12 subdivision, or a service that is installed five years or more after the pre-planned
13 subdivision has had the Hydro Ottawa primary distribution circuit to the area energized.

14

15 An upgraded service is a change to the Hydro Ottawa portion of an existing customer
16 service; for example, an increase in service size from 100A to 200A. Infill and upgrade
17 services occur in both residential and commercial customer classes, in rural and urban
18 areas.

19

20 This is a demand-based activity. All costs in the category are customer dependant and
21 estimates are based on historical levels.

22

23 2.2.7 Damage to Plant

24

25 The program covers assets damaged by others (such as poles hit during car accidents
26 or cable failures due to dig-ins), where there is loss of functional use, and the asset must
27 be replaced. An attempt to recover costs is made whenever possible; however, in many
28 cases, the persons at fault are unknown, and cost recovery is not possible. The
29 estimated cost of this program is based on historical levels.

30



1 Damage to plant is, for the most part, beyond the control of the utility. Hydro Ottawa
2 does take action to reduce the volume of damage to plant incidents, and to lessen the
3 impact of the damage in cases where it is most likely to occur. Examples of the steps
4 taken include:

- 5
- 6 • Responding to City and utility circulations to identify where Hydro Ottawa plant
- 7 conflicts with construction activities,
- 8 • Providing underground locates through One-Call (Refer to Exhibit D1-4-3),
- 9 • Providing contractor supervision during excavation,
- 10 • Pole line designs locate pole-top equipment back from intersections where
- 11 possible, and
- 12 • Installation of protective bollards around pad mounted equipment in select
- 13 locations.
- 14

15 When damage to plant is identified, it is addressed in a timely manner to ensure public
16 and worker safety.

17

18 2.2.8 Wholesale Metering

19

20 Primary wholesale metering installations at supply points, presently owned by Hydro
21 One Networks Inc., must be replaced with new Independent Electricity System Operator
22 approved meters, as per the *Market Rules*. The cost of these upgrades is the
23 responsibility of the market participant, who is also required to take over ownership.

24

25 2.2.9 Meters

26

27 Meters on customer services impacted by the Smart Meter program are managed by the
28 Smart Meter program (Exhibit I2-1-1).

29

30 Hydro Ottawa follows the requirements established by Measurement Canada for meter
31 sampling and reverification. Hydro Ottawa has received temporary dispensation from



1 Measurement Canada regarding the seal period for some of these new Smart Meter
2 assets.

3

4 2.2.10 Contributed Capital

5

6 Customer contribution towards the funding of demand projects is determined by the
7 nature of the project and the Board requirements as set out in the *Distribution System*
8 *Code*.

9

10 Relocated distribution plant located along public road right of ways is subject to external
11 contributions per the *Ontario Public Service Works on Highways Act* (“PSWHA”), but
12 typically only to the extent of 50 percent of the labour and labour saving devices costs.
13 Requests to relocate infrastructure by parties other than the road authority do not fall
14 under the PSWHA and are one hundred percent funded by the requester.

15

16 Customer contribution towards construction of expansion projects is evaluated per an
17 economic evaluation to determine if the future revenue from the customer(s) will pay for
18 the capital cost and on-going maintenance costs of the expansion project. Expansion
19 projects subject to this evaluation are overhead and underground line extensions, and
20 commercial and residential subdivisions.

21

22 If a customer is required to pay a capital contribution they may elect to use “Alternate
23 Bid” construction. Hydro Ottawa has had few developers choose the Alternate Bid
24 option in recent years.

25

26 Budgeting contributed capital is done by examining past years actual contributions as a
27 percentage of total expenditures. Appendix B of the *Distribution System Code* was
28 revised as of October 2009 such that when LDCs rebase they will no longer include
29 upstream or enhancement costs as part of the economic evaluation formula for load
30 customers. The budgeted contributions for 2011 and forward include the impact of
31 implementing this change.



1 **2. 3 General Plant Planning**

2

3 General Plant planning items include the tools and facilities employees require to
4 perform their jobs safely and effectively. Significant components of the General Plant
5 capital budget for 2010 are described in the following sections.

6

- 7 • Exhibit B1-2-4: IT Strategy
- 8 • Exhibit B1-2-5: Facilities Strategy
- 9 • Exhibit D1-4-4: Customer Service Strategy Plan
- 10 • Exhibit B1-2-6: Fleet Strategy
- 11 • Exhibit B1-2-7: CIS Transition Project
- 12 • Exhibit B1-2-8: Environmental Sustainability Strategy



DISTRIBUTION ASSET MANAGEMENT PLAN

1.0 INTRODUCTION

Hydro Ottawa Limited's ("Hydro Ottawa") distribution system assets range in age from new to over 50 years old. The management of these assets is critical to providing safe, reliable and efficient electricity distribution services to customers.

In 2005, Hydro Ottawa completed the formal documentation around its Asset Management Plan ("2005 AMP"). The 2005 AMP models were created using a mixture of actual data and assumed data on each asset class. Due to the inclusion of the assumed data, the models were created conservatively; that is, to provide lower risk recommendations that result in higher levels of activity. For this reason, the 2005 AMP recommendations are recommended guidelines, not exact requirements. The 2005 AMP is available for reference on Hydro Ottawa's website (http://www.hydroottawa.com/corporate/index.cfm?lang=e&template_id=423).

In 2009 and 2010 Hydro Ottawa undertook to revise its documented asset management philosophy and recommendations. The result of the revision process is the Hydro Ottawa *2010 Asset Management Plan* ("2010 AMP").

The scope the 2010 AMP is limited to the management of the physical assets associated with the distribution system. The scope of the 2010 AMP is focused on managing the distribution assets in a way that is consistent with;

- Supporting organizational strategic plan,
- Supporting organizational risk management,
- Regulatory requirements, and
- Defined performance requirements.



1 The objectives of the 2010 AMP are to demonstrate that the assets deliver the required
2 functions at the desired level of performance and that this level of performance is
3 sustainable for the foreseeable future and within the targeted levels of risk. The 2010
4 AMP is a key component of the planning and prioritization process. Addressed in the
5 plan are the financial, technical, and socio-political elements needed for making sound,
6 innovative or best practice asset management decisions.

7
8 The 2010 AMP reviews the past five year's performance and looks ahead for ten years
9 from January 1, 2011. The focus is on recommendations for expenditures and activities
10 within the first three to five years. Based on long term trends and, depending on
11 consumer demand growth, it is likely projects will change in the latter half of the ten year
12 period of the plan.

13
14 A fundamental requirement of effective development and management of a distribution
15 system is effective system planning. The 2010 AMP is the documented output of Hydro
16 Ottawa's distribution system planning and provides short and long range planning
17 direction for distribution system development, reliability improvements, asset inspection,
18 maintenance and replacement programs as well as increases to overall system capacity.

19
20 The Hydro Ottawa *2010 Asset Management Report* is attached as Attachment O.

21 22 23 **2.0 ASSET CONDITION STUDIES**

24
25 The Update to Chapter 2 of the *Filing Requirements for Transmission and Distribution*
26 *Applications*, May 27, 2009 requires that the applicant state whether or not it has
27 undertaken any asset condition studies. Hydro Ottawa has not engaged third parties to
28 perform documented asset condition studies. Hydro Ottawa does evaluate the condition
29 of assets through various inspection and testing programs outlined in the 2010 AMP,
30 and outlined in the following sections.

31



1 **2.1 Poles**

2

3 Pole condition assessment is available from two surveys, the 1996 survey of the former
4 Ottawa Hydro service area, and the geographic information system survey of the
5 remainder of the system completed in 2003. Pole condition is routinely assessed by
6 operational personnel performing work on a pole such as switching or asset replacement
7 (transformers, insulators, lightning arrestors, etc.), although not documented unless an
8 issue is identified.

9

10 **2.2 Distribution Transformers**

11

12 In 2005 a distribution transformer survey was performed in preparation for the pending
13 polychlorinated biphenyl legislation and development of the geographic information
14 system. Through this survey every transformer was visited up-close and items requiring
15 immediate or short term attention were recorded and addressed as appropriate.

16

17 **2.3 Underground Chambers**

18

19 Hydro Ottawa maintains a regular inspection program of its underground chambers
20 administered by both Hydro Ottawa staff and external contractors. Inspection of
21 underground civil structures involves a condition assessment and rating from 0 to 5 for
22 the roof, collar, walls and floor.

23

24 **2.4 Underground Switchgear**

25

26 Condition assessment of underground switchgear is performed on a regular basis
27 through a variety of strategies. Thermo-graphic analysis and cleaning with CO₂ is
28 performed on air insulated pad mounted switchgear.

29



1 **2.5 Station Transformers**

2

3 Hydro Ottawa substations are inspected regularly. Hydro Ottawa has laboratory tests of
4 all station transformer oil performed once per year. Substation transformer oil condition
5 was used as an input into the 2010 AMP. Additionally, in order to continually monitor
6 transformers that have shown signs of deterioration, the budget for installation of online
7 oil monitoring systems on 17 transformers have been included in capital expenditures for
8 2011.

9

10 **2.6 Station Switchgear**

11

12 Station Switchgear is evaluated during maintenance inspections by Hydro Ottawa
13 employees and provided a health index. Breakers and relays are removed from service
14 and tested on a three to five year cycle.

15

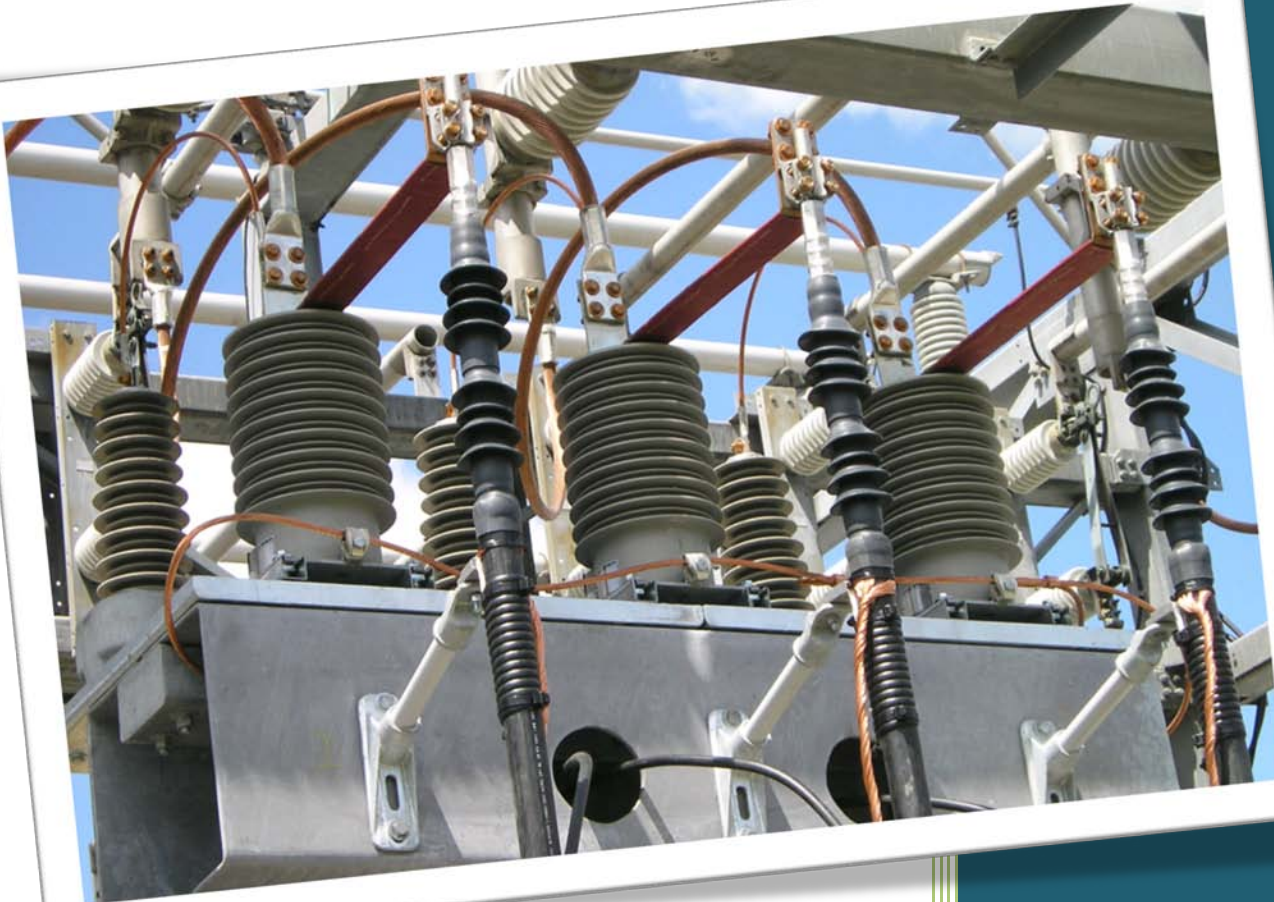
16 **2.7 All Assets**

17

18 Outage statistics are monitored to identify emerging trends, and failure correlation is
19 used to evaluate major assets. For example, the use of FEMI (“Feeders Experiencing
20 Multiple Interruptions”) is a new measure being adopted by Hydro Ottawa to assist in
21 analyzing specific areas with reliability problems.

2010

Asset Management Plan



Hydro Ottawa
Limited

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Section A. Executive Summary

Hydro Ottawa Limited's Asset Management Plan ("the plan") details how we plan to manage maintain and reinforce our electricity distribution system over the next decade.

The plan reviews the past 5 year's performance and looks ahead for 10 years from January 2011. Based on long term trends and depending on consumer demand growth, it is likely that new projects and some planned projects will change in the latter half of the 10 year period of the plan.

The scope of the plan is limited to the management of the physical assets associated with the distribution system. The objectives of our plan are to report on the performance of the distribution system and to identify risk and challenges in the distribution system that would adversely affect our ability to deliver on Hydro Ottawa's strategic objectives; Financial Strength, Customer Value, Organizational Effectiveness, and Corporate Citizenship.

Financial Strength

The delivery of the sustainment capital program, to be on or below budget or approved forecast, is identified as a performance measure within our strategic objectives. Our ability to meet this objective is heavily tied to the quality of the plan.

Despite spending variances between some budget programs, largely due to year end carryover of multi-year projects and an increase in system capacity spending, the performance to date has been good. The 2009 sustainment program was delivered within 5% of the approved budget and our cumulative spending in capital sustainment since 2005 is within 4.5% of the original plan (2005).

Moving forward, managing ageing infrastructure and system capacity issues will continue to present challenges. Our equipment failure projections indicate that a need to increase asset replacement spending levels, for poles, distribution transformers and station transformers. In addition, system capacity spending will remain in-line with the spending levels that occurred in the last 5 years.

With the introduction of the Green Energy Act (GEA) it is anticipated that new initiatives will be introduced to promote smart grid development and enable renewable embedded generation in the distribution system. Hydro Ottawa is pursuing some initiatives to support the GEA which have been identified in a separate document ("Hydro Ottawa Limited Basic GEA Plan"). In the short term these initiatives will require an increase in sustainment capital spending.

We have identified the need for an increase in sustainment capital spending of \$5M by 2013 and an additional \$6.5M by 2020. The forecasted capital sustainment requirement in 2020 is \$59.7M.

As the smart grid and GEA initiatives mature it is anticipated that capital spending will increase however this will be accompanied by gains in operational efficiencies.

Overall we have identified the need for an increase in sustainment capital spending of \$5M by 2013 and an additional \$6.5M by 2020. The forecasted capital sustainment requirement in 2020 is \$59.7M.

Customer Value

System reliability is a performance measure of Customer Value. Our objective is to maintain the 3 year average system reliability, while implementing programs resulting in significant progress in areas with known reliability problems.

The 3-year averages for the two key measures of reliability, System Average Interruption Frequency Index (SAIFI) and System Average Interruption Duration Index (SAIDI) have both been relatively constant. The three leading causes affecting outage frequency and duration are loss of supply, defective equipment and foreign interference.

The three leading causes affecting outage frequency and duration are loss of supply, defective equipment and foreign interference

Outages caused by loss of supply continue to be addressed with Hydro One Networks Inc (HONI) and the Ontario Power Authority (OPA) through regular joint review. Continued investment in system capacity will result in operational flexibility to support improvements in reliability performance.

Outages associated with defective equipment will continue to be addressed through improvements in asset condition assessment, failure correlation and refinements to our asset management models. This will improve our ability to optimize spending forecasts for asset replacement programs.

Recently in 2009, animal contacts lead the increase in outages due to foreign interference. Though there are mitigation measures available, a single year increase is an anomaly so continued monitoring is recommended.

Continued efforts will focus on identifying and adopting new reliability performance measures and leading indicators that enable us to make improvements from a proactive approach rather than reactive. An example of this is the “Feeders Experiencing Multiple Sustained Interruptions” (FEMI). This is a customer centric measure as it provides an indication as to regions which have seen high localized issues.

Hydro Ottawa has performed well over the last five years however we will continue to face multiple challenges for the next decade. Those challenges include the management of an ageing infrastructure, ensuring the system has sufficient capacity to meet projected load growth as well as new demands initiated by the Green Energy Act.

Hydro Ottawa has performed well over the last five years however we will continue to face multiple challenges for the next decade.

We will continue to optimize capital sustainment investments through rigorous asset management processes based on sound engineering, asset evaluation programs and compliance with regulation. We are confident that the plan laid out for the next decade aligns with our corporate objectives and will deliver the expected level of performances.

Section B. Background

Period Covered

The Asset Management Plan covers a period of ten years from the fiscal year beginning on 1 January 2011 until the year ending 31 December 2020. The main focus of analysis is the first three to five years. Beyond this general forecasts are made which are reviewed annually.



This plan will be reviewed annually with the next plan due for release March 2011.

Purpose of the Plan

The intention of the Asset Management Plan (AMP) is to document the asset management practices used by Hydro Ottawa Limited (HOL) as part of an optimized lifecycle strategy for our electricity assets. The objectives of the AMP are to demonstrate that the assets deliver the required functions at the desired level of performance and that this level of performance is sustainable for the foreseeable future and stays within the targeted levels of risk.

Our plan is a key component of our planning process. Addressed in the plan are the financial, technical, and management elements needed for making sound innovative or best practice asset management decisions.

The plan looks ahead for 10 years from 1 January 2010. Our main focus is on the first three to five years – for this period most of our planned projects have been identified. Beyond this period, analysis is more indicative. Based on long term trends and, depending on consumer demand growth, it is likely that new projects and some planned projects will change in the latter half of the 10 year period of the plan.

Our plan is also a technical management tool that provides extensive detail to be used on a day-to-day basis by HOL employees to demonstrate responsible stewardship of HOL network assets.



Our plan focuses on optimizing the life-cycle costs for each network asset group (including creation, operation, maintenance, renewal and disposal) to meet agreed service levels and future demand. Each year we aim to improve our plan to take advantage of new information and changing technology. These innovations help us to maintain our ranking as one of the most reliable and efficient electricity networks in the Province of Ontario.

Hydro Ottawa Limited's distribution system assets range in age from new to over 50 years old. The management of these assets is critical to providing safe, reliable and efficient electricity distribution services to its customers.

A fundamental requirement of effective development and management of a distribution system is effective system planning. The plan is the documented output of HOL distribution system planning and provides short and long range planning direction for distribution system development, reliability improvements, asset inspection, maintenance and replacement programs plus increases to overall system capacity.

Section C. Performance

The following sections summarize the performance measures with respect to system reliability, system capacity and our performance with respect to the deployment of the sustainment capital programs. Plus an overview has been provided on the risk analysis and an outlook related to capital requirements associated with the ongoing management of the distribution system. Full details on any of these topics can be found within the document.

Key Measure: Reliability

Despite annual variations in the System Average Interruption Frequency Index (SAIFI) and System Average Interruption Duration Index (SAIDI) the 3-year averages have remained relatively constant at acceptable levels over the past 3-years.

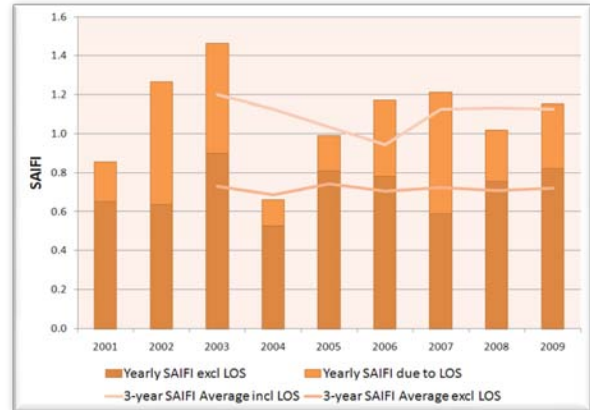
The three leading causes affecting outage frequency and duration continue to be Loss of Supply, Defective Equipment and Foreign Interference. More than 50% of the system interruption frequencies were caused by these three elements.

Loss of supply can be attributed to three significant outages, one of them affecting the Fallowfield DS. With the recent purchase of this facility Hydro Ottawa Limited now has the ability to control the impact of these types of outages. The other key contributor was a loss of supply, double contingency outage at the Hydro One Hawthorne 230kV to 44kV station. Continued work with Hydro One is required to minimize these issues.

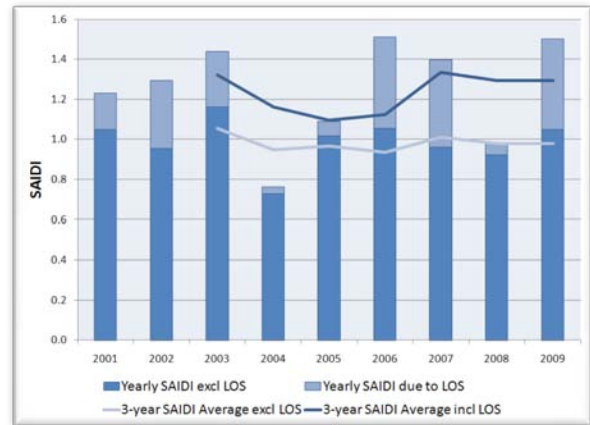
Defective equipment outages were driven by insulator failures particularly in the south east portion of the distribution system. To rectify these recurring outages capital funding allocated for system reliability was prioritized to replace many of these insulators in 2009. Continued focus is required to support asset replacement programs so that the impacts of equipment failures on system reliability can be managed.

FEMI (Feeders Experiencing Multiple Interruptions) is a new measure being adopted by HOL to assist in analyzing specific areas with reliability problems. Presently HOL is reporting on feeders that experience 10 or more interruptions in a calendar year.

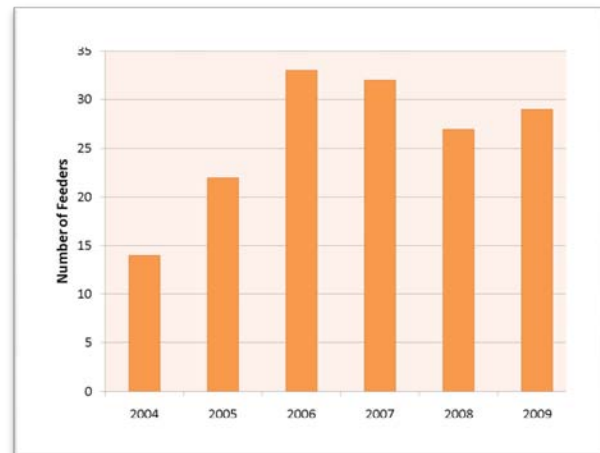
Historical System SAIFI Score



Historical System SAIDI Score



Historical System FEMI Score



Key Measure: System Capacity

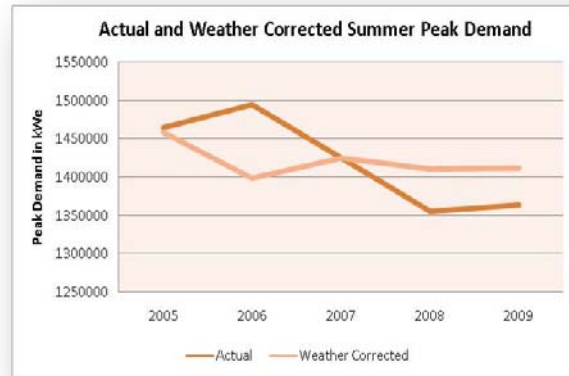
Hydro Ottawa Limited continues to be a summer peaking system. The 2009 system peak (summer) was comparative to 2008 as the summer periods were climatically similar. The trend continues to show the effects of summers such as that of 2005 that contained several long, drawn out, hot and humid heat waves.

Our capacity utilization ratio (the ratio of peak loading to total transformation capacity) is at 70% while our load factor (ratio of average load to maximum load) is at 64%.

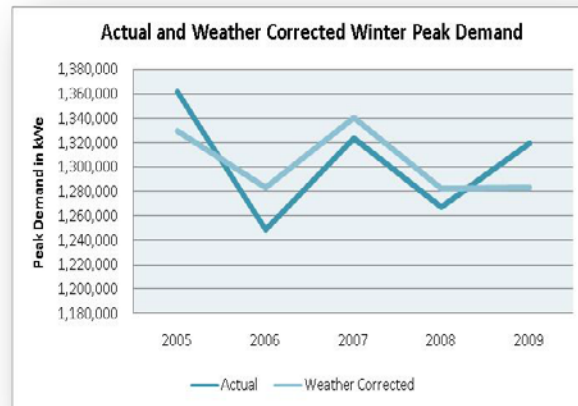
System annual energy was increasing at a slow pace. With the effects of increased penetration of demand side management initiatives and distributed generation, overall energy use is expected to decline; however, growth will continue in certain geographic pockets of the city.

Distributed generation contributes to approximately 1.4% of our peak demand and supplies approximately 1.8% of the system annual energy delivery. A slight upward trend was observed in the amount of distributed generation connections to the distribution system. With the deployment of the Ontario Power Authority (OPA) Feed In Tariff (FIT) program this trend is expected to increase considerably.

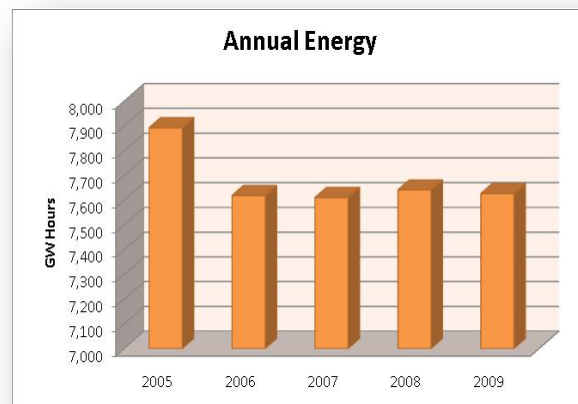
System Summer Peak Demand



System Winter Peak Demand



System Annual Energy Consumption



Key Measure: Sustainment Capital

Despite annual year to year fluctuations the cumulative sustainment capital spending is on target.

Regarding asset replacement the focus over the past five-years has been oriented towards poles, cables, distribution transformers and substation switchgear.

HOL has replaced 1700 poles between 2005 and 2009 inclusive.

To date approximately 700 pole mounted transformers and 150 pad mounted transformers have been replaced, driven largely by the Federal PCB regulation SOR 2008-273.

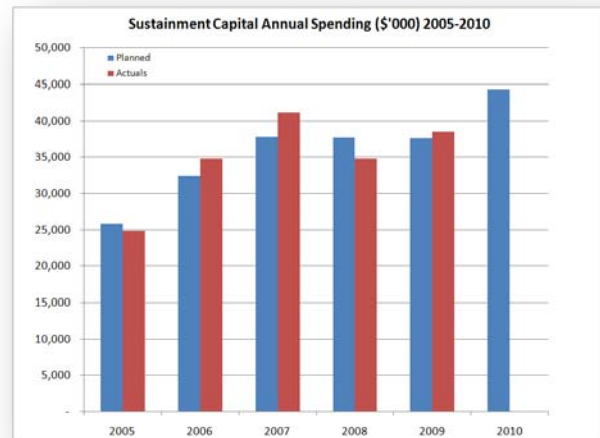
A total length of 62 km of underground cable has been replaced as part of the cable replacement program.

Station switchgear replacements have been completed at three stations with additional projects ongoing.

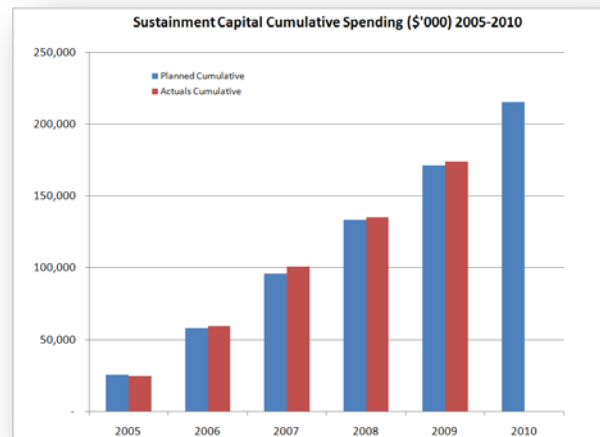
In addition to ageing asset replacement construction was completed on a new substation (Cyrville) in the east end of the service territory, the Fallowfield and Richmond South stations were acquired from Hydro One Networks Inc. and work began on two new substations, Elwood and Terry Fox MTS.

Key distribution line extensions included a new 28kV circuit along Earl Armstrong in the south end of the service territory and new circuits out of the Cyrville substation.

Sustainment Capital Spending



Sustainment Capital Cumulative Spending



System Demographics

Table 1. System Demographics

	2005	2006	2007	2008	2009
Service Area (km ²)	1,104	1,104	1,104	1,104	1,104
Total Metered Customers	278,746	282,393	287,006	291,639	296,007
Total Un-Metered Supply Points	44,932	46,355	49,722	50,971	54,428
Total Number of Substations Used by HOL			92	91	92
HOL Owned/Co-owned	--	--	82	81	84
Used & not owned/co-owned			10	10	8
Total Circuit Length (km)					
O/H Circuit	5,242	5,451	5,740	5,353	5,386
U/G Circuit	3,318	3,450	2,898	2,729	2,709
	1,924	2,001	2,841	2,624	2,677
Total Number of Poles	44,600	46,761	51,582	49,201	48,699
Total Number of Transformers					
Transmission	38,553	38,676	40,106	40,096	40,691
Sub-Transmission	22	22	21	21	25
Distribution	154	154	147	141	141
	38,377	38,500	39,938	39,934	40,525
Total Number of U/G chambers	3,300	3,300	3,100	3,156	3,006
System Peak-Summer (MW)	1,465	1,495	1,425	1,355	1,364
System Peak-Winter (MW)	1,361	1,249	1,324	1,268	1,268
Total Energy Delivered (Purchased, GWh)	7,927	7,724	7,865	7,867	7,785

System Investment

Table 2. System Investment Measures

	2005	2006	2007	2008	2009
Capital Sustainment (\$MM)	25.2	30.1	34.8	34.2	37.6
Capital Sustainment for New System Capacity (\$MM)	0.03	2.81	6.23	9.35	13.6
Capital Sustainment for Distribution Asset Replacement (Millions)	12.8	18.7	13.6	9.9	12.0
Capital Sustainment for Station Asset Replacement (\$MM)	0.81	2.39	6.79	7.75	5.91
Maintenance Spending (\$MM)		18.2	17.4	15.7	16.9
SAIDI (Including LOS)	1.090	1.511	1.397	0.980	1.503
SAIFI(Including LOS)	0.991	1.189	1.211	1.020	1.150
Total Investment per peak MW					
Capital (\$'000)	17.3	24.2	30.5	27.2	27.6
O&M (\$'000)	5.17	10.8	11.4	11.0	12.4
Total Investment per MWh delivered					
Capital (\$'000)	3.14	4.68	5.53	4.69	4.83
O&M (\$'000)	0.94	2.08	2.07	1.90	2.17
Total Investment per Customer					
Capital (\$')	89.30	128.13	151.63	126.29	127.02
O&M (\$')	26.62	56.95	56.79	51.05	57.09
Total Investment per km of line					
Capital (\$'000)	4.75	6.64	7.58	6.88	6.98
O&M (\$'000)	1.42	2.95	2.84	2.78	3.14

Key Measure: System Capacity

Table 3. System Capacity Measures

	2005	2006	2007	2008	2009
Peak Load (MW)	1465	1495	1425	1355	1364
Total Energy Supplied (Sold GWh)	7,892	7,619	7,610	7,641	7,627
Capacity Utilization	78%	79%	75%	72%	70%
Load Factor	62%	58%	61%	64%	64%
Total Distributed Generation Connected (MW)	16	23	28	28	29
Distributed Generation Supplying Peak (MW)	19	18.7	18.3	19.8	19.5
% Distributed Generation Supplying Peak	1.29%	1.25%	1.28%	1.46%	1.43%
Distributed Generation Energy Production (MWhr)	118	138	117	141	141
% Distributed Generation Energy Production	1.49%	1.81%	1.53%	1.85%	1.85%

Definitions

Peak Load (MW) is defined as the peak electrical demand of the system (in MW).

Total Energy Supplied (GWh) is the cumulative electrical energy supplied by the distribution system to the load as measured at the supply point each year.

Capacity Utilization (Peak MW/ Total Station Transformer MVA) is defined as the peak electrical demand of the system (in MW) divided by the total combined transformation capacity (in MW). The total combined transformation capacity is the sum of all transformer capacities at transmission and sub-transmission delivery points.

Load Factor (Avg. MW/Peak MW) is defined as the average electrical demand of the system (in MW) divided by the annual system peak demand (in MW).

Total Distributed Generation Connected (MW) is defined as the coincidental peak electrical supply (in MW) from distributed generation within Hydro Ottawa Limited’s service territory.

% Distributed Generation Supplying Peak is defined as the ratio between the coincidental peak electrical supply (in MW) from distributed generation within Hydro Ottawa Limited’s service territory and the peak electrical demand of the system (in MW).

Distributed Generation Energy Production (MWh) is defined as the cumulative electrical energy supplied (in MWhr) from distributed generation within Hydro Ottawa Limited’s service territory.

Figure 1. **Actual and Weather Corrected Summer Peak Demand**

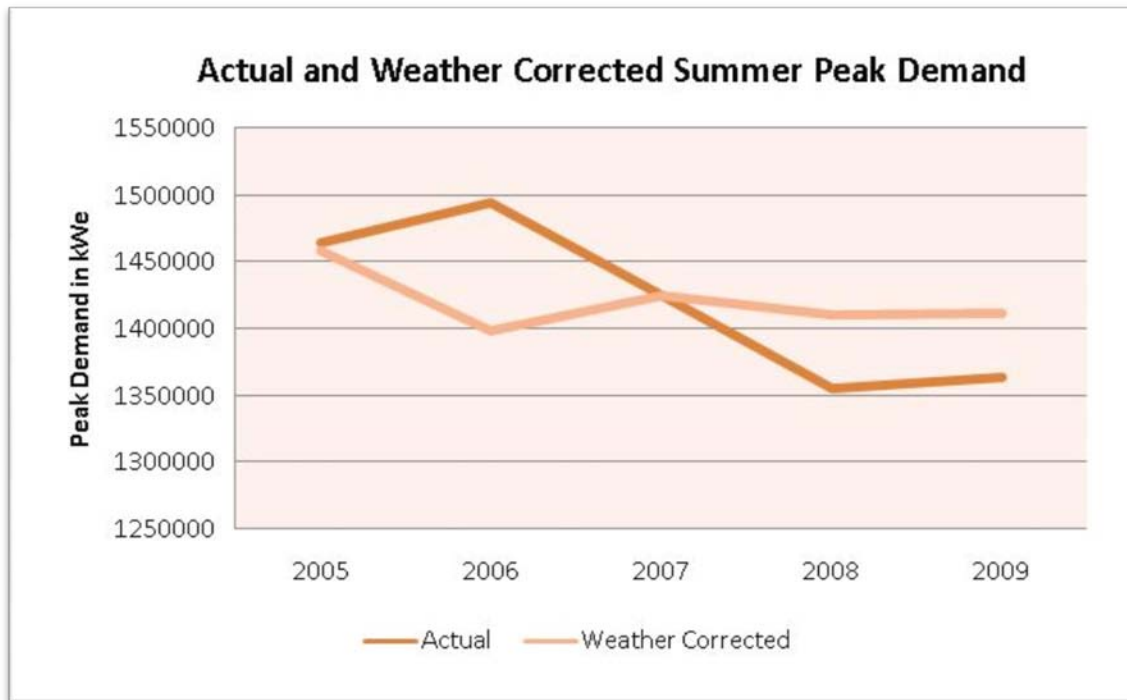


Figure 2. Actual and Weather Corrected Winter Peak Demand

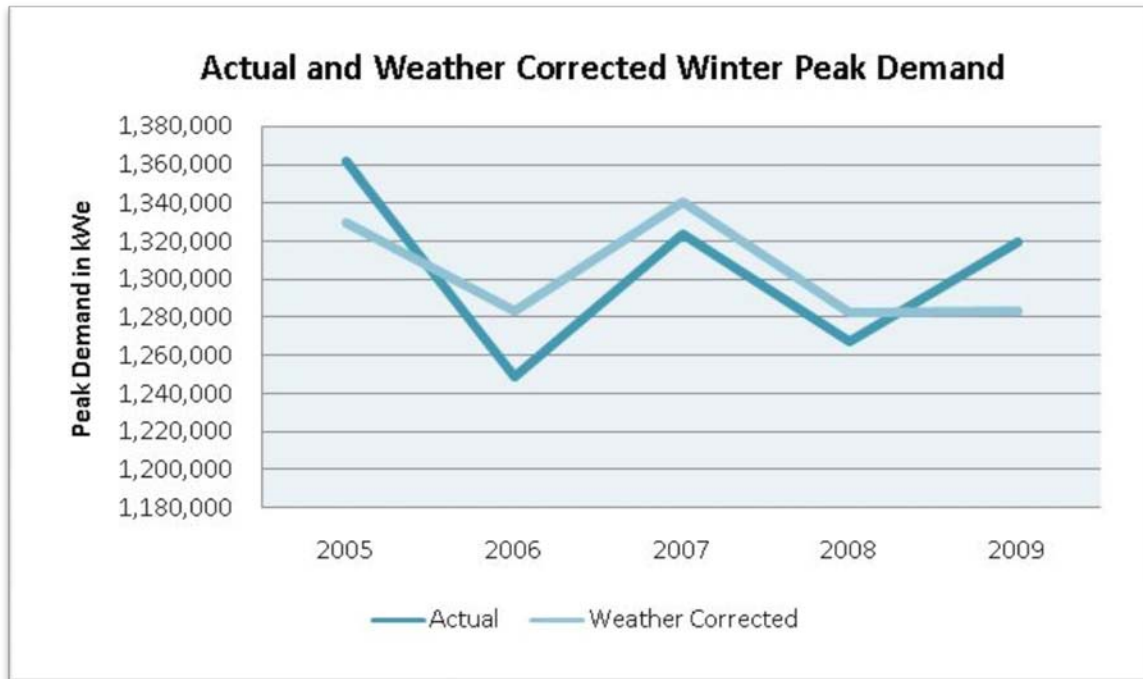
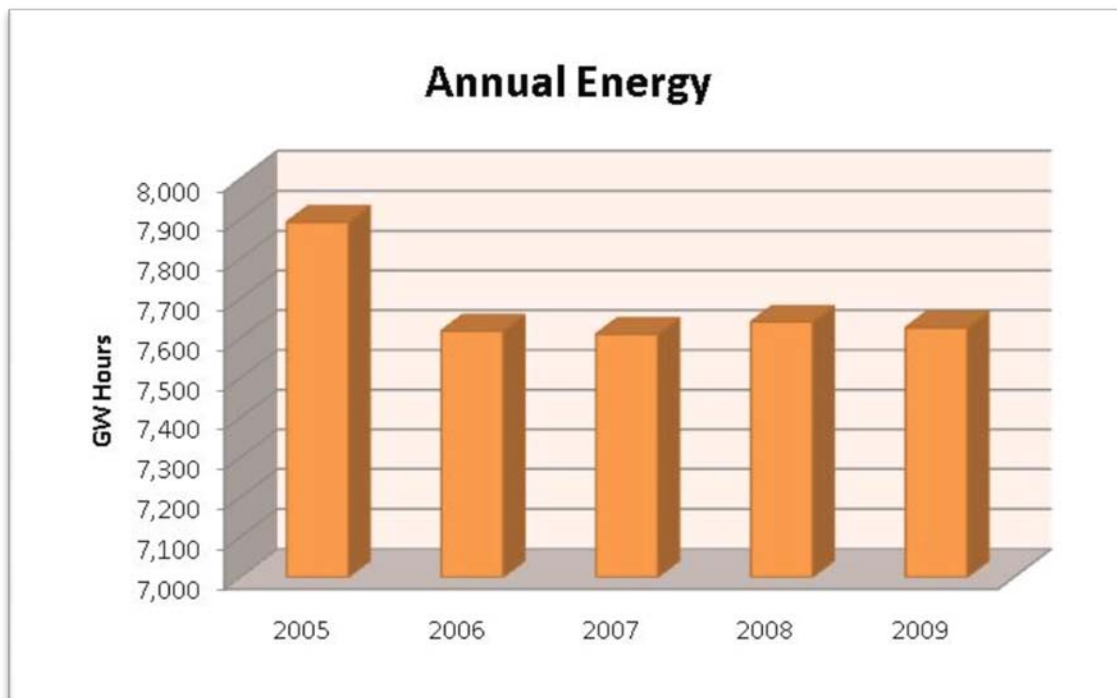


Figure 3. Annual Energy Delivered



System Reliability Performance Measures

Definitions

Interruption – A sustained loss of voltage/electrical supply on all phase to the customers supply point. Notwithstanding, if the customer’s system is not able to accept electricity from Hydro Ottawa’s system this is not considered an outage. This does not include Partial Power (loss on some of the phases supplying a customer), or sags/deformations, these are power quality events.

Loss of Supply- Is a primary cause classification which is utilized in the outage reporting and recoding. This term indicates a situation in which the system was ready to accept energy from the energy, and the providers are not supplying. The term “Loss of Supply” therefore indicates a situation where Hydro Ottawa’s system is without power for a reason that is beyond the control of Hydro Ottawa.

System Average Interruption Frequency Index (SAIFI) - This index is designed to give information about the average frequency of sustained interruptions per customer over a predefined area. In words, the definition is:

$$\text{SAIFI} = \frac{\text{Total number of customer interruptions}}{\text{Total number of customers served}}$$

This index is reported both including and excluding Loss of Supply (LoS). **SAIFI including LoS** provides information as to the total interruptions which are seen by the ‘average’ customer. **SAIFI excluding LoS** indicates the ‘average’ customer interruptions which are the result of causes under the direct control of Hydro Ottawa.

System Average Interruption Duration Index (SAIDI) - Designed to provide information about the average time the customers are interrupted. In words, the definition is:

$$\text{SAIDI} = \frac{\text{Total hours of customer interruptions}}{\text{Total number of customers served}}$$

This index is reported both including and excluding Loss of Supply (LoS). As with SAIFI the **SAIDI including LoS** provides information as to the total duration of interruption with are seen by the ‘average’ customer where **SAIDI excluding LoS** provides an indication as to the duration which the ‘average customer is interrupted as the result of causes under the control of Hydro Ottawa.

Customer Average Interruption Duration Index (CAIDI) - CAIDI represents the average time required to restore power to the average customer per sustained outage. In words, the definition is:

$$\text{CAIDI} = \frac{\text{Total hours of customer interruption}}{\text{Total number of customer interruptions}}$$

Feeders Experiencing Multiple Sustained Interruptions (FEMIn) - This index represents the number of feeders experiencing outages greater than or equal to value n, current reporting is done for n=10. It is a customer centric measure as it provides an indication as to regions which have seen high localized issues.

Performance Targets

System reliability is maintained in accordance with accepted industry standards. Acceptable in this context shall be taken to mean performance equal to or better than the performance indices stated in the tables below.

Table 4. System Reliability Performance Targets (3 Year Average)

	2010 Target	2006	2007	2008	2009
System Average Interruption Frequency Index (SAIFI) including Loss of Supply	TBD	0.94	1.13	1.13	1.13
System Average Interruption Frequency Index (SAIFI) excluding Loss of Supply	<1.0	0.71	0.73	0.71	0.72
System Average Interruption Duration Index (SAIDI) including Loss of Supply	TBD	1.12	1.33	1.29	1.29
System Average Interruption Duration Index (SAIDI) excluding Loss of Supply	<1.0	0.94	1.01	0.98	0.98
Customer Average Interruption Duration Index (CAIDI)	TBD	1.19	1.19	1.14	1.15
Feeders Experiencing Multiple Sustained unplanned Interruptions excluding Loss of Supply (FEMI ₁₀)	TBD	33	32	27	29

*The area of focus is "Customer Value"

Historical System Reliability Performance Measures

Figure 4. Historical System SAIFI

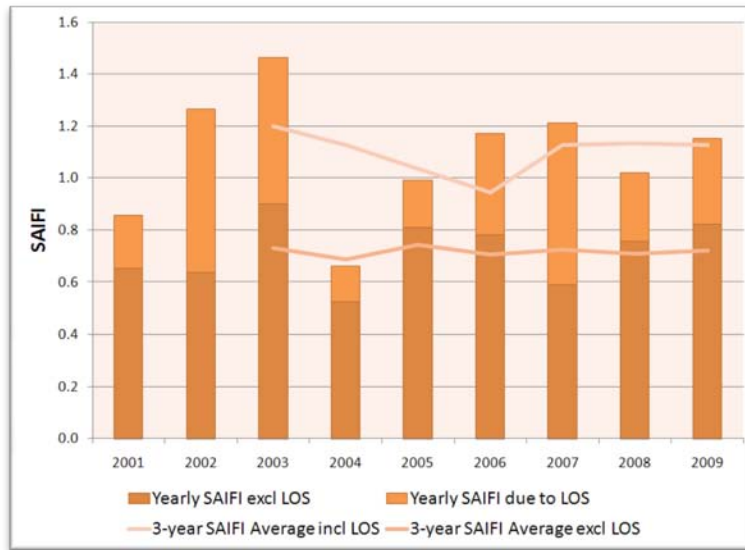


Figure 5. Historical System SAIDI

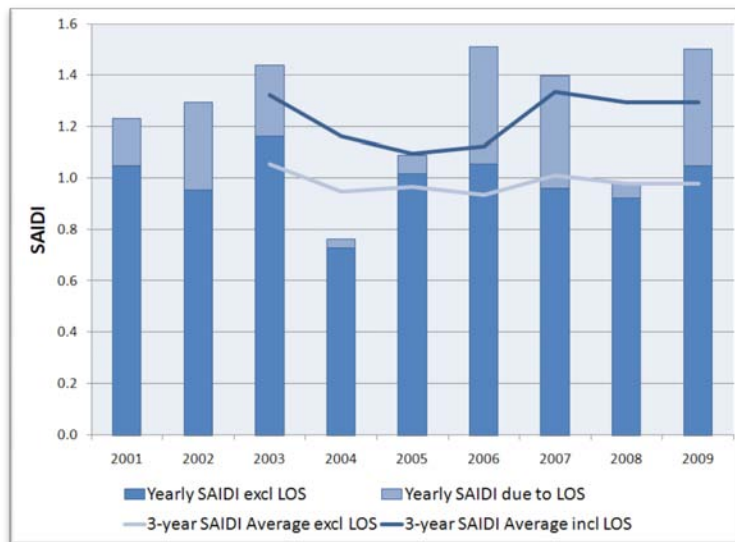


Figure 6. Historical System SAIFI and SAIDI

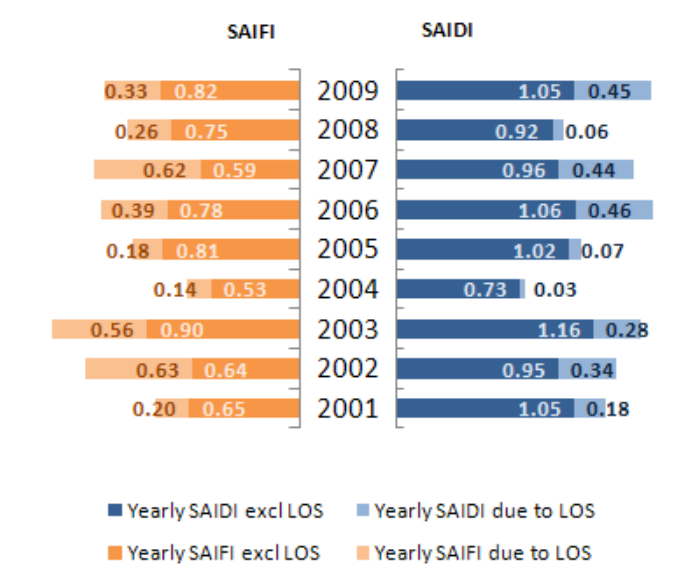
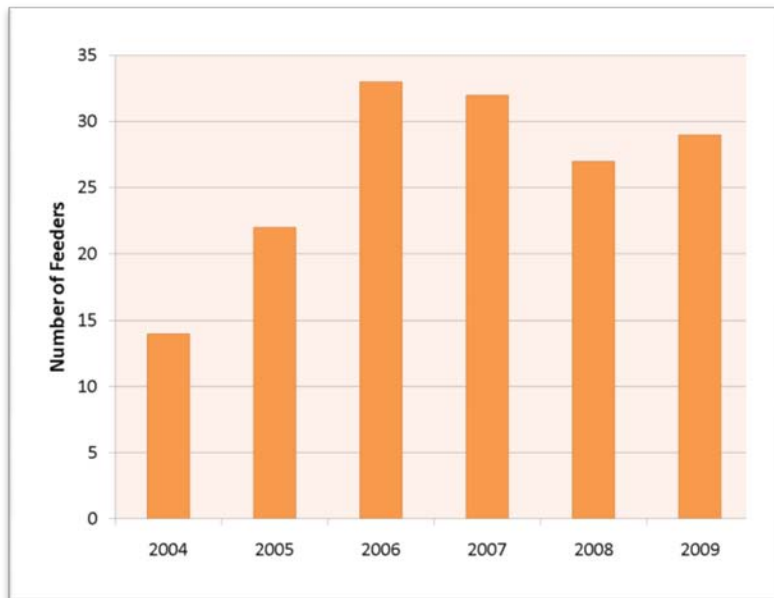


Figure 7. Historical System FEMI



Currently FEMI has decreased since 2006. The tracking of this metric will allow work to be on feeder experiencing localized reliability issues.

Figure 8. Hydro Ottawa's 10 Least Reliable Feeders

Circuit	Station	Voltage (kV)	Customer Count	3-Yr Average Customer Hours Interrupted	3-Yr Trend
A9M3	SOUTH MARCH TS	44	6,497	12,248	↓
77M5	BILBERRY TS	28	4,318	11,077	↑
7F4	LIMEBANK MS	28	1,077	8,673	↑
MWDF3	MARCHWOOD MS	28	2,095	7,656	↔
606F2	FALLOWFIELD	28	5,415	7,592	↑
77M6	BILBERRY TS	28	4,331	7,417	↑
77M1	BILBERRY TS	28	3,062	6,745	↑
ALEXF3	ALEXANDER DS	28	3,185	6,417	↑
49F2	LEITRIM	28	2,754	6,333	↓
22M26	NEPEAN TS	44	7,619	5,324	↓

Reliability Analysis

Cause of Service Interruption

0 Unknown/Other Customer interruptions with no apparent cause that contributed to the outage

1 Scheduled Outage Customer interruptions due to the disconnection at a selected time for the purpose of construction or preventive maintenance

2 Loss of Supply Customer interruptions due to problems in the bulk electricity supply system

3 Tree Contacts Customer interruptions caused by faults resulting from tree contact with energized circuits

4 Lightning Customer interruptions due to lightning striking the distribution system, resulting in an insulation breakdown and/or flash-overs

5 Defective Equipment Customer interruptions resulting from equipment failures due to deterioration from age, incorrect maintenance, or imminent failures detected by maintenance

6 Adverse Weather Customer interruptions resulting from rain, ice storms, snow, winds, extreme temperatures, freezing rain, frost, or other extreme weather conditions (exclusive of Code 3 and Code 4 events)

7 Adverse Environment Customer interruptions due to equipment being subject to abnormal environments, such as salt spray, industrial contamination, humidity, corrosion, vibration, fire, or flowing (previously Code 9)

8 Human Element Customer interruptions due to the interface of distributor staff with the system (previously Code 7)

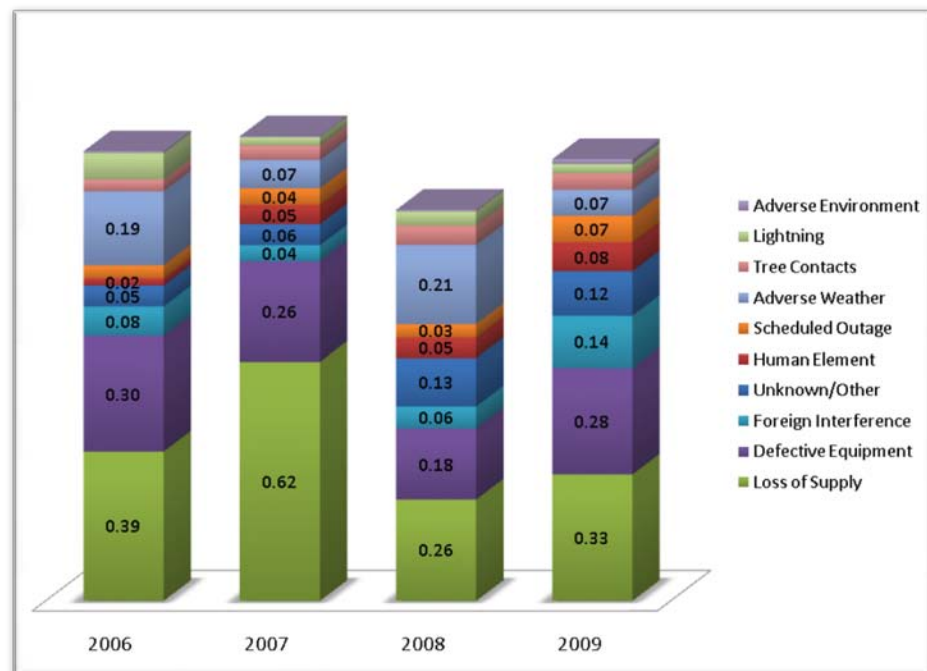
9 Foreign Interference Customer interruptions beyond the control of the distributor, such as animals, vehicles, dig-ins, vandalism, sabotage, and foreign objects (previously Code 8)

System reliability has two primary components, frequency and duration. Frequency relates most directly to the causal aspect of system interruption whereas duration relates most directly to operation of the system. System Average Interruption Frequency Index (SAIFI) can be regarded as the “cause” and System Average Interruption Duration Index (SAIDI) regarded as the “effect”. Additional correlation on system interruptions based on the 10 Primary Causes outlined in the Electricity Reporting and Record Keeping Requirements provide further statistical data that can be used as indicators of system issues where remediation should be undertaken to improve performance. Reliability scores are evaluated for trending and patterns as seasonal and annual variations are not always indicative of system deficiencies.

Despite annual variations in the SAIFI and SAIDI, the 3-year averages have remained relatively constant at acceptable levels since 2007.

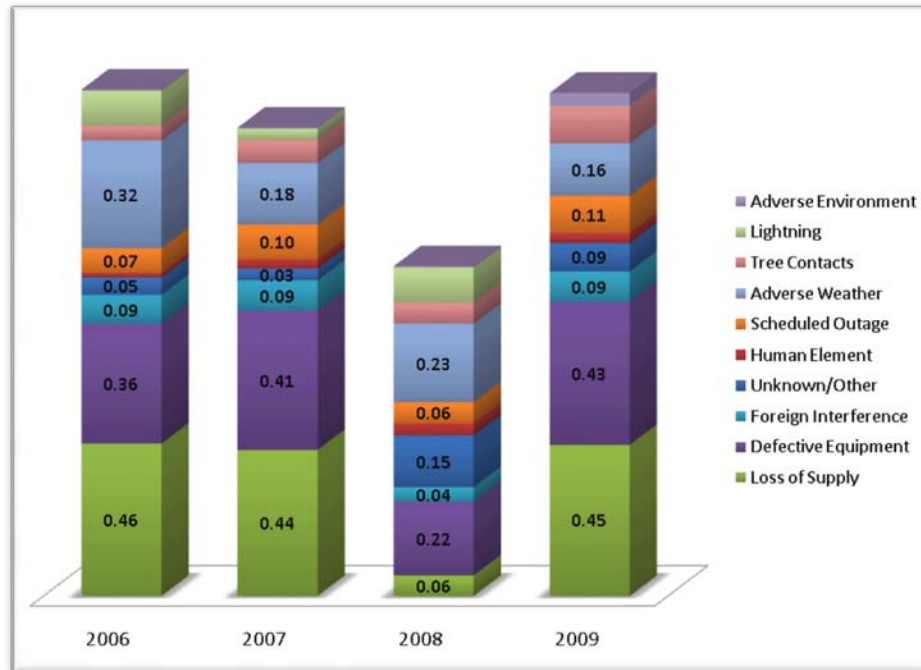
System average interruption frequency and duration indexes have been broken out by primary cause as shown in the figures below. These indicate that the two leading causes for outage frequency continue to be Loss of Supply and Defective Equipment.

SAIFI Outages based on Primary Causes



SAIDI Outages based on Primary Causes

Collectively, Loss of Supply, Defective Equipment and Foreign Interference account for more than 50% of the 2009 SAIFI score. Similarly for interruption durations it can be seen that roughly 50% of the 2009 SAIDI score was due to 3 Primary Causes: Loss of Supply, Defective Equipment and Foreign Interference.



Loss of Supply

The largest contributor to both frequency, and duration of customer interruptions in 2009 was Loss of Supply (LoS). Most striking is the increase in SAIDI contribution over 2008 levels without a proportionate increase in SAIFI. Three outage events in 2009, have contributed almost 80% of the LOS SAIDI, and 40% of the SAIFI. These were outages at Hawthorne TS, Fallowfield TS, and Merivale TS.

- Hawthorne TS – April 20, 2009 – Interruption of service to 53,505 customers in the Gloucester region due to a Hydro One forced transformer outage while the other station transformer was out for maintenance.
- Fallowfield TS - June 24, 2009 - Interruption of 28,857 customers due to the failure of a Hydro One station contactor.
- Merivale TS – April 9, 2009 – Hydro One S7M interruption resulted in service outage for 21,712 Hydro Ottawa customers.

Defective Equipment

Defective equipment caused interruptions were the second largest contributor to system interruption frequency and duration in 2009.

While significant reductions in interruptions due to U/G Cable and Pole Attachments have been attained, these have been outpaced by increasing reliability issues in other equipment classes.

Pole Attachments – The majority of pole attachment outages are the result of porcelain insulator failures. While reduction in customer interruptions have been achieved this remains a significant contributor to interruption frequency and duration

U/G Cable – While reduced contributions to reliability measures can be seen in this category, XLPE cable continues to appreciably contribute to annual customer interruptions. In 2009, the main contributors to this category where single faults on trunk lines, affecting a large number of customers on circuits supplied by Albion TS and Limebank MS station, as well as, several smaller interruptions due to cable faults on Beaconhill MS and Bilberry TS circuits.

O/H Switchgear – Increasing customer interruptions due to overhead switchgear was seen in 2009. This was primarily contributed to the failure of in-line switches, resulting in interruptions to a large number of customers. In addition, increasing failure of distribution reclosers has been seen in recent years.

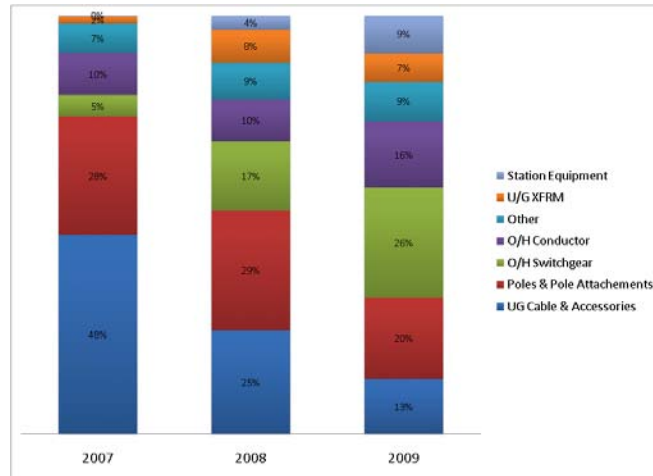
U/G Transformers – While the number of underground transformer failures has not increased significantly, their contribution to SAIDI and SAIFI has. This has resulted from an increase in the number of outages affecting whole circuits rather than just those that are served by the failed transformer.

Station Equipment – Increase in the contribution of station equipment failures is due to the catastrophic failure of the Beaconhill station in March 2009.

Foreign Interference

There was a significant increase in Foreign Interference interruption due to animal and bird contacts in 2009. This increase is attributed to a handful of contacts in high impact locations, resulting in interruption to a large number of customers.

SAIFI Due to Defective Equipment



SAIDI Due to Defective Equipment

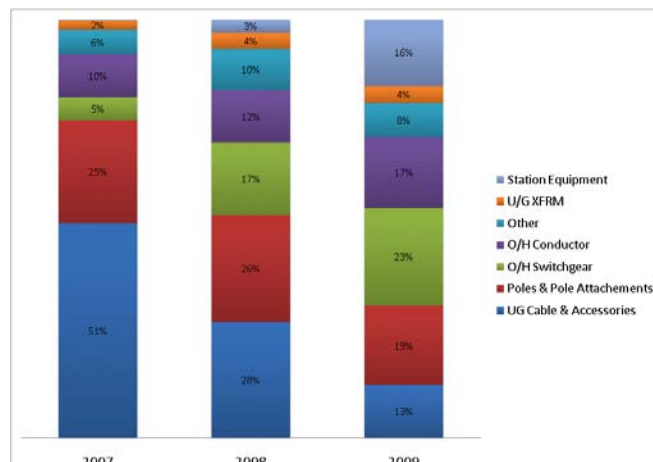
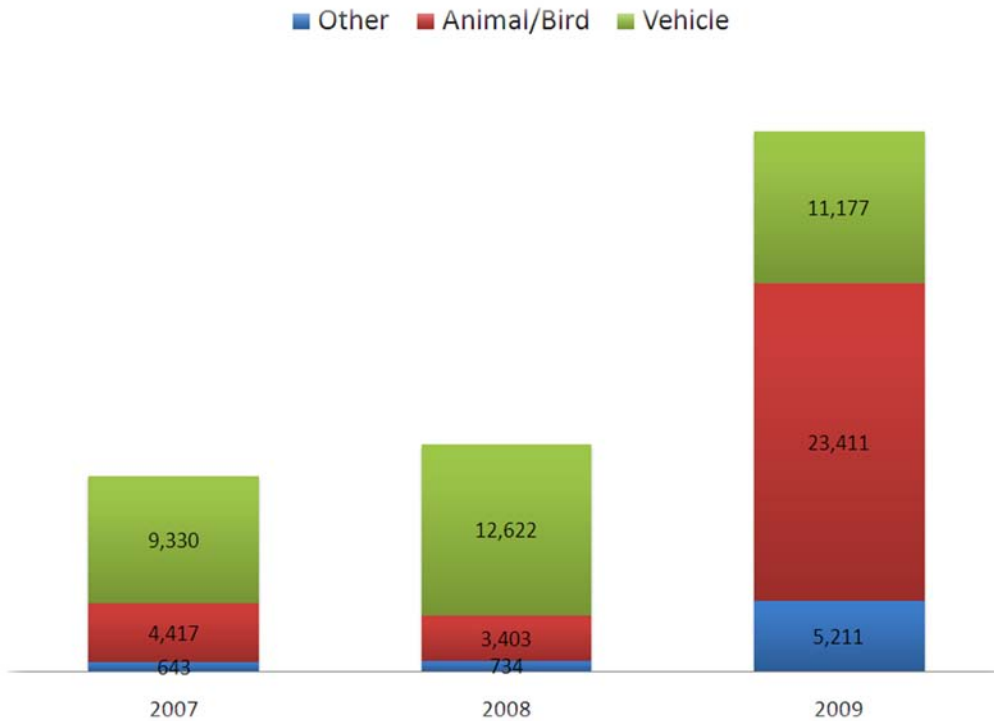


Figure 9. Foreign Interference Customer Interruptions by cause



Reliability Improvement Initiatives

In support of the HOL Customer Value and improving customer experience, Hydro Ottawa continually implements projects to improve reliability in areas with known problems. The following works have been or are planned to address the identified reliability issues.

Loss of Supply – Hydro Ottawa continues to work with Hydro One Networks to improve the reliability of supply to Hydro Ottawa’s system. In 2009 Hydro Ottawa took ownership of the Fallowfield TS substation; work to increase station capacity and reduce the reliability impact of station faults is being initiated in 2010. Also, the addition of remotely operable and automated distribution elements is planned for 2011 and beyond. These devices will improve the operability of this system and are expected to reduce future outage duration in this region.

Defective Equipment

O/H Switchgear – The increasing failure rates seen in overhead recloser population will be addressed through augmented maintenance and inspection of these devices, budgeted for 2010 onward. Planned replacement of inline switches known to be prone to failure was initiated in the east in 2010; ongoing replacements are planned in 2011 and beyond.

U/G Transformer – As issues are identified, protection coordination is reviewed and adjustment made to ensure appropriate operation and limit the number of customers impacted by distribution faults.

Station Equipment – In response to the Beaconhill Substation failure work has been undertaken to moderate the potential for similar events occurring elsewhere in the Hydro Ottawa system. Current work targets two of the primary contributing factors in the Beaconhill incident, namely transformer neutral location and primary substation fuse protection.

Foreign Interference

As the increase seen in the 2009 was the result of a handful of high-impact events which due to their nature are difficult to prevent. Currently, no direct action has been taken. Interruptions of this nature will continue to be monitored and if deemed to be an ongoing problem, appropriate measures will be implemented.

Power Quality, Voltage and Waveform Performance Measures

Hydro Ottawa will endeavour to operate the voltage in the distribution system in accordance to CSA CAN3-C235-83 in steady state. Customers may on occasion experience voltage variations outside these limits.

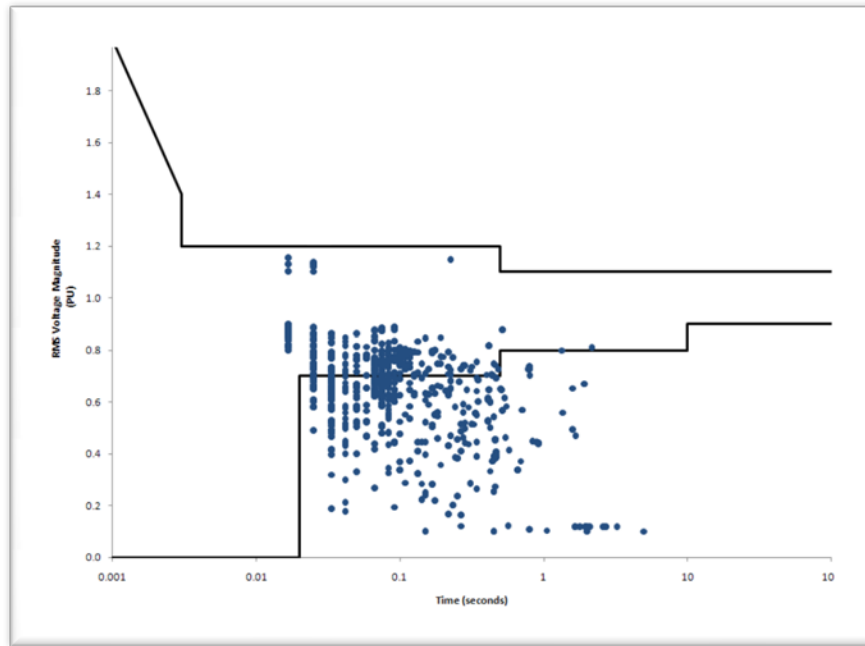
Poor voltage regulation, outside $\pm 6\%$, is usually indicated by low voltage complaints from customers. The target is to put corrective measures in place as soon as possible. Increasing use of electronic devices is resulting in a progressive deterioration of waveform quality and it is likely that further measures will need to be introduced and enforced in this area over the next decade.

The System Average RMS Variation Frequency Index (SARFI) is a measure of the average number of voltage sags on the system. The SARFI₉₀ represents the number of voltage sags less than or equal to 90% of the nominal voltage are endured. The SARFI_{ITIC} is a measure of the number of sags which fall below the ITIC curve over 365 days. The ITIC curve (0) represents the voltage variations which single phase modern devices can tolerate.

Table 5. Power Quality Performance Measures

	Target	2009 Result
SARFI₉₀	TBD	11.7
SARFI_{ITIC}	TBD	6.6
SARFI_{CBEMA}	TBD	9.2

Figure 10. 2009 Power Quality Events ITIC Curve



Sustainment Capital Program Performance Measures

Definitions

Schedule Performance Index (SPI): 1 = 100% complete = earned all the value of the project per latest Variance

Cost Performance Index (CPI): 1 = How did the project perform for this SPI, considering the Budget + Variance / Actuals end of year

Table 6. 2009 Capital Sustainment Program Performance Measures

Program Name	Program BU	Target	Schedule Index (SPI)	Cost Index (CPI)
Cable Replacement EOL	92001856	1	0.94	0.89
Civil Rehabilitation Program	92001363	1	0.90	0.89
Dist. Minor Enhancements	92003370	1	0.86	0.69
Dist. Transformer Replacement	92000026	1	0.92	0.90
Distribution Automation	92000047	1	0.98	1.06
Distribution Plant Misc.-SUS	92000300	1	1.00	0.97
Elbow and Insert Replacement	92000023	1		
Facility Programs -Stations	92001011	1	1.00	1.05
Insulator Replacement Program	92000022	1	0.92	1.02
Line Extensions	92001886	1	0.97	1.04
Major Line Extensions	92002604	1		
O/H Equipment New and Rehab	92001860	1	1.00	1.02
PILC Risers & Pothead Replace	92000020	1	1.00	0.00
Planned Pole Replacement	92000021	1	0.91	0.83

Program Name	Program BU	Target	Schedule Index (SPI)	Cost Index (CPI)
Plant Failure Capital	92002191	1	1.00	0.98
SCADA -RTU Additions	92000046	1	1.00	1.10
SCADA Upgrades	92000045	1	1.00	1.00
Splice Replacement Program	92000025	1	1.00	0.18
Stations -New Cyrville	92001835	1	1.00	0.97
Stations Automation	92003375	1		
Stations Battery Replacement	92002615	1	1.00	0.93
Stations Enhancements	92000044	1	1.00	1.16
Stations Minor Enhancements	92003373	1		
Stations New Capacity	92003519	1	1.00	1.12
Stations Plant Failure Capital	92003580	1	1.00	
Stations Relay Replacement	92003405	1	1.00	0.52
Stations Switchgear Replacement	92003371	1	0.98	0.98
Stations Transformer Replace me	92002614	1	1.00	0.94
Switchgear New and Rehab	92001859	1	1.00	1.17
System Reliability	92002626	1	1.00	1.21
System Voltage Conversion	92002622	1	0.81	0.72
Vault Rehab or Removal	92000027	1	1.00	1.00

*Area of Focus: Financial Strength & Organizational Effectiveness

Section D. Outlook

Asset Management

Continued focus will be required in managing the ageing infrastructure issues associated with the distribution system. Key areas of focus will continue to be the management of poles, underground cable, distribution transformers, substation transformers and substation switchgear.

The historical plant failure expenditures remain constant. While short term spending will require to be maintained at similar levels asset life-cycle management and planning strives to reduce the required capital investment in this category through planned project investments. Plant failure represents roughly 10% of Hydro Ottawa's overall sustainment capital spending for distribution asset replacements.

With respect to Hydro Ottawa's wood poles, based on the current asset demographics and failure projection a replacement rate of 400-600 poles per year is recommended to maintain the current failure rates over the next five years. Beyond 2015 it is expected that replacement rates will need to be increased to 1,000 to 2,000 poles. If proactive management of this asset class is not maintained it is projected that the labour resource requirements to maintain Hydro Ottawa's wood pole assets will exceed a sustainable level.

Beyond 2015 it is expected that pole replacement rates will need to be increased to 1,000 to 2,000 poles per year

With respect to underground cables, Hydro Ottawa currently manages a 3,100 km system of cables with operating at voltages of 44 kV and lower. The system consists of approximately 72.5% residential distribution cables and the rest being trunk cable. Strategies will continue to evaluate the optimum replacement levels of residential and trunk cable.

Distribution transformer replacement is largely driven by Federal PCB regulation SOR 2008-273. Under this regulation all equipment with PCB concentrations greater than 50 PPM must be removed from service prior to the end of 2025 (and for some equipment 2014). Distribution transformers contribute to 40% of Plant Failure spending; therefore additional focus will be on defining inspection programs and failure modes.

In recent years substation equipment replacements have been focused on switchgear due to the age and condition of outdoor equipment. Moving forward, as this equipment is replaced; the focus will shift to station transformer replacement. Presently 50% of substation transformers are greater than 40 years old. Replacement levels are in the range of 3-5 per year.

Presently 50% of substation transformers are greater than 40 years old.

System Capacity

Hydro Ottawa routinely assesses the capability and reliability of the distribution network and supply transformers in an effort to maintain adequate and reliable supply to customers. Where gaps are found, appropriate plans for additions and modifications consistent with all regulatory requirements and with due consideration for safety, environment, financial and supply system reliability/security are developed.

In this regard, the supply needs in the City of Ottawa have been assessed to determine if additions and/or modifications are required to maintain an adequate and reliable/secure TS capacity. The assessment has identified four new station capacity projects Ellwood, Fallowfield, Terry Fox, and the rebuilding of the Beacon Hill station which was lost due to a fire.

System Planning has identified the need for four new station facilities to supply the Ottawa area

System capacity planning continues to focus on several key areas that are at high loading levels. These areas include the downtown core, the 44kV sub-transmission system in the central/west portion of the service territory and the high growth area in the south end of the City of Ottawa.

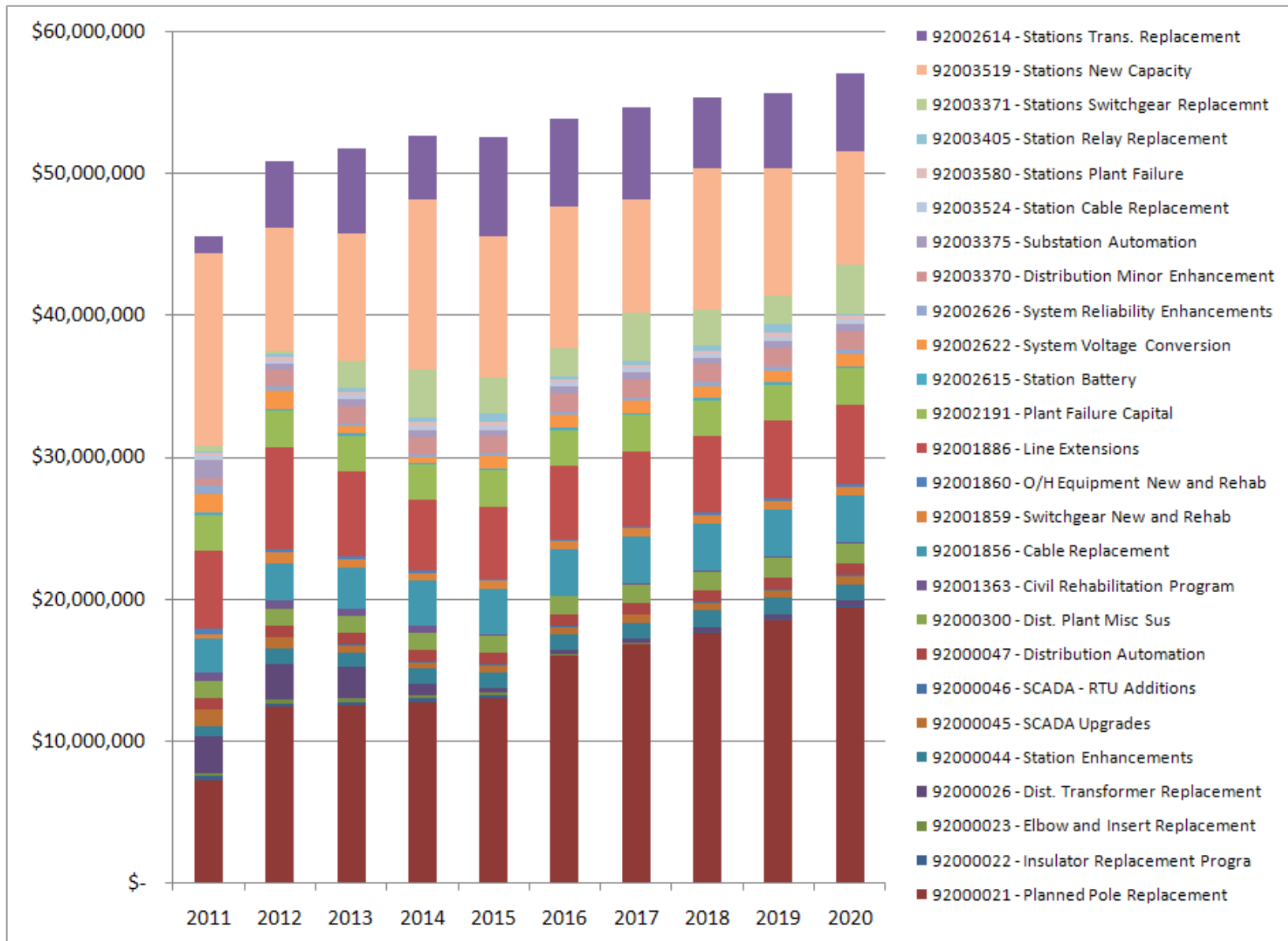
Continued focus and spending is required to support the capital sustainment programs so that substation capacity can be increased and distribution circuits can be built to supply these areas of heavy loading and high load growth.

Sustainment Capital Financial Requirements

The sustainment capital financial requirements for 2011 to 2020 are illustrated in the figure below. There will be a net increase of capital spending on pole replacements and station transformer replacements in the next decade. Notably, the pole replacement capital requirement will increase after 2015. The distribution transformer replacement program will recede after 2013 when the replacements due to PCB are completed.

A significant amount of capital will be assigned to station capacity and line extensions. The rest of the programs will remain at their current level of spending for the most part.

Figure 11. Forecasted Sustainment Capital Requirements 2011-2020



Section E. Asset Management Policy, Strategy and Process



Asset Management Policy

Hydro Ottawa Limited does not presently have a formal corporate Asset Management Policy.

Asset Management Strategy

Within the overall context of asset management lie five (5) key elements, physical assets, human assets, financial assets and intangible assets. The scope of HOLs asset management strategy is limited to the management plans related only to physical assets associated with the distribution system. As such the scope of the asset management strategy is focused on managing the distribution assets in a way that is;



- a. Consistent with supporting organizational strategic plan
- b. Consistent with supporting organizational risk management
- c. Consistent with meeting all regulatory requirements
- d. Consistent with defined performance requirements

Organizational Strategic Plan

Hydro Ottawa Holding Inc. Enterprise Strategic Plan outlines four (4) key areas of focus with defined performance goals for Hydro Ottawa Limited. These performance goals are;

Key Area of Focus - Financial Strength

Hydro Ottawa Limited Performance Goals:

- ***Deliver predictable and reliable financial results***
 - *Meet targeted ROE and Net Income*
 - *Meet or exceed productivity improvement factors*
 - *Exercise prudent cost management to ensure OM&A results are delivered on or below approved budget*
 - *Deliver capital programs on or below budget or approved forecast*
 - *Demonstrate progress in new business opportunities and revenue growth*
 - *Explore service offerings that provide a new revenue stream*

The asset management strategy aligns with financial strength by defining the specific capital and O&M activities to enable the physical assets to operate in a predictive and reliable manner throughout the life of the asset. HOLs asset management practices support economic efficiency as they:

- Provide a basis to monitor asset performance and utilization
- Enable asset managers to plan and prioritize maintenance, renewal and growth expenditure
- Quantify risk, and minimize high impact failures
- Extend the life of assets and optimize the trade-off between maintenance and replacement
- Conduct an economic cost benefit analysis on all major projects

Key Area of Focus - Customer Value

Hydro Ottawa Limited Performance Goals:

- ***Increase customer satisfaction***
 - *Maintain three year average system reliability, while implementing programs resulting in significant progress in areas with known reliability problems*
 - *Maintain distribution rates among the most competitive in the province*
 - *Help customers manage their electricity consumption and costs*
 - *Enhance the quality of customer interactions*

The asset management strategy aligns with this by focusing capital and O&M activities to improve system reliability improvements in areas with known reliability problems which in turn results in increased customer satisfaction. We aim to support Hydro Ottawa Limited's responsiveness, resolution and treatment, relative to the scope of the project and needs, of the customer and the general public. We aim to improve power quality and reduce the number, frequency and duration of outages.

Key Area of Focus - Organizational Effectiveness

Hydro Ottawa Limited Performance Goals:

- ***Build organizational capacity and embed a culture of continuous improvement***
 - *Improve productivity to deliver programs as cost effectively as possible*
 - *Maintain leading health and safety record*



- *Enhance employee engagement, capacity and capability*

The asset management strategy aligns with this by targeting specific capital and O&M activities to eliminate known health and safety risks.

Key Area of Focus - Corporate Citizenship

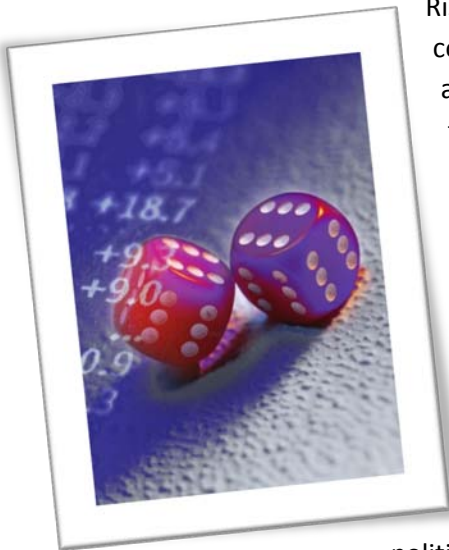
Hydro Ottawa Limited Performance Goal:

- ***Reduce our environmental footprint***

The asset management strategy aligns through programs to manage environmental issues. We aim to consider impacts of changes in existing conditions on the environment, broader community (social responsibility), corporate reputation and public. We are committed to achieve compliance with all relevant legislation; regulations and codes of practice that relate to how we manage our electricity distribution network. Our major identified duties are:

- To be compliant with all applicable environmental regulations.
- To avoid discharge of any contaminants into the environment.
- To avoid, remedy or mitigate any adverse effect on the environment.

Support to Risk Management



Risk needs to be controlled and mitigated to achieve the desired outcome. In this section we concentrate on the physical aspects of risk associated with managing the distribution system assets. The objective is to avoid catastrophe, reduce uncertainty and improve predictability.

In the context of physical asset management for the distribution system assets, risk is defined as the consequence of the asset failure.

In the context of HOLs overall program planning risk evaluations are completed for each project. The risk evaluation is in the context of the consequences of not proceeding with the capital investment. The consequences are evaluated on technical, socio-political and financial, each weighted equally. Investment prioritization is then completed in accordance with the investment risk score, those with the highest risk take high priority.

Compliance to Regulatory Requirements

As an objective HOL strives to achieve compliance with all relevant legislation, regulations and codes as they pertain to the physical assets of the distribution system

Asset Management Process

The asset management process is an iterative process that generally consists of the following steps: Assets Evaluation, Program and Project Development and the Program and Project Risk & Benefit Evaluation. The results of those evaluations are used to produce a list of projects by sustainment capital programs. The main focus is toward the next three to five years and a long term outlook is also produced using the available information.

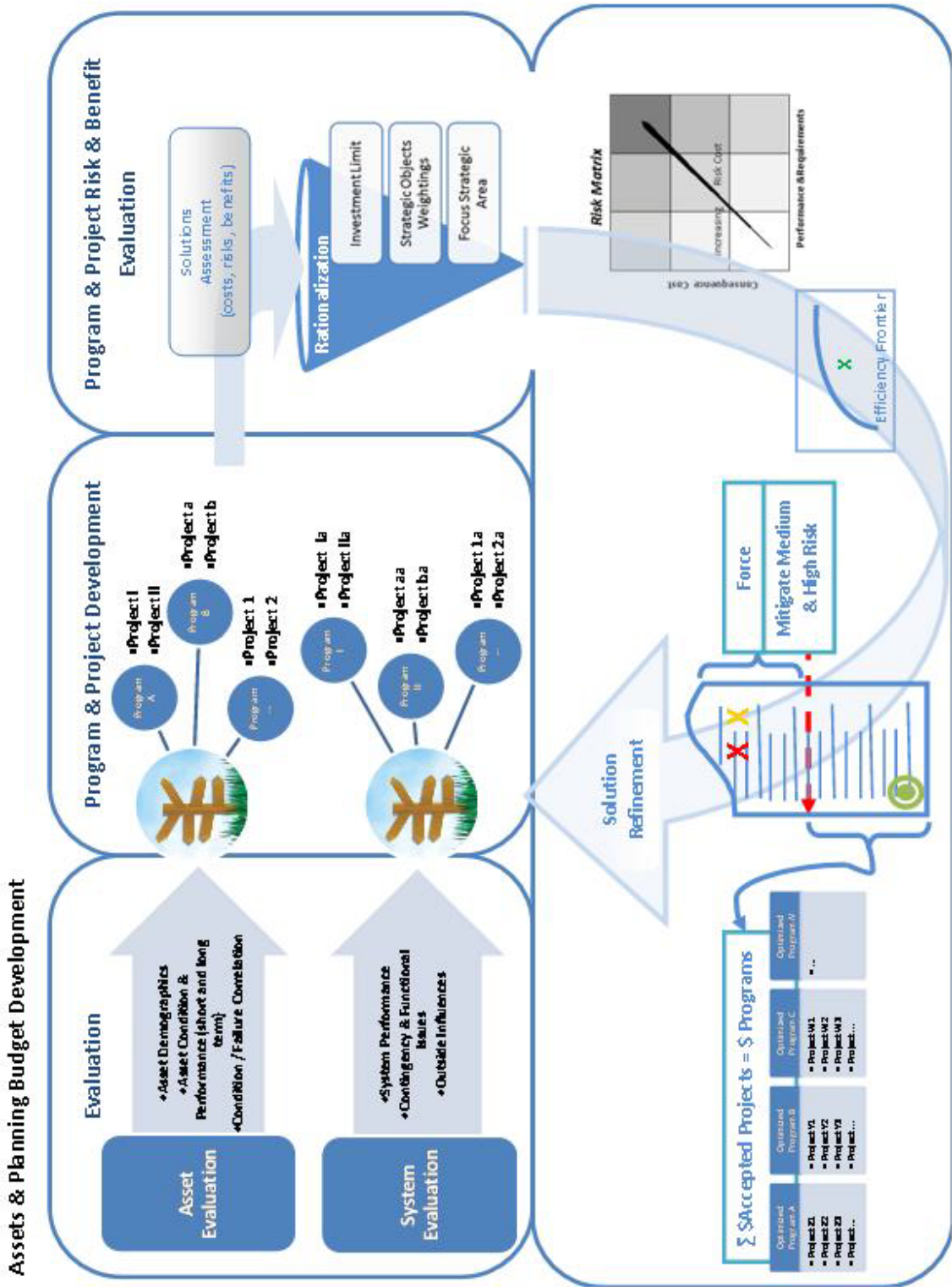
The assets evaluation focuses on each class of asset. The evaluation requires multiple sources of data such as asset demographic, asset condition, reliability information, environmental impact and failure data. The data is computed and miscellaneous tools are used to produce a priority list of projects by asset classes. The scoring process for each class of asset can be found within the specific sections of this document. This list of projects is correlated with the planning projects and between related asset classes to create an optimized usage of resources.

The program and project development consists of the consolidation of a preliminary list of projects by program to evaluate the distribution of capital overall. At this point a few iterations of this step and the previous step engage the iterative process until a final list of projects is achieved.

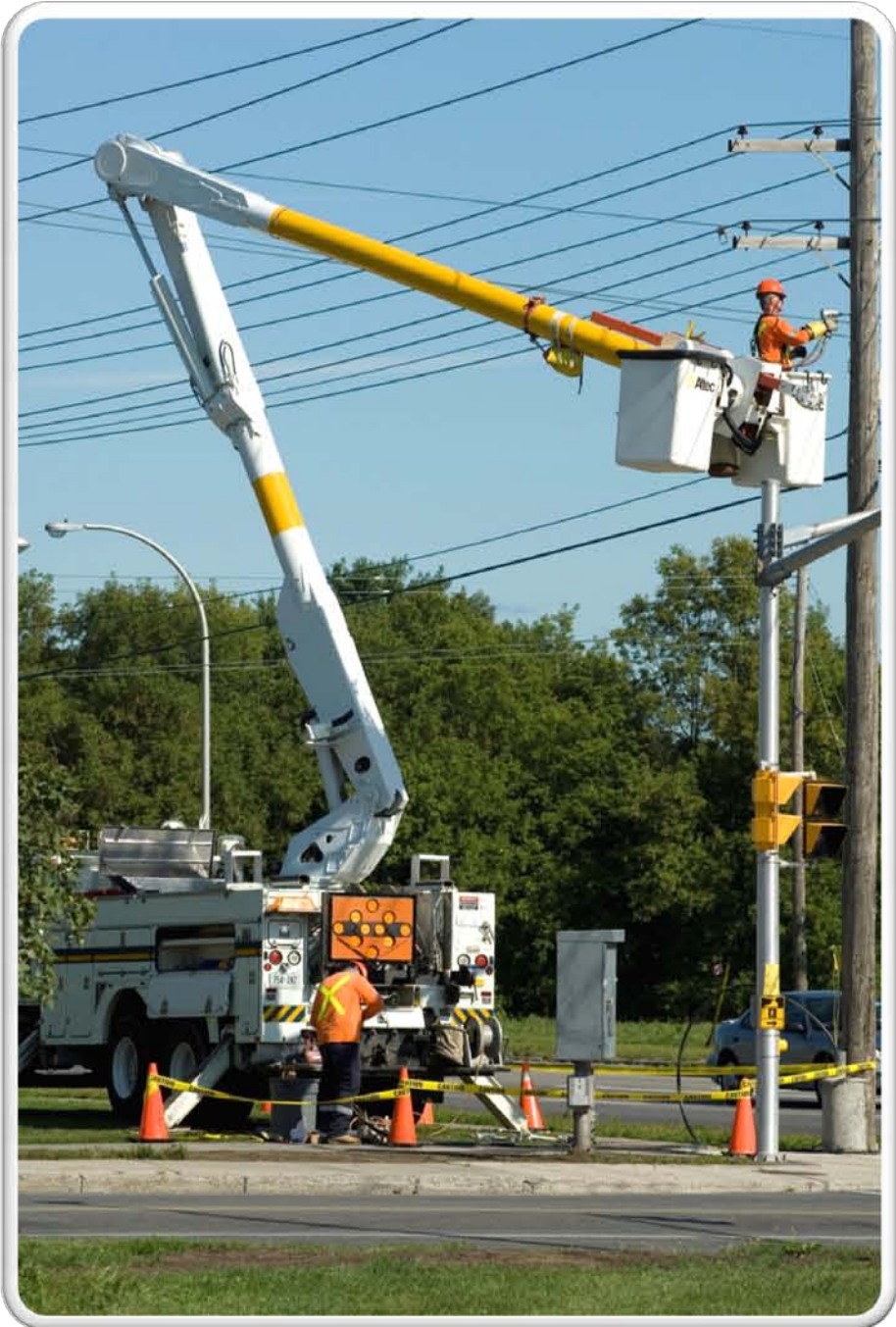
This overall list of projects is finally evaluated against the corporate objectives and Technical, Financial and Socio-Political risks. The risk matrices are produced for the overall risks, the technical risks and the Socio-Political risks. Those risk matrices are useful to map how critical each programs and projects are against each other.

The objectives of this exercise are to select the projects that will best support and deliver the required functions at the desired level of performance and that is sustainable for the foreseeable future and stays within the targeted levels of risk. The following figure illustrates the general asset management process used by Hydro Ottawa Ltd.

Figure 12. Schematic of Asset Management Planning Process



Section F. Distribution Asset Lifecycle Management



Wood Poles

The Hydro Ottawa overhead distribution system is supported both electrically and mechanically by a system of supporting poles, and fixtures. The reliability and safety of the overhead distribution is contingent on the performance of these poles and fixtures.



Hydro Ottawa owns and/or operates plant on approximately 62,000 wood poles. In addition Hydro Ottawa owns approximately 500 alternative material poles including composite, concrete and metal poles. The current planned replacement program is focused on the wood poles on which Hydro Ottawa operates due to the age and quantity of these assets. Pole replacement projects are medium to low complexity projects with an average cost of approximately \$15,000 to \$20,000 per pole.

Based on the current asset demographics and failure projection a replacement rate of 400-600 poles per year is recommended to maintain the current failure rates over the next five years. Beyond 2015 it is expected that replacement rates will need to be increased to 1,000 to 2,000 poles. If proactive management of this asset class is not maintained it is projected that the labour resource requirements to maintain Hydro Ottawa's wood pole assets will exceed a sustainable level.

For any Asset Management process, demographic information on the assets is fundamental. This is information such as quantities, location, types and age. Hydro Ottawa's Geographical Information System (GIS), contains a registry of all distribution pole assets. The available information on distribution poles includes location, number of circuits, voltage levels, and equipment on the pole. This information may be used to evaluate the number of customers served, redundancy, and safety and environment risks, and in turn the consequence of pole failure. While consistent information of wood pole age is not available, the asset condition assessment from two surveys that were undertaken by Hydro Ottawa are available for the pole asset class, and can be used to evaluate a general 'effective age' of the distribution pole. These two surveys are the:

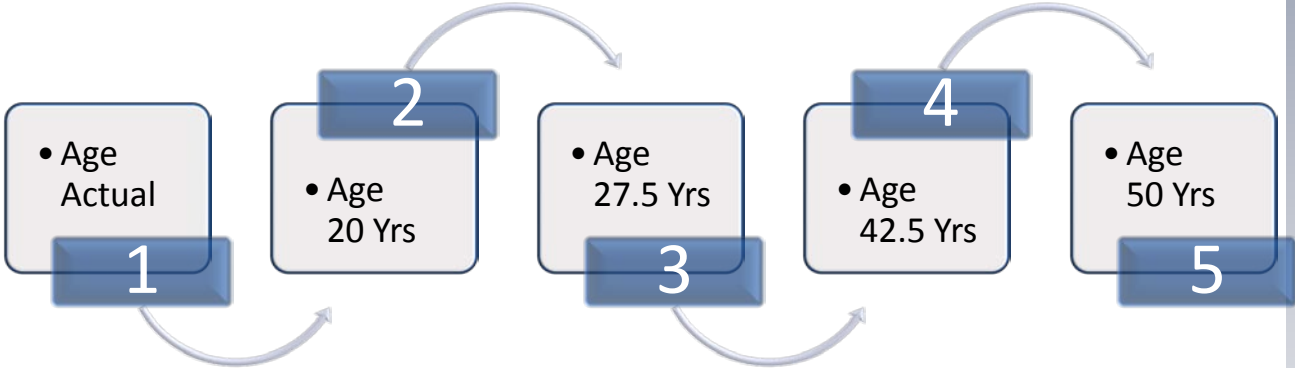
- 1996 survey of the former Ottawa Hydro service.
- GIS survey from 2003 of the remainder of the system.

The wood pole asset base consists of both Hydro Ottawa owned poles as well as poles that are owned by third party on which Hydro Ottawa is a tenant. As both types of poles support Hydro Ottawa circuits and are fundamental in their safety and reliability they have been included together in this analysis.

Wood Pole Demographics

Hydro Ottawa owns 48,323 wood poles and 500 non-wood poles and operate on an additional 14,226 wood poles which are owned by third parties. Demographics for these assets have been extrapolated from the asset information stored in the GIS system. The 1996 and 2003 pole inspection surveys rated the asset condition on a 1 to 5 scale 5 indicating that a pole has reached End-of-Life. The survey results that are available were collected by old Ottawa in 1996 results of which for poles remaining in service is given in Figure 14, additional information on pole assets was collected through visual inspection of poles as part of the 2003 GIS survey this information is given in Figure 15. Wood pole 'effective age' has been estimated based on the condition estimate using the criteria developed as part of the 2005 AMP see Figure 13. Where actual age was unknown and the pole condition was a 1 the pole was assumed to have an 'effective age' of 10 years. This condition based effective age is based on an average life assumed to be 40 years, as will be shown in the correlation to failure section below this assumption may be overly pessimistic.

Figure 13. Wood Pole Condition class to Effective Age



The effective age has then been incremented based on the calendar years which have passed since the maintenance date, resulting in the effective age demographics given in Figure 16. Based on the given demographics it can be seen that the bulk of the poles on which Hydro Ottawa operates are currently in their mid-life, 30-39 years.

Figure 14. Wood Pole Condition Summary Results 1996 Survey

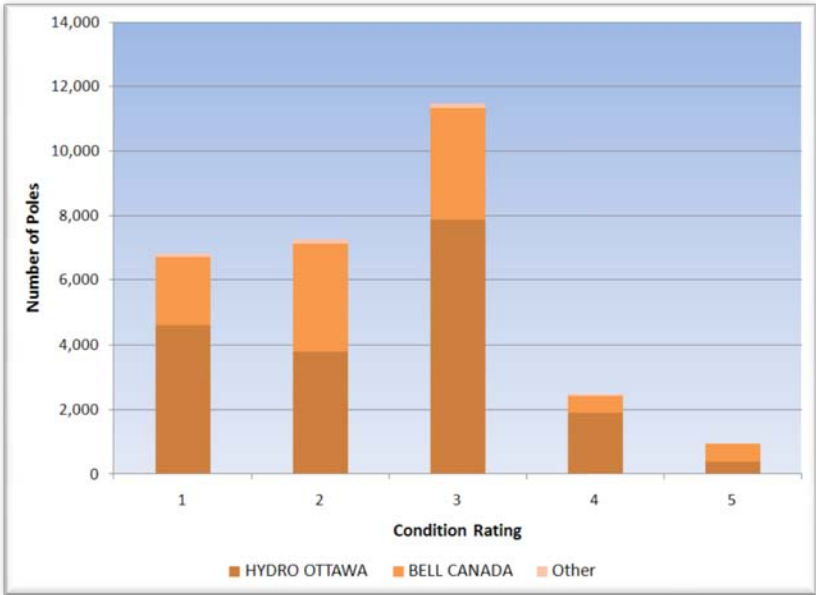


Figure 15. Wood Condition Result Summary, GIS survey

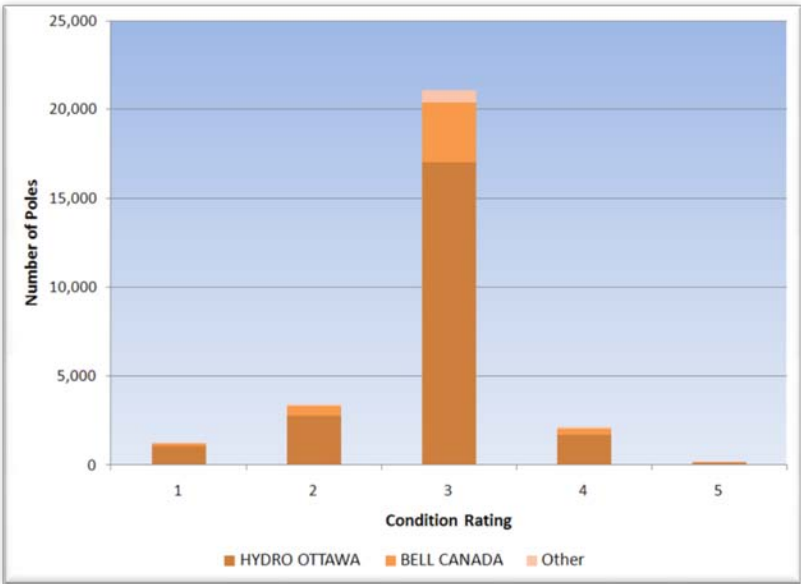
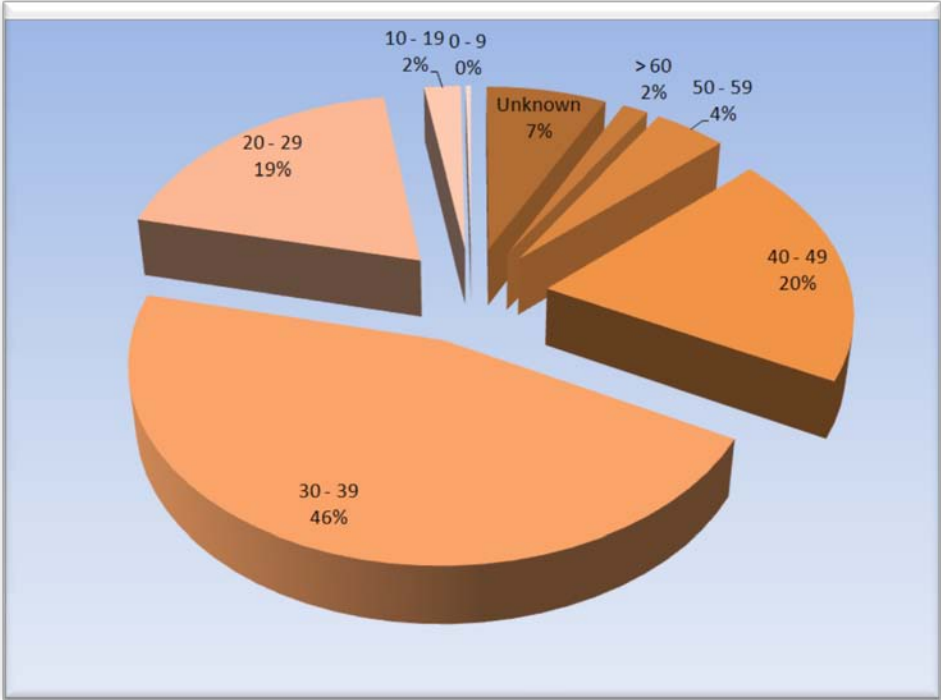


Figure 16. Proportion of Wood Poles by Age Group



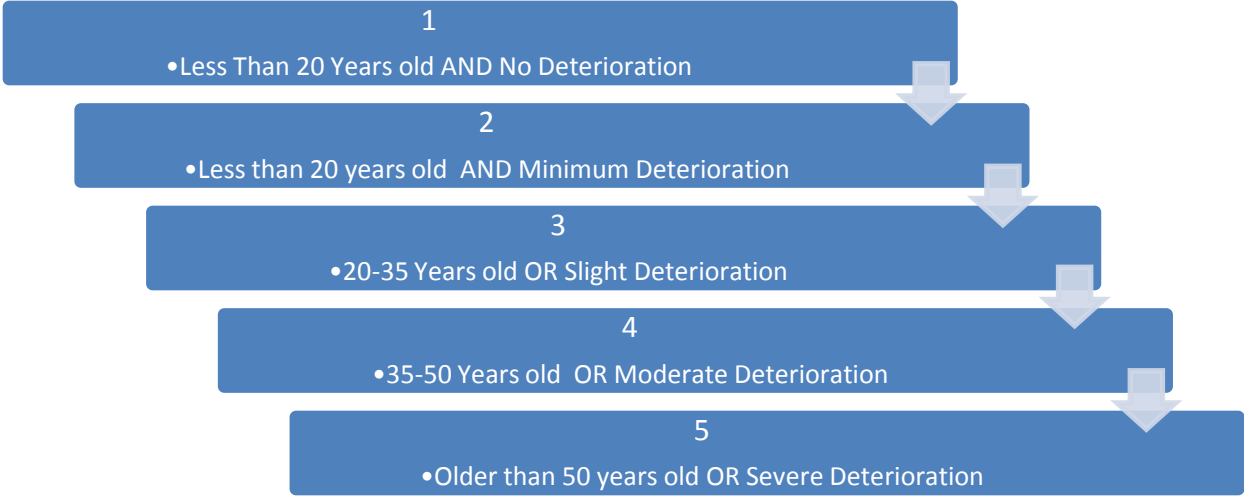
Wood Pole Health Index

The simple process of visual inspection has proven effective in assessing the overall condition of poles. However, it results in poles being replaced before needed. To address this, utilities now perform testing of “suspect” poles to identify poles at their end-of-life and to estimate remaining useful life. The tests applied to determine remaining strength include non-invasive techniques based on ultra-sonics and invasive measures of decay using a Matson Borer (an auger) or a Siebert drill.

Previously Hydro Ottawa has utilized visual inspection methodology although invasive measures (2005-05-05 Hydro Ottawa Matson Borer field tests) have indicated that poles rated as Condition 4 by visual inspection tested for internal decay at ground level as follows: 45% tested as Condition 3, 35% tested as Condition 4, and 20% tested as Condition 5. *Figure 17* shows the criteria used to establish pole condition rating. As with visual inspection there is a potential for false detection of end-of-life pole, or failure to detect poles which have deteriorated significantly below the ground. Moving forward Hydro Ottawa plans to deploy a combined program of visual inspection and non-invasive measurement. To this end Hydro Ottawa has purchased a set of Resistograph drills which allow for the detection and measurement of internal decay and remaining shell thickness with minimal damage to the pole. Visual inspection will be conducted on all poles in a section of overhead line, and approximately 10% of the poles in each pole line will be tested using the Resistograph drill, the results of which will be extrapolated to all poles within the section. As currently poles used in most new construction are oversized, the residual strength will be evaluated in relation to the required design strength to estimate the life remaining.

As renewed inspection of the poles will be carried out over several years, the program will target initially the poles rated to be in the worst condition in past surveys, to refine the short and medium term replacement planning.

Figure 17. **Hydro Ottawa's Wood Pole Condition Class Criteria**



Wood Pole Failure Correlation

Correlation of pole failure to condition is difficult as poles can be at end-of-life, yet, not result in a failure. Required design strengths are based on the expected maximum climatic forces which the installation must endure. Even when a pole has reached end of life and/or that it has degraded to 60% or less of the required design strength, the actual failure of the pole is contingent on it being stressed by external forces approaching or equal to these maximal design conditions. In result, once a pole reaches end-of-life, it may remain standing and in service for many years before external forces result in a failure.

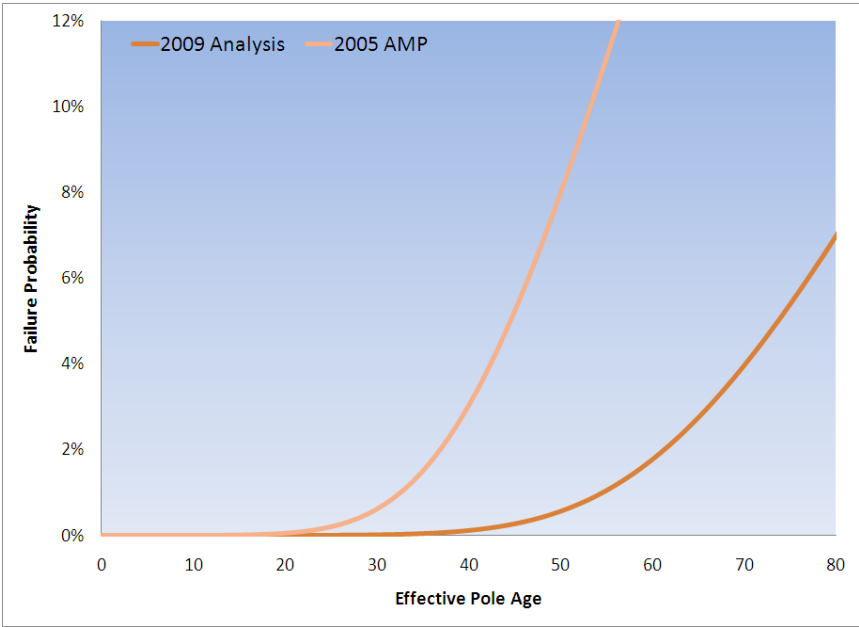
In response to this condition the failure correlation has been developed assuming that 25% of all the end-of-life (failed standing) poles result in identification and replacement under the unplanned programs, or a plant failure circumstances. Through hazard fitting with the historical 'failure' data listed in *Table 7*, it has been determined that the best fit distribution to represent Hydro Ottawa's Pole assets is a normal distribution with a mean of 76 years and a standard deviation of 14 years. This resulting failure probability is shown in *Figure 18*.

Table 7. **Historical Wood Pole Failures**

Year	Unplanned and Plant Failure Pole	Sustained Outages as Result of Pole
2003	Unknown	5
2004	Unknown	7
2005	49	2
2006	21	4

Year	Unplanned and Plant Failure Pole	Sustained Outages as Result of Pole
2007	12	4
2008	42	9
2009	46	5

Figure 18. Wood Pole Hazard Rate



Wood Pole Failure Consequence

The first step in assessing the consequence cost of failure is to summarize the expected effects of failure. In general, these will include some or all of the following:

- Customer outage effects. This will include "event" effects due to the outage (SAIFI), "duration" effects (SAIDI), and effects on critical customers.
- Health and safety consequences.
- Environmental consequences.

Customer Service reliability

In the event that a pole failure introduces the potential for customer interruptions. The impact of the interruption has two primary components:

Impact on the system SAIFI – that is the number of customers which are interrupted

Impact on the system SAIDI – that is the product of the number of customers interrupted, and the duration of the event (cust- hrs)

Scoring of these impacts is based on the scoring scales developed by Hydro Ottawa as part of the initial optimizer implementation. This is a non-linear scale from -3 to 3 where reduction of the system SAIFI by 1.0 % has a score of 3 (avoidance of interruption to ~2,900 customers).

Using the data available in the GIS for the number of customers being supplied by the circuits supported by the pole can be assessed. Based on this value the reliability impact can be assessed using the scale identified in the table below.

While there will be SAIDI impact in the case that a pole failure causes an interruption, insufficient information is available to readily estimate the difference in outage duration for the poles in the system.

Environmental Consequence

The second source of consequence cost due to a failure is the environmental impact due to potential release of oil. The table below shows the scoring scale for potential environmental damage. The score is based entirely on whether there is a transformer on the pole, which, if the pole fails, may result in an uncontrolled release of oil.

Safety Effects

No safety effects are expected due to a wood pole failure. Although it is conceivable that a fallen pole could injure someone, this is considered so remote a possibility that it is not considered in the analysis. Specific cases where this is a concern should be addressed individually.

Weighing and Normalizing Consequence

Consequence cost terms are weighted to reflect their relative contributions to the total consequence, including their respective probabilities of occurring in event of failure. The relative reliability and environmental scores are added then the overall scoring is normalized onto a scale from 1-5.

Table 8. Pole Failure Consequence scoring

Consequence Score	Reliability	Environmental
0	≤ 145 Customers supplied by circuits on the pole	No transformer on pole
1	>145 Customers supplied by circuits on the pole	
2	>1450 Customers supplied by circuits on the pole	
3	>2900 Customer Served by circuits on the pole	Transformer on pole

Assessment of Wood Pole Asset Class

Projections

Projections of future failures based on technical and financial asset life provide a base line for the required replacements to maintain system performance, and economic efficiency at Hydro Ottawa. Replacement of assets prior to full depreciation results in loss of economic efficiency, as such the financial life of the asset provides a maximum desired replacement rate. As the asset installation date is not available for wood pole asset base, the 'effective age' has been used to approximate the actual asset age. The next figure outlines the financial and technical lifespan replacements:

- Due All – Represents the quantity of poles in each year which have moved to surpass their depreciation.
- Levelized all – represents the average annual replacement required to maintain the asset base, with replacement at the end of their economic life.
- Projected Failures – Replace at Failure, represents the projected future failures given a replacement only at failure.

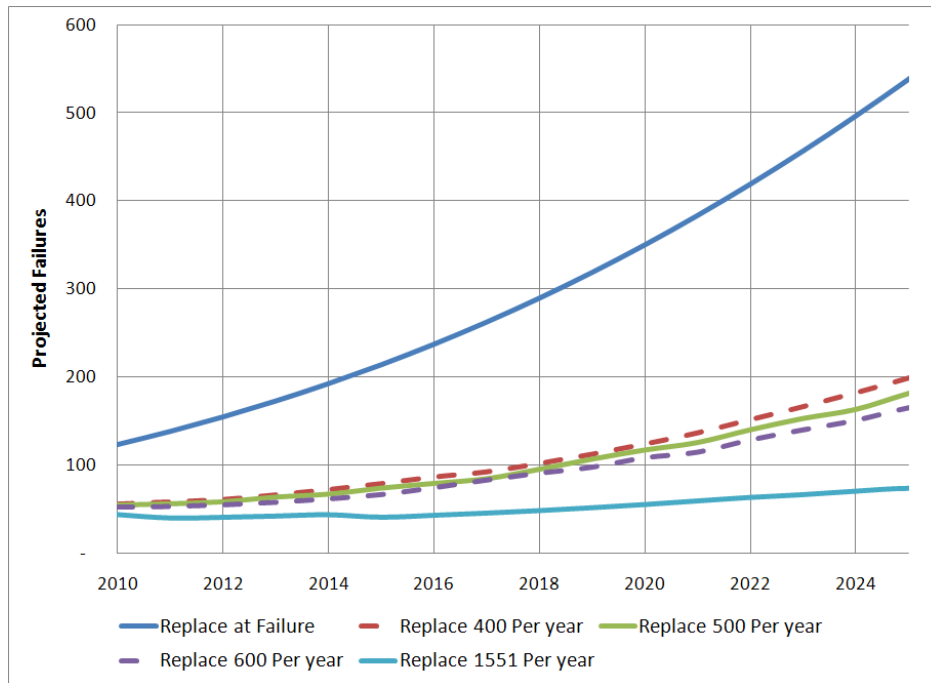
Projected failure rates are based on the failure correlation discussed in *Figure 18*. All such projections are predicated on inspection programs which will identify all failed poles. The definition of failure in this situation is keeping with the requirements laid out in CSA 22.3 No.1 – *When the strength of a structure has deteriorated to 60% of the required capacity, the structure shall be reinforced or replaced*. The replace at fail policy is projected that all such poles will be identified and replaced in an Unplanned/Emergency setting annually. The planned replacement policy projections are based on the assumption of a 50% program efficiency, that is 50% of the poles annually that are projected to fail are able to be replaced in a planned fashion. If the annual planned replacements exceed this value the remaining planned replacements are assumed to be the oldest poles in the system.

Based on the economic life of a distribution pole of 40 years (using an effective age to approximate actual age) over 17,000 poles are currently fully depreciated. Levelized replacement at the financial end of life would result in replacement of approximately 1,551 poles per year. This level of replacement is currently not achievable with available financial and labour resources. Based on a replace at failure approach the average minimum replacement requirement is expected to be in the range of 230 poles annually from 2011-2020.

Based on current failure to effective age correlations, to maintain failure/unplanned replacement rates in the current range through the next five years, an average replacement rate of 400-600 poles per year needs to be maintained, see *Figure 19*, with recognition that the replacement rate will need to be increased in 2015 and beyond.

Current recommended replacement rates have been limited to 400-600 poles per year due to uncertainty in the current failure correlation models and potential of life extension technologies. In the coming years through pole inspection and application of in-situ pole treatment is expected to reduce the replacement requirements beyond 2015.

Figure 19. Wood Pole Recommended Replacement Rate



Financial impact

Projected costs of the replacement programs have been developed based on budgeting estimates of \$15,000 for a planned pole replacement and \$20,000 for unplanned. The higher cost of unplanned pole replacements is due to the loss of efficiencies due to the one-off nature of these replacements. Projections indicate over the next decade the lower cost option would be to maintain a replace at fail program. Similarly the cumulative program cost for proactive pole replacements will be higher, over the next 25 years.

Projected resource requirements have been based on the historical per-unit labour hours:

- 71 Labour Hours for a planned pole replacement
- 115 Labour hours for an unplanned pole replacement
- 115 Labour Hours plus an additional 12 hours for plant failure replacement based on an assumed 4 hours required for a 3 person crew to secure the failed pole. Based on historic levels plant failure poles are assumed to make up 4% of the unplanned replacements.

The projected potential construction pole replacement labour base is 160,000 labour hours in 2011. The future labour base has been projected using an assumed 0.5% annual increase. The projected labour requirements for a 500 pole per year replacement policy, vs. replace at failure policy are given in *Figure 22*. The primary benefit of planned replacement program can be seen to be the reduction in unplanned work labour hours which will be required. Looking beyond the next decade if planned replacements are not maintained approximately 65% of the available labour hours will be required to maintain the replace at fail policy.

Despite the higher current cost of the proactive replacement policy, if Hydro Ottawa fails to maintain sufficient replacements, the required unplanned replacement burden will eventually exceed the available labour resources. Furthermore, if replacement levels are reduced or postponed significantly the required planned replacement levels to bring the asset class into a manageable position in future years is expected to be significant.

Figure 20. Annual Pole Replacement Cost

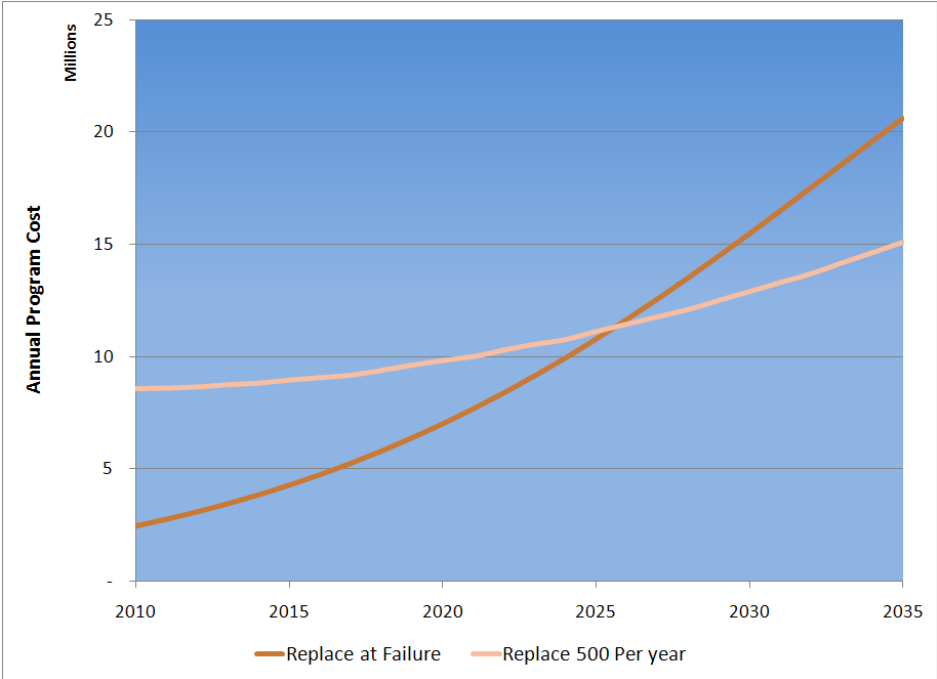


Figure 21. Cumulative Pole Replacement Program Cost

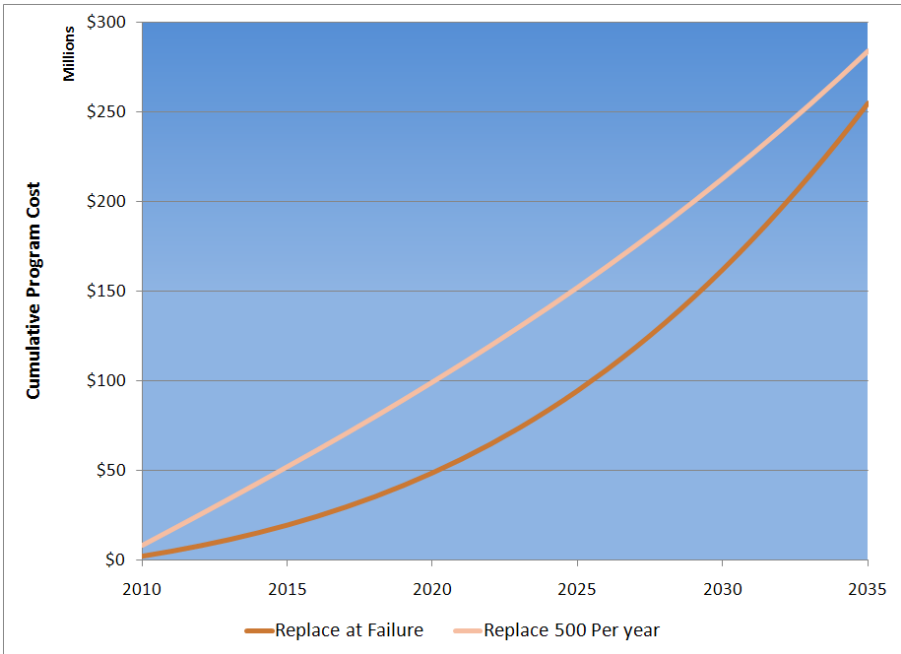
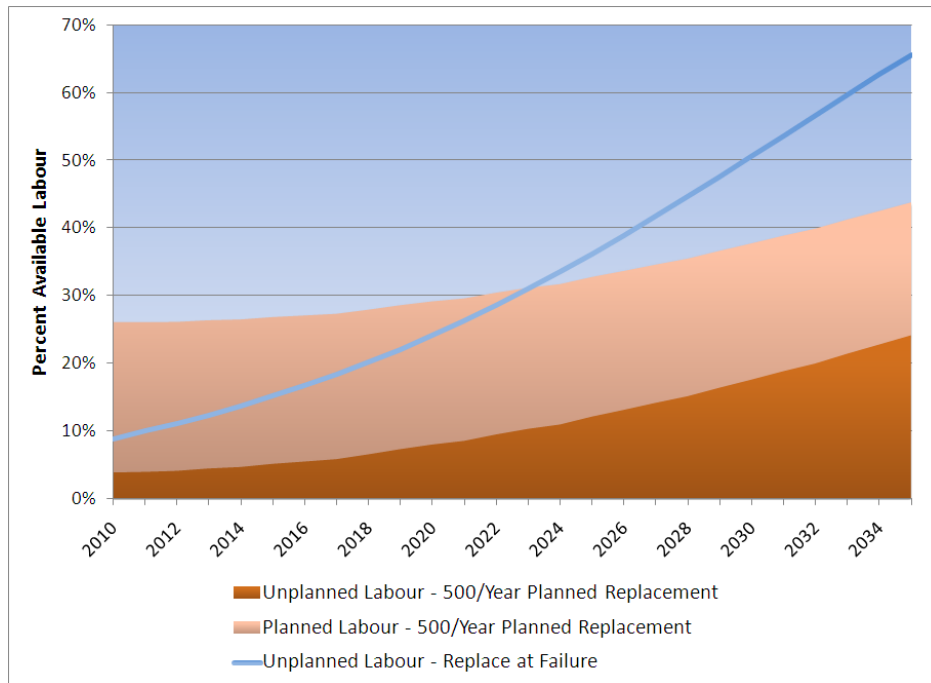


Figure 22. Wood Pole Replacement Program Labour Resource Projections



Asset Rating

Prioritization of pole replacements has been done in two stages:

1. Poles have been individually scored using a normalized Hazard rating based on the failure correlation, and a consequence score. The failure probability is very low from 0-40 years and begins to increase rapidly beyond 40 years. As a result a large number of poles have a Condition score of 1 or lower.
2. All the poles in the distribution system have been grouped geographically into a grid with cells measuring 1km by 1.5km each of these cells representing a discrete replacement project. These projects have then been prioritized based on the percentage of poles in that region meeting or exceeding a risk threshold of 9 (risk is the product of condition and consequence).

The grid plots are prioritized on the basis of the risk threshold. To maximize the efficiency of the pole replacement programs any pole which exceeds a Condition rating of 2 (corresponding to an effective age of approximately 52 years) or greater has been identified for replacement. Prior to the execution of these projects inspections will be undertaken to ensure all poles at or near end-of-life are replaced, such as to minimize the need to return to carry out one-off- pole replacements in the area for the next 20 years.

Metal, Concrete and Composite Poles

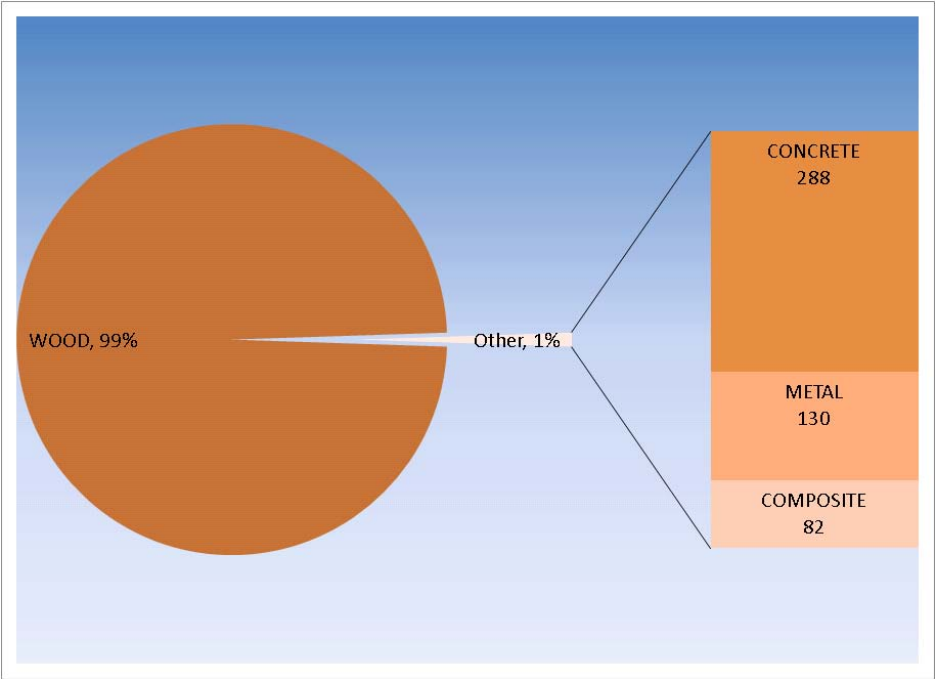
Metal, Concrete and Composite Pole Demographics

There are a small number of non-wood Hydro Ottawa owned poles in the distribution system. The GIS system contains a registry of currently available data on these assets. Metal pole installations owned by Hydro Ottawa are limited to acting as supporting structures for light standards and secondary services.

Table 9. Hydro Ottawa Non-Wood Poles Owned Poles

Material	Number of Poles
CONCRETE	288
METAL	130
COMPOSITE	82

Figure 23. Pole Type Demographics



Metal, Concrete and Composite Health Index

Starting in 2005 Hydro Ottawa began to trial Fibreglass composite distribution poles in several areas around the city. In the time since these poles were first installed there has only been one issue identified. The root cause was identified to be over tightening of hardware bolts on installation.

Composite poles are more resilient to age deterioration, but less resilient to mechanical damage and are also more expensive than wood poles. Based on manufacturer accelerated life testing the expected mean life of these poles is approximately 80 years. Given the considerable expected life remaining in the limited (82 poles) Hydro Ottawa composite pole, this asset group will be neglected from analysis.

Currently the non-wood asset class is sufficiently limited and in reasonable condition as such it has not been considered for planned replacement. Moving forward, inspection of Hydro Ottawa's concrete, composite and metal poles in the course of wood pole inspection will be used to identify replacement requirements. At this time methods and procedures for evaluating the remaining life of these non-wood poles need to be developed.

Pole Fixtures (Insulators, Arresters)

Insulators and Arresters serve an important function in the support and operation of Hydro Ottawa's distribution system. While typically run to failure and/or replaced in concert with the replacement of the pole (or other equipment) to which they are affixed, they do from time to time require proactive replacement in response to known design or manufacture defects.

Significant historical issues have been encountered due to the failure of several styles of porcelain insulators. As these styles of insulators pose both health and safety and reliability issues, proactive replacement has and continues to be deployed. Typical cost for insulator replacement ranges from \$500 to \$1,000 per pole. Currently there is limited centralized data on Hydro Ottawa Owned insulators, making identification of ongoing planned replacement impossible.

The failure of certain types of insulators has resulted in a safety issue when working in proximity to them. To date we have proactively replaced nine percent of these assets. Due to the implementation of a work procedure that eliminates the hazard the remaining assets will be replaced as they reach end-of-life.

Pole Fixtures Demographics

To date there are currently no centralized records for Hydro Ottawa's Insulator or arrester assets.

Insulators

Two basic dielectrics are used in the construction of distribution class insulators; - ceramics and polymers. Porcelain is made of two basic elements (silicon and oxygen) with atoms of silicon and oxygen held together through electrostatic bonds. As a result of the strong electrostatic bonds between silicon and oxygen, porcelain is chemically stable, with a high melting point, high mechanical strength and resistance to chemical attacks. However, porcelain has a higher surface free energy which gives it the property of stickiness. As a result, contaminants and water droplets are more likely to stick to the surface, resulting in poor insulator performance under high pollution conditions. Porcelain insulators are glazed to seal the porous surfaces and protect against the ingress of water. Glazing also provides a smooth finish to resist surface contaminants. Connecting hardware is attached to the insulators with porcelain cement.

Polymers used in insulators are made up of hydrocarbon chains – atoms of carbon and hydrogen bonded through covalent bonds. The relatively weak bonding between carbon and hydrogen atoms makes polymers vulnerable to decomposition by heat and surface damage due to ultraviolet light. The most serious defect is that carbon is a good electrical conductor. Surface attacks, especially by discharges at high temperatures, can produce conducting tracks that may flash over and destroy the insulator. The outstanding advantage of polymer insulators results from their low surface free energy that allows them to resist wetting and contamination much better than their ceramic counterparts. Polymer insulators commonly in use have a fibreglass core with EPDM or silicone elastomer sheds moulded on the core. However, silicone insulators retain their water repelling properties over much longer time than EPDM insulators.

Insulators reach the end of their useful life either when they fail mechanically or when surface deterioration reaches the point where the number of flashover incidents on a line becomes unacceptable or the desired safety factors no longer exist. Insulator aging occurs due to a number of factors that include thermal and mechanical cycling, ablation from weathering and electro-thermal causes, flexure and torsion, corrosion and cement growth. Ceramic insulators are generally vulnerable to impact damage. Polymeric insulators are susceptible to deterioration from atmospheric chemicals and pollutants, and electrical discharges.

Porcelain insulators are generally a robust and long-lived part of the distribution system lasting at least the life of the pole. While age may play a part in the eventual failure of these assets, other factors predominate. Mechanical failure modes such as cracking and separation may be due to defective design, manufacture or application and may not show up for many years after the devices have been installed. Electrical failure modes include tracking and flashover and are most often due to contamination on the surface due to inadequate cleaning. None of these failure modes can be predicted using age-based criteria alone. Depending on design and vintage, polymer insulators have a relatively shorter life than ceramic ones and therefore may require replacement.

In the absence of specifically identified problems Hydro Ottawa follows standard industry practice of running insulators to failure (maintaining them by an adequate washing program during their life), recognizing that other external drivers will usually result in their replacement before failure. Because of this, no specific inspection or testing program is generally required; however, the asset is inspected inherently as part of the periodic pole inspections. The only exception may be where a specific overhead line is experiencing frequent interruptions due to insulator flashovers. If the cause of flashovers is surface contamination, a planned insulator washing program may be invoked.

Also, in line with standard industry practices, we undertake asset management analysis only on insulators where we are able to identify from time to time specific and significant problems defined by their style, manufacturing batch, material, etc. At the present time there are four specifically identified problems with primary insulators, - none with secondary type insulators:

- “WART” type porcelain post insulators
- Canadian Porcelain pin type 28/46kV insulators
- Horizontally installed porcelain pin type insulators
- Ohio Brass porcelain insulators on standoff brackets

Currently, limited information is available on the locations of these insulators. At this time, continued funding for planned and ad hoc replacement should be maintained. In addition, through pole inspection program information regarding location and quantity of the problem insulator types needs to be collected and stored in a centralized database.

Arresters

Distribution surge arresters are designed to suppress voltage surges on an overhead circuit and protect overhead equipment such as transformers, switches and cable connections. A majority of the voltage surges occur through induction due to a lightning strike in the vicinity of the overhead circuit, although a

direct lightning strike is also possible. Surge arresters reach end-of-life based on the amount of energy absorbed, and once this limit is reached they no longer operate (i.e. suppress surges) and require replacement. The end-of-life of an arrester is reached when the unit can no longer absorb energy and provide surge protection. This cannot truly be considered a “failure” since the arrester has performed as intended. However, there are potential consequences of end-of-life for some arresters in terms of customer outage and safety. Furthermore, some arresters are likely to cause an outage when they reach end-of-life – this is a failure.

Hydro Ottawa practice is to run surge arresters to end-of-life or failure, recognizing that other external drivers (replacement recommended in conjunction with changing of poles, transformers, overhead switches and cable risers) will usually result in their replacement before failure. Although no specific inspection or testing program is recommended, the asset is inspected inherently as part of periodic pole inspections.

Silicon carbide and metal (zinc) oxide arresters are the two most common designs that have been used for surge suppression on distribution systems in recent years. Both designs are based on non-linear resistance of the active elements. Depending on the design, under nominal voltage, leakage current is either very low or non-existent and silicon carbide and metal oxide offer a high resistance. However, under a voltage surge, the leakage current increases in magnitude, raising the temperature of the active element, which dramatically reduces its resistance and results in discharge through the arrester. Compared with silicon carbide arresters, the change in resistance in metal oxide arresters is much more pronounced and as a result they provide improved performance.

Prior to amalgamation in 2000, the most common surge arrester installed throughout the founding utility areas was a silicon carbide arrester with either porcelain or polymer insulation. Although certain silicon carbide units were designed to operate as insulators once they had reached their end-of-life, it has generally been found that these units require replacement or removal prior to the circuit being re-energised. After utility amalgamation in 2000, a far more reliable unit was introduced, manufactured from zinc oxide with polymer insulation and fitted with a ground lead disconnect that would operate once the arrester had reached its end of life. This allows for an easy visual identification of failure and assists in restoration time, as the arrester does not have to be removed for the circuit to be re-energised.

Metal oxide arresters are now our standard. However, since they have been introduced very recently, we estimate (based on procurement numbers) that only a small proportion of the arresters on the system are of the newer metal (zinc) oxide type.

Elbows and Inserts

Padmount transformers and switchgear units have conical bushings, called an insert, which accept an elbow, a form of a plug that is connected to the incoming and outgoing cables. On the 27.6kV system, the elbow design has led to flashes, due to the creation of a vacuum, as the field crew separates the elbow from the bushing under load (live). This program involves replacement of elbows and inserts that cannot be separated while the circuit is energized, with newer vented units that can. The flash is a safety risk to employees and will typically cause a local outage.

Elbow and Insert Demographics

This program involves replacement of equipment that poses a safety risk to employees. To date we have replaced thirty five percent of these assets and our plan is to complete all replacements by 2015.

Assessment of Elbow and Insert Asset Class

Due to the large number of padmount transformers that currently have non-vented elbows, a criteria was developed to optimize the replacement to provide maximum improvements to reliability while keeping spending at a reasonable level.

There are 936 single and three phase transformers that will be targeted for elbow/insert replacement in this program which totals to 2300 elbow/inserts. The work is distributed as follows: 60% will be completed in Gloucester; 30% in Kanata; and 10% in Stittsville. When selecting padmount transformers for elbow and insert replacement, the transformers must be on the 27.6kV system (not lower voltages) and the elbows are the primary switching mean. Transformers that have switching capabilities are exempt from elbow replacement. The selected transformer will also have one of the following criteria:

- 1- Normally open point
- 2- First transformer off a dip pole (Does not include single radial feeds)
- 3- Midpoint of a span greater than 6 transformers between transformers with vented elbows

The remaining elbow and inserts will be placed on a passive replacement program where they will be replaced when a transformer or cable has failed or is replaced.

Updating the transformer nomenclature will be part of the scope of this program to improve the operability of the system and reduce errors in switching. Transformer and cable identification will be updated as per standard GCS0012 "Electrical Underground Distribution Plant Identification". Transformer switching information will also be recorded to verify the validity of the records. Temporary patches can be created by the system office as work is completed and batch updating done on a weekly basis by the records group.

Polemounted Transformers

The pole transformer asset class includes roughly 14,000 service transformers which convert electrical power from its primary distribution voltage to service level voltage, twelve (12) step transformers which convert from one primary distribution voltage to another and six (6) voltage regulators. As there are only a few step-down transformers and voltage regulators in the Hydro Ottawa system the focus of the asset management program is on polemounted service transformers.



Current asset replacement is largely driven by Federal PCB regulation SOR 2008-273. Under this regulation all pole mounted equipment with PCB concentrations greater than 50 PPM must be removed from service by the end of 2025. Hydro Ottawa has a remaining 154 polemount service transformers and 2 voltage regulators which are obligated to be retired under this regulation. Replacement of these units is scheduled to be completed by the end of 2013.

Based on the available demographic information an average replacement rate of 40 units annually is currently recommended. This replacement rate has been based on age based replacement criteria, although replacement quantities have been tempered in response to the model uncertainty. Analysis has identified that age, while loosely related to condition may not adequately project failure probability. Further collection of failure information and operating conditions for these units will be required to improve failure projections and proactively plan replacement requirements to maintain this asset class.

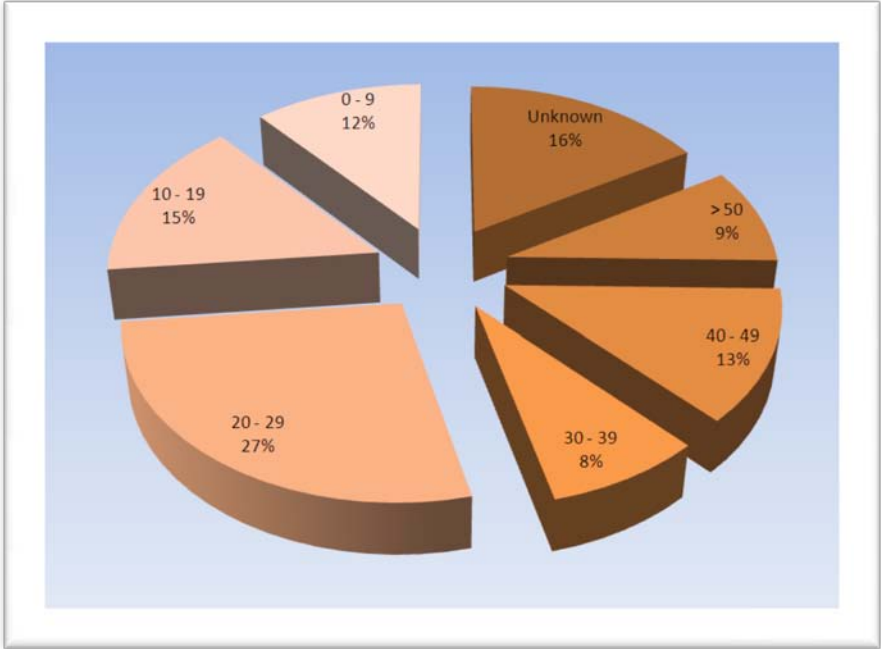
Replacement of an overhead service transformer is a low complexity job with an average cost of approximately \$3,000 to \$5,000.

Polemounted Transformer Demographics

Overhead Service Transformers

Demographic information for the pole mounted transformer assets such as purchase date, manufacture date, ratings and manufacturer are stored in the Hydro Ottawa's Geographical Information system (GIS). This information may be used to evaluate the number of customers served, redundancy and safety and environmental risks, and in turn the consequence of the failure of a distribution pole mounted transformer. Hydro Ottawa owns and operates roughly 14,000 pole mount transformers. Currently the installation and manufacture date is not available for this asset class, as such the demographic information presented in *Figure 24* Proportion of Overhead Service Transformers by age group and the remainder of this report is based upon the transformer purchase date.

Figure 24. Proportion of Overhead Service Transformers by age group

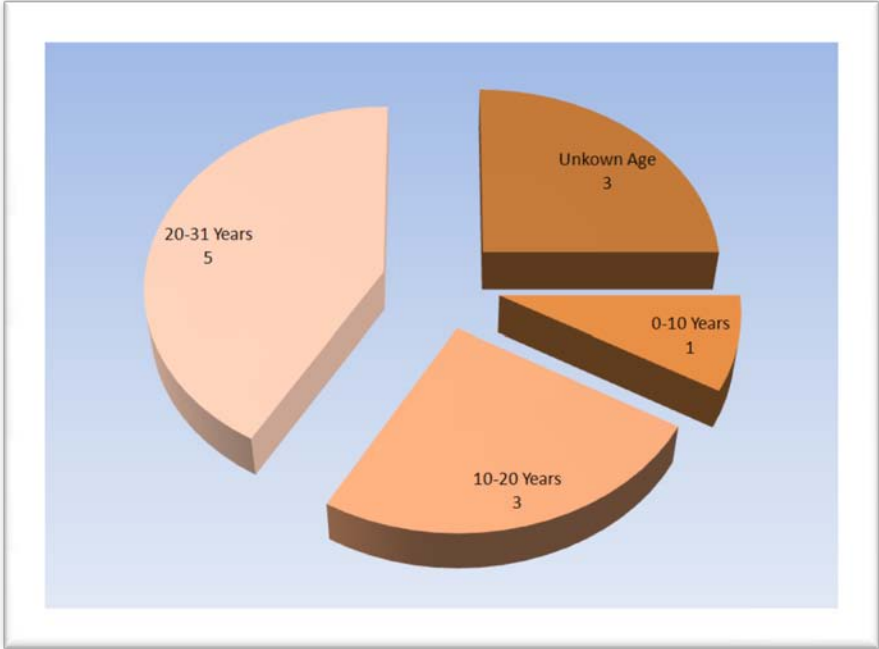


Voltage Regulators and Step Transformers

Currently, there are six (6) pole mounted voltage regulators within Hydro Ottawa’s Distribution system, there is no manufacture or purchase date available for these units, yet based on visual review and inspection of the units they are approaching end-of-life. Further to this all but one of the units has PCB concentrations greater than 10ppm, although only two of the units have sufficiently high levels to require replacement under PCB regulations.

Currently there are twelve pole mounted step transformers in the Hydro Ottawa distribution system. Despite the low number of units in the system consistent reliable centralized data on these units is not currently available. Combining information from PCB transformer survey and GIS, the demographics of these ‘rabbit’ transformers have been generated and can be found in *Figure 25*.

Figure 25. Proportion of Step 'Rabbit' Transformers by Age Group



Polemounted Transformer Health Index

Age can be related to the condition of distribution transformers however it is not a linear relationship. The life of a transformer’s internal insulation is related to temperature-rise and duration, therefore transformer life is affected by electrical loading profiles and ambient temperature changes. Other factors such as mechanical damage, exposure to corrosive salts, and voltage surges also have a strong effect. Moving forward, collection of condition data for polemounted transformers through visual inspection programs or smart technologies will allow for improvements and planning for this asset class. Visual inspection provides considerable information on transformer asset condition. Leaks, cracked bushings, and rusting of tanks can all be established by visual observation and can be collected in the course of pole inspections.

While not currently available, in the future the impacts of transformer service condition should be integrated into Hydro Ottawa’s asset planning criteria. 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. Benefits of integrating such condition information into the asset planning process should be evaluated for potential future deployment.

At this time there is no centralized data available on the condition of these assets. Therefore the asset evaluation has been based on transformer purchase age demographics alone.

External Drivers

Federal Regulation SOR 2008-273 dictates that all pole mounted equipment with oil containing PCBs in concentrations of 50 mg/kg or greater must be removed from service by 2025. As of the beginning of 2010, there are 154 known PCB containing Hydro Ottawa pole mounted transformers remaining in service, and 2 voltage regulators. As a result of the regulatory obligations, Hydro Ottawa has elected to take an accelerated approach to remove these remaining transformers from service. Aging infrastructure work will be superseded by the removal of these remaining PCB containing transformers from service.

Polemounted Transformer Failure Correlation

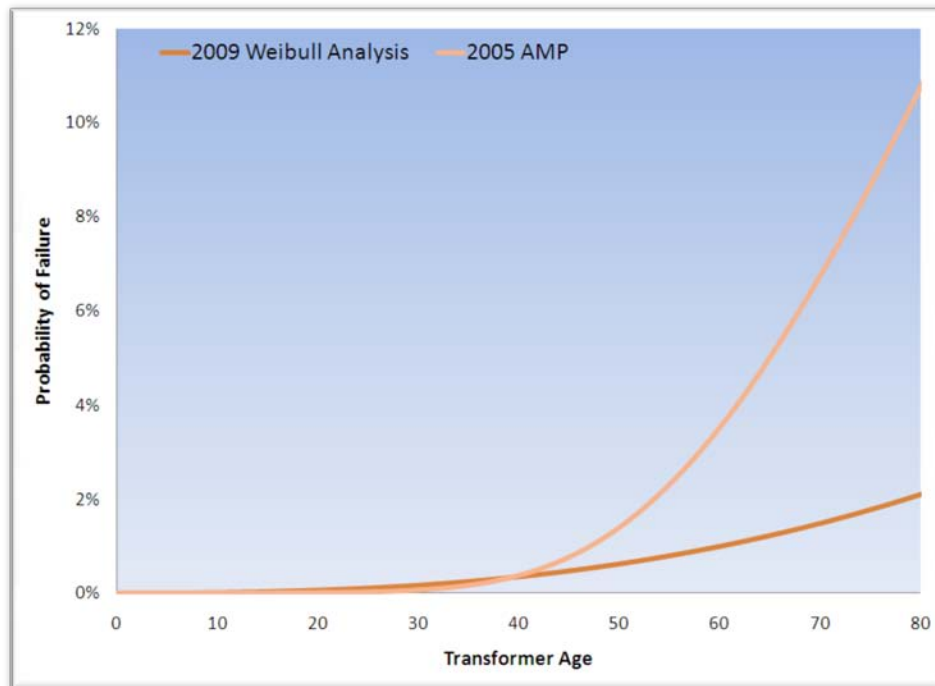
To correlate asset demographics to asset failure rates, statistical Weibull analysis has been undertaken as a two part study. Failure records, demographics from old Ottawa Hydro, current failure rates extracted from the interruption database and the current asset demographics stored in the GIS system were used for this analysis.

The resulting failure rate developed through this analysis is shown in the next figure. The current information indicates that pole mounted transformers have a much longer expected life than was projected in the 2005 Asset Management Plan. Based on the current analysis, the anticipated average life of a pole mounted transformer is in the range of 90 years. The low rise to the failure curve indicates that the polemount transformer failures may be more random and operating condition driven than age dependant. Given the high variability in the failure data further refinement to these failure curves is necessary moving forward. These improvements will only be possible through more granular tracking of transformer failure data.

Table 10. Historical Overhead Transformer Failures

Consequence Score	O/H XFMR Failures
2003	30
2004	24
2005	19
2006	30
2007	25
2008	26
2009	27

Figure 26. Overhead Transformer Failure Rates



Polemounted Transformer Failure Consequence

The first step in assessing the consequence cost of failure is to summarize the expected effects of failure. In general, these will include some or all of the following:

- Customer outage effects. This will include "event" effects due to the outage (SAIFI), "duration" effects (SAIDI), and effects on critical customers.
- Health and safety consequences.
- Environmental consequences.

Customer Service reliability

In the event of a pole mount transformer failure the interruption of supply to the customers connected to the unit will result in an:

1. Impact on the system SAIFI – that is the number of customers which are interrupted
2. Impact on the system SAIDI – that is the product of the number of customers interrupted, and the duration of the event (cust- hrs)

The number of customers which are interrupted due to a pole mount transformer failure is minimal. The number of affected customers is approximated by the number of customers normally serviced from the transformer. This customer count is normalized into a scale from 0-1, with 1 representing a customer count of 20 or more.

The duration of an outage resulting from an overhead transformer failure is not clearly dependant on the transformer parameters. Therefore the average contribution to SAIDI score is assumed to primarily

vary based on the number of customers that will be affected, which has been considered in the SAIFI score.

Environmental Consequence

While the failure may result in the release of oil to the environment, differentiation based on the quantity of oil contained in the transformer does not provide a real indication of the environmental outcome. PCB containing equipment has a larger consequence, yet this PCB containing equipment has been considered from this analysis due to the superseding regulatory requirements. A scoring of 1 to 3 has been used to relate to the environmental consequence based on the presence of PCBs as shown in *Table 11*.

Table 11. Pole Transformer Failure Environmental Consequence Score

Consequence Score	Environmental
1	PCB Concentration Less than 50 ppm
2	PCB Concentration Greater than of equal to 50 ppm and less than 500 ppm
3	PCB Concentration Greater than 500 ppm

Safety Effects

There is a small probability of catastrophic transformer failure, which would expose the public or workers to hazards. These types of failures are rare and there is currently no information to differentiate this risk between polemounted transformers.

Weighing and Normalizing Consequence

The environmental score and reliability impact scores are averaged to determine the overall consequence score. This consequence score is adjusted to a 1 to 5 scale.

Assessment of Polemounted Transformer Asset Class

Projections

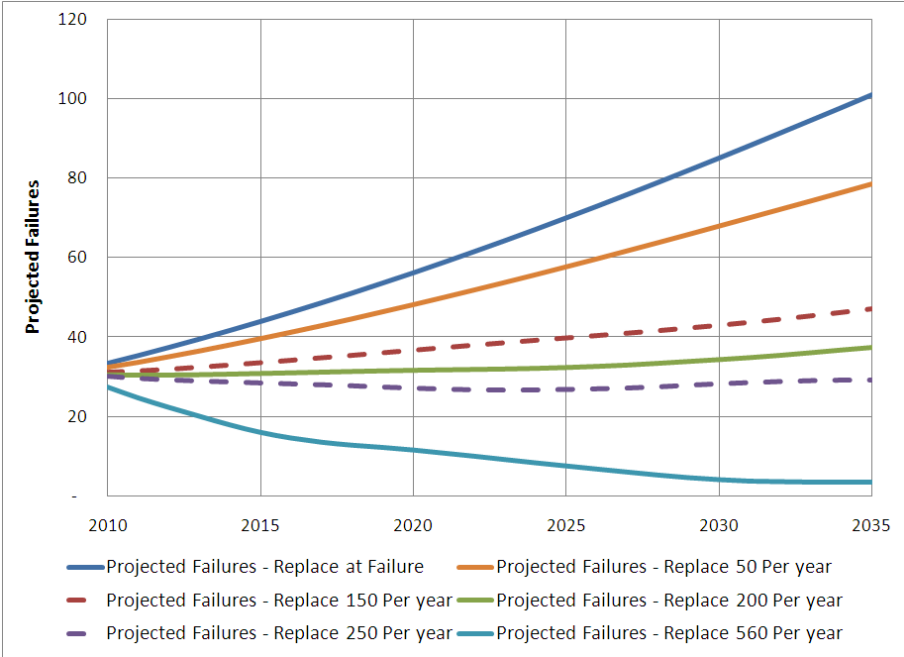
Being able to predict long term replacement rates is beneficial in avoiding major spending due to plant failure or an aging asset group. Maximum and minimum replacement levels are determined by analyzing demographic information and failure history.

A maximum replacement rate is determined to avoid population spikes created from a large number of installations done in a particular year. Using population demographics and using a financial end-of-life of 25 years, a levelized replacement rate can be calculated to avoid large replacement peaks. This analysis is shown in Figure 27. The levelized replacement rate was calculated to be approximately 560 units per year.

Minimum replacement rate is determined by evaluating historical failure data and the probability of failure at a particular age. Once a probability of failure is determined, a predictive analysis can be completed depicting the future failure rate of the asset. Doing active replacements can be incorporated into this analysis to show the effects of varying replacement rates on failures. This analysis is shown in Figure 28, which indicates the average minimum replacement is 45 units per year from 2011-2020.

Current projections, shown in Figure 27 indicate replacement of 150 to 250 pole mount transformers per year should be maintained to maintain annual pole mount transformer failure rates in the range of 25-30 currently seen. Current asset failure curves and anecdotal evidence strongly suggest that polemount failures are strongly predicated on operating condition rather than age. If this is the case than proactive replacement will not impact the annual failure rate. Due to this uncertainty in the aging assets asset replacements will be limited to a lower range over the next 5 years. Physical condition assessment in the course of pole/overhead line inspections will be undertaken to reduce the potentially increased risk that this reduced planned replacement will introduce. Moving forward improved capture and analysis of failure mechanisms and failed transformer demographics will be undertaken to improve failure projections.

Figure 27. Polemounted Transformer Recommended Replacement Rates



Asset Rating

The prioritization of non-PCB transformer replacements has been undertaken in two stages. In the first stage the transformers were ranked based on a normalized consequence and condition (failure probability) scales.

Once each transformer was ranked they were grouped into geographical groups using grids, 2km x 3km. Each grid cell represents a project; these projects have then been prioritized based on the percentage of

transformers which exceed a risk threshold of 9. Projected replacements for the region have been based on the number of transformers, which have an age of 40 years or greater.

PCB transformer replacements have also been grouped into larger geographical projects. Each of these projects will be prioritized on the basis of the highest risk transformers in each group.

Voltage Regulators and Step Transformers

Given the current demographics of Hydro Ottawa's step transformer asset base, planned proactive replacement of these transformers is not currently required.

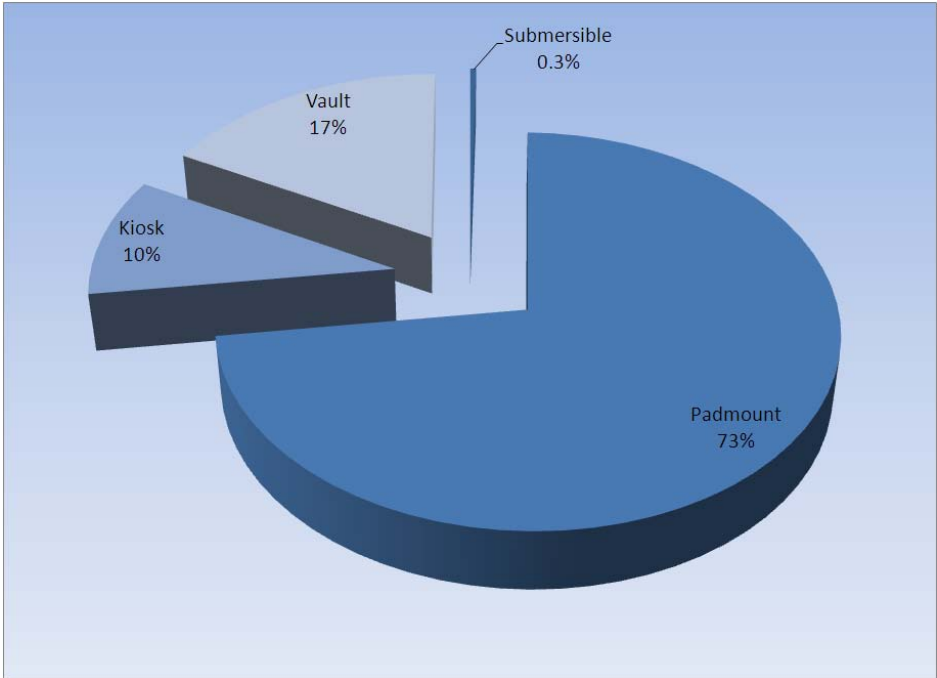
Hydro Ottawa's Voltage regulators are at end-of-life and require replacement within the next 5 years. As there are only 6 of these units in the Hydro Ottawa system removal through the elimination of their need rather than replacement is preferred.

Underground Transformers

Hydro Ottawa’s Underground transformer asset class includes a variety of transformers which are used in the delivery of power to customers. These transformers include submersible, padmounted, kiosk and vault transformers. While primarily oil filled there is also a subset of solid dielectric transformers owned and operated by Hydro Ottawa. Due to the differences in construction and operating environments, analysis has considered underground transformers in the broad groups of:

- Padmount and Kiosk Transformers
- Vault Transformers
- Submersible Transformers

Figure 28. Proportion of Underground Transformers by Type



Underground Transformer Demographics

Padmount and Kiosk Transformer Demographics

Padmount and Kiosk transformers are located in the road right-of-way and convert electrical power to service voltage for one or more customers. Hydro Ottawa owns roughly 1,800 kiosk transformers and 13,000 padmount transformers. Hydro Ottawa also operates one (1) padmounted step transformer (converts between distribution voltages), as this is a unique device in the system it will not be considered further in the asset analysis.

For any Asset Management process, demographic information on the assets is fundamental. This is information such as quantities, location, types and age. Hydro Ottawa’s Geographical Information System (GIS), contains a registry of all padmounted and kiosk distribution transformers containing all currently available asset information. Age demographics for these assets are shown in Figure 29 & Figure 30, pur-

chase date has been used to estimate equipment age as install date and manufacture date are not consistently available. There are a high proportion of padmount transformers which have an unknown age. Padmount distribution transformers have a well distributed age population, and a low proportion of the approximately 13,000 units are approaching end-of-life. Kiosk style transformers have been in use for longer than padmount transformers and as a result there are a higher proportion of these transformers that are nearing end-of-life.

Figure 29. Proportion of Padmount transformers by age group

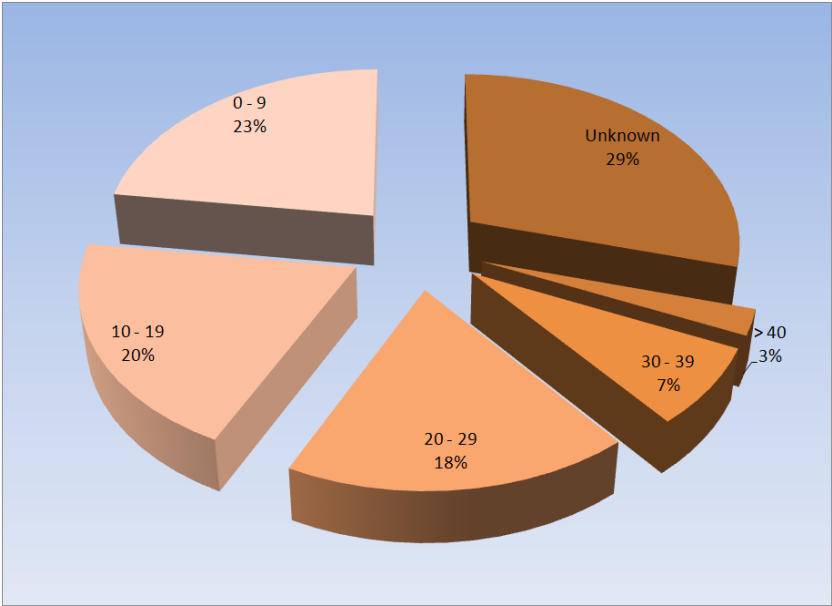
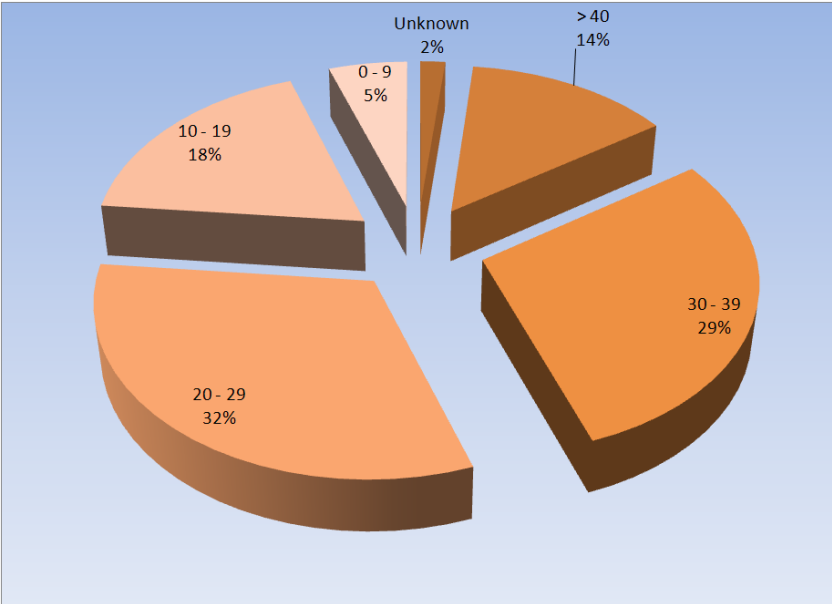


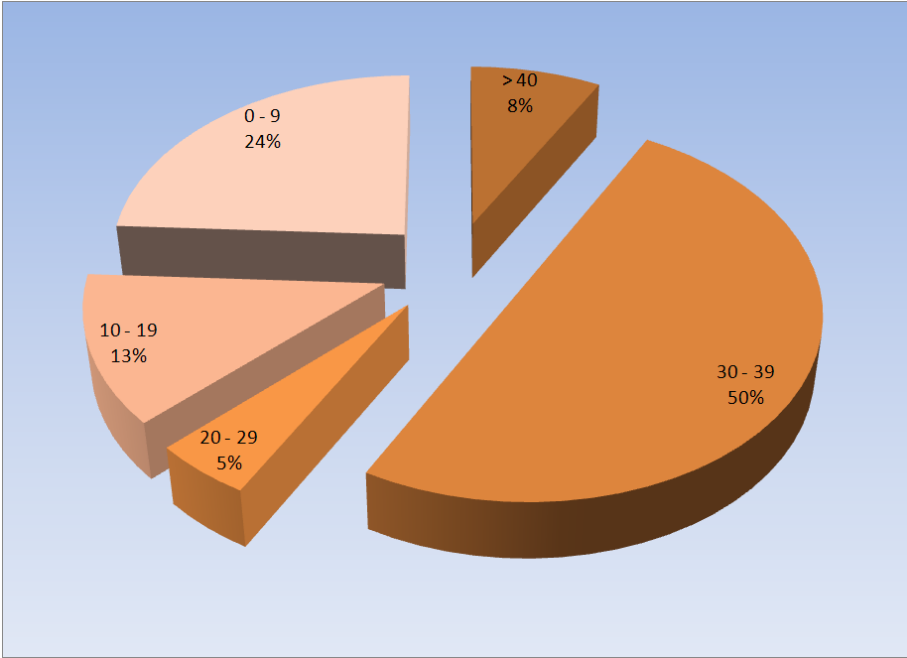
Figure 30. Proportion of Kiosk transformers by age group



Submersible Transformers Demographics

Hydro Ottawa’s submersible transformer asset class includes transformers located in sidewalk vaults in the P&Q area (region bound by King Edward Ave, Rideau St and the Rideau River), and some transformers located in smaller underground structures in the Gloucester area. The primary driver for replacements is the reduction of the potential environmental hazard that these transformers represent. Since the year 2000 this has resulted in replacement of oil filled transformers with solid dielectric models. The demographics for Hydro Ottawa’s submersible transformers have been extracted from the data collected during the 2007 transformer survey. The age for these assets is based on the captured manufacture date. As shown in Figure 31 more than 50% of the in service units are 30 years or greater. The 15 submersible transformers that have been installed since 2002 are solid dielectric transformers. The remaining 47 in-service submersible transformers are oil filled.

Figure 31. Proportion of Submersible Transformers by age group

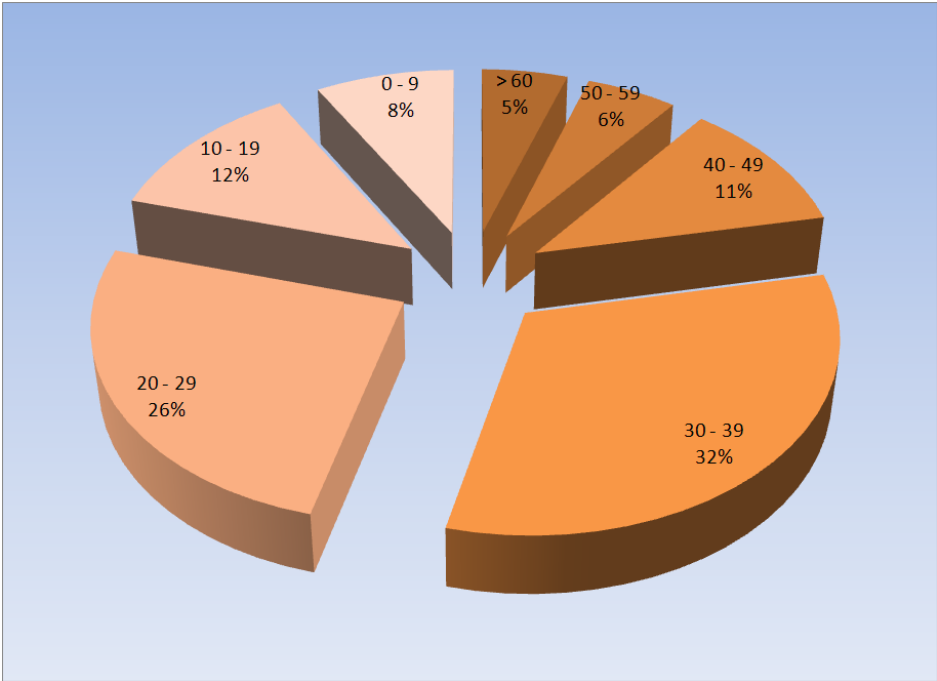


Vault Transformer Demographics

Hydro Ottawa’s vault transformers, are ‘can’ type transformers which are located in building vaults and typically service a single large customer. While located past the demarcation point, Hydro Ottawa retains the asset ownership. As these transformers are located in customer owned facilities, the legal results in the case of catastrophic failure can be significant. Currently Hydro Ottawa owns approximately 3,000 vault transformers.

Asset Demographics on Hydro Ottawa’s Vault transformer population are available from the GIS. Purchase date has been used to approximate asset age as manufacture and installation date are not consistently available. The population demographics are shown in Figure 32. Currently, more than half the Hydro Ottawa Owned vault transformers are over 30 years of age and almost a quarter are greater than 40 years old.

Figure 32. Proportion of Vault Transformers by age group



Underground Transformer Health Index

Age can be related to the condition of distribution transformers, yet it is not a linear relationship. The life of a transformer’s internal insulation is related to temperature-rise and duration, therefore transformer life is affected by electrical loading profiles and ambient temperature changes. Other factors such as mechanical damage, exposure to corrosive salts, and voltage surges also have a strong effect.

While not currently available, in the future the impacts of transformer service condition should be integrated into Hydro Ottawa’s asset planning criteria. 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. With the appropriate software tools, load and temperature information, can be used to estimate of transformer condition.

At this time there is no centralized data available on the condition of these assets, therefore the current asset evaluation has been based upon transformer age demographics alone. The exception to this is Hydro Ottawa’s submersible transformer population. The primary mode of failure for these units is corrosion leading to leaking of oil. The degradation of these submersible transformers is caused by the local operating conditions in the vault, such as the frequency of flooding and the concentration of corrosive salts in the flood water. The submersible asset base is sufficiently small that the program moving forward will be inspection driven to identify those units which have reached end-of-life due to corrosion and pose a risk of oil release.

External Drivers

Federal Regulation SOR 2008-273 dictates that all underground equipment with oil containing PCBs in concentrations of 50 mg/kg or greater must be removed from service by 2009 or 2025 dependant on the equipment location and concentration. As of the beginning of 2010, all padmount and kiosk transformers which were determined to have PCB contents in the range of 50mg/kg, have been removed from service. Currently outstanding are Hydro Ottawa’s vault transformers, there are a total of 57 transformers located in 36 vaults for which an end of use extension has been received to the end of 2011 for the removal. The replacement of the 63 transformers at these locations with PCB concentrations greater than 50mg/kg is planned for 2010. There are an additional 86 vaults containing 164 transformers which will require replacement under the regulation by 2025.

Underground Transformer Failure Correlation

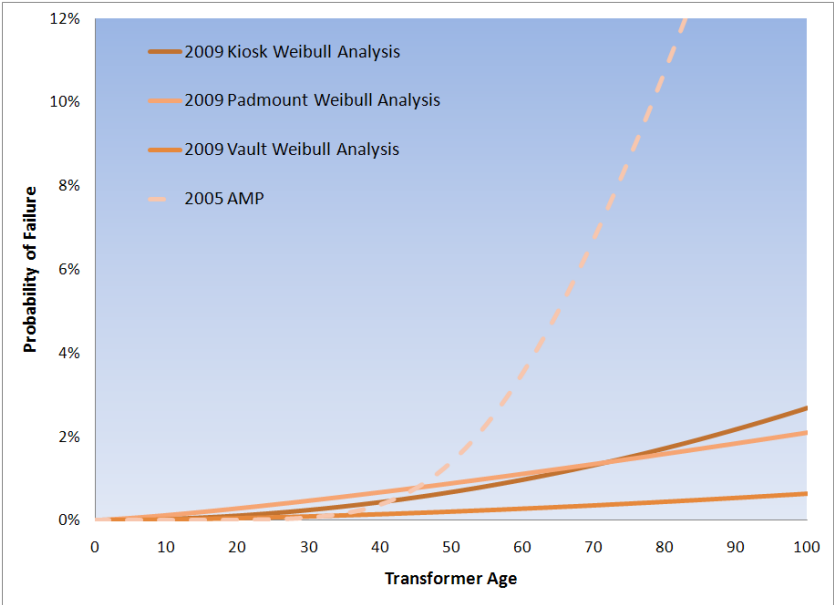
The annual transformer failure rates shown in Table 12 have been extracted from the Hydro Ottawa’s interruption database. Asset failure curves have been estimated through Weibull analysis, the results are shown in Figure 33. These curves have been estimated using hazard fitting using current asset demographics and failure data. In addition the old Ottawa Hydro transformer age at failure records from 1990-1999 have been used as a point of comparison and to inform the statistical fitting. As there have been no recorded submersible transformer failures in the data range, it has not been possible to perform this analysis on these assets. It can be seen that the current fitting indicates a much longer asset life than was presumed in the 2005 AMP. Records indicate a similar hazard rate for both kiosk and padmount transformers as such they may be considered concurrently in future analysis.

The gradual rise on the failure curve indicates a potentially low correlation to asset age and a larger component of asset failure predicated on operating conditions. Future data should be collected to clarify the contributing aspects. In the meantime, these curves provide a sufficient initial baseline for directing replacement activities although the programs should be tempered based on this uncertainty.

Table 12. Historical Underground Transformer Failures

Consequence Score	Kiosk	Padmount	Vault	Submersible
2003	7	27	1	0
2004	5	28	3	0
2005	2	29	3	0
2006	4	29	0	0
2007	3	22	3	0
2008	2	22	7	0
2009	3	24	3	0

Figure 33. **Underground Transformer Failure rates**



Underground Transformer Failure Consequence

The first step in assessing the consequence cost of failure is to summarize the expected effects of failure. In general, these will include some or all of the following:

- Customer outage effects. This will include "event" effects due to the outage (SAIFI), "duration" effects (SAIDI), and effects on critical customers.
- Health and safety consequences.
- Environmental consequences.

Kiosk and Padmount transformer Failure Consequence

Customer Service reliability

In the event of a kiosk or padmount transformer failure the interruption of supply to the customers connected to the unit will result in an:

1. Impact on the system SAIFI – that is the number of customers which are interrupted
2. Impact on the system SAIDI – that is the product of the number of customers interrupted, and the duration of the event (cust- hrs)

The number of customers which are interrupted due to a failure is minimal. The number of affected customers is approximated by the number of customers normally serviced from the transformer. This customer count is normalized into a scale from 0-1, with 1 representing a customer count of 25 or more.

The duration of an outage resulting from a transformer failure is not clearly dependant on the transformer parameters. Therefore the average contribution to SAIDI score is assumed to primarily vary based on the number of customers which will be affected, which has been considered in the SAIFI score.

Health and Safety Consequences

Live-front transformers present a higher potential hazard, flash and contact hazard than new dead-front elbow connected units. While not strictly a failure consequence an additional score of one has been added to the consequence scale for live-front gear.

Environmental Consequence

Failure of padmounted and kiosk transformers may result in the release of oil into the surrounding environment. Meaningful differentiation of this consequence from transformer to transformer is not possible, in response current practice has applied a score of 1 to all oil filled transformers due to the potential environmental consequence.

Submersible Transformer Failure Consequence

Customer Service reliability

While there will be customer service outcomes to a failure of a submersible transformer, these have been neglected in the current analysis as the primary driver and concern for this asset is the environmental consequence.

Environmental Consequence

The primary mode of concern from the failure of a submersible transformer is the potential for the release of oil to the environment. As the majority of the aged transformers are located in sidewalk vaults, which are directly sewer connected, the release of oil from these units will have a significant impact. Meaningful differentiation of this consequence from transformer to transformer is not possible. The current approach is to assume equivalent consequence for all submersible transformers and to manage the program to minimize the probability of failure through annual inspection and replacement.

Vault Transformers Failure Consequence

Currently age related vault transformer replacement has been superseded due to the regulatory requirement to replace all PCB containing transformers. The individual vault replacement has been prioritized based on an environmental consequence score. The consequence score was based on the average normalized PCB content in the contaminated transformers in the vault, and whether the transformer is located in a sensitive area as defined by the regulation.

Assessment of Underground Transformer Asset class

Projections

Being able to predict long term replacement rates is beneficial in avoiding major spending due to plant failure or an aging asset group. Maximum and minimum replacement levels are determined by analyzing demographic information and failure history.

A maximum replacement rate is determined to avoid population spikes created from a large number of installations done in a particular year. Using population demographics and a financial end-of-life of 25 years for underground transformers and 30 years for vault transformers, a levelized replacement rate can be calculated to avoid large replacement peaks. The resulting levelized replacement rates are summarized in Table 13.

Minimum replacement rate is determined by evaluating historical failure data and the probability of failure at a particular age. Once a probability of failure is determined, predictive analysis can be completed depicting the future failure rate of the asset. Doing active replacements can be incorporated into this analysis to show the effects of varying replacement rates on failures. The results of this analysis are discussed below for each transformer type.

Table 13. Maximum/Minimum Replacement Rates

Transformer Type	Min/Max Replacement rate (units/year)
Kiosk	71
Padmount	520
Submersible	2
Vault	102

Padmount and Kiosk transformers

Predictive analysis has been carried out on Hydro Ottawa’s kiosk and padmount transformers, the results depicting the future failure rate of the asset are shown in Figure 34 & Figure 35.

Based on projected failure rates the minimum replacement rate under a replace on failure model will result, in an average of approximately 6 kiosk transformers annually over the next 10 years. Based on current failure projections, a replacement rate of 30 to 50 units per year would result in a maintained failure rate in the current range of approximately 4 units per year.

Minimum replacement rate for padmount transformers from 2011 to 2020 is 44 units per year. Based on the current failure curves, a replacement rate of 300-400 transformers per year will maintain failure rates in the current range of roughly 30 units per year.

Currently a less aggressive program than the recommended 300-400 units annually will be undertaken, targeting instead of 15 to 20 padmount and kiosk transformers annually. This tempered approach is the result of uncertainty in the age to failure correlation used in current projections, and resource constraints due to the superseding replacement of PCB containing transformers.

Figure 34. Recommended Kiosk Replacement rate based on projected failures

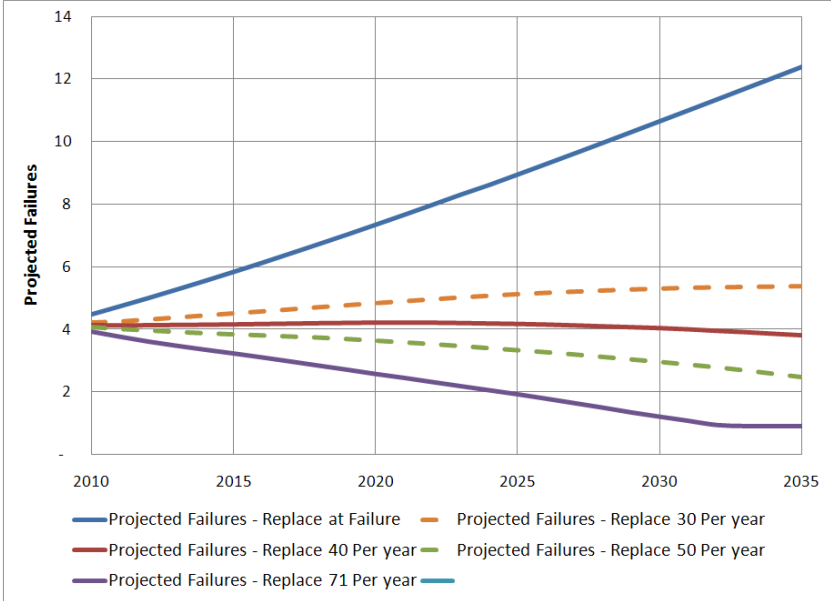
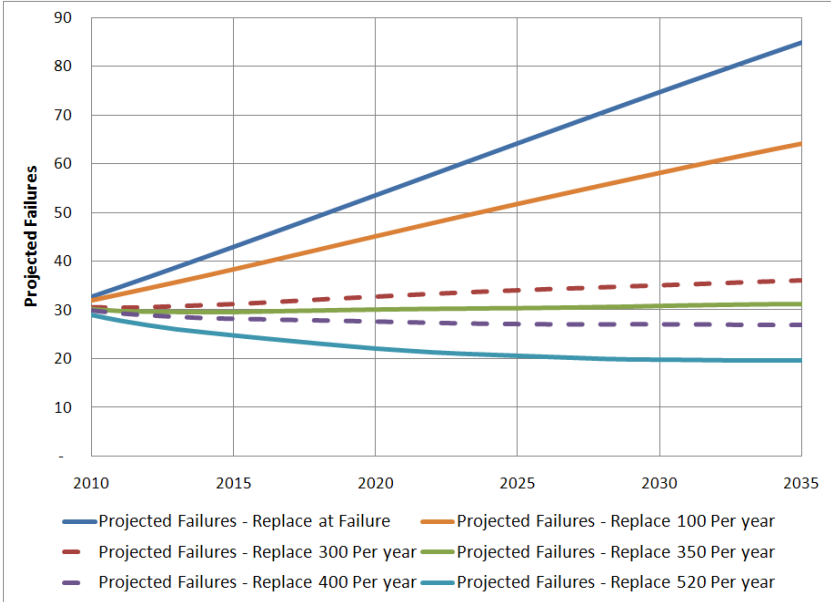


Figure 35. Recommended Padmount Replacement rate based on projected failures



Submersible transformers

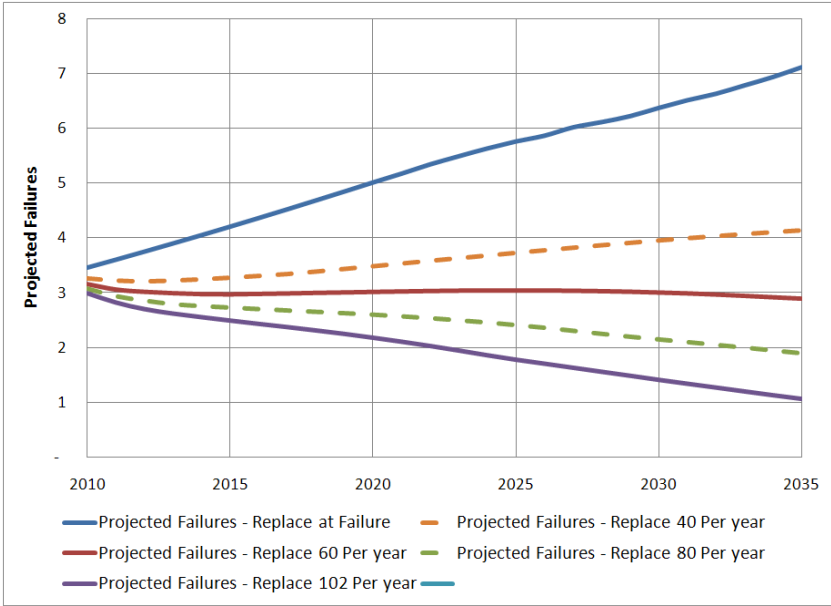
There is currently insufficient information from which to project submersible transformer failures. While detailed condition data is not currently available for these transformers reports from the field indicate that a significant portion of these units are beginning to corrode. As a result it is recommended that a replacement rate of 2-3 units per year is undertaken to address those identified through inspection to pose a risk of oil release.

Vault transformers

Predictive analysis has been carried out on Hydro Ottawa’s Vault transformer assets, the results depicting the future failure rate of the asset are shown in Figure 36. Based on this analysis the minimum average replacement rate for padmount transformers from 2011 to 2020 is 4 units per year. Based on current projection a replacement rate of 40 to 80 transformers per annum is expected to maintain the current failure rate in the current range of roughly 3 per year. The current replacement will meet this target, yet it will be driven by regulatory obligation to retire PCB containing equipment from the Hydro Ottawa system, rather than transformer condition or age.

While PCB driven replacements will not target the worst condition or oldest units, the program will reduce the overall risk of this asset class through a large renewal of the asset base. As vault transformers are most commonly arranged in a 3-phase bank or matched transformers to address 164 PCB containing vault transformers it is anticipated that roughly 250-300 units will require replacement or a levelized 60 units/annually over the next 5 years.

Figure 36. Recommended Vault Replacement rate based on projected failures



Kiosk and Padmount Transformer Asset Rating

Kiosk and padmount transformer replacements are currently prioritized in two stages:

1. Transformers have been individually scored using a normalized Hazard rating based on the failure correlation, and a consequence score.
2. All the Padmount and Kiosk transformers in the distribution system have been grouped geographically in to a grid with cells measuring 0.5km by 0.75km each of these cells representing a discrete replacement project. These projects have then been prioritized based on the percentage of transformers in that region meeting or exceeding a risk threshold of 9 (risk is the product of condition and consequence).

Submersible Transformers Asset Rating

Ongoing visual inspection will be used to prioritize the replacement of Hydro Ottawa's submersible transformers. Tank failure leading to release of oil is the primary mode of failure for these transformers as a result of the corrosive environment in which they operate. Extent of tank degradation will be the primary prioritizing factor utilized to prioritize future replacement.

Vault Transformers Asset Rating

As current vault transformer replacements are driven by regulatory obligations, a simplified prioritization system has been utilized for these transformers, ranking them by the quantity of PCBs, whether the vault is located in a sensitive area as defined by SOR2008-273 and the transformer probability of failure based on age. While it would be preferable to target the vaults in there prioritized order, customer scheduling and availability of transformers heavily impacts the order in which these replacements take place.

Underground Civil Structures

Hydro Ottawa's Underground Civil Structure asset class consists of underground duct banks, hand holes and various types of underground chambers forming a network through which underground cables may be installed. Distribution underground civil structures are used in areas where underground wiring is required, to improve reliability, to reduce the time to access and correct faulty wiring, to permit access in congested areas and to allow re-entry or expansion in areas where further excavation would be costly.

For the purposes of developing the asset management plan for underground civil structures, the asset has been broken into two primary groups, Duct Structures and Underground Chambers. While duct structures are run to the unlikely event that they fail, underground chambers are maintained through a replacement and rehabilitation program based on regular condition assessment. Based on the currently available inspection data it is recommended that the program target a minimum of 10 underground chambers a year until 2014. Underground chambers are a low complexity project with a cost ranging from \$20,000 for the repair/replacement of a structure roof to \$60,000 for a complete rebuild.



Duct Structures

There are many sizes and configurations of concrete encased and direct buried duct banks throughout the Hydro Ottawa system. The current duct demographics by type are surmised in Table 14. Detailed asset management review of Hydro Ottawa's duct systems has not been undertaken as it is HOL's practice to replace duct systems only in the unlikely event that they fail (e.g. collapse of very old clay tile ducts). This conforms to standard industry practice and is a prudent approach because of the inherently long and trouble-free life associated with underground duct systems. HOL has had few duct failures historically evidenced by the number of interruptions due to duct system failures, shown in Table 15. Usually repair or rebuilding of duct systems is necessary only when the structures are disrupted by construction of adjacent buildings, other utilities or roadwork. This assumption can be re-verified in future asset management planning work.

Table 14. Summary of Duct Bank Asset

Type	Structure Length (m)
Concrete Encased	509,470
Direct Buried Duct	667,169
Unknown/Other	50,815

Table 15. Historical Duct System Failures

Year	Interruptions Due to Duct Systems
2003	2
2004	0
2005	0
2006	0
2007	1
2008	0
2009	0

Underground Chambers and Equipment Pads

Underground cable chambers come in different styles, shapes and sizes according to the location and application (maximum cable loading must be considered). For this analysis we identified only the broad categories depending on their use and type of construction. Precast cable chambers are normally installed only outside the travelled portion of the road although some end up under the road surface after road widening. Cast-in-place cable chambers are used under the travelled portion of the road because of their strength and also because they are cheaper to rebuild if they should fail. The corollary to this is that cable chambers should be located outside the roadbed where possible, thus extending their life and permitting easier and safer access by Hydro Ottawa crews. Customer cable chambers are on customer property and are usually in a benign environment. Although they supply a specific customer, system cables loop through these chambers so other customers could also be affected by any problems. Sidewalk vaults are most often located in or adjacent to pedestrian walkways and are commonly used for installing submersible transformers or switchgear. Padmount equipment chambers are structures that provide a foundation for transformers and switchgear and access to underground wiring connected to that equipment.

Underground hand holes are simply small sized versions of cable chambers, most often used in sidewalks or under soft surfaces for gaining access to secondary services and wiring.

Underground Civil Structure Demographics

Reliable centralized demographic information is not currently available for this asset class. Thus, we collected the demographic information for these structures, shown in Table 16, from various sources. Around 1970, standards for underground cable chambers became tighter and precast structures were favoured for applications outside the travelled road surface. Equipment pads have been included as they encompass both padmounted equipment chambers and cast-in-place slab foundations in a variety of geometries.

Age distribution of HOL's handholes and manholes are shown in Figure 37 and Figure 38. As a civil structure's longevity is largely contingent on operating and external factors, age demographics have limited applicability in the asset planning process.

Table 16. Underground Civil Structure Demographics

Civil Structure Type	Pre 1970	Post 1970	Unknown	Total
Manholes	367	1,562	969	2,898
Precast	144	659	428	1,231
Cast in Place	223	887	508	1,618
Unknown/other	-	5	10	15
Pre-Cast Switch Manhole	-	11	23	34
Handholes	8	230	134	372
Sidewalk Vaults	-	-	52	52
Equipment Pad	-	286	17,945	18,231
Unknown Other	-	-	2,336	2,336
Primary Pedestal Pad	-	-	11	11
Secondary Pedestal Pad	-	6	2,755	2,761
Service Disconnect Pad	-	13	574	587
Switchgear Pad	-	5	265	270
Transformer Pad	-	262	12,004	12,266

Figure 37. Proportion of Manholes by age group

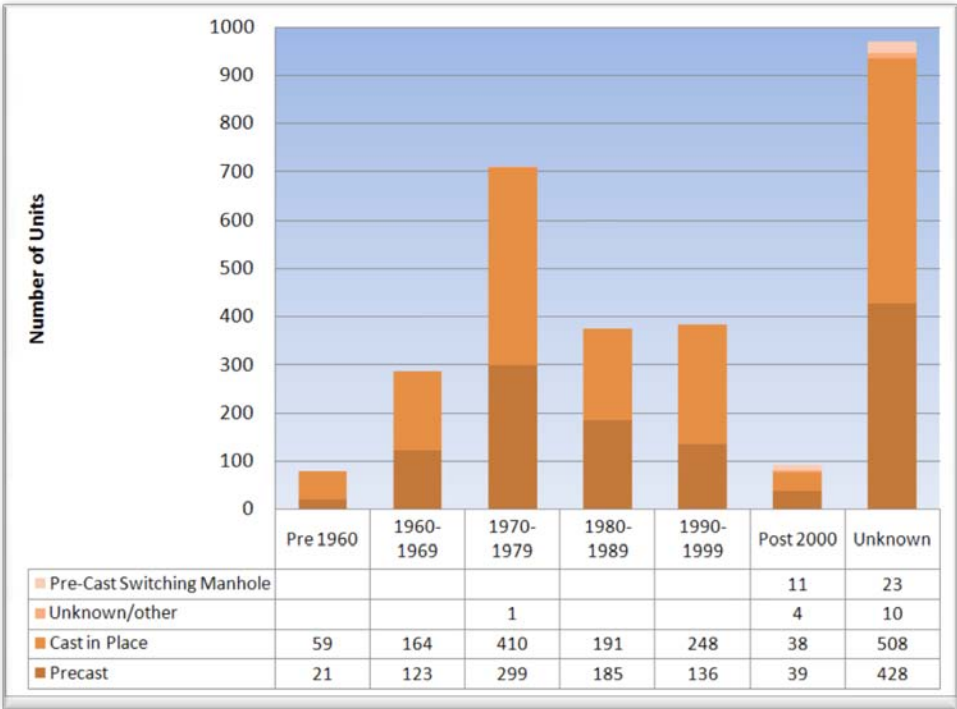
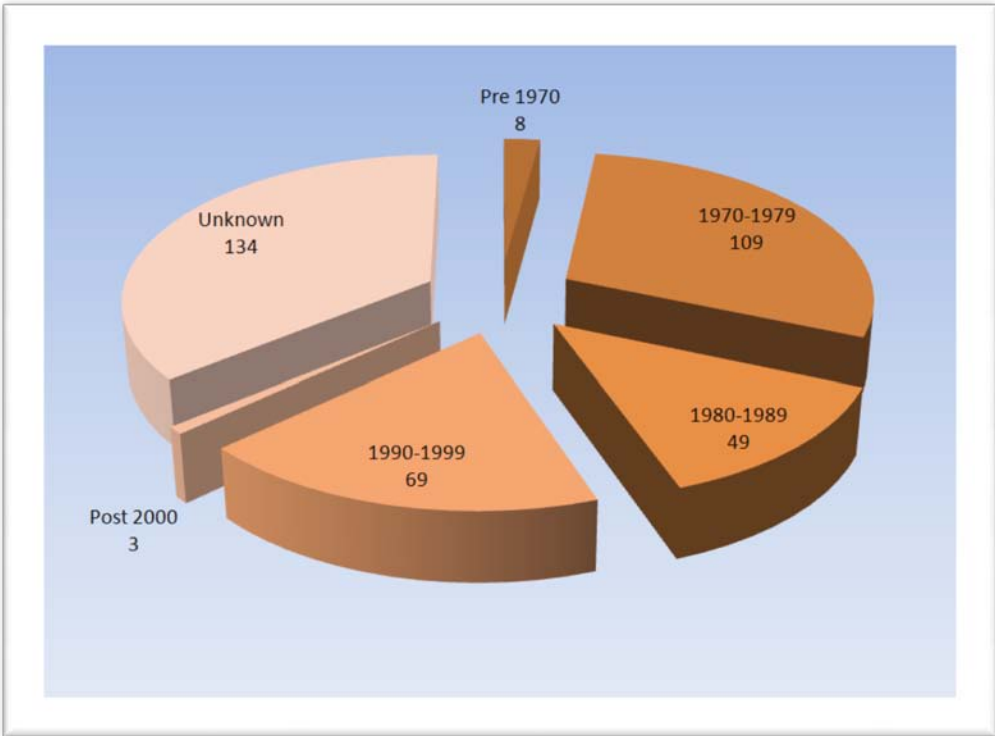


Figure 38. Proportion of Handholes by age group



Underground Civil Structure Health Index

Underground chambers are generally constructed with steel reinforced concrete. Covers and inserts are usually cast steel. Sidewalk vault access hatches and ventilation grates are often galvanized steel.

Although the condition of underground civil structures is loosely related to age, there is not always a strong correlation between the two. Other factors such as mechanical loading, exposure to corrosive salts, frequent flooding, etc. have a stronger effect. Therefore, we use a condition-based asset management program based on periodic field inspections to identify problems and rate the condition of the structure. Tracking the results of these inspections will show the rate of deterioration and provide advance notice of impending work to correct any problems. Some underground chambers may only need cleaning, pumping out or repairs to frames and covers or vault doors and grates. This work is not capitalized and is not covered in this report. Major rebuilding of the walls and/or roof is capitalized. When third party work is being done, the opportunity is taken to rehabilitate the structure as required without the extra cost of reinstatement.

Deterioration of aging concrete structures is generally manifested by concrete spalling, leading to exposure and corrosion of the reinforcing steel. Water entering cracks in the masonry may freeze in the winter causing the surface layers of the concrete to pop off and further expose the reinforcing steel.

Currently Hydro Ottawa maintains a regular inspection program of its underground chambers, which is administered by both HOL crews and external contractors. Inspection of underground civil structures involves a condition assessment and rating from 0 to 5 for the roof, collar, walls and floor in accordance with Table 17.

Table 17. Ratings for Underground Civil Structure

Condition	0	1	2	3	4	5
Description	Very Good	Good	Fair	Poor	Very Poor	Critical
Criteria	No significant deterioration.	Minor hairline cracks or minor spalling.	Large cracks and some spalling.	Very large cracks and significant spalling.	Major spalling & cracks reaching the steel rebar, concrete falling, some rusting.	Concrete has deteriorated, large amounts of steel showing & strength of rebar is questionable.

The overall condition rating for a structure is obtained by summing the products of condition factor and weighting (roof-3, collar-2, walls -1, floor -1). Therefore, the maximum score for any structure is 35.

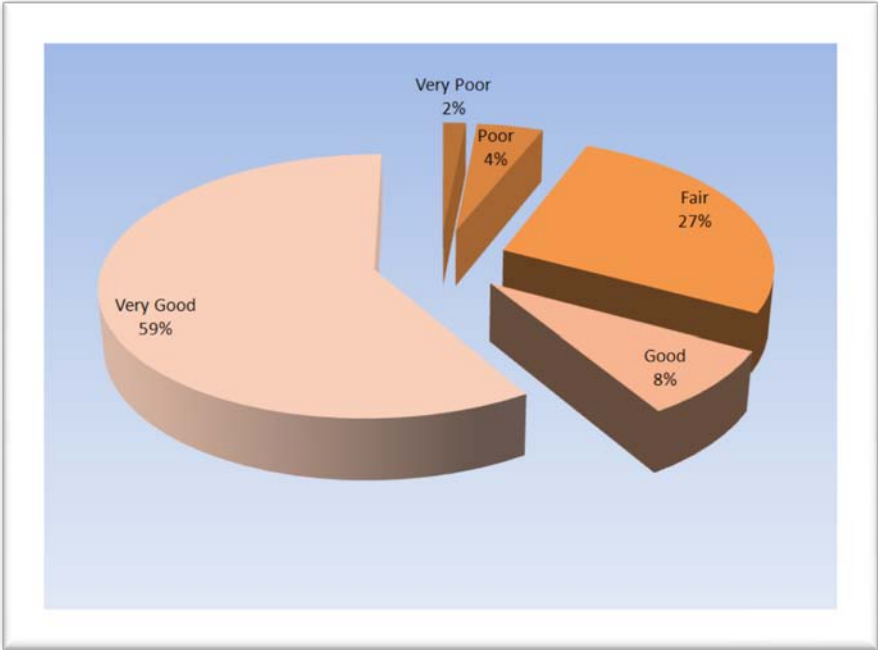
$$\text{Health Index} = (1 - \text{Actual total score} / \text{maximum total score}) * 100$$

Table 18. Asset rating Scale

Health Index	Condition	Requirements
90 - 100	Very Good	Normal inspection and maintenance
80 – 90	Good	Normal inspection and maintenance
65 – 80	Fair	Place structure on a list for more in-depth inspection.
50 – 65	Poor	Start planning process for rebuilding.
0 - 50	Very Poor	At end of life. Rebuild as soon as practicable.

Inspection results are collected and inputted into a centralized inspection database by a number of parties involved in the inspection program. In 2009 it was discovered that there were several copies of the same database and as such the records were not being centralized. As a result compilation of the inspection records has been temporarily halted and work is underway to amalgamate the existing databases and future data collection into Hydro Ottawa’s GIS. This has resulted in the available data to be lacking some of the most recent inspections. Regardless, this information provides the best available information for the review of asset condition, shown in Figure 39.

Figure 39. Proportion of inspected underground chambers by condition rating



Underground Civil Structure Failure Correlation

There have been no recorded chamber failures from which to perform failure analysis. Moving forward detailed review and tracking of the degradation of Hydro Ottawa’s underground chamber assets is necessary to assess and project medium and long term asset performance.

Underground Civil Structure Failure Consequence

As Hydro Ottawa practice is to maintain its underground chambers proactively this asset is not a significant risk item due to its extremely low consequence of failure (essentially zero) since probability of failure is addressed easily before collapse or other manifestation. However, it is important to highlight that this course of action is the result of the high consequence cost that would result from a collapse or other failure mechanisms. As most underground chambers are located in roadways and sidewalks in the case of a collapse there is a strong possibility of injury to the public and potentially significant damage to Hydro Ottawa’s corporate image.

Assessment of Underground Civil Structure Asset Class

Projections

Being able to predict long term replacement rates is beneficial in avoiding major spending due to plant failure or an aging asset group. Maximum and minimum replacement levels are determined by analyzing demographic information and failure history.

A maximum replacement rate is determined to avoid population spikes created from a large number of installations done in a particular year. Using population demographics and a financial end-of-life of 40 years, a levelized replacement rate can be calculated to avoid large replacement peaks. This analysis is shown in Table 19. The levelized replacement rate was calculated to be approximately 73 units per year for manholes and sidewalk vaults.

The current minimum replacement rate has been determined by evaluating the number of chambers which have been determined to be end-of-life (very poor condition), based on a levelized approach a minimum of 10 units per year should be repaired over the next 5 years.

Table 19. Maximum/Minimum replacement rates

Civil Structure	Minimum	Maximum
Manholes/Sidewalk Vaults	10	73
Hand-holes	0	9
Equipment Pads	0	456

It is recommended that the current spending rate of \$500,000-\$600,000 is maintained, as there is a continued backlog of civil structures in Very Poor Condition. This budgetary figure is representative of the

rehabilitation/replacement of 12 or more underground chambers, typical cost of rehabilitation and replacement are \$20,000 and \$60,000 respectively.

The available information does not enable rigorous projection of long-term replacement requirement and rehabilitation requirements. As a baseline the rate of degradation for a chamber has been estimated linearly, fitting structure age to its condition score, resulting in an estimated annual degradation 0.11 points. This projection indicates that following 2015 the spending rate in this category may be reduced beyond 2015, targeting rehabilitation/ replacement of 1-2 chambers per year.

Asset Rating

Assessment and prioritization of HOLs civil structures has been based on condition. The structure condition score from 0-100 has been converted into a score from 4-0. An additional ranking factor has been added to aid in prioritization between structures in poor condition based on the location of the manhole cover. The scoring is surmised in Table 20. The location condition score is normalized to a maximum of 1 and added to 0-4 condition score.

Based on the rating of the individual manhole components it is identified if a complete replacement is necessary or simply a rebuild. If both the floor and walls are in Very Good to Fair condition simply a roof replacement is necessary, otherwise, a full replacement of the structure is targeted.

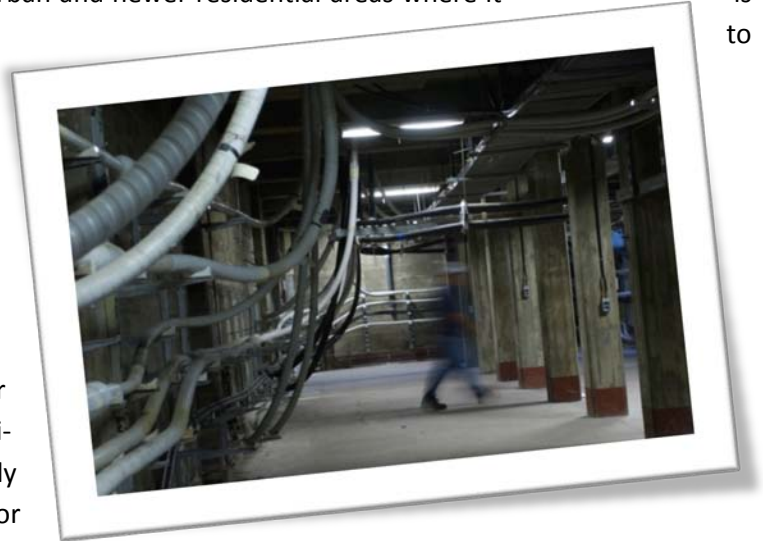
Table 20. Location Condition score

Score	Cover Location
3	Roadway
2	Sidewalk
1	Other

Distribution Cable

Hydro Ottawa’s underground cable asset class includes sections of underground cable running from distribution stations to overhead lines and from overhead lines to transformers and switches. Distribution underground cables are used mainly in urban and newer residential areas where it is either impossible or extremely difficult to build overhead lines due to aesthetic, legal, environmental or safety reasons. The configuration of the underground system is mainly looped.

The consequence of a cable failure depends if it used as trunk or distribution. A failure on trunk cable can result in an outage to thousands of customers for several hours whereas a failure on distribution cable will result in a failure to only a few hundred customers for an hour or two.



Distribution Cable Demographics

There is approximately 5000km of underground cable installed in the Hydro Ottawa service territory. The breakdown between type of cable is: 80% XLPE, 20% PILC, and <1% Butyl rubber. The age distribution is illustrated in the figures below. The breakdown between the various voltage classes is shown in Table 21.

Table 21. Cable Length per Voltage Class

Voltage Class	Cable Length (km)
44kV	21
27.6kV	1,580
13.2kV	1,999
12.43kV	75
8.32kV	743
4.16kV	577
Total	4,995

Demographic information for the underground cables has been collected from various historical records and sources. Lead cable has been installed as far back as the 1930s however, only information from 1966 to present is known. There is still about 14 km of butyl rubber cable, installed in the Nepean area, which is still in service.

Figure 40. Proportion of XLPE by age group

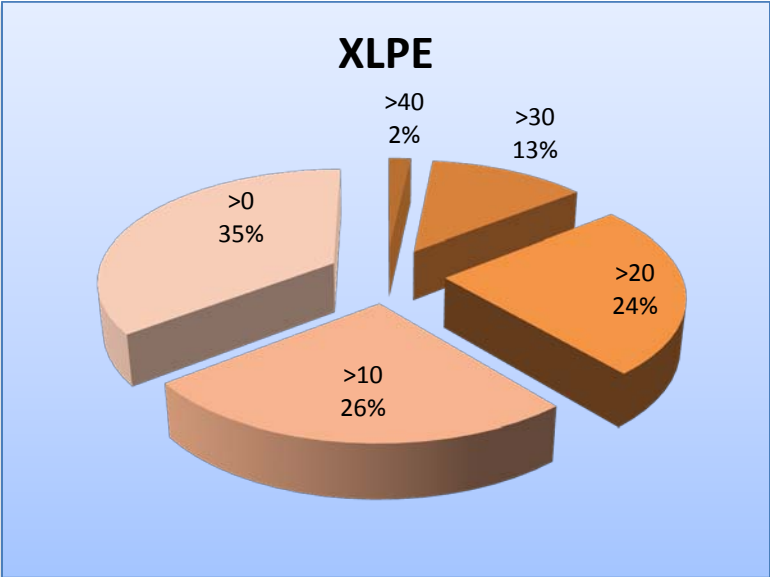


Figure 41. Proportion of PILC by Age Group

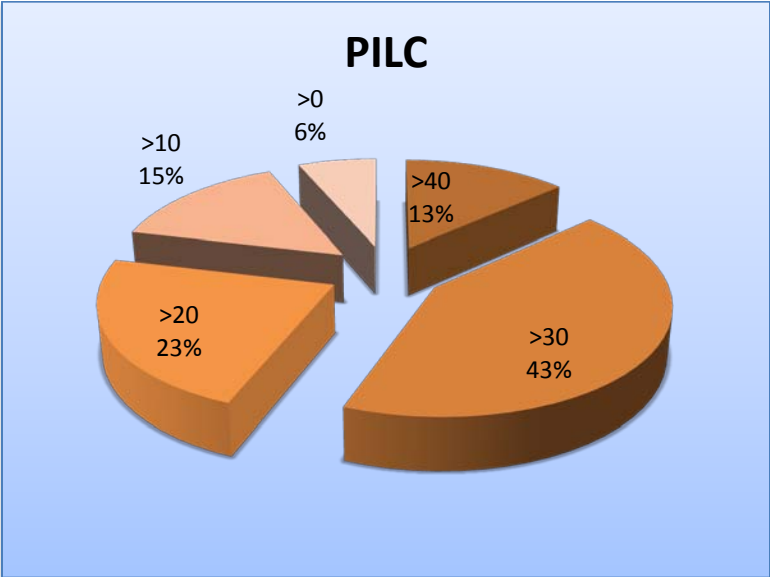
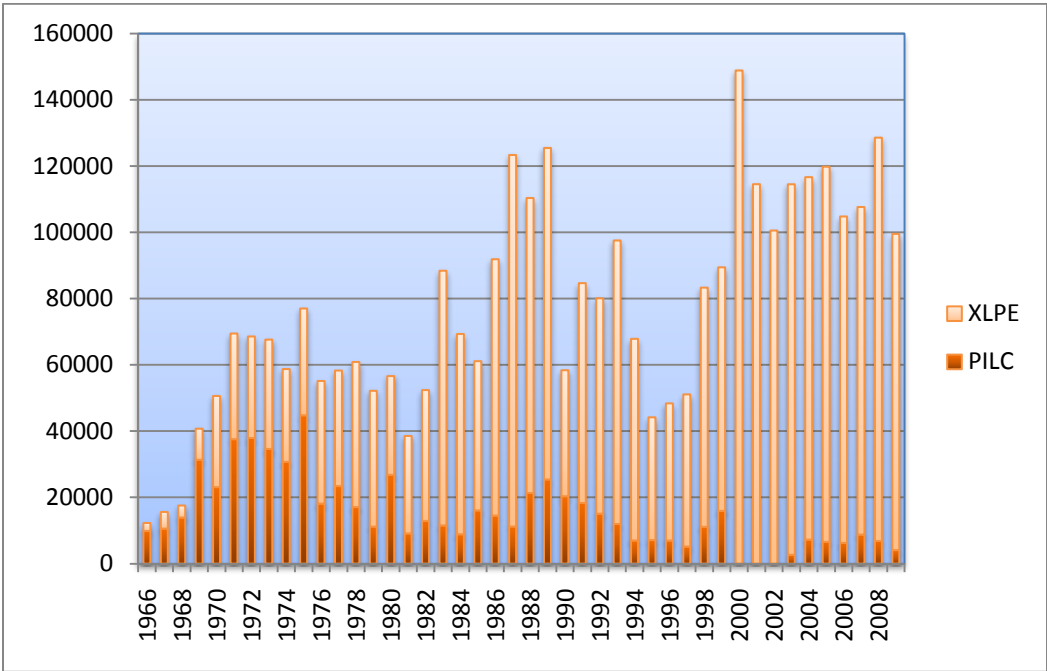


Figure 42. **Underground Cable Demographics**



Distribution Cable Health Index

Developing a health index is important for prioritizing projects for replacement based on the worst condition of a population. The underground cable health index has been evaluated based on the number of recent faults a feeder has seen in the last few years. The number of faults is then compared for each feeder in relation to the maximum number of faults a feeder has seen. The following equation is used:

$$Health\ Index = \frac{\#\ of\ Faults}{Max\ number\ of\ Faults}$$

Due to the lack of available data, the underground cable health index is not as complete as it could be. More detailed and accurate information on cable age, type and condition should be collected through inspection and survey programs. By determining the age and type of the cable, life expectancy can be derived for each type of cable in our system and used to flag cable segments which are nearing end-of-life. A condition based health index can be developed through testing methods which are not currently being used by Hydro Ottawa. As an alternative to cable replacement, Hydro Ottawa is currently evaluating cable rejuvenation which can considerably extend the remaining life. Cable rejuvenation is usually a less expensive alternative to cable replacement as it does not require much new material or construction costs.

Distribution Cable Failure Correlation

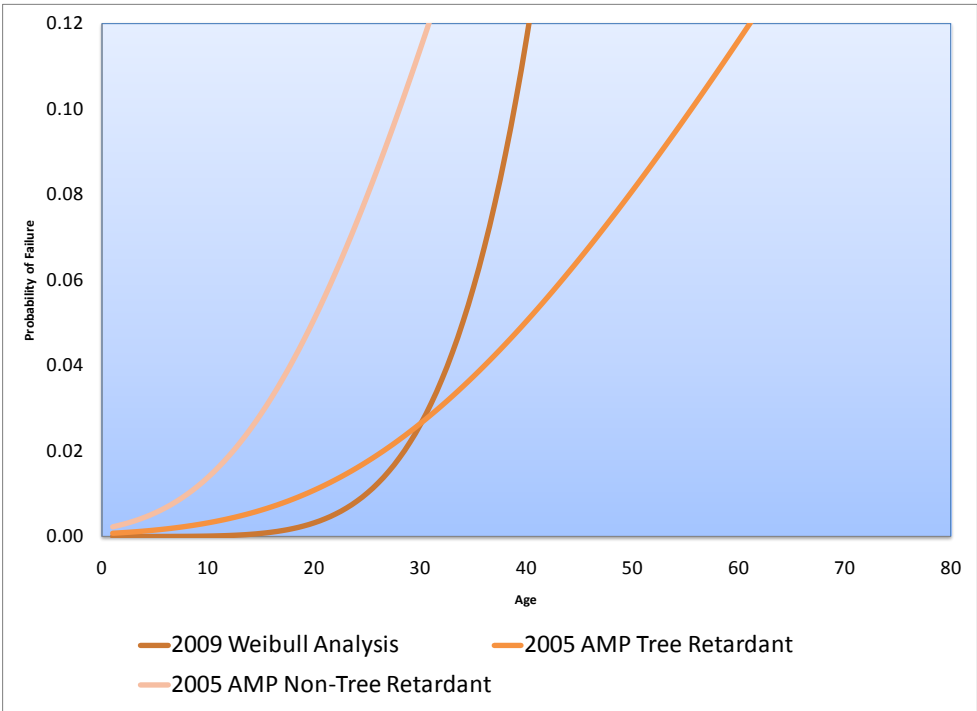
Failure correlation is used to determine the expected failure rate of an asset group. This can be used to determine the appropriate replacement age before failure.

The curve used in the analysis is a calculated Weibull probability, for XLPE cable, based on the age at failure and is calculated using the MLE analytical approach. Assumptions for XLPE cable age were made based on the age of the transformers in the location of the fault. This translates into the failure probability curve shown in Figure 43 below and is compared with the previous AMP estimations which used a normal distribution with a mean of 25 and 40 years and a standard deviation of 10 and 15 years for non-tree retardant and tree-retardant cable respectively.

Because of the long term reliability of the lead cable and limited failure information, no failure probability curve was developed.

The curve developed below should only be used for short term projections. As inspection processes develop and failure data is recorded with more detail, the Weibull curve will be updated to more accurately represent long term projected failures.

Figure 43. Failure Probability XLPE (Tree Retardant and Non-Tree Retardant)



Distribution Cable Failure Consequence

Evaluating the consequence of failure allows for comparison within the asset class to determine the most crucial pieces of equipment. These consequence factors are based on corporate objective and not the health of the equipment.

The consequence used for this asset class is based on the total number of customers that could be affected by a cable fault on a feeder. The customer number is then compared with the maximum number of customers on any feeder to give a value of 0-1. The following equation is used:

$$\text{Consequence Score} = \frac{\# \text{ of Customers}}{\text{Max Customers}}$$

Assessment of Distribution Cable Asset Class

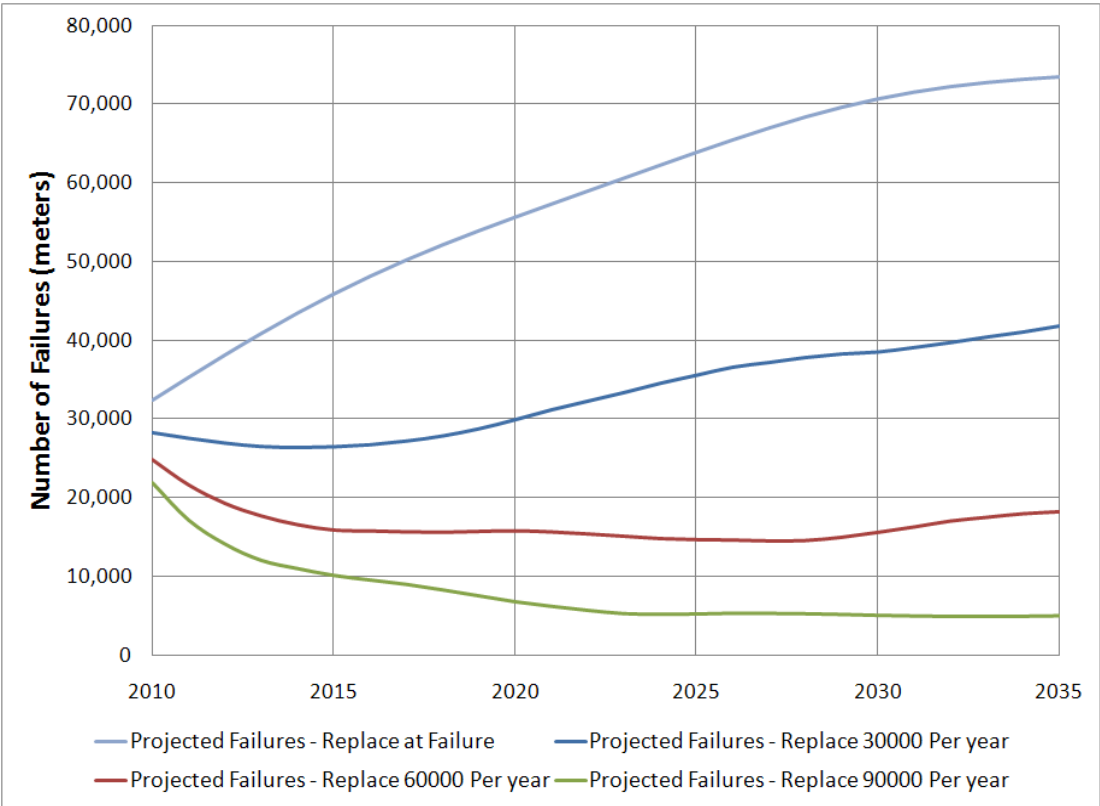
Projections

Being able to predict long term replacement rates is beneficial in avoiding major spending due to plant failure or an aging asset group. Maximum and minimum replacement levels are determined by analyzing demographic information and failure history.

The figure below shows the number of replacements for XLPE cable required per year based on the number of units which have reached or exceeded financial life expectancy of 30 years. The large concentration in the initial year is indicative that a large number of units are already past their financial life. Also shown is a levelized replacement rate which is the maximum rate required to avoid the replacement of a large number of units in a particular year due to a peak installation period.

The minimum replacement rate is determined by evaluating historical failure data and the probability of failure at a particular age. Once a probability of failure is determined, a predictive analysis can be completed depicting the future failure rate of the asset. Replacement rates can be incorporated into this analysis showing the affects of active replacement on failure rates. This analysis is shown in Figure 44.

Figure 44. **Recommended Replacement rate based on projected failures**



Asset Rating

There is approximately 5000km of underground cable installed in the Hydro Ottawa service territory. The breakdown between type of cable is: 80% XLPE, 20% PILC, and <1% Butyl rubber.

Reviewing the outage history over the last 3 years reveals the most problematic feeders. This prioritizes the list and is used as a guide for determining replacement projects.

Feeder ID	Outages				3yr Total	Total Out-ages	Overall Outage Score
	2007	2008	2009	2010			
77M2	3	1	1		5	12	1
77M1	2		2	1	5	9	1
3F3		1	4		5	7	1
77M6		4	1		5	7	1
QT39F3	2	2			4	6	0.8
2207	1	2	1		4	4	0.8
LEI-F1	1	2	1		4	4	0.8
8F3	3				3	7	0.6
4F8	2	1			3	5	0.6
AN05	1	2			3	4	0.6
UA06	1	2			3	4	0.6
140F4	2	1			3	3	0.6
624F4	3				3	3	0.6

Replacement projects were created by reviewing customer interruptions caused by defective underground cable. Cable replacement projects will include the construction of concrete duct for trunk cable or buried PVC conduit for distribution. Often the opportunity is taken in these projects to rearrange the circuit to improve operability.

Underground Switchgear

Hydro Ottawa's Distribution Switchgear asset class consists of pad-mounted, vault installed and submersible types. There are only two submersible switches left in the system, SSW2 which is scheduled to be replaced in 2010 and SC1580 which was installed in 2007. Therefore at this time the Asset Management Plan will not deal with this type of switch. Each of the other distribution switch categories has many sub-types with different insulating media (e.g. oil, air, SF6) and various interrupting styles and media (e.g. fuse, re-settable fault interrupter, oil circuit breaker, vacuum circuit breaker, etc.). Wall-mounted, stick-operated switches, although not strictly "switchgear", are included in this asset class as well. Because former utilities had widely varying policies for servicing customers, there are many different configurations of switchgear in service. Hydro Ottawa is still developing policies and procedures for dealing with these issues in a consistent manner.

In the meantime, Hydro Ottawa maintains an interest in the condition of customer owned switchgear that is connected to the Hydro system. For any primary service that has connections to more than one circuit, Hydro Ottawa retains control over the incoming line switches in the switchgear. This is important to ensure the integrity of the system and the continuity of supply to other customers. Because of its interest in the safety of the customer's switchgear installation, Hydro Ottawa has mandatory inspection, cleaning and maintenance regimes that customers must follow to reduce the risk of eventful failures. However, apart from providing a safe power shutdown for the maintenance work to take place, Hydro Ottawa has no financial responsibility so this switchgear is not considered a utility asset.

Currently Hydro Ottawa follows standard industry practice of running distribution switchgear to end-of-life. This practice of running to near failure practice is supported by regular inspection, maintenance and a planned replacement as gear is identified to be end-of-life. The currently recommended replacement rate of 3-4 air-insulated units per year has been set to deal with those units which have been identified to be at end-of-life, due to chronic maintenance requirements and/or reliability issues, and/or presence of potential health and safety hazards. Padmount distribution switchgear replacement is a medium complexity project costing \$50,000 to \$100,000.

Underground Switchgear Demographics

For any Asset Management process demographic information on the assets is fundamental. This is information such as quantities, location, types and age. Detailed records do not exist for this asset class and as such the current asset demographics have been estimated using available records from existing data repositories, these are shown in Table 22. While these estimates provide an initial baseline for analysis, collection and consistent representation of switchgear information in a centralized repository is essential to enable accurate asset assessment in the future.

Table 22. Underground Switchgear Population

Padmounted Switchgear		
Switch Type	Quantity	Assumptions/Source
Air	223	Listing being looked at under the IR Inspections
SF ₆	77	From GIS
Oil	1	From GIS
Other Switchgear	119	Difference between number above and 420 in GIS
Primary Pedestals	20	Estimated
Vault Switchgear		
Switch Type	Quantity	Assumptions/Source
Air Mtl-Clad Swgr	27	From Vault Database where Demarcation Property line
Oil Filled Swgr	19	From Vault Database where Demarcation Property line
Vacuum or SF ₆ Swgr	20	From Vault Database where Demarcation Property line
Elbows	2	From Vault Database where Demarcation Property line
Wall Mounted Switch	55	From Vault Database where Demarcation Property line
Unknown/Other	39	From Vault Database where Demarcation Property line

Underground Switchgear Health Index

A large proportion of the padmounted switchgear currently in use are air-insulated gang-operated load-break switches. This switchgear is used infrequently for switching and often loads are well below its rating. Therefore, switchgear aging and eventual end of life is established more often by rusting of the enclosures, and ingress of moisture and dirt into the switchgear causing corrosion of operating mechanism or degradation of insulated barriers. The first generation of padmounted switchgear was introduced in the early 1970s, and many of these units are still in good operating condition. The life expectancy of padmounted switchgear is impacted by a number of factors that include frequency of switching operations, load dropped, and presence of corrosive environment or dampness at the installation site. On average, padmounted switchgear, when maintained regularly, can be expected to provide a service life of 25 to 35 years.

For below grade vault applications, switchgear comes in submersible designs and is commonly either oil insulated or SF₆ insulated. For above grade vault applications, metal clad, air insulated switchgear has been used in the past, although a majority of the future installations will employ SF₆ insulated switchgear; as these designs have sealed enclosures which are better protected against dirt or moisture and are expected to provide longer life.

Hydro Ottawa follows standard industry practice of running distribution switchgear to end of life, just short of failure. To extend the life of these assets, a number of intervention strategies are employed on a regular basis: e.g. inspection with thermographic analysis and cleaning with CO₂ for air insulated padmounted switchgear; inspection and cleaning for Vault 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.

Underground Switchgear Failure Correlation

Currently there is insufficient demographic data to correlate and/or utilize failure data to project future failure rates. However, reviewing switchgear failures which have lead to sustained interruption; air-insulated live front switchgear presents the highest failure rate. As live-front switchgear can be repaired following “failure” events, there are switches in the systems which are known to pose continual reliability issues due to environmental and/or operational factors.

Year	Vault Equipment		U/G Switchgear		
	Breaker\Relay	Switch	Gas-Insulated	Air-Insulated	Primary Pedestal
2003	2	-	-	2	-
2004	-	1	-	1	-
2005	1	2	-	5	1
2006	-	1	-	5	-
2007	2	1	-	2	-
2008	2	-	1	2	-
2009	-	1	-	-	2

Underground Switchgear Failure Consequence

The first step in assessing the consequence of failure is to summarize the expected effects of failure (or event). While it is Hydro Ottawa’s current practice run switchgear to end of life, as switchgear is identified to require replacement the following consequence scoring will be applied to prioritize the replacement of individual units. This consequence scoring will include aspects of the following:

- Customer service reliability effects. This will include “event” effects due to the outage (SAIFI), “duration” effects (SAIDI), and effects on critical customers.
- Health and safety consequences.
- Environmental consequences.

Customer Service reliability

A major switchgear failure requires either the replacement of the switchgear or a lengthy repair or replacement of a key component or assembly. Failures of this nature usually result from electrical arcs initiated by rodents, accumulated dirt/pollution or loss of insulating medium. Inspection, periodic cleaning and replacement of components (when warranted) ahead of failure can sometimes prevent the most severe effects.

In evaluation of switchgear consequence based on the most likely failure mechanism the consequence will be evaluated on the expected customer interruption and the resulting duration.

Health and Safety Consequence

Rusting of switch enclosures can lead to perforations exposing the public to a Safety Hazard. Degradation of barrier boards, insulators etc. can lead to situations which pose a potential safety risk to staff that operate these devices.

Where immediate safety hazards to HOL employees or the public exist the gear should be replaced as soon as possible, under plant failure programs.

Environmental Consequences

As the failure of a switch can lead to the release of insulating medium, in the case of oil or gas insulated gear there may be significant environmental consequence.

Weighing and Normalizing Consequence

As the switchgear rating is intended to be applied to switchgear that have been identified to be end of life the following scoring is to be applied to the most probable failure mechanism as determined by the condition of the switchgear. The recommended scoring is summarized in Table 23. The elements of the consequence score are to be added and normalized to a 1-5 scale.

Table 23. Distribution Switchgear Failure Consequence scoring

Consequence Score	Reliability – SAIFI Interruption to:	Reliability – SAIDI Outage duration of:	Environmental	Health and Safety
0	≤ 145 Customers	< 30 minutes	No Insulating Medium	
1	>145 Customers	>1 hour		
2	>1450 Customers	>2 hours		Failure to replace equipment in a timely manner may expose Public and/or Personal to a probable (1 in 1000 or greater) Safety hazard
3	>2900 Customers	>4 hours	Potential uncontrolled release of Oil, or SF6 gas.	Failure to replace equipment in a timely manner may expose Public and/or Personal to a highly probable (1 in 100 or greater) Safety hazard

Assessment of Underground Switchgear Asset Class

Projections

Being able to predict long term replacement rates is beneficial in avoiding major spending due to plant failure or an aging asset group. Maximum and minimum replacement levels are determined by analyzing demographic information and failure history.

A maximum replacement rate is determined to avoid population spikes created from a large number of installations done in a particular year. Using population demographics and using a financial end-of-life of 30 years for vault switchgear and 25 years for distribution gear, a levelized replacement rate can be calculated to avoid large replacement peaks. The levelized maximum replacement rate was calculated to be approximately 18 padmount units and 3-4 vault units per year.

Minimum replacement rate is determined by evaluating historical failure data and the probability of failure at a particular age. There is currently insufficient demographic information to project an equipment failure rate. Also as many of these switchgear systems are repairable a “failure” does not necessarily equate to a replacement. Collection of detailed data on equipment type, manufacture date, and failures is essential moving forward to enable such projections.

Asset Assessment

Currently there are a handful of switchgear devices in service which have been identified to be at end-of-life in the Hydro Ottawa system. These include 6 padmounted live-front switches and 18 primary pedestals in the west end of the city.

The identified padmount gear has been prioritized and scheduled over the next 2 years. . Based on historical experience 3-4 pieces of live front switchgear are identified to be at end-of-life annually. Sufficient funds to carry on these planned replacements are required beyond 2012 to maintain reliability of HOL system.

Primary pedestals are typically used as temporary underground cable connection points during the construction of new residential systems. In the Stittsville area there are a handful of these devices which have reached end-of-life and are beginning to fail, as many of these devices serve no appreciable function in the Hydro Ottawa system, many are simply being removed. As the system has grown around these switching points some require like-for-like replacement where a select few will be upgraded to full padmounted switchgear.

Overhead Distribution Switches and Reclosers

Hydro Ottawa’s Distribution Overhead Switch and Recloser asset class consists of all pole mounted load break switches, auto-reclosers, fuse cutouts and line switches, with a primary voltage rating up to 44 kV.

The overhead switch and recloser program is typically a run-to-failure asset class unless a technical or health and safety issue has been identified.

Overhead Distribution Switch and Recloser Demographics

For any Asset Management process demographic information on the assets is fundamental. This is information such as quantities, location, types and age. Accurate population data exists for autoreclosers, load break switches and line switches in the GIS database, however to estimate the number of fuse cut-out switches on the system, the total number of pole mounted transformers (approximately 13945 single and three phase) and cable risers (approximately 9084) was used in the approximation.

Table 24. Overhead Switches and Reclosers Population

Switch Type	Voltage	Units
Cut-out Switches		23029
Reclosers		43
	8kV	18
	12kV	2
	28kV	23
Line Switches		5960
	4.16kV	1477
	8.32kV	2227
	12.43kV	38
	13.2kV	1027
	27.6kV	994
	44kV	197
Load Break Switches		460
	4.16kV	16
	8.32kV	104
	13.2kV	68
	27.6kV	161
	44kV	111

Assessment of Overhead Distribution Switch and Recloser Asset Class

Information on overhead switch and recloser failures has been collected by the assets group to allow for predictive spending levels. Failure rates for this asset group have been minimal and do not require predictive analysis or active replacement programs.

Two switch types have been identified for replacement due to health and safety concerns. These include the 4kV rated porcelain box switches and two types of inline switch.

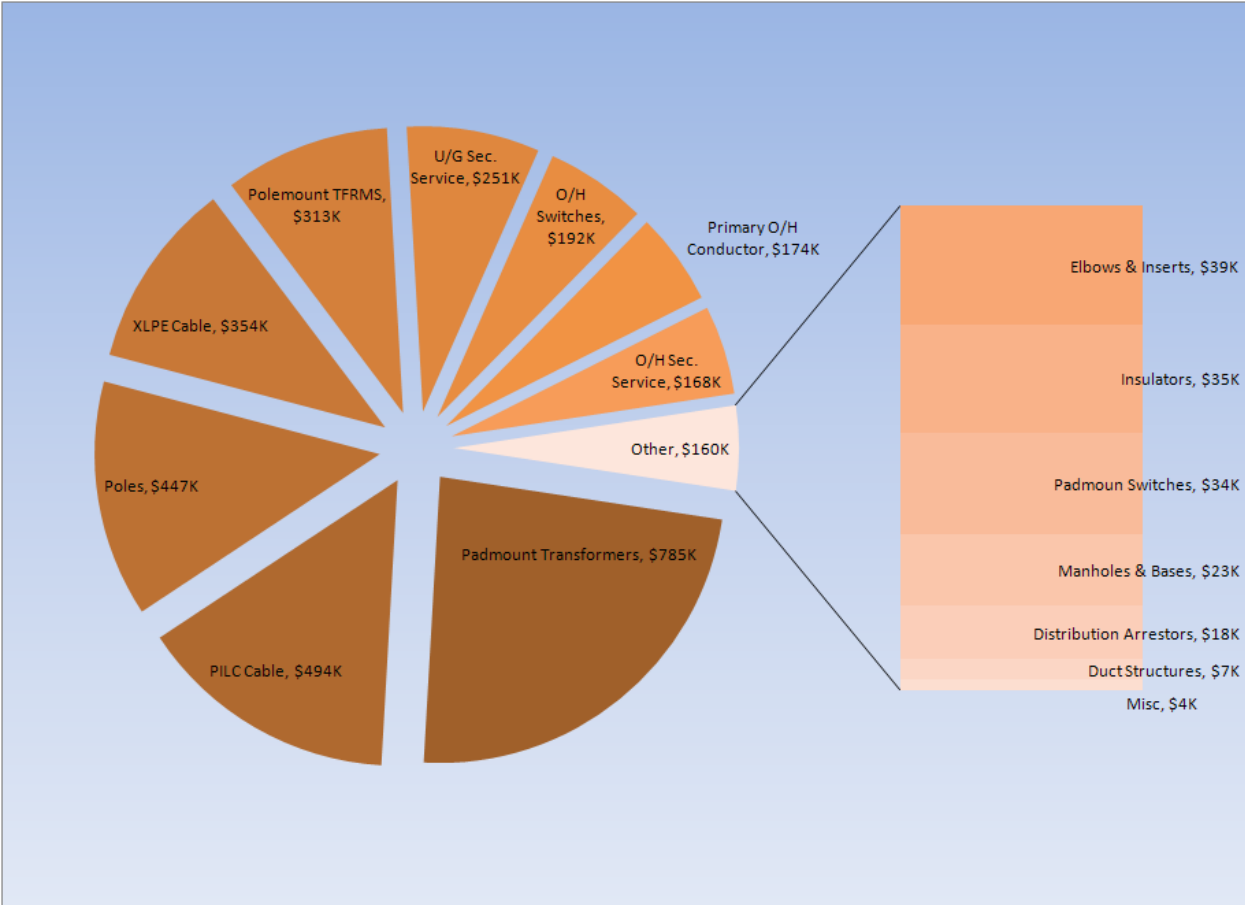
Porcelain box switches have been identified for removal due to issues of mechanical fracturing. The white porcelain box switch has been more susceptible to failure than the brown porcelain box as the brown switches have a more ridged construction. There are 36 substations that have been identified for porcelain box replacement. Projects will be distributed over 5 years.

There are also two types of in-line switches that have issued for replacement for health and safety issues. Older style in-line switches with non-crimped insulator brackets have been found to separate apart leaving the overhead line to fall. The other type of switch is the 27.6kV rated Firon switch which has a manufacture defect in the cast aluminum brackets. The in-line switches will continue to be replaced in 2011

Distribution Plant Failure

The historical plant failure expenditures are shown in Figure 45. While short term spending must be maintained at similar levels asset life-cycle management and planning strives to reduce the required capital investment in this category through planned project investments.

Figure 45. Historical Plant Failure Expenditures



Section G. Substation Asset Lifecycle Management



Substation Assets consist of power transformers, circuit breakers, switches, associated protective relay equipment and wholesale meters. These assets are considered to be non-pooled and therefore have discrete inspection, maintenance and testing plans associated with them.

Station Transformers

The station transformers are major assets among Hydro Ottawa Ltd groups of assets. They provide for the voltage transformation from the transmitters and for the transformation to sub-distribution voltages such as 8kV and 4kV. Station Transformers have a few particularities that make them unique: replacement costs range from \$300,000 to \$2,500,000; a failure will have medium to major consequence, a replacement is a six to twenty-four months project cycle. In addition station transformer replacements come with additional upgrades such as oil containment; ground grid upgrades; cable replacement and protection, control and monitoring upgrades. In some cases a full substation upgrade (switchgear and transformers) may be triggered by a transformer replacement



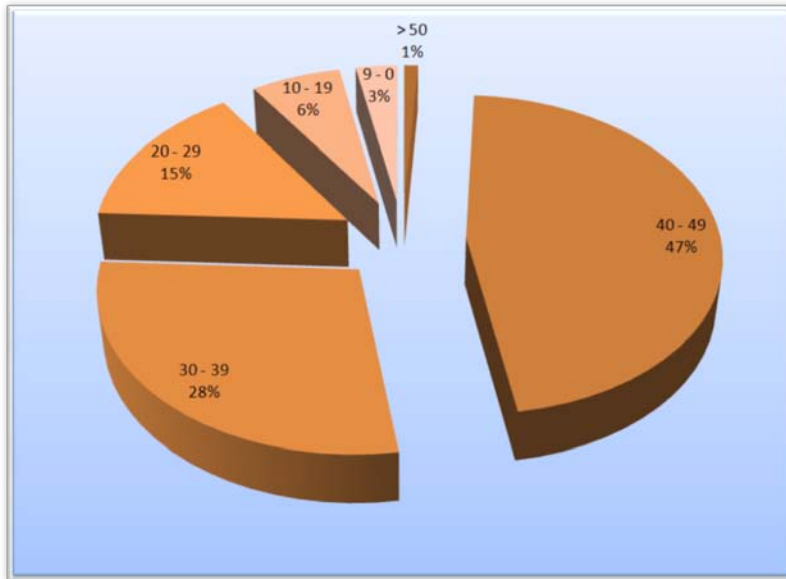
Station Transformer Demographics

For any Asset Management process, demographic information on the assets is fundamental. This is information such as quantities, location, types and age. In the case of Hydro Ottawa's station transformers a complete asset registry exists which has all the necessary information.

Age information gives an indication of remaining life of the transformer when compared to the transformer mean expected life. This age can then be adjusted based on condition if such information is available and more accurately estimate expected life and probability of failure.

Hydro Ottawa has 168 station transformers distributed over primary voltages: 106 at 15kV, 36 at 44kV, 22 at 115kV and 4 at 230kV. The age distribution of this asset class is illustrated in *Figure 46*. As can be seen, almost half of this asset group is in the age range of 40 years and older. This can be attributed to a large growth period in our history. A large majority of these transformers have primary voltages of 15kV or 44kV.

Figure 46. Proportion of Station Transformers by Age



Traditionally for transformers, electricity companies have operated ‘run to failure’ regimes supported by regular inspection and maintenance programs. Typically, this involves substation inspections every six months. These include visual checks for oil leaks, general condition assessment (e.g., for corrosion of external metalwork, tanks, pipe work, radiators) and identification of any obvious defects. Often utilities may supplement these activities with both annual infrared surveys to identify any hot spots and

periodic oil sampling.

The age profile and operational significance of the transformer population are such that the financial and operating consequences of increased failures are very high. Utilities however can achieve substantial financial benefits by safely extending the life of these high cost assets. For these reasons, many utilities are initiating active condition assessment programs upon which to base future management decisions. Options include life extension by proactive remedial measures, increased rating, or refurbishment to maximize the existing population’s value. Other options involve positively identifying units close to their end-of-life enabling appropriate replacement planning. For all of these options utilities are using general background and condition information from inspections and oil analysis results.

Ongoing effort to further develop a comprehensive condition assessment program to evaluate the most critical of the population will continue to be a priority for the Asset Planning group.

Station Transformer Health Index

Hydro Ottawa has adopted the Key Gas Method of interpreting DGA as set forth in *IEEE Standard C57.104-1991, “Guide for the Interpretation of Gases Generated in Oil-Immersed Transformers”*. Key gases formed by degradation of oil and paper insulation are hydrogen (H₂), methane (CH₄), ethane (C₂H₆), ethylene (C₂H₄), acetylene (C₂H₂), carbon monoxide (CO), and oxygen (O₂). Except for carbon monoxide and oxygen, all these gases are formed from the degradation of the oil itself. Carbon monoxide, carbon dioxide (CO₂), and oxygen are formed from degradation of cellulose (paper) insulation. Carbon dioxide, oxygen, nitrogen (N₂), and moisture can also be absorbed from the air if there is an oil/air interface, or if there is a leak in the tank. Gas type and amounts are determined by where the fault occurs in the transformer and the severity and energy of the event. Events range from low energy events such as partial discharge, which produces hydrogen and trace amounts of methane and ethane, to very

high energy sustained arcing, capable of generating all the gases including acetylene, which requires the most energy.

As part of the Key Gas Method, a four-condition DGA guide classifies risks to transformers with no previous problems. The guide uses combinations of individual gases and total combustible gas concentration. The four condition limits are defined in *Table 25*.

Table 25. Dissolved Gas Condition Limits

Status	Dissolved Key Gas Concentration Limits [$\mu\text{L/L}$ (ppm)]							
	Hydrogen (H ₂)	Methane (CH ₄)	Acetylene (C ₂ H ₂)	Ethylene (C ₂ H ₄)	Ethane (C ₂ H ₆)	Carbon Monoxide (CO)	Carbon Dioxide (CO ₂)	TDCG
Condition 1	100	120	1	50	65	350	2500	686
Condition 2	101-700	121-400	2-9	51-100	66-100	351-570	2500-4000	687-1879
Condition 3	701-1800	401-1000	10-35	101-200	101-150	571-1400	4001-10000	1880-4585
Condition 4	>1800	>1000	>35	>200	>150	>1400	>10000	>4585

The key gas condition is scored by taking the maximum condition of all the dissolved gases and applying the following equation to create a normalized score from 0 to 1:

$$\text{Gas Score} = \frac{(\text{Max Condition} - 1)}{3}$$

The key gas rate of change is the difference in concentrations between sampling intervals. The rate of change is instrumental in determining the severity of the occurring fault and provides criteria for actions to be performed. The dissolved gas with the largest condition level is used with the largest generation rate, in *Table 26*, to determine the course of actions required. The gas generation limits for each dissolved gas and the total dissolved combustible gas are shown below in *Table 27*.

Table 26. Actions Based on Gas Generation Limits

	Gas Rate ($\mu\text{L/L/day}$)	Sampling Intervals and Operations Procedures for Gas Generation Rates	
		Sampling Interval	Operation Rates
Condition 4	>High	Daily	Consider removal from service.
	Low to High	Daily	
	<Low	Weekly	Exercise extreme caution. Analyze for individual gases. Plan outage.
Condition 3	>High	Weekly	Exercise extreme caution. Analyze for individual gases. Plan outage.
	Low to High	Weekly	
	<Low	Monthly	
Condition 2	>High	Monthly	Exercise caution. Analyze for individual gases. Determine load dependence.

	Gas Rate (µL/L/day)	Sampling Intervals and Operations Procedures for Gas Generation Rates	
		Sampling Interval	Operation Rates
	Low to High	Monthly	
	<Low	Quarterly	
Condition 1	>High	Monthly	Exercise caution. Analyze for individual gases. Determine load dependence
	Low to High	Quarterly	Continue normal operation.
	<Low	Annually	

Table 27. Generation Limits

	Gas Rate (µL/L/day)	
	Low	High
H2	1.46	4.37
CH4	1.75	5.25
C2H2	0.01	0.04
C2H4	0.73	2.19
C2H6	0.95	2.84
CO	5.10	15.31
TDCG	10.00	30.00

The gas generation rate score is determined from the High/Low limits as follows:

Table 28. Generation Rate Scoring

	Rate Score
< Low Limit	0
Low Limit to High Limit	0.5
>High Limit	1

Fluid analysis provides a condition assessment of the paper insulation of the transformer. The degradation of the paper insulation is caused by heating of the transformer and contaminants in the oil. There are multiple tests that can be performed to evaluate the condition of the insulation.

The fluid scoring based on each test is also shown in *Table 29 Fluid Limits*. The test with the maximum score is used as the overall fluid score.

Table 29. Fluid Limits

	Fluid Score				
	0	0.25	0.5	0.75	1
Acid Num	<0.2		>=0.2		>=0.5
IFT	>25		<=25		<=16

KVD877	>=26				<26
PF25	<=0.5		<=0.7		>0.7
Water	<=25				>25
Furan	>500	>340	>280	>240	<=240

Once all the information and scoring has been collected, the overall health index of the transformer can be calculated.

$$Health\ Index = \left(\frac{Gas\ Score + Rate\ Score + Fluid\ Score}{3} \right) \times 5$$

Station Transformer Failure Correlation

To maximize the lifecycle of the station transformer assets the asset management strategy is to operate and maintain the assets in a manner which enables them to reach their full economic depreciation schedules (40 years). When able to do so the asset life is then extended for as long as possible provided there is support from a business case and the risks to the overall performance targets are tolerable.

Minimum asset replacement rates are determined from the projected failure rate. Minimum replacement rate is determined by evaluating historical failure data and the probability of failure at a particular age. Once a probability of failure is determined, a predictive analysis can be completed depicting the future failure rate of the asset. Doing active replacements can be incorporated into this analysis to show the effects of varying replacement rates on failures. This analysis is shown in *Figure 48*.

The failure curve used in the analysis is a calculated Weibull probability based on the total age demographic and the age at failure. This allows a curve to be built not only on failure data but incorporates the surviving population. This translates into the failure probability curve shown in *Figure 47*. As inspection processes develop and failure data is recorded with more detail, the Weibull curve will be updated to more accurately represent long term projected failures.

Figure 47. Station Transformer Failure Probability

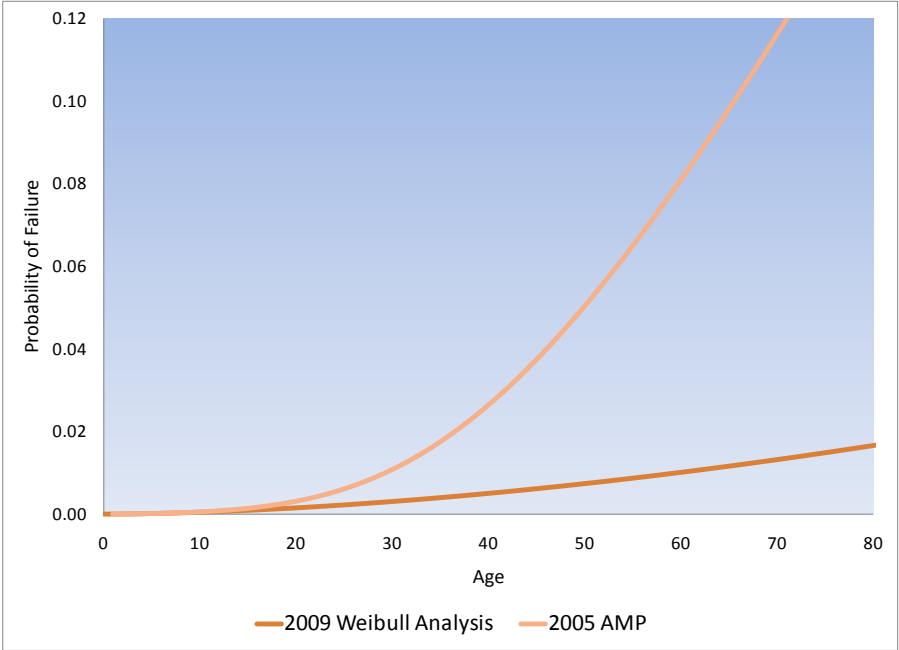
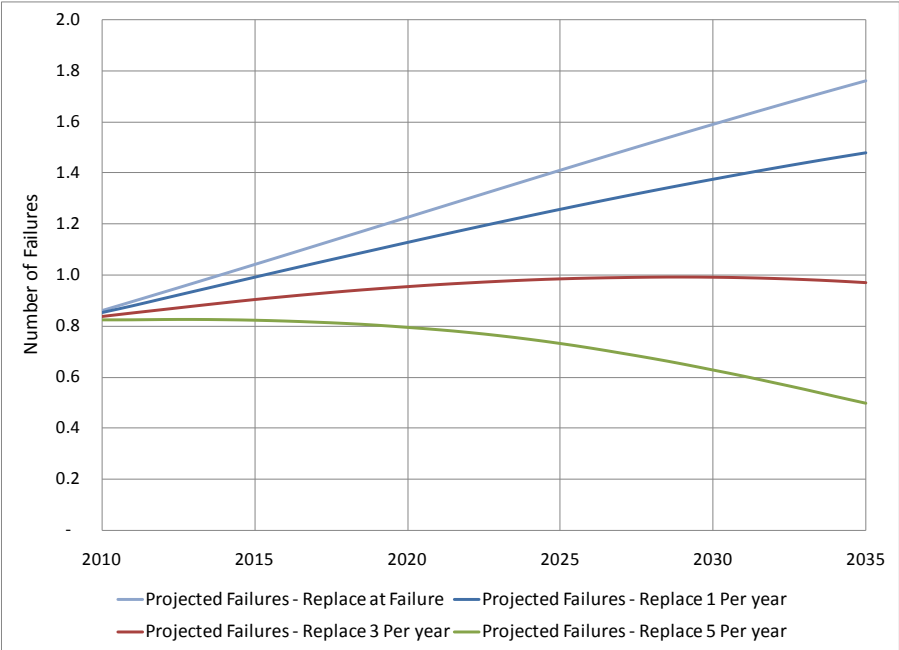


Figure 48. Recommended Station Transformer Replacement Rate Based on Projected Failures



Station Transformer Failure Consequence

Evaluating the consequence of failure allows for comparison within the asset class to determine the most crucial pieces of equipment. These consequence factors are based on subsequent factors not related to the health of the equipment. A summary of the consequence scoring is seen if *Table 30* below.

The environmental score is subject to if the transformer has proper oil containment. A full oil containment system allows for the separation of the transformer oil from the transformer in case of tank rupture. The containment prevents the oil from igniting and fuelling the severity of the fault. It also prevents contamination into the surrounding area which could have public access or be a sensitive area. A sensitive area is deemed as being near schools, parks, bodies of water.

The safety score relates to public risk. If the substation is a location that publically accessible, it will score higher because of potential risk to the public.

The reliability score is based on the effects to SAIFI and SAIDI scores, other assets in the substation and the operability of the system. The number of customers fed from the substation will affect the SAIDI score and the estimated recovery time will affect the SAIDI score. If the transformer is not located in its own chamber, does not have explosion barriers, or is relatively close to other assets, it will score higher due to its effects on other assets.

Table 30. Substation Transformer Failure Consequence Scoring

Consequence Score	Environmental	Safety	Reliability
0	Has Full Oil Containment	No Risk to Public	No Reliability Affects
0.25	No criteria	No criteria	Increase in SAIFI/SAIDI, Affect other Assets
0.5	No Oil Containment	No criteria	Increase in SAIFI/SAIDI, Affect other Assets
0.75	No Oil Containment, Public Access	No criteria	Increase in SAIFI/SAIDI, Affect other Assets
1	No Oil Containment, Near Sensitive Area	Risk to Public if Failure Occurs	Increase in SAIFI/SAIDI, Affect other Assets, Affect System Operability

Assessment of Station Transformer Asset Class

Hydro Ottawa has 168 station transformers with almost half of this asset group is in the age range of 40 years and older. To manage this aging asset group, an active inspection and maintenance program is required in order maintain acceptable operating conditions.

Using the condition health index and the consequence scoring mentioned above, Table 31 shows the prioritization of station transformers.

To continually monitor transformers that have shown signs of advance deterioration, online monitoring systems will be installed on as many transformers. These units will need to be incorporated into the SCADA network to record sampling data.

Table 31. Station Transformer Condition Priority Listing

Unit ID	Station	Condition Score	Consequence Score	Total
130T1	Borden Farms 130	3	3	11
170T1	Woodroffe DS	3	2	7
29T1	Richmond North DS	3	2	6
140T1	Barrhaven 140	2	3	5
BRDT1	Bridlewood BRD	2	3	5
SBT3	Bronson SB	1	3	5
SBT4	Bronson SB	1	3	5
8T2	Moulton MS	2	2	5
145T2	Jockvale 145	2	2	4
4T1	Blackburn MS	1	3	4
210T1	Longfields 210	2	2	4
UVT3	Edwin UV	1	3	3
MWDT1	Marchwood MWD	1	3	3
MWDT2	Marchwood MWD	1	3	3
SAT3	Slater TS-SA	2	1	3
249T1	Leitrim MS	1	2	3
7T1	Limebank MS	1	2	3
190T2	Parkwood Hills	1	2	2
210T2	Longfields 210	1	2	2
AQT1	McCarthy AQ	1	2	2
AQT3	McCarthy AQ	1	2	2
160T1	QCH	1	2	2
160T2	QCH	1	2	2
39T2	South March DS	1	2	2
624T2	Kanata MTS	2	1	2
180T1	Rideau Heights	1	2	2
200T2	Stafford Sub	1	2	2
624T1	Kanata MTS	1	1	1
SAT2	Slater TS-SA	1	1	1

Station Switchgear

Hydro Ottawa's Station Switchgear asset class consists of breakers, switches, bus insulation, support structures, protection and control systems, arrestors, control wiring, ventilation and fuses. The base unit of this asset class is a switchgear assembly, which includes buswork, feeder breakers and appurtenances.

Hydro Ottawa currently manages approximately 175 switchgear assemblies containing a total of 883 breakers, 56 reclosers and 1,009 switches.

For any Asset Management process, demographic information on the assets is fundamental. This is information such as quantities, location, types and age. In the case of Hydro Ottawa's station switchgear a complete asset registry exists which has all the necessary information.

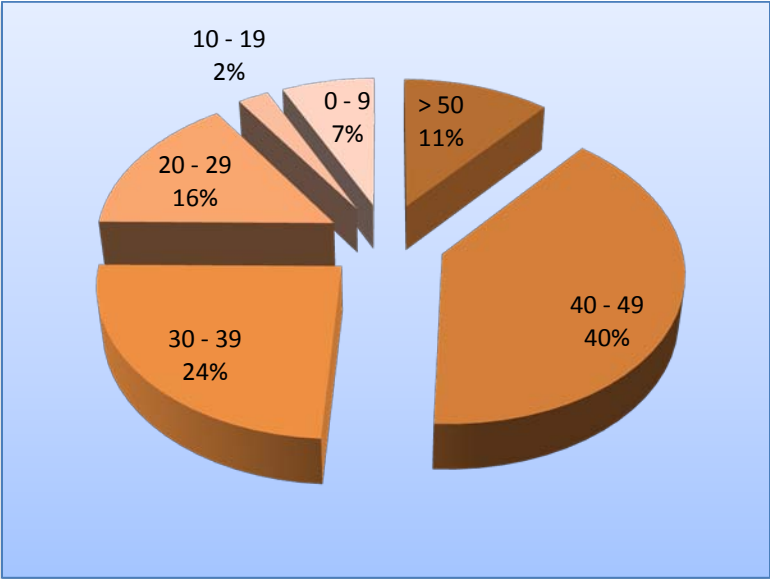
A switchgear replacement will typically involve replacing and upgrading all associated components, including the housing structure, to meet current standards and safety practices. Replacement costs can vary from \$200k to \$750k per bus depending on the voltage class and the amount of structure work required. Projects typically have a duration ranging from 6 to 24 months.

Station Switchgear Demographics

Demographic information for the station switchgear has been collected from various sources included in Hydro Ottawa's existing condition assessment and maintenance programs. Switchgear assembly age grouping is shown in Figure 49 below. Hydro Ottawa faces an aging population of its switchgear with half of the assemblies in the range of 40 years old or older, which is generally considered by the industry as the useful life for this equipment.



Figure 49. Proportion of Switchgear by age group



Station Switchgear Health Index

Developing a health index is important for prioritizing projects to target replacements for the switchgear that are in the worst condition. There are several factors that can be evaluated to determine the health index of the switchgear and influence asset replacement. Physical condition of the switchgear is evaluated during regular maintenance inspections. A rating from 0 to 1 is applied to each assembly using the criteria in Table 32.

The assessment of the station switchgear health rating should include more quantitative results, such as contact resistance or oil analysis for oil circuit breakers, to develop a more detailed rating system. Switchgear evaluations need to be completed using standard procedures and evaluation forms to properly record the inspection information and organize for analysis.

Table 32. Station Switchgear Condition Health Index

Health Index	Condition	Description	Requirements
0	Very Good	Some ageing or minor deterioration of a limited number of components	Normal maintenance
0.25	Good	Significant deterioration of some components	Normal maintenance

0.5	Fair	Widespread significant deterioration or serious deterioration of specific components	Increase diagnostic testing, possible remedial work or replacement needed depending on criticality
0.75	Poor	Widespread serious deterioration	Start planning process to replace or rebuild considering risk and consequences of failure
1	Very Poor	Extensive serious deterioration	At end-of-life, immediately assess risk; replace or rebuild based on assessment

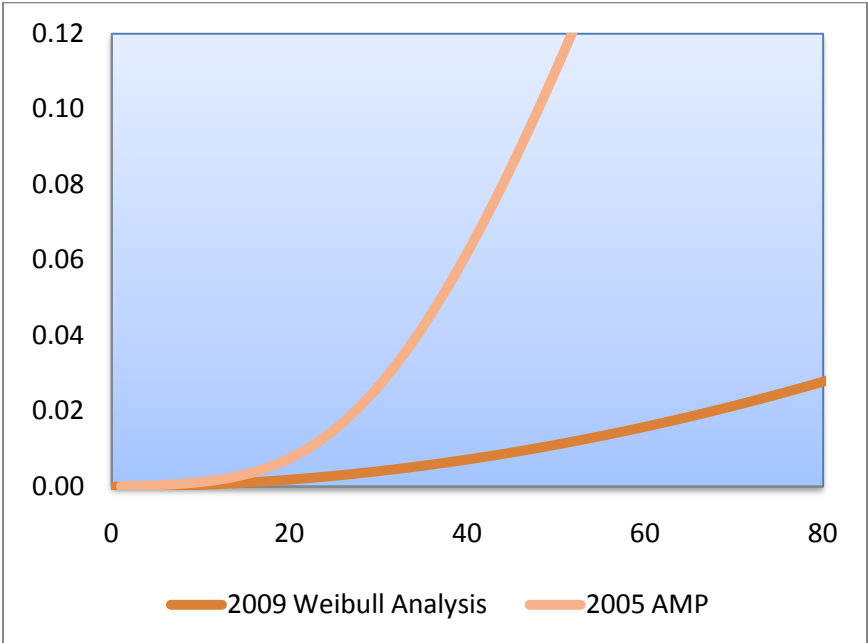
Station Switchgear Failure Correlation

Failure correlation is used to determine the expected failure rate of an asset group. This can be used to determine the appropriate replacement age before it fails.

The curve used in the analysis is a calculated Weibull probability based on the total age demographic and the age at failure. This allows a curve to be built not only on failure data but incorporates the surviving population. This translates into the failure probability curve shown in Figure 50 below.

The curve developed below should only be used for short term projections. As inspection processes develop and failure data is recorded with more detail, the Weibull curve will be updated to more accurately represent long term projected failures.

Figure 50. **Substation Switchgear Failure Probability**



Station Switchgear Failure Consequence

Evaluating the consequence of failure allows for comparison within the asset class to determine the most crucial pieces of equipment. These consequence factors are based on corporate objective and not the health of the equipment. A summary of the consequence scoring is seen if Table 33 below.

Environmental score is based on the possibility of releasing contaminants upon failure. Switchgear that contains either oil or SF6 will be scored with a value of 1, otherwise 0. The release of oil or SF6 could have adverse environmental affects.

Safety score is based on the arc-proof rating of the switchgear. Switchgear with no arc-proofing poses a risk to employees if an internal fault were to occur. Also, switchgear with no inter-cell protection could result in a catastrophic failure resulting in the entire bus being damaged and de-energized. A rating of 1 is given to switchgear with no arc-proofing; 0.5 for only partial arc-proofing; otherwise 0.

Reliability score comes from the maximum number of customers that could be affected by a bus outage. Each switchgear assembly is evaluated relative to the switchgear with the largest number of customers fed from it. The percentage determined from that evaluation becomes the reliability score.

Table 33. Substation Switchgear Failure Consequence Scoring

Consequence Score	Environmental	Safety	Reliability
0	Contains no contaminants	Full Arc-Proofing	$\frac{\#Customers}{Max\ Customers}$
0.25			$\frac{\#Customers}{Max\ Customers}$
0.5		Partial Arc-Proofing	$\frac{\#Customers}{Max\ Customers}$
0.75			$\frac{\#Customers}{Max\ Customers}$
1	Contains Oil or SF6	No Arc-Proofing	Max Customer Count

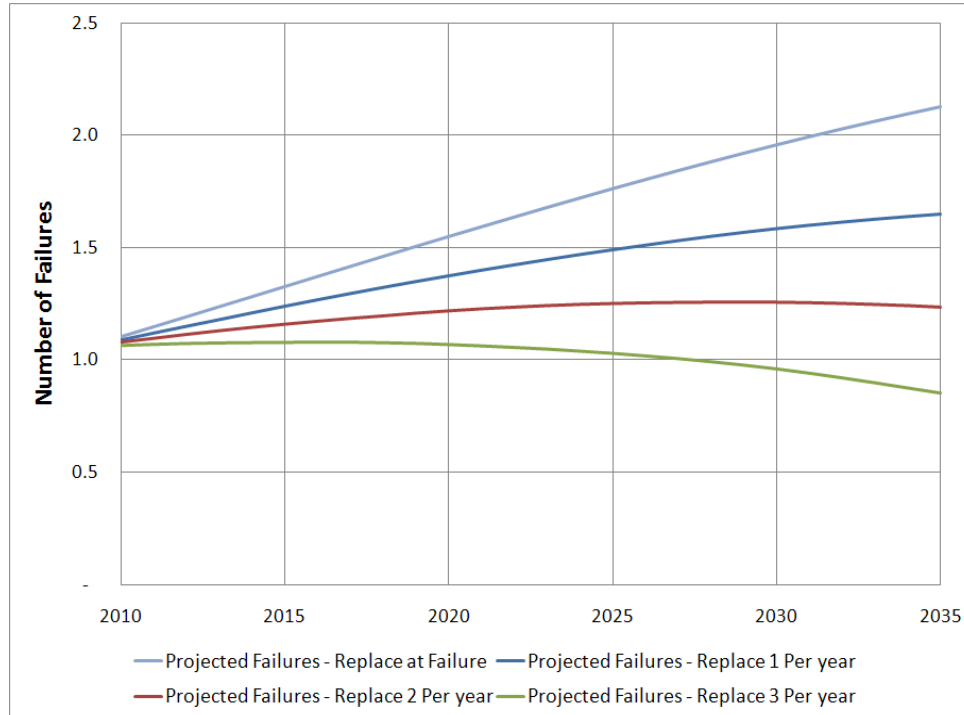
Assessment of Station Switchgear Asset class

Being able to predict long term replacement rates is beneficial in avoiding major spending due to plant failure or an aging asset group. Maximum and minimum replacement levels are determined by analyzing demographic information and failure history.

A maximum replacement rate is determined to avoid population spikes created from a large number of installations done in a particular year. Using population demographics and an estimated mean life of 55 years, a levelized replacement rate can be calculated to avoid large replacement peaks. This analysis is shown in Figure 51. The levelized replacement rate was calculated to be 4 units per year.

Minimum replacement rate is determined by evaluating historical failure data and the probability of failure at a particular age. Once a probability of failure is determined, a predictive analysis can be completed depicting the future failure rate of the asset. Replacement rates can be incorporated into this analysis showing the affects of active replacement on failure rates. This analysis is shown in Figure 51. The short term (5 years) replacement rate for replacing failed equipment is 1 unit per year.

Figure 51. Recommended Replacement rate based on projected failures



The switchgear asset class consists of 175 assemblies ranging from 31% 5kV, 60% 15kV, and 9% 28kV. This aging asset class has over half of the assemblies with an age of 40 years or older. An active inspection and maintenance program is required in order maintain an acceptable operating condition. A detailed analysis of switchgear that are identified as having reached end-of-life is required to evaluate if it can be incorporated into a voltage conversion or replacement program.

Through an evaluation of the health condition of all station switchgear, 7 assemblies in 4 stations have been deemed end-of-life.

- Woodroffe UW will be considered for replacement if no justification for voltage conversion
- Overbrook SO will be considered for replacement if no justification for voltage conversion
- Merivale will require a study into the possible relocation, rearrangement, or voltage conversion station of the station due to access issues.
- Bridlewood 28kV assembly, due to recent failures, requires study into breaker modifications, refurbishment or complete replacement.

Also to be included as part of the station switchgear replacement is the removal of primary fuse protection on the high voltage side of the transformer. The fuses will instead be replaced with circuit switchers and differential protection. This is the result of the Beacon Hill substation fire which illustrated the inadequacy of primary fuse protection. In the next 5 years, 9 substations will be targeted to replace the primary fuse protection.

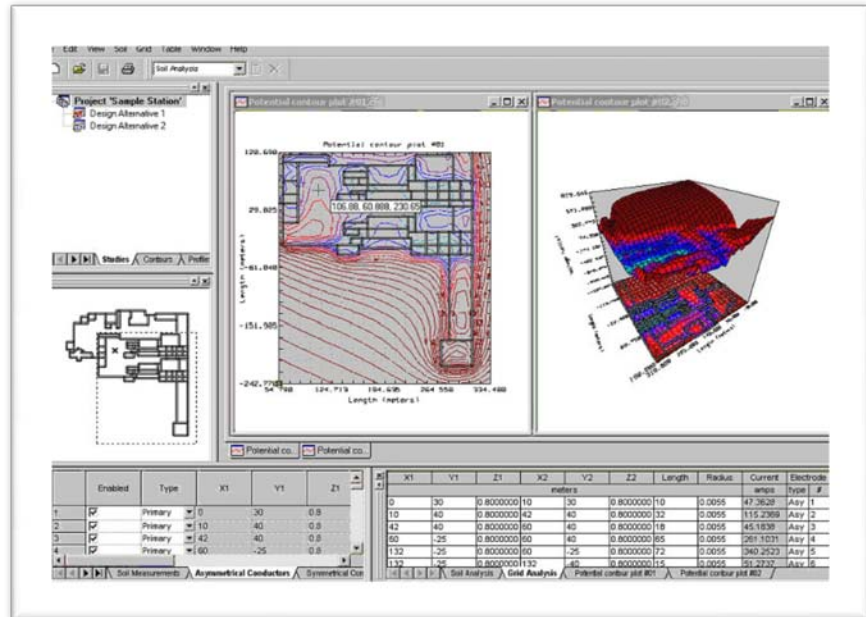
Table 34. Substation Switchgear Priority Listing

Station	Bus ID	Condition Score	Consequence Score	Risk Score
Kilborn	UPQ1Q2	5	4	20
Woodroffe	UWX1X2K1	5	4	20
Overbrooke	SOX1X2K1	5	4	20
Kilborn	UPX1X2K1	5	4	20
Overbrooke	SOX3X4K2	5	3	15
Woodroffe	UWX4K2	5	3	15
Manordale	84B2	4	4	16
Merivale	72B2	4	3	12
Merivale	72B1	4	3	12
Woodroffe	TWQ	4	2	8
Woodroffe	TWZ	4	2	8
Woodroffe	TWB	4	2	8
Woodroffe	TWJ	4	2	8
Bridlewood	BRDB1/B2 (27KV)	3	4	12
Leitrim	49B2A	3	4	12
Edwin	UVX1X2K1	3	4	12
Leitrim	49B1	3	4	12
Dagmar	ACQ1Q2Q3	3	4	12
Nepaan	ABQ1Q2Q3Q4	3	4	12
Dagmar	ACX1X2K1	3	4	12
Janet King	44B	3	3	9
Church	AAX1X2K1	3	3	9
Munster	43B	3	3	9
Richmond North	29B	3	3	9
Startup	6B	3	3	9
Startup	6J	3	3	9
Bells Corners	47B1	3	3	9

Station Ground Grids

The ground grids are an essential element of a substation for safety of people and protection of equipment. Hydro Ottawa Ltd is conducting surveys across the entire system to evaluate the condition of those assets. This process will be taking a few years to complete and the object of this section is to provide a systematic approach in selecting which ground grid should be reviewed first.

There are 72 substation owned by Hydro Ottawa Ltd and therefore, 72 stations ground grids associated. Based on the available data, we need to evaluate our ground grids system and perform the necessary corrections to be compliant with the most recent codes and standards. Of the last six surveys performed in 2009, all substations required minor to major correction to be compliant. As expected, the oldest stations were more severe in non compliance then the most recent.



Hydro Ottawa Limited owns 72 substations, 19% of the ground grid were built before 1961, 54% between 1961 and 1975, 13% between 1976 and 1985, 8% between 1986 and 1999 and 6% after 2000.

Hydro Ottawa’s substation ground grids asset class consists of a combination of ground rods (or plates) and bare 4/0 Cu conductor. These metallic components are connected together to provide ground reference and a return path for fault current. The ground grids also surround equipment that could become energized at a high voltage under fault conditions, thereby protecting workers from step and touch potentials.

The physical extent of the stations ground grid depends on soil conditions and the amount of ground fault current available. Therefore individual designs can vary significantly and associated costs vary likewise.

The design of those ground grids should have been done according to IEEE standard 80 “IEEE Guide for safety in AC Substation Grounding”. There have been four revisions published of this standard in 1961, 1976, 1986 and finally in 2000. The ground grids are sorted by their age versus the year of the different revision of the ground grid design standard.

It is possible that substations and ground grids that were built before 1961 and 1976 were not designed to sustain today's faults levels. Those substations may also have degraded connections of the grounding conductors. We consider those stations as a priority for surveys.

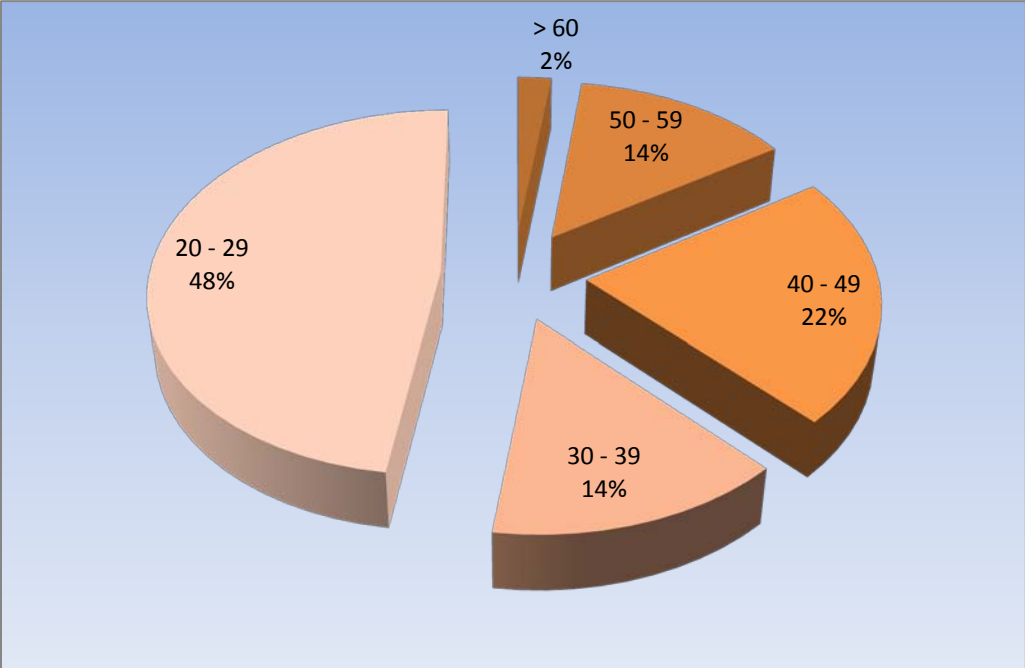
Substations that were built between 1986 and 2000 may be over designed due to the use of different calculation of the Cs surface layer derating factor. The 2000 version of the standard provides for more accurate formulas and therefore higher value of tolerable touch and step potential. However, the 2000 version of the standard was more precise regarding the grounding of fences, the two layers soil model was introduced and a table showing typical surface material was also provided. Based on this information we will consider to survey next the substation built between 1976 and 1985, then between 1986 and 1999 and last the ones built after 2000.

Hydro Ottawa Limited is now using computer model software to evaluate and design ground grid. A complete model of the substation is created as part of the substation ground grid evaluation and survey. The later approach provides a tool to review changes to the substation and keep this crucial system at the required safety levels.

Station Ground Grid Demographics

In the compilation of station ground grid demographics it has been assumed that the ground grid is the same age as the substation. Where the ground grids have been upgraded, records have been used to determine the assets true age. Hydro Ottawa owns 72 substations that are not common with Hydro One. The following graph summarizes the ground grid population by year of construction.

Figure 52. Substation Ground Grid Age Demographics



In 2009, Hydro Ottawa surveyed the following six substations: Blackburn, Bronson, Limebank, Florence, Eastview and Beechwood.

Bronson, Eastview and Beechwood have a concurrent project and the ground grid will be retrofitted at that time between 2009 and 2011. Blackburn has been partially retrofitted in 2009 and will be completed in 2010. Rehabilitation of the Florence and Limebank is ongoing.

Station Ground Grid Health Index

Hydro Ottawa evaluates the condition of the existing ground grid using the age of that station versus the year of revision of the IEEE standard 80. If a survey and retrofit has been done recently, the age of the ground grid is reset to the year it has been done.

Table 35. Year of construction or retrofit of ground grids

Condition	Age	Score
Condition 1	Built before 1961	5
Condition 2	Built between 1961 and 1975	4
Condition 3	Built between 1976 and 1985	3
Condition 4	Built between 1986 and 1999	2
Condition 5	Built after 2000	1

Station Ground Grid Failure Correlation

There are two groups to look at for condition assessment; substation without full survey done and substation with a full survey done.

The first group requires a survey which will include the following:

- Conduct a thorough survey of the actual ground grid resistance and soil properties.
- Obtain the latest fault levels and durations at the substation and establish worse case scenarios for faults conditions.
- Perform and document visual inspections:
 - Evaluation of the miscellaneous grounding and bonding connections
 - Identify corrosion problems of connections
 - Confirm that all metal structure, fences, operating handle etc, are bonded to the ground grid as per grounding standard SXS0002.
 - The methodology for those surveys will be explained in detail in the inspection and maintenance manual.

The second group with the full survey done will be prioritized for remediation highlighted on the survey's report. Below are the results of this evaluation. It is recommended to match the high priority project with transformer or switchgear replacement.

Assessment of Station Ground Grid Asset Class

The asset matrices for the ground grids are plot of condition versus consequences. The consequences for the ground grid assets are mostly based on the safety risk assessment if a substation is not surveyed or retrofitted.

Based on the executive summary provided with the six surveys that were done in 2009, the asset matrix for those substation's ground grids is shown in Table 36

This means we have 48 substations to evaluate in priority. We propose to do 12 to 24 surveys per year and allow for 6-12 retrofits per year based on the severity of the remediation needed.

Table 36. List of substations where ground grid surveys have been completed

Condi- tion	Substation	YEAR	Age	% Comple- tion	Comments
5	Florence UF	1956	54	100.00%	Design In progress
5	Eastview UT	1956	54	100.00%	Part of another project
4	Beechwood UB	1969	41	75.93%	Part of another project
4	Bronson SB	1970	40	74.07%	Part of another project
3	Limebank MS	1979	31	57.41%	Design In progress
1	Blackburn MS	2009	1	1.85%	Retrofit in progress
1	Cyrville	2009	1	1.85%	New substation

Station Relay Replacement

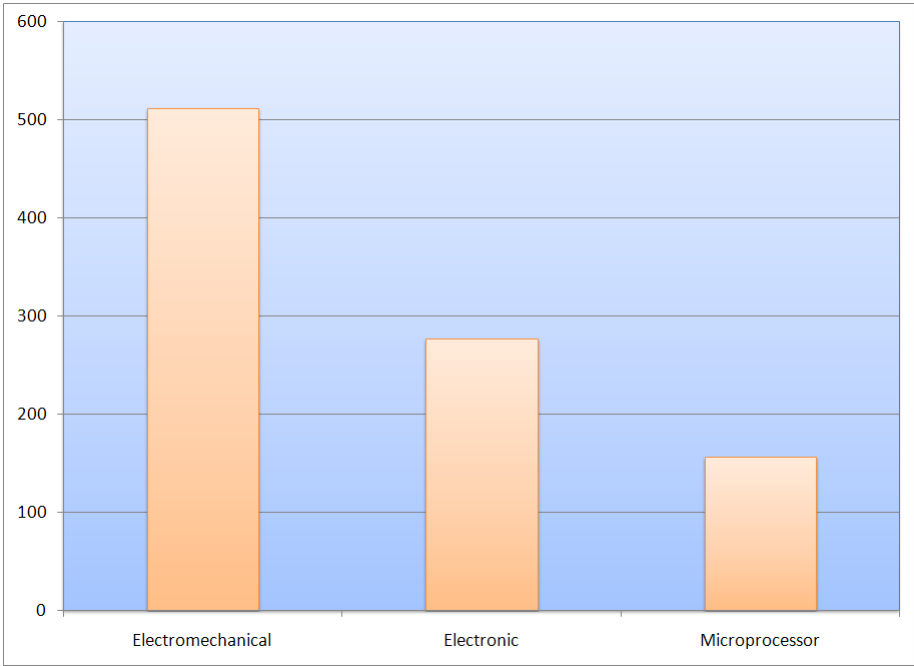
Hydro Ottawa’s Station Relay asset class consists of a number of families of fault detection and control relays, generally classified as electromechanical, electronic, or microprocessor based. They measure abnormal conditions on the system and initiate the appropriate action such as tripping a breaker to protect the health of system equipment. Hydro Ottawa has approximately 970 individual relay devices in its substations.

Station relays are typically replaced in parallel with planned station switchgear and transformer replacement or upgrade projects. The station protection and controls equipment and philosophies are upgraded to follow the most current standards. The costs associated with relay replacement range from \$50,000 to \$500,000 depending on the complexity of the protection scheme and if any civil structures are required to house the protection equipment. Projects can range from 6 to 12 months in duration.

Station Relay Demographics

Demographic information for the station relays has been collected from ASPEN database which contains both relay information and settings. The station relays have been classified into 3 separate categories which are indicative of the evolutionary progression of the technology. The distribution of the population between the different categories is shown in Figure 53.

Figure 53. Population Distribution by type



Station Relay Health Index

Electromechanical systems use relays that rely on physical, electrical and magnetic properties to detect fault conditions. There are mechanical parts (contacts, springs, rotating disks, etc.) and electrical components (coils, capacitors, resistors, etc.) whose characteristics can change over time and render the device unsuitable for its function.

Electronic relay systems have fewer moving parts than electromechanical relays, but they still have many analog electronic components such as transistors, op-amps, capacitors, etc., and may also use electromechanical relays for their output contacts. These types of systems are susceptible to over-current and over-voltage stresses on the sensing circuits and mechanical failure of output relays.

Microprocessor systems use software algorithms with the numerical processing capabilities of high-speed microprocessor components such as Digital Signal Processor chips. They have much broader capabilities than either electromechanical or electronic types, but voltage or current surges, software compatibility and obsolescence may limit their useful life.

Assessment of Station Relay Asset Class

The majority of future planned projects will include the addition of differential protection to station transformers in stations that will have the primary fuse protection replaced with circuit switchers. These are reactive projects to correct deficiencies discovered during the investigation of the Beaconhill station fire.

In addition future relay replacements will also be driven by need for increased information to help assess the condition of other stations assets, i.e. breakers, transformers etc. Further relay replacements will be necessary in coming years to support the addition of distributed resources as required by the Green Energy Green Economy Act.

Stations Battery Replacement

Hydro Ottawa's Station Batteries & Chargers asset class are used to provide power for operating station breaker trip and closing coils, DC lights and relays, when station service power is lost. Also included in this asset class are small NiCad batteries supplying power to reclosers.

Each station typically has one main battery bank made up of a series combination of individual batteries altogether providing a DC voltage to operate the attached equipment. Station batteries are built to deliver high discharge currents for short periods of time, because when a fault occurs several breakers are likely to trip simultaneously. Hydro Ottawa generally specifies the required battery capacity based on a number of trip-close operations, and continuous current for 8 hours without AC power.

Batteries are usually lead acid type, but some NiCad units are also used. The present standard is the sealed lead acid type.

The battery chargers automatically re-charge the batteries to maintain adequate voltage levels. This means that the charge rate must be set at a value that will maintain full charge without overcharging. Both overcharging and undercharging will reduce the life of batteries.

Station Battery Demographics

Hydro Ottawa has approximately 55 station battery banks, most of which supply 125 V although there are some at 48 V and 24 V. Based on the current age demographic of the station batteries, we need to replace on average 1 to 2 battery banks and charger per year, assuming a life expectancy of 20 to 25 years.

Station Battery Health Index

The information available for the evaluations is adequate. We have more than five years of inspection data including age and type of the battery banks. We can always improve on this with a more elaborated inspection program at a later date, but the cost of replacement of a battery banks versus cost of implementing a new inspection program may not bring added values at this time. An effort will be made to formalize the condition assessment process of the station batteries in the future.

Station Battery Failure Correlation

Station batteries are very reliable and Hydro Ottawa estimates a life in excess of 20 years (the 24 V Ni-Cad recloser battery banks last an average of approximately five years, but replacement cells are readily available).

Likewise, chargers do not fail much either, but standard practice is to replace the charger where a battery bank is replaced.

In the unlikely event that a battery fails without notice, there are a number of mitigating measures that can be taken. As an interim measure, an inoperable cell can be removed from service and the terminals jumpered to provide continuity for the rest of the bank. It is also possible to replace a defective cell with

an ordinary automotive battery on a short-term basis. In either case, functionality is maintained, although

Station Battery Failure Consequence

The failure consequence for this asset can be significant as all the controls in a substation rely on the DC system to operate in case of power interruption. However, the consequences are offset by the regular inspection programs and the relative availability of replacement parts.

To avoid catastrophic failure, the station batteries and chargers are replaced before the expected end of life of the assets and expected failure.

Assessment of Station Battery Asset Class

We evaluate the assets on short term and long term basis to establish which assets require specific maintenance or replacement. We also correlate each asset with any other assets that can have an impact to a project related to this asset. For example, we will correlate battery bank replacement with station switchgear replacement as applicable.

The short term evaluation for station batteries is based on condition and age. The condition evaluations are based on monthly inspection. The short term evaluation provides for a list of prioritized assets due for replacement with rational.

The long term evaluation is based on the asset demographics such as age, number of asset per year of manufacturing. This evaluation gives a minimum number of asset to replace/remove to avoid a high failure rate in the mid, long term future.

Section H. Supply Capacity Management



New Station Capacity

Hydro Ottawa routinely assess the capability and reliability of the distribution network and supply transformers in an effort to maintain adequate and reliable supply to customers. Where gaps are found, appropriate plans for additions and modifications consistent with all regulatory requirements and with due consideration for safety, environment, financial and supply system reliability/security are developed.

In this regard, the supply needs in the City of Ottawa have been assessed to determine if additions and/or modifications are required to maintain an adequate and reliable/secure TS capacity. The assessment is identifying four new station capacity projects Elwood, Fallowfield, Terry Fox, and the rebuilding of the Beacon Hill station which was lost due to a fire.

Elwood MTS

Through detailed forecasting and engineering planning studies it has been concluded that additional capacity is required in the east-end 13.2kV distribution system within the next two years to maintain an adequate and reliable supply in the area.

Existing Transformer Station Facilities

The east-end of the City of Ottawa is currently supplied at the 13.2 kV distribution voltage level from Albion TA, Overbrook TO, Russell TB and Riverdale TR.

Capability of Existing Facilities

Like most communities in the central and southern part of the Province of Ontario, summer is the critical period for the electrical supply system and facilities. The demand for electricity in these communities is high during summer due mainly to the use of electric air conditioners. At the same time, the electrical supply facilities have lower rating and capabilities due to higher ambient temperatures. Hence, summer becomes the critical loading period for LDCs such as Hydro Ottawa in the central and southern part of Ontario.

In this regard, the assessment of the TS supply needs in the east-end of the City of Ottawa is based on the summer ratings and capabilities of the existing stations (Albion TA, Overbrook TO, Russell TB and Riverdale TR) owned and operated by Hydro One.

Albion TA

This is a DESN (Dual Element Spot Network) type station with redundant major elements such as transformers (45/60/75 MVA, 230/13.2KV), supply circuits (2 x 230KV circuits, M30A & M31A) and low voltage (LV) buses. DESN type stations are rated based on the capability of a major element with the companion element out of service during an emergency. This rating is referred to as the Limited Time Rating (LTR) which typically is a 10-day period to allow for replacing the failed element. This ensures that an adequate and reliable supply is maintained during an emergency. The summer LTR for Albion TA is 99 MVA and relates to the ability of one single station transformer with the other unit out of service.

Overbrook TO

This is a DESN (Dual Element Spot Network) type station with redundant major elements such as transformers (45/60/75 MVA, 115/13.2KV and 39.3/52.4/65.5 MVA, 115/13.2 kV), supply circuits (2 x 115KV circuits, A4K and A5RK) and low voltage (LV) buses.

The summer LTR for Overbrook TO is 80.40 MVA and relates to the ability of one single station transformer with the other unit out of service.

Russell TB

This is a DESN (Dual Element Spot Network) type station with redundant major elements such as transformers (45/60/75 MVA, 115/13.2KV), supply circuits (2 x 115KV circuits, A6R and A5RK) and low voltage (LV) buses.

The summer LTR for Russell TB is 79.8 MVA and relates to the ability of one single station transformer with the other unit out of service.

Riverdale TR

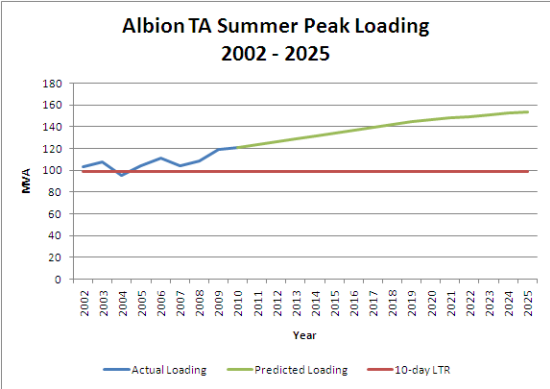
This is a DESN (Dual Element Spot Network) type station with redundant major elements such as transformers (45/60/75 MVA, 115/13.2KV), supply circuits (2 x 115KV circuits, A3RM and A5RK) and low voltage (LV) buses.

The summer LTR for Riverdale TR is 124 MVA and it is the 10-day LTR of one of the 45/60/75 ONAN/ONAF/ONAF MVA transformers with the other unit out of service.

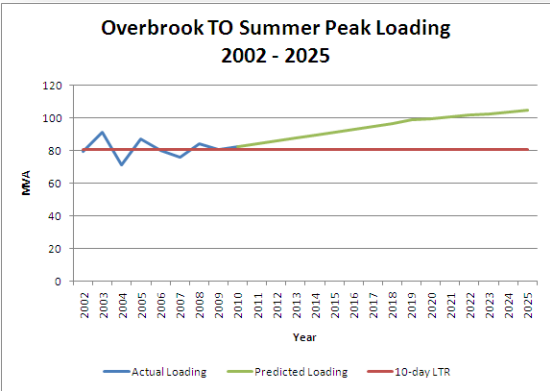
Summer Peak Load Forecast

As indicated earlier, like most communities in the central and southern part of the Province of Ontario, summer is the critical loading period for the City of Ottawa. Hence, for assessing the adequacy of the TS capacity in the east-end of the City of Ottawa, summer peak loads are used. The Power

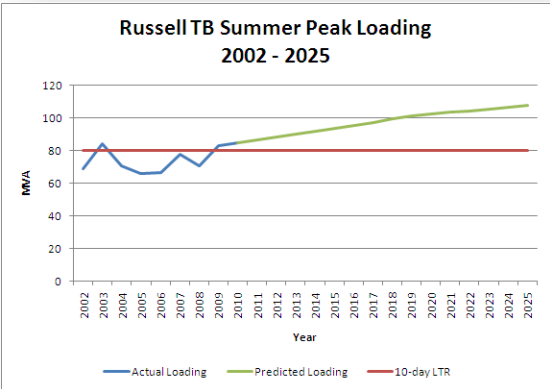
Albion TA Summer Peak Loading



Overbrook TO Summer Peak Loading



Russell TB Summer Peak Loading

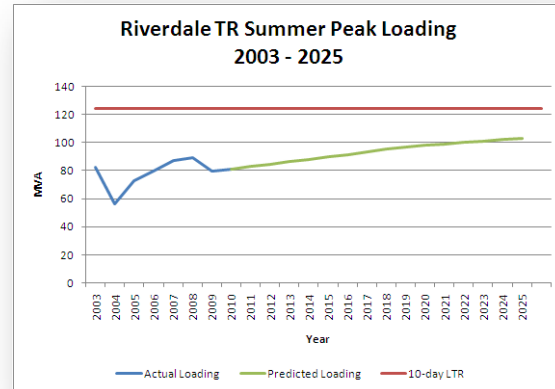


Factor for the summer peak loads is assumed to be 90%.

Riverdale TR Summer Peak Loading

Load data indicates that the 2009 coincidental summer 2009 peak load at the subject stations was:

- Albion TA - 119 MVA
- Overbrook TO - 81 MVA
- Russell TB - 83 MVA
- Riverdale TR - 80 MVA



Based on development plans for the east-end of the City of Ottawa, the Hydro Ottawa load area supplied from Albion, Overbrook, Russell and Riverdale is expected to grow at annual rates of about 2% for the next 10 years (to 2019) and then drop to 1% thereafter. The 1% per year growth rate covers base growth such as re-development and other improvements such as installations of residential air conditioners.

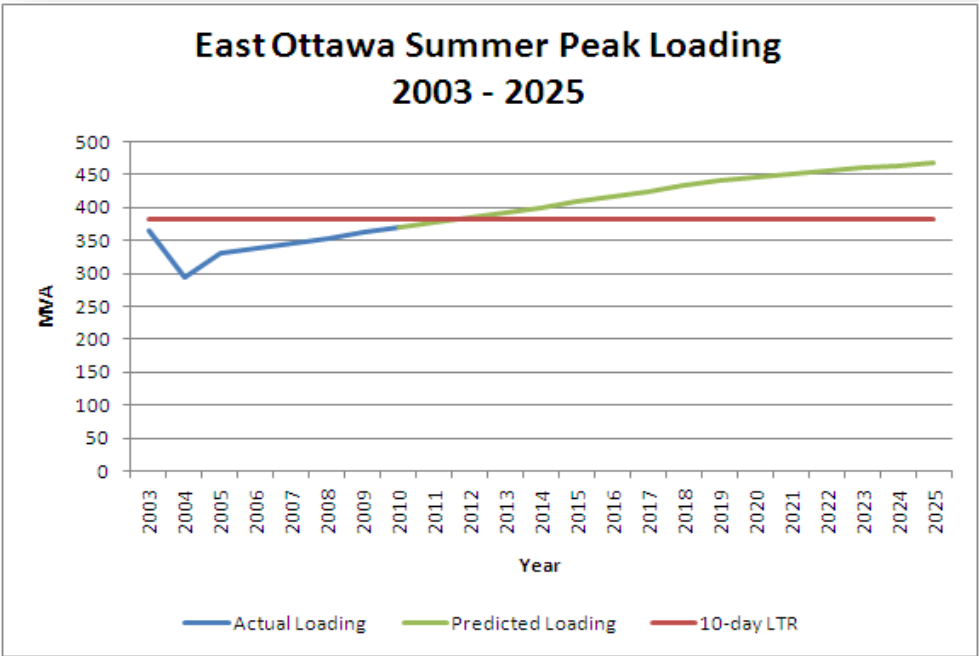
Adequacy of TS Capacity

As indicated earlier, all three stations supplying the east end of Ottawa are DESN type station with redundant major elements such as transformers, supply circuits and low voltage (LV) buses. This station arrangement ensures that a secure and reliable supply is maintained during an emergency with loss (outage) of a major element. To this end, Hydro One Networks normally limit the loading on DESN stations to the 10-day LTR.

All three stations supplying the east end of Ottawa are connected to the transmission system by two supply circuits. This station arrangement ensures that a secure and reliable supply is maintained during an emergency with loss (outage) of a supply circuit. As such, the load security limit for each station is equivalent to the 10-day LTR, yielding a total load limit for East Ottawa of 383.2 MVA (99 + 80.4 + 79.8 + 124).

Figure 54 shows the total forecast summer peak loads at Albion TA, Overbrook TO, Russell TB and Riverdale TR for the next 15 years until 2025. The plot indicates that there will be a capacity shortfall in the east-end of the City of Ottawa beginning in 2012.

Figure 54. East Ottawa 13.2kV System Summer Peak Loading



Project Description

To resolve the supply capacity constraints Hydro Ottawa Limited is proceeding with the construction of a new 230kV substation. The undertaking consists of planning, site selection, design, construction, operation and maintenance of a new municipal transformer station (MTS).

The station will accommodate two, three-phase overhead supply taps. The final tap arrangement is to be designed and installed by HONI and will connect to the dead end structure which will be supplied and installed by Hydro Ottawa Ltd.

A new station facility requires an outdoor 230 kV switchyard with aerial bus work and low profile structures. Also required are disconnect switches, high voltage breakers and power transformers.

A building is required for the new station to house 13.2 kV switchgear with the protective relaying and control facilities. The design of the structure is intended to complement the surrounding neighbourhood and harmonize with the surrounding land uses.

For reasons of security and aesthetics, feeder egress will be designed for below grade duct or direct buried installations for a considerable distance from the station. The 13.2 kV feeder cables will extend to points on the system where they can be connected with existing aerial circuits.

Fallowfield MTS

Existing Transformer Station Facilities

The south-end of the City of Ottawa is currently supplied at 8.32 kV and 27.6 kV; with the 27.6 kV system connecting to most of the new load. The 27.6 kV system is currently supplied from Fallowfield DS, Leitrim MS, Limebank MS, Longfields DS and Uplands MS. Fallowfield DS, Limebank MS and Longfields DS supplies the entire load to the South Nepean area, while the Riverside South area is fed from Leitrim MS, Limebank MS and Uplands MS.

Capability of Existing Facilities

Like most communities the City of Ottawa, summer is the critical period for the electrical supply system and facilities. The demand for electricity in these communities is high during summer due mainly to the use of electric air conditioners, and pools. At the same time, the electrical supply facilities have lower rating and capabilities due to higher ambient temperatures. Hence, summer becomes the critical loading period.

There has been a significant growth in the demand in the southern suburban areas of Ottawa, particularly in the Barrhaven area. The majority of this load has been serviced from the existing Fallowfield DS, which is approaching its loading limits. The current peak demand in the Barrhaven area is approximately 50 MVA. Over the past seven years this load has grown at 7% per year and is expected to continue at this pace for the foreseeable future.

Figure 55. South Ottawa 27.6 kV Service Area



Fallowfield DS

This is a single transformer station with one 15/20/25 MVA, 115/27.6 kV transformer with two 27.6 kV feeders serving Hydro Ottawa customers. There is a single radial 115kV supply via C7BM from Hydro One. As this is a single transformer station, the summer rating for Fallowfield DS is 25 MVA and is based on the 2nd Stage ONAF rating of the transformer.

Loss of the single 115 kV circuit C7BM supplying Fallowfield DS would result in loss of the entire station load. Also loss of the single transformer at the station would result in loss of the entire station load. Under contingency situations Fallowfield DS cannot be relied upon for a secure supply to Barrhaven. Hence, the secure capacity available at Fallowfield DS is assumed to be 0 MVA.

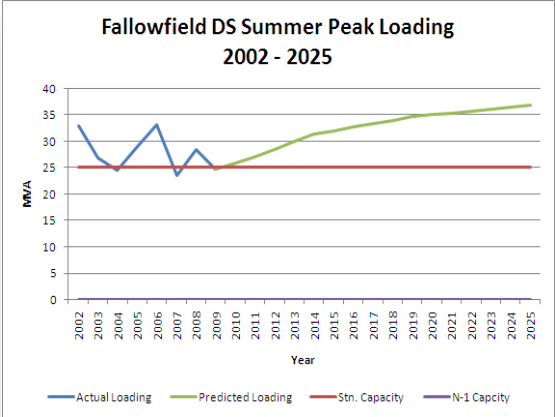
Leitrim MS

This is a single transformer station with one 15/20/25 MVA, 44/27.6 kV transformer with two 27.6 kV feeders serving Hydro Ottawa customers. There is a single 44 kV supply via 48M2 from Hydro Ottawa which is supplied from Hydro One.

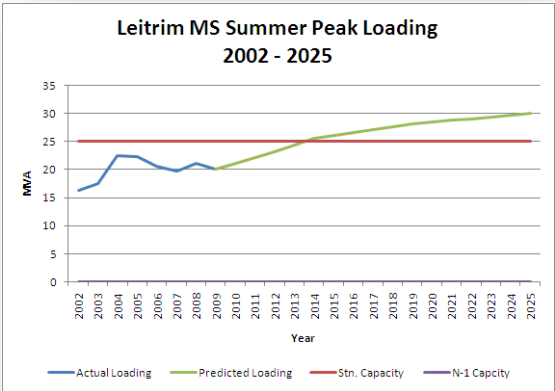
Because of the configuration of Leitrim MS, two summer ratings have been developed and used in the review. One summer rating is the reliable capacity provided by the 25 MVA transformer at the station. As this is a single transformer station, the summer rating for Leitrim MS is 25 MVA and is based on the 2nd Stage ONAF rating of the transformer. Similar to Fallowfield DS the loss of the single 44 kV circuit 48M2 supplying Leitrim MS would result in loss of the entire station load. Also loss of the single transformer at the station would result in loss of the entire station load.

Leitrim MS cannot be relied upon for a secure supply to the south Ottawa area. Hence, the secure capacity available at Leitrim MS is assumed

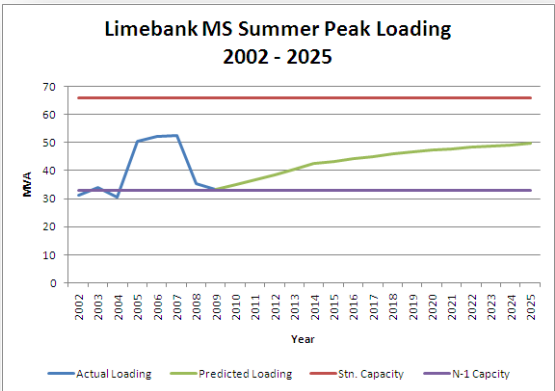
Fallowfield DS Summer Peak Loading



Leitrim DS Summer Peak Loading



Limebank MS Summer Peak Loading



to be 0 MVA.

Limebank MS

This is a dual transformer station with two 20/26/33 MVA, 115/27.6 kV transformers with three 27.6 kV feeders serving Hydro Ottawa customers. There is a single 115 kV supply via L2M from Hydro One. As this is a dual transformer station, the summer rating for Limebank MS is 66 MVA and is based on the 2nd Stage ONAF rating of both transformers. Loss of the single 115 kV circuit L2M supplying Leitrim MS would result in loss of the entire station load. Loss of one of the two transformers would result in a station capacity of 33 MVA. Limebank MS can be relied upon for a relatively secure supply to the south Ottawa area. Hence, the secure capacity available at Limebank MS is assumed to be 33 MVA.

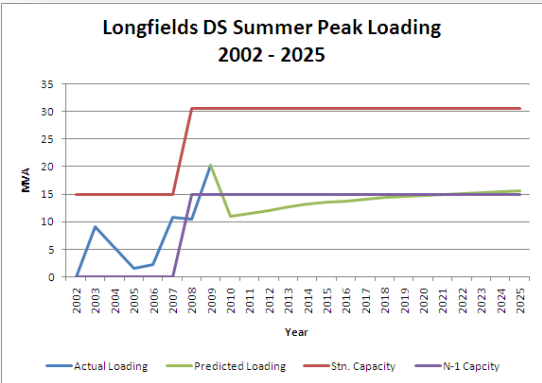
Longfields DS

This is a dual transformer station with one 10/12.5/15 MVA, 44/27.6 kV transformer and one 10.13.3.16.6 MVA, 44/27.6 kV transformer, with two 27.6 kV feeders serving Hydro Ottawa customers. There is a single 44 kV supply via 22M26 from Hydro Ottawa which is supplied from Hydro One. As this is a dual transformer station, the summer rating for Longfield DS is 31.6 MVA and is based on the 2nd Stage ONAF rating of both transformers. Loss of the single 44 kV circuit 22M26 supplying Longfields DS would result in loss of the entire station load. Loss of the larger of the two transformers would result in a station capacity of 15 MVA. Longfields DS can be relied upon for a relatively secure supply to the south Ottawa area. Hence, the secure capacity available at Longfields DS is assumed to be 15 MVA.

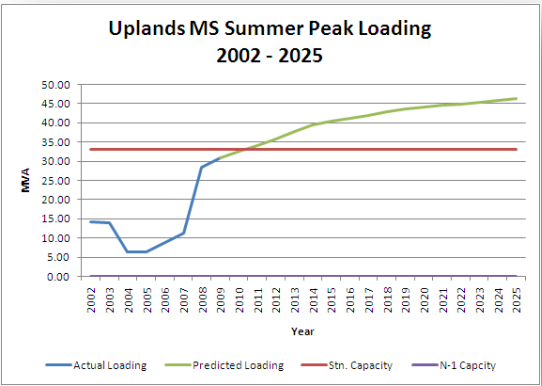
Uplands MS

This is a single transformer station with one 20/26/33 MVA, 115/27.6 kV transformer with two 27.6 kV feeders serving Hydro Ottawa customers. There is a single 115kV supply via A8M from Hydro One. As this is a single transformer station, the summer rating for Uplands MS is 33 MVA and is based on the 2nd Stage ONAF rating of the transformer. Loss of the single 115 kV circuit A8M supplying Uplands MS would result in loss of the entire station load. Also loss of the single transformer at the station would

Longfields DS Summer Peak Loading



Uplands MS Summer Peak Loading



result in loss of the entire station load. Uplands MS cannot be relied upon for a secure supply to the south Ottawa area. Hence, the secure capacity available at Uplands MS is assumed to be 0 MVA.

Summer Peak Load Forecast

As indicated earlier, like most communities in the central and southern part of the Province of Ontario, summer is the critical loading period for the City of Ottawa. Hence, for assessing the adequacy of the TS capacity in the south end of the City of Ottawa, summer peak loads are used. The Power Factor for the summer peak loads is assumed to be 90%.

Fallowfield DS

Load data indicates that the coincidental summer 2009 peak load at the subject stations was:

- Fallowfield DS - 24.6 MVA
- Leitrim MS - 20.0 MVA
- Limebank MS - 33.2 MVA¹
- Longfields DS - 20.2 MVA²
- Uplands MS - 31.0 MVA

Based on development plans for the south Ottawa, the Hydro Ottawa load area supplied from Uplands MS is expected to grow at annual rates of about 5% for the next 5 years (to 2014), 2% for the following 5 years (2019) and then drop to 1% thereafter. The 1%/year growth rate covers base growth such as re-development and other improvements such as installations of residential air conditioners.

Adequacy of TS Capacity

As indicated earlier, all five stations supplying south Ottawa are single supply stations, and most of them are single transformer stations. This station arrangement makes the security of the supply capacity at a given station to be fairly low. This arrangement is highly dependent on the surrounding stations for supply security.

Based on the total installed transformation capacity in the south Ottawa area, there is 180 MVA of capacity available. However with the loss of the largest single element (L2M supplying Limebank MS) there would only be 114 MVA of secure capacity to service the south Ottawa area. The current peak demand for the area is 129 MVA with a growth rate of 5-7%. Based on a 5% growth rate the area demand will

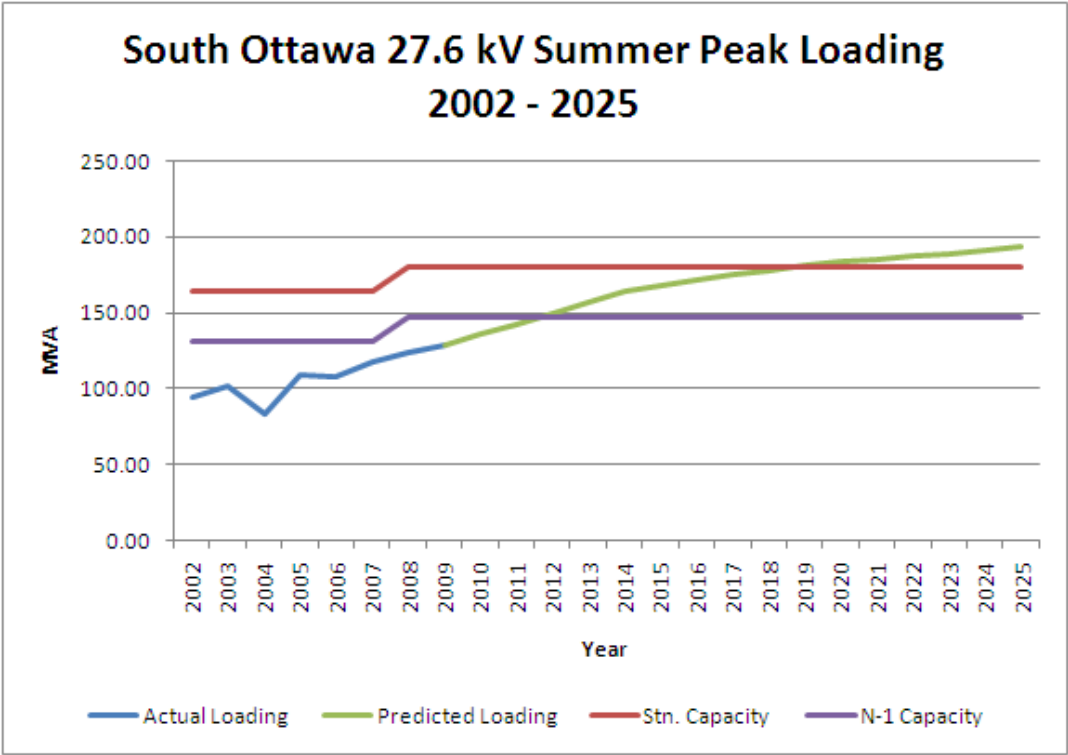
¹ The loading on Limebank MS has been lower than expected during the last two summer peak days. In 2008, the 7T2 at Limebank MS was out of service and some of the load was transferred to Uplands MS and Leitrim MS. In 2009, the overhead river crossing connecting Limebank MS to Barrhaven was not closed and that load was transferred mostly to Longfields DS and some was transferred to Fallowfield DS.

² The loading on Longfields DS was higher than normal in 2009. The overhead river crossing connecting Limebank MS to Barrhaven was not closed during the peak period and most of the load normally carried by Limebank MS was transferred to Longfields DS. It is assumed that in 2010 and beyond the loading on Longfields DS would return to more typical levels; in the range of 11 MVA.

exceed the supply capacity by 2019. The load however, already exceeds the area N-1 capacity by 15 MVA.

By increasing the transformer capacity at Fallowfield DS by adding a second transformer with 25 MVA capacity, the contingency capacity for the area will no longer be in a deficit of transformation.

Figure 56. South Ottawa 27.6kV Summer Peak Loading



Project Description

To resolve the supply capacity constraints Hydro Ottawa Limited is proceeding with the installation of a new 115kV substation transformer at Fallowfield DS. The undertaking consists of planning, design, construction, operation and maintenance of a new transformer facility.

The transformer installation will accommodate one new, three-phase overhead supply tap. The final dead end structure will be supplied and installed by Hydro Ottawa Ltd.

A new station facility will require an outdoor 115 kV switchyard with aerial bus work and low profile structures. Also required are disconnect switches and a high voltage breaker.

A small building is required for the new station protective relaying and control facilities. The design of the facility is intended to complement the surrounding neighbourhood and harmonize with the surrounding land uses.

For reasons of security and aesthetics, feeder egress will be designed for below grade duct or direct buried installations. The 27.6 kV feeder cables will extend to points on the system where they can be connected with existing aerial circuits.

Terry Fox MTS

Existing Transformer Station Facilities

The west-end of the city of Ottawa is currently supplied at the 27.6kV distribution voltage level from Kanata MTS, Marchwood MS, Bridlewood Ms and Alexander DS.

Capability of Existing Facilities

Like most communities in the central and southern part of the Province of Ontario, summer is the critical period for the electrical supply system and facilities. The demand for electricity in these communities is high during summer due mainly to the use of electric air conditioners. At the same time, the electrical supply facilities have lower rating and capabilities due to higher ambient temperatures. Hence, summer becomes the critical loading period for LDCs such as Hydro Ottawa in the central and southern part of Ontario.

There has been significant load growth for the west region stations in the last seven years, especially for the areas fed by the 27.6kV station. According to the data obtained from the city circulations there will be an increase of 27MVA to the current load in the next few years. This is a 15% increase from the current load level. The majority of this load, 12MVA, is in the area fed by Bridlewood station. This estimated load growth does not include the expected load increase due the new Fernbank Community.

In this regards, the assessment of the TS supply needs in the west-end of the city of Ottawa is based on the summer rating and capabilities of the existing stations (Kanata MTS, Marchwood MS, Bridlewood MS and Alexander DS).

Kanata MTS

This is a DESN (Dual Element Spot Network) type station with redundant major elements such as transformers (41.7MVA, 230/27.6kV), supply circuits (2 x 230KV circuits, C3S & M32S) and low voltage (LV) buses. DESN type stations are rated based on the capability of a major element with the companion element out of service during an emergency. This rating is referred to as the Limited Time Rating (LTR) which typically is a 10-day period to allow for replacing the failed element. This ensures that an adequate and reliable supply is maintained during an emergency.

The summer LTR for Kanata MTS is 60.5MVA and it is a 10-day Limited Time Rating of one of the 41.7MVA transformers with the other unit out of service.

Marchwood MS

As indicated earlier, the facilities at Marchwood MS include 2 x 33.3MVA, 115/27.6kV transformers and 4 x 27.6KV feeders. The station is supplied via a single 115kV circuit S7M from Hydro One Networks Inc.

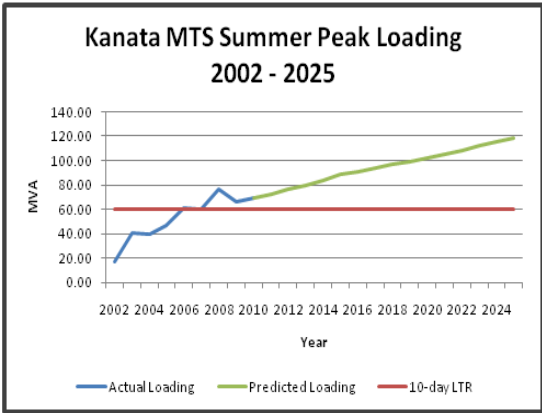
Similar to Kanata MTS with 2 transformers, the summer rating for Marchwood MS is 33.3MVA and is based on the 2nd Stage ONAF rating of one of the 33.3MVA transformers with the companion unit out of service. Loss of a single 115KV circuit S7M supplying Marchwood MS would result in loss of the entire station load. At the moment, there is about 40MVA of load transfer capability between Kanata MTS and Marchwood MS via the 27.6kV distribution circuits in the area. This is assuming that under this emergency condition the available capacity at Kanata MTS is the LTR rating of both transformers at the station. Marchwood MS cannot be relied upon for a secure supply to the west-end of Ottawa without Operator type intervention. Hence, the capacity available at Marchwood MS for supplying the west-end of Ottawa is assumed to be 0MW.

Bridlewood MS

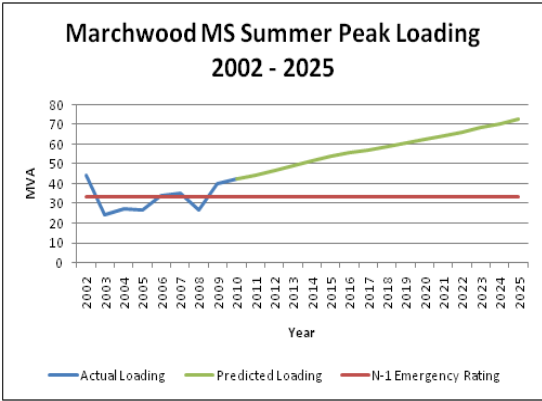
As indicated earlier, the facilities at Bridlewood MS include two transformers at 27.6kV, a 33MVA fed from the 115KV and a 25MVA fed from the 44KV. The substation has a total of 4 feeders at 27.6kV.

Similar to the other two previous stations, the summer rating for Bridlewood is based on the 2nd stage ONAF rating of the 25MVA transformer fed by the 44KV circuit with the companion unit being out of service. The same summer rating it is assumed for the loss of one of the supply feeders to the station. In this case, it assumed that the transformer (or the supply to

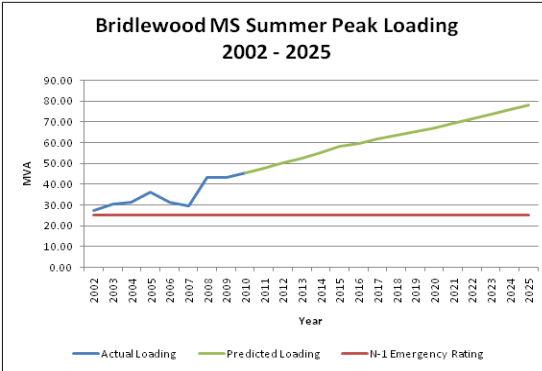
Kanata MTS Peak Loading Profile



Marchwood MS Peak Loading Profile

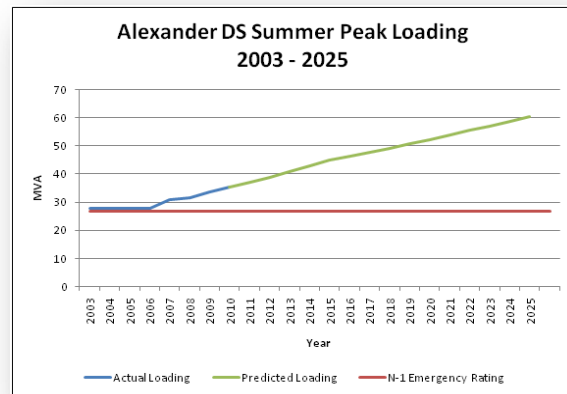


Bridlewood MS Peak Loading Profile



the transformer) with the highest rating has been lost. At the moment, there is about 13MVA of transfer capability between Bridlewood and Kanata MTS via the 27.6kV distribution circuits in the area. This is assuming that under this emergency condition the available capacity at Kanata MTS is the LTR rating of both transformers at the station. The other 13MVA of load could be transferred to the remaining transformer at Bridlewood. Bridlewood MS cannot be relied upon for a secure supply to the west-end of Ottawa without Operator type intervention. Hence, the capacity available at Marchwood MS for supplying the west-end of Ottawa is assumed to be 25MVA.

Alexander Peak Loading Profile



Alexander DS

As indicated earlier, the facilities at Alexander DS include 2 x 16.7MVA,44/27.6KV transformers and 2 x 27.6kV feeders dedicated to feed the Hydro Ottawa customers. The station is supplied via a single 44KV circuit A9M5 from Hydro One Networks Inc.

Similar to the other stations with 2 transformers, the summer rating for Alexander DS is 16.7MVA and is based on the 2nd Stage ONAF rating of one of the 16.7MVA transformers with the companion unit out of service. The rating of the mobile unit from Hydro One can also be added to this summer rating which will give the station a rating of 26.7MVA. Loss of a single 44KV circuit A9M5 supplying Alexander DS would result in loss of the entire station load. At the moment, there is 5MVA of load transfer capability between Alexander DS and Bridlewood MS via the 27.6kV distribution circuits in the area. Alexander cannot be relied upon for a secure supply to the west-end of Ottawa without Operator type intervention. Hence, the capacity available at Alexander DS for supplying the west-end of Ottawa is assumed to be 0MW.

Summer Peak Load Forecast

As indicated earlier, all four stations supplying west Ottawa are single supply stations, and most of them are single transformer stations. This station arrangement makes the security of the supply capacity at a given station to be fairly low. This arrangement is highly dependent on the surrounding stations for supply security.

The load data indicates that the coincidental summer 2009 peak load at the subject stations was:

- Kanata MTS - 65.87MVA³
- Marchwood MS - 40.23MVA⁴
- Bridlewood MS - 43.28MVA
- Alexander DS - 33.61MVA

Based on development plans for the west-end of the City of Ottawa, the load in this area supplied from the above substations is expected to grow at annual rates of about 5% for the next 5 years and then dropping at about 3% thereafter.

Adequacy of TS Capacity

As noted before, all of the transformer capacity at Kanata MTS, Marchwood MS and Bridlewood MS is available for supply to the west-end of the City of Ottawa. Two of the three feeders from Alexander DS are available for supply to the west-end of the City of Ottawa. Hence, the total summer rating (10-Day Summer LTR) that is available to supply the west-end of the City of Ottawa is 241.7 MVA.

As discussed earlier, Kanata MTS is a DESN type station with redundant major elements such as transformers (2 x 60.5 MVA, 230/27.6 kV), supply circuits (2 X230 kV circuits, C3S and M32S) and low voltage (LV) buses. This station arrangement ensures that a secure reliable supply is maintained during an emergency with loss (outage) of a major element. To this end, the load on DESN type stations is limited to the 10-day LTR of a single transformer.

Unlike Kanata MTS, Marchwood MS is supplied from a single 115 KV circuit S7M. Loss of this circuit would result in loss of the total load at Marchwood MS unit until switching is done to restore some or the entire load. The same will apply to Alexander DS which is supplied from a single 44 kV circuit A9M5.

Bridlewood MS is supplied from a single 115KV circuit Q58 and a single 44 kV circuit A9M1. In this case, the worst case scenario will be assumed that is the loss of the 115KV line. The 115Kv circuit feeds the transformer with the highest rating at the station.

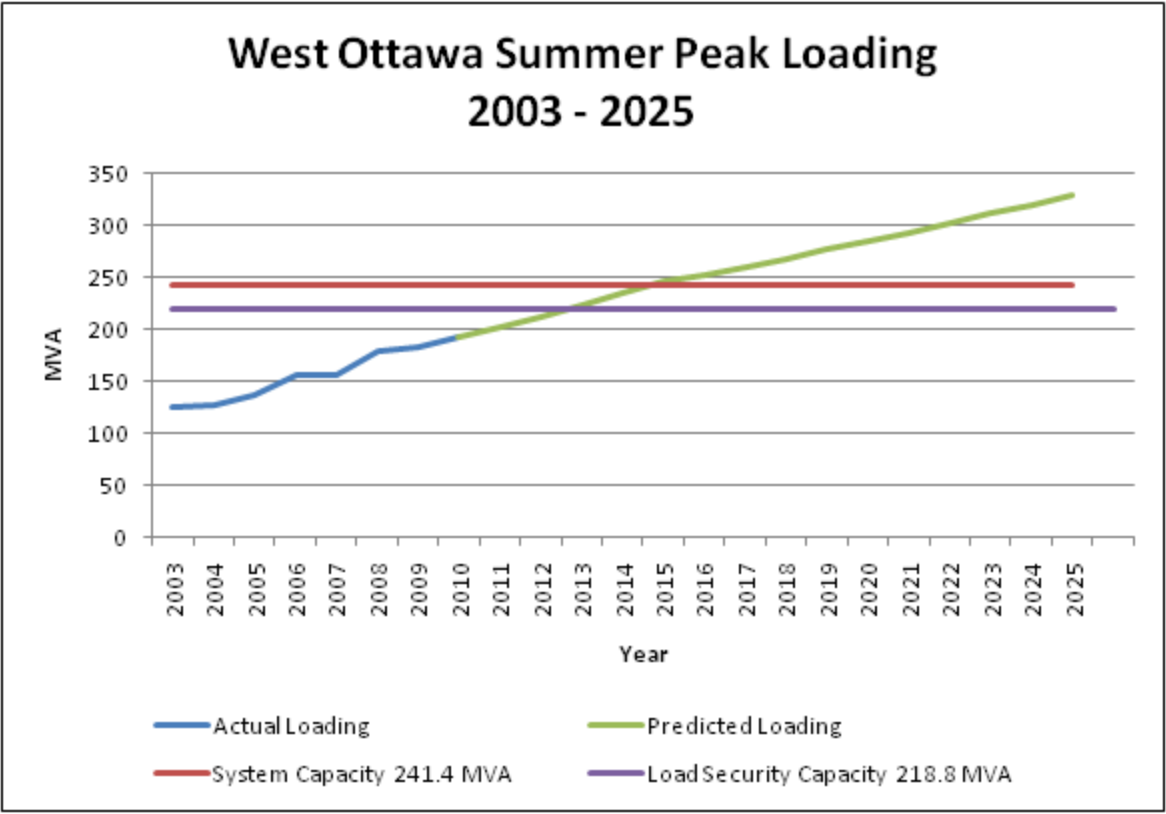
For load supply security, the worst case scenario will be assumed. Assuming that supply to one of the transformer banks at Kanata MTS was lost; the maximum summer load that can be securely supplied in the west-end of the City of Ottawa is 218.8 MVA.

³ This value is somewhat lower than the 2008 peak loading of 76.07MVA, due to the transfer of load to Marchwood MS. In 2008, Kanata MTS was carrying some of the load of Marchwood MS which was undergoing a switchgear replacement project.

⁴ This value is somewhat higher than the 2008 peak loading of 26.72MVA, due to the transfer of load to Kanata MTS. In 2008, Kanata MTS was carrying some of the load of Marchwood MS which was undergoing a switchgear replacement project.

Figure 57 shows the total forecast summer peak loads at Kanata MTS, Marchwood MS, Bridlewood MS and Alexander DS for the next 15 years until 2025. The plot indicates that there will be a capacity shortfall in this area beginning in 2013.

Figure 57. West Ottawa 27.6kV System Summer Peak Loading



Project Description

To resolve the supply capacity constraints, Hydro Ottawa Limited is proceeding with the construction of a new 230kV substation. The undertaking consists of planning, site selection, design, construction, operation and maintenance of a new municipal transformer station (MTS).

The station will accommodate two, three-phase overhead supply taps. The final tap arrangement is to be designed and installed by HONI and will connect to the dead end structure which will be supplied and installed by Hydro Ottawa Ltd.

A new station facility requires an outdoor 230 kV switchyard with aerial bus work and low profile structures. Also required are disconnect switches, high voltage breakers and power transformers.

A building is needed for the new station to house 27.6 kV switchgear with the protective relaying and control facilities. The design of the structure is intended to complement the surrounding neighbourhood and harmonize with the surrounding land uses.

For reasons of security and aesthetics, feeder egress will be designed for below grade duct or direct buried installations for a considerable distance from the station. The 27.6 kV feeder cables will extend to points on the system where they can be connected with existing aerial circuits.

Beacon Hill DS

In March 2009 Hydro Ottawa suffered the loss of a 44kV substation due to a fire. This project is the design and re-construction of a 44 kV to 8.32kV, 2 x 9/12/15 MVA, substation in the Gloucester Area, complete with a 6 to 8 feeders 8.32 kV switchgear. The project includes:

- Preliminary and detailed design of electrical, mechanical, structural and civil
- Preparation of specifications, tender and acquisition for all major equipment and consultants
- Preparation of tender packages for the construction of the new station
- Construction of the new station
- Planning and construction of the new 8.32 kV feeders
- Commissioning and connection of the new station.

Hinchey

Hinchey substation is a 115 kV to 13 kV substation located in downtown Ottawa. The two substation transformers at Hinchey are owned by Hydro One Networks Inc. and have dual windings on the low voltage side. Currently, only one of the windings on each transformer is used. The secondary switchgear is owned and operated by Hydro Ottawa.

A proposed load increase in excess of 20 MW by one of our large customers is resulting in an immediate need for additional substation capacity in the downtown area of Ottawa. Other office buildings and condominium apartment proposals within the downtown core will also place demands on this new capacity.

This project will make use of the second winding on each transformer by connecting them to two new secondary busses and 14 circuit breakers, thus increasing the substation capacity by 40 MVA. The 115 kV supply has capacity available for the increase, and there is existing space within the substation building to accommodate the new secondary switchgear.

Expenditures in 2011 are for the engineering, design and initial procurement.

Hydro One Networks CCRA

As per the procedures set out by the Ontario Energy Board (OEB) Hydro Ottawa is required to provide a capital contribution to Hydro One (HONI) in the event that the revenue projections associated with the construction of new transmission systems connections are less than the capital cost of constructing and maintaining the new connection. The revenue projections associated with the new connection are based on load forecasts that are developed by Hydro Ottawa Limited.



Under the terms of the Capital Cost Recovery Agreement, The Customer shall pay Hydro One the estimate of the,

1. Transformation Connection Pool Work Capital Contribution
2. Line Connection Pool Work Capital Contribution
3. Network Customer Allocated Work Capital Contribution
4. Engineering and Construction Cost of the Work

Hydro Ottawa Limited has entered into several Construction Cost Recovery Agreements between Hydro Ottawa Limited and Hydro One Networks Inc. (HONI) specifically for the construction of transmission facilities associated with:

- Kanata MTS Phase 1 (2001) – Construction of new 230kV substation
- Kanata MTS Phase 2 (2003) – Addition of 2nd transformer to Kanata MTS
- Hawthorne 115 kV Lines (2003) – Construction of new 115kV facilities to supply the Ottawa area
- Cyrville MTS (2008) – Construction of new 115 kV substation
- Elwood MTS (2009)– Construction of new 230 kV substation

Hydro One will review their actual revenue at assigned True-Up Points which occur:

- (a) Following the fifth and tenth anniversaries of the In Service Date; and
- (b) Following the fifteenth anniversary of the In Service Date if the Actual Load is 20% higher or lower than the Load Forecast at the end of the tenth anniversary of the In Service Date.

Kanata MTS Phase 1 (2001)

In conjunction with the construction of the Kanata MTS substation built by Hydro Ottawa Limited, Hydro One was required to construct a single circuit 230kV tap from lines C3S to the new station. Guaranteed incremental line revenue for HONI was forecasted to 2006. Since the incremental line revenue exceeded projections no additional capital contributions were required by HOL.

True-Up Dates will occur in: 2006, 2011, 2016, 2021, and 2026

Kanata MTS Phase 2 (2003)

In conjunction with the construction of the Kanata MTS substation built by Hydro Ottawa Limited, Hydro One was required to construct a single circuit 230kV tap from lines M32S to the new station. Since the incremental line revenue exceeded projections no additional capital contributions were required by HOL.

True-Up Dates will occur in: 2008, 2013, 2018, 2023, and 2028

2005 Hawthorne 115 kV Lines

As a result of a joint planning study between Hydro Ottawa Limited and Hydro One Networks Inc (HONI), HONI agreed to construct two 115kV circuits from Hawthorne TS. Since the estimate of the line connection pool work exceeded the forecasted revenue HOL was required to make an initial capital contribution to the project. Due to lower than forecasted loading on these circuits a second capital contribution was required in 2009.

True-Up Dates will occur in: 2010, 2015, 2020, 2025, and 2030

2007 Cyrville MTS

In conjunction with the construction of the Cyrville MTS substation built by Hydro Ottawa Limited, Hydro One was required to construct a double circuit 115 kV tap from lines A2 and A4K to the new station. No initial capital contributions were required, true up points to occur in 2012.

True-Up Dates will occur in: 2012, 2017, 2022, 2027, and 2032

2010 Elwood MTS

In conjunction with the construction of the Elwood MTS substation built by Hydro Ottawa Limited, Hydro One was required to construct a double circuit 230 kV tap from lines M30A and M31A to the new station. No initial capital contributions were required, true up points to occur in 2015.

True-Up Dates will occur in: 2015, 2020, 2025, 2030, and 2035

Section I. Station Refurbishments



Station Enhancements

The station refurbishment aims to sustain and extend the life of minor equipment within substations.

Transformer Oil Refurbishment

Annual oil condition tests are performed on all stations transformers and analyzed to identify degradation of the insulating oil. Degrading oil will lessen the lifespan of a transformer unit as oil is integral to the insulation and cooling of transformers. Units identified requiring attention will have the oil filtered and enhanced to extend the life of the unit. The list of projects is dependent on the oil analysis results.

Transformer Refurbishment

The transformer refurbishment project involves painting transformers and replacing leaking gaskets. Painting of the transformers is done to prevent external rust on the transformer, which extends the life of the units and prevents environmental releases. Leaking and “sweating” (oil seepage is evident but not actively leaking) gaskets are replaced to prevent oil loss and oil contamination which extends transformer life, and prevent environmental releases. Units are identified during the monthly station inspections and prioritized based on the visual assessment. The list of stations identified for 2011 is:

- Parkwood Hill DS
- QCH DS
- Richmond North DS
- Rideau Heights DS
- Shillington DS
- UrbandaleDS

Porcelain Insulator Replacement

Porcelain insulators pose a health and safety risk due to the possibility of hairline fractures, which are not easily identified during visual inspection. This project replaces porcelain insulators on structures located within the substation. The list of stations identified for 2011 is:

- Blackburn DS
- Startop DS

Reclose Blocking

This project consists of upgrading and refurbishing circuit breaker control circuits which are typically 35 years of age or over. A list of substations was identified in 2005 and most of the work is completed to date. The project includes the installation of new control components which allows for remote controlled reclose-blocking schemes for the application of work protection. This results in a gain in efficiency to allow System Office to apply reclose-blocking remotely. This program is intended to be completed in 2010. In 2011 we will re-evaluate the value of this program and its alignment with current operational constraints and it may be part of the 2012 station enhancements programs.

Transformer Cooling

Installation of cooling fans on transformer radiators is performed to obtain the fan cooled rating, typically an additional 33% capacity. This allows Hydro Ottawa to maximize the capacity of the installed asset. Transformers are identified for this project based on historic loading levels and projected load growth, and with the consideration of the primary and secondary equipments ability to carry the additional load. Approximately 16 transformers will be addressed each year. This program is intended to be completed in 2010. *In 2011 we will re-evaluate the value of this program and its alignment with current operational constraints and it may be part of the 2012 station enhancements programs.*

Stations Conductor Replacement

Transformer Neutral Relocation

The investigation into the 2009 Beaconhill Substation fire revealed that a contributing cause to the event was that the secondary neutral conductor was affixed to the radiator of the transformer. This new program is to install neutral support insulators to create the required separation between the neutral and the transformer tanks. The list of stations identified for 2011 is:

- Cambridge T1, Cambridge T2
- Urbandale T1, Urbandale T2, Urbandale T3
- Albion T1, Albion T2, Albion T3, Albion T4
- Augusta T1, Augusta T2
- Bantree T1, Bantree T2, Bantree T3
- Bayswater T1, Bayswater T2, Bayswater T3

Transformer Cable Replacement

The transformer cable replacement project replaces aged lead cables between the station transformer secondary and the substation switchgear. These PILC cables are connected to the transformers with oil filled connection boxes and are typically direct buried. The project replaces the PILC cables with XLPE cables installed in duct for mechanical protection. This eliminates the oil filled connection boxes and replaces them with dry air boxes, thus eliminating a potential oil leak mechanism. The list of stations identified for 2011 is:

- Cambridge T1
- Urbandale T1

Section J. Automation



Substation Automation

The substation automation class of assets is usually designated as the SCADA (Supervisory Control and Data Acquisition) system in substations and in distribution.

Hydro Ottawa Limited's SCADA asset class system is used to monitor and control Station and Distribution System equipment. It consists of four main components:

Master equipment – real time and historical servers and databases, communication processes and equipment, operator interfaces

Communication equipment – radios and contracted services

Communication infrastructure – fibre, leased copper landline, wireless (data radio & cellular)

Remote equipment – Remote Terminal Units (RTU's), Intelligent End Devices (IED's – relays, meters, etc.)

Presently we have SCADA equipment in 81 substations, 5 generating stations, 12 padmounted switches, 36 poletop switches, 6 polemount reclosers and 30 dedicated FCI (Fault Indicator) at miscellaneous locations. We also have two control rooms and master system, one at Albion and the main one at Merivale office.

The SCADA projects can be of low to high complexity and range in cost to a few thousand dollars to the millions dollars depending on the project scope.

The SCADA system is dependent on the IT system for some communication and for support and has a dedicated department working with miscellaneous stakeholders within the company.

In 2007-2008, the master SCADA system was moved to a new SCADA system (Telvent) and since that time, most effort have been toward bringing all the Remote Equipment under this new platform. At this time most of the replacements are based on "run to failure" philosophy and we have good data to predict the number of spare parts we need to keep on stock and expected failures per year.

Each class of equipment has an associated service life which in turn drives the rate of replacement along with demand and condition. The expected service life for this class of equipment ranges from 5 years to 25 years.



Substation Automation Demographics

Hydro Ottawa Ltd maintains a complete inventory of its SCADA assets. Partly due to the 2007-2008 SCADA upgrades, most of the master equipment is recent. The remote equipment will soon be all under the new platform (2010).

The equipment is replaced based on the service life, demand and condition. Most of the demand requirements are based on planning rational and are detailed in the distribution automation section. A new substation will have a SCADA added as part of the project. It is usually rare that the service condition trigger high level of replacement, therefore the SCADA program us currently predictable when within substations.

As usual with assets based on electronics, end-of-life is most likely characterized by obsolescence rather than physical failure. Cessation of vendor support, no spare parts, and incompatibility with new technology are all significant problems even though hardware may not have failed.

Substation Automation Failure Consequence

The failure consequence varies depending on the equipment. Most of the time, loss of communication will be noticed right away in the Control room and SCADA technician will attend the problem quickly. The SCADA system is built in such a way that we have proper redundancy to mitigate most of those failures.

Assessment of Substation Automation Asset Class

The current focus in substation automation is to bring meaningful data back to the Asset Management group for analysis. This approach is to provide support to condition based assessment or major assets. For the new few years the focus is on station power transformer online oil analysis. We prioritize the addition of online oil monitoring IED from GE/Kelman for all new station transformers. We also add those devices for station transformers that require close monitoring and are not at end of life or scheduled for replacement.

In addition to maintain operability of the Hydro Ottawa system ongoing sustainment of SCADA system is required. These activities include:

- SCADA upgrades, the main focus is now on improvement of the user interface in the Control Rooms. This is to improve the situational awareness for the system office operators.
- RTU Replacement, most of the RTU that are not under the new "Telvent" platform will be updated in 2010. The remaining two units will be replaced in 2011.

Distribution Automation

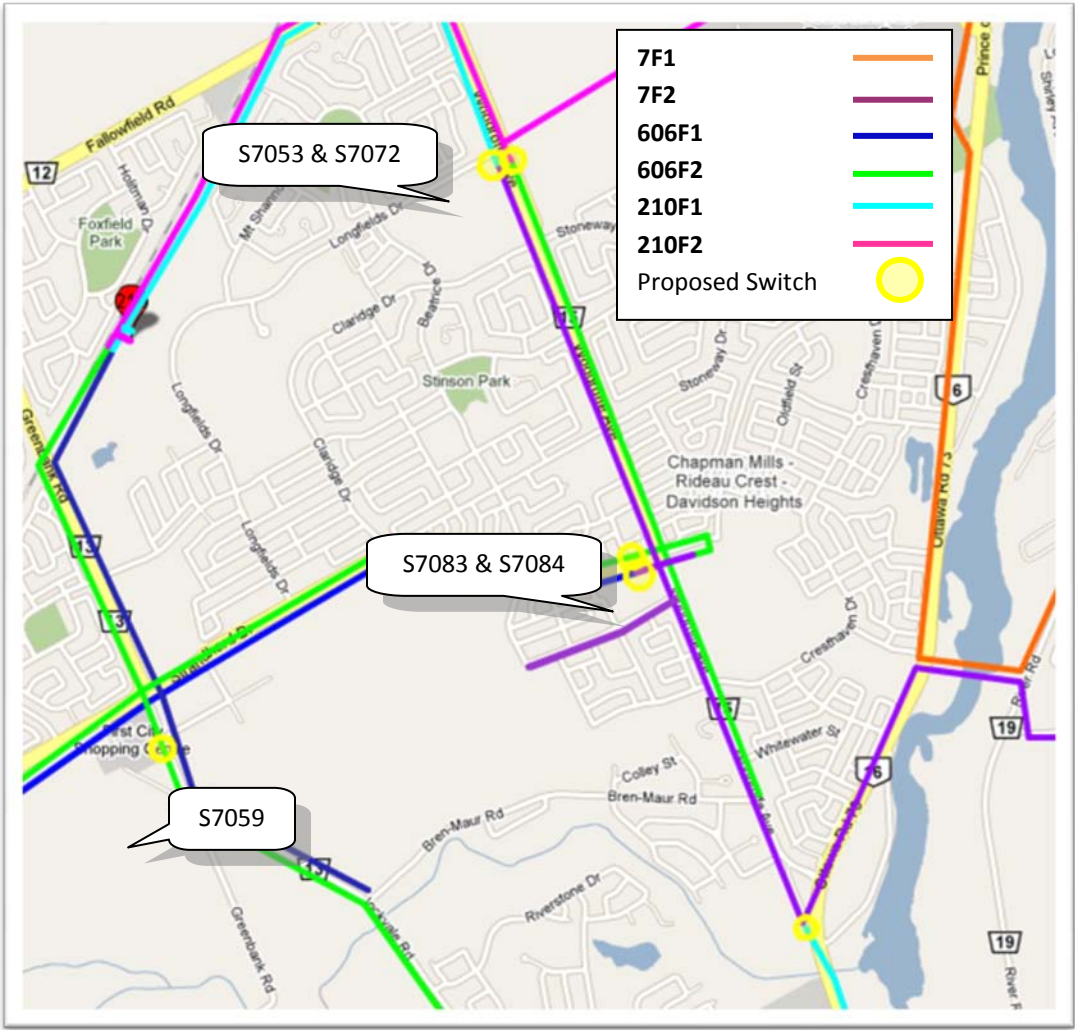
Nepean 28kV Distribution Switch Automation

Five locations have been proposed for the installation of remotely operated switches, preferably with reclosing abilities. The automated switches will reduce the duration of outages. The switch locations are existing normal open points between Fallowfield DS, Longfields DS and Limebank MS, or are strategic locations to allow for sectionalizing of the feeders in south Nepean.

The three distribution stations that currently feed the south Nepean area all have single supplies and are dependent on the other stations to serve the area in the event of a failure. With this in mind the time needed to transfer the load between the stations should be minimized. Currently the majority of the normal open points are manual switches. Five locations have been identified for potential automation:

- S7083 which is located west of Woodroffe Avenue on Strandherd Drive and is the normal open point between 7F2 and 606F1. The current switch is a manual gang operated load break switch
- S7084 which is located west of Woodroffe Avenue on Strandherd Drive and carries the 606F2. The current switch is a manual gang operated load break switch
- S7053 which is located south of Longfields Drive on Woodroffe Avenue and is a normal open point between 7F2 and 210F1. The current switches are inline single phase switches
- S7072 which is located south of Longfields Drive on Woodroffe Avenue and is a normal open point between 606F2 and 210F2. The current switches are inline single phase switches
- S7059 which is located south of Strandherd Dive on Greenbank Road and carries the 606F2 down to the Half Moon Bay area. The current switches are inline single phase switches

Figure 58. Proposed Locations for Remotely Operated Switches



By installing the remotely operated switches at these locations, restoration and isolation of potential outages in the south Nepean area can be automated. The automated switches can reduce the operation time from an assumed time of two hours, to 30 minutes or less for each switch. This will have a large impact on system reliability (SAIDI) performance measures.

CPP Padmount Switch Improvement

Eight existing padmounted switches in Kanata have been identified as requiring modifications to the remote control function. The 28kV trunk feeder switches are integral to the north Kanata 28kV system and include many tie points between Kanata MTS, Marchwood MTS and Bridlewood MTS. Switch position indication has been problematic and the unreliable component has been identified. The project involves replacing the component with a robust monitoring device to improve reliability and availability of the remote switches.

The switches were installed in the north Kanata underground distribution system from 1999 through 2003 and incorporated into the Hydro Ottawa SCADA system. The switches were positioned to provide

remote feeder switching and load transfer capability to the north Kanata business park. Through the years of operation, the reliability of the switch controls has come into question. Through investigations with Hydro Ottawa and the vendor, the primary cause for the poor reliability has been traced back to the switch position indicators in the units. These indicators are prone to the temperature swings in Ottawa and go out of calibration. This causes the switch controls to lose switch position status and subsequently fail to operate, since the controls require switch position to be known before an operation can be executed. There are newer components on the market that will perform this function much more reliably and with less maintenance than the current solution. Therefore the existing padmounted switches require an upgrade to the remote control system to improve reliability and availability. The upgrade will also have the benefit of reducing control system maintenance requirements.

CS27436 Switch Replacement

CS27439 is currently three inline switches, which area framed to allow a vertically installed SCADA Mate. The inline switches are to be replaced with a gang operated load break switch that can allow for remote operation. This is normally the open point between 210F2 and 7F1, and has a need to frequent, timely operations.

Switch CS27436 was an existing SCADA Mate switch that was removed from service in 2009, when it was determined to have failed. The switch is typically the normal open point between Longfields 210F2 and Limebank 7F1. Since the removal of the switch, the open point has moved further west along Longfields Drive and is currently at a manual gang-operated load break switch. By reinstalling an automated switch at the location, operation of the open point can be reduced from an assumed time of two hours to 30 minutes or less. The existing inline switches will be replaced with a gang operated load break switch, preferably with an automated switch. By installing the automated switch, the open point can be restored to a remotely operated switch which will reduce expected outage times.

Viper instillation at Longfields Station (210F1)

Currently switch S7000 is currently a manual gang operated load break switch. The gang switch is to be replaced with a remotely operated switch. This is normally the open point between 210F1 and 606F1, and has a need for frequent, timely operations.

Switch S7000 is currently used as the normally open point between 210F1 and 606F1, and is a manual gang operated load break switch. While the normal open point between 210F2 and 606F2 is a remotely operated SCADA Mate switch. Both switches as located just west of Longfields DS and are along the existing Southwest Transitway Corridor, and are not adjacent to a public roadway. With the current location of S7000, access can be difficult at certain times in the year, by installing a remotely operated switch; access will only be an issue for maintenance.

Longfields DS is one of the main back-up supply locations for Fallowfield DS. Fallowfield DS is a single transformer station with a single radial supply. As a result of its configuration Fallowfield DS must rely on adjacent stations for security of supply. By installing the remotely operated switch at S7000, the restoration and isolation of Fallowfield DS can be automated.

By installing the automated switch, operation of the open point can be reduced from an assumed time of two hours to 30 minutes or less.

The existing manually operated gang switch will be replaced with an automated gang operated load break switch. By installing the automated switch, the open point can be restored to a remotely operated switch which will reduce expected outage times.

Viper Installation at Goulbourn Force Rd

Currently switch S12215 is a manual gang operated load break switch. The gang switch is to be replaced with a remotely operated switch. This is normally the open point between 624F1 and MWDF1, and has a need for frequent, timely operations.

Marchwood MS is the main back-up supply station for Kanata MTS. Kanata MTS is a DESN (Dual Element Spot Network) type station with redundant major elements such as transformers and two supply circuits. In its current configuration, if supply to one of the transformer was lost, the remaining transformer would not be able to handle the entire load of the station. Switch S12215 is located very close to the station; therefore the operation of this switch will transfer the entire load of 624F1 to MWDF1 or vice versa.

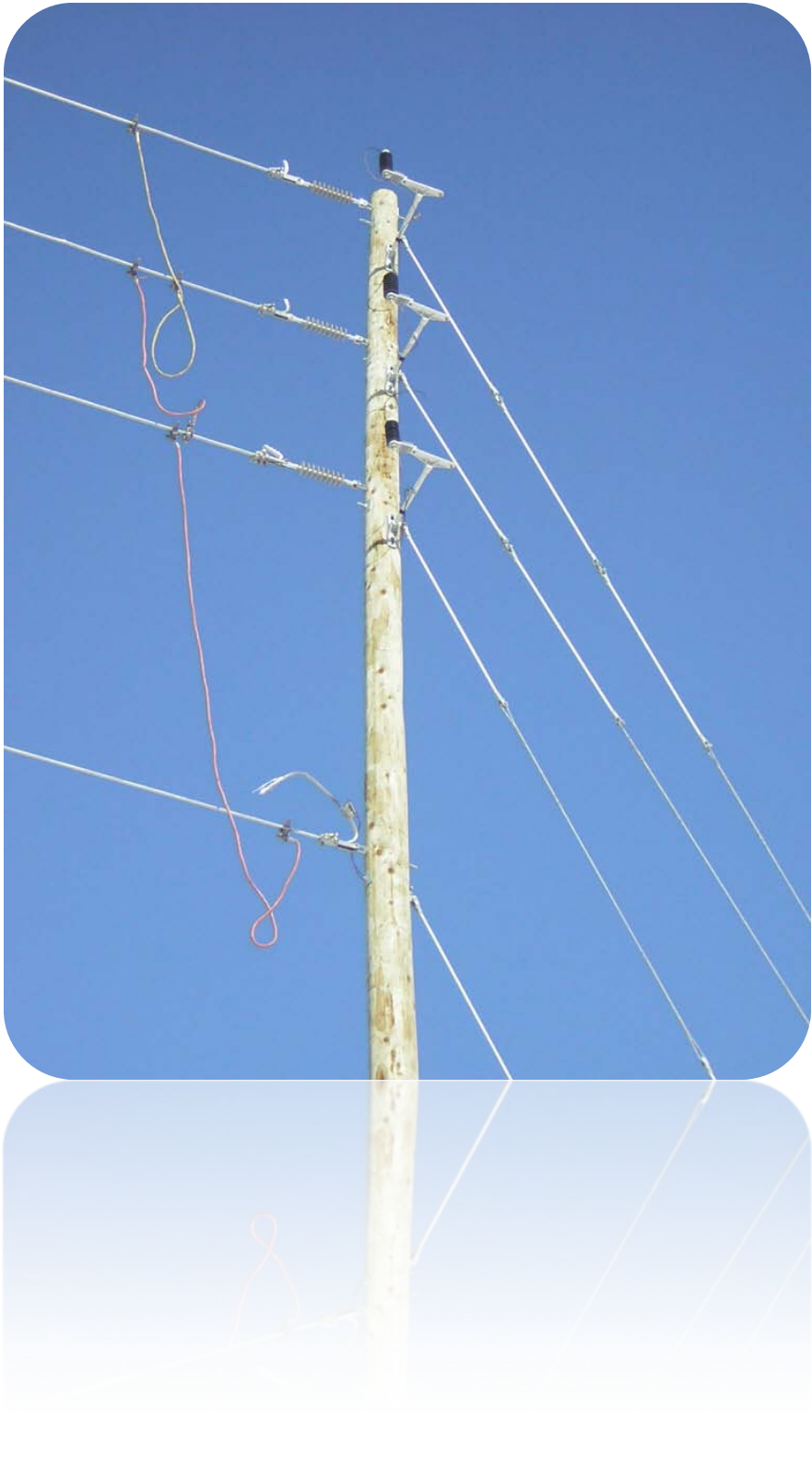
By installing the remotely operated switch at S12215, the restoration and isolation of Kanata MTS (or Marchwood MS) can be automated and the operation of the open point can be reduced from an assumed time of two hours to 30 minutes or less.

Viper Installation at Hazeldean Rd

Currently switch S18696 is a manual gang operated load break switch. The gang switch is to be replaced with a remotely operated switch. Switch S18696 is the normal open point between ALEXF3 and BRDF3, as is a manual gang operated load break switch. The overhead pole line along Hazeldean road is being relocated in conjunction with the Hazeldean road widening project. The new ID for this switch will be S22403.

The feeder BRDF3 from Bridlewood MS is the main back-up supply for Alexander DS. Alexander DS is a two transformer station with a single radial supply. This station is owned and operated by Hydro One Networks. As a result of its configuration Alexander DS must rely on adjacent stations for security of supply. By installing the remotely operated switch at S22403, the restoration and isolation of Alexander DS can be automated and operation of the open point can be reduced from an assumed time of two hours to 30 minutes or less.

Section K. Distribution Enhancement



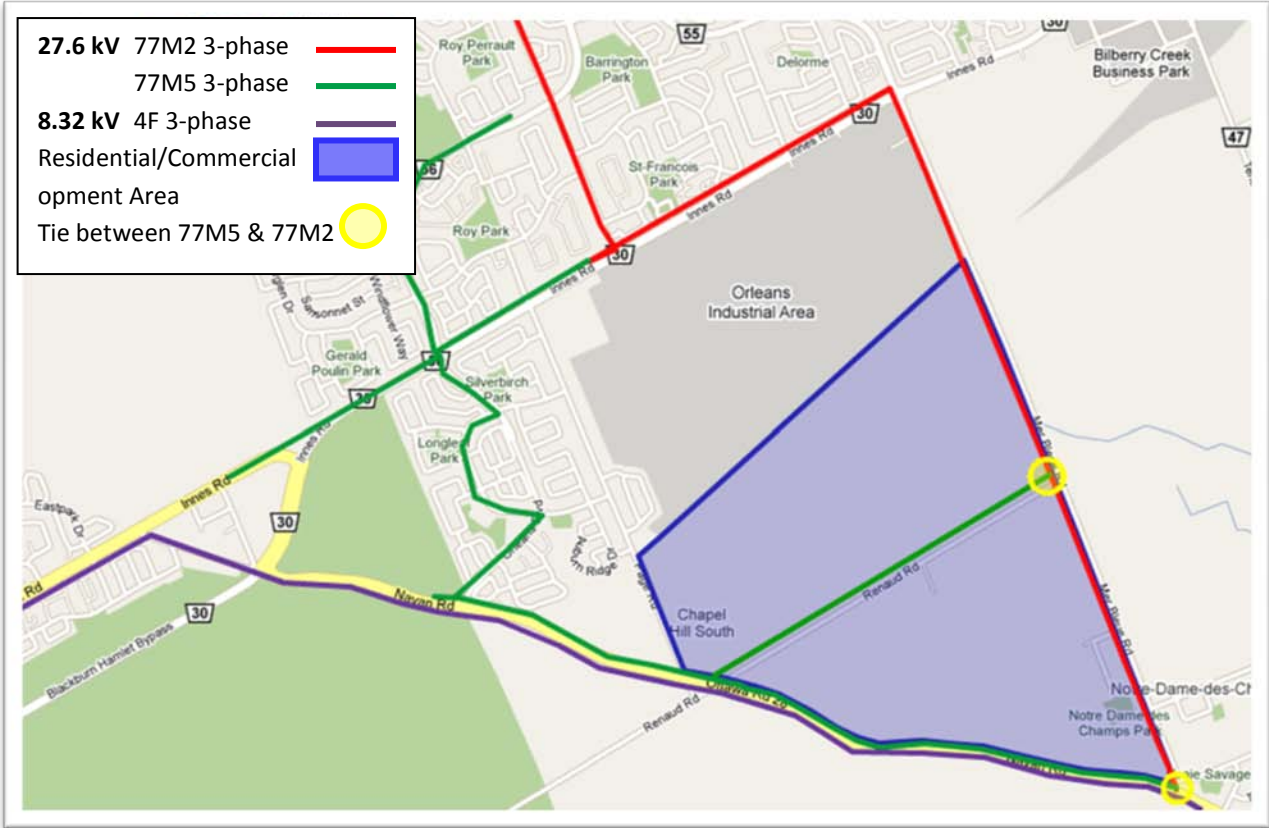
Line Extensions

Bilberry M2 Extension

The area located in the south east portion of the service territory is currently serviced from a single-phase overhead line along Renaud Road and a 3-phase 8.32 kV overhead line along Navan Road. There have been a number of proposed residential developments in the area surrounding Navan Road and Renaud Road. To accommodate these neighbourhoods a new 3-phase 27.6 kV feeder is needed.

An extension of the 3-phase 77M2 down Mer Bleue Road will be required to create a loop system. The extension of 77M2 will create two loops to the 77M5 so that the residential developments will not be fed radially and the trunk circuits will have alternate routes to supply the area.

Figure 59. Proposed Feeder Extensions

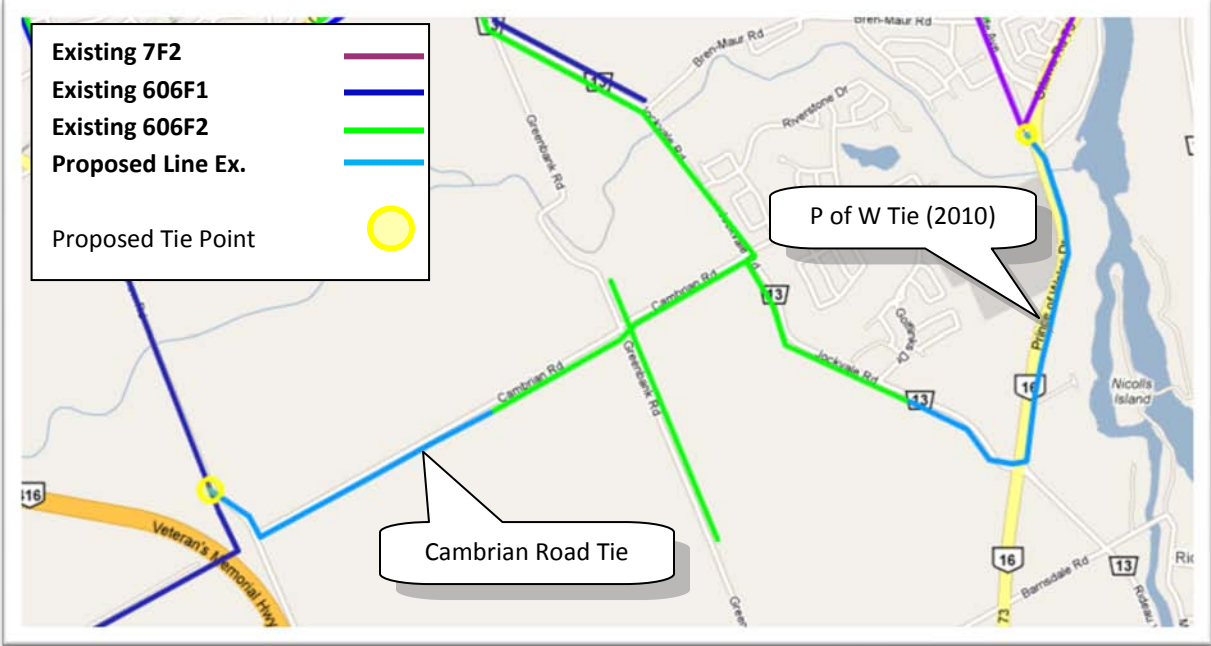


Cambrian Road 27.6kV Tie

Currently there are 2500 customers supplied by a radial line on the 606F2 south of Strandherd and Greenbank. There are plans to build a tie along Prince of Wales Drive from Woodroffe Avenue to Jockvale Road in 2010. This tie will provide a back-up tie for 1200 of the 2500 customers currently south of the Jock River. However, the remaining customers and the majority of the proposed development in the Half Moon Bay area is west of Jockvale Road and would not be served by the Prince of Wales Road tie.

A new 2km pole line is proposed to be constructed west of River Mist Road to Cedarview Road along Cambrian Road. This line is to provide a back-up supply to the Half Moon Bay development.

Figure 60. Proposed Feeder Extension



Ellwood Feeder Egress

The need for a new 13.2 kV station in the East-end of Ottawa was determined based on current and projected load growth in the area. To alleviate the capacity issues with the 13.2 kV system in the east-end of Ottawa a new station, Ellwood MTS is under construction.

As part of the integration of the new station into the distribution system, we will transfer ten feeders to Ellwood MTS and as shown below with the respective 2009 loading levels. Selection was based on best practice to eliminate “hair-pinned” feeders at Albion TA plus feeder loading and performance. “Hair-pinned feeders” refer to two feeders connected to the same station breaker. This is done to save space in a station and money in reducing the number of breakers needed; however, operationally, interruption on one feeder may interrupt the other feeder, and troubleshooting is impeded, as both feeders need to be checked before restoration can happen.

Table 37. 2009 Feeder Loading Levels

Circuit	R Amps	W Amps	B Amps	MVA
TA1AF	277	281	269	6.38
2205	147	151	179	3.67
TA2QZ	106	96	95	2.31
TA1AQ	112	132	133	2.94
TA3AE	230	230	234	5.35

Circuit	R Amps	W Amps	B Amps	MVA
TA1AN	161	214	143	4.01
TA2AN	206	205	202	4.68
TA1AJ	4	5	5	0.10
TA3UA	312	292	286	6.76
TA3UZ	144	144	145	3.42
Total	1699.39	1750.96	1691.91	39.62

Fallowfield MTS Egress

Growth in the south Nepean area has been growing at the rate of 7% for the past six years. To supply this growing load a second 25 MVA transformer is being installed at Fallowfield MTS in 2010. A new cable egress from the newly constructed second bus at Fallowfield MTS is will be constructed. This will connect the second transformer to the existing distribution system.

Nepean AB05 Tie

Nepean AB currently has 1.0 MVA of spare capacity in the event of a transformer contingency. The redundant capacity at this station is less than 20% of the bank rating and should be increased by either increasing the transformation at the station or by transferring load to an adjacent station. Slater SA is an underutilized station with a large amount of redundant capacity, and is relatively close to Nepean AB. However, there has been a desire to retire the station, so any load that is to be transferred onto the station should not be of a permanent nature.

A new span of the SA23 is proposed to be extended west along Lisgar Street from O'Connor Avenue, to connect to AB05. The normal open point for the two feeders could be than moved to S19010. This would transfer 900 kVA of transformation or approximately 500 kVA of demand off of Nepean AB.

Nepean AB06 Tie

A new span of the Cambridge AM04 is proposed to be extended east along Lisgar Street from Bronson Avenue, to connect to AB06. A new switch can be cut in and the normal open point for the two feeders could be than moved to west of Lisgar Street and Percy Street. This would transfer 300 kVA of transformation or approximately 180 kVA of demand off of Nepean AB.

Nepean AB07 Tie

A new span of the Slater SA22 is proposed to be extended west along Nepean Street from O'Connor Avenue, to connect to AB07. The normal open point for the two feeders could be than moved to AB07-DIP2. This would transfer 1100 kVA of transformation or approximately 650 kVA of demand off of Nepean AB.

New Cyrville Feeder

A third circuit from Cyrville MTS is needed to provide a backup for Moulton MS, and to fill one of the two empty feeder positions at the station to meet the requirements of the Connection Cost Recovery Agreement with Hydro One.

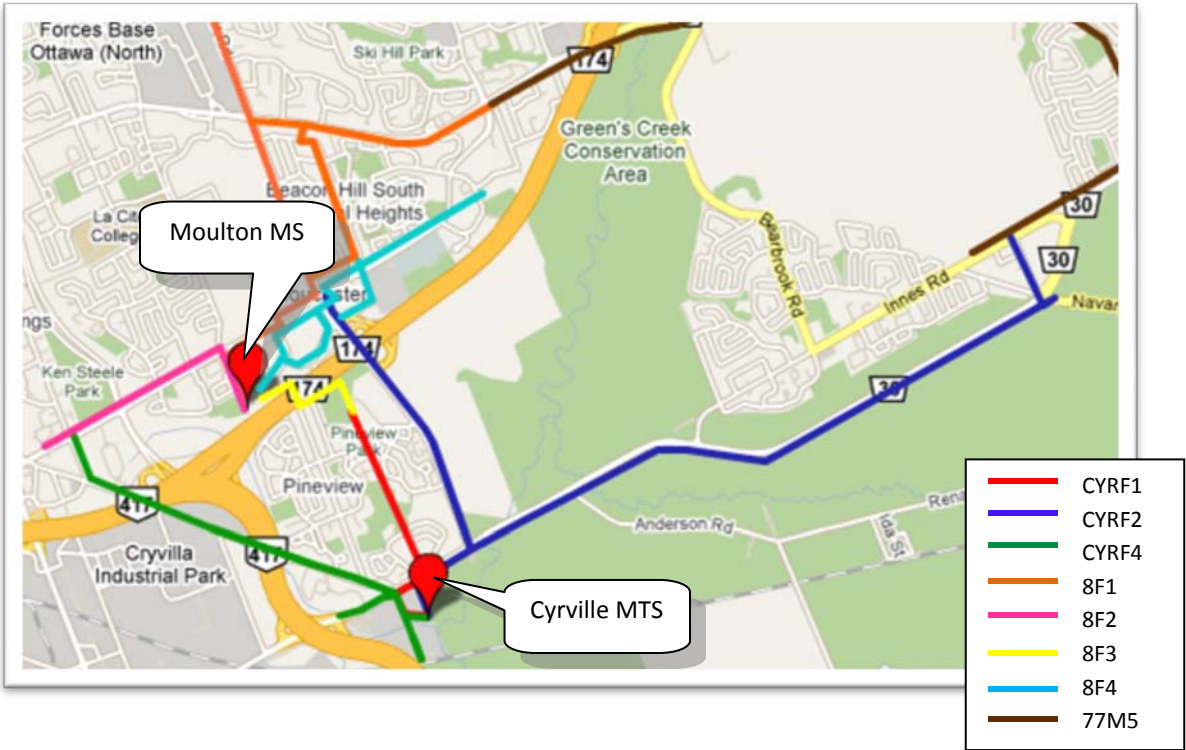
Background

In December 2008 Cyrville MTS was energized as a 115/27.6 kV DESN station with a summer LTR of 65 MVA. There are four feeder positions available and two are currently in use, CYRF1 and CYRF2.

Cyrville was constructed to relieve load from and backup Moulton MS and Bilberry Creek TS, both 115/27.6 kV stations in the east-end of Ottawa.

The figure below outlines the plan for the service areas of CYRF1, CYRF2 and CYRF4 along with the four feeders from Moulton MS (8F1, 8F2, 8F3 & 8F4) and the single feeder from Bilberry Creek TS (77M5) that Cyrville MTS will relieve load from and backup.

Figure 61. Proposed Feeder Configuration



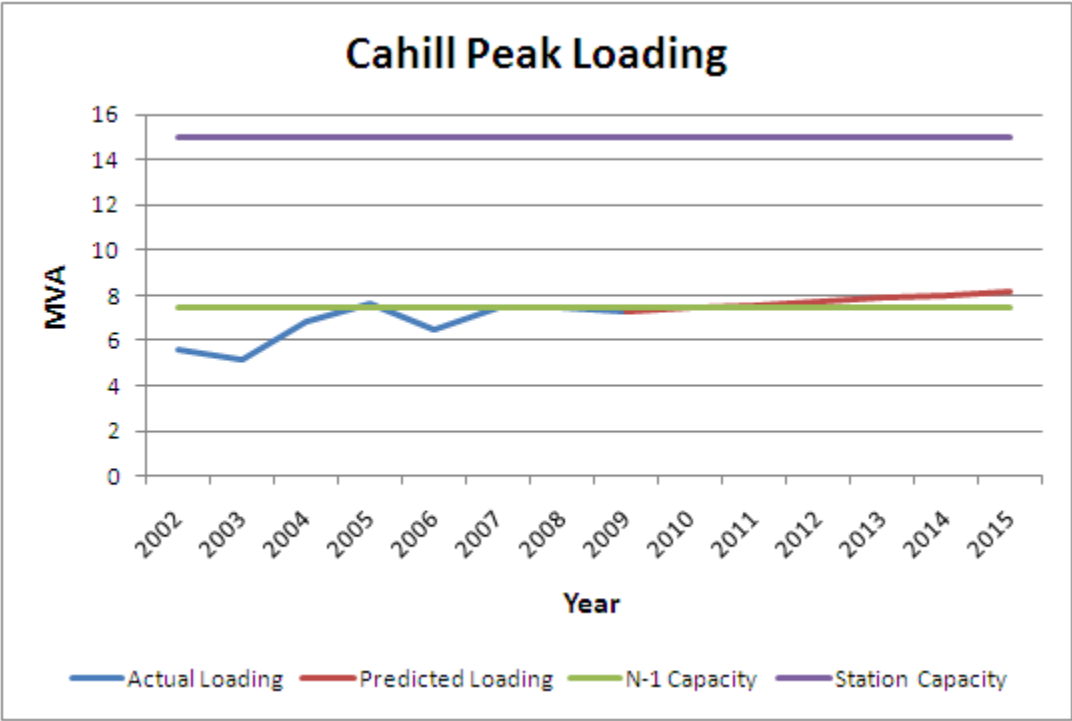
Offload Cahill to McCarthy

Based on the historic and projected loading at Cahill AN, the station will exceed the single contingency capacity rating in 2011. The forecasted loading is shown in the table and figure below and is based on a 2% growth rate per year.

Table 38. Cahill AN Loading Levels 2002-2015

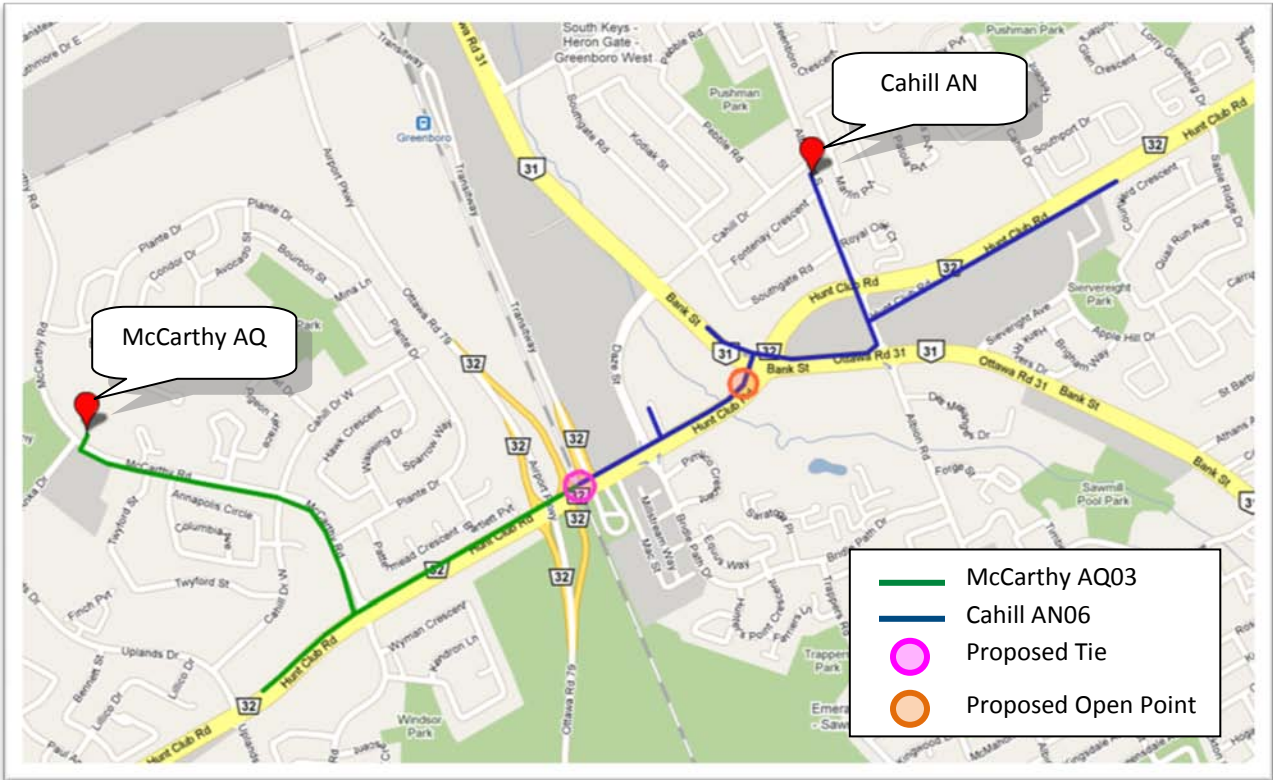
Year	Station Loading (MVA)	Station Capacity (MVA)	N-1 Capacity (MVA)	N-1 Surplus / Deficit
2002	5.56	15.00	7.50	1.94
2003	5.16	15.00	7.50	2.34
2004	6.83	15.00	7.50	0.67
2005	7.64	15.00	7.50	-0.14
2006	6.49	15.00	7.50	1.01
2007	7.46	15.00	7.50	0.04
2008	7.46	15.00	7.50	0.04
2009	7.27	15.00	7.50	0.23
2010	7.42	15.00	7.50	0.08
2011	7.56	15.00	7.50	-0.06
2012	7.71	15.00	7.50	-0.21
2013	7.87	15.00	7.50	-0.37
2014	8.03	15.00	7.50	-0.53
2015	8.19	15.00	7.50	-0.69

Figure 62. Cahill Peak Loading



To resolve this issue a load transfer is proposed between the Cahill AN06 and McCarthy AQ03.

Figure 63. Proposed Feeder Configuration



Strandherd Bridge Crossing – Phase 2

A temporary overhead river crossing was constructed to create a tie between Limebank MS and the South Nepean area. There was an understanding that Hydro Ottawa would remove the overhead line once the bridge was constructed. The civil structure for the underground crossing is to be constructed in 2010 along with the City of Ottawa’s construction of the eastern approach to the bridge.

The existing overhead Rideau River crossing needs to be relocated into the newly constructed Strandherd Bridge. This is the second phase of a project that was started in 2010.

To comply with the agreement to remove the overhead pole line, it is proposed to complete the underground crossing in 2011. Phase 2 will include the installation of 2 circuits in the bridge and connection to the duct structures on the east and west sides of the bridge. The civil structures are planned to be constructed in 2010. 16 ducts will be installed in the south side of the bridge by the City of Ottawa.

TR2TS Transfer

Slater TS currently has a peak summer demand of 140 MVA, while it has a LTR rating of 134 MVA. When the load does surpass the LTR rating, the buses must be split and the inherent reliability of the DESN station is lost.

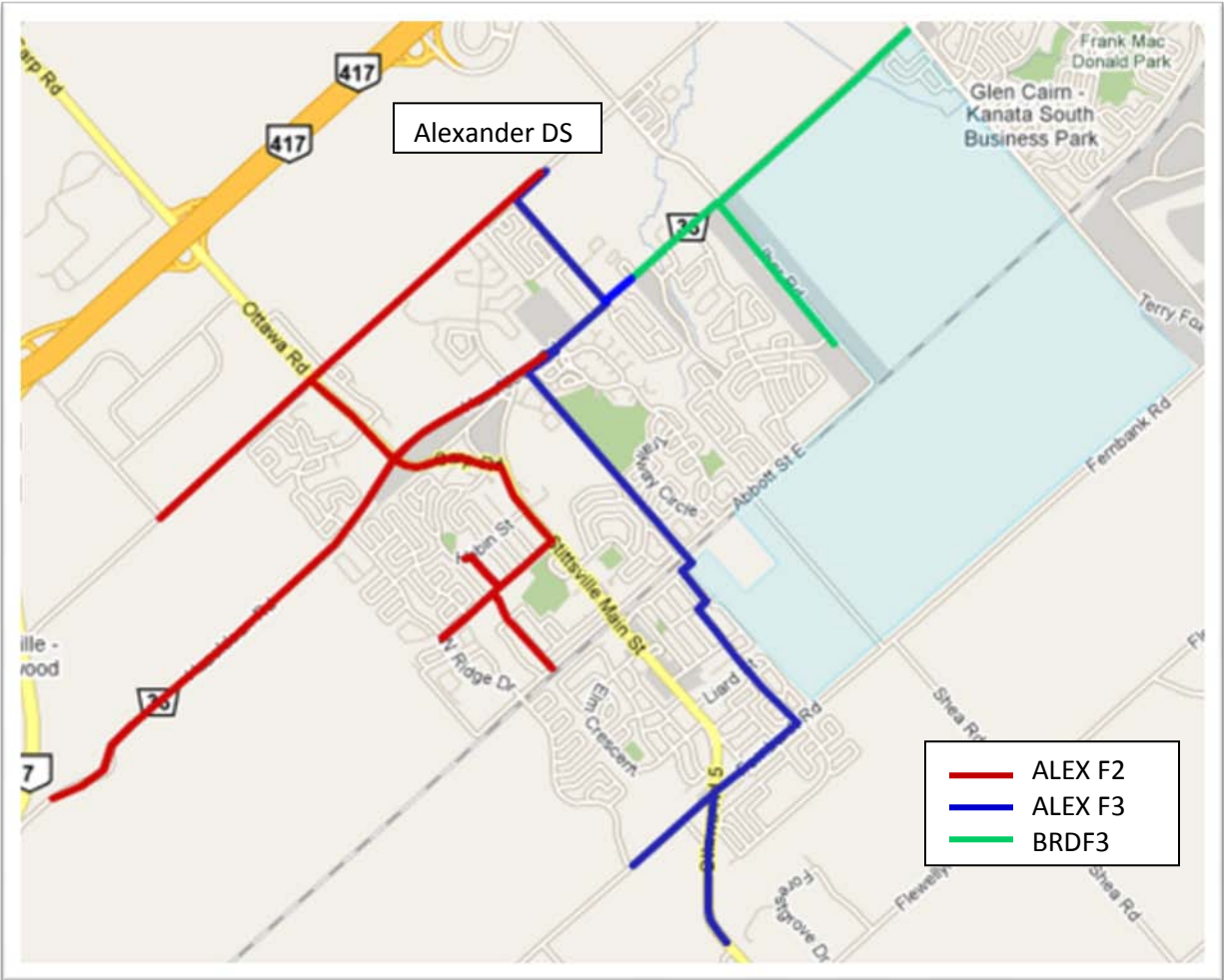
To aid in the reduction of load on Slater TS, TR2TS is to be transferred off of Slater TS54 onto Riverdale TR. To facilitate this, the hairpin connection at Riverdale TR04 would need to be removed. It is expected to transfer approximately 6.5 MVA of peak demand off of Slater TS.

Overhead Extension on Abbott Street

A trunk feeder along Abbott Street is needed to eliminate the dependency on the 28KV backyard pole line and to provide a backup for the Alexander DS feeders (ALEXF2 and ALEXF3), to minimize outage duration in this area. In addition, there are a number of projects proposed in the Stittsville area; hence more load capability would be needed. Currently, the Alexander DS feeders are approaching their loading limits and would not be able to supply the load for the proposed new developments.

The figure below depicts the current feeder configuration in the area of Stittsville. Alexander DS is the main supply to the Stittsville area with the BRDF3 feeder from Bridlewood MS supplying some of the load west of Stittsville.

Figure 64. Current Feeder Configuration in Stittsville



The section of line of ALEXF3 between Hazeldean Road and Abbott Street is located in an area that is not easily accessible and therefore any fault along this section would result in long outages. Hydro Ottawa is planning to relocate this line to the new North-South arterial (defined on the Fernbank Community Design Plan). Completion of a trunk overhead line along Abbott Street would allow loads to be normally fed from this route as opposed to the backyard pole line currently housing the 28KV ALEXF3 feeder.

For the section between Hazeldean Road and Fernbank Road, it can be observed that there are no existing main trunk ties between the circuits feeding this area. Therefore, when a fault in this area occurs the feeders are back-up through their distribution lines which requires long outages due to the number of switching operations that need to be done.

Another issue found in Stittsville is the increasing number of commercial and residential projects proposed for this area which will require more loading capability. Currently, Alexander DS station and the feeders supplying load in this area are approaching their loading limits and would not be able to supply the increasing loading demand. In 2012, Hydro Ottawa plans to start the construction of a new 28kV station, Terry Fox MTS, to meet the increasing load demands of this area. Once the Terry Fox station is completed, the new overhead trunk line along Abbott Street will be fed from the new station and will relieve some of the load from Alexander DS.

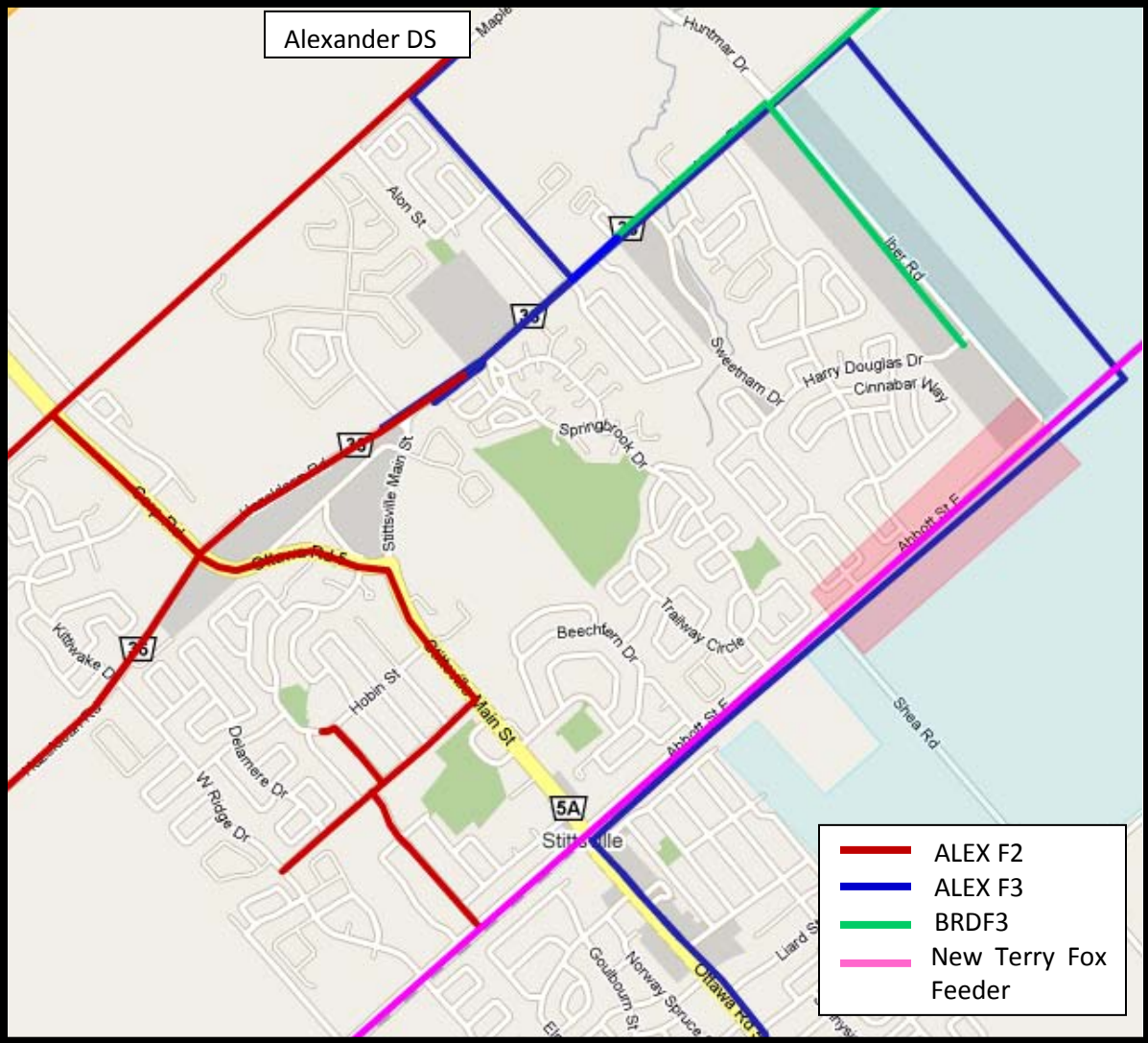
In the figure above, the area shaded in light blue covers the area for the new Fernbank Community. This new community will have a total of 9,718-10,977 residential units, three secondary schools, eight elementary schools and 11.5 ha of commercial development. Therefore, the Fernbank Community alone will need approximately a total of 38 MVA. There are other commercial projects that are being proposed for this area, especially along Hazeldean Road and Iber Road, which will increase even more the load capability needed in this area.

The benefit of adding a new trunk overhead line along Abbott Street will be elimination of the dependency on the ALEXF3 backyard pole line, reduction in outage duration as new ties will increase configuration flexibility, and increased in capacity for the new proposed developments in the area.

The project consists in relocating the 28kV backyard pole line to the new North-South arterial (defined in the Fernbank Community Design Plan) and constructing a new overhead line along Abbott Street. Also required would be the re-conductoring of several spans of wire along Jonathan Pack and Beverly Street and the tie in, via overhead crossing, of the 27.6 kV OH on Beverly Street to the existing OH on Main Street. To improve the reliability of the system even further, the section of line of the ALEXF3 feeder between Abbot Street and Fernbank Road would need to be relocated to Stittsville Main Street since its current location is not easily accessible.

The figure below shows the entire project for this area, the first phase of the project will only cover the section shaded in red and it is plan to begin in 2011. This involves the construction of an overhead line for two 28KV feeders along Abbott Street from Iber road to Shea Road.

Figure 65. Proposed Line Extension



System Voltage Conversions

Greenbank Road Rabbit Installation

As the development of south Nepean progresses, there is a need to remove the existing 8.32 kV distribution to allow for the new 27.6 kV distribution which is servicing all of the new development in the area. Currently the pole line on Greenbank Road south of Cambrian Road is constructed with back to back 8.32 kV and 27.6 kV circuits; the 8.32 kV has been expressed through the development area and is not servicing any customers in the area.

To allow for the phasing out of the 8.32 kV distribution in the rural sections of south Nepean, and to remove a section of back to back 8.32 kV and 27.6 kV circuits, a set of step down transformers “rabbits” are to be installed on Greenbank Road south of Dundoland Drive. The dead ending of the existing 140F2 north of Cambrian drive will be included in this project.

Prince of Wales Road Rabbit Installation

To allow for the phasing out of the 8.32 kV distribution in the rural sections of south Nepean, a set of step down transformers “rabbits” are to be installed on Prince of Wales Drive south of Woodroffe Avenue .

To accommodate the removal of the 8.32kV feed from Woodroffe Avenue and to reduce the costs occurred in 2011, a set of 27.6/8.32 kV step down “rabbit” transformers are to be installed on Prince of Wales Drive south of Woodroffe Avenue. This location will be a temporary installation and will be the first phase of the 27.6 kV conversions in South Nepean.

Kilborn UP Voltage Conversion

Kilborn UP is 4.16kV station which supplies the region between Pleasant Park Road and Heron Road. Due to the condition of the station switchgear it will require replacement in the next 5 years and the transformers within the next 10 years. A financial review of the benefits to retiring Kilborn UP and converting its service area to 13.2kV was undertaken in 2009. The results of this financial assessment indicate that over a 25 year projected time scale, decommissioning the Kilborn substation would save \$1.5M.

Initiated in 2010 the Kilborn Voltage conversion is a series of projects which will culminate with the decommissioning of the Kilborn Up 4.16kV Station. The area currently supplied by this station will be transferred to operate at 13.2kV. This program includes several phases to prepare the system for conversion:

- Upgrading insulation to 13.2kV level, involving replacement of distribution insulators and transformers in the region.
- Accelerated pole replacements in the area (Planned Pole Replacement program)
- Switching Centre installation, installation of distribution switches to allow connection of local 4kV distribution to 13kV sub-transmission in the region and improve regional operation.

- Vault conversion work, upgrading vault transformers and switchgear to prepare them to be supplied from 13kV.

System Reliability Enhancements

Barrhaven DS Egress Cable Reconfiguration

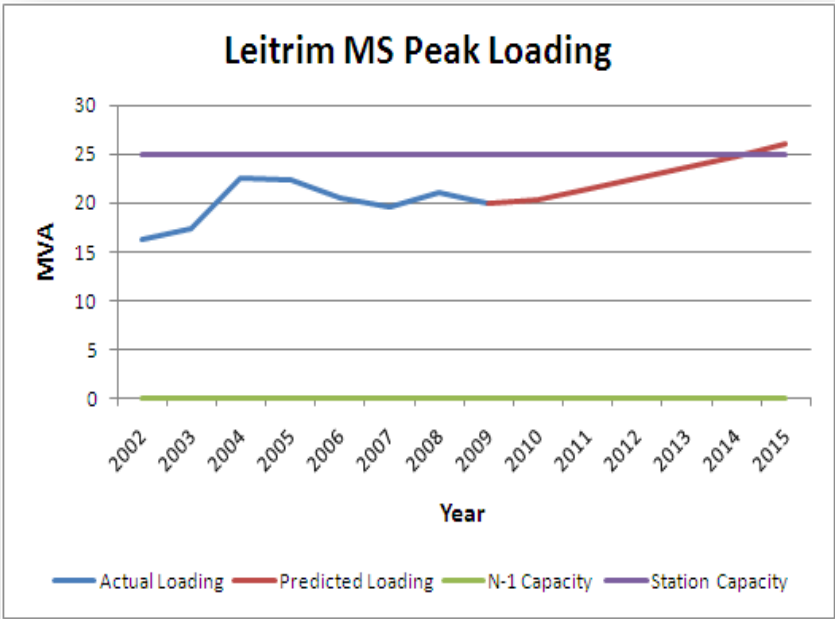
The Barrhaven 8.32 kV area is heavily loaded and has limited back-up points because of its remote location. The current arrangement of the egress cables at Barrhaven DS is limiting the use of all five breakers currently installed. The 140F4 is currently loaded to 64% of its capacity while the 140F2 is normally open and not carrying any load. The 140F4 rises to the north of the station and runs both north and south along Greenbank Road and the 140F2 currently rises to the south of the station. The 140F4 is the only back-up supply to the 145F2.

To improve the contingency and system flexibility of the feeders at Barrhaven DS, it is proposed to re-configure the 140F2 and 140F4 egress cables. This would split the load on the 140F4 between the 140F2 and 140F4. A new normal open point would be established at S978. It is assumed that transferring the existing egress cables within the existing station would be possible and no new cables would be needed.

Leitrim 44KV Supply

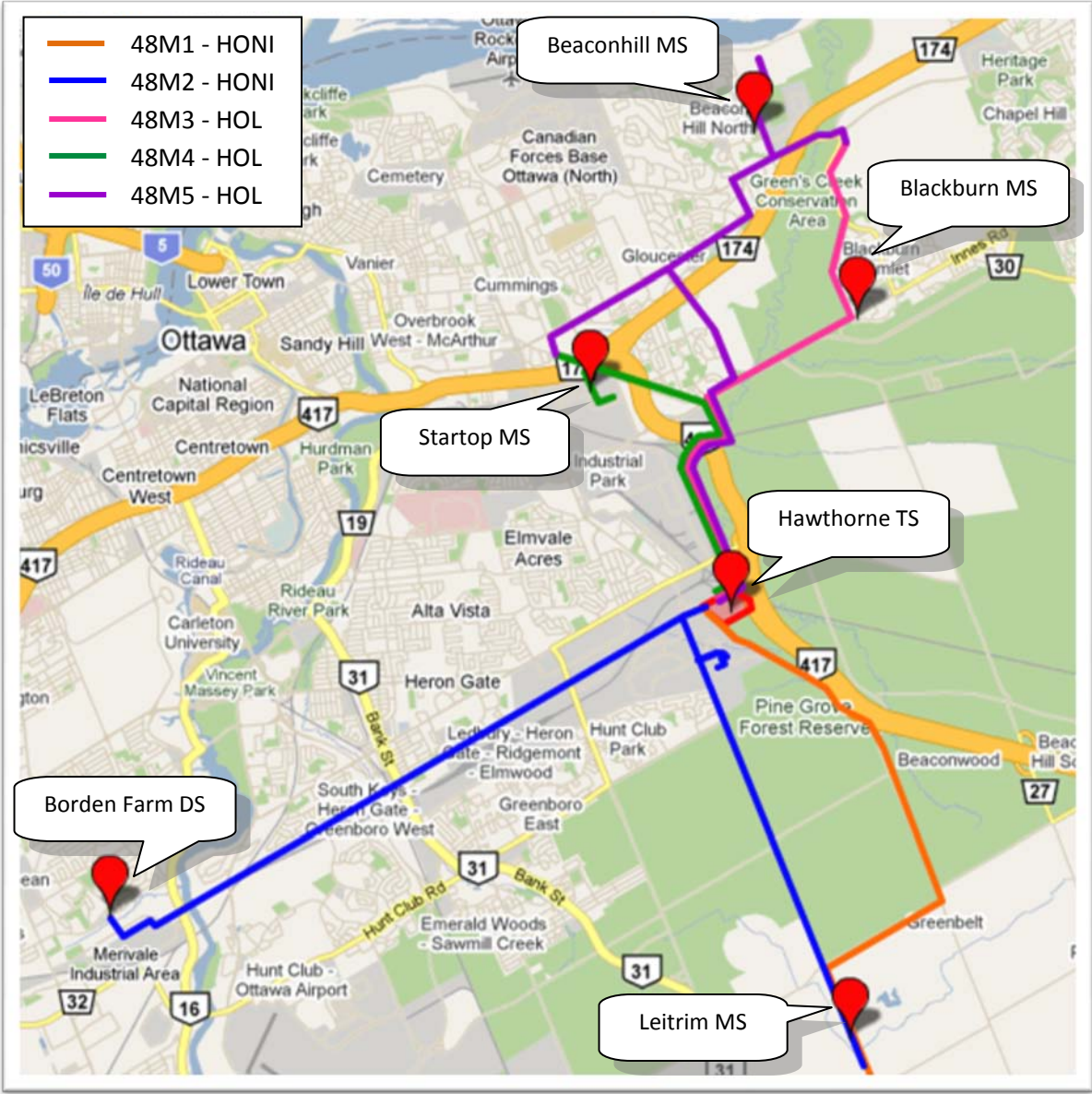
Based on a projected load growth of 5% per year at Leitrim MS station, a second transformer will be needed to augment the station capacity by 2014 (see the figure below). To be able to add a second transformer at Leitrim MS capacity on the incoming 44kV feeder from Hawthorne TS must be made available. To increase the capacity, load will be transferred from the 48M2 onto the 48M4 which would then supply Leitrim MS.

Figure 66. Leitrim MS Peak Loading



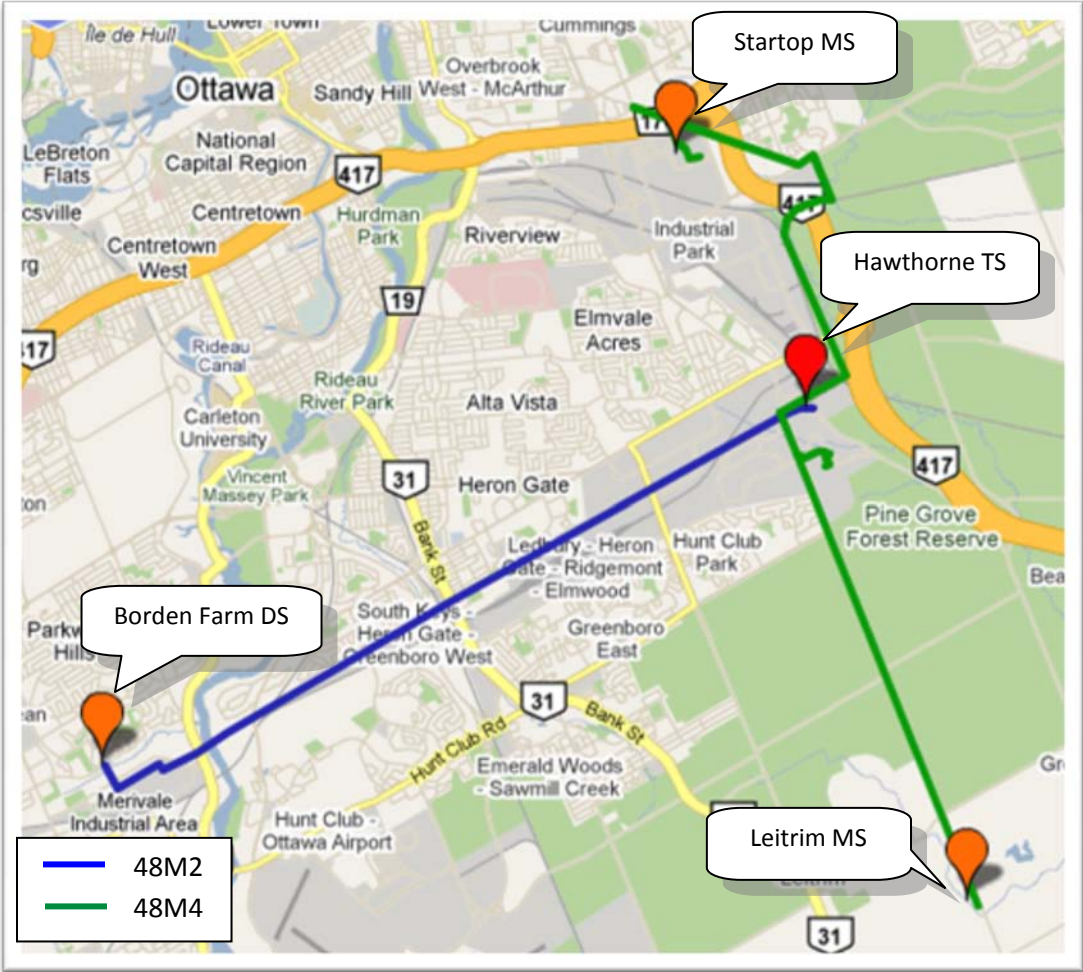
The figure below outlines the arrangement of the 44kV circuits from Hawthorne TS.

Figure 67. 44KV circuits Reconfiguration



Currently, the 48M2 splits and a section runs west to feed Borden Farms DS and the other section runs south down Hawthorne Road to feed Leitrim MS. The proposal has the 48M4 picking up the section of the 48M2 that runs south to Leitrim by adding a new pole line to create the tie. The figure below outlines the proposed configuration.

Figure 68. Proposed Feeder Configuration



To allow the 48M4 to carry the load from the 48M2, a new pole line would have to be constructed to connect the two circuits on Hawthorne Road between Russell Road and Ages Drive.

Switch S191 Transfer

The Barrhaven 8.32 kV area is heavily loaded and has limited back-up points because of its remote location. There are only three back-up routes between the two Barrhaven 8.32 kV stations, and it is desired to keep the combined loading on the circuits on these routes below the egress cable capacities at the stations.

To reduce the loading on Jockvale 145F2 it is proposed to transfer the tap for S191 from 145F2 to 145F3 at the corner of Fallowfield Road and Cedarview Road. This would increase the transfer capacity of 145F2 and would balance the loading on the two transformers at Jockvale.

Section L. Risk Management

The Asset Management Process involves assessing a project or program activity from two perspectives: the downside risk of not undertaking the activity, and the benefit or disadvantage of undertaking the activity. As the Asset Management Framework and Processes mature, focus for this disclosure report has been on Risk Management, namely, identifying, assessing, and prioritizing activities based on the negative ramifications of not funding a project or program activity.

The suggested direction for managing risk of a predictable calamitous event may be focused on monitoring, reducing, or controlling the probability, the consequence or both of it happening. We concentrate on the physical aspects of risk associated with managing the distribution system assets. The objective is to avoid catastrophe, reduce uncertainty and improve predictability.

For distribution system assets, risk is defined as the probability and consequence of an asset infrastructure component failing, such as a cable, pole, switch, or transformer. For distribution system planning, risk is defined as the probability and consequence of the asset infrastructure's capability failing, such as the capacity, operability, or proximity to deliver or receive electricity from a generator or a load customer.

Physical Asset Risk Management

To predict and quantify asset failure models, failures are assessed for individual key assets as well as pooled assets based on known past performance and asset demographics. In the case of performance of the assets we are evaluating reliability and capacity, in the case of demographics we are evaluating age.

Asset life for electrical distribution equipment is very difficult to predict because data on actual life expectancy is limited for most assets. In the absence of hard information we use sound engineering judgment based on trends and HOLs experience.

The output of this process organizes asset registries and prioritizes the highest risk assets (highest risk of failure) within the individual asset categories which are then grouped (where appropriate) into project or program initiatives.

Gap analysis is performed annually for all programs which results in planning for future initiatives to increase HOLs understanding of failure modes and effects.

Program Planning Risk Management

The overall program plan risk is evaluated at a project level and therefore the effectiveness of project planning becomes essential. Projects plans are drawn up from detailed engineering review of the physical assets, system loading and reliability performance and evaluated based on probability and consequence if the project is not done.

The failure consequence is evaluated based on three key factors, Financial, Technical and Socio-Political.

Financial risks relate to lost revenues, fines and other penalties that arise from negative events, as well as any emergency repair costs associated with an asset failure that exceed the costs of the project.

Technical risks relate to possible failures of HOL to meet customer requirements due to deficiencies arising in assets, tools, people or processes.

Socio-political risks relate to negative events or conditions that impact HOLs relationship with customers, employees and other stakeholders.

Table 39. Sustainment Capital Risk Management Levels

Failure Consequence	Financial Impact	Technical Impact	Socio-Political Impact
Catastrophic	<ul style="list-style-type: none"> - One time loss of >\$1 MM (penalty, etc.) - permanent loss of revenue (\$200K annually) 	<ul style="list-style-type: none"> - 6 hour+ outage for >25,000 customers - 24 hour+ outage for > 5,000 customers - Destruction of asset base that compromises system ability to perform as designed 	<ul style="list-style-type: none"> - Fatality - Major environmental incident - Cause removal of board of directors - Result in significant leadership/ ownership change
Severe	<ul style="list-style-type: none"> - permanent loss of revenue (\$100K annually) - onetime loss of >\$500K (penalty) - major process interruption 	<ul style="list-style-type: none"> - 24 hour+ outage for 1 - 5 MW or 1000 - 5000 customers - 4 hour+ outage for > 5 MW or > 5000 customers 	<ul style="list-style-type: none"> - Cause for work stoppage - Create general public outrage with HO ("headline events") - Threat of serious injury to employees or public
Major	<ul style="list-style-type: none"> - permanent loss of revenue (\$50K annually) - onetime loss of >\$100K (penalty) 	<ul style="list-style-type: none"> - Significant loss of asset life (e.g. sustained overload conditions) - 8 hour+ outage for 300kW - 1MW or 500 - 1000 customers 	<ul style="list-style-type: none"> - Cause of deterioration in union relations (repeated grievances) - Threat of minor injury to employees or public
Moderate	<ul style="list-style-type: none"> - One time loss of \$100K revenue - result in a cost increase of 10% 	<ul style="list-style-type: none"> - Loss of communication with employees or customers - Improper operation of systems - Significant error rates in 	<ul style="list-style-type: none"> - Cause of dissatisfaction in a neighbourhood - Cause employee morale to drop departmentally

Failure Consequence	Financial Impact	Technical Impact	Socio-Political Impact
		HO work processes (>1%)	
Minor	- one time loss of \$50K - minor disruption to processes	- Brown outs	- Cause of sporadic dissatisfaction among customers - Negatively impact one or two employees
Minimal	- immaterial financial consequences or not applicable	- Immaterial technical consequences or not applicable	- Immaterial socio-political consequences or not applicable

The probability is based on the following defined thresholds;

Certain: Greater than 1 in 10 chance of occurrence

Probable: Greater than a 1 in 100 chance of occurrence but less than 1 in 10 chances of occurrence

Likely: Greater than a 1 in 1000 chance of occurrence but less than 1 in 100 chances of occurrence

Possible: Greater than a 1 in 10000 chance of occurrence but less than 1 in 1000 chances of occurrence

Rare: Greater than a 1 in 100000 chance of occurrence but less than 1 in 10000 chances of occurrence

Remote: Greater than a 1 in 1000000 chance of occurrence but less than 1 in 100000 chances of occurrence

Not Applicable: No chance of occurrence

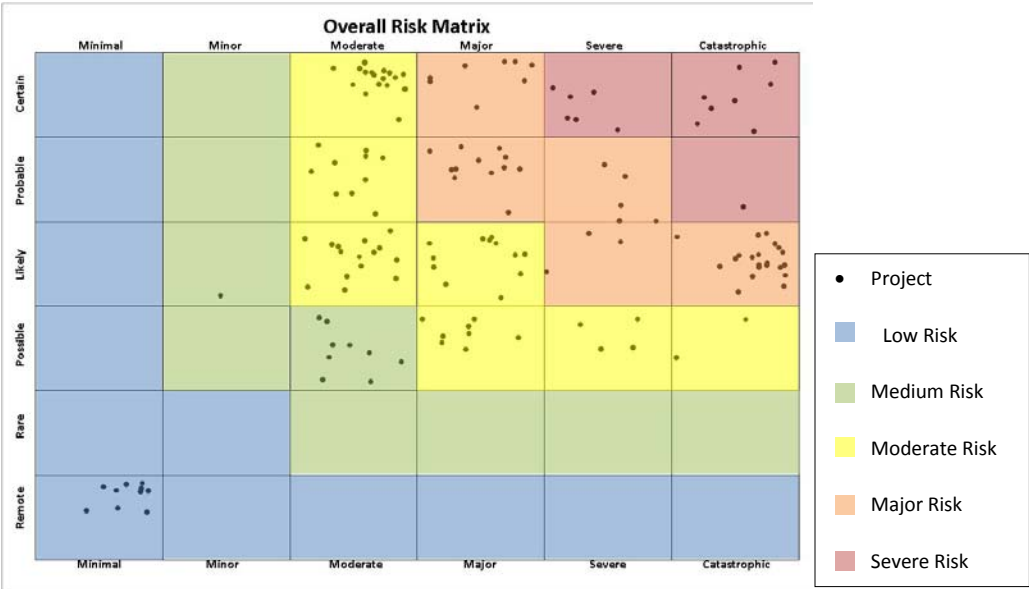
Assets were evaluated for risk twice: first, as an asset based on the risk of failure as compared to other assets within the same asset class, and then as a project or program based on the probability and consequence of an adverse event happening should that activity not be undertaken.

To predict and quantify asset failure, failure models are created for key individual and pooled assets based on known past performance and the asset demographics. For asset performance, the asset is evaluated for reliability and capacity compared to what was intended or is expected in the application.

The output of this process prioritizes the highest risk assets (highest risk of failure) within the individual asset categories which are then grouped (where appropriate) into project or program initiatives.

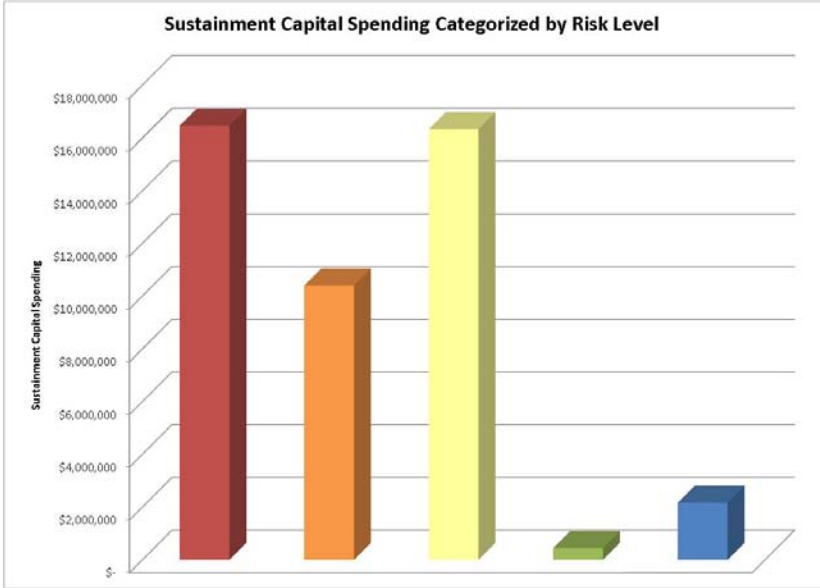
Each project is then assigned a risk score which is a combination of probability and consequence, this forms the basis of project and program prioritization. The results for 2011 Sustainment Capital have been plotted on Figure 69.

Figure 69. Risk Map for 2011 Sustainment Capital Program



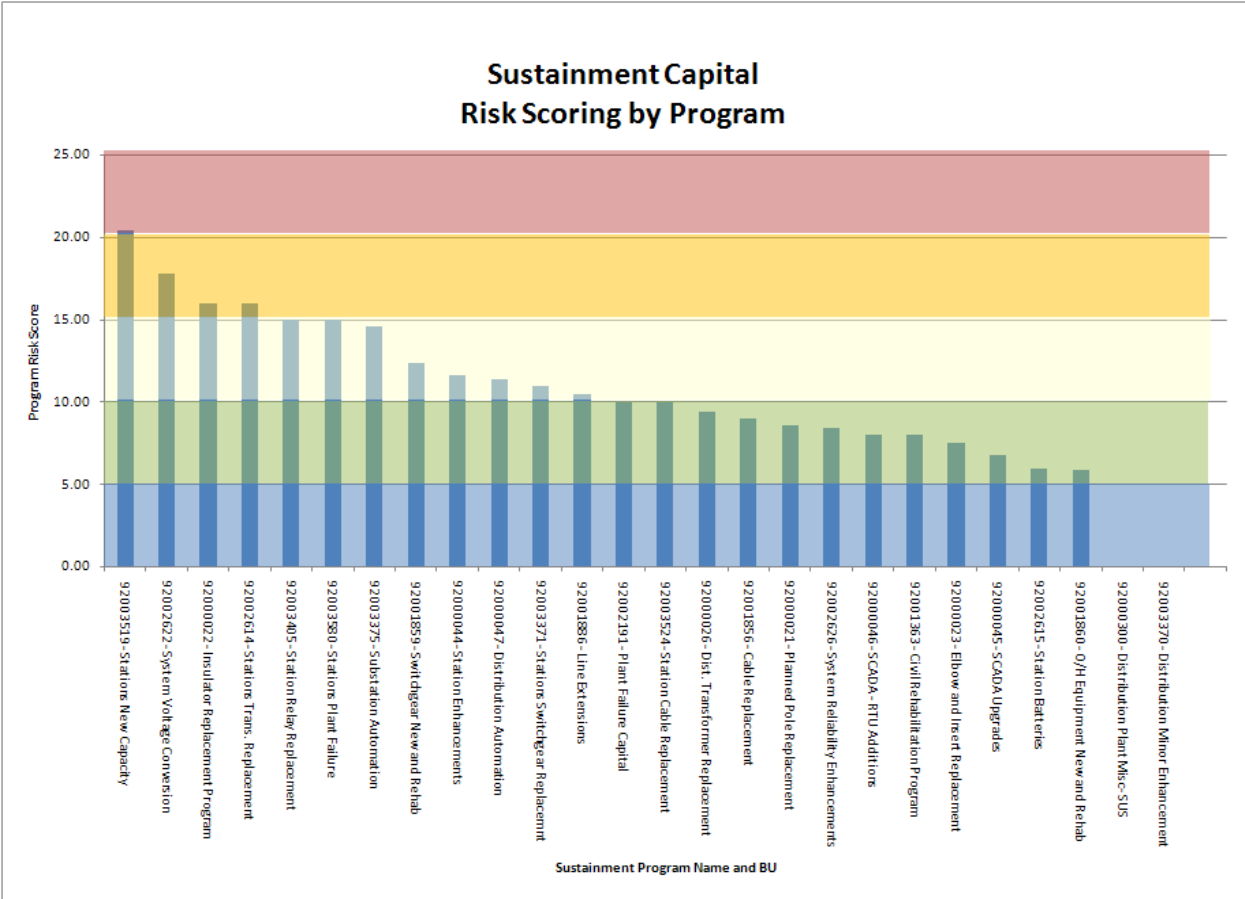
Spending levels within these risk categories are reflected in Figure 70. The bulk of the spending focuses on projects and programs that fall within the critical risk category (red) followed by moderate risk (yellow). The major risk category (orange) spending is reduced only due to the fact that the total value of the projects within this category is less than the value of projects within the critical and moderate categories.

Figure 70. 2011 Sustainment Capital Spending Categorized by Risk Level



Overall when summing the total project risk score by program the sustainment capital average risk scores is shown in Figure 71.

Figure 71. Sustainment Capital Risk Scoring by Program



Each project is then assigned a risk score which is a combination of probability and consequence, this forms the basis of project and program prioritization. The results for 2011 Sustainment Capital have been plotted on the following figures

Figure 72. Sustainment Capital Overall Risk Scoring

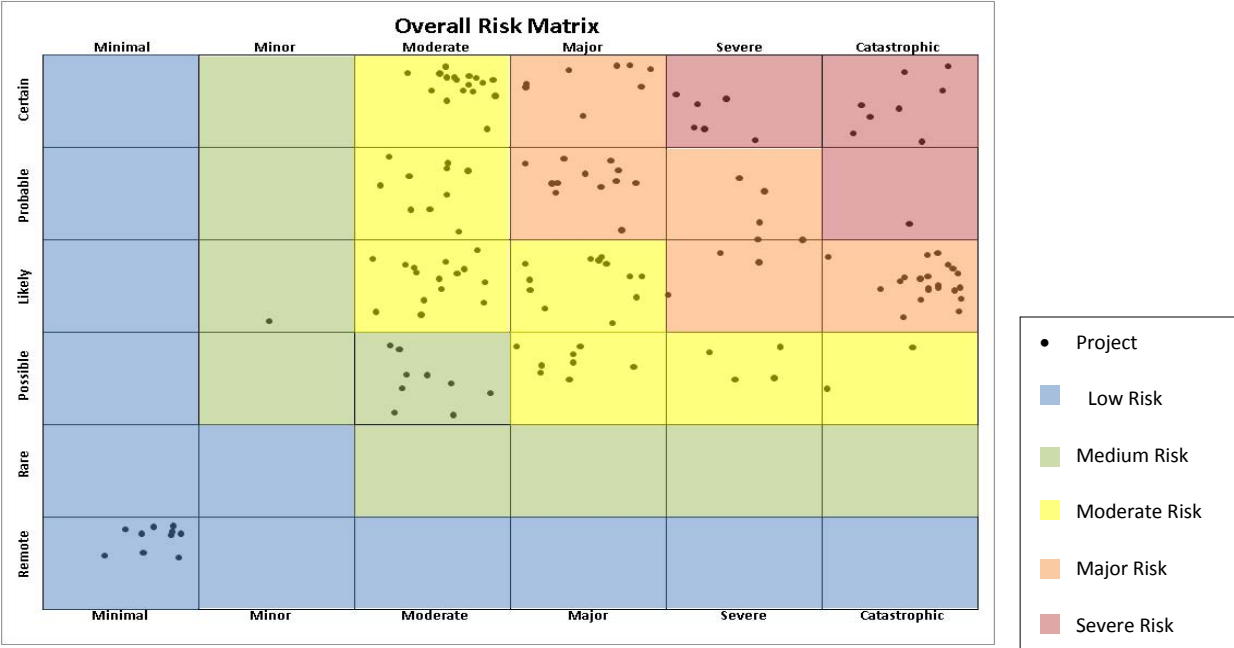


Figure 73. Sustainment Financial Risk Scoring

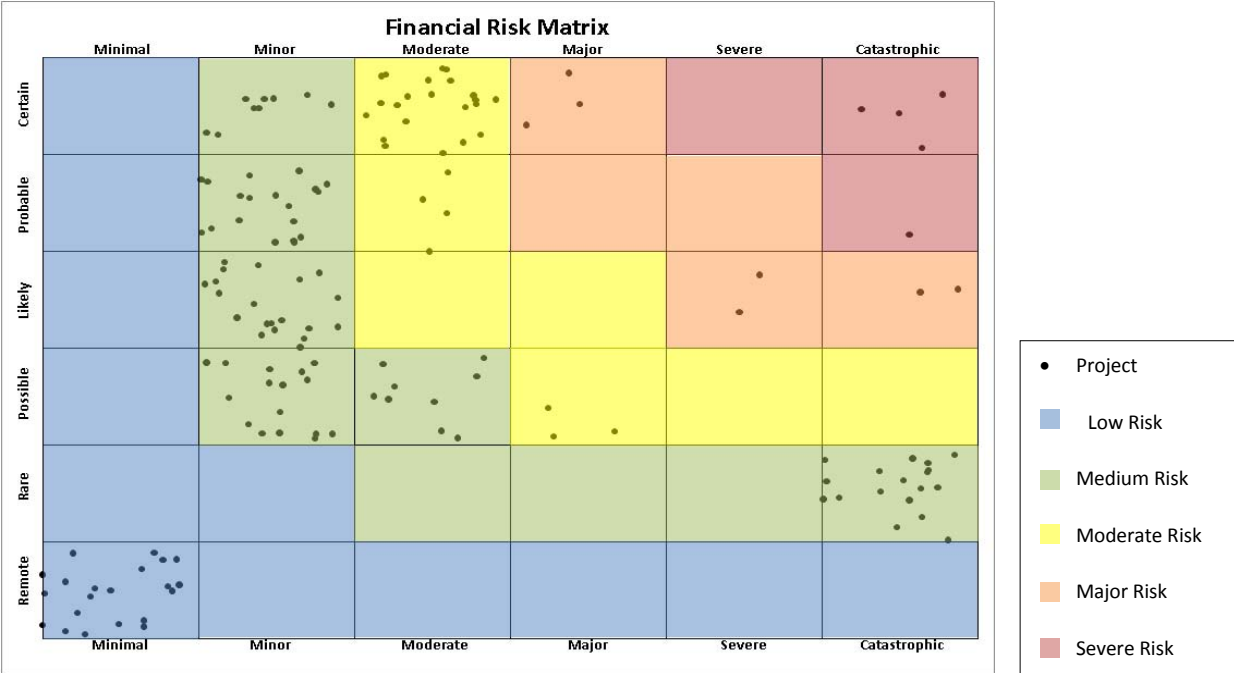


Figure 74. Sustainment Capital Technical Risk Scoring

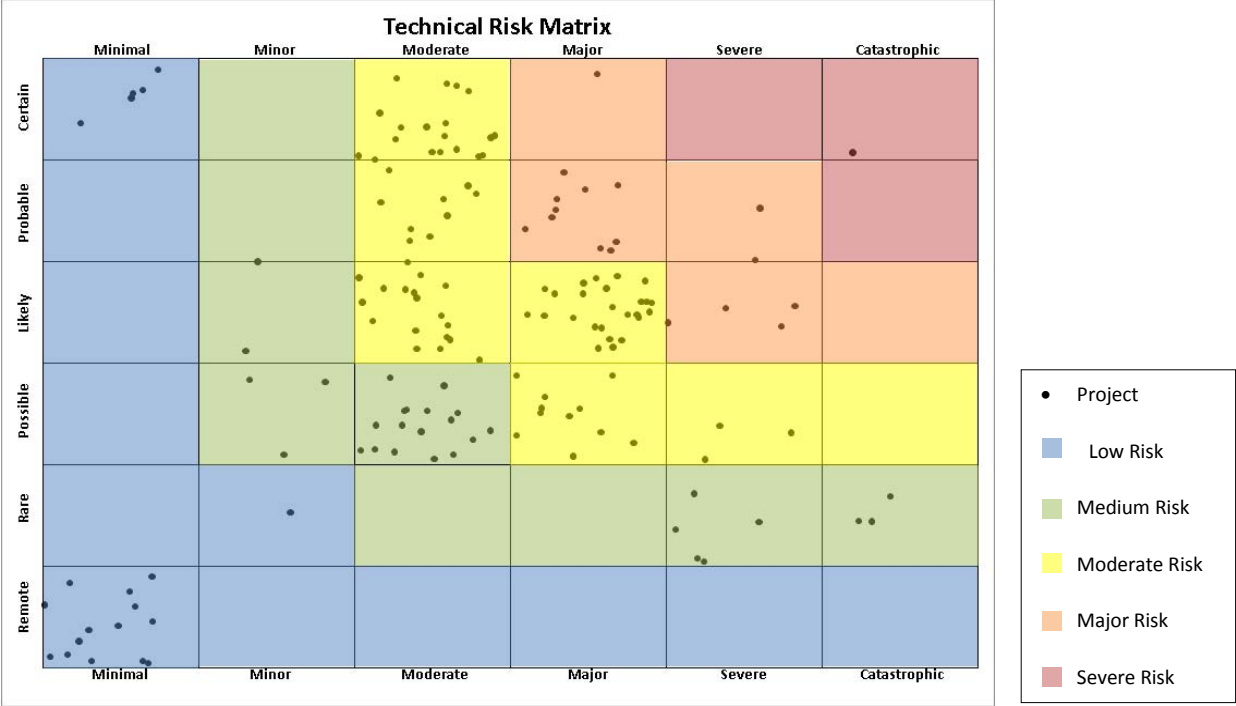
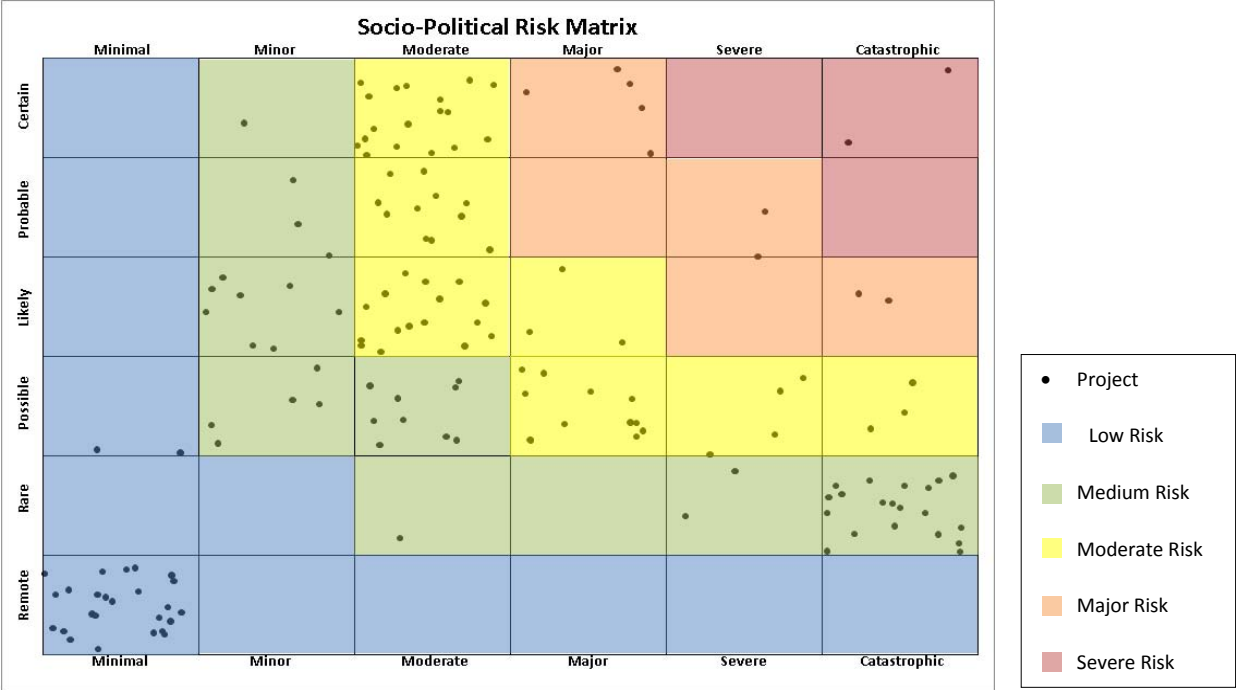


Figure 75. Sustainment Capital Socio-Political Risk Scoring



Section M.5 Year Distribution Capital Sustainment Programs

Table 40. Forecasted¹ Sustainment Capital by Program 2011- 2020

Budget Program	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
92000021 - Planned Pole Replacement	\$7,248,647	\$12,446,271	\$12,500,000	\$12,750,000	\$13,000,000	\$16,000,000	\$16,800,000	\$17,640,000	\$18,522,000	\$19,448,100
92000022 - Insulator Replacement Progra	\$255,402	\$225,875	\$225,000	\$225,000	\$225,000	\$50,000	\$52,500	\$55,125	\$57,881	\$60,775
92000023 - Elbow and Insert Replacement	\$272,094	\$281,200	\$298,350	\$219,500	\$223,890	\$25,000	\$23,750	\$22,563	\$21,434	\$20,363
92000026 - Dist. Transformer Replacement	\$2,529,202	\$2,445,194	\$2,174,283	\$789,012	\$231,906	\$300,000	\$315,000	\$330,750	\$347,288	\$364,652
92000044 - Station Enhancements	\$751,547	\$1,163,943	\$1,068,943	\$1,100,000	\$1,111,000	\$1,122,110	\$1,133,331	\$1,144,664	\$1,156,111	\$1,167,672
92000045 - SCADA Upgrades	\$1,125,102	\$729,655	\$470,606	\$469,341	\$550,000	\$550,000	\$550,000	\$550,000	\$550,000	\$555,500
92000046 - SCADA - RTU Additions	\$76,160	\$57,864	\$75,000	\$76,500	\$78,030	\$79,591	\$81,182	\$82,806	\$84,462	\$86,151
92000047 - Distribution Automation	\$766,470	\$750,000	\$757,500	\$765,075	\$772,726	\$780,453	\$788,258	\$796,140	\$804,102	\$812,143
92000300 - Dist. Plant Misc Sus	\$1,230,526	\$1,230,526	\$1,230,526	\$1,230,526	\$1,255,137	\$1,280,239	\$1,305,844	\$1,331,961	\$1,358,600	\$1,385,772
92001363 - Civil Rehabilitation Program	\$600,976	\$605,737	\$526,777	\$500,577	\$75,000	\$75,750	\$76,508	\$77,273	\$78,045	\$78,826
92001856 - Cable Replacement	\$2,336,916	\$2,617,990	\$2,851,000	\$3,144,083	\$3,175,524	\$3,207,279	\$3,239,352	\$3,271,745	\$3,304,463	\$3,337,507
92001859 - Switchgear New and Rehab	\$350,995	\$720,097	\$595,036	\$586,040	\$600,000	\$606,000	\$612,060	\$618,181	\$624,362	\$630,606
92001860 - O/H Equipment New and Rehab	\$348,416	\$274,000	\$226,000	\$117,000	\$150,000	\$150,000	\$151,500	\$153,015	\$154,545	\$156,091
92001886 - Line Extensions	\$5,513,232	\$7,194,300	\$6,000,000	\$5,000,000	\$5,100,000	\$5,202,000	\$5,306,040	\$5,412,161	\$5,520,404	\$5,630,812
92002191 - Plant Failure Capital	\$2,526,034	\$2,519,354	\$2,519,354	\$2,519,354	\$2,519,354	\$2,519,354	\$2,519,354	\$2,519,354	\$2,519,354	\$2,519,354
92002614 - Stations Trans. Replacement	\$1,184,275	\$4,718,884	\$6,000,000	\$4,500,000	\$7,000,000	\$6,250,000	\$6,500,000	\$5,000,000	\$5,250,000	\$5,500,000
92002615 - Station Battery	\$142,480	\$142,480	\$142,480	\$142,480	\$143,905	\$145,344	\$146,797	\$148,265	\$149,748	\$151,245
92002622 - System Voltage Conversion	\$1,360,468	\$1,330,670	\$500,000	\$350,000	\$885,000	\$885,000	\$885,000	\$885,000	\$885,000	\$885,000
92002626 - System Reliability Enhancements	\$566,173	\$250,000	\$250,000	\$250,000	\$250,000	\$252,500	\$255,025	\$257,575	\$260,151	\$262,753
92003370 - Distribution Minor Enhancement	\$551,183	\$1,200,000	\$1,200,000	\$1,200,000	\$1,200,000	\$1,224,000	\$1,248,480	\$1,273,450	\$1,298,919	\$1,324,897
92003371 - Stations Switchgear Replacemnt	\$325,617	\$184,387	\$1,952,254	\$3,387,612	\$2,500,000	\$1,971,777	\$3,421,488	\$2,525,000	\$1,991,495	\$3,455,703
92003375 - Substation Automation	\$1,237,306	\$380,855	\$505,110	\$490,512	\$388,472	\$515,212	\$500,322	\$396,242	\$525,516	\$510,329
92003405 - Station Relay Replacement	\$133,995	\$187,329	\$218,622	\$374,657	\$632,234	\$191,075	\$222,995	\$382,150	\$644,878	\$194,897
92003519 - Stations New Capacity	\$13,642,626	\$8,697,000	\$9,000,000	\$12,000,000	\$10,000,000	\$10,000,000	\$8,000,000	\$10,000,000	\$9,000,000	\$8,000,000
92003524 - Station Cable Replacement	\$282,034	\$282,034	\$282,034	\$282,034	\$284,854	\$287,703	\$290,580	\$293,486	\$296,421	\$299,385
92003580 - Stations Plant Failure	\$243,537	\$250,000	\$250,000	\$250,000	\$250,000	\$252,500	\$255,025	\$257,575	\$260,151	\$262,753
Total	\$45,601,415	\$50,885,645	\$51,818,875	\$52,719,303	\$52,602,032	\$53,922,887	\$54,680,390	\$55,424,480	\$55,665,330	\$57,101,285

1 – Forecasted as required by Asset Management forecasting models and does not necessarily represent financial forecasts

Table 41. Forecasted Green Energy Act Spending by Program 2011- 2020

Budget Program	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total	\$2,566,000	\$2,688,000	\$800,000	\$800,000	\$800,000	\$1,800,000	\$2,000,000	\$2,200,000	\$2,400,000	\$2,600,000

2010

Green Energy Act Basic Plan
In Support of the Green Energy and Green Economy Act



**Hydro Ottawa
Limited**

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1 Executive Summary

In accordance with the Ontario Energy Board's (the "OEB's" or the "Board's") filing requirements under the *Green Energy and Green Economy Act, 2009* (the "GEA" or the "Act"), Hydro Ottawa Limited ("HOL") has prepared the following Basic GEA Plan. Hydro Ottawa is fully supportive of the GEA and sees it as a proactive and effective means of meeting the objectives of the Province. Industry benchmarking has shown that proactive work is 3 to 6 times less costly than reactive work. In the case of connecting renewable generation, proactive work on the part of the Local Distribution Companies ("LDCs") should reduce or eliminate connection delays, while reducing the amount of reactive work and cost incurred. Hydro Ottawa believes that the OEB's GEA policies provide the right encouragement for LDCs to be proactive in meeting the objectives of the Act. Hydro Ottawa also believes that the OEB's GEA policies accelerate the connection of renewable generation, and allow these connections to be made in a more cost effective manner than without the support of proactive work on the part of the LDCs.

In preparing its filing, HOL has worked to identify investments that will undoubtedly be necessary to facilitate connection of renewable generation to the system and has prioritized them based on our understanding of where the highest likelihood of connection requests exist, or will exist. To this HOL has included systemic work that will be required to ensure that the interconnection of renewable generation and other distributed resources do not increase risks or constraints on the system. In these areas HOL has identified a range of projects that we believe should be undertaken in anticipation of the interconnection requests to ensure that HOL is able to respond to requests in a timely and cost efficient manner.

Given the constraints of geography and the urban/suburban nature of the HOL system, we believe that there will be a limitation on the types of renewable interconnections that will be sought in our service area. Specifically HOL expects to see higher concentrations of solar and bio-gas and fewer requests for wind. HOL believes that while there may not be significant wind developed within our service area, we do have the ability to leverage distributed storage, both electrical and thermal, that will allow customers to make use of wind energy generated off peak. HOL believes there are many storage applications within our system that will enhance the efficiency of all renewable generation and has included several storage based proposals.

Overall - the HOL system is well positioned to accept an influx of renewable generation. There exists some system constraints however they can all be remedied within a reasonable time frame. There are a number of enabling investments that HOL, like other LDCs, will need to make to ensure that the relays, controls and other safety/protective equipment are retrofitted to allow and account for inflow from distributed generation resources. HOL is proposing that many of these investments be made ahead of the interconnection requests due to the lead time required for analysis, engineering and construction work.

The most significant investment that is proposed is a 44kV line extension to the Goulborn area. There have been a number of inquiries from a range of customers and renewable developers regarding projects in this area. None of the projects that have been identified to date would be of sufficient size to justify the costs of the extension; however, when taken in aggregate, they represent approximately 30MW, which is a significant contribution for a system the size of HOL. HOL is confident that if the line were constructed that a number of

these projects would begin moving forward. There are numerous side benefits to the system and the customers from extending this line and connecting these renewable generators. The line would enhance reliability in the Goulbourn area of the system and the renewable generation would provide additional capacity that could be used to support the HOL system during transmission outages.

The tables below provide a summary of the five year spending levels of Capital and OMA expenditures resulting from HOL's GEA plans. Each of the investments listed in the tables is discussed in more detail, technical and financial, in the following sections.

Project/Investment (Capital)	Estimated Capital Expenditures (\$000)					
	2011	2012	2013	2014	2015	Total
System Expansion 44kV Goulbourn	1,360	1,888	-	-	-	3,248
Protective Relay Upgrades	680	500	500	500	500	2,680
Communication Infrastructure	317	300	300	300	300	1,517
Electric thermal Storage	45	-	-	-	-	45
Thermal Storage – Ice Systems	45	-	-	-	-	45
Public Charging Stations for Electric Vehicles	23	-	-	-	-	23
System Modeling and Analysis Program	96	-	-	-	-	96
Total	2,566	2,688	800	800	800	7,654

Project/Investment (OM&A)	Estimated OM&A Expenditures (\$000)					
	2011	2012	2013	2014	2015	Total
System Modeling and Analysis Program Licensing	-	25	25	25	25	100
Co-funding of University Program	100	-	-	-	-	100
4 Additional Positions	400	400	400	400	400	2,000
Total	500	425	425	425	425	2,200

Capital and OM&A Expenditures	Estimated Total Expenditures (\$000)					
	2011	2012	2013	2014	2015	Total
Total	3,066	3,113	1,225	1,225	1,225	9,854

2 Background and Introduction

On September 9, 2009, the *Green Energy and Green Economy Act, 2009* (the “GEA”) was proclaimed in force. The GEA amended the *Ontario Energy Board Act, 1998* (the “OEB Act”) and the *Electricity Act 1998* (the “Electricity Act”) to address renewable generation connections and smart grid development.

“The GEA amended section 70 of the OEB Act to include the following provisions that create deemed licence conditions for all licensed electricity distributors and transmitters:

(2.1) every licence issued to a transmitter or distributor shall be deemed to contain the following conditions:

...

2. the licensee is required to prepare plans, in the manner and at the times mandated by the Board or as prescribed by regulation and to file

i. the expansion or reinforcement of the licensee’s transmission system or distribution system to accommodate the connection of renewable energy generation facilities, and

ii. The development and implementation of the smart grid in relation to the licensee’s transmission system or distribution system.

3. the licensee is required, in accordance with a plan referred to in paragraph 2 that has been approved by the Board or in such other manner and at such other times as mandated by the Board or prescribed by regulation,

i. to expand or reinforce its transmission system or distribution system to accommodate the connection of renewable energy generation facilities, and

ii. to make investments for the development and implementation of the smart grid in relation to the licensee’s transmission system or distribution system”.

The Act requires that each licensee file a GEA Plan with the OEB. Per the OEB, the preparation and filing with the Board of a system plan consistent with the requirements in the GEA serves three main purposes:

- *Providing information to the Board and the interested stakeholders regarding the readiness of a distributor’s system to accommodate the connection of renewable generation and the expansion or reinforcement necessary to accommodate renewable generation, and, eventually, the development and implementation of the smart grid;*
- *Providing evidence in rate applications for capital budget approvals related to infrastructure investments for renewable generation and smart grid, and the recovery of the resulting costs from ratepayers; and*
- *Providing a basis, through the approval of a GEA Plan, by which the costs of certain investments will be the responsibility of the distributor under the DSC, and therefore possibly recovered through the provincial cost recovery mechanism set out in section 79.1 of the OEB Act.*

The OEB has identified two types of Plans; the Basic GEA Plan and the Detailed GEA Plan. The Basic GEA Plan is required of all distributors. The Detailed GEA Plan is required only for those distributors where:

1. The total capital costs of all a distributor's planned projects related to the connection of renewable generation and/or the development of a smart grid in any one year:
 - Are more than \$100,000 and exceed 3% of the distributor's distribution rate base;
 - Exceed \$5,000,000.
2. The total capital costs of all a distributor's planned projects related to the connection of renewable generation and/or the development of a smart grid over five years:
 - Are more than \$100,000 and exceed 6% of the distributor's distribution rate base;
 - Exceed \$10,000,000.

Hydro Ottawa Limited does not meet the threshold for filing the Detailed GEA Plan and, as such, has prepared this Basic GEA Plan. The Basic GEA Plan includes requirements for:

1. Current assessment of the distributor's system; and
2. Planned evolution of the system to accommodate renewable generation

Hydro Ottawa Strategy

Hydro Ottawa Limited is fully supportive of the GEA and believes that the OEB's approach of addressing renewable interconnections as a primary focus is sound. We agree that, at this stage, Smart Grid ("SG") investments should be undertaken as the means to support the GEA objectives. There is an ever increasing number of emerging Smart Grid technologies. Utilities must be both proactive and prudent in investigating and deploying those that make sense for our customers and the Province in support the objectives of the Act.

Hydro Ottawa has spent considerable time considering the implications of the GEA, both the challenges that it represents, and the great opportunities that it enables for utilities and their customers. Hydro Ottawa has developed a GEA/Smart Grid strategy that considers Renewable and distributed resources Generation, Smart Grid technologies, and Conservation and Demand Management ("CDM"). This strategy is being used to guide the investments that we are considering and our decision making. The following excerpts provide an overview of the Hydro Ottawa strategy:

"Hydro Ottawa is fully supportive of the Green Economy and Green Energy Act and will continue to develop Smart Grid technologies. Hydro Ottawa will invest in ways that support the integration of renewables into our system as well as into the overall Provincial Grid.

Hydro Ottawa will leverage a range of technologies, innovations and ideas to develop a responsive, adaptive, self-healing system. Hydro Ottawa will integrate new generation, storage, switching, protection and customer side technologies to enhance the reliability and flexibility of its system while creating maximum opportunity to support renewable generation.

Hydro Ottawa will leverage the system and its capabilities to support our customers and our shareholder through increased flexibility, and options for helping them manage their costs. Hydro Ottawa will continue to engage with our customers in growing the culture of conservation across the service territory”.

To this summary Hydro Ottawa has added a number of guiding principles that are in alignment with the Act and the OEB objectives:

- *The Strategy and its implementation are, and will be, aligned with and supporting of the Hydro Ottawa Strategic Direction*
- *Hydro Ottawa will make investments that make good business sense*
 - *HOL will not invest for technology sake*
 - *HOL will invest in pilots and demonstration projects when it is appropriate to do so*
 - *HOL will invest in ways that optimize future expenditures and ensure appropriate value to customers and shareholder*
 - *HOL will invest in ways that create opportunities, for HOL, its customers and employees*
 - *HOL will invest in ways that strengthen relationships with customers and the shareholder*
 - *HOL will lead rather than follow, and will do so prudently*
 - *HOL views the GEA/SG Strategy as an opportunity to improve upon a good system*

Hydro Ottawa believes that the GEA is good for the Province and should be leveraged by the LDCs to bring maximum benefit to their customers.

Background and History

As the OEB is aware, Hydro Ottawa is the result of an amalgamation of six former municipal utilities. The amalgamation allowed the utilities collectively to reach a size where scale economies could produce a net benefit for the customers while allowing the organization to remain nimble and responsive. Several of the predecessor companies had recognized the value of prudent deployments of technology in achieving operational efficiencies while enhancing reliability and costs for their customers.

Before the term “Smart Grid” was first introduced, Hydro Ottawa was progressing on a journey towards a smarter distribution system. In 1978, the former Ottawa Hydro was one of the first distribution utilities in Canada to incorporate a fully computerized supervisory control and data acquisition (“SCADA”) system in all of its substations. Through the 1980’s, Nepean, Gloucester and Kanata Hydro all introduced SCADA into their distribution systems. Each utility, over time, introduced SCADA controlled switches on the overhead and underground portions of their systems. Post amalgamation in 2000, a priority was placed on integrating the operation of these systems. In 2005, all systems were converted onto a single SCADA platform. Today all 84 stations and over 100 distribution switches are monitored and controlled centrally by operators in System Office.

Other post amalgamation priorities were focused on improving the knowledge and insight about the operation of the system. By providing more dynamic measurement and control capabilities, Hydro Ottawa has been able to address the evolving needs of the customers and the Province. Among the investments that Hydro Ottawa has made, and is making, there are many that we believe are fully aligned with the intent and requirements of the GEA and the OEB Smart Grid requirements. These include;

- installation of over 290,000 Smart Meters
- the conversion of all distribution mapping records into electronic Geographical Information System (“GIS”)
- format and the use of this information in an Outage Management System (“OMS”),
- installation of electronic faulted circuit indicators that indicate in SCADA
- the introduction of a comprehensive Enterprise Business (JD Edwards),
- the development of an industry leading Customer Information and Billing System (“CIS”),
- the introduction of mobile computing with real-time GPS vehicle tracking
- replacement of electro-mechanical relays with electronic relays
- installation of strategically placed SCADA controlled switches
- implementation of automated voltage control (Centrepointe Station)
- addition of SCADA data collection and presentment software (PI Historian) to store SCADA data and create reports
- integration of an Interactive Voice Response (“IVR”) call handling outage information with OMS
- development of automated outage text message system for internal and external use
- Innovation in Customer Care initiatives, e.g. NOW House, Pilot Solar Installations, PeakSaver, Fit/microfit, etc.
- Evaluating Information Technology (“IT”) initiatives, e.g. corporate IT architecture strategy, corporate communications strategy, JDE.

3 Current Assessment

3.1 The Hydro Ottawa System

The following table outlines the general statistics and demographics of the Hydro Ottawa system.

	2005	2006	2007	2008	2009
Service Area (km ²)	1,104	1,104	1,104	1,104	1,104
Total Metered Customers	278,746	282,393	287,006	291,639	296,007
Total Un-Metered Supply Points	44,932	46,355	49,722	50,971	54,428
Total Number of Substations					
Used by HOL			92	91	92
HOL Owned/Co-owned			82	81	84
Used & not owned/co-owned			10	10	8
Total Circuit Length (km)					
O/H Circuit	5,242	5,451	5,740	5,353	5,386
U/G Circuit	3,318	3,450	2,898	2,729	2,709
	1,924	2,001	2,841	2,624	2,677
Total Number of Poles	44,600	46,761	51,582	49,201	48,699
Total Number of Transformers					
Transmission	38,553	38,676	40,106	40,096	40,691
Sub-Transmission	22	22	21	21	25
Distribution	154	154	147	141	141
	38,377	38,500	39,938	39,934	40,525
Total Number of U/G chambers	3,300	3,300	3,100	3,156	3,006
System Peak-Summer (MW)	1,435	1,495	1,425	1,355	1,364
System Peak-Winter (MW)	1,361	1,249	1,324	1,268	1,268
Total Energy Delivered (Purchased) (GWh)	7,927	7,724	7,865	7,867	7,785

3.2 Current State of the System and Limiting Factors

3.2.1 Distribution System

Overall, the Hydro Ottawa system is sound and provides customers with cost effective, reliable service. Hydro Ottawa's reliability levels are among the best in the industry for utilities of comparable size, and topology. While we continue to strive to improve the reliability levels, Hydro Ottawa does so with an understanding that it is reaching a point where conventional technology solutions for improved reliability (greater redundancy, greater use of underground cables, etc.) come with additional capital and maintenance costs. Hydro Ottawa has done well in planning the system to match the growth requirements. As such, the areas within the system where there are significant constraints during the peak are relatively few. While constraints exist, they are known, well managed, and our current plans should ensure loading relief before the constraints reach a concern level.

As the potential impacts of the GEA are examined in terms of the amounts and types of generation connected directly to the Hydro Ottawa system, system loading does not emerge as a major obstacle to effecting interconnections. In fact the interconnection of distributed resources (renewable generation and associated storage system) is viewed as a potential tool for assisting in relieving system loading issues and enhancing reliability. Hydro Ottawa believes that the right strategy and effective planning of the system can leverage the connection of new resources and is actively seeking to build this into our planning. Hydro Ottawa is actively identifying areas within the system where new resources would be highly preferred and where we would seek to partner with developers and others to bring about the optimal level and type of installation to meet the system needs while supporting the goals and objectives of the Act and the other requirements of the utility.

Limitation of Viable Resource Types

The Hydro Ottawa service area is generally a mix of urban and rural. Given the local weather patterns and space constraints, the service territory does not offer many opportunities for certain types of renewable generation, most notably wind generation. For Hydro Ottawa to carry its share of the GEA objectives, it will be necessary to rely more heavily on other types of renewable generation, primarily solar and bio-gas. These types of generation are generally less energy intensive per installation; however, this is both a plus and a minus. The positive is that a large number of smaller installations may be easier to absorb into the system without major modifications (cost and time) than a larger centrally located plant or renewable generation farm. The minus is that each installation, regardless of size, still requires coordination and project management, adding to the personnel demands.

Having considered the limitation of generation types that are likely to be deployed in the Hydro Ottawa system, and having studied other systems that have significant renewable penetration (Alberta, California, Texas, Germany) there are some innovative opportunities within Hydro Ottawa's system to support the objectives of the GEA. In the other regions where there is a high penetration of renewables, notably wind, solar and other intermittent resources, there is often an inefficient use of the energy that these sources have

produced. In Alberta, it is common for the amount of wind energy available to exceed what the system can absorb. As a result, the Alberta Electric System Operator (AESO) “shuts out” wind generation above certain levels. In California, the wind generation tends to be greatest at night in the winter time (low electric peak, and rainy season). The result is that California utilities often spill water at their hydro stations because there is excess generation available from the wind resources. In both Texas and Germany the system operators have begun running combustion turbines at part load to act as a back-up resource should the wind levels diminish rapidly. We believe that each of these situations represents a pragmatic solution to the problem, but it is, nonetheless, an inefficient use of the energy being generated. Many jurisdictions have begun investigating the use of storage as a means of improving the efficient use of renewable energy while enhancing the stability of the grid.

Given the nature of the Hydro Ottawa system and the customer base, there are many opportunities for Hydro Ottawa to make use of distributed energy storage. There are a number of energy storage system types that Hydro Ottawa is contemplating based on optimizing the needs of the customers and the objectives of the Act. Over time, Hydro Ottawa can build or enable a network of distributed storage devices (some owned by Hydro Ottawa and perhaps many owned by customers) that will provide a means of using the renewable generation in the most efficient manner possible. Distributed storage systems can also: provide a range of ancillary service to the grid operator for enhancing the stability and integrity of the grid; lower the costs of peaking generation; support reductions in green house gas emissions; and lower the overall energy costs for the host customer. While Hydro Ottawa may not be the logical site for large scale wind farms, and other intermittent resources, it can do its part to ensure that the energy they produce is used in an efficient and cost effective manner.

Radial System

The Hydro Ottawa system is a looped and radial system split between overhead and underground. This system has served the customers well in terms of very good reliability at reasonable costs. The challenge presented is that historically, radial systems were designed contemplating electricity flow in one direction only. As such, the protection systems (primary and back up relaying schemes), safety procedures, and operating procedures will all need to be updated to accommodate the connection of distributed resources that create the potential for backflow into the system. This is by no means an insurmountable task, and Hydro Ottawa has already begun the planning associated with making these changes. Hydro Ottawa believes that disciplined proactive replacement of feeder protection with relays that can accommodate bi-directional flow will ensure that it is able to respond readily to interconnection requests. Hydro Ottawa will need to prioritize the number of annual relay replacements based on the likelihood of interconnection requests, the anticipated volume of requests by area, and the availability of planning, engineering and field resources necessary to undertake the replacements. Given the volume of relays involved and the other work anticipated as a result of the GEA, Hydro Ottawa is expecting that the relay replacement program will be executed over 5-7 years.

The radial nature of the system also presents challenges with regard to reliability when there is a loss of transmission service to any of our delivery points. Under these circumstances the topology supports only a limited amount of redistribution of load to other substations on the system. The result is that many customers remain without power until the supply outage is restored. The actions Hydro Ottawa proposes to undertake to meet the objectives of the Act may provide the additional benefit of enhancing reliability in these circumstances. The Hydro Ottawa response to the GEA includes proactive support and encouragement for the installation of solar panels, bio-gas generation, residential based Conservation and Demand Management (“CDM”), and a range of thermal and electric storage systems. These, combined with the changes in switching and protection systems needed to enable the new resources, could enable Hydro Ottawa operations personnel to undertake redistribution of load and non-critical load curtailments that are not possible on today’s system. As these systems begin deploying in numbers, HOL will be able to leverage them during supply outages to enhance its ability to restore service to customers ahead of the restoration of the supply service. The combination of distributed resources, and the ability to curtail non-critical loads, means that far less load needs to be shifted in order to restore power to the customers.

Hydro Ottawa also sees the potential to partner with essential services such as police, fire stations, hospitals and clinics to serve as host locations for battery storage systems. This would provide a low cost interconnection point (battery installed on customer side of the transformer) while providing power to the essential services in the event of an outage on their feeder. The battery systems could be used in-lieu of, or in combination with, their back-up generators. In either case, relying on the battery storage system would reduce the Green House Gas (“GHG”) contribution from the back-up generator and would provide instantaneous or continuous power.

Dual Secondary Winding Power Transformers

A significant obstacle to connection of large amounts of generation in the core area of Ottawa is posed by technical limitations of dual secondary winding power transformers. This problem affects almost all of the 13 kV distribution areas in Ottawa. Research into remedies for this issue is proposed as part of HOL’s efforts to accommodate more generation.

In order to integrate additional generation in the system upgrades are required to alleviate issues such as:

1. Equipment short circuit ratings (particularly on the 13.2kV systems)
2. Bi-directional power flow measurements and protection upgrades
3. Voltage control
4. Reactive power compensation at transmission delivery points

Resolution to some of the issues requires immediate attention such as bi-directional power flows; others are longer term considerations and will be impacted by the penetration level of renewable sources within the distribution system.

Presently the distribution system limits for renewable generation connection capacity is based on the lowest of either:

1. 50% of the feeder cable capacity; or
2. 50% of station bus loading, if not specified by Hydro One Networks Inc. (“HONI”); or
3. The limit specified by external drivers (HONI)

Tables showing the capacity of feeders in the Hydro Ottawa system can be found in Appendix B – Feeder Capacity and tables of available station capacity by bus can be found in Appendix D – Available Station Capacity

In addition to distribution system issues listed above there are also potential transmission system issues that need to be evaluated and addressed by Hydro One Networks Inc.

3.2.2 Information Technology

IT and communications are integral to the implementation of the Act and Smart Grid. The need for real time communications with generation and storage resources will be instrumental in optimizing the efficiency and effectiveness of the system. For Hydro Ottawa and its predecessor companies, the last 10 years saw significant expenditures in major IT projects. Typically, tactical IT investments aligned to strategic IT architecture within an individual line of business. In general, there was agreement on a common architectural vision and standards, and in many cases a similar selection process followed.

The next phase in IT development is the integration of many of these IT systems. For example, GIS/OMS integrated with SCADA; CIS and Smart Meter data integrated with GIS/OMS and with PI Historian; GIS integrated with CYME (network modeling software); JDE integrated with GIS for project design estimates and work order creation. The integration of the system will provide Hydro Ottawa and its customers with far greater value from information and insight with which to make decisions. It is also likely that a great deal of the information will be provided to the OPA and the IESO to enhance their ability to manage the Provincial system.

Ultimately, the integrated Green Energy system enabled by Smart Grid will include end-to-end real time data flow with predictive intelligence and complex event processing and adaptive control. To successfully achieve this will require a comprehensive IT/communications strategy, a common architectural framework and standards. This IT driven system will also require continued evolution and enhancements of enterprise-wide cyber security. This in itself presents a challenge rather than a limitation to what can be accomplished.

3.2.3 HOL Organization

Hydro Ottawa, much like other LDCs, will experience significant technical/trades employee turnover in the next ten years. An active apprenticeship hiring/development program is underway. The green economy and smart grid environments have begun to influence the change in staff requirements. New positions have evolved and will continue to evolve to address new technical, infrastructure, and operational issues. Presently these new organizational positions are aligned with functional lines of business. However, going

forward there will be a generally increasing need for IT skills across most positions. There will also need to be a greater emphasis on learning as the technologies are emerging at a much faster rate than any other time in electric utility history. The market structure is changing with addition of new roles and new entities and there are a host of new requirements emerging from North American Electric Reliability Corporation (NERC) and other similar organizations that are likely to have an impact on LDCs and their operations.

In order to address some of the technical, information technology and organizational limitations and limitations, Hydro Ottawa Limited is proposing several initiatives as outlined in Section 4 Planned Development.

3.3 Renewable Generation FIT Applications Connections

To date, Hydro Ottawa has received the application for 42 FIT projects through the OPA totaling 64.6 MW, the breakdown is as follows:

Category	Total Nameplate Capacity
Capacity Allocation Exempt – With OPA Contract	5,650 kW
Capacity Allocation Exempt – Without OPA Contract	996 kW
Projects > 500 kW	58,000 kW

Section 10 Appendix E – Fit Applications contains a map showing the geographic locations of the FIT applications.

3.4 Current Expenditures Related to GEA Activities

Hydro Ottawa's has a limited amount of current expenditures directly related to GEA activities.

In order to prepare for renewable generation connections to the distribution system, it is necessary to develop the internal procedures to ensure each department understands its responsibilities and role. The customer connection experience must be simple and expedient. The following issues must be addressed within Hydro Ottawa.

- Established a new customer service process when working with generators
- Ensure the proper meters are in stock to be installed
- Be able to collect accurate generating meter data
- Accurately process the data for timely settlement with the IESO and the customer
- Integrate the data into our systems operation, OMS and GIS systems for proper visibility and awareness
- Provide accurate and timely reporting to the OEB

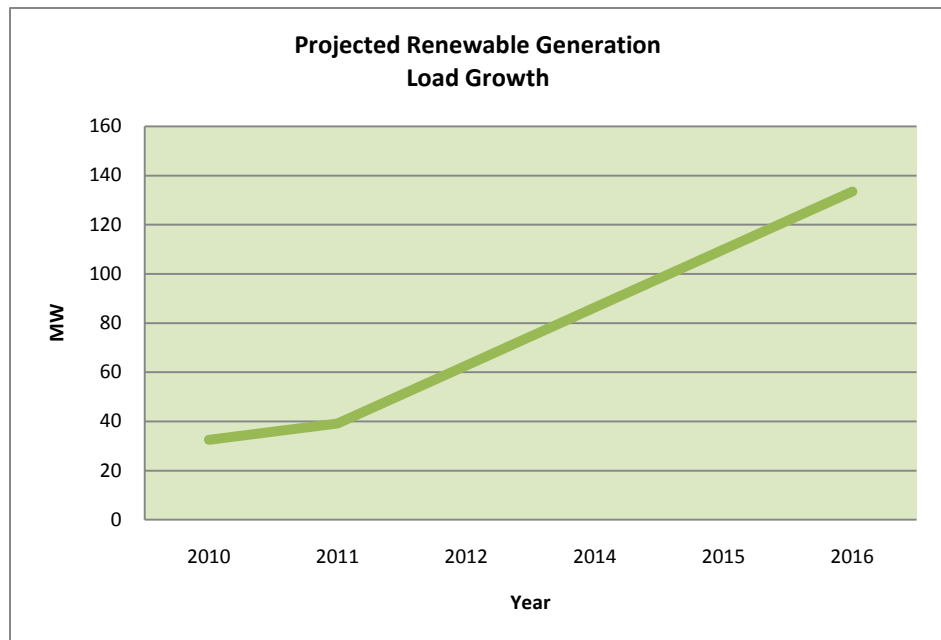
Currently, Hydro Ottawa employs one full time person to coordinate and complete this work and plans are in place to hire an additional full person in 2010. Expenditures are charged to a renewable generation deferral account.

4 Planned Development– Accommodation of Renewable Generation

4.1 Anticipated Renewable Generation Connections

As a result of the promotion of distributed generation within the Ontario electricity system Hydro Ottawa Limited has seen a significant increase in the number of customers and developers that are actively seeking connections to the distribution system for generation purposes. Prior to 2008 Hydro Ottawa Limited had approximately 30MW of distributed generation connected to the distribution system. Since then we have received applications totaling approximately 100 MW of additional generation. Detailed in Appendix A is a summary of the proposed generation additions by substation, received by the OPA in response to the launch of the FIT Program. Many, if not all of the projects that have been proposed, will require modifications to the distribution system to support interconnection. In several cases there is significant expansion work required to accommodate the requests. Based on these known expressions of interest, HOL expects there will be a growth in interconnection requests over the next five years. Given the limitations of the geography of the HOL service area, most of these are expected to be small to medium size installations with a large percentage being roof top solar (residential and commercial). However, there is currently connection potential for a small number of large solar projects typically in the 10MW size, in the rural parts of our service area. With the addition of more line extensions at either 28 or 44 kV this potential can be increased substantially. HOL is actively looking at ways in which it can foster more interconnections of renewable resources and is investigating the potential to enhance these through the introduction of distributed storage.

Based on the FIT projects received to date, HOL predicts that all of the Capacity Allocation Exempt projects will go ahead in 2011, and the remainder of the projects will come online over the following four years.



4.2 Capital Initiatives - Renewable Generation Enabling Initiatives

Hydro Ottawa's assessment of the system has identified a number of investments that will enable renewable generation connections within the Hydro Ottawa system. HOL has worked to ensure that our view of these investments is aligned with that of the OEB.

Specifically, a "renewable enabling improvement" is a modification or addition to the main distribution system that is made to enable the main distribution system to accommodate generation from renewable energy generation facilities and that consists of one or more of the following:

- *modifications or additions to allow for and accommodate two-way electrical flows, as opposed to radial flow;*
- *modifications to, or the addition of, electrical protection equipment;*
- *modifications to, or the addition of, voltage regulating equipment; or*
- *the provision of protection against islanding (transfer trip or equivalent).¹*

An "expansion" means a modification or addition to the main distribution system in response to one or more requests for one or more additional customer connections that otherwise could not be made, for example, by increasing the length of the main distribution system, and includes the modifications or additions to the main distribution system identified in section 3.2.30 but in respect of a renewable energy generation facility excludes a renewable enabling improvement;

The following paragraphs outline details of the investments HOL is proposing in its filing for 2011. Where the project/investments could or will span multiple years, planning level estimates of cost for the future years have been included in the summary tables contained in the Executive Summary section of this Plan. This is done to ensure that the OEB understands the potential magnitude of the project/investment. Hydro Ottawa will refine the estimates for the future years based on the actual costs incurred during 2010 and 2011 and as it gains experience with some of the newer generation and other technologies. Approval of funding for future years will be sought during the appropriate filing process.

4.2.1 System Expansion 44kV Goulbourn

HOL is proposing to build, on a proactive basis, a new 44 kV line extension that would add significantly to the DG connection capacity in south Nepean and Goulbourn. As discussed above, the HOL system has very few pockets in which there are potential concentrations of renewable generation. Based on the inquiries from customers and renewable generation developers, it is clear that the South Nepean and Goulbourn areas hold the greatest promise for the HOL system.

The project would entail constructing approximately 10 km of 44 kV feeder on sections of existing overhead pole line. The project would tie the South March 44 kV A9M3 feeder with the Nepean TS 22M25 feeder.

¹ Ontario Energy Board G-2009-0087 Guidelines: Deemed Conditions of Licence: Distribution System Planning

New generation projects could be connected to Nepean TS, which currently has remaining connection capacity of more than 110 MW. Presently connection capacity at South March is only 49 MW and under the RESOP program there were several projects within Hydro One’s service area that were proposing connection onto other South March 44 kV feeders. Our internal review and discussions have highlighted that none of the proposed/potential generators is sufficiently large to justify the line extension. Rather than see this as the barrier, Hydro Ottawa plans to move forward with planning and constructing the line as an enabler to projects that might otherwise not be built or would be downgraded in size to fit within existing constraints. This project would be carried out over 2011 and 2012 with planning and engineering work starting in 2010.

Capital Costs (\$000)

Project Description	2011	2012	2013	2014	2015	Total
System Expansion 44 kV Goulbourn	\$1,360	\$1,888	-	-	-	\$3,248
Total	\$1,360	\$1,888	-	-	-	\$3,248

4.2.2 Protective Relay Upgrades – Enabling Bidirectional Power Flow

In many instances the addition of new Distributed Generation (“DG”) projects will result in the reverse flow of power along distribution feeders. This creates technical challenges related to the protection of Hydro Ottawa’s lines and station equipment. Protective relaying replacements, or upgrades, will be required to ensure that equipment owned by Hydro Ottawa, load customers, and generators will not be adversely affected by DG installations.

One type of protection upgrade that will be needed involves reverse current flow sensing at transformer stations. Circuit breakers on feeders with significant amounts of generation will need to be equipped with protective relays that can differentiate between electrical faults on the feeder and faults within the station. These enhanced relays must also ensure that a fault on one distribution feeder will not cause an outage to customers connected to a different feeder fed from the same station.

A major concern of utilities is associated with an issue referred to as “unintentional system islanding”. This can occur on a distribution system when the electrical load on a distribution feeder is comparable with the amount of generation that is connected to that feeder. When the feeder breaker is opened by a system operator, if there is a balance between the load and generation, then the load customers on the feeder may continue to be supplied directly by the generator. This can result in serious under voltage or overvoltage problems being experienced by these load customers. The islanding issue is even more problematic for the utility and potentially for the generator. When the utility closes back into an “islanded feeder”, an out of phase condition may exist that can seriously damage equipment and pose considerable risk to employees or the public. To prevent these types of problems, utilities often require that an “anti-islanding” protection scheme be implemented by all of the generators connected to a feeder, as well as by the utility at the supply station. These types of schemes send a trip signal to the breakers at the generating facilities any time the

utility’s feeder breaker is opened. This will ensure that no islanding situations can develop. Such schemes require that a communications link be installed between the substation and the generator. This may be a copper phone line, a fiber optic link, or some form of radio based system.

Planned for this initiative is the installation of relay upgrades at stations for which there are currently significant amounts of proposed generation.

Capital Costs (\$000)

Project Description	2011	2012	2013	2014	2015	Total
Protective Relay Upgrades	\$680	\$500	\$500	\$500	\$500	\$2,680
Total	\$680	\$500	\$500	\$500	\$500	\$2,680

4.2.3 Communication Infrastructure – Smart Grid Communication

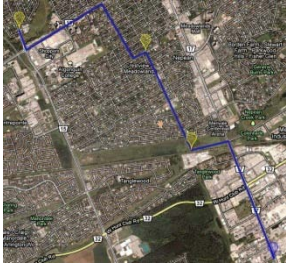
HOL believes that it will need to significantly enhance the communication infrastructure within its system to support the level of renewable resources being contemplated. The influx of distributed resources within the distribution system will bring great benefits in terms of the objectives of the Act, and enhancing reliability if the system can be monitored and controlled on a real time, dynamic basis.

This requires far greater communications capabilities than currently exist within the system. Without the ability to collect real time operating information from the large number of renewable sources anticipated, the risk of mis-operation of the system and worker injury increase significantly.

With improved communication infrastructure in place, Hydro Ottawa will be well positioned to expand its fleet of Smart Grid automated distribution devices and sensors. This infrastructure will foster and enable greater levels of embedded generation connections by providing an optional communication path for generators to connect to the Hydro Ottawa protection and control system. The infrastructure will provide flexibility to implement next generation protection schemes and control schemes (including automated load restoration and localized islanding where distributed renewable resources and storage devices can provide power to isolated sections of the system during localized and wide scale outages).

As part of the GEA initiative, Hydro Ottawa has developed a comprehensive multiyear plan to expand the existing utility communication infrastructure. This expansion will increase available bandwidth, improve communication coverage within Hydro Ottawa’s existing service territory, expand the flexibility of the communication infrastructure, and provide redundancy and added reliability to the Hydro Ottawa communication infrastructure.

In the first phase, Hydro Ottawa will install fiber optic cable from Hydro Ottawa Limited’s operations center, through the Epworth TS substation, and ending at the Woodroffe TW substation. In addition fiber optic cable would be installed from the operations center through the Longfields DS substation, the Barrhaven DS substation, the Jockvale DS substation, and ending at the Fallowfield TS substation.



These links will provide high bandwidth access to Epworth TS where Hydro Ottawa will demonstrate future Smart Grid deployment using existing substation equipment and new Smart Grid devices. Currently the SCADA fiber network is only connected to the Albion Service building.

In addition these links will provide the communication infrastructure to enable existing (and proposed) renewable generation to connect with multiple substations. This will increase the opportunity for the generation to remain connected by providing a more flexible protection scheme and integrating multiple automated distribution devices.



	Merivale-Fallowfield Link	Merivale-Woodroffe Link
Total Distance (meters)	21,000	7,350
O/H Distance (meters)	20,000	7,000
U/G Distance (meters)	1,000	350
Number of Access Points	16	4

Capital Costs (\$000)

Project Description	2011	2012	2013	2014	2015	Total
Fiber & Equipment Installation	\$317	\$300	\$300	\$300	\$300	\$1,517
Total	\$330	\$300	\$300	\$300	\$300	\$1,517

4.2.4 Electric Thermal Storage

Electric Thermal Storage (“ETS”) devices are storage units that utilize electric heating elements to heat a thermal storage medium, usually ceramic bricks or paraffin wax, during non-peak hours so that lower priced energy can be utilized in peak times. This system can be used in homes with electric baseboard, furnaces, heat pumps or hydraulic systems. Thermal storage systems can be an effective means of optimizing the use of renewable resources. The peak solar and peak wind periods do not coincide with the winter peak load period. Using the energy generated by these renewable sources to generate heat that can be used during the peak heating load period should help to increase the efficiency of the overall system and improve the GHG profile of the system. Hydro Ottawa is proposing to undertake moderate scale pilots to analyze and validate the relationship between the use of this type of storage and efficient use of renewable energy.

These types of storage systems are a particularly important tool for customers with electric heat to be able to manage the impact of time-of-use rates without a reduction in comfort.

Some of the most vulnerable customers with respect to the introduction of time of use rates are those with low income and electric heat. Retrofitting heating systems from electric base board to a heating system with an air handler can be very expensive as it requires the installation of an air or hot water distribution system within the house which can be difficult in an existing building. In Ontario manufacturers estimated that the ETS system operating costs will be about 40% less than standard electric heat.

Hydro Ottawa plans to target low income customers in homes with electric heat. The objectives for the pilot will be to:

- Understand the economic and operational relationships between thermal storage and efficient use of renewable energy,
- Gain an understanding about any barriers that exist that could limit the installation of these units from both a landlord and a tenant or owner perspective,
- Determine what can be done to overcome these barriers (keys to acceptance),
- Identify best operating practices for occupants,
- Develop education requirements, and
- Identification of other associated opportunities for conservation, load shifting and demand management.

Capital Costs (\$000)

Project Description	2011	2012	2013	2014	2015	Total
Equipment & Installation	\$45	-	-	-	-	\$45
Total	\$45	-	-	-	-	\$45

4.2.5 Thermal Storage – Ice Systems

Through the use of thermal cool storage electricity demand can be reduced during summer peak periods by creating cooling capacity during the off-peak periods. During off peak hours, ice is made and stored and then used as a source for cooling during on peak times without operating energy-intensive chiller equipment. We are proposing to support a number of customer funded pilots to analyze and validate the ability to use off peak renewable energy as a means of reducing on peak cooling loads.

Thermal cool storage systems can typically reduce the size of chillers, pumps, heat rejection equipment, piping, cooling coils and supply air fans. Total annual kilowatt-hours used are less when the system is designed to take advantage of the low supply water temperature available from ice storage system.

This pilot will be targeting –between four and six medium to large commercial customers with chilled water conditioning systems in the 100 to 1,000 Ton size. This size range would include airports, offices, hospitals and any other commercial application that has a central air conditioning plant.

Objectives of the program are to:

- Validate the ability of these thermal storage systems to make more efficient use of renewable generation,
- Support the objective of lowering the GHG profile of the system by reducing the level of peak demand,
- Facilitate the use of thermal cool storage in commercial applications to provide summer peak savings and reduced customer costs, and
- Reduce the strain on the electricity system.

Capital Costs (\$000)

Project Description	2011	2012	2013	2014	2015	Total
Equipment & Installation	\$45	-	-	-	-	\$45
Total	\$45	-	-	-	-	\$45

4.2.6 Electric Vehicle Program

Driven by a need to “green” the transportation sector and drive economic development, electric or plug-in hybrid electric vehicles (“EV/PHEV”) are being developed at a more rapid pace for wide market commercialization. The electricity grid must be prepared to meet this industry shift, and accommodate a higher penetration of such vehicles.

The automotive industry is undertaking the introduction of more grid dependent electric vehicles. Research organizations, in partnership with industry are innovating improvements to address gaps, deficiencies, or enhancements. Standards organizations (building, electrical, automotive, etc.) are adapting their codes accordingly. Legislative bodies are revisiting roadblocks to getting more of these vehicles on the road.

Complementing HOL’s Green Energy Strategy, HOL’s objectives will be to:

1. Facilitate understanding of electric vehicles – application, benefits, drivability, etc. -- by its customers and its employees,
2. Understand the benefits and impacts of electric vehicles specifically on its infrastructure, and
3. Promote best practice energy and demand management principles when dependent on the grid. Beyond scope is influencing policy development.

HOL’s electric vehicle program will consist of the following activities.

- Installing metered charging outlets at its facilities and potentially City or commercial facilities for EV/PHEV use only.

These charging outlets will be Level/Category 1 or 2 under this program.

- Purchasing a pure personnel electric vehicle to complement the hybrid fleet.
- Installing trial home charging units with suite-meters to encourage responsible (off-peak) charging.
- Identifying fleet owners who have an electro-motive vehicle, and assessing their charging regime.

This activity would provide environmental benefit (air pollution, noise), health benefit (air pollution and noise), and better utilization of energy (more efficient and cost effective operation), plus better use of off-peak energy and asset utilization.

Capital Costs (\$000)

Project Description	2011	2012	2013	2014	2015	Total
Install Level 1 & 2 Outlets at HOL Offices	\$23	-	-	-	-	\$23
Total	\$23	-	-	-	-	\$23

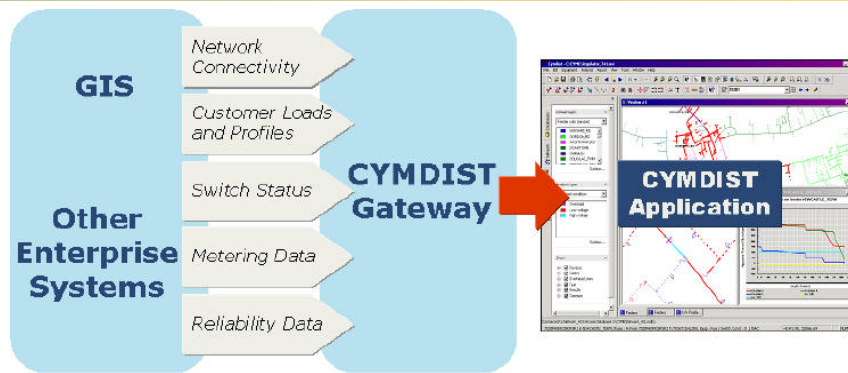
4.2.7 System Modeling and Analysis Programs and Licensing

Connection of renewable generation and other distributed resources (“DR”) requires a higher degree of planning sophistication than has been necessary in the past. In order to meet the requirements of the Act, it will be necessary to enhance the capabilities of the distribution modeling and planning systems.

The first distribution systems were simple enough to lend themselves to a pen and paper design and analysis exercise. As demands on the distribution system have grown over time, and more interconnections made, analysis and development were aided by computer simulation tools. The next radical evolution of the distribution system is distributed resources and Smart Grid technologies.

With addition of intermittent distributed generation, and concepts of self-healing, the complexity of planning and operation of the distribution system becomes more complicated and without adequate planning, analysis and scenario tools could result in compromises to reliability. Forecasting load net of generation, developing restoration schemes, ensuring system stability, line worker safety and optimizing the distribution system for integration of more renewable generation become formidable tasks in need of validated advanced System Modeling and Analysis Programs.

HOL’s first major step in advancing its analytical capabilities was deciding on CYME as the prime system modeling and analysis program. The next significant step occurred in 2009 when HOL developed an interface between the Intergraph Geographic Information System (“GIS”) and CYME Distribution Analysis Software to provide the ability for engineering staff to accurately model the distribution system using CYMDIST Gateway. CYMDIST Gateway provided a generic interfacing method with the libraries of Hydro Ottawa Limited’s GIS.



Engineering staff must be equipped with better tools to assess the impact of DG on electrical networks. CYME CYMDIST provide the ability to model all types of Distributed Resources including all electronically coupled DG such as wind turbines (synchronous or induction), gas turbine (high speed), energy storage, photovoltaic, etc. These enhanced DR/DG models are used in power flow, short-circuit, and transient stability studies. CYMDIST also features a complete suite of DG models with their dynamic behavior, control functions and protection systems. The added DR/DG resources are primarily electronically-interfaced DG resources and other conventional resources used in DR/DG applications.

The CYMDIST Distribution Analysis program is designed for planning studies and simulating the behavior of electrical distribution networks under different operating conditions and scenarios. It includes several built-in functions that are required for distribution network planning, operation and analysis which will allow for increased ability to evaluate and connect renewable generation to the distribution system.

The Smart Grid requirements necessitate integration of additional CYME modules to analyze system stability, optimize restoration, reliability assessment and prediction, and forecast load net of generation. Thus, the following integrated (and interdependent) modules are planned in support of HOL's ability to efficiently and effectively meet the requirements of the Act (including the deployment of Smart Grid technologies) over the next few years.

Network Forecaster – This module helps manage and plan distribution system expansion and changes to help optimize the distribution system configuration for forecasted and planned renewable generation. In concert with Switching Optimization and Single Contingency and CYMSTAB modules, the planning options can be analyzed and validated and with necessary adjustments identified for different operational scenarios.

Switching Optimization and Single Contingency – This module will be used to help optimize feeder configuration to minimize losses, improve voltage profile, and balance load between feeders in normal state with generation online, and in abnormal state due to distribution system interruptions or generation being offline (unavailable).

CYMSTAB – Transient Stability Analysis module allows for simulation of the distribution system stability as influenced by, for example, load shedding, load increase, generation addition and

shedding, line switching, affects of protection and control operation, addition or removal of system stability compensators.

Predictive and Historical Reliability Assessment – This module helps assess distribution system reliability based on historical experience and also predict the reliability by protection zone and down to the individual customer experience level. The assessment can be used to determine the potential reliability enhancement or detriment posed by an integrated distributed generator or storage system and also the impact of the distribution system on the up-time of the integrated distributed generator.

Capital Costs (\$000)

Project Description	2011	2012	2013	2014	2015	Total
Network Forecaster	\$24	-	-	-	-	\$24
Switching Optimization and Single Contingency	\$24	-	-	-	-	\$24
CYMSTAB	\$24	-	-	-	-	\$24
Predictive and Historical Reliability Assessment	\$24	-	-	-	-	\$24
Total	\$96	-	-	-	-	\$96

Operating Costs (\$000)

Project Description	2011	2012	2013	2014	2015	Total
Network Forecaster	-	\$6.25	\$6.25	\$6.25	\$6.25	\$25
Switching Optimization and Single Contingency	-	\$6.25	\$6.25	\$6.25	\$6.25	\$25
CYMSTAB	-	\$6.25	\$6.25	\$6.25	\$6.25	\$25
Predictive and Historical Reliability Assessment	-	\$6.25	\$6.25	\$6.25	\$6.25	\$25
Total	-	\$25	\$25	\$25	\$25	\$100

4.3 OM&A Initiatives

4.3.1 Funding Support for University Programs

Carleton University Engineering Department has approached Hydro Ottawa with a funding proposal for their new lab in Sustainable and Renewable Energy Engineering (“SuRE”) Program. The program is described on the university website;

“Sustainable and Renewable Energy Engineering (SuRE) is a professional discipline concerned with the design, development, implementation, and improvement of the methods and systems used to generate and distribute energy from sustainable and renewable sources.

The impact of existing patterns on global climate could well be the limiting factor to how long fossil fuels can continue to serve a significant fraction of society's energy needs. It makes eminent sense, therefore, to make every effort to conserve non-renewable fuels for use by future generations and to control the global greenhouse effects. This has motivated the search for effective engineering technologies to decrease energy use, enhance the efficiency of energy utilization associated with fossil fuels and to change to renewable sources of energy such as solar, wind, tidal wave, biomass, hydroelectric, and geothermal energy.

The SuRE program is designed to educate engineers to have the technical and analytical skills for designing, building, and operating sustainable and reliable energy systems that link generation, distribution, and end use in an environmentally efficient way. Students in the program will learn how to apply quantitative analytical and design skills to solve problems in sustainable energy systems to construct new components and systems for energy applications. The SuRE program includes a combination of course work in mathematics, natural and life sciences, applied engineering science and design, and non-technical elective courses.

Carleton University's Bachelor of Sustainable and Renewable Energy Engineering (B.Eng.) program offers:

- *Stream A: Smart Technologies for Power Generation and Distribution: emphasizes electrical and computer systems engineering content with object-oriented programming and semiconductor electronics in second year, computer organization and power electronics in third year, and computer communications and solar cells and applications in fourth year.*
- *Stream B: Efficient Energy Generation and Conversion: emphasizes mechanical and fluid engineering content with graphical design and system dynamics in second year, engineering*

materials and fluid mechanics in third year, and heat transfer and thermo fluids for energy systems in fourth year. “

The proposal is for Hydro Ottawa to provide funding and/or Smart Grid type equipment for the SuRE lab, to facilitate training of the next generation of Smart Grid/Renewable Generation engineering professionals.

The university facilities and programs would also be a future resource for the education, training and development of Hydro Ottawa’s engineering staff.

OM&A Costs (\$000)

Project Description	2011	2012	2013	2014	2015	Total
Co-Funding of University Program	\$100	-	-	-	-	\$100
Total	\$100	-	-	-	-	\$100

4.3.2 Four Additional Staff Positions

In order to assist in the planning and deployment of Green Energy initiatives Hydro Ottawa is proposing to create additional roles in Asset Planning and Conservation Demand Management.

OM&A Costs (\$000)

Project Description	2011	2012	2013	2014	2015	Total
4 Additional Positions	\$400	\$400	\$400	\$400	\$400	\$2,000
Total	\$400	\$400	\$400	\$400	\$400	\$2,000

4.4 Direct Benefits for Customers

Hydro Ottawa is not proposing that any of the 2011 costs which are to be incurred to make eligible investments for the purpose of enabling the connection of renewable energy generation facilities to the distribution system will be recovered from provincial ratepayers rather than solely from our ratepayers. Therefore it is not necessary to calculate the direct benefits accruing to Hydro Ottawa customers.

4.5 Prioritization Method

Projects will be prioritized to align with the overall intent of the FIT and micro FIT programs. Prioritization of FIT projects is based on project application dates as well as ongoing status of the new development. Hydro Ottawa Limited’s intent is to prioritize expansion and renewable enabling projects that will expedite the

connection of projects that are “shovel ready”. To date project timeline information has not been made available and so Hydro Ottawa Limited has not prioritized any of the proposed work.

4.6 Consultation with Affected Distributors or Transmitter

Consultation with the affected transmitter, Hydro One, is in progress; all relevant documentation will be provided upon receipt. There are no other affected distributors.

4.7 OPA Letter of Comment

Consultation with the Ontario Power Authority (“OPA”) is in progress; all relevant documentation will be provided upon receipt.

5 Future Outlook and Objectives

Hydro Ottawa’s objectives are to make prudent investments in the distribution system in ways that will enable and foster greater interconnection of renewable resources and distributed storage in ways that enhance the performance of the system for our customers and for the connected generators. Hydro Ottawa is being proactive at recognizing the existing system limitations that impede our ability to respond quickly to the interconnection requests, and working to remove those limitations. Specifically, HOL is planning on actions that will allow us to reduce the amount of work and time required to honor interconnection requests, described below.

- Proactively constructing new facilities to locations with known concentrations of renewable generation potential thereby ensuring that the cost of expansion does not become a barrier to any of the interested generation developers.
- Identifying locations on the HOL system where there is a system benefit and lower interconnection costs.
- Improving system planning capabilities to be able to anticipate and model technical difficulties related to interconnections and work to solve them before they become a barrier.
- Revising standards for protection systems to ensure that our protection systems are capable of working with back feed from distributed energy sources.
- Proactively replacing protection systems ahead of the interconnection requests to ensure that they do not become barriers or sources of delay in meeting interconnection requests.
- Revising operations and safety procedures to ensure that they anticipate the use of alternate energy sources.
- Investigating energy storage systems that could enhance the ability of the system to make use of renewable energy. Working with customers to identify customer based systems and identifying systems that could be deployed by HOL.
- Collaborating with other LDCs, and the OPA to identify new technologies that can enhance the system performance and enable greater renewable penetration levels within HOL’s system and within the Province.

- Identifying strategies that can help reduce the costs of renewable generation and associated system costs, to lower the economic barriers that now exist for many interested parties.

5.1 Smart Grid and Renewable Generation Enabling Initiatives (2012-2015)

Hydro Ottawa has identified a number of potential projects/investments that could be undertaken in the 2012-2015 time frames. HOL is proposing to carry out further investigation and analysis during 2010 and 2011 to determine which, if any, of these possibilities warrants inclusion in future GEA filings. HOL is including a brief discussion of these potential initiatives to provide the OEB with a view to the current thinking within HOL regarding what could, or might, be needed in the future to support achieving the objectives of the GEA.

5.1.1 STATCOM & Smart Wires

HOL is contemplating a large number of renewable generation and storage interconnections within its service territory over the next several years.

Since many of these connections are associated with IESO controlled grid connection points whose requirements are specified by the IESO. More specifically the IESO Market Rules and Manuals define the IESO-Administered Markets and describe how they will operate. With reference to the Market Rules, Chapter 4, Appendix 4.3 Requirements of Connected Wholesale Customers and Distributors Connected to the IESO-Controlled Grid, *“Connected wholesale customers and distributors connected to the IESO-controlled grid shall operate at a power factor within the range of 0.9 lagging to 0.9 leading as measured at the defined meter point.”*

Given the present and future loading of many of these stations Hydro Ottawa will not be able to meet the technical requirements set forth by the Market Rules and will need to provide reactive power compensation in order to maintain a power factor within the range of 0.9 lagging to 0.9 leading.

Solar power, particularly from PV sources is extremely variable (100% to near zero generation common with cloud cover) and therefore the application of fixed reactive power compensation (capacitor banks) is not possible. New grid interfacing power electronic solutions will be needed that can provide reactive power under rapid control to ensure Grid connection requirements are met. This will allow higher than predicted penetration of renewable generation without compromising grid integrity and quality.

Hydro Ottawa Limited is proposing the investigation of a static synchronous compensator (STATCOM) to provide dynamic reactive power support and increase the available connection capacity of the facilities so that it can accommodate the connection of the non-scheduled renewable generation.

Smart wires are a similar device that allows system operators to vary the reactance of the lines, thereby redistributing load throughout the system without the need for switching actions. The use of these devices could allow the HOL system to be run in a less radial configuration without the risk of inadvertent overloading of lines during contingency situations. It would also create a more dynamically operable system which could

enable a greater number of renewable interconnections than might otherwise be technically viable on the conventional system.

HOL is proposing to investigate the use of these devices on its system to determine their ability to support greater networking of the HOL system to enhance its ability to connect renewable generation while enhancing reliability.

5.1.2 Fault Current Limiters

With the increase in the level of generation on the grid, comes an increase in the amount of current that can flow during fault conditions. The fault current levels on all systems across North America are increasing, due in part to new renewable resources being added to the grid, and in part due to reliability requirements that result in more and stronger interconnections within and between systems.

Substation and line equipment (breakers, circuit switchers, bus work, etc) are designed to withstand a pre-determined level of fault current. Most of the distribution substations were designed at a time when today's growing levels of fault current were not contemplated. As a result, many utilities across the industry are facing the need to replace circuit breakers and other substation equipment because the fault current levels will exceed the equipment ratings. In most cases the equipment being replaced has not been fully depreciated and, were it not for the fault current levels, would have many years of technical life remaining. The projected economic cost to the industry for pre-mature breaker replacements due to fault current levels is significant. While there are conventional solutions to this problem, most are no longer viable due to the technical or operational implications that they produce. (An example: one conventional approach is to open the ties between stations and busses. This reduces the amount of current that can flow into the fault. The side effect is a reduced level of reliability and system integrity through the deliberate isolation of sections of the system.)

In response to this pervasive problem, industry, research organizations and equipment manufacturers have developed Fault Current Limiters ("FCL"). Most FCL technologies make use of superconducting materials. The FCLs are passive during normal conditions and allow current to flow unimpeded. When the current through the FCL reaches a certain threshold (signifying a fault condition) the properties of the superconducting material change and immediately begin limiting the amount of current that can flow. The FCLs do not eliminate the current flow; they merely restrict it to levels that are within the operating limits of the existing circuit breakers. Judiciously deployed, one to two FCLs can eliminate the need to replace an entire substation's breaker fleet.

HOL is proposing to investigate this technology, studying the results of the pilot projects undertaken by other North American utilities to determine what role these devices could have in the HOL system over the next five to ten years. No budget has been included at this time.

5.1.3 Localized Battery Storage

HOL is proposing to investigate a range of electric battery storage systems. HOL believes that in the future, these systems will be a strong compliment to renewable generation. Our investigations to date have indicated that in addition to providing a means of storing renewable energy for on peak use, they can be used to enhance reliability and stability of the grid. There are indications that battery systems can provide very effective ancillary services that could be provided to the IESO. Battery systems could also be used to replace or supplement standby generators in existing locations, further reducing GHG production. Over the course of 2010 and 2011, we will be identifying potential applications for battery storage systems and identifying potential pilot projects either in conjunction with customers or in conjunction with OPA or the IESO.

5.1.4 Automated Switching & Sectionalizing

Automated switching and restoration has the potential to substantially reduce the “Customer Minutes of Interruption” (“CMI”) (a key performance indicator) by restoring service immediately after a fault. This technology is currently being proven on conventional present day distribution systems. Looking forward, when combined with alternate sources such as distributed energy or battery storage systems there is the potential to provide distribution restoration processes with new options when managing restoration of outages. This technology also greatly enhances the reliability of the system by speeding up reconnection and restoration of customers after localized outages. The automated switching capabilities allow the system to quickly and dynamically reconfigure the system to restore the maximum number of customers possible while the underlying outage is being repaired. This allows trouble crews to focus on the repairs and minimizes the amount of manual switching that they are required to perform prior to beginning repairs.

HOL is proposing to investigate enhancing the level of switching on the distribution system. This would include the use of automated switching and sectionalizing capability. With these technologies in place, the HOL system would become more adaptive allowing dynamic system configuration to better match load and distributed resources, thereby reducing system losses and enhancing reliability. As the capability evolved, we can foresee the time when the system could be configured to support deliberate islanding during transmission outages. Under this scenario, the system would be able to gauge the level of renewable generation and storage available in various parts of the system and automatically reconfigure the system to maintain supply to critical loads/load centers using the resources embedded within the distribution system.

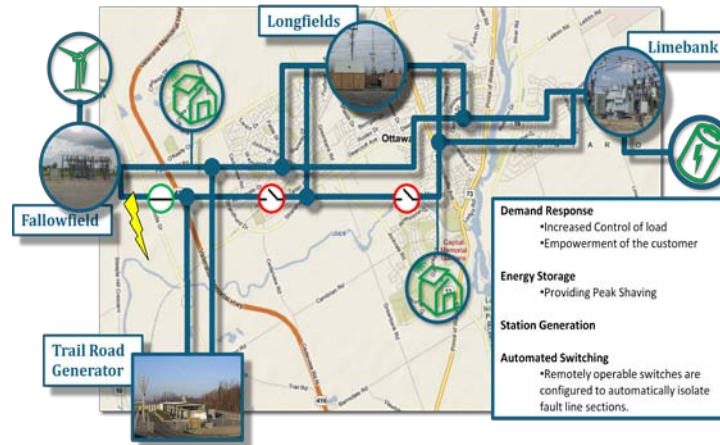
HOL will be undertaking analysis of its system to identify logical approaches to increasing the amount of automated switching in the system. This will need to be done in conjunction with the planning for renewable resource interconnections and with an understanding of where and when various storage technologies will be deployed throughout the system. At this time no budget has been included.

Potential areas for studies are generally located outside of the core area and include the high growth areas of South-Nepean, Kanata and Orleans.

South Nepean

The South-Nepean area has experienced some of the highest growth rates over the last few years and serves a significant number of customers, with a large portion dedicated to residential. Reliability in this area has been of concern due to lengthy outages to large groups of customers, extended by the inability to restore in an acceptable timeframe. Recently, the feeders in this area have been identified as some of the worst performing feeders in the system.

Presently, there are two 5 MW distributed generators that feed into the area making up approximately 15% of the peak demand. Proposals for additional generation have been received by Hydro Ottawa, totaling 30 MW of capacity.



Through the extension of the distribution system and the installation of automated switching devices, the opportunity exists to develop a portion of the distribution system into a progressive “smart grid” that can showcase advanced restoration schemes and the integration of renewable generation and energy storage.

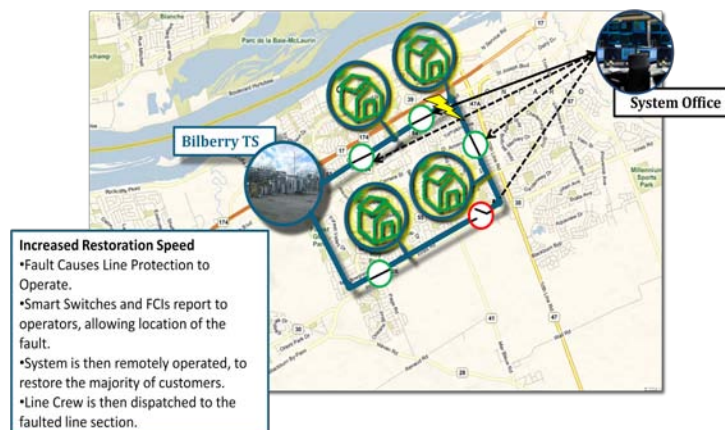
The addition of capacitor banks to provide end of line voltage support, it will enable the lowering of system voltage at the substation reducing overall load, and increasing system efficiency.

Kanata

The majority of the Kanata area is currently being served by Kanata MTS, Marchwood MTS and Bridlewood MTS, all of which are 27.6 kV stations. Reliability in this area has improved considerably over the last five years mainly due to system upgrades and reconfiguration. With additional automation the operation of the system can be further improved by reducing the extent and duration of outage events.

East Ottawa and Orleans

The Orleans area is comprised of a significant number of customers, with a large portion dedicated to residential. Reliability in this area has been of concern due to lengthy outages to large groups of customers, extended by the inability to restore in an acceptable timeframe. Similar to South Nepean the feeders in this



area have been identified as the worst performing feeders in the system.

The East Ottawa area, which is currently served by an 8 kV system, is supplied by a 44kV sub-transmission system. Outages on the 44 kV system require manual restoration which results in long outages affecting large numbers of customers. Reconfiguration the 44 kV supplies through the stations and the installation of advanced smart protection systems will enable the introduction of the ability to remotely switch between alternate 44 kV supplies. With this arrangement, the duration of any outage will be significantly reduced.

5.1.5 Enhanced System Data Connectivity

The promise of a Smart Grid is flexibility for more integrated Distributed Renewable Generation and Storage, reduced outage impact, plus informed and empowered consumers over their usage. The affect is a more dynamic distribution system that will be much more challenging to manage than the present traditional one. Real time information will be needed from the distributed energy resources, and customers will likely be asking for greater visibility and control of the loads within their home. As such, necessary information derived from masses of data from many field devices will help operators, maintainers and planners cope and become confident in their decision making, and for customer service will help in providing better and timely information. The collecting, culling, storing, analyzing, and sharing of the data and presentment of the information amongst many applications and with internal and external (OPA, customers, IESO) entities clearly, contextually, concisely and timely is pivotal.

The current data connectivity and data management will need to be enhanced in order to facilitate effective coordination and of the renewable and distributed resources connected to the system.

Per the *Enabling Tomorrow's Electricity System: Report of the Ontario Smart Grid Forum (2009)*: "Investment made in communications, computers systems and enterprise integration will help build-out the smart grid." "Data produced will need to be accessible to and usable by a variety of distribution utility computer systems including those that control the system, map and locate system equipment, manage outages, handle meter data and billing, and maintain customer information. Enterprise integration, which allows these systems to access the data they need from a common source, using a common format and integrating them through common service architecture, will be necessary for distributors to achieve the full functionality of a smart grid.⁹"

For clear real-time view into and operation of the distribution system and the associated distributed energy resources, HOL will require a distribution operating system (or "console") for directing activity through SCADA's interface with distribution equipment. The outcome would be an efficient display of operational data, plus ability to do real-time power flow analysis and day-to-day "what if" analysis for restoration and job planning when operating the system. This is critical to ensuring that the HOL does not impact the output of the renewable generation resources any more than is absolutely necessary.

For planning, expanding and maintaining the distribution system network and assets, HOL will need application integration with intelligence that supports business rules like loading limits, maintenance triggers, and operating constraints. The outcome will be efficient and effective transfer of data between applications

with context of the actual system configuration at the time the data was collected. This improves the relevance of the data to the undertaken analysis.

HOL is proposing a multi-year initiative that involves assessing the data connectivity model and implementing the pragmatic solutions that achieve the desired functional outcomes.

5.1.6 Thermal Storage – Water Heaters

Hydro Ottawa will be investigating the use of water heaters (residential and commercial) as a means of thermal storage. There are several interesting studies and white papers that suggest that introduction of centrally controlled electric water heaters installed in conjunction with the existing water heaters (most often gas, propane or oil fired) could add a cost effective storage option to the Provincial system. These water heaters could be used to absorb off peak renewable generation that would then displace the use of fossil fuels for water heating. There are also suggestions that dynamically controlled distributed thermal storage devices could be used to moderate the effects of intermittent resources. Since the devices can be turned on and off without any impact to the customer they could be used to absorb excess renewable generation and could be shed if there were a sudden fall off of the generation (as was the case in Alberta and Texas). The industry discussions suggest that a range of benefits could result from the use of this type of localized thermal storage:

- Reduced GHG foot print for water heating
- Better use of renewable energy
- Enhanced grid stability from dynamically controllable/dispatchable load
- Better management of customer energy costs

5.1.7 Home Area Networks & In-Home Displays

Home Area Networks (“HANs”) may include devices that can display various types of real-time and historical customer use data; devices that shed loads within the home or building as part of a demand response program; or devices that monitor and control various consumer home automation devices through a relay.

In-home display (“IHD”) can provide for real time display of home energy consumption down to the individual appliance level. IHD can also be used to provide messages and information from the utility to customers about things like demand response or critical peak pricing information.

Both in-home displays and home area networks are key components to the Smart-Grid that will allow energy efficiency and demand response within residences.

While these systems are not required to support interconnection of renewables, their presence in the system enhances the ability of the distributors and the OPA to make effective use of the renewable generation and distributed resources. Coordination of the distributed resources in conjunction with customer demand management and parasitic load control, allows the system operators to optimize system flows, reducing losses and enhancing system reliability, while creating greater opportunity for customers to make choices about their energy usage that better leverage the use of available renewable resources.

HOL is proposing to collaborate with OPA and will augment the OPA program with features and functionality that support the LDC and customer needs beyond those identified as critical to OPA. This pilot will allow us to evaluate different technologies for communication, control and display as well as customer acceptance, costs and performance.

Pilot Objectives - This pilot of about 500 customers is designed to achieve the following objectives:

- Demonstrate and test various HAN and IHDs in different locations of Hydro Ottawa's territory
- Build local capability to provide and install these devices as well as in the operation and control of them
- Provide opportunities and test markets for these devices to provide customers with the information and tools to best manage time-of-use rates
- Enable the utility and the customers to partner in making better and more efficient use of green energy through time shifting of loads and reduction of energy waste.

The targeted results will be customer ability to control their loads, reduced stress on the utility system through conservation, efficiency and control that will allow for the integration of renewable energy systems.

5.1.8 Variable Speed Pool Pumps

HOL is proposing to investigate the potential for introducing a variable speed pool pump program. This would be akin to other equipment replacement programs that have been undertaken in the Province. The aim would be to replace existing constant load pumps with variable speed/variable load pumps. The potential advantage is that variable speed pumps can be used to provide the necessary levels of water circulation but can be controlled such that they are operating at reduced load levels during the peak. Many customers are unwilling to shut off their pool pumps during load shedding events for fear that stagnation of the pool will increase the likelihood of algae growth. With variable speed pumps, the water and chemicals will still circulate but at a lower rate with lower demand placed on the electric system.

5.1.9 Smart Panel Boards in New Homes

HOL is proposing to investigate the introduction of Smart Panel Boards in new homes. Smart Panel boards enable remote switching of individual circuits within a panel board. Used in conjunction with a HAN or other similar system, customers could set up switching patterns that allow them to shut down parasitic loads (televisions, computer work stations, entertainment centers) when they are not in use or the home owners are away. HOL believes that there is great potential in this and other similar technologies in terms of fostering far greater levels of conservation than are practicable in today's technology limited homes.

5.1.10 Financing of Solar Installations for Non-Profit and Governmental Entities

HOL has identified the cost of solar installations as a barrier for governmental agencies (Provincial, Federal and City) and non-profit organizations. Often, these entities have adequate or optimal roof tops but lack the capital necessary to fund the installation. During 2010 and 2011, HOL proposes to investigate a range of options that would allow HOL to provide financing, or similar support, to these entities thereby enabling

them to benefit from the Provincial solar initiatives. At this stage we are not certain how HOL could effectively provide this type of support, so no budget has been included.

5.1.11 GEA and Smart Grid Education Initiatives

At this point in time HOL believes that its staff is capable of carrying out the work being contemplated in the 2011 plan. However, the growth in the number and type of new technologies (both utility side and customer side) emerging in the market will begin to create a knowledge gap if HOL (and other LDCs) do not focus proactively on enhancing the training for their existing personnel and new hires. HOL has identified a number of initiatives related to education that we believe are fully consistent with the OEB directives.

“At the present time, the legislative and regulatory framework regarding the development and establishment of the smart grid is still under development. Most importantly, the objectives, interoperability requirements and technology standards for the smart grid are not currently known. For that reason, the Board will for now limit amounts that can be recorded in the “Smart Grid Capital Deferral Account” and the “Smart Grid OM&A Deferral Account” to expenditures associated with the following (which are discussed further in section IV below):

- *smart grid studies or demonstration projects;*
- *smart grid planning; and*
- *smart grid education and training.²*

5.1.12 Staff Education and Training

With the increased focus and development on Smart Grids and the associated new technologies staff training and development is seen as a key component in Smart Grid implementation. The requisite knowledge and skill requirements for the electrical and power system workforce are changing and as a result staffs need to stay qualified to operate, engineer and apply emerging short and midterm smart grid technologies. Across the industry, and within HOL, the majority of existing staff are preparing for retirement in the next five to eight years. Additional staff will be required. The education system across North America has not kept pace with the growing need for providing adequate distribution system fundamentals, nor has it moved quickly to incorporate education and training related to the emerging technologies. This will leave utilities with a knowledge and training gap that they will have to close. A combination of formal training programs and conference attendance will be required to stay current with the new and emerging technologies. The rate of technology development is such that often the only venues for gaining an understanding of the technology, its application and its potential impacts are at industry conferences. Many of the technologies that have the highest impact are not conventional utility technologies, they are renewable resource technologies. These tend to be developed and implemented often ahead of the industry’s ability to create formal education and

² Ontario Energy Board G-2009-0087 Guidelines: Deemed Conditions of Licence: Distribution System Planning

training programs. Attending a range of industry conferences, in addition to formal training and education programs will provide our staff with the ability to understand the emerging technologies and to be prepared to respond in a productive manner as these technologies begin emerging on the HOL landscape. A combination of diverse conference attendance, combined with internal knowledge sharing from the attendees will allow HOL to use the limited education funding and hours most effectively.

6 Appendix A – Summary of FIT Applications

As a result of the promotion of distributed generation within the Ontario electricity system Hydro Ottawa Limited has seen a significant increase in the number of proponents that are actively seeking connections to the distribution system for generation purposes. Prior to 2008 Hydro Ottawa Limited had approximately 30MW of distributed generation connected to the distribution system. Since then we have received applications totaling approximately 100MW of additional generation. Many, if not all of these projects, require significant expansions to the distribution system.

Station	Proposed New Generation (kW)	Existing Generation (kW)	Total Generation (kW)
Albion TS	250	0	250
Alexander DS	6,535	0	6,535
Bilberry Creek TS	70	0	70
Blackburn MS	125	0	125
Bridlewood MTS	250	0	250
Bronson SB	250	0	250
Casselman MS	110	0	110
Clyde DS	40	0	40
Cyrville MTS	450	0	450
Fallowfield	550	10,000	10,550
Hawthorne TS	20,210	5,000	25,210
Hinchey TS	5,735	1,500	7,235

Jockvale DS	500	0	500
Kanata MTS	650	0	650
King Edward TS	135	0	135
Leitrim MS	30,000	0	30,000
Limebank MTS	10,070	0	10,070
Lisgar TS	5,600	16,000	21,600
Manotick DS	996	0	996
Marchwood MTS	65	0	65
Merivale DS	20	0	20
Overbrook TS	425	0	425
Parkwood Hills DS	85	0	85
Russell TS	374	0	374
Slater TS	16,800	0	16,800
Stafford Road DS	485	0	485
Startop DS	141	0	141
Uplands MTS	65	0	65
Woodroffe UW	60	0	60
Total	101,046	32,500	133,546

7 Appendix B – Feeder Capacity for Feeders with OPA Applications

Feeders for which the OPA have received one or more applications from renewable generators under the FIT program.

Station Name	Station Low Voltage	Breaker Name	Feeder Name	Cable Design Rating (As of Jan 2010)
Albion TA	13.2 kV	TA08	TA1AQ	425
Blackburn MS	8.32 kV	4F4	4F4	475
Casselman MS	8.32 kV	V11-F1	V11-F1	340
Clyde UC	4.16 kV	UC03	UC03	340
Fallowfield DS	27.6 kV	606F1	606F1	460
Hinchey TH	13.2 kV	TH08	TH1UL	425
Kanata MTS	27.6 kV	624F1	624F1	505
Kanata MTS	27.6 kV	624F2	624F2	505
Limebank MS	27.6 kV	7F2	7F2	455
Leitrim MS	27.6 kV	49F2	49F2	455
Marchwood MS	27.6 kV	MWDF3	MWDF3	505
Merivale MS	8.32 kV	72F7	72F7	510
Munster DS	8.32 kV	43F2	43F2	340
Munster DS	8.32 kV	43F3	43F3	340

Station Name	Station Low Voltage	Breaker Name	Feeder Name	Cable Design Rating (As of Jan 2010)
Overbrook TO	13.2 kV	TO43	TO2UT	425
Overbrook TO	13.2 kV	TO50	TR02UQ	425
Overbrook TO	13.2 kV	TO37	1807	425
Parkwood Hills DS	8.32 kV	190F2	190F2	505
Riverdale TR	13.2 kV	TR11	TR02UQ	425
Russell TB	13.2 kV	TB09	5306	425
Russell TB	13.2 kV	TB14	TB14	425
Stafford Road DS	8.32 kV	200F2	200F2	390
Stafford Road DS	8.32 kV	200F3	200F3	390
Startup MS	8.32 kV	6F1	6F1	420
Uplands MS	27.6 kV	Q4801F8	Q4801F8	505
Woodroffe UW	13.2 kV	UW07	UW07	340

8 Appendix C – Feeder Capacity for Feeders Connected to Bulk Power System

Station Name	Station Low Voltage	Breaker Name	Feeder Name	Cable Design Rating
Albion TA	13.2 kV	TA01	TA3AQ	425
Albion TA	13.2 kV	TA02	2204	425
Albion TA	13.2 kV	TA03	TA1JP	425
Albion TA	13.2 kV	TA04	TA1AF	425
Albion TA	13.2 kV	TA05	TA3AF	425
Albion TA	13.2 kV	TA06-2201	2201	425
Albion TA	13.2 kV	TA06-2205	2205	425
Albion TA	13.2 kV	TA07	TA2QZ	425
Albion TA	13.2 kV	TA08	TA1AQ	425
Albion TA	13.2 kV	TA09	2206	425
Albion TA	13.2 kV	TA10	TA1UZ	425
Albion TA	13.2 kV	TA11	UAT1	425
Albion TA	13.2 kV	TA12	TA3AE	425
Albion TA	13.2 kV	TA13	2209	425
Albion TA	13.2 kV	TA14	TA1AN	425
Albion TA	13.2 kV	TA15	TA2AF	425

Station Name	Station Low Voltage	Breaker Name	Feeder Name	Cable Design Rating
Albion TA	13.2 kV	TA16	2210	425
Albion TA	13.2 kV	TA17	TA2AN	425
Albion TA	13.2 kV	TA18-2207	2207	425
Albion TA	13.2 kV	TA18-TA2AE	TA2AE	425
Albion TA	13.2 kV	TA19	2208	425
Albion TA	13.2 kV	TA20	TA1AJ	425
Albion TA	13.2 kV	TA21	2203	425
Albion TA	13.2 kV	TA22	TA3UA	425
Albion TA	13.2 kV	TA23	UAT2	425
Albion TA	13.2 kV	TA24-2202	2202	425
Albion TA	13.2 kV	TA24-TA3UZ	TA3UZ	425
Bilberry Creek TS	27.6 kV	77M1	77M1	460
Bilberry Creek TS	27.6 kV	77M2	77M2	460
Bilberry Creek TS	27.6 kV	77M5	77M5	505
Bilberry Creek TS	27.6 kV	77M6	77M6	505
Carling TM	13.2 kV	TM01	307	425
Carling TM	13.2 kV	TM02	SMT2	425

Station Name	Station Low Voltage	Breaker Name	Feeder Name	Cable Design Rating
Carling TM	13.2 kV	TM03	SMT3	425
Carling TM	13.2 kV	TM04	TM2SB	425
Carling TM	13.2 kV	TM05	302	425
Carling TM	13.2 kV	TM06	TM4SB	425
Carling TM	13.2 kV	TM07	TM1AK	425
Carling TM	13.2 kV	TM08	TM1SH	425
Carling TM	13.2 kV	TM09	TM3SH	425
Carling TM	13.2 kV	TM10	TM2AD	425
Carling TM	13.2 kV	TM11	301	425
Carling TM	13.2 kV	TM12	304	425
Carling TM	13.2 kV	TM17	305	425
Carling TM	13.2 kV	TM18	TM2AK	425
Carling TM	13.2 kV	TM19	TM2UC	425
Carling TM	13.2 kV	TM20	SMT4	425
Carling TM	13.2 kV	TM21	TM1UJ	425
Carling TM	13.2 kV	TM22	306	425
Carling TM	13.2 kV	TM23	TM1AH	425

Station Name	Station Low Voltage	Breaker Name	Feeder Name	Cable Design Rating
Carling TM	13.2 kV	TM24	TM1DK	425
Carling TM	13.2 kV	TM25	303	425
Carling TM	13.2 kV	TM26		425
Carling TM	13.2 kV	TM27	TM3SB	425
Carling TM	13.2 kV	TM28	TM3UC	425
Carling TM	13.2 kV	TM29	TM1AD	425
Carling TM	13.2 kV	TM30	TM2SH	425
Carling TM	13.2 kV	TM31	SMT1	425
Carling TM	13.2 kV	TM32	TM1UC	425
Centrepointe DS	8.32 kV	87F1	87F1	505
Centrepointe DS	8.32 kV	87F2	87F2	505
Centrepointe DS	8.32 kV	87F3	87F3	505
Centrepointe DS	8.32 kV	87F4	87F4	505
Centrepointe DS	8.32 kV	87F5	87F5	505
Centrepointe DS	8.32 kV	87F6	87F6	505
Centrepointe DS	8.32 kV	87F7	87F7	505
Centrepointe DS	8.32 kV	87F8	87F8	505

Station Name	Station Low Voltage	Breaker Name	Feeder Name	Cable Design Rating
Cyrville MTS	27.6 kV	CYRF1	CYRF1	850
Cyrville MTS	27.6 kV	CYRF2	CYRF2	850
Cyrville MTS	27.6 kV	CYRF3	CYRF3	850
Cyrville MTS	27.6 kV	CYRF4	CYRF4	850
Epworth DS	8.32 kV	58F1	58F1	505
Epworth DS	8.32 kV	58F2	58F2	505
Epworth DS	8.32 kV	58F3	58F3	385
Epworth DS	8.32 kV	58F4	58F4	385
Epworth DS	8.32 kV	58F5	58F5	385
Epworth DS	8.32 kV	58F6	58F6	385
Fallowfield DS	27.6 kV	606F1	606F1	460
Fallowfield DS	27.6 kV	606F2	606F2	460
Hinchey TH	13.2 kV	TH01	TH01	425
Hinchey TH	13.2 kV	TH02	TH1SH	425
Hinchey TH	13.2 kV	TH02	4304	425
Hinchey TH	13.2 kV	TH03	4303	425
Hinchey TH	13.2 kV	TH04	4301	425

Station Name	Station Low Voltage	Breaker Name	Feeder Name	Cable Design Rating
Hinchey TH	13.2 kV	TH05	TH3SH	425
Hinchey TH	13.2 kV	TH06	TH06	425
Hinchey TH	13.2 kV	TH07	TH2SH	425
Hinchey TH	13.2 kV	TH07	4305	425
Hinchey TH	13.2 kV	TH08	TH1UL	425
Hinchey TH	13.2 kV	TH09	TH2UL	425
Hinchey TH	13.2 kV	TH10	4302	425
Hinchey TH	13.2 kV	TH11	TH11	425
Hinchey TH	13.2 kV	TH12	TH00	425
Hinchey TH	13.2 kV	TH12	TH2UJ	425
Kanata MTS	27.6 kV	624F1	624F1	505
Kanata MTS	27.6 kV	624F2	624F2	505
Kanata MTS	27.6 kV	624F3	624F3	505
Kanata MTS	27.6 kV	624F4	624F4	505
Kanata MTS	27.6 kV	624F5	624F5	505
Kanata MTS	27.6 kV	624F6	624F6	505
King Edward TK	13.2 kV	TK01	415	425

Station Name	Station Low Voltage	Breaker Name	Feeder Name	Cable Design Rating
King Edward TK	13.2 kV	TK02	SKT2	425
King Edward TK	13.2 kV	TK03	SKT3	425
King Edward TK	13.2 kV	TK04	TK1UN	425
King Edward TK	13.2 kV	TK05	TK2UG	425
King Edward TK	13.2 kV	TK06	TK1UG	425
King Edward TK	13.2 kV	TK07	TK2UN	425
King Edward TK	13.2 kV	TK08	413	425
King Edward TK	13.2 kV	TK08	402	425
King Edward TK	13.2 kV	TK09	409	425
King Edward TK	13.2 kV	TK10	TK2UD	425
King Edward TK	13.2 kV	TK11	405	425
King Edward TK	13.2 kV	TK12	412	425
King Edward TK	13.2 kV	TK12	406	425
King Edward TK	13.2 kV	TK13	403	425
King Edward TK	13.2 kV	TK13	401	425
King Edward TK	13.2 kV	TK14	417	425
King Edward TK	13.2 kV	TK14	404	425

Station Name	Station Low Voltage	Breaker Name	Feeder Name	Cable Design Rating
King Edward TK	13.2 kV	TK15	TK3UG	425
King Edward TK	13.2 kV	TK16	SKT4	425
King Edward TK	13.2 kV	TK17	TK3UN	425
King Edward TK	13.2 kV	TK18	TK4TS	425
King Edward TK	13.2 kV	TK19	TK1AC	425
King Edward TK	13.2 kV	TK20	411	425
King Edward TK	13.2 kV	TK20	TK6TS	425
King Edward TK	13.2 kV	TK21	407	425
King Edward TK	13.2 kV	TK22	410	425
King Edward TK	13.2 kV	TK22	408	425
King Edward TK	13.2 kV	TK23	TK1UD	425
King Edward TK	13.2 kV	TK24	416	425
King Edward TK	13.2 kV	TK24	TK5TS	425
King Edward TK	13.2 kV	TK25	414	425
King Edward TK	13.2 kV	TK26	TK2AC	425
Limebank MS	27.6 kV	7F1	7F1	475
Limebank MS	27.6 kV	7F2	7F2	455

Station Name	Station Low Voltage	Breaker Name	Feeder Name	Cable Design Rating
Limebank MS	27.6 kV	7F4	7F4	475
Lincoln Heights TD	13.2 kV	TD01	TD01	425
Lincoln Heights TD	13.2 kV	TD03	TD2TW	425
Lincoln Heights TD	13.2 kV	TD04	5409	425
Lincoln Heights TD	13.2 kV	TD05	TD05	425
Lincoln Heights TD	13.2 kV	TD06	TD06	425
Lincoln Heights TD	13.2 kV	TD07	TD07	425
Lincoln Heights TD	13.2 kV	TD08	5407	425
Lincoln Heights TD	13.2 kV	TD10	5404	425
Lincoln Heights TD	13.2 kV	TD11	5403	425
Lincoln Heights TD	13.2 kV	TD12	TD12	425
Lincoln Heights TD	13.2 kV	TD13	TD00W	425
Lincoln Heights TD	13.2 kV	TD14	TD14	425
Lincoln Heights TD	13.2 kV	TD15	5401	425
Lincoln Heights TD	13.2 kV	TD16	5405	425
Lincoln Heights TD	13.2 kV	TD17	5408	425
Lincoln Heights TD	13.2 kV	TD18	5402	425

Station Name	Station Low Voltage	Breaker Name	Feeder Name	Cable Design Rating
Lincoln Heights TD	13.2 kV	TD19	TD00	425
Lincoln Heights TD	13.2 kV	TD20	TD1TW	425
Lincoln Heights TD	13.2 kV	TD22	TD3AH	425
Lincoln Heights TD	13.2 kV	TD24	5412	425
Lisgar TL	13.2 kV	TL01	5201	425
Lisgar TL	13.2 kV	TL02	5207	425
Lisgar TL	13.2 kV	TL03	TLS2FB	425
Lisgar TL	13.2 kV	TL04	TL2AB	425
Lisgar TL	13.2 kV	TL05	5202	425
Lisgar TL	13.2 kV	TL06	TLS1UF	425
Lisgar TL	13.2 kV	TL07	TL1AB	425
Lisgar TL	13.2 kV	TL08	TL4SB	425
Lisgar TL	13.2 kV	TL09	TL2TS	425
Lisgar TL	13.2 kV	TL10	5208	425
Lisgar TL	13.2 kV	TL11	TL5SB	425
Lisgar TL	13.2 kV	TL11	5209	425
Lisgar TL	13.2 kV	TL12	TL4TS	425

Station Name	Station Low Voltage	Breaker Name	Feeder Name	Cable Design Rating
Lisgar TL	13.2 kV	TL12	TL7TS	425
Lisgar TL	13.2 kV	TL13	TL1TH	425
Lisgar TL	13.2 kV	TL13	5213	425
Lisgar TL	13.2 kV	TL14	TC1TL	425
Lisgar TL	13.2 kV	TL15	TC3TL	425
Lisgar TL	13.2 kV	TL16	TL1AM	425
Lisgar TL	13.2 kV	TL17	TL1SB	425
Lisgar TL	13.2 kV	TL18	TL2SB	425
Lisgar TL	13.2 kV	TL19	TL3SB	425
Lisgar TL	13.2 kV	TL20	5211	425
Lisgar TL	13.2 kV	TL20	TL6SB	425
Lisgar TL	13.2 kV	TL21	TL5TS	425
Lisgar TL	13.2 kV	TL21	TL3TS	425
Lisgar TL	13.2 kV	TL22	5210	425
Lisgar TL	13.2 kV	TL22	TL6TS	425
Lisgar TL	13.2 kV	TL23	5203	425
Lisgar TL	13.2 kV	TL24	5205	425

Station Name	Station Low Voltage	Breaker Name	Feeder Name	Cable Design Rating
Lisgar TL	13.2 kV	TL25	TC2TL	425
Marchwood MS	27.6 kV	MWDF1	MWDF1	505
Marchwood MS	27.6 kV	MWDF2	MWDF2	505
Marchwood MS	27.6 kV	MWDF3	MWDF3	505
Marchwood MS	27.6 kV	MWDF4	MWDF4	505
Moulton MS	27.6 kV	208F1	208F1	505
Moulton MS	27.6 kV	208F2	208F2	505
Moulton MS	27.6 kV	208F3	208F3	505
Moulton MS	27.6 kV	208F4	208F4	505
Nepean TS	44 kV	22M23	22M23	620
Nepean TS	44 kV	22M24	22M24	620
Nepean TS	44 kV	22M25	22M25	620
Nepean TS	44 kV	22M26	22M26	620
Nepean TS	44 kV	22M27	22M27	620
Nepean TS	44 kV	22M28	22M28	620
Overbrook TO	13.2 kV	TO29	1804	425
Overbrook TO	13.2 kV	TO30	TO3UT	425

Station Name	Station Low Voltage	Breaker Name	Feeder Name	Cable Design Rating
Overbrook TO	13.2 kV	TO31	TO4ACB	425
Overbrook TO	13.2 kV	TO32	TO1UB	425
Overbrook TO	13.2 kV	TO33	SOT3	425
Overbrook TO	13.2 kV	TO34	TO5UB	425
Overbrook TO	13.2 kV	TO35	TO1AP	425
Overbrook TO	13.2 kV	TO35	1801	425
Overbrook TO	13.2 kV	TO36	TO1AA	425
Overbrook TO	13.2 kV	TO37	1807	425
Overbrook TO	13.2 kV	TO38	1809	425
Overbrook TO	13.2 kV	TO39	TO2AP	425
Overbrook TO	13.2 kV	TO40	SOT1	425
Overbrook TO	13.2 kV	TO43	TO2UT	425
Overbrook TO	13.2 kV	TO44	TO1UT	425
Overbrook TO	13.2 kV	TO45	TO3UB	425
Overbrook TO	13.2 kV	TO46	TO2UB	425
Overbrook TO	13.2 kV	TO47	TO3AP	425
Overbrook TO	13.2 kV	TO48	1802	425

Station Name	Station Low Voltage	Breaker Name	Feeder Name	Cable Design Rating
Overbrook TO	13.2 kV	TO49	TO3AC	425
Overbrook TO	13.2 kV	TO50	TR02UQ	425
Overbrook TO	13.2 kV	TO51	1808	425
Overbrook TO	13.2 kV	TO52	SOT2	425
Overbrook TO	13.2 kV	TO53	1806	425
Overbrook TO	13.2 kV	TO54	SOT4	425
Riverdale TR	13.2 kV	TR01	SRT2	425
Riverdale TR	13.2 kV	TR02	SRT3	425
Riverdale TR	13.2 kV	TR03	TR2UY	425
Riverdale TR	13.2 kV	TR04	TR2TS	425
Riverdale TR	13.2 kV	TR04	TR1UQ	425
Riverdale TR	13.2 kV	TR05	TR1FB	425
Riverdale TR	13.2 kV	TR06	504	425
Riverdale TR	13.2 kV	TR07	502	425
Riverdale TR	13.2 kV	TR08	506	425
Riverdale TR	13.2 kV	TR08	508	425
Riverdale TR	13.2 kV	TR09	TR09	425

Station Name	Station Low Voltage	Breaker Name	Feeder Name	Cable Design Rating
Riverdale TR	13.2 kV	TR10	TR1JP	425
Riverdale TR	13.2 kV	TR10	TR1UY	425
Riverdale TR	13.2 kV	TR11	TR02UQ	425
Riverdale TR	13.2 kV	TR13	TR1UN	425
Riverdale TR	13.2 kV	TR14	TR3UQ	425
Riverdale TR	13.2 kV	TR15	TR3UY	425
Riverdale TR	13.2 kV	TR16	507	425
Riverdale TR	13.2 kV	TR17	505	425
Riverdale TR	13.2 kV	TR18	SRT1	425
Riverdale TR	13.2 kV	TR20	TR2FB	425
Riverdale TR	13.2 kV	TR21	501	425
Riverdale TR	13.2 kV	TR22	TR1UX	425
Riverdale TR	13.2 kV	TR23	503	425
Russell TB	13.2 kV	TB01	TB3LE	425
Russell TB	13.2 kV	TB02	5307	425
Russell TB	13.2 kV	TB03	5310	425
Russell TB	13.2 kV	TB04	5305	425

Station Name	Station Low Voltage	Breaker Name	Feeder Name	Cable Design Rating
Russell TB	13.2 kV	TB05	TB00	425
Russell TB	13.2 kV	TB06	TB06	425
Russell TB	13.2 kV	TB07	TB07	425
Russell TB	13.2 kV	TB09	5306	425
Russell TB	13.2 kV	TB10	5303	425
Russell TB	13.2 kV	TB11	5304	425
Russell TB	13.2 kV	TB13	TB2JP	425
Russell TB	13.2 kV	TB14	TB14	425
Russell TB	13.2 kV	TB15	TB15	425
Russell TB	13.2 kV	TB17	TB1AL	425
Russell TB	13.2 kV	TB19	5308	425
Russell TB	13.2 kV	TB20	5309	425
Russell TB	13.2 kV	TB21	5301	425
Russell TB	13.2 kV	TB22	TB1UQ	425
Russell TB	13.2 kV	TB24	TB2AL	425
Slater TS	13.2 kV	TS37	628	425
Slater TS	13.2 kV	TS38	617	425

Station Name	Station Low Voltage	Breaker Name	Feeder Name	Cable Design Rating
Slater TS	13.2 kV	TS39	630	425
Slater TS	13.2 kV	TS40	TS2UX	425
Slater TS	13.2 kV	TS41	TK6TS	425
Slater TS	13.2 kV	TS42	606	425
Slater TS	13.2 kV	TS43	TL6TS	425
Slater TS	13.2 kV	TS43	619	425
Slater TS	13.2 kV	TS44	625	425
Slater TS	13.2 kV	TS45	TL5TS	425
Slater TS	13.2 kV	TS46	TLS2FB	425
Slater TS	13.2 kV	TS47	610	425
Slater TS	13.2 kV	TS48	621	425
Slater TS	13.2 kV	TS48	629	425
Slater TS	13.2 kV	TS49	616	425
Slater TS	13.2 kV	TS50	SAT1	425
Slater TS	13.2 kV	TS51	TS1AB	425
Slater TS	13.2 kV	TS52	SAT3	425
Slater TS	13.2 kV	TS53	TS1AM	425

Station Name	Station Low Voltage	Breaker Name	Feeder Name	Cable Design Rating
Slater TS	13.2 kV	TS54	TR2TS	425
Slater TS	13.2 kV	TS54	TL7TS	425
Slater TS	13.2 kV	TS55	624	425
Slater TS	13.2 kV	TS56	TK5TS	425
Slater TS	13.2 kV	TS58	609	425
Slater TS	13.2 kV	TS58	611	425
Slater TS	13.2 kV	TS59	TL2TS	425
Slater TS	13.2 kV	TS59	604	425
Slater TS	13.2 kV	TS60	603	425
Slater TS	13.2 kV	TS61	618	425
Slater TS	13.2 kV	TS62	TS1UX	425
Slater TS	13.2 kV	TS63	607	425
Slater TS	13.2 kV	TS63	613	425
Slater TS	13.2 kV	TS64	TL3TS	425
Slater TS	13.2 kV	TS65	SAT2	425
Slater TS	13.2 kV	TS66	TLS1UF	425
Slater TS	13.2 kV	TS67	623	425

Station Name	Station Low Voltage	Breaker Name	Feeder Name	Cable Design Rating
Slater TS	13.2 kV	TS67	601	425
Slater TS	13.2 kV	TS68	612	425
Slater TS	13.2 kV	TS69	605	425
Slater TS	13.2 kV	TS70	TL4TS	425
Slater TS	13.2 kV	TS71	TK4TS	425
Slater TS	13.2 kV	TS72	614	425
Slater TS	13.2 kV	TS73	622	425
Slater TS	13.2 kV	TS74	615	425
Slater TS	13.2 kV	TS75	602	425
Slater TS	13.2 kV	TS76	626	425
Slater TS	13.2 kV	TS77	608	425
Slater TS	13.2 kV	TS78	620	425
South March TS	44 kV	A9M1	A9M1	700
South March TS	44 kV	A9M2	A9M2	700
South March TS	44 kV	A9M3	A9M3	700
South March TS	44 kV	A9M4	A9M4	700
Uplands MS	27.6 kV	Q4801F7	Q4801F7	505

Station Name	Station Low Voltage	Breaker Name	Feeder Name	Cable Design Rating
Uplands MS	27.6 kV	Q4801F8	Q4801F8	505
Woodroffe TW	13.2 kV	TW01	TW1UV	425
Woodroffe TW	13.2 kV	TW02	TW2UV	425
Woodroffe TW	13.2 kV	TW03	2803	425
Woodroffe TW	13.2 kV	TW04	2802	425
Woodroffe TW	13.2 kV	TW05	TW05	425
Woodroffe TW	13.2 kV	TW07	2806	425
Woodroffe TW	13.2 kV	TW08	TW3UV	425
Woodroffe TW	13.2 kV	TW10	UWT2	425
Woodroffe TW	13.2 kV	TW11	UWT4	425
Woodroffe TW	13.2 kV	TW12	TW12	425
Woodroffe TW	13.2 kV	TW13	UWT1	425
Woodroffe TW	13.2 kV	TW14	TD2TW	425
Woodroffe TW	13.2 kV	TW15	TW00	425
Woodroffe TW	13.2 kV	TW16	TW2UC	425
Woodroffe TW	13.2 kV	TW19	TD1TW	425
Woodroffe TW	13.2 kV	TW20	2804	425

Station Name	Station Low Voltage	Breaker Name	Feeder Name	Cable Design Rating
Woodroffe TW	13.2 kV	TW21	TW1UC	425
Woodroffe TW	13.2 kV	TW22	TW22	425
Woodroffe TW	13.2 kV	TW23	2805	425

9 Appendix D – Available Station Capacity

Station Name	Bus Name	Available Station Capacity (MW) ¹	Supply Circuit 1	Availability (MW)	Supply Circuit 2	Availability (MW)
Albion TA	Total	11	M30A	0	M31A	0
	BQ	5	M30A	0	M31A	0
	JY	5	M30A	0	M31A	0
Bilberry Creek TS	Total	62	A2	40	H9A	50
Fallowfield DS		Under Review	S7M	0		
Hawthorne TS	Total	79	Not expected to be limited by a supply circuit			
Hinchey TS	Total	0	F10MV	110	V12M	110
Kanata MTS		Under Review	C3S	350	M32S	300
King Edward TS	Total	6	A4K	50	A5RK	50
	JY T3T4	3	A4K	50	A5RK	50
	QZ T3T4	3	A4K	50	A5RK	50
Limebank MS		Under Review	L2M	30		
Marchwood MTS		Under Review	S7M	0		
Merivale MTS		Under Review	A3RM	50	A8M	90
Moulton MTS		Under Review	Not expected to be limited by a supply circuit			
Nepean TS	Total	105	M32S	300		
Overbrook TS	Total	8	A4K	50	A5RK	50
	J	3	A4K	50	A5RK	50
	Q	5	A4K	50	A5RK	50
Riverdale TS	Total	23	A3RM	50	A5RK	50
	JY	13	A3RM	50	A5RK	50
	QZ	11	A3RM	50	A5RK	50
Slater TS	Total	16	A3RM	50	A5RK	50
	B1B2	5	A3RM	50	A5RK	50
	J1J2	5	A3RM	50	A5RK	50
	Q1Q2	5	A3RM	50	A5RK	50
South March TS	Total	71	C3S	350	M32S	300
St. Isidore TS	Total	15	B5D	0	D5A	50
Uplands MTS		Under Review	A8M	90		

1 – Capacity is as of October 2009



ONTARIO POWER AUTHORITY

OPA Letter of Comment: Hydro Ottawa Limited Basic Green Energy Plan

June 2, 2010

Introduction

On March 25, 2010, The Ontario Energy Board (the “OEB”) issued its Filing Requirements for Distribution System Plans. As a condition of Licence, Ontario Distributors are required to file a Green Energy Plan (“GEA Plan”) as part of their cost of service application.

The Filing Requirements distinguish between Basic and Detailed Green Energy Plans and outline the specific information and level of detail which must be provided for each type of plan. Recognizing the importance of coordinated planning in achieving the goals of the GEA, distributors must consult with embedded and host distributors, upstream transmitters and the OPA in preparing their plans. For both Basic and Detailed GEA Plans, distributors are required to submit as part of the plan, a letter of comment from the OPA.

The OPA will review distributors’ Basic GEA Plans to ensure consistency with regard to FIT and microFIT applications received, as well as with integrated plans for the region or the system as a whole.

Hydro Ottawa Limited Green Energy Plan

On April 26, 2010, the OPA received a draft Basic Green Energy Plan from Hydro Ottawa Limited (“HOL”). Total proposed capital costs for the five year period covering this plan are \$7.860 million. HOL has indicated that this expenditure level is insufficient to meet the materiality threshold required to file a Detailed GEA Plan. The OPA has reviewed HOL’s plan and has provided its comments below.

OPA FIT/MicroFIT Applications Received

HOL’s plan identifies 42 FIT contracts received, at a total capacity of 101.05 MW. A list of the stations impacted by new generation projects is provided at Appendix A of the plan. Capacity of feeders for which OPA FIT applications have been received is provided at Appendix B.

New generation projects identified by HOL include 5,650 kW of capacity allocation-exempt FIT projects, and a further 996 kW of capacity allocation-exempt projects, which are assumed by the OPA to be microFIT projects. This information is consistent with applications received by the OPA.

The draft plan submitted to the OPA further identifies 94,400 kW of FIT projects with capacity greater than 500 kW. Upon further discussion with HOL, it has been confirmed that the correct total should be 58,000 kW, which is consistent with the applications received by the OPA.

Upstream Transmission Constraints

HOL's service territory is constrained due to the fact that the Hawthorne 115 kV TS has reached its short circuit limitation as specified by Hydro One. While this constraint does not pose limitations for the capacity allocation-exempt projects identified in HOL's current plan, larger projects which require a connection assessment in order to be awarded a FIT contract have failed the OPA's Transmission Access Test ("TAT"). The OPA will be unable to award further non-Capacity Allocation Exempt FIT contracts until this constraint has been addressed by Hydro One.

Economic Connection Test Results

There has been no Economic Test performed for this region to date. It is expected to be conducted beginning in August, 2010, and results will be available in Q1, 2011.

Opportunities for Integrated Solutions

At this time, there are no known corresponding expansions among neighbouring LDCs that could be addressed through integrated transmission solutions for increasing renewable resource connection capability.

Anticipated Renewable Generation

HOL has not forecast any renewable generation to connect within the next five years beyond FIT applications received to date. Further FIT applications may be received over the five year time period covered by the plan, although it is difficult to predict either the location or quantity. HOL's plan describes the geographical limitations, and suggests that future potential generation is likely to be small to medium size installations with a large percentage being roof top solar. The OPA has no further information regarding future potential at this time. The system capability as outlined in Appendices B, C, and D of HOL's plan appears to be sufficient to accommodate the renewable generation as outlined in HOL's plan at page 13. Upon resolution of the transmission capacity constraint described above, more generation than currently forecast could be accommodated.

Other Comments

The draft plan provided to the OPA did not contain information regarding the allocation of direct benefits to HOL's ratepayers. It is noted that HOL has planned capital expenditures for pilot storage projects. While the OPA takes no issue with these pilot projects for HOL ratepayer benefit, it has made no assessment regarding benefits to the electricity system as a whole.

Conclusion

The OPA finds that the draft GEA Plan as clarified for the OPA is consistent with the OPA's information regarding renewable energy generation connections both known and anticipated over the period of the plan, and is consistent with integrated plans for the area.

2/2

Ontario Power Authority

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INFORMATION TECHNOLOGY STRATEGY

1
2
3 An Information Technology (“IT”) strategy is about making choices, which have
4 corresponding costs and benefits. Hydro Ottawa Limited (“Hydro Ottawa”) defines both
5 yearly operational parameters and strategic investment decisions in IT as part of a five
6 year plan. A core objective of that plan is to provide a reliable, secure, agile, effective
7 and extensible IT environment. Hydro Ottawa maintains a consistent approach to IT
8 operations that is reflected in the IT strategy which, at the same time, is adaptive to new
9 technologies and business requirements.

10
11 Developing a five year plan is a consensus building exercise that is facilitated by a
12 structured IT governance process. Hydro Ottawa’s IT governance process provides for
13 alignment of information technology strategy with corporate objectives and goals.
14 Investment decisions are supported by sound business cases that have been developed
15 through cross-department collaboration, detailed evaluation of product offerings and
16 options and a desire to reuse and build upon existing systems and applications.

17
18 Hydro Ottawa has been successful in protecting its technology investment by:

- 19
- 20 • Establishing a comprehensive asset management program based on realistic
 - 21 product lifecycles,
 - 22 • Optimizing the use of applications already owned by Hydro Ottawa,
 - 23 • Integrating applications and share data where possible,
 - 24 • Investing in technologies that are tried and proven, and
 - 25 • Minimizing costs and complexity in managing the technology infrastructure by
 - 26 establishing corporate technology standards resulting in a homogeneous
 - 27 technology environment.
- 28

29 The new challenges and opportunities of conservation, renewable energy, demand
30 management, smart metering and smart grid need to be accounted for in Hydro Ottawa’s
31 IT strategy but the guiding considerations for Hydro Ottawa’s long-term plan remain:



- 1 • Secure and reliable IT Infrastructure,
2 • Greater reliance upon and integration of IT within business operations,
3 • IT alignment with business objectives,
4 • Value driven strategic IT investments,
5 • Greater mobility of Hydro Ottawa's workforce,
6 • More knowledgeable and IT comfortable workforce,
7 • Streamline processes through data sharing and integration,
8 • Energy efficient IT infrastructure and business practices, and
9 • Maturing IT operational practices and implementation of industry recognized best
10 practices.

11

12 A number of trends and changes, in the information management, technology and
13 telecommunication industry, and society in general, influence Hydro Ottawa's IT
14 strategy. In brief, these are listed below.

15

- 16 • An aging workforce, with its resulting retirement and hiring of staff requires
17 implementation of knowledge management tools to document and communicate
18 business processes and the increased automation of those processes.
19 • Pervasiveness of technology in all aspects of the business, and potential
20 expansion through Smart Grid implementation, increases the need for Cyber
21 Security and IT disaster recovery planning and support of business continuity
22 plans.
23 • Advances in wireless technology have opened the way to provide feature rich
24 applications and continue to facilitate an increasingly mobile workforce.
25 • With the increasing use of the internet for business and personal e-commerce
26 transactions, security will continue to be a challenge. This challenge is now
27 being transferred to internal, corporate networks as the cyber-attacks become
28 more sophisticated and focused. Technologies exist to address security but they
29 are very complex and lead to many logistical issues.
30 • As the role of Hydro Ottawa expands from that of gateway between the provincial
31 generation of electricity and local distribution to that of energy conservationist



1 and distributor of locally generated electricity, the demands to share information
2 with new participants in the energy marketplace and the requirements to respond
3 to new and expanding regulatory requirements will increase the need to manage,
4 store and distribute information. This will be offset by further development of
5 document and content management, virtualization and storage optimization
6 technology but, potentially, these will also introduce an additional layer of
7 infrastructure and complexity.

- 8 • The ability to attract and retain technology skills will become a serious issue in
9 both public and private sectors in such areas as security, system integration and
10 business process management technology.

11

12 Large IT projects are implemented through dedicated projects with oversight and
13 guidance provided through cross-functional Steering Committees. Similar project
14 management principles are applied to smaller projects but management and oversight
15 are provided within each department. As applications and systems evolve and become
16 more integrated, sustainment plans identify whether day-to-day operation and
17 management of these systems continues with the implementing department or is
18 transferred to the Information Services and Technology group.

19

20 Hydro Ottawa owns hundreds of pieces of computer equipment and peripherals. New
21 equipment is introduced by one of four methods:

22

- 23 • As part of the lifecycle replacement program,
- 24 • As departmental request for incremental unit, typically for new staff,
- 25 • As departmental request for an upgrade to an existing unit, or
- 26 • When repair to a unit is not cost effective, based on the unit's age.

27



1 Lifecycle management of computer equipment and peripherals is integral to employee
2 productivity. A regular replacement cycle, combined with strategic replacements and re-
3 allocation of computers based on job requirements, is a cost effective way of managing
4 these assets. The lifecycle program for the larger PC and peripheral equipment has the
5 following replacement cycles:

6

- 7 • Desktop computers, 5 years,
- 8 • Laptop Computers, 4 years, and
- 9 • Monitors, 5 years.



FACILITIES STRATEGY

1.0 INTRODUCTION

The development of a comprehensive Facilities Strategy was identified as a business objective by both Hydro Ottawa Limited (“Hydro Ottawa”) and Hydro Ottawa Holding Inc. (the “Holding Company”) in 2009. The purpose of this exhibit is to support the inclusion of \$5.5M in capital expenditures for facilities in 2011, including \$1.5M of construction in progress (“CIP”). The evidence will describe a broader strategy to restructure many of Hydro Ottawa’s facilities assets beyond 2011; however, at this time, the only portion, which Hydro Ottawa is seeking approval from the Ontario Energy Board (the Board”), is the portion pertaining to 2011.

Hydro Ottawa’s existing facilities structure resulted from the amalgamations in 2000 of five municipal electricity utilities. Hydro Ottawa owns all facilities and expects that this will remain the case once the restructuring is completed. It is further expected that space within these facilities will be leased to the Holding Company and to Energy Ottawa Inc. (“Energy Ottawa”), a small wholly owned, unregulated affiliate of the Holding Company. The Holding Company provides a number of shared corporate services¹ to Hydro Ottawa as described in Exhibit A1-7-1 and therefore there are efficiencies in having close proximity.

The inclusion of \$5.5M in the capital budget in 2011 relates to acquiring \$3.0M for a new East Operations Centre (representing the land of \$1.5M and initial construction of \$1.5M), and \$2.5M in land for a new Administrative building. This results in \$2M being added to the 2011 rate base (capital expenditures less CIP on a mid-year rate base).²

A Request for Proposal for a Project Management Firm (the “PM”) has also been issued to assist Hydro Ottawa in carrying out the Facilities Strategy for 2011 as well as further defining the plan beyond 2011.

¹ As defined by the Affiliate Relationships Code

² Dollars shown do not include the adjustment for HST as described in Exhibit B4-4-1



1 **2.0 BACKGROUND**

2
3 Hydro Ottawa was formed as a result of the amalgamation of several municipalities in
4 2000, as required by provincial legislation. Hydro Ottawa was formed from the former
5 utilities of Ottawa, Gloucester, Nepean, Kanata, and Goulbourn. Upon amalgamation,
6 each of the five municipal utilities owned both administrative and operations facilities.
7 Currently, Hydro Ottawa still owns and operates all of these facilities with the exception
8 of a small office in Goulbourn, which was sold shortly after amalgamation. The former
9 Ottawa Hydro facility is now referred to as the Albion Road facility, the former Gloucester
10 Hydro facility is now referred to as the Bank Street facility, the former Nepean Hydro
11 facility is now referred to as the Merivale Road facility and the former Kanata Hydro
12 facility is now referred to as the Maple Grove facility.

13
14 Upon amalgamation there were several scenarios considered regarding the future of the
15 utility facilities. It was felt that the most advantageous option was to: move all central
16 functions to a new, purpose built facility; create distributed work centres for all
17 construction and maintenance functions; and declare all existing facilities surplus.
18 However, due to the very short timeframe involved for the amalgamation and the
19 magnitude of the capital decision to be made, the transition committee, appointed by the
20 provincial government to oversee the amalgamation, selected the option of keeping all
21 facilities for the time being. All facilities still exist, however a number of changes have
22 taken place since amalgamation. Some of the significant activities post-amalgamation
23 are described below.

24
25 In 2001, it was recognized that there was a need to have work centres and facilities
26 rationalized with respect to improving customer response and operational efficiencies
27 and locating the outside staff closer to where the work is performed. Some other plans
28 included:

- 29
30 • Engineering and operations groups consolidated at the Merivale Road facility;
31 and



- 1 • The Maple Grove facility had too much office space and too little garage space
2 for an operations centre. The Bank Street facility was being used as a project
3 office to get ready for the electricity market opening in 2002. It was recognized
4 that there would be surplus office space at both of these sites.

5

6 The consolidation of the engineering and operations groups at the Merivale Road facility
7 started in 2002. A design and project management firm was engaged to perform an in-
8 depth study for the relocation of approximately 72 staff members to the Merivale Road
9 facility. The renovation work was completed in 2003, and staff members were relocated.

10

11 In 2003, the Bank Street facility was listed for sale. A conditional offer to purchase was
12 approved on the condition that the property would be rezoned; however, the municipality
13 did not permit re-zoning. The property was left on the market but no further offers were
14 received. Subsequently when the need arose to expand the fleet and training centre, it
15 was established at Bank Street to make use of this facility.

16

17 In 2003, Colliers International provided a report entitled “Strategic Real Estate Plan”.
18 The plan covered the Operations Centres, the office administration, and transformer
19 stations. A need was identified for new Operations Centres in the East and West of the
20 city.

21

22 In 2005, a new West Operations Centre was completed on the same land that was
23 occupied by the former Kanata Hydro facility. A new system office, the control room for
24 the distribution system, was constructed at Merivale Road to be in the same location as
25 the engineering and operations groups. This system office was a high priority from a
26 safety and efficiency perspective because it resulted in the final consolidation of system
27 control functions following the amalgamation.

28

29 In 2006, Hydro Ottawa decided to proceed with a new operations centre in the East and
30 a new administrative property. A land acquisition process began for a combined new
31 East Operations Centre and a new 115kV transformer station. KPMG and Colliers



1 International were retained to facilitate the identification and evaluation of alternatives for
2 a new administrative property. An RFP was issued on March 1, 2006 to identify potential
3 vendors of suitable administrative facilities. While work proceeded on the construction of
4 the east end 115kV transformer station (Cyrville MTS, capitalized in 2008) the other
5 plans were deferred because of the magnitude of the undertaking, particularly while
6 other major activities were underway.

7
8
9 **3.0 ANALYSIS OF CURRENT PROPERTIES**

10
11 **3.1 Property Profiles**

12
13 **3.1.1 Albion Road**

14
15 Albion Road is the former Ottawa Hydro facility; it currently houses administrative offices,
16 the East Operations Centre, and the Crane and Transformer Shop.

17
18 **Table 1 – Albion Road Profile**

Site Size	14 acres
Office Area	80,125 sq ft
Garage Area	62,433 sq ft
Indoor Material Storage	15,324 sq ft
Yard Space	7- 8 acres
Employee Parking	> 350 spaces
Approximate Inside Staff	240
Approximate Outside Staff	90
Building Age	55 years
NBV as at December 31, 2009	\$10M
Market Value	\$10.7M to \$12.2M

19



1 The key concerns associated with the building are as follows:

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- The surrounding area has grown into a dense residential neighbourhood, with predominantly young families, which is not compatible with the high volume of large Hydro Ottawa trucks driving in and out of the site daily, plus the personal vehicles of over 300 employees.
- Access for line staff to the downtown and east territory is now very inefficient due to the progressively increasing traffic volumes and lack of limited access roadways in the vicinity of Albion Road. Travel times to job sites are increasing in length tying up valuable human and fleet resources unproductively.
- The office component of the complex is at capacity and any further growth in human resources cannot be accommodated without costly renovations to parts of the building to convert former storage areas into office space. Moreover, despite costly fit-ups, the reclaimed space would be decidedly substandard.
- The truck-parking garage has height restrictions preventing the newer, larger line trucks from entering. This issue is going to become a significant problem, as the fleet ages and older smaller trucks reach the end of their useful lives and need to be replaced with the new standard larger vehicles.
- The building envelope and systems, although kept in good repair, have components that are nearing the end of their useful life and will have to be replaced, and are contributing to high ongoing maintenance charges. These are primarily HVAC units, electrical panels, washrooms, elevators, garage roofing, garage floors, overhead crane and windows.
- The building has a variety of heating and cooling systems that are not very synergistic, making it difficult to manage the internal climate. In addition, the utility costs are not in line with those of a comparably sized modern building and not in keeping with an organization outwardly focused on energy conservation. Buildings of this vintage are expensive to convert to operating on “Green” or Leadership in Energy and Environmental Design (“LEED”) principles.



1 3.1.2 Merivale Road

2

3 Merivale Road is the former Nepean Hydro facility; it currently houses administrative
4 offices, the South Operations Centre, the warehouse, and the main system Office.

5

6

Table 2 – Merivale Road Profile

Site Size	7 acres
Office Area	42,982 sq ft
Garage Area	14,100 sq ft
Indoor Material Storage	16,250 sq ft
Yard Space	1.5 acres
Employee Parking	> 150 spaces
Approximate Inside Staff	100
Approximate Outside Staff	120
Building Age	40 years
NBV as at December 31, 2009	\$14.5M
Market Value	\$6.3M to \$6.8M

7

8 The key concerns associated with the building are as follows:

9

- 10
- 11 • The building is utilized well beyond its reasonable capacity; prior to
12 amalgamation in 1998, 94 staff worked out of this location as Nepean Hydro,
13 there is currently over 200 staff working out of this location. The office, garage,
14 and employee parking are all at capacity, construction of new space will soon be
15 critical.
 - 16 • Access for line staff to the northern parts of the territory has become very
17 inefficient due to the progressively increasing traffic volumes and lack of limited
18 access roadways in the vicinity of Merivale Road. Travel times to get to job sites
are getting longer, tying up valuable human and fleet resources unproductively.



- 1 • The building envelope / systems, although kept in good repair, have components
2 that are nearing the end of their useful life and will have to be replaced. These
3 are primarily HVAC units and windows.

4
5 **3.1.3 Bank Street**

6
7 The Bank Street facility was the former Gloucester Hydro facility. The building is used
8 for large scale training for both management and operations personnel and is fully
9 equipped to handle both power line maintainer and cable jointer apprentice training. The
10 Fleet Maintenance garage is also located at this facility. Yet despite this use, this
11 building has vacant capacity.

12
13 **Table 3 – Bank Street Profile**

Site Size	8.65 acres
Office Area	43,908 sq ft
Garage Area	12,061 sq ft
Yard Space	4 acres
Employee Parking	100 spaces
Approximate Inside Staff	10
Approximate Outside Staff	15
Age	45 years
NBV as at December 31, 2009	\$7.2M
Market Value	\$4.3M to \$4.8M

14
15 The key concerns associated with the building are as follows:
16



- 1 • The Fleet Centre is poorly situated, especially for the South and West Operations
2 Centres due to the long travel times.
- 3 • The location of this facility forces significant driving times for both the South and
4 West Operations Centres for training courses.
- 5 • Poor location in a rural part of the city making it unsuitable for further use of the
6 vacant capacity.

7

8 3.1.4 100 Maple Grove and 90 Maple Grove

9

10 The Maple Grove location is on the former Kanata Hydro property. In 2005, a West
11 Operations Centre was built on the property consisting of a 13 bay garage with an
12 attached office and locker room facilities for line staff. The former Kanata Hydro office
13 building and garage is leased to a third party and an application is currently with the City
14 of Ottawa to sever this portion of the property. Once the application is approved, this
15 surplus property will be offered for sale. The West Operations Centre built in 2005 is the
16 base model/benchmark for future operational centres. 100 Maple Grove represents the
17 West Operations Centre and 90 Maple Grove (formerly part of 100 Maple Grove)
18 represents the portion of the property that is being leased to a third party and is in the
19 process of being severed. Hydro Ottawa has not included 90 Maple Grove in the 2011
20 Rate Base and therefore the operating costs and lease payments have been removed
21 from the 2011 cost of service.

22

23



1

Table 4 – 100 Maple Grove Profile

Site Size	5.2 acres
Office Area	5500 sq ft
Garage Area	23,000 sq ft
Yard Space	1.3 acres
Employee Parking	50 spaces
Approximate Staff (All outside)	40
Age	5 years

2

3

Table 5 – 90 Maple Grove Profile

Site Size	2.8 acres
Office Area	13,000 sq ft
Garage Area	4850 sq ft
Employee Parking	50 spaces
Age	24 years
NBV as at December 31, 2009	\$1.8M
Market Value	\$1.8M

4

5 **3.1.5 The Carling Substation**

6

7 The Carling Substation houses a Central Operations Centre with a 3-Bay Garage. Due
8 to the small size of this location, the central operations team is decentralized with some
9 staff working out of this location and some staff working out of the Albion Road location.

10 The Central Operations Centre is beyond capacity, and there is no room to expand on
11 the existing property and no opportunity to acquire additional land; however, the location
12 is good within the central part of the city so this operations centre will be retained.

13



1 **3.2 Loss or Gain on Sale of Properties**

2

3 Of the facilities described above, recent valuations were performed on four of the
4 properties. Atlas Group Limited was engaged by Hydro Ottawa to inspect and provide
5 an opinion on the current market value of the Albion Road, Merivale Road, Bank Street,
6 and 90 Maple Grove properties. The market values listed in the preceding tables were
7 received from Altus on January 28, 2010. Utilizing the Net Book Value (“NBV”) as at
8 December 31, 2009 (also shown on the preceding tables) and the mid-point of the
9 market values, the estimated loss or gain for each of properties to be sold is shown in
10 the following table.

11

12

Table 6 – Loss or Gain on Sale of Properties

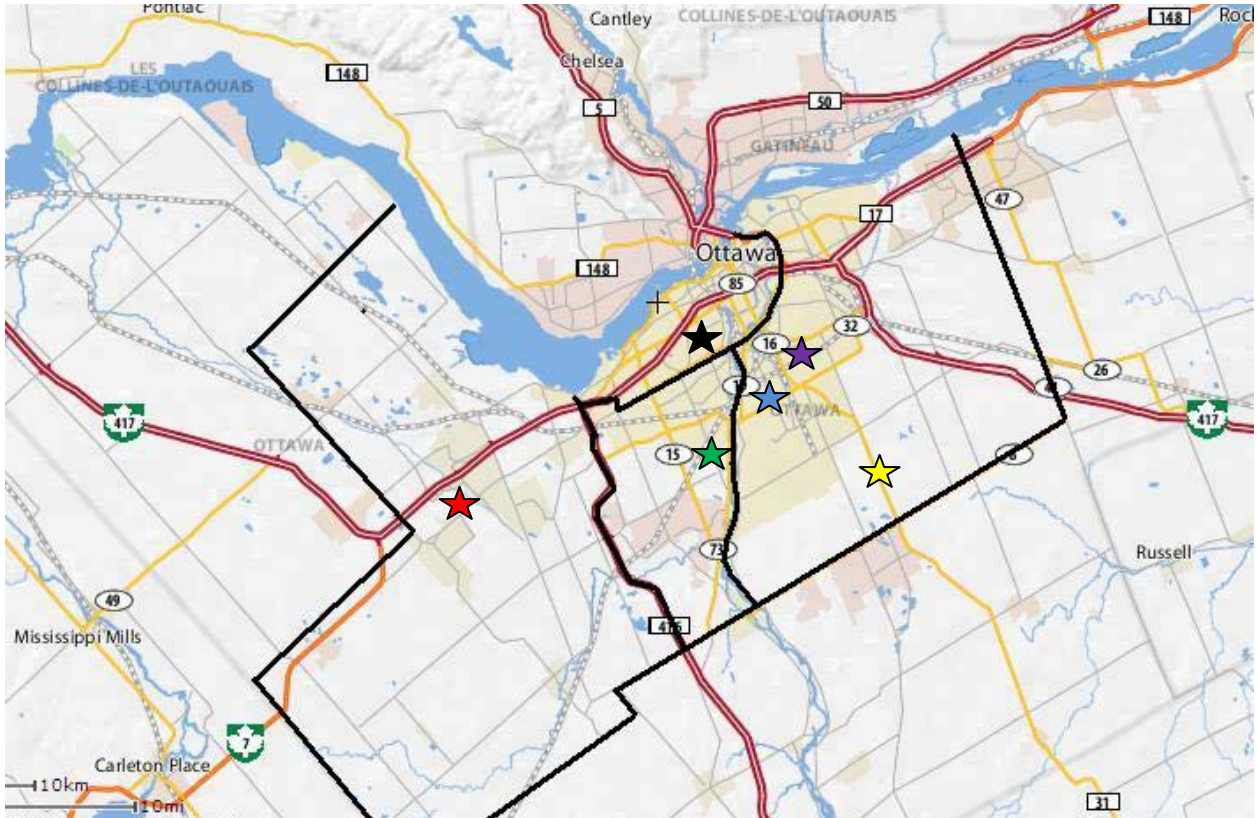
Property	Loss / (Gain)
Albion Road	(\$1.45M)
Merivale Road	\$7.95M
Bank Street	\$2.65M
90 Maple Grove	-
TOTAL LOSS	\$9.15M

13

14



1 **3.3 Service Area Map with Current Properties**



2

3 **Legend:**

- 4 Albion
- 5 Merivale
- 6 Bank
- 7 Maple Grove
- 8 Carling
- 9 EO

10

11

12 **4.0 DEVELOPMENT OF STRATEGIC FACILITY PLAN**

13

14 The development of a comprehensive Facilities Strategy was identified as a business
15 objective in 2009. Hydro Ottawa's facilities department reviewed the current facilities
16 and compiled data on each of the existing properties, which is summarized in the



1 previous section. This exercise clearly established a need for action due to the
2 numerous problems associated with many of the facilities. Prior to reviewing Hydro
3 Ottawa's alternatives, details were also compiled on what constitutes an optimal facility,
4 including optimal locations in relation to the service territory.

5 6 **4.1 Optimal Facility Guidelines**

7 8 **4.1.1 Administrative building:**

- 9
- 10 • Consolidation of all administrative and technical staff (all inside employees),
11 along with the System Office and Training facilities;
 - 12 • Location should be in a commercial / institutional area that provides a low cost /
13 best value option;
 - 14 • Accessible to public transportation;
 - 15 • Public visibility;
 - 16 • Leader in energy efficiency; and
 - 17 • Size requirement to be defined but is estimated at approximately 120,000 sq ft.
- 18

19 **4.1.2 Operations Centres:**

- 20
- 21 • Decentralized model into four service territories (East, South, West and Central);
 - 22 • Located on a major arterial for quick access to all parts of respective service
23 territory;
 - 24 • Industrial zoned area due to need for outside storage space;
 - 25 • West Operations Centre built in 2005 would be the model with a variable-bay
26 garage and an attached line staff indoor facility; and
 - 27 • One of the operations centres would need to have an area for apprentice training
28 as well as a back-up system office.
- 29
30



1 4.1.3 Fleet Centre

2

- 3 • Co-located with the South Operations Centre, as this site would be the most
4 centrally located of the four operations centres.

5

6 4.1.4 Warehouse / Meter Shop

7

- 8 • Requires loading dock, material handling equipment and interior and exterior
9 storage space;
- 10 • Locate in low cost industrial area; and
- 11 • Not necessary to co-locate with one of the operations centres as the location is
12 not a determining factor and deliveries to the operations centres occur overnight
13 via 3rd party carriers; however, if the most cost effective arrangement is co-
14 location, that would be the first choice

15

16 4.1.5 Other

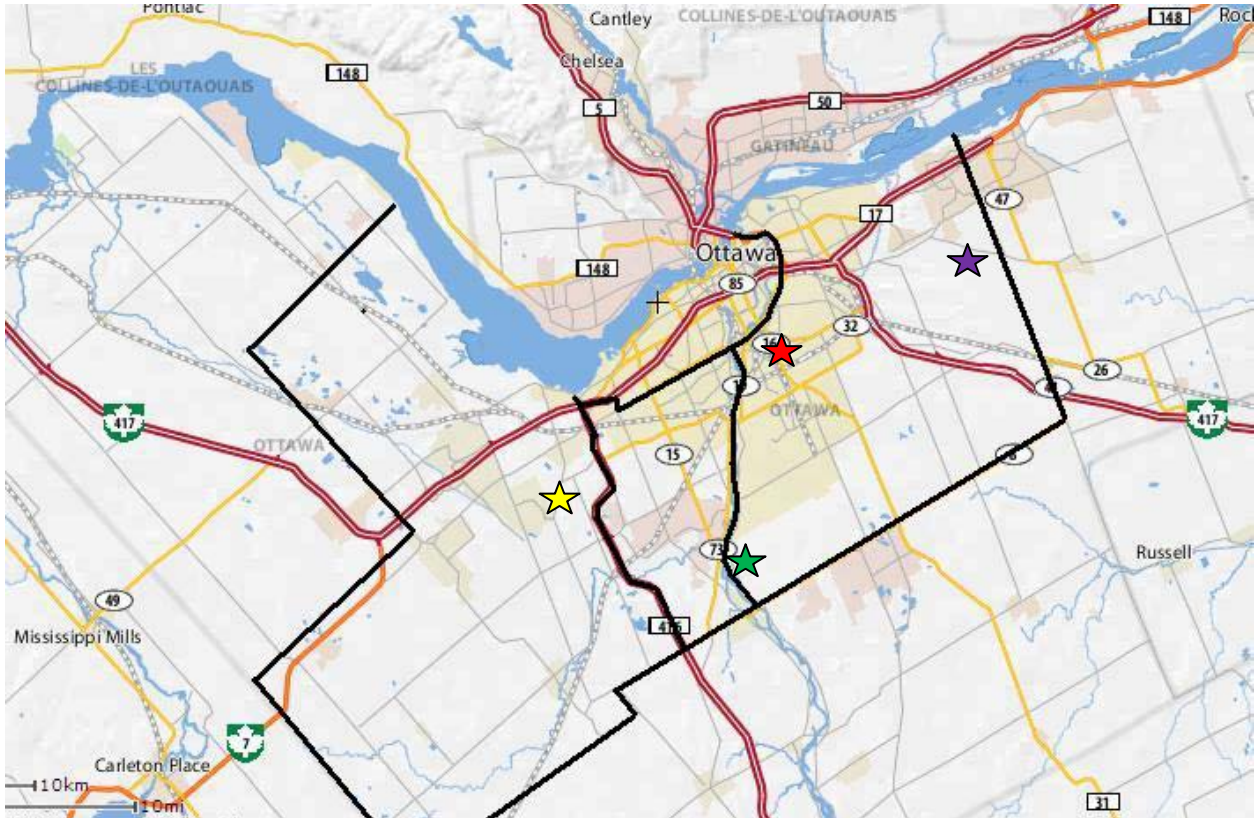
17

- 18 • A structure where the administrative building would be co-located with one of the
19 operations centres is also an option, however it is realized that this may be
20 difficult to achieve and potentially undesirable. Outside storage is a requirement
21 of the operations centres, which requires industrial zoning. Finding a location
22 that supports both industrial zoning and commercial office space zoning
23 (administrative building) will likely be difficult.

24



1 **4.2 Service Area Map with Optimal Facilities**



2

3 **Legend:**

- 4 East Operations
5 South Operations
6 West Operations (represents current Maple Grove location as no plans to change)
7 Central Operations (represents current Carling location as no plans to change)

8

9 **Notes**

- 10 • No representation of Administrative building shown on above map as the location
11 of this building is less critical in relation to the service area; many sites across the
12 city would be examined to determine the lowest cost / best value option.
13 • In addition, no representation of the warehouse facility as again the location of
14 this facility is less critical in relation to the service area.

15

16



1 **4.3 Consideration of Alternatives**

2
3 Given the optimal facility guidelines established above and the current properties
4 described in the previous section, this section discusses alternatives that were
5 considered along with some of the constraints associated with each particular option.
6

7 **4.3.1 Option 1 – Retain all Existing Facilities (Status Quo)**

- 8
- 9 • Immediate issues would have to be addressed regarding capacity but could be
10 done by:
 - 11 ○ Renovating some of the basement warehouse space at Albion into office
12 space,
 - 13 ○ Expand the Merivale Operations Centre
 - 14 ○ Move some of the inside staff to the Bank Street facility (further
15 decentralization)
 - 16 ○ These would address some of the current overcrowding / capacity issues
17 but capital investments would be required for all of these workarounds
18 and given the age of the facilities, it would be ineffective / marginal uses
19 of capital spending.
 - 20 • The overcrowding / capacity issues at Merivale would require additional land
21 acquisition adjacent to the property, however given the distance of this location to
22 the major arteries (Hwy 416 / 417); a land acquisition in this area would be an
23 undesirable investment strategy.
 - 24 • Note that all options presented would entail the disposal of the 90 Maple Grove
25 property that is currently being severed, as it is currently surplus to Hydro Ottawa
26 needs.
27
28



1 4.3.2 Option 2 – Consolidate all of the inside Administrative Staff at the Albion Road
2 Facility

- 3
- 4 • The Albion Road facility is at capacity and cannot in its current form
5 accommodate a consolidation of the entire group of inside workers.
 - 6 • Additional floors cannot be added to the building as the foundation will not be
7 able to support this, therefore the building would have to be demolished, and a
8 new building constructed on the site.
 - 9 • The current structure of both an administrative building and an operations centre
10 would not be suitable in this scenario as the space that is currently utilized for the
11 operations centre would be required for administrative building and additional
12 employee parking, (very limited access to public transportation in this area).
 - 13 • A new East Operations Centre would therefore be required and would need to be
14 built prior to demolishing the existing facility at Albion Road, so as to require less
15 temporary space for the existing employees.
 - 16 • This option would require temporary relocation of approximately 220 office staff
17 (the Bank Street facility could accommodate a maximum of 120 people), the
18 system office at Bank Street would also have to be re-activated as a back-up
19 system office.
 - 20 • In this Option, the Merivale location would become approximately 80 percent
21 vacant and it could be difficult to find a tenant to co-locate with the South
22 Operations Centre.
- 23

24 4.3.3 Option 3 – Consolidate all of the inside Administrative Staff at the Merivale Road
25 Facility

- 26
- 27 • Many of the same constraints as explained in Option 2 above.
 - 28 • The Merivale building foundation also cannot accommodate additional floors.
 - 29 • This option would either require a new location of the South Operations Centre
30 and warehouse facility, or a significant land purchase (again this area is not



1 conducive to public transportation, therefore additional space would be required
2 for employee parking).

- 3 • The main system office is located at Merivale therefore during demolition and
4 construction it would require an activation of the system office at Albion and a
5 back-up system office at Bank Street.
- 6 • Would also require temporary space to be leased, as Bank Street would not be
7 able to accommodate all staff during the construction.
- 8 • The Albion location would then be approximately 90 percent vacant and it may be
9 difficult to find a tenant to co-locate with the East Operations Centre.

10 11 4.3.4 Option 4 – Construct New Facilities at Optimal Locations

- 13 • Originally, this concept included a new or expanded centrally located operations
14 centre, however preliminary investigations concluded that expansion on the
15 existing central site was not feasible, and finding a new site in the central part of
16 the city for industrial use would be either impossible or too costly, therefore this
17 portion of the concept was abandoned. New facilities would leave the current
18 Central Operations Centre as is, with any expansion operating out of the East or
19 South Operations Centre.
- 20 • This option would also keep the existing West Operations Centre as is.
- 21 • The new and added facilities would be an East Operations Centre, a South
22 Operations Centre, an Administrative Building and a Warehouse / Meter Shop
23 facility.
- 24 • This would allow for the disposal of the Albion, Merivale, and Bank properties.
- 25 • Location and access to highways would be a key factor in choosing potential
26 sites for the East Operations Centre and South Operations Centre.

27 28 4.4 **Analysis of Alternatives**

29
30 After considering the four options discussed above, it was decided that the lowest cost /
31 best value option would be Option 4.



1 Option 2 and 3 were dismissed as the cost of demolition, temporary relocation of a
2 significant number of staff and the activation of back-up system office would greatly
3 exceed the costs of Option 1 or 4.

4
5 Option 1 was considered an undesirable investment decision and was dismissed for the
6 following reasons:

- 7
- 8 • A significant amount of capital would be required in the short-term to address
- 9 some of the capacity and habitation issues;
- 10 • The problem of operational efficiencies due to poor locations would remain;
- 11 • The inside staff would be further separated / decentralized; and
- 12 • Given the age of the buildings, the level of operating and capital expenditures
- 13 would remain high to maintain acceptable working conditions.
- 14 • None of the buildings set a leadership example for energy efficiency.
- 15

16 Although the decision to proceed with Option 4 was primarily based on qualitative
17 reasons given all the issues associated with the existing facilities, a NPV value
18 calculation was performed to support the decision of Option 4 “Construct New Facilities
19 at Optimal Locations”:

20
21 **Table 7 – Comparison of Options**

Option #	Option 1	Option 4
Description of Option	Retain all Existing Facilities (Status Quo) – includes expenditures now to fix some of the immediate issues and includes construction of optimal facilities in Year 21.	Construct New Facilities at Optimal Locations now
40 year NPV	\$125M	\$114M

22



1 The NPV calculation supported the decision to proceed with Option 4 now, since the
2 difference between fixing and staying in the existing facilities for 20 more years and then
3 proceeding with Option 4 is not financially different from proceeding on that basis now.

4

5 **4.5 Budgeted Costs for Implementation of Option 4**

6

7 **4.5.1 Budgeted Cost of Overall Strategy**

8

9 The budgeted costs for the implementation of Option 4 “Construct New Facilities at
10 Optimal Locations” are as follows:

11

12

Table 8 – Budgeted Costs (2011 to 2014)

	Budgeted Costs
Administrative Building	\$49.5M
East Operations	\$9.0M
South Operations	\$9.5M
Warehouse / Meter Shop	\$4.5M
Total	\$72.5M

13

14 The budgeted costs for the East and South Operations Centres and the warehouse /
15 meter shop were established based on Hydro Ottawa’s experience in acquiring land and
16 building stations as well as recent experience in building the new West Operations
17 Centre in 2005. The difference between the cost of the West Operations Centre and the
18 above costs are due to different number of bays needed in the garage, crane and
19 transformer shop, fleet centre as well as the different prices of land in different areas of
20 the city.

21

22 Hydro Ottawa estimated the cost of the administrative building with the assistance of
23 Colliers International by applying generally accepted guidelines on approximate costs
24 per square footage as noted in the following table.

25



1

Table 9: Administrative Building Cost Assumptions

Land	\$2.5M
Base Building	120,000 sq ft @ average cost of \$225/sq ft, plus 5 percent for LEED
Parking	\$4M
Interior Fit-Up	120,000 sq ft @ average cost of \$75/sq ft
Furniture	\$4.8M
Physical Moves (Computer Systems, System Office, Administrative)	\$1.0M

2

3 4.5.2 2011 Capital Additions

4

5

Table 10: 2011 Capital Additions

Land	\$4.0M
Buildings	\$1.5M
Less construction in progress	(\$1.5M)
Total Capital Additions	\$4.0M

6

7 4.5.3 Impact on the distribution revenue requirement

8

9 The impact on the distribution revenue requirement for 2011 of these capital additions is

10 0.09%.

11

12



1 **4.6 Project Timeline and Budgeted Costs by Year**

2

3

Table 11 – Project Timeline (X denotes construction activity)

	2011	2012	2013	2014
Administrative Building:				
Land	X			
Building		X	X	X
East Operations:				
Land	X			
Building	X	X		
South Operations:				
Land		X		
Building		X	X	
Warehouse:				
Land			X	
Building				X

4

5

Table 12 – Budgeted Costs by Year

	2011	2012	2013	2014
Administrative Building:				
Land	\$2.5M			
Building		\$3.0M	\$29.0M	\$15.0
East Operations:				
Land	\$1.5M			
Building	\$1.5M	\$6.0M		
South Operations:				
Land		\$1.5M		
Building		\$2.0M	\$6.0M	
Warehouse:				
Land			\$2.5M	
Building				\$2.0M
TOTALS	\$5.5M	\$12.5M	\$37.5M	\$17.0M

6



1 **4.7 Hiring of a Project Manager (“PM”)**

2
3 In April 2010, a decision was made to issue a Request for Proposal (“RFP”) in
4 connection with this Facilities Strategy for a PM to provide professional project
5 management services in two phases. The first phase is the Program Management Plan
6 (PMP) and the second phase is the Project Management phase. Services required
7 during the PMP phase includes a corroboration of the work prepared internally to
8 develop the Facilities Strategy, services will include:

- 9
- 10 • Review current and future needs and requirements of Hydro Ottawa;
 - 11 • Perform relevant stakeholder interviews to obtain input as to space and facility
12 requirements critical to support Hydro Ottawa programs;
 - 13 • Review necessity, constraints, advantages, disadvantages of separate locations
14 versus sharing arrangements of different departments within Hydro Ottawa and
15 impact on productivity, customer services, economies of scale, resource sharing,
16 cost impacts;
 - 17 • Review and advise on sustainability considerations;
 - 18 • Review current properties;
 - 19 • Establish and confirm functional and location criteria for commercial property
20 assets;
 - 21 • Establish use of facilities and impact on zoning criteria for commercial asset
22 location; and
 - 23 • Define the final requirements of the PMP, including scope, quality and overall
24 budget and schedule of implementation.
- 25

26 The second phase will be to assist with the delivery (project management) of the final
27 plan as determined and approved at the conclusion of the first phase.

28
29 The anticipated engagement of the successful proponent is July 2010 with the first
30 phase being substantially complete by the end of 2010.

31



1 **5.0 CONCLUSION**

2

3 Overall, Hydro Ottawa is confident that adopting a sound Facilities Strategy, which
4 involves locating the operations centres to enable them to reach the customers quickly,
5 and consolidating all of the office staff into one location, will provide greater efficiencies
6 and offer higher quality service to its ratepayers than operating the current structure of
7 facilities. The acquisition of land and commencement of construction of a new East
8 Operations Centre in 2011 along with a land acquisition for an Administrative Building
9 are the first steps in this strategy.



FLEET STRATEGY

Hydro Ottawa Limited (“Hydro Ottawa”) requires a fleet of specialized vehicles to complete many daily activities. Vehicles are an essential component in the quick restoration of power, in the efficient construction and maintenance of the distribution system and the safety of employees. Degradation of fleet assets could jeopardize worker safety and negatively affect distribution system performance.

To effectively manage fleet assets and the capital vehicle replacement program, Hydro Ottawa has adopted a Vehicle Life Cycle Management Strategy. The goals of the strategy are:

- Provision of safe, reliable and efficient vehicles and equipment to meet the operational requirement (in consultation with the end user through the Fleet Council),
- Compliance with legislation and regulations,
- Cost effectiveness,
- Alignment of funding with corporate objectives,
- Optimization of size of fleet (kept to minimum critical level eliminating redundancy),
- Compliance with accepted industry norms and practices,
- Standardization of equipment specifications,
- Environmental considerations such as fuel economy, exhaust emissions, and
- Disposal through reputable commercial vehicle and equipment resellers.

To achieve the goals outlined above, Hydro Ottawa maintains a multiple year capital plan. This plan is an essential tool for both long and short term budgeting and planning. This plan lists all the current vehicles and proposes the future replacement dates and costs, based on past experience and accepted industry standard vehicle lifecycles. Another of the long term goals of the capital plan is to smooth the annual capital expenditures.



1 Contributing to the proposed replacement date of individual vehicles are factors such as
2 vehicle age, mileage, engine hours, power take off hours, operation costs, maintenance
3 costs and general mechanical condition of the vehicle. Based on an individual
4 assessment of the vehicle when it is due to be replaced, adjustments may be made;
5 some vehicles may be retained due to being in better than average condition, and some
6 are replaced earlier due to being in poorer condition.

7

8 Vehicles are not always replaced “like for like”. Prior to replacement of a vehicle, an
9 assessment of the end users’ current needs is made to determine if an alternate vehicle
10 type or size would be beneficial. The multiple year capital plan may also be adjusted to
11 reflect additional vehicle requirements within the various users groups, for example, the
12 reestablishment of the power line maintainer apprentice program has required the
13 purchase of several new aerial devices. The proposed replacement ages for each
14 vehicle class are outlined in Table 1 below.

15

16

Table 1 – Intended Lifecycle

Unit Type	Intended Lifecycle (Years of age)
Cars	7
Bucket trucks	12
Stake trucks/Flatbed trucks	15
Radial Boom Derricks	15
Knuckle boom trucks	15
Compact pickup trucks	7
Full size pickup trucks	8
Full size cargo vans	8
Compact vans	7
Step Vans/Cube vans	12
Forklifts	15
Tension machines	20
Trailers	20

17

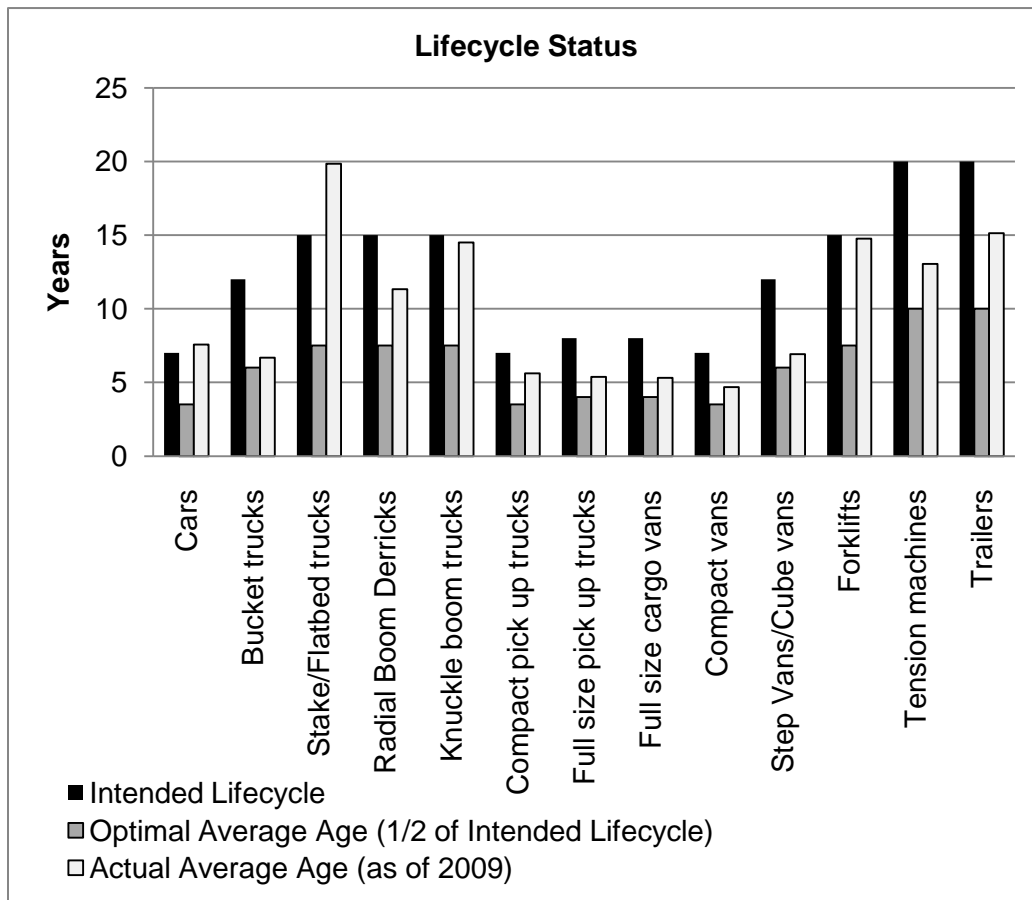
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1 The current status of Hydro Ottawa's fleet, compared to the industry standard lifecycle is
2 illustrated in Figure 1. Hydro Ottawa's goal is to have the average age of a vehicle class
3 be half of the lifecycle, which results in a levelled replacement plan.

4
5

Figure 1 – Fleet Replacement Program, Lifecycle Status



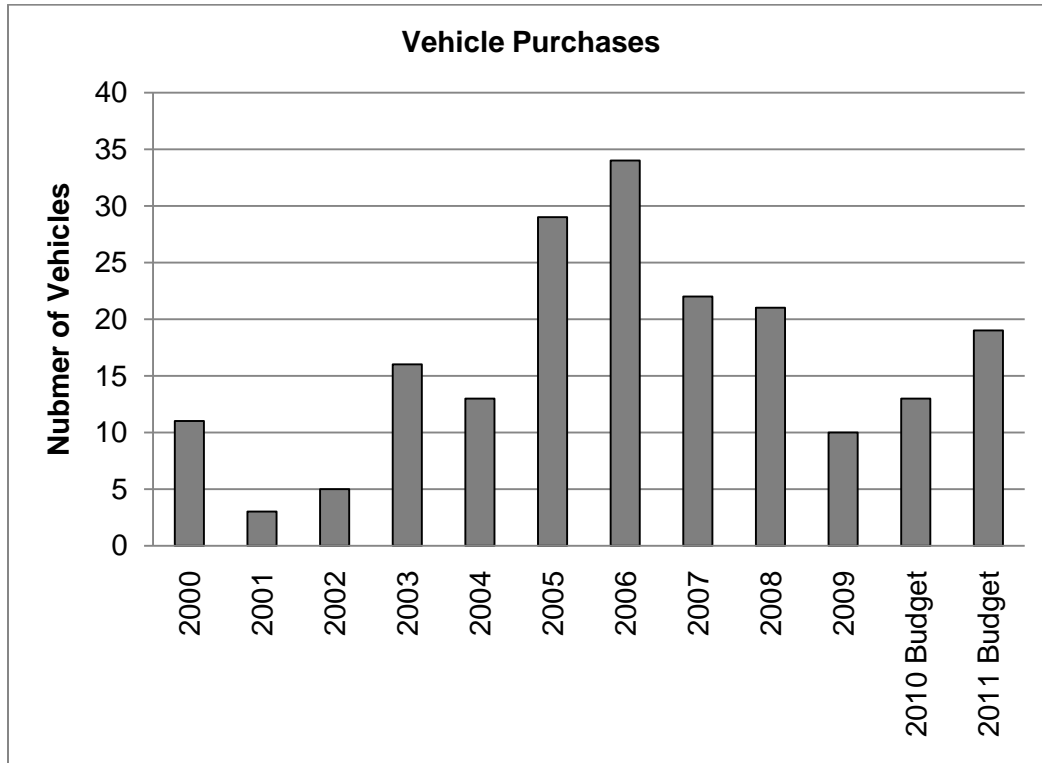
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8 In the first few years following amalgamation in 2000 (2000 – 2004) insufficient capital
9 was spent on fleet replacement to meet the current Fleet Strategy goals. Between 2005
10 and 2009 a more accelerated plan for replacements was implemented resulting in lower
11 average fleet age, but not to the levels in the Lifecycle Model. Additional spending is still
12 required to lower the fleet ages in the Lifecycle Model. Figure 2 shows the vehicle
13 purchase history from 2000 to 2009 and the budgeted vehicle purchases for 2010 and
14 2011.



1

Figure 2 – Fleet Purchase History



2

3

4 Capital expenditures for vehicle purchases outlined in Figure 2 are shown in Figure 3.

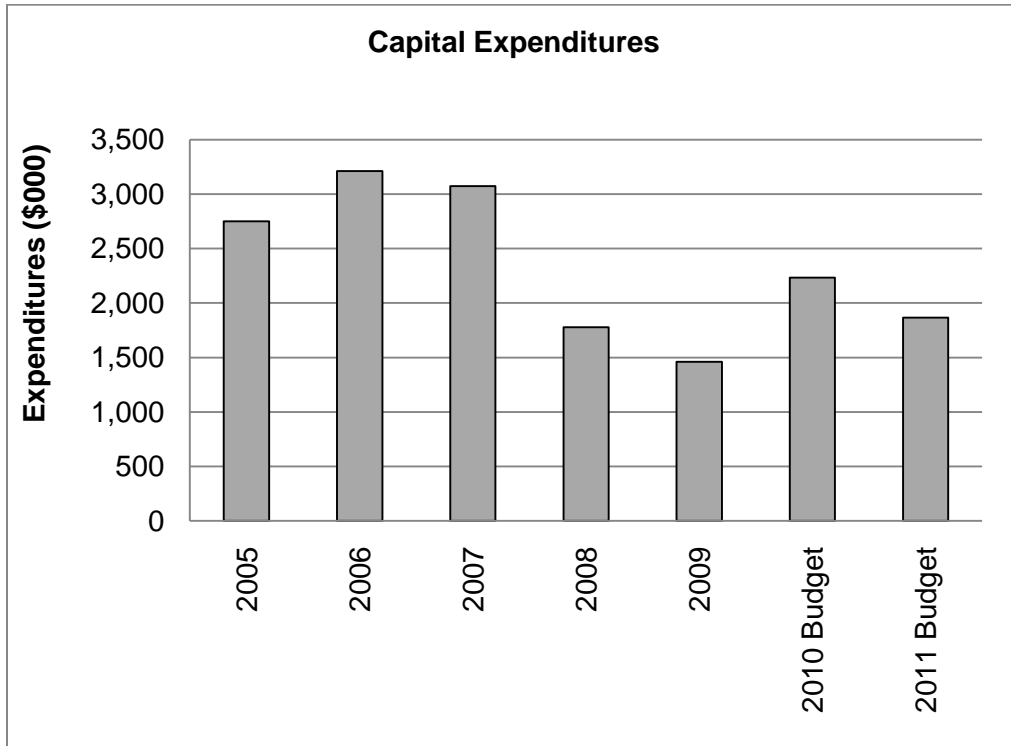
5 The number of vehicles purchased, as well as the type of vehicles purchased, influence
6 the total expenditures in a given year.

7



1

Figure 3 – Yearly Fleet Capital Expenditures



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CIS TRANSITION PROJECT

1.0 INTRODUCTION

The Customer Information System (“CIS”) is a critical business system for Hydro Ottawa Limited (“Hydro Ottawa”). The current CIS is PeopleSoft® Enterprise Revenue Management (also known as PeopleSoft® CIS or PS CIS) version 8.8. This comprehensive system provides the full meter-to-cash application capabilities required to meet the core business mandate of distributing electricity to almost 300,000 customers in the service area. A change to the risk profile has occurred pertaining to available support for this mission-critical business application. Oracle, the product vendor, no longer offers Premier Support for this particular product version (though Sustaining Support remains) and is phasing out the PS CIS line in favour of a similar product called CC&B.

Hydro Ottawa has recognized the need to embark upon a CIS transition project and expenditures for this project were included in Hydro Ottawa’s 2008 EDR Application, though because the system was not scheduled to go live until after 2008, no amount was included in the 2008 rate base. Changing circumstances resulted in Hydro Ottawa re-examining the timing of this decision, specifically:

- Evolving information about potential extended application support and clarity on future product direction,
- CIS was performing at levels that exceeded critical service level metrics (daily batch processing, system on-line availability during core hours and system responsiveness during core hours) to achieve the business mandate, and
- Existence of a reasonable infrastructure to maintain the current application while efforts continued to define the future CIS vision at Hydro Ottawa.



1 Upon review of the stable support environment for the CIS combined with the high level
2 of performance, Hydro Ottawa determined that the upgrade was not warranted in 2008,
3 and deferred the project expenditures.

4

5

6 **2.0 BACKGROUND**

7

8 **2.1 Overview of role of CIS**

9

10 As shown in Figure 1, the CIS is the central repository for tracking all of the vital
11 information pertaining to customers, such as:

12

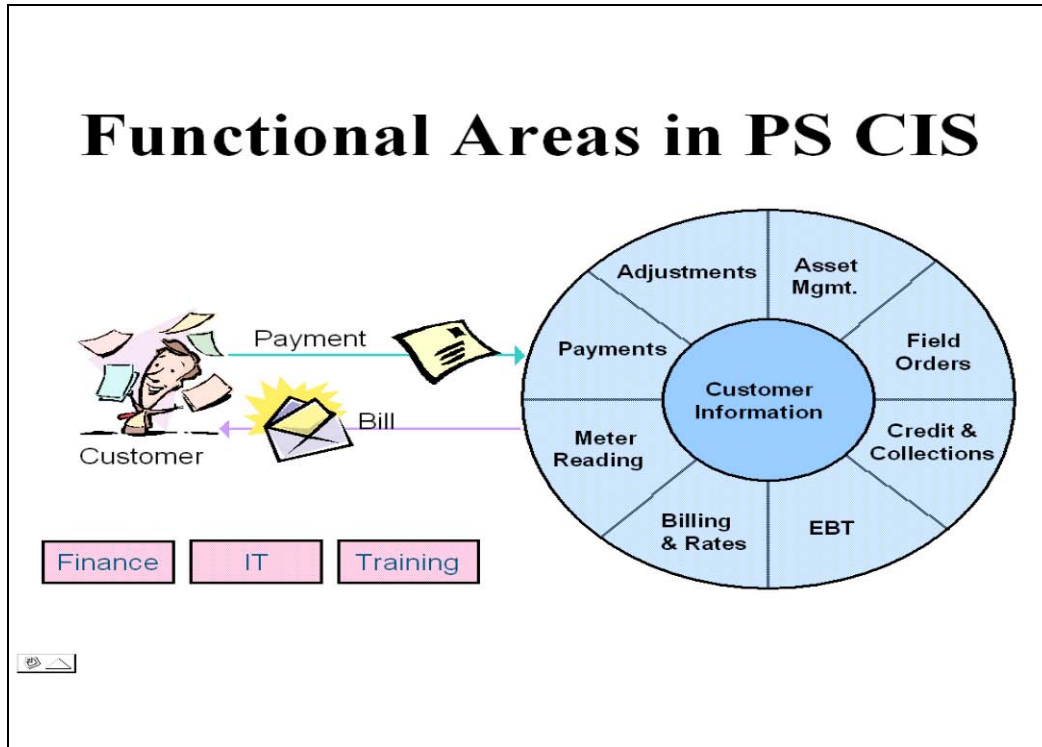
- 13 • recognizing a new premise address,
- 14 • generating field activity requests to install a meter and related equipment,
- 15 • requesting a security deposit,
- 16 • meter reading data in the field,
- 17 • billing for services supplied,
- 18 • exchanging information with Retailers operating in the deregulated Ontario
19 electricity market,
- 20 • capturing notes referencing interactions with customers,
- 21 • receiving payments for the bills issued, and
- 22 • initiating appropriate collection and/or severance escalations.

23



1

Figure 1 – Functional Areas in PS CIS



2

3

4 An application-managed services contract is in place with IBM Canada which focuses on
5 technical, functional and operational support, completion of nightly batch operations and
6 new functionality development.

7

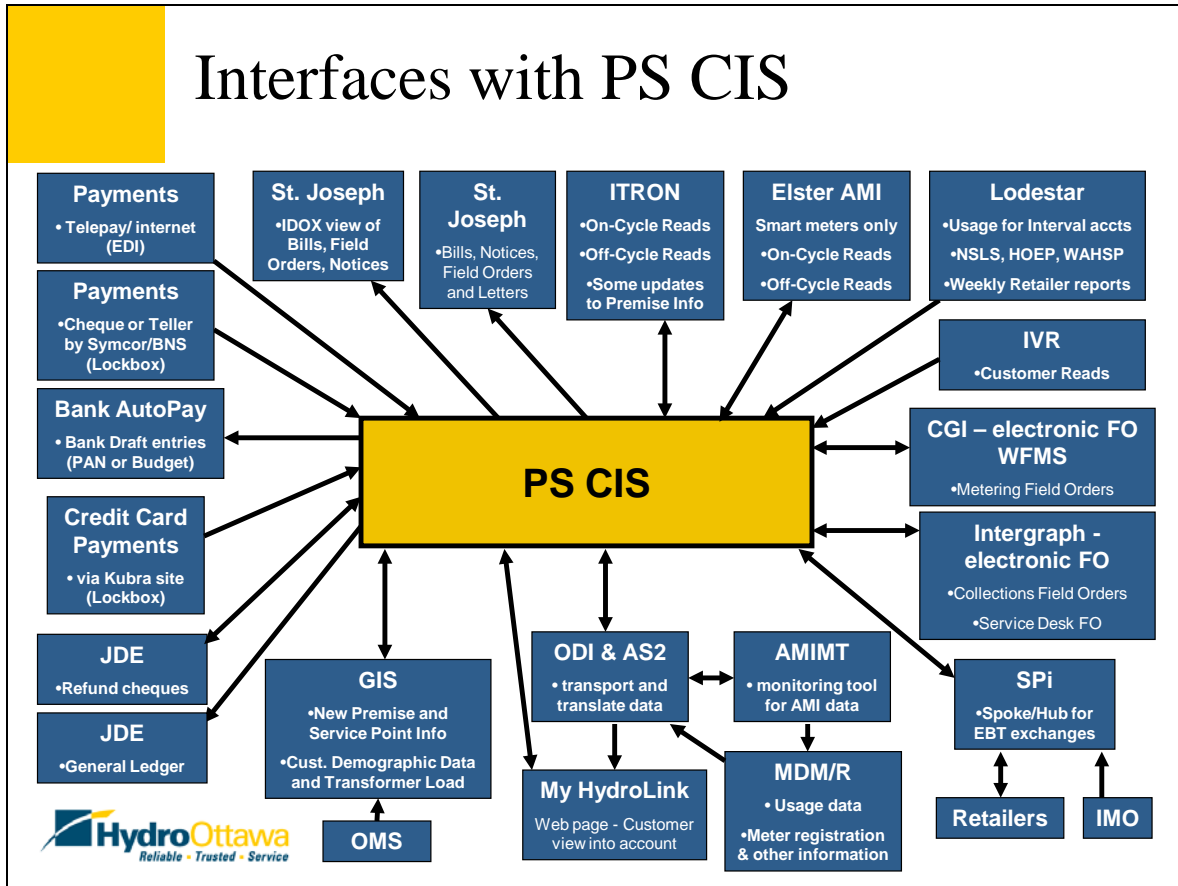
8 The CIS is a highly integrated system, as evidenced by interfaces with both internal
9 systems and external systems, shown in Figure 2.

10



1

Figure 2 – Interfaces with PS CIS



2
 3
 4
 5
 6
 7
 8
 9

Various functional areas at Hydro Ottawa rely on CIS to achieve their operational mandates in an expedient, cost-effective manner. Stakeholder requests to maximize business efficiency and/or effectiveness, in addition to changing regulatory requirements, result in an active development environment for CIS modifications.



1 **3.0 BACKGROUND**

2

3 **3.1 Implementation**

4

5 In 2003, Hydro Ottawa sought to implement a new CIS due to significant challenges with
6 the existing CIS application. At that time, PeopleSoft was offering the PeopleSoft CIS
7 solution under the terms of a Joint Development and Marketing Agreement with SPL
8 WorldGroup Inc. Based on the results of a competitive and comprehensive procurement
9 process by a dedicated cross-functional team, Hydro Ottawa chose PS CIS version 8.8
10 as its new CIS. This new business system was implemented on September 7, 2004.

11

12 **3.2 Operational Results**

13

14 Since its implementation the PS CIS has proven to be a stable, reliable product that is
15 adaptable to changing regulatory and/or business requirements. The application has
16 allowed Hydro Ottawa to successfully generate approximately 8,000 accurate and timely
17 bills each night through batch operations, maintain very high availability and maintain
18 system responsiveness results during the day for on-line operations. Despite the
19 challenges of timelines, pace and diversity of changing regulatory requirements and
20 business improvement desires, the PS CIS has successfully provided a high level of
21 performance and remained compliant throughout.

22

23 **3.3 Heightened Risk Profile**

24

25 A change to the risk profile associated with operating a mission-critical business
26 requirement on this application occurred in 2009 with the end of Premier Support from
27 the vendor, Oracle. As detailed on Oracle's website (www.oracle.com), the benefits in
28 Figure 3 are provided for each stage of their Lifetime Support.

29



1

Figure 3 – Oracle Lifetime Support

▲ LIFETIME SUPPORT EXCLUSIVE BENEFITS			
Key Feature	Premier Support	Extended Support	Sustaining Support
Major Product and Technology Releases	●	●	●
Technical Support	●	●	●
Access to Support Portal	●	●	●
Updates and Fixes	●	●	Pre-existing
Security Alerts	●	●	Pre-existing
Critical Patch Updates	●	●	
Tax, Legal, and Regulatory Updates	●	●	
Upgrade Scripts	●	●	Pre-existing
Certification with Existing third-party Products/versions	●	●	
Certification with most new third-party products/versions	●		
Certification with most new Oracle products	●	●	

2

3

4 Premier Support is guaranteed for 5 years from the general availability date, consistent
 5 with industry norms. Based on this standard, the end of Premier Support could have
 6 happened much earlier but was deferred based on the circumstances of this product.
 7 Extended support is not available for PS CIS version 8.8, so it is now in Sustaining
 8 Support.

9

10

11 **4.0 PLANNED CIS TRANSITION PROJECT**

12

13 **4.1 Options**

14

15 Hydro Ottawa has undertaken several initiatives to ensure an appropriate due diligence
 16 review of available options to consider. Operating a critical system without full support is
 17 a risk for the business, given the customer relationship management, regulatory



1 compliance and cash flow implications. With a transition project expected to take 18 to
2 24 months, this situation is an unavoidable short-term risk, which will be managed
3 accordingly.

4

5 Hydro Ottawa retained a consultant in 2008 to perform an independent assessment of
6 the CIS transition options. The consultant's recommendations support Hydro Ottawa's
7 transition to a new CIS solution.

8

9 "... delay in the decision to take this course, while it may be justifiable for
10 financial or operational reasons, will place increasing burden on the existing PS
11 CIS functions. As described, the risk of failure of the present system will increase
12 over time and Hydro Ottawa will at some point find it increasingly difficult to meet
13 new functional demands from customers, the regulators or internal staff".

14

15 Final timing of a CIS transition project will give consideration to the organizational
16 capacity to undertake this project and the risk to other key initiatives. Allocation of
17 available capital funds and the downstream affect on associated contracts, such as the
18 managed services arrangement with IBM Canada, will also impact scheduling decisions.

19

20

21 **5.0 CONCLUSION**

22

23 Hydro Ottawa intends to pursue a future CIS transition project with target Production
24 release within two years of the project commencement. In the meantime, risk mitigation
25 efforts will be undertaken to protect the business interests for periods where full support
26 for the current CIS is unavailable. Capital expenditures on this project are planned for
27 the 2011 Test Year; however, these are included in construction-in-progress and
28 therefore not part of the 2011 rate base.



ENVIRONMENTAL SUSTAINABILITY STRATEGY

1.0 INTRODUCTION

In 2010 Hydro Ottawa Limited (“Hydro Ottawa”) adopted a new Environmental Sustainability Strategy with the goals of reducing the company’s environmental impacts and improving the company’s environmental performance. More specifically, the Strategy focuses on three priority areas which build upon previous undertakings and include:

- Reducing the company’s carbon footprint through improvements in fleet, facilities, technology infrastructure, and in non-hazardous waste management and recycling,
- Developing environmental criteria for procurement, and
- Building a culture of environmental sustainability in business practices and the workforce.

These priority areas address issues of importance to customers, governments and the sector as a whole and will provide the company with the best reduction in environmental impacts while maintaining reasonableness of costs and returns on investment. To that end, corresponding metrics and targets have been established based on available benchmarks to support a reduction in impacts.

The Environmental Sustainability Strategy has identified initiatives in the three priority areas which cover many aspects of the company’s operations including, Fleet, Facilities, Information Services and Technology (“IS&T”), Communications, Human Resources and waste management.

Oversight for the implementation of the new strategy is centrally managed by the Occupational Health Safety and Environment (“OH&S”) group. OH&S is responsible for the governance of the strategy, including reporting to the Executive and Board of



1 Directors on progress related to each priority area and associated initiatives. OH&S also
2 plays a facilitation role with the different departments, assisting them with the
3 implementation of their respective initiatives outlined in the Environmental Sustainability
4 Strategy.

5 6 7 **2.0 ACHIEVING THE GOALS**

8
9 To ensure that Hydro Ottawa reduces its environmental impact and improves the
10 environmental performance of the company:

- 11
- 12 • OH&S is responsible for the governance of the strategy and reporting to the
13 Executive and Board of Directors on progress related to each priority area and
14 associated environmental initiatives, and
 - 15 • OH&S will be responsible for facilitating the implementation of the Environmental
16 Sustainability Strategy by working with the different departments responsible for
17 specific environmental initiatives.

18
19 Initiatives of the individual departments at Hydro Ottawa are contained in the sections
20 below, as are the corresponding capital and operating, maintenance and administrative
21 (“OM&A”) budgets.

22 23 24 **3.0 FACILITIES**

25
26 Hydro Ottawa’s Facilities group will apply a new environmental standard to managing the
27 company’s buildings. As part of the Environmental Sustainability Strategy, a key priority
28 is to improve the energy efficiency of facilities, with the intent to contribute to the overall
29 reduction of environmental impacts at the company. The specific energy efficiency
30 related initiatives have been identified and outlined in the following sections. Hydro
31 Ottawa chose specific projects that considered the impact of its overall Facilities Strategy



1 (Exhibit B1-2-5), such as focussing on facilities that will be retained (Carling, Maple
2 Grove and substation properties) and/or ensuring that projects for the other facilities
3 have a very short payback.

4

5 **3.1 2010 Facilities Initiatives**

6

7 The 2010 environmental initiatives for Facilities include:

8

- 9 • Completing energy efficiency improvements identified in a previous study for the
10 Carling and Maple Grove facilities,
- 11 • Updating the energy efficiency study for those two facilities to identify new
12 opportunities, and
- 13 • Initiating and completing a new energy efficiency study of all Hydro Ottawa
14 Stations.

15

16 The expenditures budgeted in 2010 to implement the facilities initiatives is \$20k of
17 OM&A and \$160k of capital.

18

19 **3.2 2011 to 2013 Facilities Initiatives**

20

21 The 2011 to 2013 environmental initiatives for Facilities include implementing the
22 recommendations from the energy efficiency studies completed in 2010 for the Carling
23 and Maple Grove facilities and all Stations.

24

25

Table 1 – Facilities Expenditures

Capital Expenditures		
2011 Budget \$000	2012 Budget \$000	2013 Budget \$000
\$340	\$200	\$200

26

27



1 **4.0 FLEET**

2

3 Hydro Ottawa will apply a new environmental standard to managing the fleet and the
4 purchase of new vehicles. Under the Environmental Sustainability Strategy, specific
5 carbon footprint related emission reduction initiatives have been set out.

6

7 **4.1 2010 Fleet Initiatives**

8

9 Fleet initiatives in 2010 to support the Environmental Sustainability Strategy include:

10

- 11 • Increasing the use of biodiesel and ethanol bio-fuels,
- 12 • Enhancing the GPS systems in vehicles to track hourly engine time,
- 13 • Purchasing of hybrid or more energy efficient vehicles in each class where
14 available (the difference in cost of a regular vehicle verses hybrid), and
- 15 • Furthering efforts to optimize the fleet size.

16

17 While these initiatives may represent an upfront premium to capital purchase
18 expenditures, they do reduce operating costs through reduced fuel demand, while also
19 demonstrating Hydro Ottawa's commitment to a greener fleet.

20

21 The expenditures budgeted in 2010 to implement the fleet initiatives is \$20k of OM&A
22 and \$337k of capital.

23

24 **4.2 2011 to 2013 Fleet Initiatives**

25

26 Fleet initiatives in 2011 through 2013 in support of the Environmental Sustainability
27 Strategy include:

28

- 29 • Continuing the purchase of hybrid or more energy efficient vehicles in each class
30 where available (the difference in cost of a regular vehicle verses hybrid),



- 1 • Expanding the vehicle GPS to include active and real time reporting and better
- 2 functionality for tracking vehicle hours, and
- 3 • Increasing the use of biofuels – both biodiesel and ethanol for gasoline.

4
5 **Table 2 – Fleet Expenditures**

2011 Budget \$000		2012 Budget \$000	2013 Budget \$000
Capital	OM&A	Capital	Capital
\$385	\$80	\$240	\$320

6
7
8 **5.0 PROCUREMENT**

9
10 Hydro Ottawa will develop a new environmental standard which moves beyond existing
11 considerations related to the environmental impact of procurement. The new standard
12 will establish preferences for products/goods and services:

- 13
- 14 • Produced in a more environmentally friendly manner,
- 15 • Provided by companies which can demonstrate environmental credentials,
- 16 • Provided by companies which are certified to third party standards, and
- 17 • Sourced locally to minimize transportation and associated impacts on the
- 18 environment.

19
20 The OM&A expenditure budgeted in 2010 to implement the procurement initiative is
21 \$50k.

22
23
24 **6.0 WASTE MANAGEMENT AND DIVERSION**

25
26 Hydro Ottawa will apply a new environmental standard to managing the non-hazardous
27 waste generated by Hydro Ottawa. Under the Environmental Sustainability Strategy,



1 specific reduction and diversion goals will be established. Initiatives to support achieving
2 this will include:

- 3
- 4 • Gathering non-hazardous waste data,
- 5 • Establishing a company-wide baseline,
- 6 • Providing appropriate recycling source separation containers in areas of the
7 company,
- 8 • Employee engagement and communication around reducing waste and
9 recycling,
- 10 • Providing appropriate signage for recycling source separation containers, and
- 11 • Managing diversion activities and investigating additional diversion opportunities.
- 12

13 **Table 3 – Waste Management and Diversion Expenditures**

2010 Budget \$000		2011 Budget \$000		2012 Budget \$000	2013 Budget \$000
Capital	OM&A	Capital	OM&A	Capital	Capital
\$50	\$50	\$50	\$75	\$75	\$100

14

15

16 **7.0 INFORMATION SERVICES & TECHNOLOGY**

17

18 Hydro Ottawa will apply a new environmental standard to managing its services and
19 assets for IS&T. As part of the Environmental Sustainability Strategy, specific
20 environmental footprint related initiatives have been set out to achieve this goal,
21 including:

- 22
- 23 • Consolidating printers,
- 24 • Replacing devices with multi-functional devices which are more energy efficient,
- 25 • Ensuring that replaced equipment meets energy star requirements,
- 26 • Reducing required data storage through de-duplication,
- 27 • Setting default on printers to double-sided printing,
- 28 • Increasing efficiency of ink cartridges,



- 1 • Driving to paperless office,
- 2 • Virtualization of servers, and
- 3 • Increasing the use of video/teleconferencing.

4
5 **Table 4 – IS&T Expenditures**

2011 Budget \$000	2012 Budget \$000	2013 Budget \$000
Capital	Capital	Capital
\$50	\$100	\$100

6
7
8 **8.0 COMMUNICATIONS AND ENGAGEMENT**

9
10 Hydro Ottawa will develop a communication and engagement strategy for employees
11 regarding the Environmental Sustainability Strategy. This strategy will include:

- 12
13 • Developing a plan to leverage employee engagement to implement the
14 Environmental Sustainability Strategy and improve environmental performance
15 overall,
 - 16 • Communicating to employees regarding the overall Environmental Sustainability
17 Strategy, including executive support,
 - 18 • Defining employee roles in meeting energy efficiency and waste management
19 and recycling targets,
 - 20 • Developing employee benefits related to the Environmental Sustainability
21 Strategy,
 - 22 • Surveying employees, and
 - 23 • Branding the Environmental Sustainability Strategy and initiatives.
- 24
25



1

Table 5 – Communications Expenditures

2010 Budget \$000	2011 Budget \$000
OM&A	OM&A
\$50	\$50

2



1 **CAPITALIZATION POLICY AND ALLOCATION PROCEDURE**

2
3 Attached are Hydro Ottawa Limited's ("Hydro Ottawa") Capitalization Policy (Attachment
4 Q) and Cost Allocation Procedure (Attachment R).

5
6 The Capitalization Policy outlines the specific criteria used to determine if expenditures
7 should be capitalized on the Balance Sheet or expensed to operations in the period
8 incurred. This policy applies to all assets purchased or acquired by Hydro Ottawa to
9 ensure consistency of capitalization and amortization of capital assets for the company,
10 and in compliance with generally accepted accounting principles ("GAAP").

11
12 The Cost Allocation Procedure provides guidelines and processes for the allocation of
13 directly attributable costs to the three major work activities of Maintenance, Capital, and
14 Work for Others. The costs allocated to the work activities through burden rates are
15 applied to direct projects in compliance with GAAP and industry practice. The
16 procedures became effective January 1, 2008.



Policy Number: FIN5-001-02	Subject: Capitalization
Effective Date: January 1, 2008	Policy Owner: Chief Financial Officer

Applicability

This policy applies to the capitalization of assets for Hydro Ottawa Limited.

Purpose

This policy describes the process and specific criteria used to determine if expenditures should be capitalized on the Balance Sheet or expensed to operations in the period incurred. Expenditures are capitalized in accordance with generally accepted accounting principles. Capital assets are expected to provide future economic benefits for more than one year. Any expenditure that can be identified as directly attributable with the acquisition, construction, development or betterment of an asset should be capitalized and amortized over the useful life of the asset.

Guidelines

Tangible Assets

Property, plant and equipment are identified as tangible assets provided they are held for use in the production or supply of goods and services, are intended for a continuing use, and are not intended for sale in the ordinary course of business.

Intangible Assets

An intangible asset is a right or non-physical resource, which provides a benefit or advantage to the company.

Goodwill

When an asset is acquired for a cost over and above the net amount of the acquired assets and assumed liability, the excess cost is considered goodwill.

Capital Assets

Capital assets include tangible and intangible assets, exclusive of goodwill.

Betterment

Betterment is a cost that is incurred to enhance the service potential of a capital asset. Expenditures for betterments are capitalized. This enhancement in service potential can include an increase in the physical output or service capacity, decrease in associated operating costs, extension in the useful life of the asset, or improvement in the quality of the asset's output.

Repair

A repair is a cost which is incurred to maintain the existing service potential of a capital asset. Expenditures for repairs are expensed in the period in which they occur.

Policy Number: FIN5-001-02	Subject: Capitalization
Effective Date: January 1, 2008	Policy Owner: Chief Financial Officer

Development

The development of an asset includes work to prepare an asset for further capital work and would typically include development of a piece of land for construction of a transformer station or other distribution plant. If the associated project is not completed with an asset put into service, these costs are expensed.

Materiality

All expenditures for capital assets and betterments will be capitalized subject to materiality limits as set out in this policy. At times the administrative costs of capitalizing an asset may outweigh the intended benefits. While an expenditure may meet the definition to qualify as a capital asset, a dollar level is set, which if an expenditure falls below, it is not capitalized. This level is known as a materiality limit.

Materiality Limit

For readily identifiable assets the materiality value for capitalization for new assets or addition to existing assets will be \$500.00 for both distribution plant and general plant. For grouped assets the value for capitalization will be \$1000.00 based on a single occurrence for distribution plant and \$500.00 for general plant. Where programs are established for ongoing betterment work this minimum will not be applicable.

Readily Identifiable Assets (Discrete)

A discrete capital asset has a cost over \$500.00 and is easily identifiable, so the asset can be individually tracked and recorded.

Grouped Assets

For efficiency, capital assets may be grouped if, by their nature, it would be impractical to identify individual units. These grouped assets are managed as a pool for the purposes of amortization.

Capitalized Cost

Cost is the amount of consideration given up to acquire, construct, develop or better a capital asset. Costs include all expenditures necessary to put a capital asset into service including all overhead costs that are eligible under this policy and an Allowance for Funds Used During Construction (AFUDC) if applicable.

Overhead costs must be directly attributable to capital construction activity at the utility. This is interpreted to mean that the overhead costs to be charged to capital are those that would not exist if Hydro Ottawa did not construct its own capital assets. Eligible costs may appear fixed in the short term but would be eliminated over time (in 3 to 5 years) if Hydro Ottawa did not have a capital program. Overhead costs that are capitalized include such costs as salaries and

Policy Number: FIN5-001-02	Subject: Capitalization
Effective Date: January 1, 2008	Policy Owner: Chief Financial Officer

benefits for construction and engineering personnel not directly chargeable to project costs and the cost of administrative and support services that are required as a result of construction activity.

Capital Related Overhead Expenses

Per Cost Allocation Procedures.

Allowance For Funds Used During Construction

For projects with construction duration of greater than 2 months a financing charge will be applied against the project and capitalized. The financing charge will be at the rate deemed by the Ontario Energy Board (OEB) for rate-setting purposes.

Amortization

Capital assets are generally amortized based on a method and life set by the OEB, which is considered a suitable indicator of estimated useful life for our industry. Large and unique capital expenditures will be reviewed on an individual basis to determine the expected life and appropriate method of amortization.

Capital Spares

Spare switchgear, transformers and meters will be accounted for as capital assets since they form an integral part of the reliability program for a distribution system. Spare switchgear, transformers and meters are held for the purpose of backing up switchgear, transformers and meters in service in the existing distribution system. Switchgear, transformers and meters received for the purpose of expanding the distribution system will only be capitalized once they are put into service and will remain in inventory until that time.

Contributed Capital and Plant

Certain assets may be acquired or constructed with financial assistance in the form of contributions from customers. Capital contributions received are treated as a contra account and are included in capital assets. The amount is amortized by a charge to accumulated amortization and a credit to amortization expense at a rate equivalent to that used for the amortization of the related asset.

Policy Compliance

All current practices will comply with the Accounting Procedures Handbook issued by the OEB and the CICA handbook. There will be no exceptions to the requirements of this policy in the execution of day-to-day business. Employees must report incidents of non-compliance relating to this policy in a timely manner to the Policy Owner. Non-compliance issues of a serious nature will be immediately reported to the Chief Operating Officer. Determination of "non-compliance issues of a serious nature" will be the responsibility of the Policy Owner.



Policy Number: FIN5-001-02	Subject: Capitalization
Effective Date: January 1, 2008	Policy Owner: Chief Financial Officer



Chief Operating Officer



Policy Owner



Director, Finance

Policy Number: FIN5-001	Subject: CAPITALIZATION
Procedure Number: 001-02	Subject: COST ALLOCATION RATES
Effective Date: January 1, 2008	Document Owner: Chief Financial Officer

Applicability

This procedure applies to the costing of Hydro Ottawa activities pertaining to Capital, Maintenance, and Work for Others.

Hydro Ottawa has developed cost allocation rates to distribute directly attributable costs to its three major work activities of Maintenance, Capital and Work for Others. These rates are based on management's best estimates of the applicable cost allocation determinants.

Guidelines

Separate allocation rates are determined for the following activities:

Direct Labour Rate

The hourly labour rate recovers direct labour, benefits, and non-productive time costs. It will be applied to all direct labour hours charged to Maintenance, Distribution Capital, and Work for Others through timesheet reporting.

General Plant Labour Rate

The general plant labour rate recovers the direct labour, benefits, and non-productive time associated with these projects.

Supervision Rate

The supervision burden rate is charged to Capital, Maintenance, and Work for Others activities where applicable. This rate allocates the costs associated with the supervision of internal labour and outside services not directly charged to an activity.

Engineering Rate

The engineering burden rate recovers the direct cost of the Engineering Department. It will be applied to Distribution Capital projects and Work For Others where applicable.

Policy Number: FIN5-001	Subject: CAPITALIZATION
Procedure Number: 001-02	Subject: COST ALLOCATION RATES
Effective Date: January 1, 2008	Document Owner: Chief Financial Officer

Vehicle and Equipment Rates

Vehicle and equipment burden rates capture the full cost associated with fleet usage (maintenance, fuel, license, insurance, amortization, fleet overheads). Individual rates will be developed for major vehicle classifications based on expected utilization. Charges to the three major work activities will be accomplished through vehicle timesheet reporting.

Administrative Costs Rate

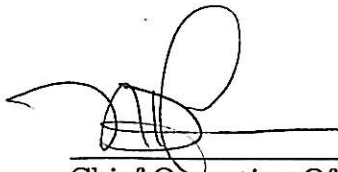
An administrative costs burden rate charges all capital work with its share of overheads that have been determined to be directly attributable to capital programs. Overheads include the identified costs of departments that do not charge time directly to capital projects by timesheets. These departments include Procurement, Facilities, Human Resources/Safety & Training, Information Technology, Finance, Regulatory Services, and Corporate costs.

Procedures

Burden rates will be developed by the Finance Department each year, as applicable, in conjunction with the development of the annual budget. Recoveries against actual costs will be monitored during the year as part of the forecast management process and adjusted if over or under recovered through a true-up process. True-ups will be completed when the adjustment materially impacts the financial results of the organization.

Compliance

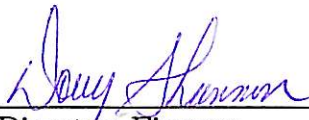
Any exceptions to the requirements of this procedure must be approved by the Chief Operating Officer and disclosed as an addendum to the procedure.



Chief Operating Officer



Document Owner



Director, Finance



1 **GROSS ASSETS – PROPERTY PLANT AND EQUIPMENT**

2

3 The following Tables provide continuity schedules for Gross Assets starting from the
4 2006 ending balances as presented in Hydro Ottawa Limited’s (“Hydro Ottawa”)
5 Electricity Distribution Rate Application for 2008 (EB-2007-0713) to 2011 in the
6 groupings provided in the Ontario Energy Board (the “Board”) 2006 Electricity
7 Distribution Rate Model. Exhibit B2-1-2 provides continuity schedules for the
8 amortization and Attachment S contains Appendix 2-C, Fixed Asset Continuity
9 Schedules by Uniform System of Account (“USofA”) for 2006 to 2009 Actuals and 2010
10 and 2011 Budget.

11

12 Note that between 2006 and 2007 an adjustment was made between USofA accounts
13 1805, 1806, 1808 and 1905, 1906, 1908 in order to ensure that assets were in the
14 correct USofA account. However, this did not affect the balances in the Board’s
15 groupings. Also at the end of 2009 there is an adjustment related to the removal of 90
16 Maple Grove and solar panels from Net Fixed Assets for the purpose of the rate base as
17 described in Exhibit B1-1-1.



1

Table 1 – 2006 Actual Gross and Net Fixed Assets

Asset Group	2005 CIP (A) \$000	2005 Ending Balance (B) \$000	2006 Capital Expenditures (C) \$000	2006 CIP (D) \$000	2006 Disposals (E) \$000	2006 Ending Balance =A+B+C-D+E \$000
Land and Buildings	24	11,725	1,994	1,365	(5)	12,373
TS Primary Above 50	716	28,306	4,669	3,701	0	29,990
DS	(60)	40,458	2,370	506	(126)	42,135
Poles, Wires	4,191	418,804	31,276	7,996	0	446,275
Line Transformers	947	121,968	11,303	3,124	0	131,094
Services and Meters ¹	4,208	107,128	24,901	2,644	0	133,593
General Plant	0	43,559	2,708	691	0	45,577
Equipment	369	31,367	5,366	1,226	(374)	35,501
IT Assets	6,346	52,013	8,391	1,654	0	65,097
Other Distribution Assets	140	10,543	2,359	1,588	0	11,454
Gross Assets	16,881	865,872	95,337	24,495	(506)	953,089
Contributions and Grants	(375)	(74,710)	(20,029)	(3,404)	0	(91,710)
Amortization	0	(397,365)	(33,061)	0	476	(429,951)
TOTAL NET ASSETS	\$16,506	\$393,797	\$42,247	\$21,091	(\$30)	\$431,428

2

3

4

¹ Stranded Meters have been included here.



1

Table 2 – 2007 Actual Gross and Net Fixed Assets

Asset Group	2006 CIP (A) \$000	2006 Ending Balance (B) \$000	2007 Capital Expenditures (C) \$000	2007 CIP (D) \$000	2007 Disposals (E) \$000	2007 Ending Balance =A+B+C-D+E \$000
Land and Buildings	1,365	12,373	3,264	3,902	0	13,099
TS Primary Above 50	3,701	29,990	9,357	9,672	0	33,376
DS	506	42,135	3,576	1,807	0	44,410
Poles, Wires	7,996	446,275	32,311	7,867	0	478,715
Line Transformers	3,124	131,094	11,303	2,331	0	143,191
Services and Meters ¹	2,644	133,593	20,986	2,062	0	155,161
General Plant	691	45,577	2,031	126	0	48,173
Equipment	1,226	35,501	4,339	148	(318)	40,600
IT Assets	1,654	65,097	9,390	1,145	0	74,995
Other Distribution Assets	1,588	11,454	510	126	0	13,426
Gross Assets	24,495	953,089	97,065	29,185	(318)	1,045,147
Contributions and Grants	(3,404)	(91,710)	(25,320)	(5,044)	0	(115,390)
Amortization	0	(429,951)	(38,237)	0	318	(467,870)
TOTAL NET ASSETS	\$21,091	\$431,428	\$33,508	\$24,141	\$0	\$461,887

2

3

4

¹ Stranded Meters have been included here.



1

Table 3 – 2008 Actual Gross and Net Fixed Assets

Asset Group	2007 CIP (A) \$000	2007 Ending Balance (B) \$000	2008 Capital Expenditures (C) \$000	2008 CIP (D) \$000	2008 Disposals (E) \$000	2008 Ending Balance =A+B+C-D+E \$000
Land and Buildings	3,902	13,099	2,340	264	(7)	19,070
TS Primary Above 50	9,672	33,376	8,836	4,998	0	46,886
DS	1,807	44,410	7,403	4,793	(11)	48,816
Poles, Wires	7,867	478,715	24,414	9,835	0	501,160
Line Transformers	2,331	143,191	7,479	3,072	0	149,929
Services and Meters ¹	2,062	155,161	23,788	2,665	0	178,346
General Plant	126	48,173	1,673	(0)	0	49,972
Equipment	148	40,600	3,015	(0)	(9,947)	33,816
IT Assets	1,145	74,995	4,382	1,476	(16,455)	62,592
Other Distribution Assets	126	13,426	1,041	1,136	(94)	13,362
Gross Assets	29,185	1,045,147	84,370	28,239	(26,514)	1,103,949
Contributions and Grants	(5,044)	(115,390)	(21,237)	(9,126)	219	(132,327)
Amortization	0	(467,870)	(41,576)	0	26,279	(483,166)
TOTAL NET ASSETS	\$24,141	\$461,887	\$21,557	\$19,114	(\$16)	\$488,456

2

3

¹ Stranded Meters have been included here.



1

Table 4– 2009 Actual Gross and Net Fixed Assets

Asset Group	2008 CIP (A) \$000	2008 Ending Balance (B) \$000	2009 Capital Expenditures (C) \$000	2009 CIP (D) \$000	2009 Disposals (E) \$000	2009 Ending Balance =A+B+C-D+E \$000
Land and Buildings	264	19,070	5,726	4,262	(8)	20,789
TS Primary Above 50	4,998	46,886	10,071	10,125	0	51,830
DS	4,793	48,816	6,444	3,212	(539)	56,303
Poles, Wires	9,835	501,160	25,405	6,201	(36,124)	494,075
Line Transformers	3,072	149,929	8,431	2,094	(28,006)	131,331
Services and Meters ¹	2,665	178,346	16,100	1,071	0	196,039
General Plant	(0)	49,972	1,366	(0)	0	51,338
Equipment	(0)	33,816	2,243	288	(1,066)	34,705
IT Assets	1,476	62,592	4,827	4,028	(432)	64,435
Other Distribution Assets	1,136	13,362	979	690	(3,966)	10,822
Gross Assets	28,239	1,103,949	81,592	31,971	(70,141)	1,111,668
Contributions and Grants	(9,126)	(132,327)	(20,911)	(4,684)	868	(156,812)
Amortization	0	(483,166)	(43,898)	0	69,157	(457,907)
TOTAL NET ASSETS	\$19,114	\$488,456	\$16,784	\$27,287	(\$116)	\$496,950

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¹ Stranded Meters have been included here.



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Table 5– 2010 Budget Gross and Net Fixed Assets

Asset Group	2009 CIP (A) \$000	2009 Ending Balance (B) \$000	2009 YE Adjustment \$000	Revised 2009 Balance \$000	2010 Capital Expenditures (C) \$000	2010 CIP (D) \$000	2010 Ending Balance =A+B+C-D+E \$000
Land and Buildings	4,262	20,789	(21)	20,769	1,572	37	26,566
TS Primary Above 50	10,125	51,830	0	51,830	14,944	11,180	65,719
DS	3,212	56,303	0	56,303	8,062	1,417	66,159
Poles, Wires	6,201	494,075	0	494,075	27,721	6,631	521,366
Line Transformers	2,094	131,331	0	131,331	7,950	2,094	139,281
Services and Meters ¹	1,071	196,039	0	196,039	13,042	1,096	209,057
General Plant	(0)	51,338	(3,065)	48,273	1,643	(0)	49,915
Equipment	288	34,705	0	34,705	3,686	288	38,391
IT Assets	4,028	64,435	0	64,435	7,002	883	74,582
Other Distribution Assets	690	10,822	0	10,822	1,316	690	12,137
Gross Assets	31,971	1,111,668	(3,086)	1,108,582	86,936	24,316	1,203,174
Contributions and Grants	(4,684)	(156,812)	0	(156,812)	(16,746)	(4,684)	(173,558)
Amortization	0	(457,907)	935	(456,972)	(46,476)	0	(503,448)
TOTAL NET ASSETS	\$27,287	\$496,950	(\$2,151)	\$494,799	\$23,714	\$19,632	\$526,168

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¹ Stranded Meters have been included here.



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Table 6– 2011 Budget Gross and Net Fixed Assets

Asset Group	2010 CIP (A) \$000	2010 Ending Balance (B) \$000	2011 Capital Expenditures (C) \$000	2011 CIP (D) \$000	2011 Ending Balance =A+B+C-D+E \$000
Land and Buildings	37	26,566	9,334	4,127	31,810
TS Primary Above 50	11,180	65,719	12,182	13,600	75,480
DS	1,417	66,159	3,386	388	70,574
Poles, Wires	6,631	521,366	34,643	8,010	554,631
Line Transformers	2,094	139,281	8,963	2,094	148,245
Services and Meters ¹	1,096	209,057	11,894	1,096	220,951
General Plant	(0)	49,915	1,155	0	51,071
Equipment	288	38,391	4,052	288	42,443
IT Assets	883	74,582	7,520	2,807	80,178
Other Distribution Assets	690	12,137	2,161	690	14,299
Gross Assets	24,316	1,203,174	95,291	33,100	1,289,681
Contributions and Grants	(4,684)	(173,558)	(16,570)	(4,684)	(190,128)
Amortization	0	(503,448)	(47,450)	0	(550,897)
TOTAL NET ASSETS	\$19,632	\$526,168	\$31,272	\$28,416	\$548,655

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¹ Stranded Meters have been included here.



Attachment S - Appendix (2-C)

2006 Fixed Asset Continuity Schedule

OEB	Description	Depreciation Rate	Cost \$000				Accumulated Depreciation \$000				Net Book Value
			Opening Balance	Additions	Disposals	Closing Balance	Opening Balance	Additions	Disposals	Closing Balance	
1806	Land Rights - Distribution	50	2,425	19		2,443	(793)	(39)		(831)	1,612
1815	Station Equipment (Above 50 KV)	40	28,306	1,684		29,990	(6,778)	(727)		(7,505)	22,485
1820	Station Equipment (Below 50 KV)	30	40,458	1,803	(126)	42,135	(23,516)	(955)	118	(24,353)	17,782
1830	Poles, Towers & Fixtures	25	108,879	7,439		116,319	(57,266)	(3,969)		(61,235)	55,084
1835	Overhead Conductors & Devices	25	55,978	5,944		61,923	(26,982)	(1,749)		(28,731)	33,191
1840	Underground Conduit	25	138,778	6,717		145,495	(73,984)	(4,966)		(78,950)	66,545
1845	U/G Conductors & Devices	25	115,168	7,370		122,538	(48,804)	(4,287)		(53,091)	69,447
1850	Line Transformers	25	120,149	8,154		128,303	(71,769)	(4,151)		(75,920)	52,383
1850	Line Transformers in Inventory	25	1,819	973		2,791	(334)	(92)		(426)	2,365
1855	Services	25	59,819	7,128		66,948	(15,327)	(2,450)		(17,777)	49,171
1860	Meters	25	47,141	3,112		50,253	(23,070)	(1,751)		(24,822)	25,431
1860	Smart Meters	15	0	16,187		16,187		(540)		(540)	15,648
1860	Meters in Inventory	25	168	37		205	(86)	(7)		(93)	112
1905	Lands - General	N/A	1,971	2	(5)	1,967					1,967
1908	Bldgs & Fixtures	50	48,059	2,621		50,679	(9,605)	(914)		(10,518)	40,161
1908	Bldgs & Fixtures	25	2,830	29		2,860	(1,966)	(74)		(2,039)	820
1915	Office Furniture & Equipment	10	5,674	133	12	5,818	(3,929)	(299)	(8)	(4,236)	1,582
1920	Computer Equipment	5	5,635	2,866		8,502	(3,678)	(1,055)		(4,732)	3,769
1925	Computer Software 5 Yrs	5	21,772	10,113		31,885	(15,511)	(4,017)		(19,528)	12,358
1925	Computer Software 10 Yrs	10	24,605	105		24,710	(2,957)	(2,458)		(5,415)	19,295
1930	Automobiles	4	276	183		459	(264)	(16)		(280)	179
1930	Trucks less than 3 tonnes	5	1,695	405	(131)	1,970	(1,040)	(179)	131	(1,088)	881
1930	Trucks greater than 3 tonnes	8	14,374	1,665	(210)	15,829	(10,135)	(883)	189	(10,828)	5,000
1930	Power Operated Equipment	8	911	344	(46)	1,209	(898)	(38)	46	(890)	319
1935	Stores Equipment	10	740			740	(482)	(55)		(537)	203
1940	Tools, Shop & Garage Equipment	10	4,655	1,734		6,388	(2,714)	(370)		(3,083)	3,305
1945	Measurement & Testing Equipment	10	1,489	51		1,539	(965)	(99)		(1,064)	475
1955	Communication Equipment	10	1,527	(6)		1,521	(502)	(130)		(632)	889
1960	Misc. Equipment	10	27	0		27	(21)	(1)		(22)	5
1970	Load Mgmt Controls Cust Prem	10	69	519		588	(69)	(52)		(121)	467
1975	Load Mgmt Controls Utility Prem	10	25	72		97	(25)	(4)		(29)	68
1980	System Supervisory Equip/Fibre Optic	15	10,449	320		10,769	(5,479)	(510)		(5,989)	4,780
1995	Contributions & Grants		(74,710)	(17,000)		(91,710)	11,582	3,774		15,357	(76,353)
	Total		\$791,162	\$70,723	(\$506)	\$861,379	(\$397,365)	(\$33,061)	\$476	(\$429,951)	\$431,428



Attachment S - Appendix (2-C)

2007 Fixed Asset Continuity Schedule

OEB	Description	Depreciation Rate	Cost \$000					Accumulated Depreciation \$000							
			2006 Ending Balance	Pre 2007 Asset Group Adjustment	Opening Balance	Additions	Disposals	Closing Balance	2006 Ending Balance	Pre 2007 Asset Group Adjustment	Opening Balance	Additions	Disposals	Closing Balance	Net Book Value
1805	Lands - Distribution	N/A		1,039	1,039	210									1,249
1806	Land Rights - Distribution	50	2,443	(275)	2,168				(831)	100	(731)	(38)		(769)	1,399
1808	Bldgs & Fixtures - Distribution	50		7,962	7,962	515				(3,911)	(3,911)	(674)		(4,585)	3,892
1815	Station Equipment (Above 50 KV)	40	29,990		29,990	3,386			(7,505)		(7,505)	(796)		(8,300)	25,075
1820	Station Equipment (Below 50 KV)	30	42,135		42,135	2,275			(24,353)		(24,353)	(1,042)		(25,395)	19,016
1830	Poles, Towers & Fixtures	25	116,319		116,319	8,027			(61,235)		(61,235)	(4,208)		(65,443)	58,903
1835	Overhead Conductors & Devices	25	61,923		61,923	6,832			(28,731)		(28,731)	(2,008)		(30,739)	38,015
1840	Underground Conduit	25	145,495		145,495	8,289			(78,950)		(78,950)	(5,268)		(84,218)	69,566
1840	Line Transformers	25	122,538		122,538	11,798			(53,091)		(53,091)	(4,432)		(57,523)	76,812
1845	U/G Conductors & Devices	25	128,303		128,303	9,292			(75,920)		(75,920)	(4,624)		(80,544)	57,051
1850	Line Transformers in Inventory	25	2,791		2,791	299			(426)		(426)	(112)		(538)	2,552
1855	Services	25	66,948		66,948	8,552			(17,777)		(17,777)	(2,770)		(20,547)	54,953
1860	Meters	25	50,253		50,253	2,241			(24,822)		(24,822)	(2,029)		(26,851)	25,642
1860	Smart Meters	15	16,187		16,187	10,745			(540)		(540)	(1,433)		(1,973)	24,960
1860	Meters in Inventory	25	205		205	31			(93)		(93)	(9)		(102)	133
1905	Lands - General	N/A	1,967	(1,039)	929										929
1906	Land Rights - General	50		275	275	1				(100)	(100)	(1)		(101)	176
1908	Bldgs & Fixtures - General	50	50,679	(7,962)	42,717	2,596			(10,518)	3,911	(6,608)	(322)		(6,930)	38,384
1908	Bldgs & Fixtures - General	25	2,860		2,860				(2,039)		(2,039)	(71)		(2,110)	750
1915	Office Furniture & Equipment	10	5,818		5,818	612			(4,236)		(4,236)	(332)		(4,568)	1,862
1920	Computer Equipment	5	8,502		8,502	3,544			(4,732)		(4,732)	(1,718)		(6,451)	5,595
1925	Computer Software 5 Yrs	5	31,885		31,885	6,354			(19,528)		(19,528)	(5,453)		(24,981)	13,259
1925	Computer Software 10 Yrs	10	24,710		24,710				(5,415)		(5,415)	(2,469)		(7,883)	16,827
1930	Automobiles	4	459		459	27		(82)	(280)		(280)	(51)	82	(250)	155
1930	Trucks less than 3 tonnes	5	1,970		1,970	166		(141)	(1,088)		(1,088)	(255)	141	(1,202)	792
1930	Trucks greater than 3 tonnes	8	15,829		15,829	3,319		(76)	(10,828)		(10,828)	(1,178)	76	(11,930)	7,142
1930	Power Operated Equipment	8	1,209		1,209	446		(19)	(890)		(890)	(59)	19	(930)	706
1935	Stores Equipment	10	740		740	0			(537)		(537)	(52)		(589)	151
1940	Tools, Shop & Garage Equipment	10	6,388		6,388	816			(3,083)		(3,083)	(493)		(3,576)	3,629
1945	Measurement & Testing Equipment	10	1,539		1,539				(1,064)		(1,064)	(98)		(1,162)	377
1955	Communication Equipment	10	1,521		1,521				(632)		(632)	(129)		(761)	760
1960	Misc. Equipment	10	27		27	31			(22)		(22)	(3)		(25)	34
1970	Load Mgmt Controls Cust Prem	10	588		588	44			(121)		(121)	(51)		(173)	459
1975	Load Mgmt Controls Utility Prem	10	97		97				(29)		(29)	(7)		(36)	61
1980	System Supervisory Equip/Fibre Optic	15	10,769		10,769	1,928			(5,989)		(5,989)	(567)		(6,556)	6,141
1995	Contributions & Grants		(91,710)		(91,710)	(23,680)			15,357		15,357	4,514		19,870	(95,520)
	Total		\$861,379	\$0	\$861,379	\$68,696	(\$318)	\$929,757	(\$429,951)	(\$0)	(\$429,951)	(\$38,237)	\$318	(\$467,870)	\$461,887



Attachment S - Appendix (2-C)

2008 Fixed Asset Continuity Schedule

OEB	Description	Depreciation Rate	Cost \$000				Accumulated Depreciation \$000				
			Opening Balance	Additions	Disposals	Closing Balance	Opening Balance	Additions	Disposals	Closing Balance	Net Book Value
1805	Lands - Distribution	N/A	1,249	1,248		2,497					2,497
1806	Land Rights - Distribution	50	2,168	90		2,258	(769)	(46)		(815)	1,443
1808	Bldgs & Fixtures - Distribution	50	8,477	4,332	(7)	12,802	(4,585)	(712)	1	(5,296)	7,506
1815	Station Equipment (Above 50 KV)	40	33,376	13,510		46,886	(8,300)	(894)		(9,194)	37,691
1820	Station Equipment (Below 50 KV)	30	44,410	4,417	(11)	48,816	(25,395)	(1,135)	2	(26,528)	22,289
1830	Poles, Towers & Fixtures	25	124,346	3,333		127,679	(65,443)	(4,379)		(69,822)	57,858
1835	Overhead Conductors & Devices	25	68,754	3,707		72,462	(30,739)	(2,226)		(32,965)	39,497
1840	Underground Conduit	25	153,784	6,028		159,813	(84,218)	(5,571)		(89,789)	70,024
1845	U/G Conductors & Devices	25	137,595	9,376		146,971	(80,544)	(4,704)		(85,248)	61,724
1850	Line Transformers	25	134,336	6,294		140,629	(57,523)	(5,013)		(62,536)	78,093
1850	Line Transformers in Inventory	25	3,090	444		3,534	(538)	(132)		(671)	2,864
1855	Services	25	75,500	8,093		83,593	(20,547)	(3,113)		(23,660)	59,933
1860	Meters	25	52,493	(50)		52,444	(26,851)	(3,079)		(29,930)	22,514
1860	Smart Meters	15	26,933	15,149		42,082	(1,973)	(2,359)		(4,332)	37,750
1860	Meters in Inventory	25	235	(8)		228	(102)	(9)		(111)	117
1905	Lands - General	N/A	929	4		933					933
1906	Land Rights - General	50	276	304		580	(101)	(1)		(102)	478
1908	Bldgs & Fixtures - General	50	45,313	1,799		47,112	(6,930)	(323)		(7,252)	39,860
1908	Bldgs & Fixtures - General	25	2,860	0		2,860	(2,110)	(68)		(2,178)	682
1915	Office Furniture & Equipment	10	6,430	606	(2,872)	4,165	(4,568)	(383)	2,872	(2,079)	2,086
1920	Computer Equipment	5	12,045	767	(4,056)	8,757	(6,451)	(1,845)	4,056	(4,240)	4,517
1925	Computer Software 5 Yrs	5	38,240	3,284	(12,399)	29,125	(24,981)	(4,665)	12,399	(17,247)	11,878
1925	Computer Software 10 Yrs	10	24,710			24,710	(7,883)	(2,475)		(10,359)	14,352
1930	Automobiles	4	404		(16)	388	(250)	(53)	16	(286)	102
1930	Trucks less than 3 tonnes	5	1,994	164	(152)	2,006	(1,202)	(278)	152	(1,328)	678
1930	Trucks greater than 3 tonnes	8	19,072	1,540	(3,688)	16,924	(11,930)	(1,380)	3,688	(9,623)	7,301
1930	Power Operated Equipment	8	1,636	120	(105)	1,651	(930)	(103)	105	(928)	723
1935	Stores Equipment	10	740	0	(239)	501	(589)	(50)	239	(399)	101
1940	Tools, Shop & Garage Equipment	10	7,205	672	(1,960)	5,917	(3,576)	(559)	1,960	(2,176)	3,741
1945	Measurement & Testing Equipment	10	1,539	13	(664)	889	(1,162)	(92)	664	(591)	298
1955	Communication Equipment	10	1,521		(233)	1,288	(761)	(129)	233	(657)	631
1960	Misc. Equipment	10	59	48	(18)	88	(25)	(6)	18	(13)	75
1970	Load Mgmt Controls Cust Prem	10	632	(9)	(69)	553	(173)	(53)	69	(156)	397
1975	Load Mgmt Controls Utility Prem	10	97		(25)	72	(36)	(7)	25	(18)	54
1980	System Supervisory Equip/Fibre Optic	15	12,697	40	0	12,737	(6,556)	(628)		(7,184)	5,553
1995	Contributions & Grants		(115,390)	(17,156)	219	(132,327)	19,870	4,893	(219)	24,545	(107,782)
	Total		\$929,757	\$68,160	(\$26,295)	\$971,622	(\$467,870)	(\$41,576)	\$26,279	(\$483,166)	\$488,456



Attachment S - Appendix (2-C)

2009 Fixed Asset Continuity Schedule

OEB	Description	Cost \$000					Accumulated Depreciation \$000				Net Book Value
		Depreciation Rate	Opening Balance	Additions	Disposals	Closing Balance	Opening Balance	Additions	Disposals	Closing Balance	
1805	Lands - Distribution	N/A	2,497	412		2,909	0				2,909
1806	Land Rights - Distribution	50	2,258	449		2,708	(815)	(46)		(861)	1,846
1808	Bldgs & Fixtures - Distribution	50	12,802	1,363	(8)	14,157	(5,296)	1,845	4	(3,447)	10,710
1815	Station Equipment (Above 50 KV)	40	46,886	6,461		53,347	(9,194)	(1,169)		(10,363)	42,984
1820	Station Equipment (Below 50 KV)	30	48,816	11,642	(539)	59,919	(26,528)	(1,516)	427	(27,617)	32,303
1830	Poles, Towers & Fixtures	25	127,679	5,247	(16,897)	116,029	(69,822)	(4,466)	16,897	(57,390)	58,639
1835	Overhead Conductors & Devices	25	72,462	4,688	(14,227)	62,923	(32,965)	(2,388)	14,227	(21,125)	41,797
1840	Underground Conduit	25	159,813	8,947	(4,131)	164,629	(89,789)	(5,855)	4,131	(91,513)	73,116
1845	U/G Conductors & Devices	25	146,971	10,157	(869)	156,260	(85,248)	(5,373)	869	(89,752)	66,508
1850	Line Transformers	25	140,629	8,947	(28,006)	121,570	(62,536)	(4,874)	28,006	(39,404)	82,166
1850	Line Transformers in Inventory	25	3,534	462		3,997	(671)	(147)		(817)	3,179
1855	Services	25	83,593	9,398		92,991	(23,660)	(3,453)		(27,113)	65,878
1860	Meters	25	52,444	(4,523)		47,921	(29,930)	(3,248)		(33,177)	14,743
1860	Smart Meters	15	42,082	7,660		49,741	(4,332)	(3,073)		(7,405)	42,337
1860	Meters in Inventory	25	228	25		253	(111)	(10)		(120)	133
1905	Lands - General	N/A	933	(49)		884					884
1906	Land Rights - General	50	580	(448)		132	(102)	(1)		(102)	29
1908	Bldgs & Fixtures - General	50	47,112	1,366		48,478	(7,252)	(2,968)		(10,221)	38,257
1908	Bldgs & Fixtures - General	25	2,860			2,860	(2,178)	(62)		(2,240)	620
1915	Office Furniture & Equipment	10	4,165	201	(165)	4,201	(2,079)	(410)	165	(2,324)	1,877
1920	Computer Equipment	5	8,757	736	(86)	9,407	(4,240)	(1,805)	86	(5,960)	3,447
1925	Computer Software 5 Yrs	5	29,125	1,539	(346)	30,318	(17,247)	(4,494)	346	(21,395)	8,923
1925	Computer Software 10 Yrs	10	24,710			24,710	(10,359)	(2,489)	0	(12,848)	11,862
1930	Automobiles	4	388	26	(49)	366	(286)	(53)	49	(291)	75
1930	Trucks less than 3 tonnes	5	2,006	11	(78)	1,939	(1,328)	(278)	78	(1,527)	412
1930	Trucks greater than 3 tonnes	8	16,924	1,071	(566)	17,429	(9,623)	(1,458)	566	(10,515)	6,913
1930	Power Operated Equipment	8	1,651	79	(25)	1,705	(928)	(189)	25	(1,091)	613
1935	Stores Equipment	10	501	0	(18)	483	(399)	(29)	18	(410)	73
1940	Tools, Shop & Garage Equipment	10	5,917	500	(67)	6,350	(2,176)	(602)	67	(2,711)	3,639
1945	Measurement & Testing Equipment	10	889		(97)	792	(591)	(81)	97	(574)	217
1955	Communication Equipment	10	1,288		(2)	1,286	(657)	(129)	2	(784)	503
1960	Misc. Equipment	10	88	67		155	(13)	(12)		(25)	130
1970	Load Mgmt Controls Cust Prem	10	553			553	(156)	(53)		(209)	344
1975	Load Mgmt Controls Utility Prem	10	72			72	(18)	(7)		(25)	47
1980	System Supervisory Equip/Fibre Optic	15	12,737	1,426	(3,966)	10,197	(7,184)	(644)	3,966	(3,862)	6,335
1995	Contributions & Grants		(132,327)	(25,353)	868	(156,812)	24,545	5,636	(868)	29,313	(127,499)
	Total		\$971,622	\$52,508	(\$69,274)	\$954,856	(\$483,166)	(\$43,898)	\$69,157	(\$457,907)	\$496,950



Attachment S - Appendix (2-C)

2010 Fixed Asset Continuity Schedule

OEB	Description	Cost \$000					Accumulated Depreciation \$000					Net Book Value		
		Depreciation Rate	Opening Balance	2009 YE Adjustment	Revised Opening Balance	Additions	Closing Balance	Opening Balance	2009 YE Adjustment	Revised Opening Balance	Additions		Closing Balance	
1805	Lands - Distribution	N/A	2,909		2,909	860	3,770	0						3,770
1806	Land Rights - Distribution	50	2,708		2,708		2,708	(861)		(861)	(46)	(907)		1,800
1808	Bldgs & Fixtures - Distribution	50	14,157		14,157	4,937	19,094	(3,447)		(3,447)	(300)	(3,747)		15,347
1815	Station Equipment (Above 50 KV)	40	53,347		53,347	13,889	67,236	(10,363)		(10,363)	(1,546)	(11,909)		55,327
1820	Station Equipment (Below 50 KV)	30	59,919		59,919	9,856	69,776	(27,617)		(27,617)	(1,806)	(29,423)		40,353
1830	Poles, Towers & Fixtures	25	116,029		116,029	5,554	121,584	(57,390)		(57,390)	(4,668)	(62,059)		59,525
1835	Overhead Conductors & Devices	25	62,923		62,923	4,452	67,374	(21,125)		(21,125)	(2,549)	(23,674)		43,700
1840	Underground Conduit	25	164,629		164,629	7,042	171,670	(91,513)		(91,513)	(6,095)	(97,607)		74,063
1845	U/G Conductors & Devices	25	156,260		156,260	10,243	166,503	(89,752)		(89,752)	(5,757)	(95,508)		70,995
1850	Line Transformers	25	121,570		121,570	7,950	129,520	(39,404)		(39,404)	(4,666)	(44,070)		85,450
1850	Line Transformers in Inventory	25	3,997		3,997		3,997	(817)		(817)	(144)	(962)		3,035
1855	Services	25	92,991		92,991	8,944	101,934	(27,113)		(27,113)	(3,779)	(30,892)		71,042
1860	Meters	25	47,921		47,921	6	47,927	(33,177)		(33,177)	(3,049)	(36,226)		11,701
1860	Smart Meters	15	49,741		49,741	4,067	53,809	(7,405)		(7,405)	(124)	(7,529)		46,280
1860	Meters in Inventory	25	253		253		253	(120)		(120)	(3,331)	(3,452)		(3,199)
1905	Lands - General	N/A	884	(21)	863		863			0				863
1906	Land Rights - General	50	132		132		132	(102)		(102)	(1)	(103)		28
1908	Bldgs & Fixtures - General	50	48,478	(3,065)	45,413	1,643	47,056	(10,221)	935	(9,286)	(871)	(10,157)		36,899
1908	Bldgs & Fixtures - General	25	2,860		2,860		2,860	(2,240)		(2,240)	(62)	(2,302)		557
1915	Office Furniture & Equipment	10	4,201		4,201	255	4,455	(2,324)		(2,324)	(414)	(2,738)		1,718
1920	Computer Equipment	5	9,407		9,407	2,578	11,985	(5,960)		(5,960)	(2,089)	(8,048)		3,937
1925	Computer Software 5 Yrs	5	30,318		30,318	7,568	37,886	(21,395)		(21,395)	(5,328)	(26,723)		11,164
1925	Computer Software 10 Yrs	10	24,710		24,710	0	24,710	(12,848)		(12,848)	(2,469)	(15,317)		9,394
1930	Automobiles	4	366		366	219	585	(291)		(291)	(73)	(364)		221
1930	Trucks less than 3 tonnes	5	1,939		1,939	33	1,972	(1,527)		(1,527)	(200)	(1,727)		245
1930	Trucks greater than 3 tonnes	8	17,429		17,429	1,969	19,397	(10,515)		(10,515)	(1,597)	(12,112)		7,286
1930	Power Operated Equipment	8	1,705		1,705	121	1,825	(1,091)		(1,091)	(120)	(1,212)		614
1935	Stores Equipment	10	483		483		483	(410)		(410)	(21)	(431)		51
1940	Tools, Shop & Garage Equipment	10	6,350		6,350	717	7,067	(2,711)		(2,711)	(645)	(3,356)		3,711
1945	Measurement & Testing Equipment	10	792		792		792	(574)		(574)	(70)	(644)		147
1955	Communication Equipment	10	1,286		1,286	323	1,610	(784)		(784)	(143)	(927)		683
1960	Misc. Equipment	10	155		155	50	205	(25)		(25)	(22)	(47)		158
1970	Load Mgmt Controls Cust Prem	10	553		553	486	1,039	(209)		(209)	(77)	(286)		753
1975	Load Mgmt Controls Utility Prem	10	72		72		72	(25)		(25)	(7)	(32)		40
1980	System Supervisory Equip/Fibre Optic	15	10,197		10,197	830	11,027	(3,862)		(3,862)	(683)	(4,545)		6,482
1995	Contributions & Grants		(156,812)		(156,812)	(16,746)	(173,558)	29,313		29,313	6,275	35,588		(137,970)
	Total		\$954,856	(\$3,086)	\$951,771	\$77,845	\$1,029,616	(\$457,907)	\$935	(\$456,972)	(\$46,476)	(\$503,448)		\$526,168



Attachment S - Appendix (2-C)

2011 Fixed Asset Continuity Schedule

OEB	Description	Cost \$000				Accumulated Depreciation \$000			Net Book Value
		Depreciation Rate	Opening Balance	Additions	Closing Balance	Opening Balance	Additions	Closing Balance	
1805	Lands - Distribution	N/A	3,770		3,770				3,770
1806	Land Rights - Distribution	50	2,708		2,708	(907)	(46)	(953)	1,754
1808	Bldgs & Fixtures - Distribution	50	19,094	1,607	20,701	(3,747)	(429)	(4,176)	16,525
1815	Station Equipment (Above 50 KV)	40	67,236	9,761	76,997	(11,909)	(1,806)	(13,715)	63,282
1820	Station Equipment (Below 50 KV)	30	69,776	4,415	74,191	(29,423)	(2,011)	(31,434)	42,757
1830	Poles, Towers & Fixtures	25	121,584	8,343	129,927	(62,059)	(4,807)	(66,865)	63,061
1835	Overhead Conductors & Devices	25	67,374	5,450	72,824	(23,674)	(2,771)	(26,445)	46,380
1840	Underground Conduit	25	171,670	8,637	180,308	(97,607)	(6,076)	(103,683)	76,625
1845	U/G Conductors & Devices	25	166,503	10,834	177,337	(95,508)	(6,126)	(101,634)	75,703
1850	Line Transformers	25	129,520	8,963	138,483	(44,070)	(4,574)	(48,644)	89,839
1850	Line Transformers in Inventory	25	3,997		3,997	(962)	(160)	(1,121)	2,875
1855	Services	25	101,934	9,431	111,366	(30,892)	(4,185)	(35,077)	76,288
1860	Meters	25	47,927	14	47,941	(36,226)	(93)	(36,319)	11,622
1860	Smart Meters	15	53,809	2,449	56,258	(7,529)	(6,653)	(14,182)	42,076
1860	Meters in Inventory	25	253		253	(3,452)	(10)	(3,461)	(3,208)
1905	Lands - General	N/A	863	3,637	4,500				4,500
1906	Land Rights - General	50	132		132	(103)	(1)	(104)	28
1908	Bldgs & Fixtures - General	50	47,056	1,155	48,211	(10,157)	(912)	(11,069)	37,142
1908	Bldgs & Fixtures - General	25	2,860		2,860	(2,302)	(60)	(2,363)	497
1915	Office Furniture & Equipment	10	4,455	194	4,650	(2,738)	(379)	(3,116)	1,534
1920	Computer Equipment	5	11,985	1,889	13,874	(8,048)	(1,958)	(10,007)	3,868
1925	Computer Software 5 Yrs	5	37,886	3,707	41,593	(26,723)	(4,924)	(31,647)	9,947
1925	Computer Software 10 Yrs	10	24,710		24,710	(15,317)	(2,533)	(17,850)	6,860
1930	Automobiles	4	585	396	980	(364)	(115)	(478)	502
1930	Trucks less than 3 tonnes	5	1,972	130	2,102	(1,727)	(179)	(1,906)	196
1930	Trucks greater than 3 tonnes	8	19,397	1,697	21,094	(12,112)	(1,707)	(13,819)	7,275
1930	Power Operated Equipment	8	1,825	40	1,865	(1,212)	(131)	(1,343)	522
1935	Stores Equipment	10	483		483	(431)	(21)	(452)	31
1940	Tools, Shop & Garage Equipment	10	7,067	608	7,675	(3,356)	(675)	(4,031)	3,644
1945	Measurement & Testing Equipment	10	792		792	(644)	(54)	(699)	93
1955	Communication Equipment	10	1,610	856	2,465	(927)	(199)	(1,126)	1,339
1960	Misc. Equipment	10	205	131	336	(47)	(26)	(74)	262
1970	Load Mgmt Controls Cust Prem	10	1,039	99	1,138	(286)	(106)	(392)	746
1975	Load Mgmt Controls Utility Prem	10	72		72	(32)	(7)	(40)	32
1980	System Supervisory Equip/Fibre Optic	15	11,027	2,062	13,089	(4,545)	(769)	(5,314)	7,775
1995	Contributions & Grants		(173,558)	(16,570)	(190,128)	35,588	7,053	42,641	(147,487)
	Total		\$1,029,616	\$69,937	\$1,099,553	(\$503,448)	(\$47,450)	(\$550,897)	\$548,655



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ACCUMULATED AMORTIZATION

The tables below provide continuity schedules for the accumulated amortization for 2006 to 2009 Actuals and 2010 to 2011 Budget.

Table 1 – 2006 Actual Accumulated Amortization

Asset Group	2006 Opening Balance \$000	2006 Amortization Expense \$000	Disposals \$000	2006 Ending Balance \$000
Land and Buildings	(4,112)	(631)		(4,742)
TS Primary Above 50	(6,736)	(707)		(7,444)
DS	(23,513)	(953)	118	(24,348)
Poles, Wires	(202,280)	(13,274)		(215,554)
Line Transformers	(71,314)	(3,749)		(75,063)
Services and Meters ¹	(37,045)	(3,920)		(40,965)
General Plant	(8,112)	(364)		(8,477)
Equipment	(20,565)	(1,983)	358	(22,189)
IT Assets	(18,204)	(6,942)		(25,147)
Other Distribution Assets	(5,483)	(539)		(6,021)
TOTAL	(\$397,365)	(\$33,061)	\$476	(\$429,951)

¹ Amortization of Stranded Meters included here.



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Table 2 – 2007 Actual Accumulated Amortization

Asset Group	2007 Opening Balance \$000	2007 Amortization Expense \$000	Disposals \$000	2007 Ending Balance \$000
Land and Buildings	(4,742)	(713)	0	(5,455)
TS Primary Above 50	(7,444)	(776)	0	(8,219)
DS	(24,348)	(1,021)	0	(25,369)
Poles, Wires	(215,554)	(14,019)	0	(229,574)
Line Transformers	(75,063)	(3,841)	0	(78,904)
Services and Meters ¹	(40,965)	(5,220)	0	(46,185)
General Plant	(8,477)	(361)	0	(8,838)
Equipment	(22,189)	(2,561)	318	(24,433)
IT Assets	(25,147)	(9,127)	0	(34,274)
Other Distribution Assets	(6,021)	(599)	0	(6,620)
TOTAL	(\$429,951)	(\$38,237)	\$318	(\$467,870)

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Table 3 – 2008 Actual Accumulated Amortization

Asset Group	2008 Opening Balance \$000	2008 Amortization Expense \$000	Disposals \$000	2008 Ending Balance \$000
Land and Buildings	(5,455)	(759)	1	(6,213)
TS Primary Above 50	(8,219)	(874)	0	(9,093)
DS	(25,369)	(1,102)	2	(26,469)
Poles, Wires	(229,574)	(14,692)	0	(244,266)
Line Transformers	(78,904)	(3,926)	0	(82,829)
Services and Meters ¹	(46,185)	(7,365)	(219)	(53,769)
General Plant	(8,838)	(359)	0	(9,197)
Equipment	(24,433)	(2,947)	9,947	(17,433)
IT Assets	(34,274)	(8,892)	16,455	(26,711)
Other Distribution Assets	(6,620)	(661)	94	(7,186)
TOTAL	(\$467,870)	(\$41,576)	\$26,279	(\$483,166)

¹ Amortization of Stranded Meters included here.



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Table 4 – 2009 Actual Accumulated Amortization

Asset Group	2009 Opening Balance \$000	2009 Amortization Expense \$000	Disposals \$000	2009 Ending Balance \$000
Land and Buildings	(6,213)	1,798	4	(4,411)
TS Primary Above 50	(9,093)	(1,330)		(10,423)
DS	(26,469)	(1,870)	427	(27,912)
Poles, Wires	(244,266)	(15,129)	36,124	(223,270)
Line Transformers	(82,829)	(3,902)	28,006	(58,725)
Services and Meters ¹	(53,769)	(7,903)		(61,672)
General Plant	(9,197)	(2,999)		(12,196)
Equipment	(17,433)	(3,152)	1,066	(19,519)
IT Assets	(26,711)	(8,734)	(436)	(35,881)
Other Distribution Assets	(7,186)	(677)	3,966	(3,897)
TOTAL	(\$483,166)	(\$43,898)	\$69,157	(\$457,907)

2

¹ Amortization of Stranded Meters included here.



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Table 5 – 2010 Budget Accumulated Amortization

Asset Group	2009 Ending Balance \$000	2009 YE Adjustment¹ \$000	2010 Revised Beginning Balance \$000	2010 Amortization Expense \$000	2010 Ending Balance \$000
Land and Buildings	(4,411)		(4,411)	(347)	(4,758)
TS Primary Above 50	(10,423)		(10,423)	(1,526)	(11,949)
DS	(27,912)		(27,912)	(1,770)	(29,682)
Poles, Wires	(223,270)		(223,270)	(15,764)	(239,034)
Line Transformers	(58,725)		(58,725)	(3,567)	(62,291)
Services and Meters ²	(61,672)	935	(60,737)	(8,813)	(69,551)
General Plant	(12,196)		(12,196)	(902)	(13,098)
Equipment	(19,519)		(19,519)	(3,218)	(22,737)
IT Assets	(35,881)		(35,881)	(9,830)	(45,711)
Other Distribution Assets	(3,897)		(3,897)	(740)	(4,637)
TOTAL	(\$457,907)	\$935	(\$456,972)	(\$46,476)	(\$503,448)

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¹ Amortization of Stranded Meters included here.

² Amortization related to 90 Maple Grove and solar panels.



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Table 6 – Budget 2011 Accumulated Amortization

Asset Group	2011 Opening Balance \$000	2011 Amortization Expense \$000	2011 Ending Balance \$000
Land and Buildings	(4,758)	(476)	(5,233)
TS Primary Above 50	(11,949)	(1,786)	(13,735)
DS	(29,682)	(1,972)	(31,655)
Poles, Wires	(239,034)	(16,056)	(255,091)
Line Transformers	(62,291)	(3,261)	(65,552)
Services and Meters ¹	(69,551)	(9,262)	(78,812)
General Plant	(13,098)	(941)	(14,039)
Equipment	(22,737)	(3,438)	(26,176)
IT Assets	(45,711)	(9,402)	(55,113)
Other Distribution Assets	(4,637)	(855)	(5,492)
TOTAL	(\$503,448)	(\$47,450)	(\$550,897)

2

¹ Amortization of Stranded Meters included here.



WORKING CAPITAL REQUIREMENT

1.0 INTRODUCTION

This Exhibit provides a schedule of the Working Capital Requirement for the bridge year (2010) and the test year (2011). For comparison purposes, the approved and actual Working Capital Requirement for the base year (2008) is also shown.

Table 1 – Allowance for Working Capital¹

	2008 Approved \$000	2008 Actual \$000	2009 Actual \$000	2010 Budget \$000	2011 Budget \$000
Power Supply Expenses	548,547			615,179	603,091
OM&A Expenses	57,088			61,406	64,767
Total Expenses for Working Capital	605,635			676,585	667,858
Working Capital %	12.5			14.1	14.1
	75,704	82,144	87,557	95,399	94,168

Calculation of the Working Capital Allowance percentage of 14.1 is shown in Exhibit B3-2-1. The Power Supply Expenses for 2011 of \$603,090,617 are calculated in the following manner:

The forecasted monthly purchased kWh and peak kW produced by the load forecasting model described in Exhibit C1-1-1 were adjusted for the impact of Conservation and Demand Management activities, as per Section 4.0 in the same Exhibit. The monthly forecasted kWh purchases were multiplied by the monthly forecasted commodity price, which was obtained from a report prepared by Navigant Consulting. The most recent forecast of Wholesale Electricity Prices at this time is an average price of \$0.0412/kWh.²

¹ 2008 and 2009 Actual Working Capital from Lead/Lag Study

² Ontario Wholesale Electricity Market Price Forecast For the Period May 1, 2010 through October 31, 2011, Navigant Consulting Ltd., April 7, 2010



1 The Wholesale Market Charge is determined from the total kWh purchased multiply by
2 the retail rate of \$0.065 plus the Special Purpose Charge of \$0.0003725 until April 30,
3 2011.

4

5 The forecasted kW monthly coincident peak is multiplied by historic percentages for
6 each transmission charge to establish the kW's for those charges. The results are then
7 multiplied by the current rates escalated by 15.7%, which is the requested increase in
8 Hydro One Network Inc's Transmission Rate Revenue Requirement in their application
9 filed on May 19, 2010 (EB-2010-0002).

10

11 The Global Adjustment is calculated using the forecasted rate of \$0.02772/kWh obtained
12 from the Regulated Price Plan: Price Report.¹ A spreadsheet showing the calculation of
13 the Power Supply Expenses for 2011 is provided in Attachment T.

¹ Regulated Price Plan: Price Report May 1, 2010 to April 30, 2011, Ontario Energy Board, April 15, 2010



LEAD LAG STUDY

1.0 INTRODUCTION

Hydro Ottawa Limited (“Hydro Ottawa”) filed an application with the Ontario Energy Board (the “Board”) on September 19, 2007 seeking approval for changes to the rates charged for electricity distribution effective May 1, 2008. In the application, Hydro Ottawa used “the 15% allowance approach” as described in the Board’s Filing Requirements for Transmission and Distribution Applications (“Filing Requirements”) to calculate the Working Capital Allowance (“WCA”) for the Test Year 2008. The 15% rate was then changed to 12.5%¹ as part of a settlement agreement based on the results of a lead-lag study conducted by Toronto Hydro-Electric System Limited for its 2008 Test Year. For this application, Hydro Ottawa has conducted its own lead/lag study to derive the working capital requirements. This study is based on 2008 and 2009 historical data, and adjusted for any anticipated material changes for the 2011 Test Year.

Working capital is the amount of funds required to finance the day-to-day operations of a regulated utility. Determining the company’s working capital requirements using a lead/lag study is one of two approaches included in the Filing Requirements.

Lag is the time between one event, process, or period and another. In this lead/lag study, lag is the number of days between the date that a service is rendered and the date that payment is received, and generally refers to revenue; however, prepaid revenue would be a negative lag (or a revenue lead). Lead refers to the number of days between the date Hydro Ottawa receives goods and services and the date that it pays for them, and generally refers to an expense; however, a prepaid expense would be a negative lead (or an expense lag). Both the overall revenue lag and expense lead, in number of days, are developed by weighting the lag or lead from individual sources based on relative dollar magnitude. A net lag is then calculated using the lag minus the lead. The working capital requirement is then determined by using the net lag divided by

¹ EB-2007-0713, Decision, Issued March 17, 2008



1 365 and multiplied by the annual budgeted costs¹. The working capital requirement is
2 then expressed as a percent of the total Operations, Maintenance and Administration
3 (“OM&A”) plus the cost of power to determine the WCA for both 2008 and 2009. An
4 adjustment was then made to reflect the only material change known for 2011, the move
5 to a harmonized sales tax (“HST”). These revised results for 2008 and 2009 were
6 averaged to determine the final WCA proposed for 2011. Refer to Exhibit B3-1-1 for the
7 determination of the final working capital requirement to include in rate base by
8 multiplying the proposed WCA by the total of the 2011 forecast OM&A and cost of
9 power.

12 2.0 REVENUE LAG

14 Revenue lag refers to the number of days between the date that Hydro Ottawa provides
15 a service to its customer and the date that payment is received and funds are available
16 to the company. Hydro Ottawa’s revenue can be divided into three categories.

- 18 • Revenues from Residential and General Service Customers. This group of
19 customers includes residential, general service < 50 kW, general service 50 –
20 1,499 kW, general service 1,500 – 4,999 kW, large users, streetlighting and
21 unmetered scattered load.
- 22 • Revenues from Services to Retailers. This refers to electricity retailers
23 licensed under the *Ontario Energy Board Act*.
- 24 • Revenues from Other Sources. This includes pole and duct rentals, property
25 rentals and other work for others services.

27 When the three sources of revenues are considered together, the weighted average
28 revenue lag time for 2008 is 75.2 days, and for 2009 is 75.0 days. Table 1 shows a
29 summary of the 2008 and 2009 revenue lags. Details for each component are provided
30 in the sections that follow.

¹ Budgeted costs include Cost of Power, OM&A, Interest Expense, Payments in Lieu of Taxes (“PILs”) and Debt Retirement Charge



1

Table 1 - Revenue Lag¹

Source of Revenues	2008				2009			
	Revenue Lag (Days)	Amount \$	Weighting Factor	Weighted Revenue Lag	Revenue Lag (Days)	Amount \$	Weighting Factor	Weighted Revenue Lag
Revenues from Residential and Business Customers	74.86	682,995,744	98.67%	73.86	75.05	731,960,612	98.42%	73.86
Revenues from Services to Retailers	58.66	340,117	0.05%	0.03	55.35	347,527	0.05%	0.03
Revenues from Other Sources	102.88	8,861,840	1.28%	1.32	69.36	11,434,995	1.54%	1.07
TOTAL		692,197,701	100.00%	75.2		743,743,135	100.00%	75.0

2

3 **2.1 Revenues from Residential and Business Customers**

4

5 As shown in Table 1, revenues from residential and general service customers represent
 6 98.7% of Hydro Ottawa's 2008 total revenues, and represent 98.4% of Hydro Ottawa's
 7 2009 total revenues. The revenue lag is approximately the same each year at 75 days.

8

9 The revenue lag associated with this category consists of 4 components. They are
 10 summarized in Table 2 and discussed in further detail in the sections that follow.

11

¹ Note that these revenues are from the same source as revenues reflected on the audited financials but would not be the same numbers because no adjustments have been made for end of period accruals or for accounting entries for items such as retail settlement variance accounts. The revenues from residential and general service customers do not include miscellaneous charges that are not available by customer class from Hydro Ottawa's financial system but these would not be material for the purposes of allocation.



1 **Table 2 - Revenue Lag from Residential and General Service Customers**

Revenue Lag Component	Days	
	2008	2009
Service Lag	30.30	30.24
Billing Lag	18.33	18.19
Collections Lag	25.13	25.47
Payment Processing and Bank Float Lag	1.10	1.15
TOTAL	74.86	75.05

2

3 2.1.1 Service Lag

4

5 Service lag is the number of days between when service is provided to a customer and
 6 when the customer's meter is read. Residential and general service < 50kW customers'
 7 meters are read on a bi-monthly basis, and other classes of customers' meters are read
 8 monthly. Based on this information and using the number of customers in each class, a
 9 weighted average service lag of 30.30 and 30.24 is determined for 2008 and 2009
 10 respectively. Table 3 and Table 4 show the details.

11

12 **Table 3 - 2008 Service Lag – Residential and General Service Customers**

Customer Type	Average # of Customers	Frequency of Meter Read	Mid Point of Service Period	Customer Weight	Service Lag
Residential	262,786	Bi-monthly	30.50	90.73%	27.67
General Service < 50 kW	23,306	Bi-monthly	30.50	8.05%	2.45
GS 50 – 1,499 kW	3,295	Monthly	15.25	1.14%	0.17
GS 1,500 – 4,999 kW	83	Monthly	15.25	0.03%	-
Large Users	11	Monthly	15.25	0.00%	-
Street Lighting	8	Monthly	15.25	0.00%	-
Unmetered Scattered Load	140	Monthly	15.25	0.05%	0.01
TOTAL	289,629			100.00%	30.30

13



1 **Table 4 - 2009 Service Lag – Residential and General Service Customers**

Customer Type	Average # of Customers	Frequency of Meter Read	Mid Point of Service Period	Customer Weight	Service Lag
Residential	267,225	Bi-monthly	30.42	90.88%	27.65
General Service < 50 kW	23,312	Bi-monthly	30.42	7.93%	2.41
GS 50 – 1,499 kW	3,279	Monthly	15.21	1.12%	0.17
GS 1,500 – 4,999 kW	67	Monthly	15.21	0.02%	-
Large Users	11	Monthly	15.21	0.00%	-
Street Lighting	8	Monthly	15.21	0.00%	-
Unmetered Scattered Load	143	Monthly	15.21	0.05%	0.01
TOTAL	294,045			100.00%	30.24

2

3 2.1.2 Billing Lag

4

5 Billing lag is the number of days between when a customer's meter is read and the date
6 the customer is billed. This data is available from Hydro Ottawa's customer information
7 system ("CIS") for each customer class. A query was generated from the CIS database
8 to measure the average number of days between meter reads and billing date for all
9 customers by class in 2008 and 2009

10

11 With Hydro Ottawa's CIS, bills are not produced until the spot market price is available
12 (10 business days from month-end), even for those that are on the fixed regulated price
13 plan. The system needs to calculate the difference between what would have been
14 billed at the spot market price and billing at the fixed rate for the purposes of filing claims
15 with the Independent Electricity System Operation ("IESO") each month. The system
16 also needs to calculate the difference between what would have been billed at the spot
17 market price and what is billed based on a retail contract for the purposes of settlement.
18 All of this must happen before the bill is finalized.

19

20 The weighted average billing lag for 2008 is 18.33 days, and for 2009 is 18.19 days.

21 Table 5 and Table 6 show the details.

22

23



1

Table 5 - 2008 Billing Lag

Customer Type	Average # of Customers	Sales	Weight	Number of days between Meter Read & Billing (Regular Read)	Weighted Lag
Residential	262,786	\$232,567,159	34.05%	20.25	6.90
General Service < 50 kW	23,306	73,672,311	10.79%	20.17	2.18
GS 50 – 1,499 kW	3,295	254,342,396	37.24%	17.70	6.59
GS 1,500 – 4,999 kW	83	67,141,264	9.83%	15.08	1.48
Large Users	11	51,413,537	7.53%	14.75	1.11
Street Lighting	8	3,323,742	0.49%	14.83	0.07
Unmetered Scattered Load	140	535,336	0.08%	0.00	0.00
TOTAL	289,629	\$682,995,744	100.00%	14.68	18.33

2

3

Table 6 - 2009 Billing Lag

Customer Type	Average # of Customers	Sales	Weight	Number of days between Meter Read & Billing (Regular Read)	Weighted Lag
Residential	267,225	\$252,848,751	34.54%	20.50	7.08
General Service < 50 kW	23,312	76,979,182	10.52%	20.33	2.14
GS 50 – 1,499 kW	3,279	272,458,917	37.22%	17.20	6.40
GS 1,500 – 4,999 kW	67	72,351,846	9.89%	15.00	1.48
Large Users	11	53,214,458	7.27%	13.83	1.01
Street Lighting	8	3,612,663	0.49%	16.83	0.08
Unmetered Scattered Load	143	494,796	0.07%	0.00	0.00
TOTAL	294,045	\$731,960,612	100.00%	14.81	18.19

4

5 **2.1.3 Collections Lag**

6

7 Collections lag is the number of days between when a customer is billed and when that
 8 payment is received from the customer. The collection lag for residential and general
 9 service customers was derived from an aged accounts receivable report by calculating
 10 the Days Sales Outstanding. The average collection lag for 2008 is 25.13 days and for
 11 2009 is 25.47 days. Table 7 and Table 8 show the details.

12



1 **Table 7 - 2008 Collection Lag – Residential and General Service Customers (\$000)**

Month	1-17 Days	18-30 Days	31-60 Days	61-90 Days	91-120 Days	Over 121 Days	Total	# of Days in Month	Sales ¹	Days Sales Outstanding
Jan	38,801	4,600	3,820	2,145	1,276	2,634	53,276	31	74,019	22.31
Feb	38,997	3,298	5,877	1,456	1,187	2,647	53,462	29	59,093	26.24
Mar	29,672	5,922	4,994	2,420	761	2,003	45,773	31	65,003	21.83
Apr	44,044	4,049	4,637	1,820	1,020	1,592	57,162	30	67,314	25.48
May	35,248	5,040	6,537	2,030	759	1,660	51,275	31	59,095	26.90
Jun	23,038	2,874	5,100	2,860	955	1,583	36,410	30	47,424	23.03
Jul	38,262	3,917	3,684	2,084	1,445	1,608	51,000	31	63,880	24.75
Aug	40,369	4,001	4,526	1,550	943	1,972	53,359	31	57,010	29.01
Sep	33,789	5,756	3,514	1,609	505	1,236	46,409	30	61,260	22.73
Oct	40,804	1,731	4,711	1,203	650	997	50,095	31	54,495	28.50
Nov	33,635	4,512	4,094	1,907	454	982	45,585	30	48,673	28.10
Dec	20,636	10,894	3,748	2,000	899	845	39,022	31	53,430	22.64
TOTAL	417,296	56,594	55,241	23,084	10,854	19,758	582,828	366	710,698	25.13

2

3 **Table 8 - 2009 Collection Lag – Residential and General Service Customers (\$000)**

Month	1-17 Days	18-30 Days	31-60 Days	61-90 Days	91-120 Days	Over 121 Days	Total	# of Days in Month	Sales ¹	Days Sales Outstanding
Jan	44,143	4,980	5,024	1,502	830	984	57,465	31	67,524	26.38
Feb	44,637	3,628	5,480	977	659	1,112	56,493	28	63,933	24.74
Mar	26,991	9,793	4,024	1,983	469	1,089	44,350	31	73,921	18.60
Apr	38,880	2,221	4,519	1,273	728	966	48,587	30	51,230	28.45
May	34,920	5,264	4,306	2,050	677	1,032	48,248	31	52,983	28.23
Jun	24,224	6,141	4,488	1,589	1,089	1,015	38,547	30	56,823	20.35
Jul	33,422	3,299	3,786	1,785	902	1,254	44,449	31	51,386	26.82
Aug	34,636	3,173	3,777	1,549	973	1,345	45,453	31	54,308	25.95
Sep	42,740	5,377	3,243	1,444	652	1,275	54,731	30	67,025	24.50
Oct	42,037	2,387	4,161	1,341	605	1,124	51,655	31	54,345	29.47
Nov	37,811	4,304	4,059	1,464	557	1,026	49,220	30	55,950	26.39
Dec	36,023	3,154	3,802	1,560	612	918	46,068	31	55,516	25.72
TOTAL	440,464	53,720	50,668	18,517	8,753	13,143	539,198	365	704,944	25.47

4

¹ This is from a report of all sales from the CIS in the year and does not include any accruals.



1 2.1.4 Payment Processing and Bank Float

2

3 Payments from customers are in the following forms: Remittance Processor Machine
4 (Drop Box), Telepay & Internet, Auto Pay Bank Debit, Pre-Authorized Chequing, Bank
5 Teller, and Cash. Based on the information provided from Hydro Ottawa's payment
6 processing, it was determined that on a weighted average basis, it took 1.10 days in
7 2008 and 1.15 days in 2009 to clear a customer account.

8

9 **2.2 Revenues from Services to Retailers**

10

11 As a licensed electricity distributor, Hydro Ottawa provides services described under the
12 Retail Settlement Code to electricity retailers. As shown previously in Table 1, revenues
13 from services to retailers represent only 0.05% of Hydro Ottawa's annual revenues. As
14 a result, even though the revenue lag is 58.66 and 55.35 days for 2008 and 2009
15 respectively, the weighted revenue lag from this category is only 0.03 days in both 2008
16 and 2009. Table 9 shows the details for the service lag, billing lag, collections lag and
17 payment processing and bank float lag.

18

19

Table 9 - Revenue Lag from Services to Retailers

Revenue Lag Component	Days	
	2008	2009
Service Lag	14.75	15.08
Billing Lag	0.42	0.58
Collections Lag	42.39	38.53
Payment Processing and Bank Float Lag	1.10	1.15
TOTAL	58.66	55.35

20

21 **2.3 Revenues from Other Sources**

22

23 Revenues from other sources include pole and duct rentals, property rentals and
24 miscellaneous work for others activities. As shown in Table 1, revenues from these
25 sources represent 1.28% of Hydro Ottawa's 2008 revenue, and 1.54% of the 2009
26 revenue. Therefore, while the revenue lag is 102.88 and 69.36 days for 2008 and 2009
27 respectively, the weighted revenue lag for 2008 and 2009 under this category is 1.32



1 days for 2008 and 1.07 days for 2009. A number of services are billed in advance for
2 the year. Table 10 shows the details for the service lag, billing lag, collections lag and
3 payment processing and bank float lag.

4
5

Table 10 - Revenue Lag from Other Sources

Revenue Lag Component	Days	
	2008	2009
Service Lag	38.31	42.39
Billing Lag	(28.47)	(48.61)
Collections Lag	91.94	74.43
Payment Processing and Bank Float Lag	1.10	1.15
TOTAL	102.88	69.36

6
7

8 **3.0 EXPENSE LEAD (LAG)**

9

10 Expense lead refers to the number of days between the date that Hydro Ottawa receives
11 goods and services and the date that the company pays for them. Hydro Ottawa's
12 expenses can be divided into five categories:

13

- 14 • Cost of Power,
- 15 • Operating, Maintenance, and Administration,
- 16 • Interest on Long Term Debts,
- 17 • Payments in Lieu of Taxes, and
- 18 • Debt Retirement Charges.

19

20 Each of the categories above is discussed in detail below.

21

22 **3.1 Cost of Power**

23

24 Cost of power includes invoices from the IESO, Hydro One, and embedded generators.

25 Based on the data collected from the invoices recorded in Hydro Ottawa's accounts



1 payable system, it is determined that the weighted average expense lead for 2008 is
 2 33.96 days and for 2009 is 33.47 days. Table 11 shows the details.

3
 4

Table 11 - Cost of Power Expense Lead¹ (\$000)

Vendor	2008				2009			
	Amount	Expense Lead	Weight Factor	Weighted Lead	Amount	Expense Lead	Weight Factor	Weighted Lead
IESO	\$498,797	32.24	92.62%	29.86	\$547,555	32.65	93.79%	30.62
Hydro One	33,094	62.07	6.14%	3.81	32,239	48.78	5.52%	2.69
Generators ²	6,668	22.99	1.24%	0.28	4,029	22.05	0.69%	0.15
TOTAL	\$538,559		100.00%	33.96	\$583,824		100.00%	33.47

5

6 **3.2 OM&A Expenses**

7

8 OM&A expenses included within this study consist of the following categories:

9

- 10 • Payroll and Benefit Costs,
- 11 • Consulting and Contracts,
- 12 • Property Taxes, and
- 13 • Miscellaneous OM&A Expenses.

14

15 Each type of expense listed above is discussed in detail below and summarized in Table
 16 12 that follows.

17

18 **3.2.1 Payroll and Benefit Costs³**

19

20 All employees of Hydro Ottawa are paid bi-weekly. Payments are deposited into
 21 employees' bank accounts on Thursday for the payroll period ending on Friday of the

¹ Costs in this table are based on invoices in the year without accruals and adjustments normally part of financial statements.

² Note that 90% of the payment for embedded generators is to an affiliate of Hydro Ottawa through an internal transfer and therefore the payment period is shorter.

³ The payroll and benefit costs here are based on T4 statements, which are cash based. This is different from the total compensation expenses in financial statements, which is accrual based.



1 previous week. Payroll withholdings, as well as the employer’s portion of Canadian
 2 Pension Plan and Employment Insurance are remitted to Canada Revenue Agency
 3 within 3 business days after the payday. Employer Health Tax is remitted on the 15th of
 4 each month for the payroll of the previous month. Workers Safety and Insurance Board
 5 remittance is made on the last business day of each month for the payroll of the previous
 6 month. The group pension plan of Hydro Ottawa is administered by Ontario Municipal
 7 Employees Retirement System (“OMERS”). Remittance to OMERS is made on the last
 8 business day of each month for the payroll of previous month. The group insurance plan
 9 is administered by Great West Life (“GWL”), and the remittance is made in advance on
 10 the last business day of each month for the next month. Hydro Ottawa has an Employee
 11 Assistance Program. Payment for this program is made in advance on the last business
 12 day of each month for the next month. Based on the above payment patterns, the
 13 weighted average expense lead calculated for 2008 is 15.44 days and for 2009 is 15.15
 14 days. Tables 12 and 13 below show the details.

15
 16 **Table 12 – 2008 Payroll and Benefit Expense Lead**

Lead (Days)	Payroll and withholdings	Benefits	WSIB	Total
Expense	\$45,090,990	\$2,625,705	\$362,978	\$48,079,673
Service Lead	6.31	14.06	14.04	34.41
Payment Lead	10.75	(30.42)	30.42	10.75
Total Lead	17.06	(16.35)	44.46	45.16
Weighting Factor	93.78%	5.46%	0.75%	100.00%
Weighted Lead	16.00	(0.89)	0.34	15.44

17
 18 **Table 13 – 2009 Payroll and Benefit Expense Lead**

Lead (Days)	Payroll and withholdings	Benefits	WSIB	Total
Expense	\$46,595,073	\$2,989,492	\$377,228	\$49,961,793
Service Lead	6.28	14.04	14.04	34.36
Payment Lead	10.66	(30.42)	30.42	10.66
Total Lead	16.94	(16.38)	44.46	45.02
Weighting Factor	93.26%	5.98%	0.76%	100.00%
Weighted Lead	15.80	(0.98)	0.34	15.15



1 3.2.2 Consulting and Contracts

2
3 Expenses included in this category are on-going contractual expenses Hydro Ottawa
4 has with outside vendors. It includes consulting and contract staff, outside services,
5 rental and lease payments, professional services (legal, audit and consulting),
6 information technology (“IT”) maintenance contracts, telephone lines and airtime, and
7 membership and professional dues, including regulatory assessments. The 2008 and
8 2009 accounts payable data was retrieved from Hydro Ottawa’s financial system JD
9 Edwards (“JDE”). Each vendor has a payment term in JDE, and the vendor is paid
10 based on the term. Based on this information and the analysis on actual accounts
11 payable data, a weighted payment term is derived for each payment. Generally vendors
12 are paid between 15 to 30 days after the goods and services are invoiced. However, as
13 a result of prepaid expenses (e.g. OEB cost assessments, IT maintenance contracts,
14 insurance), the average expense lead for 2008 is 2.84 days and for 2009 is 7.89 days.

15
16 3.2.3 Property Taxes

17
18 Property taxes are prepaid twice every year to the City of Ottawa and the Village of
19 Casselman, once in March and once in June. Based on the actual payments made in
20 2008 and 2009, the average expense lead for 2008 is a credit of 66.14 days and for
21 2009 is a credit of 61.78 days.

22
23 3.2.4 Miscellaneous OM&A Expenses

24
25 All the other expenses not included above are discussed in this category. The method
26 to derive the expense lead for Miscellaneous OM&A expenses is the same as that was
27 used to get the expense lead for Consulting and Contract Expenses. The weighted
28 average expense lead for 2008 is 24.75 days and for 2009 is 24.10 days.

29
30 Based on the above, the overall OM&A expense lead for 2008 is 9.86 days and for 2009
31 is 11.27 days. Table 14 shows the details.



1

Table 14 - OM&A Expense Lead (\$000)

Vendor	2008				2009			
	Expense Lead (Days)	Amount	Weighting Factor	Weighted Lead (Days)	Expense Lead (Days)	Amount	Weighting Factor	Weighted Lead (Days)
Payroll & Benefits	15.44	\$48,080	62.28%	9.62	15.15	\$49,962	61.83%	9.37
Consulting and Contracts	2.84	24,727	32.03%	0.91	7.89	26,896	33.28%	2.63
Property Taxes	(66.14)	1,765	2.29%	(1.51)	(61.78)	1,795	2.22%	(1.37)
Misc. OM&A	24.75	2,625	3.40%	0.84	24.10	2,156	2.67%	0.64
Total		\$77,197	100.00%	9.86		\$80,809	100.00%	11.27

2

3 **3.3 Interest on Long Term Debts**

4

5 Hydro Ottawa has four promissory notes issued by Hydro Ottawa Holding Inc. Table 15
 6 shows the details of the debt. Interest on this long term debt is calculated and paid on a
 7 monthly basis. An intercompany journal entry is posted the week following the month
 8 the interest is due. The posting goes into the intercompany account and is settled as
 9 part of month-end processes by a physical cash transfer. Based on this information, it is
 10 determined that the expense lead on interest on long term debts is 45.63 days (service
 11 lag 15.21 days, payment lag 30.42 days).

12

13

Table 15

Date of Debt Issuance	Principal (\$)	Interest Rate
1-Jul-05	200,000,000	5.140%
1-Jul-05	32,185,000	5.900%
20-Dec-06	50,000,000	5.318%
21-Dec-09	15,000,000	5.850%

14

15 **3.4 Payment in Lieu of Taxes (PILs)**

16

17 Monthly installments on the current year's PILs are made to the Ontario Electricity
 18 Financial Corporation ("OEFC"). Then a true-up payment is made in February of the
 19 following year. The 2008 expense lead on PILs is 16.19 days and the 2009 expense
 20 lead on PILs is 13.09 days. Differences year over year are typically related to the
 21 magnitude of the true-up payment.



1 **3.5 Debt Retirement Charges (“DRC”)**

2

3 DRC is collected by Hydro Ottawa from its customers to pay down the debt of the former
4 Ontario Hydro. The money is then remitted to the OEFC on a monthly basis. Based on
5 the actual amounts and payment dates of the DRC payments, it is determined that the
6 2008 expense lead is 32.78 days and the 2009 expense lead is 33.32 days.

7

8 **3.6 Goods and Services Tax (“GST”)**

9

10 The GST return for Hydro Ottawa is generally remitted on the last day of each month for
11 the previous month. The 2008 and 2009 GST rate is 5%. The following categories are
12 subject to GST:

13

- 14 • Revenues,
- 15 • Cost of Power, and
- 16 • OM&A Expenses.

17

18 3.6.1 Revenues

19

20 Hydro Ottawa is obliged to collect GST from its customers, and then remit the GST
21 amount collected to Canada Revenue Agency on the last day of each month. As
22 discussed in Section 2.0, Hydro Ottawa has three types of revenues. Table 16 and
23 Table 17 show the GST expense lead from each type of revenues. This represents the
24 average difference between the collection date and the GST remittance date.

25



1 **Table 16 - 2008 GST Expense Lead – Revenues**

Revenue	2008 Revenue	5% GST	Lead (Lag) Days	Weight Factor	Weighted Lead (Lag) Days
Revenue from residential and general service customers	\$682,995,744	\$34,149,787	16.77	98.67%	16.55
Revenues from Retailers	340,117	17,006	(9.80)	0.05%	(0.00)
Revenues from Other Sources	8,861,840	443,092	(49.67)	1.28%	(0.64)
TOTAL	\$692,197,701	\$34,609,885		100.00%	15.91

2

3 **Table 17 - 2009 GST Expense Lead – Revenues**

Revenue	2009 Revenue	5% GST	Lead (Lag) Days	Weight Factor	Weighted Lead (Lag) Days
Revenue from residential and general service customers	\$731,960,612	\$36,598,031	16.53	98.42%	16.26
Revenues from Retailers	347,527	17,376	3.22	0.05%	0.00
Revenues from Other Sources	11,434,995	571,750	(20.34)	1.54%	(0.31)
TOTAL	\$743,743,134	\$37,187,157		100.00%	15.95

4

5 **3.6.2 Cost of Power**

6

7 Hydro Ottawa pays GST on power purchased from IESO, Hydro One and embedded
 8 generators. Hydro Ottawa can then claim and get this GST returned. The GST expense
 9 lead is calculated by using the GST return date of Hydro Ottawa, which is the last day of
 10 each month, minus the payment date of the power bills. Since the GST is paid upfront
 11 and then returned, this results in negative GST lead days. Tables 18 and 19 below
 12 show that the GST expense lead on Cost of Power is a negative lead of 41.34 days for
 13 2008, and is a negative lead of 41.74 days for 2009.

14



1 **Table 18 – 2008 GST Expense Lead – Cost of Power**

Vendor	2008				
	Expense	GST Amount	GST Lead (Lag)	Weight Factor	Weighted Lead
IESO	498,797,453	24,918,723	(43.42)	92.48%	(40.15)
Hydro One	33,094,118	1,694,211	(14.06)	6.29%	(0.88)
Generators	6,667,768	333,388	(24.54)	1.24%	(0.30)
TOTAL	538,559,340	26,946,322		100.00%	(41.34)

2
 3 **Table 19 – 2009 GST Expense Lead – Cost of Power**

Vendor	2009				
	Expense	GST Amount	Expense Lead	Weight Factor	Weighted Lead
IESO	547,555,259	27,377,777	(42.92)	93.79%	(40.25)
Hydro One	32,239,309	1,611,273	(23.75)	5.52%	(1.31)
Generators	4,028,998	201,450	(25.58)	0.69%	(0.18)
TOTAL	583,823,566	29,190,500		100.00%	(41.74)

4
 5 **3.6.3 OM&A Expenses**

6
 7 GST is generally charged on general and administration expenses, as well as
 8 miscellaneous OM&A expenses. The weighted average GST expense lead on OM&A
 9 expenses for 2008 is negative 25.55 days, and for 2009 is negative 21.32 days.

10
 11 Combining the three categories of GST expenses, Hydro Ottawa's 2008 and 2009 GST
 12 cost is approximately \$1.7 million and \$1.8 million respectively. Table 20 and Table 21
 13 show the details.

14
 15 **Table 20 - 2008 GST Expense Lead**

GST Category	2008 Expenses	5% GST	Net Lead (Lag) Days	GST Cost (Benefit)
	A	B = A*5%	C	D = B*C/365
Revenue	(692,894,000)	(34,644,700)	15.91	(1,510,091)
Cost of Power	544,192,000	27,209,600	(41.34)	3,081,580
OM&A	27,352,327	1,367,616	(25.55)	95,717
TOTAL	(121,349,673)	(6,067,484)	(50.97)	1,667,207



1 **Table 21 - 2009 GST Expense Lead**

GST Category	2009 Expenses	5% GST	Net Lead (Lag) Days	GST Cost (Benefit)
	A	B = A*5%	C	D = B*C/365
Revenue	(745,535,000)	(37,276,750)	15.95	(1,629,313)
Cost of Power	587,958,000	29,397,900	(41.74)	3,361,757
OM&A	29,051,605	1,452,580	(21.32)	84,851
TOTAL	(128,525,395)	(6,426,270)	(47.11)	1,817,295

2

3

4 **4.0 WORKING CAPITAL REQUIREMENTS**

5

6 Based on the revenue lag and expense lead information above, the 2008 working capital
 7 requirement is approximately \$82 million, or about 13.7% of Hydro Ottawa's total OM&A
 8 expenses plus cost of power. The 2009 working capital requirement is approximately
 9 \$88 million, or 13.6% of the total OM&A expenses plus cost of power. The average
 10 working capital requirement between 2008 and 2009 is approximately 13.7% of Hydro
 11 Ottawa's total OM&A expenses plus cost of power. Table 22 and Table 23 show the
 12 details.

13

14

Table 22 – 2008 Working Capital Requirement

Expense Item Description	Revenue Lag (Days)	Expense Lead (Days)	Net Lag (Lead) Days	Working Capital Factor	Expenses from Financial Statements	Working Capital Requirement
	A	B	C = A-B	D = F/E	E	F = E*C/365
Cost of Power	75.21	33.96	41.24	11.30%	544,192,000	61,490,911
OM&A Expenses	75.21	9.86	65.35	17.90%	53,370,868	9,555,547
Interest on Long Term Debts	75.21	45.63	29.58	8.10%	14,050,000	1,138,660
PILs	75.21	16.19	59.02	16.17%	13,384,000	2,164,023
Debt Retirement Charges	75.21	32.78	42.43	11.62%	52,713,714	6,127,203
Sub-Total					677,710,582	80,476,343
GST					6,067,484	1,667,207
TOTAL (Including GST)					683,778,065	82,143,550
Working Capital as a % of OM&A plus Cost of Power						13.7%



1 **Table 23 – 2009 Working Capital Requirement**

Expense Item Description	Revenue Lag (Days)	Expense Lead (Days)	Net Lag (Lead) Days	Working Capital Factor	Expenses from Financial Statements	Working Capital Requirement
	A	B	C = A-B	D = F/E	E	F = E*C/365
Cost of Power	74.95	33.47	41.49	11.37%	587,958,000	66,827,694
OM&A Expenses	74.95	11.27	63.69	17.45%	53,828,665	9,392,128
Interest on Long Term Debts	74.95	45.63	29.33	8.03%	14,642,000	1,176,447
PILs	74.95	13.09	61.86	16.95%	13,920,000	2,359,223
Debt Retirement Charges	74.95	33.32	41.63	11.41%	52,464,792	5,984,213
SUBTOTAL					722,813,456	85,739,704
GST					6,426,270	1,817,295
TOTAL (Including GST)					729,239,726	87,556,999
Working Capital as a % of OM&A plus Cost of Power						13.6%

2

3

4 **5.0 MATERIAL CHANGES FOR 2011**

5

6 **5.1 Harmonized Sales Tax (“HST”)**

7

8 HST is being implemented in 2010 and therefore is not reflected in the numbers for 2008
 9 and 2009 above. For Table 24 and 25 below, the WCA for 2008 and 2009 is
 10 recalculated based on a 13% HST.

11



1 **Table 24 – 2008 Working Capital Requirement Adjusted for HST**

Expense Item Description	Revenue Lag (Days)	Expense Lead (Days)	Net Lag (Lead) Days	Working Capital Factor	Expenses from Financial Statements	Working Capital Requirement
	A	B	C = A-B	D = F/E	E	F = E*C/365
Cost of Power	75.21	33.96	41.24	11.30%	\$544,192,000	\$61,490,911
OM&A Expenses	75.21	9.86	65.35	17.90%	53,370,868	9,555,547
Interest on Long Term Debts	75.21	45.63	29.58	8.10%	14,050,000	1,138,660
PILs	75.21	16.19	59.02	16.17%	13,384,000	2,164,023
Debt Retirement Charges	75.21	32.78	42.43	11.62%	52,713,714	6,127,203
Sub-Total					677,710,582	80,476,343
HST					15,775,458	4,334,738
TOTAL (Including HST)					\$693,486,039	\$84,811,080
Working Capital as a % of OM&A plus Cost of Power						14.2%

2

3 **Table 25 – 2009 Working Capital Requirement Adjusted for HST**

Expense Item Description	Revenue Lag (Days)	Expense Lead (Days)	Net Lag (Lead) Days	Working Capital Factor	Expenses from Financial Statements	Working Capital Requirement
	A	B	C = A-B	D = F/E	E	F = E*C/365
Cost of Power	74.95	33.47	41.49	11.37%	\$587,958,000	\$66,827,694
OM&A Expenses	74.95	11.27	63.69	17.45%	53,828,665	9,392,128
Interest on Long Term Debts	74.95	45.63	29.33	8.03%	14,642,000	1,176,447
PILs	74.95	13.09	61.86	16.95%	13,920,000	2,359,223
Debt Retirement Charges	74.95	33.32	41.63	11.41%	52,464,792	5,984,213
Sub-Total					722,813,456	85,739,704
HST					16,708,301	4,724,967
TOTAL (Including HST)					\$739,521,758	\$90,464,671
Working Capital as a % of OM&A plus Cost of Power						14.1%

4



1 **6.0 OTHER CONSIDERATIONS**

2

3 **6.1 Time of Use (“TOU”) Rates**

4

5 No impacts have been considered for the implementation of TOU rates.

6

7 **6.2 Monthly Billing**

8

9 Hydro Ottawa has considered making a change to monthly billing. This would provide a
10 common billing frequency for all customers. The shorter timeframe between bills would
11 reduce the size of bills to help customers better manage payments. This would also
12 provide a more direct line of sight between consumption and billing to help customers
13 understand and manage their usage. Hydro Ottawa is not planning to implement any
14 change to monthly billing until after the roll out of TOU is complete, and any change
15 would coordinate with the upgrade of Hydro Ottawa’s CIS, planned for after the 2011
16 Test Year. No costs for monthly billing have been included in the 2011 forecast and
17 therefore no associate adjustment has been made to the WCA.

18

19

20 **7.0 CONCLUSIONS**

21

22 For the purposes of this rate application, Hydro Ottawa is proposing to use an average
23 of the WCA from 2008 and 2009, adjusted for the HST. Table 26 shows the details.

24

25

Table 26 – Working Capital Allowance for Test Year

	2008	2009	Average
Working Capital as a percent of Cost of Power and OM&A	14.2%	14.1%	14.1%

26

27 In Exhibit B3-1-1, this WCA of 14.1% is applied to the forecast OM&A and cost of power
28 for 2011 to determine the working capital requirement included in the 2011 rate base.



DISTRIBUTION CAPITAL EXPENDITURE,
2005-2009 Actual

1.0 INTRODUCTION

This Exhibit provides a summary of total capital expenditures, distribution and general plant, for the period from 2005 through 2009. Discussions on yearly variances of distribution capital expenditures are included in the following sections of this Exhibit and variances for general plant capital expenditures are discussed in Exhibit B4-1-2.

Table 1 provides details of the total capital expenditures for the period from 2005 through 2009 in the groupings provided in the Ontario Energy Board 2006 Electricity Distribution Rate Model.

Table 1 – Total Capital Expenditures, 2005 through 2009

Board Groupings	2005 \$000	2006 \$000	2007 \$000	2008 \$000	2009 \$000
Land & Buildings	\$17	\$1,994	\$3,264	\$2,340	\$5,726
TS Primary Above 50 kV	1,019	4,669	9,357	8,836	10,071
DS	2,648	2,370	3,576	7,403	6,444
Poles and Wires	28,191	31,276	32,311	24,414	25,405
Transformers	6,976	11,303	11,303	7,479	8,431
Services and Meters	11,742	24,901	20,986	23,788	16,100
General Plant	11,476	2,708	2,031	1,673	1,366
Equipment	3,243	5,366	4,339	3,015	2,243
IT Assets	7,611	8,391	9,390	4,382	4,827
Other Distribution Assets	481	2,359	510	1,041	979
Gross TOTAL	\$73,404	\$95,337	\$97,067	\$84,370	\$81,592
Contributed Capital	(\$16,281)	(\$20,029)	(\$25,320)	(\$21,237)	(\$20,911)
Net TOTAL	\$57,123	\$75,308	\$71,747	\$63,133	\$60,681



1 **1.1 Total Expenditures Overview**

2
3 Capital expenditures increased substantially in 2006 due the initiation of three significant
4 initiatives; the Smart Meter program (Exhibit I2-1-1), Hydro Ottawa Limited's ("Hydro
5 Ottawa") *2005 Asset Management Plan* ("AMP") and the replacement of distribution
6 transformers to address pending legislative requirements. Expenditures in General Plant
7 decreased in 2006 with the completion of facilities renovations and construction of a new
8 control room.

9
10 Completion of the Geographic Information System project in 2007 decreased
11 expenditures for IT Assets in 2008.

12
13 Load growth within geographic pockets of service area resulted in the requirement for
14 increased expenditures, year over year, in Stations New Capacity (TS > 50 kV and DS).
15 Increases in Stations New Capacity in 2009 were offset by decreased spending in the
16 Smart Meter Program of approximately \$6M.

17
18 In 2008 Hydro Ottawa revised its Capitalization Policy. The level of capitalized overhead
19 for 2008, and subsequent years, is lower than it would have been under the prior
20 accounting estimates. The total impact for all capital expenditures (distribution and
21 general plant) in 2008 was a decrease of approximately \$5.9M, with a corresponding
22 increase in the Operations, Maintenance and Administration costs.

23
24 **1.2 Variance Explanations**

25
26 Hydro Ottawa plans and budgets work by program and project therefore the variances
27 between years will be explained in terms of these programs/projects. The following
28 tables list the distribution plant capital expenditures for the period 2005 through 2009.
29 Distribution programs that have a yearly variance that exceeds the materiality limit of
30 \$750k are discussed in detail in the following sections. Capital expenditures and
31 contributed capital are shown separately in the following tables.



1 **2.0 SUSTAINMENT – CAPITAL PROGRAMS**

2

3 **Table 2 – Total Distribution Capital Expenditures, Sustainment by Capital Program**

Section	Capital Program	2005 \$000	2006 \$000	2007 \$000	2008 \$000	2009 \$000
2.2	Distribution Asset	\$12,808	\$17,773	\$13,559	\$9,951	\$12,184
2.3	Distribution Enhancement	8,414	7,988	11,936	5,142	4,079
2.4	Facility Programs - Stations	368	1,984	2,857	2,345	693
2.5	Stations Asset	811	2,394	6,745	7,750	5,909
2.6	Stations Capacity	26	1,637	3,910	7,305	13,592
2.7	Stations Enhancement	2,751	2,519	1,646	1,140	1,818
2.8	System Ops. Automation	218	1,336	800	890	476
2.9	Miscellaneous ¹	(579)	(934)	(376)	263	(376)
	TOTAL	\$24,817	\$34,697	\$41,077	\$34,786	\$38,375

4

5 **2.1 General Observation**

6

7 Sustainment expenditures have increased over the 5-year period shown in Table 2.

8 During this period Hydro Ottawa has:

9

- 10
- 11 • Connected approximately 20,000 additional customers,
 - 12 • Had capacity constraints in certain geographic sections of the service area,
 - 13 • Experienced aging of distribution equipment due to ongoing operation of the system, salt and dirt contamination, fluctuating temperatures, and the like, and
 - 14 • Replaced distribution transformers at an accelerated rate to meet requirements of Environment Canada Polychlorinated Biphenyl (“PCB”) Regulations.
- 15

16

17 In 2005 Hydro Ottawa completed the first formal draft of its Asset Management Plan.
18 The 2005 AMP recommended increasing equipment replacement levels, and
19 consequently increasing expenditures, to address the aging infrastructure within Hydro
20 Ottawa’s distribution system. In response, Hydro Ottawa increased expenditures in

¹ Negative expenditures related to burden trueup.



1 asset capital programs. Individual asset programs have been monitored and re-
2 evaluated to determine if the assumptions and methodologies in the 2005 AMP resulted
3 in the ideal level of replacement.

4
5 During this period Hydro Ottawa also increased expenditures to construct New Stations
6 Capacity. Load growth in geographic pockets within the service area resulted in the
7 requirements for this new capacity supply.

9 **2.2 Distribution Assets**

10
11 Expenditures for Distribution Asset replacement programs were driven by the asset
12 management methodology outlined in the 2005 AMP. The asset management
13 methodology evaluates cost and consequences of failure, which is driven by asset
14 condition. Asset condition is influenced greatly by asset age. Hydro Ottawa's aging
15 infrastructure is therefore the underlying activity driver in this area.

16
17 Changes in yearly expenditures are due to the evolution of the asset management
18 philosophy, through the "plan-do-check" methodology and the timing/scheduling of large
19 projects. Program replacement levels have been evaluated based upon actual failure
20 rates, versus the predicted failure rates in the 2005 AMP.

21
22 Distribution transformer replacement to meet the requirements of pending Environment
23 Canada PCB regulations, now published as SOR 2008-273, impacted the levels of
24 distribution transformer replacement.

25
26 The following sections explain material variances of the distribution asset budget
27 programs.

28



1 **2.3 Distribution Enhancements,**

2
3 The increase in expenditures in 2007, and subsequent decrease in 2008 was due to the
4 Sunnyside Voltage Conversion project. The Voltage Conversion project allowed for the
5 retirement of the Sunnyside Substation, a 13 kV to 4 kV substation, eliminating the costs
6 of substation replacement. Conversion of the local distribution to 13 kV also renewed
7 distribution infrastructure in the area (section 3.8).

8
9 Yearly decreases were also due to decreases in expenditures in distribution minor
10 enhancements.

11
12 **2.4 Facilities Programs – Stations**

13
14 Facilities Programs – Stations contains stations property and building capital
15 improvements as well as new construction due to Stations Capacity projects. The cost
16 driver for the increased expenditures from 2006 through 2008 was the construction of
17 the facilities portion of the Cyrville Substation, which included land purchase, building
18 construction and property management. During 2005 through 2008 the expenditures in
19 Facilities Programs Stations and Stations New Capacity were coordinated as part of the
20 overall Stations Capacity project.

21
22 In 2009 Hydro Ottawa rearranged the internal responsibilities for facilities construction
23 related to new substations from Facilities Programs – Stations to Stations Capacity to
24 streamline project management by combining the facilities and stations work in the same
25 program. The accounting treatment for land purchases, site work and building
26 construction has not changed, but is now categorized under a different capital program.
27 The removal of the Stations Capacity related portion of this program is the cause for the
28 decreased expenditures in 2009.



1 **2.5 Stations Asset**

2

3 Stations Asset replacement has increased over the five-year period with the
4 implementation of the 2005 AMP. Stations Asset replacement expenditures largely
5 consist of transformer, switchgear and relay replacements. These projects do require
6 preconstruction engineering, design and equipment procurement, which resulted in
7 increases year over year until the initial projects were well underway.

8

9 The major driver for this program is equipment age. The age of approximately half of
10 stations transformers and stations switchgear is 40 years or more. Individual project
11 equipment expenditures are impacted by market prices for raw materials used in the
12 equipment construction, including copper and steel.

13

14 Yearly expenditure variances are expected, and planned for, in this category due to
15 discrete nature of the large projects and timing of expenses.

16

17 **2.6 Stations Capacity**

18

19 Stations Capacity expenditures have increased year over year during the 5-year period,
20 a trend which is not planned to continue indefinitely, but are forecasted to level out within
21 the next 5 years. Stations Capacity expenditures are typically for the construction of new
22 substations, which are relatively large, multi-year projects.

23

24 Hydro Ottawa constructed a new substation in 2003 which provided immediate load
25 growth needs in high growth area, the high tech sector of Kanata. After the completion
26 of this project there were no areas within the service area identified requiring material
27 substation capacity expenditures for the next three years.

28

29 Expenditures increased in 2006 due to the start of construction of the Cyrville Substation
30 to service capacity requirements in the east portion of service area. The project was



1 completed in 2009 as planned. Full details of this project were part of Hydro Ottawa's
2 2008 Electricity Distribution Rate ("EDR") Application.

3
4 Increased expenditures in 2008 were due to the start of the Ellwood Station construction
5 project to provide capacity requirements in the south-east Ottawa 13 kV system. The
6 project is planned to be energized by the end of 2010. In the 2008 EDR Application this
7 project was identified as the Albion Substation and a full business case was provided.

8
9 Expenditures increased in 2009 with the purchase of Fallowfield and Richmond South
10 substations from Hydro One Networks Inc. ("Hydro One"), as well as the start of multi-
11 year construction of the new Terry Fox substation. These projects will address capacity
12 requirements in south Nepean and south Kanata. Increases in 2009 are also due to a
13 rearrangement of internal responsibilities and project organization; the costs for land,
14 buildings and associated facilities items are now included in this capital program, rather
15 than in Facilities Programs – Stations. A corresponding decrease in the expenditures of
16 Facilities Programs – Stations occurred in 2009.

17
18 Drivers for the Stations Capacity program include the load growth within specific
19 geographic locations relative to available capacity. Individual project equipment
20 expenditures are impacted by market prices for raw materials used in the equipment
21 construction, including copper and steel.

22
23 Yearly variations in expenditures are expected and planned for due to the large, discrete
24 nature of the projects. Uncontrollable delays in environmental assessment approvals,
25 land purchases and equipment delivery can impact overall construction schedules and
26 timing of expenditures.

27 28 **2.7 Stations Enhancements**

29
30 The reclose blocking program accounted for the majority of the Stations Enhancements
31 expenditures from 2005 through 2007. The program started in 2005 with planning and



1 design work. Construction occurred from 2006 through 2009, with declining levels of
2 expenditures from 2008 forward. The program, which will be completed in 2010, will
3 lead to operating efficiencies by allowing remote control of substation breaker reclose
4 blocking.

5
6 In 2008, a substation transformer cooling fan installation program was started targeting
7 13 kV to 4 kV transformers in the old Ottawa area. These transformers have an air
8 cooled kVA rating and a higher fan cooled kVA rating, but were initially purchased and
9 installed without fans. Many of these stations are at, or predicted to soon be at, their air
10 cooled rating due to local load growth. The installation of fans on the transformers
11 allows the units to be run at their higher fan cooled rating, increasing the kVA rating of
12 the units and resolving pending capacity issues. The ramping up of this project is
13 responsible for the increase in expenditures in 2009.

14 15 **2.8 Systems Operations Automation**

16
17 The increase in System Operations Automation expenditures in 2006 was due to the
18 initiation of a project to migrate three SCADA systems to one platform. Work initiated in
19 2006 started with a master system upgrade to the Microsoft Windows platform. The
20 2006 activities also included updating remote hardware as required to integrate with the
21 new platform. This project was substantially completed in 2007.

22
23 Activities in 2008 through 2009 focused on including additional devices into the SCADA
24 system, expanding the communications system and software licensing/updates.

25
26 The major drivers for this program included:

- 27
- 28 • Age of the infrastructure surpassed end-of-life,
 - 29 • Technical obsolescence of the equipment, and
 - 30 • Advances in technology could improve real-time and trending information
31 available to staff, resulting in internal efficiencies and expanded capabilities.



1 **2.9 Miscellaneous**

2

3 Budget programs with yearly expenditure variances below the materiality threshold have
 4 been shown combined as a miscellaneous item. In the period 2005 through 2009 the
 5 capital programs include Stations Automation, Distribution Automation and year end
 6 burden adjustments.

7

8

9 **3.0 SUSTAINMENT – BUDGET PROGRAMS**

10

11 Table 3 lists individual budget programs that exceed the materiality limit of \$750k. Due
 12 to the reduced scope of this list, the total does not match what is in Table 2.

13

14 **Table 3 - Distribution Capital Expenditures, Sustainment by Budget Program**

Section	Budget Program	2005 \$000	2006 \$000	2007 \$000	2008 \$000	2009 \$000
3.1	Cable Replacement EOL	\$1,991	\$2,770	\$3,854	\$2,332	\$3,110
3.2	Distribution Transformer Replacement	624	2,750	2,338	1,110	2,655
3.3	Distribution Minor Enhancements	6,391	4,257	4,316	2,246	882
3.4	Insulator Replacement Program	556	1,230	499	916	340
3.5	Line Extensions	1,581	1,531	1,654	1,093	1,154
3.6	Pole Replacement	3,411	5,828	3,413	1,643	2,702
3.7	Plant Failure Capital	4,886	3,757	2,467	2,961	2,743
3.8	System Voltage Conversion	0	405	3,949	194	507
3.9	Stations Relay Replacement	16	123	1,325	443	9
3.9	Stations Switchgear Replacement	130	1,196	4,509	6,007	2,809
3.10	Stations Transformer Replacement	0	562	456	374	1,824
3.11	System Reliability	0	1,021	737	338	7



1 **3.1 Cable Replacement**

2

3 Cable Replacement expenditures have increased over the five-year period. The major
4 drivers for this program are equipment demographics, equipment condition and the 2005
5 AMP. Individual projects have been identified through failure rates and outage analysis.

6

7 Cable Replacement projects often occur within or adjacent to residential
8 neighbourhoods. The projects are very disruptive to local residents as residential
9 distribution cables are typically direct buried and replacement requires excavation or
10 directional boring. The disruptive impact is exasperated if the distribution equipment is
11 located within rear lots. When an area is identified as requiring cable replacement,
12 Hydro Ottawa schedules the project over as short a duration as practical to limit the
13 disruptive impact to area residents. The “blitz” type construction of these projects results
14 in yearly expenditure fluctuations.

15

16 **3.2 Distribution Transformer Replacement Program**

17

18 In 2008, new federal regulations came into effect which had been in draft form for many
19 years. These regulations established end of use dates for all PCB from 2009 to 2025,
20 depending upon the concentration of PCBs. A comprehensive assessment of the
21 regulation and its impact was performed in 2007 and 2008. As a result, Hydro Ottawa
22 updated asset management plans to accommodate the regulatory requirements and is
23 actively eliminating PCBs from the electrical distribution system.

24

25 Increased Distribution Transformer replacement expenditures in 2006 were due to
26 initiating a program to replace transformers that would be covered by the pending
27 federal regulations. It was determined in advance that waiting for the final draft of the
28 regulations to start replacing distribution transformers would result in large volumes of
29 work and expenditures within a short time frame, in order to meet the regulation
30 deadlines.

31



1 Expenditures in years subsequent to 2006 were to replace the identified transformers
2 through a priority based plan.

3
4 Effective December 31, 2009, Hydro Ottawa recorded an Asset Retirement Obligation
5 (“ARO”) of \$1.2M. The ARO was calculated using an estimated undiscounted cash flow
6 over four years totalling \$1.3M and a discount rate of 5.3%. The associated asset
7 retirement costs are capitalized as part of the carrying amount of the long-lived asset
8 and then amortized over its estimated useful life. In subsequent periods, the ARO is
9 adjusted for the passage of time and any changes in the amount or timing of the
10 underlying future cash flows are reflected through charges to earnings. A gain or loss
11 may be incurred upon settlement of the liability. The December 31, 2009 financial
12 statements, which includes Management’s estimate of the ARO have been audited by
13 Ernst & Young.

14
15 An ARO was not previously recorded as it could not be reasonably estimated as
16 uncertainty existed around the identification, final removal dates and costs of removal of
17 the related assets.

19 **3.3 Distribution Minor Enhancements**

20
21 Distribution Minor Enhancement expenditures in 2005 included items of general system
22 enhancements to improve reliability in areas with identified poor reliability. In 2006 to re-
23 organize project management, approximately \$1M of budget was reallocated to the
24 System Reliability budget program. A corresponding budget increase is evident in the
25 System Reliability budget program.

26
27 In 2008 and 2009 Hydro Ottawa phased out the allocated budget for construction
28 supervisor discretionary work. Prior to 2009 area construction and operations managers
29 performed capital enhancement works they identified in their geographic areas. Starting
30 in 2009, this budget item was eliminated, and in its place, construction and operations
31 employees are encouraged to document identified enhancement items to be considered



1 and prioritized within the asset management process. The spending from this budget
2 program has therefore shifted to the other programs.

3 4 **3.4 Insulator Replacement**

5
6 Overhead insulators are devices that support electric wires and prevent an undesired
7 flow of electricity. They are usually manufactured from glass, porcelain or polymeric
8 material and provide electrical insulation and mechanical support on overhead lines.
9 Certain horizontal post insulators manufactured from porcelain have developed cracks
10 and are a breakage hazard. The failure of these insulators could cause overhead
11 medium voltage conductors to come into contact with each other resulting in damage to
12 equipment and a subsequent outage. Further, they pose a safety risk to staff working on
13 the pole.

14
15 In 2005, Hydro Ottawa had approximately 7,000 porcelain horizontal post insulators.
16 Hydro Ottawa has identified the circuits containing suspect insulators that are deemed a
17 critical hazard and outlined the requirements for work on poles containing these
18 insulators. The work procedure stated suspect insulators were to be replaced prior to
19 any work within three-meter proximity of any circuit employing the device. The practice
20 was to change all insulators on the pole the crew was working on (3 to 9 insulators) as
21 well as the insulators on the poles directly adjacent to the work area. Hydro Ottawa
22 selected a polymeric insulator for new installations and for replacement of old units.

23
24 The Insulator Replacement program was introduced to deal with the replacement of
25 insulators on affected circuits. Circuits were selected based on their inherent risk and
26 associated history.

27
28 With the introduction of phase catchers into standard work methods in 2006, the urgent
29 health and safety concern was suitably managed. Phase catchers are a tool that
30 “catches” a fallen conductor if an insulator fails mechanically, allowing staff to safety
31 work in proximity to hazardous insulators. Insulator replacement continued in 2007 and



1 later as a less intensive planned program to target areas where insulator failure was
2 resulting in reliability impacts.

3

4 The program expenditures increased in 2008 in response to reliability impacts insulator
5 failures were having on two circuits in the east end of the service area. A targeted
6 project was initiated for replacement of insulators along the two circuits.

7

8 **3.5 Line extensions**

9

10 Expenditures for Line Extensions have remained fairly constant over the five-year period.
11 Continued residential and commercial construction, and system growth has maintained
12 requirements for this type of system reinforcement.

13

14 **3.6 Pole Replacement**

15

16 Pole Replacement expenditures were increased due to the recommendations in the
17 2005 AMP. Continual evaluation of this program has resulted in expenditures
18 decreasing in 2006, as the volume and impact of pole failures predicted had not been
19 realized. Also, the replacement of poles in 2007 as part of the Sunnyside voltage
20 conversion project allowed for a reduction in pole changes in 2008.

21

22 The 2010 Asset Management Plan has redeveloped the plan going forward for this
23 program.

24

25 **3.7 Plant Failure Capital**

26

27 Plant Failure Capital expenditures show a reduced spending trend over the five-year
28 period. There are many drivers to this program including asset age and the cost of
29 replacement parts. Reasons for the decreasing trend include:

30



- 1 • Increased asset replacement during the same period in response to
- 2 recommendations of 2005 AMP,
- 3 • Planned replacement of distribution transformers due to results of the survey,
- 4 and
- 5 • Higher scrutiny and management of plant failure activities.

6

7 The 2005 AMP recommends replacement of some equipment upon failure, rather than in
8 a condition based planned fashion.

9

10 Ideally, all equipment would be replaced immediately prior to failure, eliminating the
11 requirement for this program. The reasonableness of the expenditures required to
12 achieve a zero failure result has not been proven, and it is improbable that equipment
13 failures could be completely eliminated, regardless of the level of expenditures.

14

15 **3.8 System Voltage Conversion**

16

17 System Voltage Conversion projects typically involve the resupply of an area at a higher
18 voltage due to the retirement of a substation or other opportunities. This has the
19 additional benefit of reducing distribution losses.

20

21 In 2006 a project was started for the conversion of an area of Ottawa around Sunnyside
22 Avenue, originally supplied by the 13 kV to 4 kV Sunnyside substation. The project
23 involved converting distribution in the area from 4 kV to 13 kV to allow for the retirement
24 of the Sunnyside substation. Expenditures in 2006, 2007 and 2008 were due to the
25 conversion project which included pole, insulator, cable and transformer replacements.

26

27 The cost driver for the Sunnyside project was the substation equipment demographics.
28 Hydro Ottawa analyzed the cost of Voltage Conversion versus replacement of substation
29 equipment as one of the factors in determining the option to be selected.

30



1 The expenditures in 2009 were due to Hydro One's retirement of the Wonderland
2 Substation. An 8 kV circuit out of the Wonderland station was owned by Hydro One in
3 their service area, and Hydro Ottawa in its service area. Hydro One was retiring the
4 Wonderland substation, and was able to provide Hydro Ottawa's portion of the circuit
5 with new 27 kV supply out of the Beckwith Substation. Hydro Ottawa refitted the 8 kV
6 line to operate at 27 kV.

7

8 **3.9 Stations Switchgear Replacement and Stations Relay Replacement**

9

10 As stations relays are typically installed within stations switchgear, these programs tend
11 to coincide. The 2005 AMP identified stations switchgear requiring replacement, based
12 on a priority basis. Stations Switchgear Replacement projects tend to be relatively large,
13 discrete projects, resulting in yearly fluctuations in program expenditures.

14

15 Stations Switchgear Replacement program was initiated in 2006 due to the
16 recommendations in the 2005 AMP. Expenditures in 2006 included the Bayswater,
17 Blackburn and Epworth switchgear replacement projects.

18

19 Expenditures in 2007 included the Bayswater, Epworth, Blackburn, and the beginning of
20 Marchwood and Bridlewood switchgear replacement projects.

21

22 Expenditures increased in 2008 with the beginning of the Beechwood project, and
23 continuation of the Bayswater, Marchwood and Bridlewood projects which were
24 substantially completed.

25

26 Expenditures decreased in 2009 with the completion of the Bayswater, Marchwood and
27 Bridlewood projects. Expenditures in 2009 were for the continuation of the Beechwood
28 project and initiation of the Eastview project.

29



1 **3.10 Stations Transformer Replacement**

2

3 Expenditures for Stations Transformer Replacement increased over the five-year period.
4 The 2005 AMP identified stations transformers requiring replacement, based on a priority
5 basis. Hydro Ottawa began replacing aged transformers in poor condition in 2006.
6 Stations Transformer Replacement projects tend to be relatively large, discrete projects,
7 resulting in yearly fluctuations in program expenditures.

8

9 Expenditures in 2006 and 2007 were for the Epworth transformer replacement project.

10

11 In 2008 the expenditures were for one project, the Blackburn T2 transformer
12 replacement.

13

14 Expenditure increases in 2009 were due to planned work on two projects; the Blackburn
15 T2 transformer replacement and the Bronson transformer replacement projects.

16 Expenditures for the procurement of a replacement transformer for the Beaconhill
17 substation as part of the post fire temporary reconstruction also occurred in 2009.

18

19 The main driver for this program is the asset age. Station transformer oil is regularly
20 tested for condition assessment.

21

22 **3.11 System Reliability**

23

24 Projects in the system reliability budget program were developed to target reliability
25 improvements to a geographic pocket within the service area. A targeted program was
26 launched between 2006 and 2008 to address significant reliability issues that were
27 occurring in the west end of the City. Expenditures decreased upon completion of these
28 one-time projects.

29

30



1 **4.0 DEMAND**

2

3 **Table 4 - Distribution Capital Expenditures, Demand by Capital & Budget Program**

Section	Capital Program	Budget Program	2005 \$000	2006 \$000	2007 \$000	2008 \$000	2009 \$000
4.2	Commercial	New Commercial Development	\$5,491	\$7,504	\$7,832	\$7,078	\$7,791
4.3	Damage to Plant	Damage to Plant	1,004	1,120	742	822	941
4.4	Infill & Upgrade	Infill Service	3,849	4,288	3,275	2,768	2,852
4.5	Metering	Smart Meters	0	16,600	12,110	14,542	8,132
4.6	Metering	Wholesale Meter Upgrade	1,685	1,258	1,098	686	(34)
4.7	Plant Relocation	Plant Relocation & Upgrade	4,677	5,237	4,782	4,686	5,697
4.8	Residential	Residential Subdivision	7,903	7,439	8,335	8,916	8,334
4.9	System Expansion	System Expansion Demand	1,128	1,445	3,214	1,650	1,881
4.10	Miscellaneous		198	(1,224)	31	133	204
		TOTAL	\$25,936	\$43,667	\$41,419	\$41,280	\$35,798

4

5 **4.1 General Observations**

6

7 With the exception of the Wholesale Meter Upgrade program which is driven by Market
8 Rules, the major cost driver for demand work from 2005 through 2009 is the local
9 economy. Developer, the City of Ottawa (the "City") and small third party requests,
10 which are influenced by the economy, drive the volume of demand work. Expenditures
11 to construct the volume of work is impacted by other cost drivers, such as:

12

- 13 • Equipment costs,
- 14 • Contractor costs,
- 15 • Internal labour costs, and
- 16 • Productivity.

17



1 Total demand expenditures increased yearly from 2005 through 2007 indicating a
2 growing local economy. The economic recession resulted in decreased demand
3 expenditures in 2008.

4
5 With the exception of Wholesale Meter Upgrades, Smart Meters and Residential all
6 demand projects were higher in 2009 than in 2008, indicating a recovery in the local
7 economy, partially due to the impact of the infrastructure stimulus funding received by
8 the City.

10 **4.2 New Commercial Development**

11
12 Expenditures in New Commercial Development are driven by developer requests for
13 service connections. New Commercial Development has remained strong in Ottawa in
14 recent years. The recent economic downturn has been dampened by the nature of the
15 employment in the Ottawa area, which is largely government and high tech based,
16 versus traditional manufacturing which has been significantly impacted in other regions.

18 **4.3 Damage to Plant**

19
20 This budget program addresses damages to Hydro Ottawa's equipment caused by third
21 parties. Damage to Plant expenditures remained stable year over year, with a slight
22 downward trend. Hydro Ottawa endeavours to cost effectively limit damage to plant
23 occurrences through:

- 24
- 25 • Performing underground locates and belonging to a one-call service,
- 26 • Design standards requiring items such as protective bollards, conduit and
27 concrete duct banks where appropriate,
- 28 • Design standards regarding placement of equipment within the road rights of way
29 and private property, and
- 30 • Public awareness communications through bill inserts and internet site content.
- 31



1 The expenditures to repair damage to plant incidents are dependent on the volume of
2 incidents and the nature of individual incidents. The impact of increasing material and
3 labour costs counteract gains made in reducing volumes and/or severity of incidents.

4

5 **4.4 Infill Services**

6

7 Infill Services includes residential and small commercial infill connection requests. Large
8 infill construction, such as multi-storey residential or mixed-use buildings are not
9 included in this category, but in commercial construction.

10

11 Infill Services remain strong due to the City's *Official Plan* which encourages urban infill
12 developments. Since the peak of expenditures in 2006, Infill Services expenditures have
13 declined, largely due to the impact of the economic slowdown.

14

15 **4.5 Smart Meters**

16

17 The Smart Meter program began in 2006 accounting for the variance between 2005 and
18 2006. For information regarding yearly variances in the smart meter program, refer to
19 Exhibit I1-2-1.

20

21 **4.6 Wholesale Meters**

22

23 Expenditures in the Wholesale Meter program are the result of the requirements to
24 upgrade wholesale meters per the Independent Electricity System Operator and
25 Measurement Canada requirements. Expenditures are based on the metering
26 requirements of the individual substations. All market participants are required to take
27 over ownership of their wholesale meters from Hydro One per the Market Rules. Most of
28 these existing metering installations require an upgrade to meet current standards.

29



1 **4.7 Plant Relocation and Upgrade**

2
3 Plant Relocation and Upgrade expenditures have remained strong in recent years due to
4 continuing City road works and the City's *Official Plan* supporting urban intensification,
5 which can result in costly resolution of clearance requirements from overhead lines.

6
7 In 2009 the City obtained infrastructure stimulus funds and consequently increased the
8 amount of road works in 2009 and 2010. The increase in expenditures in this category
9 is largely due to the increased volume of City road works.

10
11 **4.8 Residential Subdivision**

12
13 Expenditures in New Residential Subdivisions are dependent upon new subdivision
14 construction by developers. Residential construction continues to be strong in the
15 Ottawa area. Increases in expenditures in 2007 and 2008 were due to additional
16 demand for suburban housing. In 2009 expenditures decreased as a result of the
17 economic slowdown.

18
19 **4.9 System Expansion Demand**

20
21 Expenditures in system expansion demand have been relatively constant in recent
22 years. Increased expenditures in 2008 were due to four relatively large expansion
23 projects being requested in the one year:

- 24
25 • Extension to a new generating station,
26 • Supply though Lebreton Flats to the new War Museum,
27 • Extension along Greenbank Road to supply multiple residential subdivisions, and
28 • Extension along Abbot and Shea roads to supply a new Church.

29



1 **4.10 Miscellaneous**

2
3 Budget programs with yearly expenditure variances below the materiality threshold have
4 been shown combined as a miscellaneous item. In the period 2005 through 2009 the
5 capital programs were:

- 7 • Embedded Generation Projects,
- 8 • Metering – Re-verification,
- 9 • Remote Disconnected Smart Meter,
- 10 • Meter Damage/Upgrade,
- 11 • Distribution Plant Miscellaneous, and
- 12 • Long Term Load Transfers.

13
14
15 **5.0 CONTRIBUTED CAPITAL**

16
17 **Table 5 – Contributed Capital, Demand**

Section	Capital Program	2005 \$000	2006 \$000	2007 \$000	2008 \$000	2009 \$000
5.1	Damage to Plant	(\$665)	(\$484)	(\$381)	(\$740)	(\$550)
5.2	Infill Service	(1,258)	(1,539)	(1,586)	(1,012)	(1,218)
5.3	New Commercial Development	(4,597)	(6,592)	(10,445)	(7,168)	(8,469)
5.4	Plant Relocation & Upgrade	(2,148)	(3,243)	(2,710)	(4,543)	(4,162)
5.5	Residential Subdivision	(6,159)	(6,536)	(8,881)	(7,250)	(6,317)
5.6	System Expansion Demand	(1,720)	(670)	(718)	(270)	(273)
5.7	Miscellaneous	266	(965)	(599)	(253)	78
	TOTAL	(\$16,281)	(\$20,029)	(\$25,320)	(\$21,237)	(\$20,911)

18
19 **5.1 Damage to Plant**

20
21 Damage to Plant expenditures are dependent on the nature and number of the incidents.
22 Contributions to this category are realized if Hydro Ottawa is able to determine who was



1 responsible for the damage, and is able to collect from the responsible party. The
2 amount of expenses recuperated through contributions is not consistent year over year
3 due to the fluctuating nature of the category.

4 **5.2 Infill Services**

6
7 Infill Service contributions vary per connection based on the connection details. The
8 methodology for determining customer contributions is outlined in Hydro Ottawa's
9 *Conditions of Service* Appendix G. The amount recovered through contributions is
10 proportional to the overall expenditures and the makeup of the types of requests.

11 **5.3 New Commercial Development**

12
13
14 New Commercial Development expenditures are recovered through financial
15 contributions. The amount of cost recovery through financial contributions has followed
16 the same trend as Hydro Ottawa's expenditures. The volume of New Commercial
17 Development work and the timing of the recoveries, upon final billing, is responsible for
18 yearly variances. Most New Commercial Development "lies along" Hydro Ottawa's
19 distribution system and therefore involves connection to the distribution system rather
20 than expansion.

21 **5.4 Plant Relocation and Upgrade**

22
23
24 Plant Relocation and Upgrade expenditures are due to requests by third parties to
25 relocate or upgrade plant. The proportion of the expenditure recovered through the
26 contribution depends on the nature of the project.

- 27
28
- 29 • City of Ottawa requests to accommodate road works fall under Ontario's *Public Service Works in Highways Act* and Hydro Ottawa typically recovers 50% labour and labour saving devices.
 - 30 • Other requests are typically 100% recoverable.
- 31



1 In some cases Hydro Ottawa reduces the contribution percentage based on recognition
2 of the existing asset age/condition.

3

4 **5.5 Residential Subdivision**

5

6 Residential Subdivision contributions are determined through the use of the Ontario
7 Energy Board's (the "Board") prescribed economic evaluation methodology. Inputs into
8 the model include projected load characteristics of the subdivision, the value of
9 contributed plant and Hydro Ottawa's expenditures to service the subdivision. Trending
10 year over year shows that the amount of cost recovery through financial contributions
11 has followed the same trend as Hydro Ottawa's expenditures.

12

13 **5.6 System Expansion Demand**

14

15 System Expansion Demand contributions are determined through the application of the
16 Board's prescribed economic evaluation methodology. Variances in expenditures and
17 contributions year over year are due to the mix of the technical requirements of the
18 projects.

19

20 **5.7 Miscellaneous**

21

22 Programs with yearly expenditure variances below the materiality threshold have been
23 shown combined as a miscellaneous item. In the period 2005 through 2009 the capital
24 programs, and the corresponding budget programs, include stations demand (embedded
25 generation), metering (meter damage/upgrade) and year end burden adjustments.

26

27

28



1 **6.0 CONSERVATION DEMAND MANAGEMENT**

2

3 **Table 6 – Conservation Demand Management Expenditures, Distribution**

Section	Capital Program	2005 \$000	2006 \$000	2007 \$000	2008 \$000	2009 \$000
6.0	Conservation Demand Management - Distribution	\$634	\$884	\$55	\$0	\$0
	TOTAL	\$634	\$884	\$55	\$0	\$0

4

5 Conservation Demand Management (“CDM”) Distribution expenditures in the period
6 2005 through 2007 were as per Board approved third tranche CDM spending. The
7 assets were capitalized as other expenditures, within the appropriate asset classes.
8 There were no approved CDM Distribution expenditures for 2008 or 2009.



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GENERAL PLANT CAPITAL EXPENDITURE,
2005-2009 Actual

1.0 INTRODUCTION

Table 1 and Table 3 in this Exhibit list the general plant capital expenditures for the period 2005 through 2009. Only those programs that have a yearly variance that exceeds the materiality limit of \$750k are included in the Section 2. These expenditures are included in the Total Capital Expenditures shown in Table 1 of Exhibit B4-1-1.

2.0 GENERAL PLANT CAPITAL EXPENDITURES

Table 1 - General Plant Capital Expenditures by Budget Program

Section	Budget Program	2005 \$000	2006 \$000	2007 \$000	2008 \$000	2009 \$000
2.2	Buildings - Facilities	\$7,079	\$2,662	\$2,328	\$1,447	\$1,742
2.3	CIS Enhancements	2,028	830	813	686	952
2.4	Control Room Modernization	4,342	(2)	0	0	0
2.5	Fleet Replacement	2,703	3,222	3,083	1,799	1,461
2.6	GIS Budget Program	4,437	6,186	5,651	0	0
2.7	GRM System Enhancement	0	0	0	1,013	700
2.8	ERP/JDE Project	(7)	52	0	0	765
	Furniture & Equipment	49	494	347	531	202
	Information Services and Technology	361	558	861	788	276
	New PC & Peripherals	85	297	253	623	270
	PC/Peripheral Replacement	32	211	249	211	172
	Tools Replacement	710	917	856	689	592
	GIS/OMS/CIS/IVR Integration	0	0	0	180	190
	Miscellaneous	164	23	38	69	97
	TOTAL	\$21,983	\$15,450	\$14,479	\$8,036	\$7,419



1 **2.1 General Observations**

2

3 General plant capital expenditures are undertaken to support Hydro Ottawa Limited's
4 ("Hydro Ottawa") ongoing functional requirements. Variances in yearly expenditures
5 tend to be due to the transition of large projects, such as software projects and facilities
6 construction, from development to ongoing operation.

7

8 **2.2 Buildings - Facilities**

9

10 There are five main work centers occupied by Hydro Ottawa, which are located at Albion
11 Road, Merivale Road, Bank Street, Maple Grove Road and Carling Avenue.

12

13 Expenditures decreased from 2005 to 2006 due to the completion of three initiatives
14 undertaken in 2004 and 2005.

15

- 16 • Construction of the new Maplegrove operations centre in Kanata was completed
17 in 2005. This facility contains construction offices and related amenities, material
18 storage and truck bays to allow Hydro Ottawa to better serve customers in the
19 west end of the service area.
- 20 • Construction of a new fleet maintenance facility within the existing Bank Street
21 facility was completed in 2005. The fleet maintenance facility contains a general
22 office area, material storage and maintenance shop complete with lifts and
23 cranes. The facility is used primarily for maintenance of vehicles used in
24 operating, constructing and maintaining the distribution system such as bucket
25 trucks.

26

27 Yearly expenditures from 2006 through 2009 are for the general capital maintenance
28 and upgrades of the five facilities. Items addressed include roofs, windows, paved
29 parking areas and security.

30



1 **2.3 CIS Enhancements**

2

3 A new Customer Information System (“CIS”) system was implemented in September of
4 2004. CIS Enhancement expenditures in 2005 include efforts to complete some
5 elements of the implementation that were deferred beyond the go-live date.

6

7 Decreased expenditures from 2005 to 2006 reflect the transition of development efforts
8 to ongoing operations.

9

10 On an annual basis, CIS enhancement initiatives are undertaken to achieve new
11 regulatory requirements and to facilitate business efficiencies.

12

13 **2.4 Control Room Modernization**

14

15 The construction of a new, modern control room at the Merivale Road office was
16 completed in 2005. The new control room is physically larger and able to accommodate
17 more staff and equipment than the previous location. The new facility is operational 24/7
18 and is an integral part of Hydro Ottawa’s job planning, emergency response and outage
19 response systems. When the construction and commissioning were completed, the
20 project was closed.

21

22 **2.5 Fleet Replacement**

23

24 Fleet Replacement expenditures occurred over the period to meet the operational
25 requirements of the company. Like other asset classes, fleet assets have an expected
26 lifespan and require replacement and refurbishment. Exhibit B1-2-6 outlines Hydro
27 Ottawa’s fleet strategy. Variances in yearly expenditures are due to the number, and
28 type, of vehicles that require replacement each year. One of the goals of the fleet
29 strategy is to develop the assets to a condition where required expenditures are fairly
30 constant on a yearly basis. Table 2 outlines yearly purchases for the period 2005



1 through 2009; numbers in parenthesis indicate additional vehicles, whereas other
2 numbers indicate a replacement.

3
4

Table 2 – Fleet Replacement

Unit Type	2005	2006	2007	2008	2009
Cars	0	9	1	0	0
Bucket trucks	5	4 + (1)	3	1 + (1)	2
Stake trucks/Flatbed trucks	0	0	0	0	0
Radial Boom Derricks	1	1	2	0	1
Knuckle boom trucks	0	0	0	0	0
Compact pickup trucks	4	6 + (2)	1	0	0
Full size pickup trucks	7	4	9	8 + (2)	2 + (1)
Full size cargo vans	3	5	2	4	0
Compact vans	7	2	0	1	3
Step Vans/Cube vans	2	(3)	4	4	1
Forklifts	0	1	1	1	0
Tension machines	0	0	2	0	0
Trailers	3	1	0	(1)	4 + (1)
TOTAL	32	39	25	23	15

5

6 **2.6 GIS Budget Program**

7

8 The Geographic Information System (“GIS”) project involved purchase and development
9 of the GIS system hardware, software and conversion of all hard copy paper map data
10 into electronic GIS compatible data. The GIS project began in March 2003 and was
11 completed by December 31 2007. All expenditures related to this project occurred prior
12 to project closure in 2007.

13

14 Fluctuations in yearly expenditures during the project reflect the costs of the overall
15 project plan. Yearly expenditures included contractor costs, hardware purchases,
16 software licences, internal labour, data gathering and data conversion contracts.

17



1 **2.7 GRM System Enhancement**

2
3 After the completion of the GIS project, the Geospatial Resource Management (“GRM”)
4 budget program began. This program addresses the capital enhancements of Hydro
5 Ottawa’s geospatial based data systems, such as the GIS, outage management system
6 (“OMS”) and their integration with other systems, including SCADA and CIS. Yearly
7 expenditures are based on identified opportunities for additional functionality and
8 efficiency projects. The 2008 and 2009 expenditures include software version upgrades,
9 software customization and OMS deployment to field staff.

10
11 **2.8 ERP/JDE Project**

12
13 Hydro Ottawa utilizes J.D. Edwards (“JDE”) as its enterprise resource planning system
14 (“ERP”). The JDE system is utilized to manage budgets, procurement, inventory,
15 payroll, job cost, and general ledger functions. The expenditures in 2009 were related to
16 the start of the project to upgrade of JDE from release 7.3.3 to the most current version
17 of 9.0. Beyond benefits inherent from the current release of the JDE product, a prime
18 driver for the upgrade was to facilitate implementation of International Financial
19 Reporting Standards within Hydro Ottawa.

20
21
22 **3.0 CONSERVATION DEMAND MANAGEMENT**

23
24 **Table 3 – Conservation Demand Management Expenditures, General Plant**

	Capital Program	2005 \$000	2006 \$000	2007 \$000	2008 \$000	2009 \$000
3.0	Conservation Demand Management	\$34	\$639	\$37	\$268	\$0
	TOTAL	\$34	\$639	\$37	\$268	\$0

25
26 Conservation Demand Management (“CDM”) General Plant expenditures in the period
27 2005 through 2008 were as per Ontario Energy Board approved third tranche CDM



1 spending. The assets were capitalized as other expenditures, within the appropriate
2 asset classes.

3

4 In the decision for the EB-2007-0739 proceeding, issued September 26, 2007, Hydro
5 Ottawa was granted an extension to the completion of third tranche CDM activities from
6 September 30, 2007 to September 30, 2008. There were no approved CDM General
7 Plant expenditures in 2009.



DISTRIBUTION CAPITAL EXPENDITURE,
2008 Approved and 2008 Actual

1.0 INTRODUCTION

This Exhibit provides a summary of total capital expenditures, distribution and general plant for the most recent Board Approved Test Year, 2008 and Actuals. Discussions on distribution capital expenditures are included in the following sections of this Exhibit and variances for general plant capital expenditures are discussed in Exhibit B4-2-2.

Table 1 provides details of total capital expenditures, distribution and general plant, for the most recent Board Approved Test Year in the groupings provided in the Ontario Energy Board 2006 Electricity Distribution Rate Model.

Table 1 – 2008 Actual Expenditures versus 2008 Approved Expenditures

Board Groupings	2008 Approved \$000	2008 Actual \$000	Variance \$000
Land and Buildings	\$3,504	\$2,340	(\$1,164)
TS Primary Above 50 kV	13,479	8,836	(4,643)
DS	4,422	7,402	2,980
Poles, Wires	24,264	24,414	150
Line Transformers	6,807	7,479	672
Services and Meters	18,066	23,788	5,722
General Plant	2,103	1,673	(430)
Equipment	3,002	3,015	13
IT Assets	5,060	4,382	(678)
Other Distribution Assets	1,089	1,041	(48)
Gross TOTAL	\$81,796	\$84,370	\$2,574
Capital Contributions	(\$15,345)	(\$21,237)	(\$5,891)
Net TOTAL	\$66,451	\$63,133	(\$3,137)



1 **1.1 Expenditures Overview**

2

3 Gross capital expenditures in 2008 were higher than the 2008 Approved. The impact of
4 higher than forecast capital contributions resulted in lower net capital expenditures than
5 the 2008 Approved.

6

7 Expenditures in Stations New Capacity, and correspondingly, Facilities Programs –
8 Stations were lower than the 2008 Approved resulting in decreased expenditures in the
9 combination of the TS Primary Above 50 kV, DS, and Land and Buildings groupings.

10

11 Demand expenditures were higher than the 2008 Approved expenditures due to
12 increased expenditures in the Smart Meter program and increased development based
13 demand activity. Capital Contributions were higher than approved as well, due to the
14 higher levels of development based demand activity.

15

16 **1.2 Variance Explanations**

17

18 Hydro Ottawa Limited (“Hydro Ottawa”) plans and budgets work by program and project
19 therefore the above variances will be explained in terms of these programs/projects.

20 Table 2 that follows shows the variance between the 2008 Approved and 2008 Actual
21 total sustainment capital project expenditures and Table 3 shows the variance between
22 the approved 2008 and actual 2008 budget programs that exceed the materiality limit of
23 \$750k, and those below the materiality threshold that must be shown to avoid significant
24 components of the capital budget in the miscellaneous category. Explanations of the
25 variances are discussed in the following sections.

26

27



1 **2.0 DISTRIBUTION CAPITAL EXPENDITURES, SUSTAINMENT**

2

3 **Table 2 - Distribution Capital Program Expenditures, Sustainment**

	Capital Program	2008 Approved \$000	2008 Actual \$000	Variance \$000
	Distribution Asset	10,762	9,951	(811)
	Distribution Automation	225	263	38
	Distribution Enhancement	4,592	5,142	550
	Stations Asset	6,663	7,750	1,087
	Stations Capacity	9,277	7,305	(1,972)
	Facilities Programs – Stations	\$3,503	\$2,345	(\$1,158)
	Stations Enhancement	1,851	1,140	(711)
	System Ops. Automation	840	890	50
	TOTAL	\$37,713	\$34,786	(\$2,927)

4

5 **Table 3 - Distribution Budget Program Expenditures, Sustainment**

Section	Capital Program	Budget Program	2008 Approved \$000	2008 Actual \$000	Variance \$000
2.1	Distribution Asset	Cable Replacement	\$3,507	\$2,332	(\$1,175)
2.2	Distribution Asset	Insulator Replacement Program	257	916	659
2.3	Distribution Asset	Pole Replacement	3,409	1,643	(1,766)
2.4	Distribution Asset	Plant Failure Capital	1,171	2,961	1,790
2.5	Distribution Enhancements	Distribution Enhancements	609	2,246	1,637
2.6	Distribution Enhancements	Line Extensions	3,075	1,096	(1,979)
2.7	Stations Assets	Stations Switchgear & Relay Replacement	5,610	6,450	840
2.8	Stations Capacity	Stations New Capacity	9,277	7,305	(\$1,972)
2.9	Facilities Programs - Stations	Facility Programs - Stations	3,504	2,345	(1,159)
2.10	Miscellaneous		7,294	7,493	199
	TOTAL		\$37,713	\$34,786	(\$2,927)



1 Overall Sustainment expenditures were \$2.9M lower than approved. The majority of the
2 variance is due to two capital programs that were intertwined, Stations Capacity and
3 Facilities Programs – Stations. The following sections describe material variances within
4 sustainment budget programs as shown in Table 3.

5

6 **2.1 Cable Replacement**

7

8 Cable replacement continued in 2008 per the cable replacement program. Four Cable
9 Replacement projects were above the materiality threshold in the 2008 EDR Application.
10 One additional 2008 project, Barrhaven Phase I, meets the materiality threshold for this
11 application. Overall program expenditures were lower than approved.

12

13 The lower expenditures were due to the deferral of the Campeau Road project until the
14 final road alignment is provided by the City of Ottawa (the “City”), and the 2008 actual
15 costs being lower than the 2008 estimated costs for unplanned cable replacement.

16

17 2.1.1 City Park

18

19 This project was to replace direct buried, unjacketed primary trunk cable along City Park
20 Drive with cables in concrete encased duct. While the project was being designed, a
21 proposal was presented for further development in the area. Hydro Ottawa deferred a
22 portion of this project until such time that the development plans are finalized, in order to
23 coordinate future customer supply requirements.

24

25 2.1.2 Beacon Hill (Ogilvie Road)

26

27 This project was to replace direct buried, butyl rubber primary cable in the Beacon Hill
28 area with cable in ducts. The existing cables have had faults and are in excess of 40
29 years old. During the project, primary cable was relocated off of private residential
30 property where practical and live-front transformers were replaced with new dead-front
31 transformers. Cost carryover from the Barrhaven Cable Replacement Phase 1 project



1 resulted in the start of this project being deferred until 2009. Expenditures for 2008 were
2 less than \$10k.

3

4 2.1.3 Hawthorne 48M3-417

5

6 This project involved replacing 44 kV direct buried feeder cables that run under Highway
7 417 with cables contained in a new concrete encased steel duct structure. While boring
8 under the highway during construction, the contractor discovered rock that was used to
9 backfill during the initial highway development. Encountering multiple instances of rock
10 resulted in cost increases and delayed project completion until 2009.

11

12 2.1.4 Campeau Drive

13

14 The City is planning to widen Campeau Drive and has requested that Hydro Ottawa
15 relocate its cable prior to the road construction. Approximately 2,100 m of undersized,
16 direct buried cable was to be replaced along the new road right of way, with fully sized
17 cables in a concrete duct structure. The project was expected to be a multi-year project
18 started in 2008. The City's plans to widen the road have been cancelled. Hydro Ottawa
19 is deferring this project until the road widening project proceeds, or condition of the
20 cables appears to be deteriorating.

21

22 2.1.5 Barrhaven Cable Replacement Phase 1

23

24 This project replaced direct buried, butyl rubber primary cable and transformers in the
25 Barrhaven Subdivision with a duct and manhole system. Due to the scope of the area
26 identified for replacement the overall project was divided into smaller, more manageable,
27 phases. Expenditures in 2008 (\$751k) were due to a continuation of the project from
28 2007 (\$967k).

29

30 During civil construction the contractor encountered more rock than expected resulting in
31 construction delays which pushed the cable and transformer replacement into winter



1 months. The cables and transformers are located in the rear of residential lots. Working
2 during the winter would have presented additional staff work hazards, public relations
3 issues and increased project costs. The project was therefore completed in 2008.

4 **2.2 Insulator Replacement Program**

6
7 The program expenditures increased in 2008 in response to the reliability impact
8 insulator failures were having on two circuits in the east end of the service area. A
9 targeted project was initiated for replacement of insulators along the two circuits.

10 **2.3 Pole Replacement**

11
12
13 Actual expenditures for Pole Replacement were \$1.8M less than approved. The
14 variance is due to:

- 15
- 16 • Rather than replacing poles on an unplanned basis, outside staff provided pole
17 condition information for consideration in the planned program, and
- 18 • Planned replacement projects were completed for less than originally budgeted.

19
20 The one material Pole Replacement projects included in the 2008 EDR Application is
21 discussed below. No other projects exceeded the materiality threshold.

22 2.3.1 Lanigan Street and Ember Glow Drive

23
24
25 This project for the replacement of poles in the Stittsville area was prioritized as the
26 poles were identified as near end of life. The scope of the project also involved
27 changing the insulation level from 8 kV to 27.6 kV and installing dual wound
28 transformers for the future conversion of the area.

29
30 The project was completed \$300k under budget for a variety of reasons including that
31 the poles were located in front yards on a quiet residential street with no traffic



1 restrictions, there were no hard surfaces or trees, the poles had no heavy third party
2 attachments, and the job site was located very close to the work centre resulting in little
3 travel time.

4

5 **2.4 Plant Failure Capital**

6

7 Plant Failure Capital is a program for the replacement of distribution equipment that fails
8 unexpectedly. Hydro Ottawa's asset management program is expected to result in
9 reduced failures as the program matures. Hydro Ottawa must address faulted plant to
10 ensure public and worker safety.

11

12 Plant Failure Capital expenditures in 2008 were higher than approved. The budgeted
13 expenditures for this item were based on a trend of reducing expenditures year over
14 year. The Plant Failure Capital expenditures did not continue to reduce in 2008 as
15 expected, but instead increased over the 2007 expenditures. The yearly expenditure
16 trend in this program is still a downward trend, as shown in Exhibit B4-1-1.

17

18 The increased level of plant capital spending expenditures in 2008 indicates that
19 continued investment in the distribution system is warranted. This category will continue
20 to be monitored as a lagging indicator of overall asset condition.

21

22 **2.5 Distribution Enhancements**

23

24 Overall, Distribution Enhancement expenditures were \$1.6M higher than approved.
25 There were a large number of Distribution Enhancement projects in 2008, all below the
26 materiality threshold of \$500k. Expenditures included projects to modify existing
27 installations to current standards, improve reliability and operability of the distribution
28 system.

29



1 The South Nepean portion of the Limebank F3 Line Extension project (section 2.6.1)
2 was completed in 2008, but was recorded as part of the larger overall Distribution
3 Enhancement project.

4

5 **2.6 Line Extensions**

6

7 Overall, expenditures in line extensions were \$2M lower than approved, due to the
8 cancellation of the Rockcliffe Airbase development, the reclassification of the Greenbank
9 Road project and the delay in the Abbott Road project. The projects described in the
10 section below are the material projects included in the 2008 EDR Application and include
11 those resulting in the lower expenditures.

12

13 2.6.1 Limebank F3 Feeder

14

15 This project connects the distribution systems in South Gloucester and South Nepean
16 through the addition of an overhead circuit from South Gloucester over the Rideau River.
17 This tie will improve reliability of the South Nepean area.

18

19 This South Nepean portion of line was completed in 2008, but was recorded as part of
20 the larger overall distribution enhancement project. The Earl Armstrong overhead line
21 extension, on the Gloucester side of the crossing, was completed in 2009 as a line
22 extension project.

23

24 2.6.2 Supply to Rockcliffe Airbase Redevelopment

25

26 Hydro Ottawa had planned installation of a double 27.6 kV circuit and rebuild of a 4 kV
27 circuit by summer of 2008 to support the planned redevelopment of the Rockcliffe Airbase
28 lands. The redevelopment of the airbase lands is not proceeding at this time, and
29 consequently this project has been deferred pending revised information from the
30 customer.

31



1 2.6.3 Greenbank Road Rebuild

2

3 This rebuild was planned to provide an additional feeder, to increase capacity for growth
4 and provide redundancy of supply to the existing load. Review of the project scope
5 determined that the project should have been categorized as a demand project. The
6 project was completed in 2008 under the System Expansion Demand category.

7

8 2.6.4 New Overhead 27.6 kV Line along Abbott Road

9

10 New developments in the Stittsville West and Kanata areas require additional supply.
11 This new overhead line will provide capacity for growth and increase reliability in the
12 area. Due to City and community consultation on this pole line extension, the project
13 has been deferred until 2011

14

15 **2.7 Station Switchgear and Relay Replacement**

16

17 Expenditures in this category were higher than approved by \$840k in 2008. Three
18 substations, Beechwood, Eastview and Kilborn were identified for switchgear and relay
19 replacement in 2008. Project priorities were adjusted to address current conditions as
20 described in the following sections. The cause of the expenditure increase was extreme
21 weather in the winter of 2007/2008 delaying the completion of the Marchwood
22 Switchgear Replacement project.

23

24 2.7.1 Marchwood

25

26 The Marchwood Switchgear Replacement project began in 2007 (\$2,239k) and
27 completion was planned for the end of 2007. In November 2007 Ottawa received its first
28 snow fall earlier than typical, in a near record breaking snowfall year considered a



1 thousand-year occurrence¹. The inclement weather resulted in delay of civil
2 construction, cost increases and deferrals into 2008 (\$1,973k).

3
4 2.7.2 Kilborn

5
6 An evaluation of the costs of asset replacement of the Kilborn Station compared to
7 Voltage Conversion in the area indicated that Voltage Conversion was the more cost-
8 effective solution. The Switchgear and Relay Replacement projects were consequently
9 cancelled, thus cancelling \$240k approved 2008 expenditures. Refer to B-4-3-1 for
10 details of the voltage conversion project.

11
12 2.7.3 Eastview

13
14 The start of the Eastview switchgear replacement was deferred until 2009 due to the
15 prioritization of the completion of the Marchwood project, completion of which was
16 delayed for reasons described in section 2.7.1. This resulted in a deferral of \$785k of
17 approved 2008 expenditures.

18
19 2.7.4 Beechwood

20
21 The Beechwood project began as planned in 2008 (\$2,695k) and was completed in 2009
22 (\$1,378k). The project budget was revised due to the discovery of a high water table
23 upon excavation at the site and increased material costs due to increasing material costs
24 as described in Exhibit D1-3-1.

25
26 **2.8 Stations New Capacity**

27
28 Stations New Capacity expenditures were approximately \$2M lower than the approved
29 expenditures. The Stations Capacity program consists of a few large projects and
30 delays in start times can impact the yearly budgets.

¹ Canada's Top 10 Weather Stories for 2008, Environment Canada, http://www.ec.gc.ca/doc/smc-msc/2008/s3_eng.html



1 2.8.1 Cyrville Station

2

3 Construction on the new Cyrville Station continued in 2008. The procurement of the
4 Cyrville Stations transformer occurred in August 2006, when copper prices were at an
5 unprecedented high, resulting in higher equipment costs than budgeted (Exhibit D1-3-1
6 Procurement Strategy). An additional \$550k of capital expenditures occurred in 2008,
7 not originally planned. The Cyrville station was capitalized in 2008 as planned.

8

9 2.8.2 Ottawa South East 13 kV Area

10

11 Older parts of the City are supplied by a 13 kV subtransmission system. In the
12 southeast part of the old Ottawa area this 13 kV system is nearing capacity. An
13 evaluation of the options to address this situation resulted in a recommended solution for
14 2010, which began, as planned, in 2008. A new substation, Ellwood Station, is being
15 constructed on the same property as the existing Albion Station. This project was
16 discussed in detail in the 2008 Electricity Distribution Rate Application as Albion
17 Substation.

18

19 The project initiation was delayed due to the budget adjustments to the Cyrville
20 Substation project. Expenditures in 2008 were \$2.2M below the preliminary plan. The
21 overall project is on track to be in service by the end of 2010.

22

23 2.8.3 South Nepean and South Gloucester 27.6 kV Area

24

25 In South Nepean and South Gloucester load is supplied through both 44 kV and 27.6 kV
26 sub transmission systems, however new growth is typically supplied using the 27.6 kV
27 system. Load in the South Nepean and South Gloucester areas has continued to grow
28 with development. In 2008 the 27.6 kV system load in this area was projected to exceed
29 the planning criteria in 5 years.

30



1 The preliminary budget for 2008, 2009 and 2010 included the installation of a second
2 transformer at Uplands Station to address load growth in this area. Distribution capacity
3 would be increased at Uplands Substation, allowing for load to be transferred from
4 Limebank Substation to Uplands Substation, resulting in the Limebank Substation
5 supplying increased capacity on both sides of the Rideau River via a second crossing at
6 Earl Armstrong. The Stations New Capacity expenditures for budgeted 2008 were
7 \$2.8M, but the project did not proceed.

8

9 During 2008 Hydro Ottawa determined it would be able to purchase Richmond South
10 and Fallowfield Substations. These substations were owned by Hydro One Networks
11 Inc. ("Hydro One"); however, the circuits were owned by Hydro Ottawa and supplied
12 Hydro Ottawa customers only. The purchase of these substations would include the
13 land and the substation equipment, and allow Hydro Ottawa to supply customers in
14 South Nepean through local capacity increases at the Fallowfield Substation, rather than
15 from a distance across the Rideau River.

16

17 In the long term, purchasing these two stations provides Hydro Ottawa the ability to
18 increase distribution supply capacity on both sides of the Rideau River, South
19 Gloucester and South Nepean separately. The purchase also reduces the low voltage
20 charges that Hydro Ottawa pays to Hydro One and passes through to customers, as
21 discussed in Exhibit H1-3-2.

22

23 Due to this new information, which provides a preferable technical solution, Hydro
24 Ottawa adjusted its Stations Capacity plans to defer the additional transformer
25 installation at Uplands and proceed with the purchase of the two Hydro One substations.

26

27 **2.9 Facility Programs – Stations**

28

29 The net result of the changes in expenditures related to Stations Capacity projects was a
30 decrease from the approved expenditures of approximately \$1.16M. A large portion of



1 the Facilities Programs - Stations approved expenditures were tied directly to Stations
2 Capacity projects.

3

4 2.9.1 Stations Building Rehabilitation

5

6 This program addresses the need to ensure station buildings are able to meet the needs
7 for years to come. Roof, door and window replacements at various stations are included
8 in this program. Also included are the installation of energy efficient equipment, lighting
9 fixtures and low flush toilets. In 2008 the program expenditures were reduced to
10 balance the over expenditures in the Cyrville project.

11

12 2.9.2 Cyrville

13

14 Design of this project began in 2006 and was delayed due to long lead times for delivery
15 of the power transformers. The tendering process in 2007 for site construction resulted
16 in higher civil construction costs than originally estimated. The majority of construction
17 was delayed until 2008 and was completed within the same year. The delay of the
18 building construction resulted in an increase of \$2M of capital expenditures in 2008. The
19 station was capitalized in 2008 as planned.

20

21 2.9.3 Ellwood

22

23 The start of the Ellwood Station New Capacity project was delayed due to cost and
24 schedule delays on the Cyrville Station project. Delays in the beginning of the Ellwood
25 station new capacity project resulted in a decrease of expenditures of \$1.4M in Facilities
26 Programs - Stations.

27



1 2.9.4 Uplands

2

3 The cancellation of the Uplands Stations New Capacity project resulted in a cancellation
4 of the facilities portion of the project as well, and cancellation of \$990k of expenditures in
5 2008.

6

7 **2.13 Miscellaneous Programs**

8

9 The sustainment budget consists of the aforementioned material programs, as well as a
10 number of programs with variances between the 2008 Approved and 2008 actual
11 expenditures below the materiality threshold. The budget for the programs with
12 immaterial variances are shown here as a sum of the individual budgets. In 2008, the
13 smaller sustainment programs consisted of:

14

- 15 • Distribution Transformer Replacement,
- 16 • Stations Enhancements,
- 17 • Stations Plant Failure Capital,
- 18 • Minor Line Extensions,
- 19 • Switchgear New and Rehabilitation,
- 20 • Stations Transformer Replacement,
- 21 • Elbow and Insert Replacement,
- 22 • Vault Rehab or Removal,
- 23 • Distribution Automation,
- 24 • Civil Rehabilitation Program,
- 25 • O/H Equipment New and Rehabilitation,
- 26 • System Voltage Conversion,
- 27 • Vault Space Leasing,
- 28 • PILC Risers & Pothead Replacement,
- 29 • Remote Disconnect Smart Meters,
- 30 • SCADA Upgrades,
- 31 • Splice Replacement Program,



- 1 • System Reliability, and
- 2 • SCADA - RTU Additions.

3
4

5 **3.0 DISTRIBUTION CAPITAL, DEMAND**

6

7 **Table 4 - Distribution Capital Program Expenditure, Demand**

	Budget Program	2008 Approved \$000	2008 Actual \$000	Variance \$000
3.1	Smart Meters	\$9,684	\$14,542	\$4,858
3.2	New Commercial Development	5,811	7,078	1,267
3.3	Residential Subdivision	8,350	8,916	566
3.4	Plant Relocation & Upgrade	4,182	4,686	504
3.5	Miscellaneous Programs	5,804	6,058	254
	TOTAL	\$33,831	\$41,280	\$7,449

8

9 Distribution demand capital actual 2008 expenditures were higher than the 2008
10 Approved as shown in Table 4. The increased expenditures were largely due to external
11 development based activities, and consequently, actual capital contributions were higher
12 than approved as well as shown in Section 4.0.

13

14 **3.1 Smart Meters**

15

16 The Smart Meter Program is discussed in Exhibit I2-1-1.

17

18 **3.2 Residential Subdivision**

19

20 Residential Subdivision projects are initiated by developers and property owners. The
21 expected expenditures for Residential Development were based on historical levels, the
22 projected growth rate, prior year project carry-over, and project inquiries. Strong local



1 residential development activity in 2008 surpassed expectations resulting in actual
2 expenditures higher than the approved expenditures.

3

4 **3.3 Commercial Development**

5

6 Commercial Development connections are projects initiated by developers and property
7 owners. The expected expenditures for new Commercial Development in 2008 were
8 based on historical levels, the projected growth rate, prior year project carry-over, and
9 project inquiries. The strong local commercial development activity in 2008 surpassed
10 expectations resulting in higher expenditures than the approved expenditures. As
11 budgeting in this area is not based on a project list, no specific project(s) can be
12 highlighted as the cause of the expenditures.

13

14 **3.4 Plant Relocation and Upgrades**

15

16 Plant Relocation and Upgrades largely result from road works projects initiated by the
17 City or requests for plan relocation by property developers. The expected financial
18 impact on Hydro Ottawa of plant relocation is based on historical levels, previous year
19 project carry-over, and discussions with the City. The City undertakes a number of
20 projects every year to maintain and expand its infrastructure, but these lists are not
21 finalized until the year the work occurs in. As Hydro Ottawa budgeting in this area is not
22 based on a project list, no specific project(s) can be highlighted as the cause of the
23 increased expenditures. Continuing City works as well as requests to accommodate
24 safe construction clearances from overhead lines contributed to the overall expenditures.

25

26 **3.5 Miscellaneous Programs**

27

28 The demand budget consists of the aforementioned material programs, as well as
29 programs with variances between 2008 Approved and 2008 Actual expenditures below
30 the materiality threshold. The budget for these programs is shown here as the sum of
31 the individual budgets. In 2008, these demand programs consisted of:



- 1 • System Expansion,
- 2 • Damage to Plant,
- 3 • Wholesale Meter Upgrade Program,
- 4 • Infill Service,
- 5 • Embedded Generation Projects,
- 6 • Remote Disconnect Smart Meters
- 7 • Metering – Reverification, and
- 8 • Long Term Load Transfers.

10
11 **4.0 DISTRIBUTION CAPITAL PROGRAM CONTRIBUTED CAPITAL, DEMAND**

12
13 **Table 5 - Distribution Capital Program Contributed Capital, Demand**

	Budget Program	2008 Approved \$000	2008 Actual \$000	Variance \$000
4.1	New Commercial	(\$5,230)	(7,168)	(\$1,938)
4.2	Plant Relocation and Upgrade	(1,255)	(4,543)	(3,288)
4.3	Residential Subdivision	(7,684)	(7,250)	434
4.4	Damage to Plant	(234)	(740)	(506)
4.5	Miscellaneous Contributions	(942)	(1,535)	(593)
	TOTAL	(\$15,345)	(\$21,237)	(\$5,892)

14
15 The amount of contributed capital was higher in 2008 than the 2008 Approved by \$5.7M
16 as shown in Table 5. Increased demand expenditures, as well as higher than budgeted
17 levels of contributions resulted in this increase.

18
19 **4.1 New Commercial**

20
21 Increased New Commercial expenditures resulted in increased amounts of contributions.
22
23



1 **4.2 Plant Relocation and Upgrade**

2

3 Contributions due to Plant Relocation and Upgrade expenditures were significantly
4 higher than budgeted. Although there was an increase in expenditures in this budget
5 program, contribution increases are largely due to the mix of work being performed.
6 Depending on the nature of the work, and the requester, the requester may be required
7 to contribute up to 100 percent of the project costs.

8

9 **4.3 Residential Subdivision**

10

11 Increased Residential expenditures resulted in increased amounts of contributions.

12

13 **4.4 Damage to Plant**

14

15 Damage to Plant contributions in 2008 were higher than approved. Hydro Ottawa
16 attempts to collect contributions for all damage to plant incidents; however, it is not
17 possible in all cases and collection levels may vary year by year. In 2008 Hydro Ottawa
18 collected a higher than average amount of contributions; approximately 90% of the
19 Damage to Plant expenditures.

20

21 **4.5 Miscellaneous Contributions**

22

23 The demand budget consists of the aforementioned material programs, as well as
24 programs with variances between 2008 approved and 2008 actual contributions under
25 the materiality threshold. The budget for these programs is shown here as the sum of
26 the individual budgets. In 2008, these demand programs consist of:

27

- 28 • Infill Service,
29 • Embedded Generation, and
30 • System Expansion Demand.



GENERAL PLANT CAPITAL EXPENDITURE,
2008 Approved and 2008 Actual

1.0 INTRODUCTION

This Exhibit provides general plant programs/projects for the most recent Board Approved Test Year. Justifications for variances that exceed the materiality limit of \$750k are discussed in the following sections. These expenditures are included in the Total Capital Expenditures shown in Table 1 of Exhibit B4-2-1.

2.0 GENERAL PLANT CAPITAL EXPENDITURES

Table 1 - General Plant Capital Expenditures

Section	Budget Program	2008 Approved \$000	2008 Actual \$000	Variance \$000
2.1	CIS Enhancements	\$2,723	\$686	(\$2,037)
	Buildings - Facilities	2,102	1,447	(655)
	Fleet Replacement	1,693	1,799	106
	Tools Replacement	1,037	689	(348)
	Information Services and Technology	719	788	69
	GRM System Enhancements	547	1,013	466
	Website Enhancements	392	69	(323)
	New PC & Peripheral	370	623	253
	Furniture & Equipment	272	531	259
	PC/Peripheral Replacement	218	211	(7)
	GIS/OMS/CIS/IVR Integration	92	180	88
	TOTAL	\$10,165	\$8,036	(\$2,129)

Actual 2008 General Plant capital expenditures were \$2.1M below the 2008 Approved expenditures.



1 Although expenditures were made to enhance Customer Information System (“CIS”)
2 operability during 2008, the planned upgrade project did not proceed. Refer to section
3 2.1 for additional details.

4
5 With the exception of CIS enhancements, the 2008 budget program actual expenditure
6 variances from the 2008 approved budget were below the materiality threshold.

7 8 **2.1 CIS Enhancements**

9
10 A CIS upgrade project was scheduled to begin in 2008. The approved 2008
11 expenditures of \$2.7M for the project were to remain in construction in progress at the
12 end of 2008. This project did not proceed.

13
14 Hydro Ottawa has recognized the need to embark upon a CIS transition project and
15 expenditures for this project were included in Hydro Ottawa’s 2008 Electricity Distribution
16 Rate Application. Changing circumstances resulted in Hydro Ottawa re-examining the
17 timing of this decision, specifically:

- 18
19
- 20 • Evolving information about potential extended application support and clarity on
21 future product direction,
 - 22 • CIS was performing at levels that exceeded critical service level metrics (daily
23 batch processing, system on-line availability during core hours and system
24 responsiveness during core hours) to achieve the business mandate, and
 - 25 • Existence of a reasonable infrastructure to maintain the current application while
26 efforts continued to define the future CIS vision at Hydro Ottawa.

27 Based on these circumstances, Hydro Ottawa determined that the upgrade was not
28 warranted in 2008, and deferred the project expenditures.

29
30 Expenditures that did occur in 2008 were for enhancements typically required on an
31 annual basis to achieve new regulatory requirements and facilitate improved business



1 processes. These enhancements were required due to the revised plan to keep the
2 system in service for additional years.

3
4

5 **3.0 CONSERVATION DEMAND MANAGEMENT**

6

7 **Table 2 – Conservation Demand Management Expenditures, General Plant**

Capital Program	2008 Approved \$000	2008 Actual \$000	Variance \$000
Conservation Demand Management – General Plant	\$0	\$268	\$268
TOTAL	\$0	\$268	\$268

8

9 In the decision for proceeding EB-2007-0739, issued September 26, 2007, Hydro
10 Ottawa was granted an extension to the completion of third tranche Conservation
11 Demand Management activities from September 30, 2007 to September 30, 2008. The
12 assets were capitalized in the same manner as other capital expenditures, within the
13 appropriate asset classes.



1 **DISTRIBUTION CAPITAL EXPENDITURES - 2010 BRIDGE YEAR**

2

3 **1.0 INTRODUCTION**

4

5 This Exhibit provides a summary of total capital expenditures, distribution and general
6 plant for the Bridge Year, 2010. Discussions on distribution capital expenditures are
7 included in the following sections of this Exhibit and general plant capital expenditures
8 are discussed in Exhibit B4-3-2.

9

10 Table 1 provides details of the total capital expenditures for the Bridge Year in the
11 groupings provided in the Ontario Energy Board 2006 Electricity Distribution Rate Model.
12 The amounts shown do not include any adjustment for the Harmonized Sales Tax
13 (“HST”). Hydro Ottawa Limited (“Hydro Ottawa”) will be following the direction of the
14 Ontario Energy Board in their Decision related to Hydro Ottawa’s 2010 Rates (EB-2009-
15 0231) and will be recording the incremental input tax credit on revenue requirement
16 items related to the HST in a deferral account after July 1, 2010. This applies to both the
17 Distribution Capital Expenditures shown in this Exhibit and the General Plant Capital
18 Expenditures shown in Exhibit B4-3-2.



1

Table 1 – Capital Expenditures, 2010 Bridge Year

Board Groupings	2010 \$000
Land and Buildings	\$1,572
TS Primary Above 50 kV	14,944
DS	8,061
Poles, Wires	27,721
Line Transformers	7,950
Services and Meters	13,042
General Plant	1,642
Equipment	3,686
IT Assets	7,002
Other Distribution Assets	1,316
Gross TOTAL	\$86,936
Capital Contributions	(\$16,746)
Net TOTAL	\$70,190

2

3 Hydro Ottawa plans and budgets work by program and project therefore expenditures
4 will be explained in terms of these programs/projects. Table 2 that follows shows the
5 total sustainment capital project expenditures and Table 3 shows the distribution
6 programs/projects with expenditures that exceed the materiality limit of \$750k, and those
7 that must be shown to avoid significant components of the capital budget in the
8 miscellaneous category.

9

10



1 **2.0 DISTRIBUTION CAPITAL EXPENDITURES, SUSTAINMENT**

2

3 **Table 2 – Distribution Expenditures, Sustainment by Capital Program**

	Capital Program	2010 \$000
2.1	Distribution Asset	\$12,712
2.2	Distribution Enhancement	6,213
2.3	Facilities Programs – Stations	712
2.4	Stations Asset	4,220
2.5	Stations Capacity	17,295
2.6	Stations Enhancement	2,280
NA	Miscellaneous Programs	857
TOTAL		\$44,289

4

5 **Table 3 – Distribution Expenditures, Sustainment by Capital and Budget Program**

	Capital Program	Budget Program	2010 \$000
2.1.1	Distribution Asset	Cable Replacement EOL	\$2,130
2.1.2		Civil Rehabilitation Program	562
2.1.3		Distribution Transformer Replacement	2,211
2.1.4		Pole Replacement	3,590
2.1.5		Plant Failure Capital	2,533
2.1.6		Switchgear New and Rehab	708
2.2.1	Distribution Enhancement	Line Extensions	2,857
2.2.2		System Voltage Conversion	959
2.3	Facility Programs - Stations	Facility Programs - Stations	712
2.4.1	Stations Asset	Stations Relay Replacement	497
2.4.1		Stations Switchgear Replacement	2,105
2.4.2		Stations Transformer Replacement	1,367
2.5	Stations Capacity	Stations New Capacity	17,295
2.6	Stations Enhancement	Stations Enhancements	2,280
2.7	Miscellaneous		4,484
TOTAL			\$44,289

6



1 **2.1 Distribution Asset**

2

3 Distribution Asset replacement expenditures continue in 2010 to maintain system
4 operability, safety and reliability. Material budget programs for individual asset classes
5 are outlined below.

6

7 Methodology for developing the distribution asset expenditures was based on the
8 methodology outlined in the 2005 Asset Management Plan (“2005 AMP”), unless
9 specifically indicated otherwise.

10

11 2.1.1 Cable Replacement

12

13 The 2010 Cable Replacement program was developed on the basis of reliability
14 improvements rather than age demographics as indicated in the 2005 AMP. The main
15 driver for changing approach in this category was that cable demographic information for
16 many installations is scarce and does not assist in identifying specific projects. Potential
17 projects were identified based on the total number of customer-hours of interruption due
18 to cable failures. The replacement projects were then subdivided in phases depending
19 on the size of the replacement and prioritized by replacing the highest fault level section
20 of the identified circuit first.

21

22 One project exceeds the materiality threshold in 2010 and accounts for the majority of
23 the expenditures at a budget amount of \$1.8M, Grey Nuns Phase I. This project was
24 prioritized as it had the largest customer-hours of interruption during the previous three
25 years, a total of 7,714 customer-hours due to 15 incidents.

26

27 Grey Nuns Phase 1 includes the replacement of 28 kV, single phase and three phase
28 cable in the area of Grey Nuns Drive. The replacement project will not be like for like,
29 but instead will take the opportunity to improve the design of the supply to customers.

30 Residential and commercial customers will be supplied from separate distribution



1 sections to improve reliability and eliminate loss of phase incidents for the commercial
2 customers.

3
4 2.1.2 Civil Rehabilitation

5
6 The Civil Rehabilitation program consists of the replacement or the refurbishment of
7 underground concrete civil structures such as duct banks, sidewalk vaults and
8 underground chambers. Asset data is gathered through an ongoing inspection program,
9 which results in a condition rating for each asset. Refurbishments and replacements are
10 prioritized based on risk-consequence analysis, and may be coordinated with third party
11 construction to avoid reinstatement costs. Expenditures in 2010 are for the
12 refurbishment of twelve underground chambers.

13
14 2.1.3 Distribution Transformer Replacement

15
16 The Distribution Transformer Replacement program includes the unplanned and planned
17 replacement of distribution transformers. This program was largely driven by Regulation
18 SOR/2008-273, which sets specific deadlines for ending the use of Polychlorinated
19 Biphenyls (“PCBs”) in concentrations at or above 50 mg/kg; eliminating all PCBs and
20 equipment containing PCBs currently in storage and limiting the period of time PCBs can
21 be stored before being destroyed.

22
23 Hydro Ottawa has obtained an extension from 2009 to 2014 from Environment Canada
24 for the replacement of 63 transformers contained in 36 indoor customer vaults. A
25 condition of the extension is that each location is inspected monthly. To limit the
26 inspection costs, all 63 transformers are scheduled to be replaced in 2010.

27
28 Due to the technical requirement to match electrical characteristics of single phase
29 transformers forming a three-phase bank, the replacement of only the PCB containing
30 transformers may not be possible. If additional transformers must be replaced to



1 maintain balanced three-phase configurations, it will be determined as part of the
2 individual vault sites project management.

3

4 Pole mounted transformers, and additional customer vault transformers, also require
5 replacement due to the regulation, by later dates.

6

7 The replacement of three sidewalk transformer vaults is also scheduled for replacement
8 in 2010. The oil filled transformers were selected based on age and condition, and will
9 be replaced with solid dielectric models, eliminating environmental concerns.

10

11 2.1.4 Pole Replacement Program

12

13 Poles were identified for replacement in 2010 through evaluating reports from field
14 inspections and past pole condition survey results. Projects were ranked based on the
15 density of end-of-life poles in a given area and the probability and consequence of
16 failure. Consequence was identified based on the number of customers being supplied
17 from the circuits supported by the pole, as well as potential environmental costs due to a
18 pole supporting oil filled equipment. In 2010, 206 poles are planned to be replaced due
19 to end-of-life.

20

21 Also included in the pole replacement program in 2010 is the replacement of 113 poles
22 as part of the Kilborn voltage conversion project (section 2.2.2). These poles are
23 nearing end-of-life, and require replacement to support the conversion project
24 requirements.

25

26 2.1.5 Plant Failure Capital

27

28 Plant Failure Capital expenditures are budgeted for the replacement of distribution
29 equipment, outside of substations, that fails during the year. Hydro Ottawa endeavours
30 to limit the amount of plant failure capital incidents and expenditures through asset
31 condition assessment and planned replacement; however, the asset replacement of



1 some equipment classes is at failure, and it is impractical to cost effectively eliminate all
2 other plant failures. Budgeted 2010 expenditures were based on historic levels. Plant
3 failure that occurs within substations is budgeted for separately in the budget program
4 Stations Plant Failure Capital, and is not expected to be above the materiality threshold
5 in 2010.

6

7 2.1.6 Switchgear New and Rehabilitation

8

9 This program includes the planned replacement of underground switchgear. The 2010
10 program focuses on two equipment types, primary pedestals and live-front air insulated
11 switchgear.

12

13 Primary pedestals are intended to be temporary equipment used during the construction
14 of multi-phase residential subdivisions. The pedestals are used to temporarily house the
15 primary cables during early phases of development, with the plan that the subsequent
16 phases would connect the cables into the completion of a loop. In some cases the
17 subdivisions have not been completed, and there is no expectation of near future
18 completion. The temporary pedestals have therefore, by default, become a permanent
19 piece of equipment. Removing these pedestals will improve safety and reliability of the
20 impacted circuits by removing non-vented elbows from the system and adding flexibility
21 through the addition of switchgear. Five pedestals are scheduled for replacement in
22 2010.

23

24 Switchgear replacement includes the replacement of existing live front switchgear with
25 dead-front switchgear. Five switchgear units have been identified for 2010.

26

27 **2.2 Distribution Enhancements**

28

29 Ongoing Distribution Enhancement expenditures are planned for 2010 to enhance the
30 operability, safety and reliability of the distribution system. Material expenditures include
31 Line Extensions and System Voltage Conversion, as outlined in following sections.



1 2.2.1 Line Extensions

2

3 Line Extensions are constructed for the purpose of load transfer capability, reliability
4 improvements and power quality improvements. A distribution system study identifies
5 and prioritizes these projects. One individual project in 2010 exceeds the material limit.

6

7 Bilberry Trunk Tie - Outages on the Bilberry 77M1 circuit require switching in the rear of
8 residential lots to restore power. Rear lot switching introduces restoration delays due to
9 yard access issues and problems locating the equipment amongst vegetation, backyard
10 furniture and landscaping. This project will eliminate the need to perform backyard
11 switching to restore outages on the Bilberry 77M1 circuit by extending the 77M6 circuit to
12 backup the 77M1 circuit.

13

14 2.2.2 System Voltage Conversion

15

16 System Voltage Conversion projects involve the retirement of a lower voltage substation
17 or circuit, and the transfer of customer supply to another substation or circuit operating at
18 a higher voltage.

19

20 Three projects have been identified for 2010 with expenditures below the materiality
21 limit. One project, the Kilborn Voltage Conversion Project, has budgeted expenditures
22 that will exceed the materiality limit in 2010.

23

24 The Kilborn Voltage Conversion project is a three-year project with total expenditures of
25 approximately \$4M. Kilborn UP is a 4.16 kV station located in central Ottawa. The
26 station switchgear requires replacement at an estimated cost of \$3.8M and the
27 transformers at an estimated cost of \$1.1M for a total cost of approximately \$5M. The
28 cost averted in station maintenance and station asset replacement by retiring the Kilborn
29 substation will result in a net savings of approximately \$1.5M present value over the next
30 25 years. The voltage conversion project to supply the existing Kilborn load from 13 kV



1 distribution involves infrastructure renewal including pole replacement (section 2.1.3),
2 transformer replacement and insulator replacement.

3 4 **2.3 Facilities Programs – Stations**

5
6 Facilities Programs – Stations consists of ongoing capital expenditures for stations
7 buildings. This program addresses the need to ensure station buildings are able to meet
8 the needs for years to come. Roof, door and window replacements at various stations
9 are included in this program. Also included are the installation of energy efficient
10 equipment, lighting fixtures and low flush toilets

11 12 **2.4 Stations Assets**

13
14 Stations Asset replacement expenditures continue to ensure operability, safety and
15 reliability of substations. Ongoing equipment testing and monitoring of equipment
16 condition is used to identify priority projects.

17
18 Where appropriate, a cost comparison of a station retirement and area voltage
19 conversion is compared to the cost of asset replacement to determine the most
20 appropriate course of action.

21
22 Stations assets budget program expenditures for 2010 include stations plant failure
23 capital, as well as relay, switchgear and transformer replacement. Only the planned
24 asset replacement programs are above the materiality threshold are explained below.

25 26 2.4.1 Stations Switchgear and Station Relay Replacement

27
28 Station Switchgear and Relay Replacement continue per the recommendations in the
29 2005 Asset Management Plan (“2005 AMP”), typically as a combined program. The
30 criterion for replacement is based on age and condition. Two projects have been
31 identified for 2010.



1 The 13.2 kV to 4.16 kV Eastview substation was built in 1956. A maintenance program
2 was completed at this station in 1997 with the intention of extending the useful life of the
3 station by approximately 10 years. The switchgear and relay replacement project began
4 in 2009 and will be completed in 2010 with some finishing work in 2011. The primary
5 switchgear is being replaced with new walk-in metal clad switchgear. All
6 electromechanical relays are being replaced with microprocessor based relays, the
7 current Hydro Ottawa standard.

8
9 The Woodroffe substation is a 115 kV to 13.2 kV substation partially owned and
10 operated by Hydro One Networks Inc. ("Hydro One"). The ownership demarcation point
11 is the load side of the station main breakers. Hydro One is replacing the 4 existing
12 power transformers with two dual-winding transformers. The Hydro Ottawa owned 13.2
13 kV outdoor metal clad switchgear has been in service since 1958 and has reached end
14 of life. Hydro Ottawa is coordinating the Switchgear Replacement and Relay
15 Replacement project with Hydro One's transformer replacement project. The new
16 switchgear includes the required Independent Electricity System Operator wholesale
17 metering. Expenditures for this project in 2010 include design and initial equipment
18 procurement.

19 20 2.4.2 Station Transformer Replacement

21
22 Station Transformer Replacement continues per the recommendations in the 2005 AMP.
23 The criterion for replacement is based on age and condition. Two projects have been
24 identified for 2010.

25
26 A project to replace a failed 44 kV to 8.32 kV transformer at the Blackburn substation
27 began in 2008. Delays with the procurement of the new transformer have extended the
28 project into 2010. The project includes new oil containment, transformer pad, duct
29 system, cables and updates to the ground grid, SCADA and station service. All work will
30 be completed in 2010.



1 Two transformers at the Bronson Substation have been identified for replacement based
2 on poor oil condition tests in 2007. The two 5 MVA transformers were built in 1970. The
3 replacement project began in late 2008 and will be completed in 2010. As part of the
4 project the new transformers will be located outdoors, adjacent to the existing building
5 which houses the existing transformers. The replacement project includes new oil
6 containment, transformer pads, ducts, cables, ground grids as well as updates to
7 SCADA and station services.

8 9 **2.5 Stations Capacity**

10
11 Stations New Capacity involves the installation of new station capacity as identified by
12 system planning analysis. Four stations capacity projects are underway in 2010,
13 Ellwood, Beacon Hill, Fallowfield and Terry Fox. The 2010 Asset Management Plan ,
14 Exhibit B1-2-2, Attachment O, provides additional details on the need for these four
15 projects.

16 17 2.5.1 Ellwood

18
19 Construction of the Ellwood substation began in 2008. The need for this substation was
20 discussed in detail in Hydro Ottawa's 2008 electricity distribution rate application ("2008
21 EDR") and was included as part of the capital expenditures starting in 2008, but at the
22 time it was called the Albion Substation. The Ellwood substation will supply current and
23 future load in the south end of the old City of Ottawa, which is forecast to experience a
24 capacity shortfall beginning in 2012. The substation will consist of a 230 kV high voltage
25 supply from Hydro One, a 230 kV switchyard, two transformers, a station to house the
26 13.2 kV switchgear, relays and controls, and egress cables. Planned activities for 2010
27 include the completion of construction and commissioning. This project is scheduled to
28 be complete in 2010.



1 2.5.2 Beacon Hill

2

3 In March 2009 the Beacon Hill Station was destroyed in a fire (refer to Exhibit D2-1-1).
4 A temporary solution has been constructed to supply the customers of the station. This
5 project involves the design and construction of a new substation to replace the failed
6 Beacon Hill Station. Work in 2010 will consist of design, equipment procurement and
7 start of civil construction. The project is scheduled to be complete in 2011.

8

9 2.5.3 Terry Fox

10

11 The Stittsville and south Kanata areas are currently supplied by 2 separate distribution
12 voltages. The Bridlewood, Kanata and Alexander substations supply more than 90
13 percent of this region at 27.6 kV. This area has seen continued development and load
14 growth and is forecast to experience a capacity shortfall beginning in 2013. A project to
15 construct a new 230 kV to 27 kV substation located in south Kanata, named Terry Fox,
16 started in 2009. The 2010 expenditures consist of items related to procurement of land.
17 Project completion is planned by the end of 2013.

18

19 2.5.4 Fallowfield

20

21 There has been a significant growth in the demand in the southern suburban areas of
22 Ottawa, particularly in the Barrhaven area. Over the past seven years this load has
23 grown at 7% per year and is expected to continue at this pace for the foreseeable future.
24 Area demand is expected to exceed the supply capacity in 2019. The load in the area
25 already exceeds the supply capacity under single transformer loss contingency.

26

27 With the addition of a second 115 kV to 27 kV transformer at the newly acquired
28 Fallowfield substation, the transformation contingency capacity for the area will no longer
29 be in a deficit. The 2010 expenditures consist of equipment procurement and
30 construction activities. Project completion is planned by the end of 2011.

31



1 The following options were considered to address the forecasted capacity shortfall:

2

- 3 • Option 1: Additional Transformation at Uplands
- 4 • Option 2: New Substation
- 5 • Option 3: Additional Transformation at Fallowfield

6

7 Option 1: Additional Transformation at Uplands

8 This option was originally planned to start construction in 2008 and was described in the
9 2008 EDR Application as “South Nepean and South Gloucester 27.6 kV Area”. The
10 option would have increased capacity at Uplands Substation, allowing for load to be
11 transferred from Limebank Substation to Uplands Substation, resulting in the Limebank
12 Substation supplying increased capacity on both sides of the Rideau River via a second
13 crossing at Earl Armstrong. Although this was a viable and cost effective option, it did
14 include the challenge of transferring load a distance and over the Rideau River, which
15 has limited capacity crossing it until the Earl Armstrong Bridge is constructed.

16

17 With the pending purchase of the Fallowfield substation this project was cancelled to
18 construct the preferred technical solution of adding a second transformer to the
19 Fallowfield substation as outlined in Option 3.

20

21 Option 2: New Substation

22 This option was considered to address the capacity shortfall. Construction of a new
23 substation would involve land purchase, environmental assessment, new transmission
24 connection and new station egress construction. This option was not selected as the
25 less costly option of installing additional capacity within an existing substation was
26 viable.

27

28 Option 3: Additional Transformation at Fallowfield

29 During 2008 Hydro Ottawa determined it would be able to purchase Richmond South
30 and Fallowfield Substations from Hydro One. The purchase of these substations
31 included the land and the substation equipment, and allow Hydro Ottawa to supply



1 customers in South Nepean through local capacity increases at the Fallowfield
2 Substation, rather than from a distance across the Rideau River.

3
4 The addition of a second transformer at Fallowfield Station was selected. This option is
5 the least complicated and least costly solution considered because:

- 6
7
- 8 • Hydro Ottawa owns the land, which is appropriately zoned for the use,
 - 9 • There is sufficient space within the land parcel for the second transformer,
 - 10 • Hydro One transmission is already in place, and
 - 11 • The additional capacity is located near the load growth.

12 **2.6 Stations Enhancements**

13
14 Stations Enhancement projects include capital repairs and refurbishment of existing
15 stations assets for the purposes of extending the life of the assets. None of the
16 individual projects in 2010 exceed the materiality threshold. Projects continuing in 2010
17 include items such as of transformer cooling fan installations, reclose blocking
18 installations, transformer neutral relocations and stations battery replacements.

20 **2.7 Miscellaneous Programs**

21
22 The sustainment budget consists of the aforementioned material programs, as well as a
23 number of programs with budgeted expenditures below the materiality threshold. The
24 budget for the material programs is shown here as a sum of the individual budgets.

25
26 In 2010, the smaller capital programs consisted of Distribution Automation and System
27 Operations Automation.

28
29 In 2010, the smaller budget programs consisted of:

- 30
31
- System Reliability,



- 1 • Distribution Automation,
- 2 • Distribution Minor Enhancements,
- 3 • Elbow and Insert Replacement,
- 4 • Insulator Replacement Program,
- 5 • O/H Equipment New and Rehabilitation,
- 6 • Distribution Plant Miscellaneous,
- 7 • Stations Plant Failure Capital,
- 8 • SCADA - RTU Additions, and
- 9 • SCADA Upgrades.

10
 11
 12 **3.0 DISTRIBUTION CAPITAL EXPENDITURES, DEMAND**

13
 14 **Table 4 – Distribution Expenditures, Demand by Capital and Budget Program**

	Capital Program	Budget Program	2010 \$000
3.1	Commercial	New Commercial Development	\$5,563
3.2	Damage To Plant	Damage to Plant	1,270
3.3	Infill & Upgrade	Infill Service	2,836
3.4	Metering	Smart Meters	2,720
3.5		Suite Metering	656
3.6	Plant Relocation	Plant Relocation & Upgrade	6,812
3.7	Residential	Residential Subdivision	6,552
3.8	System Expansion	System Expansion Demand	2,811
3.9	Miscellaneous		611
TOTAL			\$29,832

15
 16 **3.1 New Commercial Development**

17
 18 The New Commercial Development program includes new development connections
 19 greater than 600 V primary which are not “Infill and Upgrade”. Influences for commercial



1 development include the state of the local economy, commercial vacancy rates, Federal
2 and Provincial construction activity.

3
4 Forecast commercial development expenditures for 2009, developed in the summer of
5 2009, indicated an expenditure decrease in this category to \$5.5M for the year, a level of
6 expenditures not seen since 2005. This forecast was used as the basis to construct the
7 budgets for 2010 and beyond.

8
9 Hydro Ottawa tracks development review circulations by number and estimated load for
10 circuit load planning. The number and size of Site Plan Proposals are indicators for
11 capital expenditures for future years in Infill and Upgrades and New Commercial
12 construction. Proposals may be constructed in the year they are circulated or in
13 subsequent years, if approved by the City of Ottawa (the "City"). Consequently, Hydro
14 Ottawa expects to see only a portion of the circulated proposals to proceed in
15 subsequent years.

16
17 **Table 5 - Site Plan Proposals**

Site Plan Proposals	Number of Circulations			Estimated Load (kW)		
	2007	2008	2009	2007	2008	2009
Q1 & Q2	93	102	86	18,260	23,112	22,650
Q3 & Q4	102	100	79	27,566	31,685	27,363
Total	195	202	165	45,826	54,797	50,013

18
19 Site Plan Proposal circulation levels in 2008 were higher than those in 2007. When
20 reviewed in the summer of 2009, the numbers for 2009 were on track with previous
21 years. The circulation levels indicated that although construction may have slowed in
22 recent years, the development community remained strong and anticipated an
23 improvement in the economy.



1 Commercial vacancy rates in the City have increased in recent years, however, in Q2 of
2 2009, at 5.1%, was the lowest of major Canadian markets¹. The downtown vacancy rate
3 was very low at 2.9%².

4

5 Lower private sector investment in commercial development was countered by
6 government and institutional projects (Algonquin College expansion, Stimulus spending).

7

8 Based on this analysis performed in the summer of 2009, commercial construction was
9 expected to remain near 2009 forecast levels in 2010.

10

11 The actual commercial development expenditures for 2009 were \$7.8M, higher than
12 forecast and unexpectedly near peak expenditures of 2007.

13

14 **3.2 Damage to Plant**

15

16 The Damage to Plant budget for 2010 and beyond was created in the summer of 2009,
17 and based on 2009 forecast expenditures. Damage to plant incidents are forecast to
18 increase in 2010 above 2009 levels due to the increased volume of construction work
19 within the City roadways due to the City's receipt of infrastructure stimulus funds, and the
20 continuing levels of private residential and commercial development.

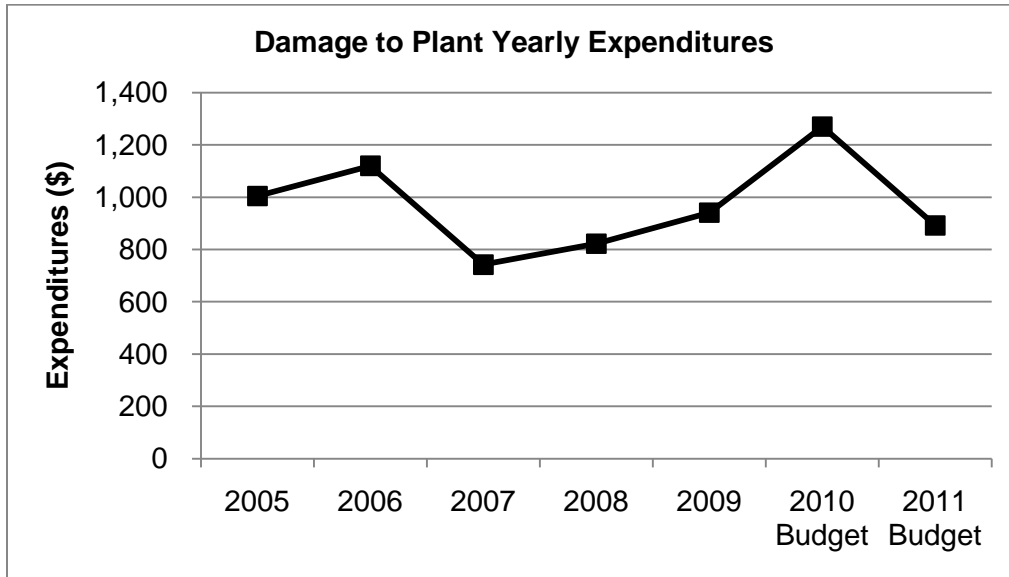
21

¹ Ottawa Business Journal Staff, *Ottawa's commercial vacancy rate stands pat*, Ottawa Business Journal, Jun 22 2009

² Peter Kovessy, *Arnon asks to double permitted density of Little Italy development site*, Ottawa Business Journal, July 13, 2009



1 **Figure 2 – Damage to Plant Expenditures, 2005 through 2011**



2

3

4 The actual expenditures in 2009 did increase over 2008 levels, as forecasted, which
5 further supports the expectation that required 2010 expenditures will be higher than
6 those in 2008.

7

8 **3.3 Infill Service**

9

10 The City's *Official Plan* encourages urban intensification. The focus on intensification is
11 expected to increase the amount of urban infill projects.

12

13 Infill Service development is expected to remain at levels of past years, which were
14 approximately \$2.8M in each of 2008 and 2009.

15

16 **3.4 Smart Meters**

17

18 Smart Metering is contained in Exhibit I2-1-1.

19



1 **3.5 Suite Metering**

2
3 Starting in 2010 Hydro Ottawa is piloting a new metering technology to its load
4 customers. Construction of new buildings with multiple customer units will have the
5 option to install conventional meter base individual unit Smart Metering, bulk metering, or
6 where Hydro Ottawa's conditions are met, Suite Metering. Hydro Ottawa's Suite
7 Metering option consists of multiple customer metering systems, as defined by
8 Measurement Canada, and associated communications equipment required by Hydro
9 Ottawa to remotely interrogate the meters.

10
11 Condominium corporations and rental units will also be able to retrofit their Hydro Ottawa
12 metering with the Suite Metering offering, where conditions are met.

13
14 **3.6 Plant Relocation and Upgrade**

15
16 The City's emphasis on intensification in the *Official Plan* has resulted in an increased
17 number of Development Review Circulations containing proposed structures conflicting
18 with Hydro Ottawa equipment locations and clearance standards. The proportion of
19 private developments requesting plant relocations are expected to increase in future
20 years to accommodate urban intensification based construction.

21
22 The City has received infrastructure stimulus funding, and consequently City driven
23 "plant relocation" projects are consequently expected to increase during 2009 and 2010.
24 The exact impact on Hydro Ottawa's equipment and budgets was been estimated to
25 have an impact of adding approximately 50% to the 2010 Relocations Program.

26
27 Plant Relocation and Upgrade Expenditures for 2009 were higher than in 2008, which
28 further support the expectation that required 2010 expenditures will be higher than those
29 in 2008.



1 **3.7 Residential Subdivision**

2

3 The Residential Subdivision program includes trunk servicing the development of new
4 residential and mixed use subdivisions, and the connection of residential units within
5 these subdivisions.

6

7 Hydro Ottawa tracks development review circulations by number and an estimated load.
8 The number and size of Plan of Subdivision Proposals are indicators for capital
9 expenditures in residential construction in future years. Proposals may be constructed in
10 the year they are circulated or in subsequent years, if approved by the City.

11 Consequently, Hydro Ottawa expects to see only a portion of the circulated proposals to
12 proceed in subsequent years.

13

14

Table 6 - Plan of Subdivision

Plan of Subdivision Proposals	Number of Circulations			Estimated Load (kW)		
	2007	2008	2009	2007	2008	2009
Q1 & Q2	10	13	4	5,379	6,874	828
Q3 & Q4	17	4	3	11,687	3,229	3,389
Total	27	17	7	17,066	10,103	4,217

15

16 As shown in Table 6, the number of Plan of Subdivision Proposals and the associated
17 load has significantly dropped between 2007 and 2009. Residential construction does
18 continue; however, developers are believed to have a backlog of land approved for
19 development, and consequently do not have a need to plan additional development in
20 light of declining sales.

21

22 There has been a direct correlation between Hydro Ottawa's residential capital
23 expenditures and the CMHC new housing starts¹ for 2006 through 2008. Hydro Ottawa
24 does not service the entire area included in the CMHC report, however the correlation
25 was fairly strong regardless, and is a reasonable indicator of economic activity. The

¹ Canadian Housing and Mortgage Corporation, Housing Market Outlook Ottawa, Spring 2009



1 CMHC report includes discussions on economic indicators for Ottawa, explaining the
2 rational for the forecast 2009 and 2010 new housing starts.

3
4 In the summer of 2009, the residential construction expenditures for 2009 were
5 budgeted to remain at 2009 forecast levels, based on the analysis of development
6 applications and the CMHC forecasts.

7
8 Actual expenditures for 2009 were higher than forecast, but did drop from the peak
9 levels in 2008. The residential subdivision budgeted expenditures for 2010 and beyond
10 were constructed in the summer of 2009 and based on 2009 forecasts.

11 12 **3.8 System Expansion**

13
14 Expenditures for the System Expansion program are based on historic values. These
15 projects are often identified during the budget year the project occurs in, in order to
16 support residential and commercial development.

17
18 Also contained within the System Expansion expenditures is a small amount to transfer
19 long term load transfer customers to Hydro Ottawa supply.

20 21 **3.9 Miscellaneous Programs**

22
23 The demand budget consists of the aforementioned material programs, as well as a
24 number of programs below the materiality threshold. The budget for the material
25 programs is shown here as a sum of the individual budgets. In 2010, these smaller
26 demand programs consisted of:

- 27
28
- Wholesale Meter Upgrade Program,
 - 29 • Embedded Generation Projects,
 - 30 • Long Term Load Transfers, and
 - 31 • Remote Disconnect Meters



1 **4.0 DISTRIBUTION CAPITAL EXPENDITURES, CAPITAL CONTRIBUTIONS**

2

3

Table 7 – Distribution Expenditures, Demand Capital Contributions

	Budget Program	2010 \$000
4.0	New Commercial Development	(\$5,547)
4.0	Damage to Plant	(635)
4.0	Infill Service	(1,248)
4.0	Plant Relocation & Upgrade	(3,411)
4.0	Residential Subdivision	(4,997)
4.0	Embedded Generation Projects	(63)
4.0	System Expansion Demand	(845)
4.0	TOTAL	(\$16,746)

4

5 Capital contributions were budgeted based on historic percentages of contributions in
6 each budget program.

7

8 **Table 8 – Demand Capital Contributions as Percentage of Capital Expenditures**

Budget Program	Contribution (%)
New Commercial Development	99
Damage to Plant	50
Infill Service	44
Plant Relocation and Upgrade	50
Residential Subdivision	76
Embedded Generation Projects	100
System Expansion Demand	30

9



1 **GENERAL PLANT CAPITAL EXPENDITURES, 2010 BRIDGE YEAR**

2

3 **1.0 INTRODUCTION**

4

5 This Exhibit provides general plant capital expenditures for the Bridge Year.
6 Justifications for expenditures that exceed the materiality limit of \$750k are discussed in
7 the following sections. These expenditures are included in the Total Capital
8 Expenditures shown in Table 1 of Exhibit B4-3-1.

9

10 Table 1 lists programs/projects that exceed the materiality limit of \$750k and those that
11 must be shown to avoid significant components of the capital budget in the
12 miscellaneous category. A justification for these programs/projects is provided in
13 Section 2.0 and the reference numbers in the table correspond to the write up. All
14 expenditures are shown without contributed capital.

15

16

Table 1 – General Plant Expenditures

Section	Budget Program	2010 \$000
2.1	Buildings - Facilities	\$1,248
2.2	CIS Enhancements	1,896
2.3	Environmental Sustainability Strategy	548
2.4	Fleet Replacement	2,232
2.5	GIS/OMS/CIS/IVR Integration	493
2.6	GRM System Enhancements	653
2.7	Information Service and Technology	1,697
2.8	ERP/JDE Project	1,130
2.9	New PC & Peripheral	758
2.10	PC/Peripheral Replacement	220
2.11	Tools Replacement Budget	792
2.12	Adaptive Streetlighting	486
2.13	Miscellaneous	665
	TOTAL	\$12,818

17



1 **2.0 GENERAL PLANT CAPITAL EXPENDITURES**

2

3 **2.1 Buildings Facilities**

4

5 Hydro Ottawa Limited (“Hydro Ottawa”) operates five work centres; Albion, Bank,
6 Carling, Merivale and Maplegrove. The work centres contain a mix of administrative
7 offices, warehouses, vehicle bays, construction offices, control rooms, and related
8 functions. Ongoing maintenance and capital investments are required to maintain the
9 sites in good working order. Planned capital expenditures in 2010 include general
10 repairs of rooftop units, windows and doors as well as security improvements at each of
11 the five sites. Additional expenditures will be undertaken for environmental initiatives as
12 part of the Environmental Sustainability Strategy; Exhibit B1-2-8, but with full
13 consideration of the Facilities Strategy contained in Exhibit B1-2-5.

14

15 **2.2 Customer Information System CIS Enhancements**

16

17 CIS Enhancements are undertaken on an annual basis to achieve new regulatory
18 requirements and to facilitate improved business efficiencies. Premier Support is not
19 available in 2010 for the People Soft CIS, which is expected to increase costs.
20 Expenditures are also budgeted for changes that will be triggered from the onset of Time
21 of Use rates and the Meter Data Management/Repository.

22

23 **2.3 Environmental Sustainability Strategy**

24

25 Refer to Exhibit B1-2-8 for information regarding the Environmental Sustainment
26 Strategy and related expenditures.

27

28 **2.4 Fleet Replacement**

29

30 Hydro Ottawa continues investment in its fleet in 2010 to meet operational requirements
31 through replacements and refurbishments. Expenditures for 2010 support the strategy



1 in Exhibit B1-2-5, and are contained in Table 2; numbers in parenthesis indicate
2 additional vehicles, whereas other numbers indicate a replacement.

3
4

Table 2 – 2010 Fleet Expenditures

Unit Type	2010 Budget
Cars	3
Bucket trucks	2
Stake trucks/Flatbed trucks	0
Radial Boom Derricks	2 + (1)
Knuckle boom trucks	0
Compact pickup trucks	0
Full size pickup trucks	1
Full size cargo vans	0
Compact vans	2
Step Vans/Cube vans	0
Forklifts	0
Tension machines	2 (Refurbish)
Trailers	3
Total	16

5

6 Additional expenditures will be undertaken for environmental initiatives as part of the
7 Environmental Sustainability Strategy; Exhibit B1-2-8.

8

9 **2.5 GIS/OMS/CIS/IVR Integration**

10

11 Hydro Ottawa will continue to focus on improved customer service in 2010 by continuing
12 to leverage its investment in Integrated Voice Recognition (“IVR”) technology. Projects
13 will enable customer focused IVR Application development and other enhancements
14 including the following.

15

- 16 • Update the customer with recorded outage messaging without human
17 intervention by using the voice recognition and text-to-speech functionality.



- 1 • Develop additional customer self serve applications such as Account Balance
2 Inquiry and Last Payment Inquiry.
3 • Develop the ability for customers to make a payment in an automated way using
4 a credit card Payment.
5

6 Additional development efforts will focus on:

- 7
8 • Providing customer outage information via web outage maps,
9 • Automating the provision of outage information to Hydro Ottawa's Key Account
10 Group, and
11 • Enhancing the Web alerts system through integration with outage Management
12 System.
13

14 **2.6 GRM System Enhancements**

15
16 Geographic Resources Management ("GRM") System Enhancement expenditures
17 continue as business needs and technologies evolve. Expenditures in 2010 include
18 ongoing software licensing and mobile unit deployment as well as the purchase and
19 configuration of One Portal Software, a web based mapping outage tool for customers.
20

21 **2.7 Information Service and Technology**

22
23 Hydro Ottawa will continue to maintain and improve appropriate system security,
24 redundancy, reliability, availability, lifecycle management of IT equipment and related
25 services. Acquisition of software, hardware, systems and services will be made to
26 support the ongoing demands of the business in 2010.
27

28 Replacement of network servers and switches, acquisition of security applications,
29 storage networks, training tools, monitoring tools and software as well as enhancements
30 to the telecommunications system is part of the overall support plan to meet expanding
31 requirements of the business.



1 **2.8 ERP / JDE Project**

2

3 Expenditures in 2010 are for the completion of the JDE version 9.0 upgrade project
4 started in 2009. The prime driver for the upgrade was to support the internal
5 implementation of International Financial Reporting Standards.

6

7 **2.9 New PC and Peripheral**

8

9 New PCs and Peripherals expenditures include additions to the “computer equipment” at
10 Hydro Ottawa. Typical expenditures include computers for new staff, newly identified
11 printer and plotter requirements, new software and upgrades to existing equipment to
12 make staff more mobile.

13

14 **2.10 PC and Peripheral Replacement**

15

16 Hydro Ottawa continues to maintain appropriate lifecycle management of information
17 technology equipment as outlined in Exhibit B1-2-4, IT Strategy. Under this program,
18 desktops, laptops, and printers that had reached end-of-life will be scheduled for
19 replacement.

20

21 **2.11 Tool Replacement**

22

23 Hydro Ottawa’s work force requires tools for ongoing operation, construction,
24 maintenance and repair of its distribution system and fleet. Tools are integral for staff to
25 perform work safely and efficiently.

26

27 Some of the tools Hydro Ottawa employees use are commonly recognized tools such as
28 wrenches and ladders, whereas, other tools are industry specific, such as insulated live
29 line tools. Hydro Ottawa’s trades staff work in proximity to dangerous voltage levels, at
30 heights, in confined spaces and in all kinds of weather. Having the appropriate
31 protective devices and tools is critical to the safety of personnel.



1 Expenditures are budgeted every year for identified tools that require replacement due to
2 normal wear. In addition to the normal replacement, new tools may be purchased due to
3 technology advancements, a new legislative requirement and new staff.

4
5 Specific tools budgeted for purchase 2010 include single phase relay test sets, station
6 battery discharge test sets, a corona detector, earth resistance meters, fault finding
7 equipment, underground pulling equipment, overhead stringing travelers, ground sets
8 and power quality monitoring equipment.

10 **2.12 Adaptive Streetlighting**

11
12 The City of Ottawa (the “City”) owns and operates street lights which are controlled by
13 photocells, coming on at dusk and remaining on until dawn. Technology has recently
14 been developed to control street light lighting level output based on ambient lighting
15 levels, providing energy savings, reducing costs and greenhouse gas emissions, without
16 degrading service quality. Energy savings for a 250 Watt fixture are estimated to be 40
17 percent when dimmed to 50 percent of the lumen output.

18
19 Hydro Ottawa and the City are undertaking a two phase pilot project in 2010 to
20 demonstrate this technology. The initial phase will establish the protocols and best
21 practices for the installation and operation of the lights. The second phase will increase
22 the number of units installed and have deployments in several wards in the City
23 providing the opportunity for a more extensive demonstration and greater public
24 exposure.

25
26 The results of the pilot will provide the information and recommendations for possible
27 expansion of the program to additional street lights with the City and other users, such
28 as the National Capital Commission, Ministry of Transportation, and other parties with
29 road way, parking lot and garage lighting.

30



1 **2.13 Miscellaneous**

2

3 The general plant budget consists of the aforementioned material programs, as well as
4 programs below the materiality threshold. The budget for the material programs is
5 shown here as a sum of the individual budgets. In 2010, the smaller sustainment
6 programs consist of:

7

- 8 • Electronic Collection Field Activities,
- 9 • Furniture & Equipment,
- 10 • Outbound Calling Auto-Dialer, and
- 11 • Website Enhancements.



DISTRIBUTION CAPITAL EXPENDITURES, 2011 TEST YEAR

1.0 INTRODUCTION

This Exhibit provides a summary of total capital expenditures, distribution and general plant for the Test Year, 2011. Discussions on yearly distribution capital expenditures are included in the following sections of this Exhibit and general plant capital expenditures are discussed in Exhibit B4-4-2.

Table 1 provides details of total capital expenditures for the Test Year in the groupings provided in the Ontario Energy Board 2006 Electricity Distribution Rate Model. This includes an adjustment for the Harmonized Sales Tax (“HST”) as described below.

Table 1 – 2011 Capital Expenditures

Capital Expenditures	2011 Budget \$000
Land and Buildings	9,334
TS Primary Above 50	12,182
DS	3,386
Poles, Wires	34,643
Line Transformers	8,963
Services and Meters	11,894
General Plant	1,155
Equipment	4,052
IT Assets	7,520
Other Distribution Assets	2,161
Gross TOTAL	\$95,291
Capital Contributions	(\$16,570)
Net TOTAL	\$78,721

Hydro Ottawa Limited’s (“Hydro Ottawa”) 2011 Capital Budget was prepared prior to the enactment of the HST legislation and therefore did not include the effect of the input tax



1 credit (“ITC”). After a preliminary analysis of the impact of the HST on capital expenses,
2 the decision was taken to reduce capital expenditures by \$3M. This was done by
3 reducing all stock and non-stock material costs by the same percentage. This reduction
4 applies to all categories of capital expenditures: Sustainment, Demand, General Plant
5 and Green Energy Act.

6
7 Hydro Ottawa plans and budgets work by program and project; therefore, the variances
8 in Table 1 will be explained in terms of these programs/projects. Table 2 that follows
9 shows the distribution capital programs and Table 3 shows those programs that exceed
10 the materiality limit of \$750k, and those that must be shown to avoid significant
11 components of the capital budget in the miscellaneous category.

14 **2.0 DISTRIBUTION CAPITAL EXPENDITURES, SUSTAINMENT**

16 **Table 2 – Distribution Expenditures, Sustainment by Capital Program**

	Capital Program	2011 \$000
2.1	Facilities Programs - Stations	\$707
2.2	Distribution Asset	15,709
2.3	Distribution Enhancement	9,004
2.4	Stations Asset	2,164
2.5	Stations Capacity	13,834
2.6	Stations Enhancement	728
2.7	Automation	3,078
	TOTAL	\$45,224

17



1 **Table 3 – Distribution Expenditures, Sustainment by Capital and Budget Program**

	Capital Program	Budget Program	2011 \$000
2.1	Facility Programs - Stations	Facility Programs - Stations	\$707
2.2.1	Distribution Asset	Cable Replacement EOL	2,004
2.2.2		Civil Rehabilitation Program	596
2.2.3		Distribution Transformer Replacement	2,425
2.2.4		Pole Replacement	7,097
2.2.5		Plant Failure Capital	2,411
2.3.1	Distribution Enhancement	Line Extensions	5,393
2.3.2		System Voltage Conversion	1,331
2.4.1	Stations Asset	Stations Switchgear and Relay Replacement	439
2.4.2		Stations Transformer Replacement	1,119
2.5	Stations Capacity	Stations New Capacity	13,834
2.6	Stations Enhancement	Stations Enhancements	728
2.7.1	Automation	Distribution Automation	719
2.7.2		SCADA Upgrades	1,056
2.8	Miscellaneous		5,365
		TOTAL	\$45,224

2

3 **2.1 Facilities Programs –Stations**

4

5 As of the end of 2009, Hydro Ottawa owned or co-owned with Hydro One Networks Inc.
 6 (“Hydro One”) 84 substations. Capital investment in substation facilities is required to
 7 maintain the sites in working order. Expenditures in 2011 include the replacement of
 8 roofs, doors, windows and the like, as well as security improvements such as cameras
 9 and conversion from key locks to swipe card access.

10

11 **2.2 Distribution Asset Replacement**

12

13 Distribution assets are those assets that deliver electricity from substation supplies to
 14 load customer premises, and/or allow for the connection of customer owned generation.
 15 Distribution Asset Replacement continues in 2011 to ensure the safety, operability and



1 reliability of the distribution system. The methodology used for budgeting this capital
2 program in 2011 is outlined in the Hydro Ottawa *2010 Asset Management Plan* (“2010
3 AMP”), contained in Exhibit B1-2-2, unless specifically indicated otherwise.

4
5 2.2.1 Cable Replacement

6
7 Cable Replacement expenditures will continue in 2011 based on the 2010 AMP.

8
9 Replacement projects were identified by reviewing customer interruptions caused by
10 defective underground cable. Cable Replacement projects will include the construction
11 of concrete duct for trunk cable or buried conduit for distribution cable. The opportunity
12 is often taken in these projects to rearrange the circuit to improve operability.

13
14 None of the individual projects in 2011 have budgeted expenditures that exceed the
15 materiality threshold. The Grey Nuns Phase I project that is budgeted for 2010
16 continues in 2011 under the project Grey Nuns Phase II, with budgeted capital
17 expenditures of approximately \$600k.

18
19 2.2.2 Civil Rehabilitation

20
21 The Civil Rehabilitation program consists of the replacement or the refurbishment of
22 underground concrete civil structures such as duct banks, sidewalk vaults and
23 underground chambers. Asset data is gathered through an ongoing inspection program,
24 which results in a condition rating for each asset. Refurbishments and replacements are
25 prioritized based on risk-consequence analysis, and may be coordinated with third party
26 construction to avoid reinstatement costs. Expenditures in 2011 are for the planned
27 refurbishment of underground chamber roofs and the rebuild of underground chambers.
28



1 2.2.3 Distribution Transformer Replacement

2

3 The Distribution Transformer Replacement program includes the unplanned and planned
4 replacement of distribution transformers. This program is largely driven by Regulation
5 SOR/2008-273, which sets specific deadlines for ending the use of Polychlorinated
6 Biphenyls (“PCBs”) in concentrations at or above 50 mg/kg; eliminating all PCBs and
7 equipment containing PCBs currently in storage and limiting the period of time PCBs can
8 be stored before being destroyed.

9

10 Expenditures in 2011 include approximately \$1.8M for the replacement of a portion of
11 the vault and overhead transformers requiring replacement due to the regulation, as well
12 as aged transformer replacement.

13

14 2.2.4 Pole Replacement

15

16 A major component of Hydro Ottawa’s overhead distribution is wood poles. Hydro
17 Ottawa owns and/or operates on approximately 62,000 wood poles. The safe, reliable
18 operation of the distribution system depends on the condition of pole assets.

19

20 Hydro Ottawa continues Pole Replacement in 2011 based on the 2010 AMP. To
21 prioritize Pole Replacement projects, the service area was divided into 1 km by 1.5 km
22 cells, corresponding to plot areas within the Geographic Information System. Each cell
23 was considered a project, and ranked by the percentage of poles meeting or exceeding
24 a predefined risk tolerance.

25

26 The Pole Replacement budgeted expenditures in 2011 consists of four defined projects
27 and an allocation of approximately \$100k for unplanned replacements. The four material
28 projects are described below.

29



1 Plot Area 54B2C

2 This area is east of the Rideau River and is roughly bounded by Walkley Road to the
3 south, Riverside Road to the west, Brookfield to the north, and extends east of the
4 Airport Parkway. Development in the area is primarily residential. Approximately 60 of
5 the 350 poles in this area require replacement. The significant proportion of rear-lot pole
6 locations will require coordination to limit disruption to local residents and limit costs.

7

8 Plot Area 65A3D

9 This area stretches between Montreal Road and Beechwood Avenue adjacent to the
10 Rideau River. Approximately 190 of the 876 poles in the area require replacement. The
11 overhead station egresses from two 4 kV stations, Dagmar and Vaughan, are located in
12 this area, resulting in it being a priority due to the high number of customers whose
13 supply reliability is contingent on the circuits supported by these poles.

14

15 Plot Area 65A4C

16 This area is located on the northern edge of Vanier. Twenty-five percent of the 442
17 poles in this region require replacement. Pole replacements in this area will be more
18 expensive than average due to the high number of circuits installed per pole under the
19 legacy 4 kV construction standard, in some cases four or more circuits are installed on
20 individual poles. Further complications may occur in order to accommodate the
21 congested overhead feeder egress from the Beechwood substation.

22

23 Kilborn VC Pole Replacement

24 Budgeted project expenditures are for the replacement of 108 poles to support the
25 Kilborn Voltage Conversion project described in Section 2.3.2. The project cells which
26 cover this area have been prioritized in the short term due to pole condition and inherent
27 risk. The pole replacement has been accelerated to enable the voltage conversion.

28



1 2.2.5 Plant Failure Capital

2

3 Plant Failure Capital expenditures are for the replacement of distribution equipment,
4 outside of substations, that fail during the year. Hydro Ottawa endeavours to limit the
5 amount of Plant Failure Capital incidents and expenditures through asset condition
6 assessment and planned replacement; however, the asset replacement of some
7 equipment classes is at failure, and it is impractical to cost effectively eliminate all other
8 plant failures.

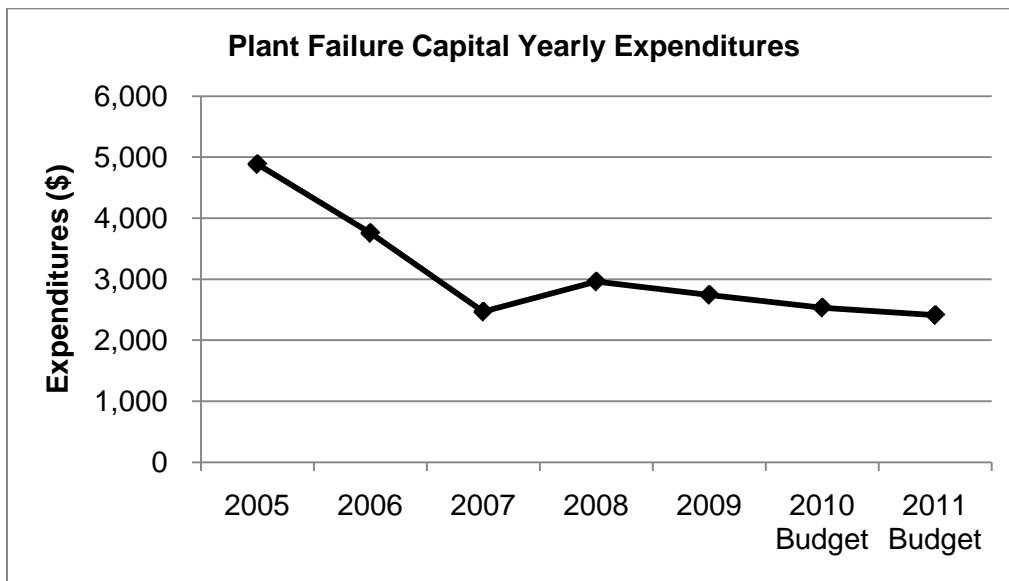
9

10 Plant failure information is captured and analysed within the asset management planning
11 process to determine asset failure rates and appropriate replacement levels. Budgeted
12 2011 expenditures are based on historic levels.

13

14

Figure 1 – Plant Failure Capital Expenditures, 2005 through 2011



15

16

17 Plant failure that occurs within substations is budgeted for separately in Stations Plant
18 Failure Capital, and is not expected to be above the materiality threshold in 2011.

19



1 **2.3 Distribution Enhancements**

2

3 Ongoing Distribution Enhancement expenditures are planned for 2011 to enhance the
4 operability, safety and reliability of the distribution system, as detailed in the 2010 AMP.

5 Material expenditures include Line Extensions and System Voltage Conversion, as
6 outlined in following sections.

7

8 2.3.1 Line Extensions

9

10 Line Extensions are constructed for the purpose of load transfer capability, reliability
11 improvements and power quality improvements. System study results identifying
12 required line extensions were included in the 2010 AMP. These projects were identified
13 and prioritized based on the contingency condition of being able to restore load within a
14 defined period of time. The required restoration timeframe for loss of distribution supply
15 to an area indicates the criticality of a project. Four Line Extension projects exceed the
16 materiality threshold in 2011.

17

18 Ellwood Egress

19 As part of the integration of the new Ellwood station into the distribution system, ten
20 feeders will be cut over to Ellwood MTS. The design of these feeders was based on the
21 elimination of hair-pinned feeders at Albion TA as well as the load which they feed.

22

23 Cambrian Road 28 kV Tie

24 A new two km pole line will be constructed west of River Mist Road to Cedarview Road
25 along Cambrian Road. This line will provide a back-up supply to the Half Moon Bay
26 development which currently has a single radial supply. There is proposed additional
27 development for this area which already contains 1,300 customers.

28

29 Billberry M2 extension – Mer Bleue

30 The area located in the south east portion of the service territory is currently serviced
31 from a single phase overhead line along Renaud Road and a 3-phase 8.32 kV overhead



1 line along Navan Road. There have been a number of proposed residential
2 developments in the area surrounding Navan Road and Renaud Road. To
3 accommodate these neighbourhoods a new 3-phase 27.6 kV feeder is required.

4

5 The extension of the 77M2 circuit on Mer Bleue Road will create two loops to the 77M5
6 circuit so that the residential developments will not be by a single radial supply and the
7 trunk circuits will have alternate routes to supply the area.

8

9 New Cyrville Feeder

10 Cyrville MTS was constructed to relieve load from, and backup, Moulton MS and Bilberry
11 Creek TS. Two of the four feeder positions available are in use. A third circuit from
12 Cyrville MTS is needed to provide a backup for Moulton MS, and meet the requirements
13 of the Connection Cost Recovery Agreement with Hydro One.

14

15 2.3.2 System Voltage Conversion

16

17 System Voltage Conversion projects involve the retirement of a lower voltage substation
18 or circuit, and the transfer of customer supply to another substation or circuit, operating
19 at a higher voltage.

20

21 In 2011 one project will proceed with expenditures that exceed the materiality limit,
22 Kilborn Voltage Conversion.

23

24 The Kilborn Voltage Conversion project is a 3-year project with total expenditures of
25 approximately \$4M. Kilborn UP is a 4.16 kV station located in central Ottawa. The
26 station switchgear requires replacement at an estimated cost of \$3.8M and the
27 transformers at an estimated cost of \$1.1M for a total cost of approximately \$5M. The
28 cost averted in station maintenance and station asset replacement by retiring the Kilborn
29 substation will result in a net savings of approximately \$1.5M present value over the next
30 25 years. An additional benefit of voltage conversion is a reduction in distribution losses.
31 The Voltage Conversion project to supply the existing Kilborn load from 13 kV



1 distribution involves infrastructure renewal including pole replacement (section 2.2.4),
2 transformer replacement and insulator replacement.

3
4 Expenditures in 2011 include conversion of a vault, installation of a new switching
5 centre, and upgrade of insulation and transformers to operate at 13 kV.

6 7 **2.4 Stations Assets**

8
9 Hydro Ottawa owns, and/or co-owns with Hydro One, 84 substations. Substation Assets
10 consist of power transformers, circuit breakers, switches, associated protective relay
11 equipment and wholesale meters. These assets are not treated as pooled assets, as
12 Hydro Ottawa has complete data registries for the major equipment within substations.
13 Evaluation of equipment age, condition, and consequence of failure are used to
14 determine maintenance, refurbishment and replacement requirements.

15 16 2.4.1 Station Switchgear and Relay Replacement

17
18 Hydro Ottawa currently manages approximately 175 switchgear assemblies containing a
19 total of 883 breakers, 56 reclosers and 1,009 switches. More than half of the assemblies
20 are 40 years or older. Switchgear Replacement projects typically involve replacing and
21 upgrading all associated components, to meet current standards and safety practices. If
22 the station protective relays are contained within the switchgear, Relay Replacement is
23 coordinated as part of the overall project.

24
25 Physical condition of switchgear is evaluated during regular maintenance inspections.
26 Equipment condition, failure consequence, and failure probability are considered when
27 identifying and prioritizing Switchgear Replacement projects as outlined in the 2010
28 AMP.

29
30 Expenditures in 2011 include three projects with individual budgets below the materiality
31 threshold:



- 1 • Completion of Eastview switchgear replacement started in 2009,
2 • Replacement of two reclosers at Merivale, and
3 • Barrhaven T1 and T2 switchgear and relay replacement, done in conjunction with
4 the transformer replacement project (section 2.4.2).

5

6 2.4.2 Station Transformer Replacement

7

8 Hydro Ottawa has 168 station transformers, almost half of which are 40 years or older.
9 An ongoing inspection and maintenance program is in place to maintain station
10 transformers in acceptable operating conditions. Transformers are identified and
11 prioritized for replacement using a condition health index and the consequence scoring
12 as outlined in the 2010 AMP.

13

14 In 2011 a two year project to replace the two Barrhaven 44 kV to 8 kV transformers will
15 begin. This project rated high on the Station Transformer Condition Priority Listing in the
16 2010 AMP. This project is being performed in conjunction with switchgear and relay
17 replacement within the substation (section 2.4.1).

18

19 **2.5 Stations New Capacity**

20

21 Hydro Ottawa routinely assesses the capability and reliability of the distribution network
22 and supply transformers in an effort to maintain adequate and reliable supply to
23 customers. Where gaps are found, appropriate plans for additions and modifications
24 consistent with all regulatory requirements and with due consideration for safety,
25 environment, financial and supply system reliability/security are developed.

26

27 Expenditures continue in 2011 to supply customers in isolated pockets of the service
28 area experiencing load growth that is projected to exceed available capacity. Three
29 substation construction projects have individual budgeted expenditures for 2011 in
30 excess of the materiality threshold; Terry Fox, Beacon Hill and Hinchey. An additional
31 two projects are also budgeted for 2011 with individual capital expenditures below the



1 materiality threshold; Fallowfield and Ellwood. Stations New Capacity expenditures for
2 2011 are discussed in the 2010 AMP in Exhibit B1-2-2.

3
4 2.5.1 Terry Fox

5
6 The Stittsville and south Kanata area is currently supplied by two separate distribution
7 voltages. The Bridlewood, Kanata and Alexander substations supply more than 90
8 percent of this region at 27.6 kV. This area has seen continued development and load
9 growth, and is forecast to experience a capacity shortfall beginning in 2013 as discussed
10 in the 2010 AMP in Exhibit B1-2-2.

11
12 A project to construct a new 230 kV to 27 kV substation located in south Kanata, named
13 Terry Fox, started in 2009. The new station will contain an outdoor 230 kV switchyard,
14 230 kV breakers and power transformers. A building will be constructed to house 27.6
15 kV switchgear, protective relaying and controls. Project completion is planned by the
16 end of 2013.

17
18 The following options were considered to address the forecasted capacity shortfall:

- 19
- 20 • Option 1: Additional Transformation at Bridlewood
 - 21 • Option 2: Additional Transformation at Marchwood
 - 22 • Option 3: Additional Transformation at Kanata
 - 23 • Option 4: Additional Transformation at Alexander, Richmond South or Fallowfield
 - 24 • Option 5: New Substation
- 25

26 Option 1: Additional Transformation at Bridlewood

27 The Bridlewood Substation currently consists of 115 kV to 27 kV transformation and 115
28 kV to 8 kV transformation. There is insufficient room within the substation to physically
29 install an additional power transformer.



1 A variation to this option was considered; to replace the 8 kV transformer with a 27 kV
2 transformer and perform System Voltage Conversion to eliminate the 8 kV distribution in
3 Glenn Cairn. The System Voltage Conversion project would be lengthy, costly, and only
4 allow for addition of partial capacity of a single power transformer (as the existing 8 kV
5 load would be transferred to it). For the discussed reasons, this option was not selected.

6

7 Option 2: Additional transformation at Marchwood

8 The Marchwood substation is a 115 kV to 27 kV substation. There is insufficient space
9 at the Marchwood Substation to physically install another transformer. The station is
10 located in the northern area of Kanata, a distance from the load growth to the south and
11 west. The substation is in a location containing multiple Hydro Ottawa substations and a
12 Hydro One substation. The egress from the area is congested with existing circuits
13 which would present challenges installing additional circuit egresses. For the discussed
14 reasons, this option was not selected.

15

16 Option 3: Additional Transformation at Kanata

17 The Kanata substation is a 230 kV to 27 kV substation, located within the same area as
18 the Marchwood substation. There is insufficient space to physically install another
19 transformer, and the station has the same north Kanata location and feeder egress
20 challenges as the Marchwood substation. For the discussed reasons, this option was
21 not selected.

22

23 Option 4: Additional Transformation at Alexander, Richmond South or Fallowfield

24 The Alexander Substation is owned and operated by Hydro One, and there is no
25 opportunity to add load to this supply. While planning to address this capacity shortfall,
26 Hydro Ottawa and Hydro One were negotiating Hydro Ottawa's purchase of the
27 Fallowfield and Richmond South substations. Installation of an additional transformer at
28 the Fallowfield station was already planned, once the station was purchased, to alleviate
29 capacity congestion in the South Nepean area. The Richmond South substation is
30 located a distance from the load growth, and may be expanded in future years to supply



1 proposed development in the Village of Richmond. For the reasons discussed, none of
2 the variations of this option were selected.

3
4 Option 5: New Substation

5 Construction of a new substation would allow for the substation to be located in close
6 physical proximity of the load growth, avoiding the costs for line extensions into the area
7 and the technical challenges of transferring capacity a long distance. A new substation
8 would allow for the installation of two power transformers, increasing available capacity
9 to meet the forecast capacity shortfall, and for years to come.

10
11 Primary voltage connection options were considered: 44 kV, 115 kV and 230 kV.

12
13 There is limited capacity on the 44 kV supply from South March Station which resulted in
14 this option being eliminated.

15
16 The 27 kV distribution in the area is supplied by five 115 kV connected stations
17 (Bridlewood, Fallowfield, Richmond South, Marchwood, Alexander) and one 230 kV
18 connected station (Kanata). Approximately one third of SAIFI outage cause in recent
19 years has been to Loss of Supply. Connecting a new substation to the 230 kV
20 transmission supply would provide for transmission supply diversity, which will result in
21 more reliable and flexible 27 kV distribution.

22
23 For the reasons discussed, a new 230 kV, two-transformer substation was selected as
24 the preferred option.

25
26 2.5.2 Beacon Hill

27
28 In March 2009 the Beacon Hill Station was destroyed in a fire (refer to Exhibit D2-1-1).
29 A temporary solution has been constructed to supply the original customers of the
30 station. This project, started in 2009, involves the design and construction of a new 44
31 kV to 8 kV substation to replace the failed Beacon Hill Station. Work in 2011 will consist



1 of continuation of civil construction, equipment installations and commissioning. The
2 project is scheduled to be complete in 2011.

3
4 2.5.3 Hinchey

5
6 Downtown Ottawa is supplied by 13 kV and 4 kV distribution. A proposed load increase
7 in excess of 20 MW from one large customer is resulting in an immediate need for
8 additional substation capacity in the downtown area of Ottawa. In addition to this
9 project, there are a number of office buildings and condominium apartment proposals
10 within the downtown core that will require system capacity.

11
12 Hinchey substation is a 115 kV to 13 kV substation located in downtown Ottawa. The
13 two substation transformers at Hinchey are owned by Hydro One and have dual
14 windings on the low voltage side. Currently, only one of the windings on each
15 transformer is utilized. The secondary switchgear is owned and operated by Hydro
16 Ottawa.

17
18 This project will make use of the second winding on each transformer by connecting
19 them to two new secondary busses and 14 circuit breakers, increasing available capacity
20 at the substation by 40 MVA. The 115 kV supply has capacity available for the increase,
21 and there is existing space within the substation building to accommodate the new
22 secondary switchgear. Expenditures in 2011 are for the engineering, design and initial
23 procurement.

24
25 2.5.4 Fallowfield

26
27 There has been a significant growth in the demand in the southern suburban areas of
28 Ottawa, particularly in the Barrhaven area. Over the past seven years this load has
29 grown at 7% per year and is expected to continue at this pace for the foreseeable future.



1 Area demand is expected to exceed the supply capacity in 2019. The load in the area
2 already exceeds the supply capacity under single transformer loss contingency as
3 discussed in the 2010 AMP in Exhibit B1-2-2.

4

5 A project to install a second 115 kV to 27 kV transformer at the Fallowfield substation
6 began in 2010 and will continue in 2011. Project completion is budgeted for 2011.

7

8 2.5.5 Ellwood

9

10 The Ellwood substation is planned to be completed and energized by the end of 2010.
11 Expenditures in 2011 are budgeted for items that cannot be completed in the last few
12 months of 2010 due to the winter weather or are not required to energize the station,
13 such as final grading outside the substation fence.

14

15 **2.6 Stations Enhancements**

16

17 As described in Exhibit B1-2-2, the focus of Stations Enhancements expenditures is to
18 refurbish stations asset classes. None of the projects budgeted in 2011 exceed the
19 materiality threshold. Expenditures include stations transformer oil replacement,
20 transformer refurbishment, 12 stations ground grid surveys and refurbishment of one
21 station ground grid.

22

23 **2.7 Automation**

24

25 2.7.1 Distribution Automation

26

27 The current focus of Distribution Automation capital expenditures is to provide for remote
28 operability of devices from the system. Installation of SCADA device status monitoring
29 and remote operability allows remote system operators to operate devices, reducing time
30 required for planned and unplanned switching. This program therefore can allow for
31 reduced outage durations and creates efficiencies for planned work.



1 Projects planned for 2011 include overhead and padmounted switch automation;
2 however, none exceed the materiality threshold.

3

4 2.7.2 SCADA Upgrades

5

6 None of the project budget expenditures in 2011 exceed the materiality threshold.

7 Projects include items such as graphic user interface upgrades, communications
8 encryption, transducer replacement and integration of additional data sources into
9 SCADA.

10

11 2.7.3 Substation Automation

12

13 The current focus of Substation Automation is to collect equipment condition data for
14 analysis and use in the AMP. Capital expenditures in 2011 are for the installation of
15 station transformer online oil condition monitoring on units with prior condition
16 assessments that indicate continued monitoring is required, are not at end of life, and
17 are not scheduled for replacement. The monitoring units will be installed on 14
18 substation transformers, and three existing units will be connected to the SCADA system
19 in 2011.

20

21 Currently oil condition testing is performed once a year, by sending oil samples to
22 laboratories for testing. Online condition monitoring will allow staff to monitor
23 transformers for worsening condition, and take action if required.

24

25 **2.8 Miscellaneous**

26

27 The sustainment budget consists of the aforementioned material programs, as well as a
28 number of programs below the materiality threshold. The budget for the material
29 programs is shown here as a sum of the individual budgets. In 2011, the smaller
30 sustainment programs consist of the following programs.

31



- 1 • SCADA - RTU Additions
- 2 • Elbow and Insert Replacement
- 3 • Insulator Replacement Program
- 4 • O/H Equipment New and Rehabilitation
- 5 • Stations Battery Replacement
- 6 • Stations Conductor Replacement
- 7 • Stations Plant Failure Capital
- 8 • Switchgear New and Rehabilitation
- 9 • System Reliability
- 10 • Distribution Minor Enhancements
- 11 • Distribution Plant Miscellaneous

12
13

14 **3.0 GREEN ENERGY ACT**

15
16

Table 4 – Distribution Expenditures – Green Energy Act

Budget Program	2011 \$000
Green Energy Act	\$2,566
TOTAL	\$2,566

17
18
19
20
21

Hydro Ottawa has prepared a *Green Energy Act Basic Plan* contained in Exhibit B1-2-3. Capital expenditures for the implementation of the plan are budgeted at \$2.6M in 2011.



1 **4.0 DISTRIBUTION CAPITAL EXPENDITURES, DEMAND**

2

3

Table 5 – Distribution Expenditures - Demand

	Capital Program	Budget Program	2011 \$000
4.1	Commercial	New Commercial Development	\$6,078
4.2	Damage To Plant	Damage to Plant	892
4.3	Infill and Upgrade	Infill Service	3,706
4.4	Metering	Remote Disconnected Meter	83
4.4		Meters	1,428
4.5	Plant Relocation	Plant Relocation & Upgrade	5,700
4.6	Residential	Residential Subdivision	6,762
	Stations Demand Projects	Embedded Generation Projects	64
4.7	System Expansion	Long Term Load Transfers	1,172
4.8		System Expansion Demand	3,493
		TOTAL	\$29,378

4

5 **4.1 Commercial Development**

6

7 Drivers for commercial development include the state of the local economy, commercial
8 vacancy rates, Federal and Provincial activity.

9

10 Commercial Development expenditures are forecast higher in 2011 than in 2010 due to
11 expected continued economic recovery and continued local development.

12

13 **4.2 Damage to Plant**

14

15 Expenditures for Damage to Plant incidents increased in 2009 above 2008 levels.

16 Expenditures are expected to increase in 2010, due to the increased volume of
17 construction work within the City of Ottawa (the "City") roadways due to the City's receipt
18 of infrastructure stimulus funds.

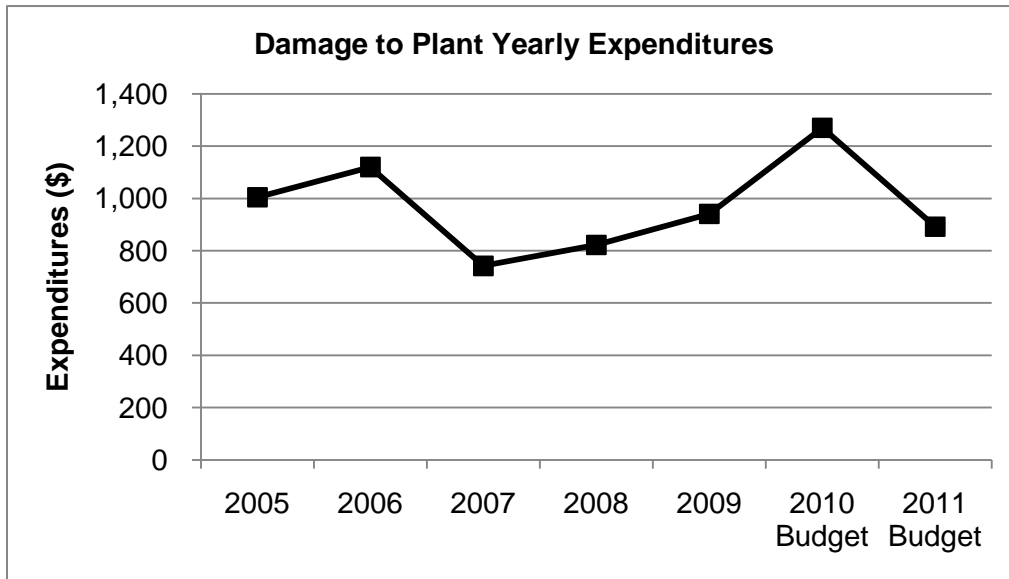
19



1 With the resumption of historic levels of construction within City roadways in 2011,
2 damage to plant expenditures are expected to decrease to levels slightly higher than
3 those in 2008.

4
5

Figure 2 – Damage to Plant Capital Expenditures, 2005 through 2011



6
7
8

4.3 Infill and Upgrade

9

10 The City's *Official Plan* encourages urban intensification. The thrust for intensification is
11 expected to increase the amount of urban infill projects.

12

4.4 Meters and Remote Disconnect Meters

13

14
15 Although the Smart Metering program concludes in 2010, metering activities will
16 continue at Hydro Ottawa for load and generation customers. Expenditures in 2011 are
17 for ongoing seal replacements as required by Measurement Canada, and installation of
18 meters associated with new customer construction.

19



1 **4.5 Plant Relocation and Upgrade**

2

3 The City's emphasis on intensification in the *Official Plan* has resulted in an increased
4 number of Development Review Circulations containing proposed structures conflicting
5 with Hydro Ottawa equipment locations and clearance standards. The proportion of
6 private developments requesting plant relocations are expected to increase in future
7 years to accommodate intensified construction.

8

9 The impact of the City's receipt of infrastructure stimulus funding is expected to be
10 negligible in 2011 as Hydro Ottawa's relocation work typically occurs at the beginning of
11 roadwork projects, and most projects will be completed before the winter of 2010.

12

13 The City is currently considering reviving an underground wiring program. The impact to
14 Hydro Ottawa is not yet known as details of the program such as scope, timing and
15 funding models have not been determined. Expenditures have not been included in the
16 2011 budget for this possible program.

17

18 The net effect of the drivers in this budget program is that expenditures will decrease
19 from 2010 but remain higher than 2008.

20

21 **4.6 Residential**

22

23 The Residential Subdivision program includes trunk servicing of new residential and
24 mixed use subdivisions, and the connection of units within these subdivisions.

25

26 Residential Subdivision construction is expected to increase in 2011 over 2010 with the
27 recovery of the local economy.

28



1 **4.7 Long Term Load Transfers**

2
3 Hydro Ottawa Long Term Load Transfer (“LTLT”) customers are Hydro Ottawa
4 customers physically connected to Hydro One’s distribution system. These customers
5 were historically supplied by Hydro One because Hydro Ottawa did not have “lie along”
6 distribution equipment to connect these customers, who are located near the service
7 area boundary of the two distributors. The Ontario Energy Board has mandated that all
8 LTLT customers be eliminated by June 30, 2014. Hydro Ottawa is considering all
9 options provided by the Board in eliminating its LTLT customers considering the best
10 interest of all stakeholders.

11
12 Long term load transfer expenditures are planned for 2010 thru 2014. Due to the
13 geography of the LTLT customer locations, all work in this category impacts overhead
14 equipment. Approximately 20% of the expenditures will be for works performed by
15 Hydro One and the remainder of the work will be similar in nature to system expansion
16 expenditures.

17
18 **4.8 System Expansion Demand**

19
20 System Expansion includes additions to the distribution system in response to a request
21 for customer connection that could not be made without extending a circuit or expanding
22 the system in some other way.

23
24 As commercial and residential development increases, increases are expected in system
25 expansion demand expenditures.



1 **5.0 DISTRIBUTION CAPITAL EXPENDITURES, CAPITAL CONTRIBUTIONS**

2

3 **Table 6 – Distribution Expenditures – Demand Capital Contributions**

	Budget Program	2011 \$000
5.0	New Commercial Development	(\$6,117)
5.0	Damage to Plant	(447)
5.0	Infill Service	(1,686)
5.0	Plant Relocation & Upgrade	(2,932)
5.0	Residential Subdivision	(4,242)
5.0	Embedded Generation Projects	(64)
5.0	System Expansion Demand	(1,082)
	TOTAL	(\$16,570)

4

5 Capital contributions were budgeted based on historic percentages of contributions in
6 each budget program.

7

8 A change in September 2009 to Appendix B of the *Distribution System Code* requires
9 that upstream costs no longer form part of the economic evaluation formula for load
10 customers. An analysis was performed to estimate the decrease in contributions due to
11 the change, and the contributed capital was adjusted accordingly, largely in Residential
12 Subdivisions. The net impact in 2011 is a reduction to the originally budgeted amount in
13 contributed capital of \$1.29M. The percentage of residential subdivision expenditures
14 budgeted for recovery dropped from 76 percent in 2010 to 63 percent in 2011.

15



1 **Table 7 –Demand Capital Expenditures – Corresponding Capital Contributions**

Budget Program	Contribution (%)
New Commercial Development	99
Damage to Plant	50
Infill Service	45
Plant Relocation and Upgrade	50
Residential Subdivision	63
Embedded Generation Projects	100
System Expansion Demand	30

2



GENERAL PLANT CAPITAL EXPENDITURES, 2011 TEST YEAR

1.0 INTRODUCTION

This Exhibit provides total general plant capital expenditures for the Test Year. Justifications for expenditures that exceed the materiality limit of \$750k are discussed in the following sections. These expenditures are included in the Total Capital Expenditures shown in Table 1 of Exhibit B4-4-1.

Table 1 lists programs/projects that exceed the materiality limit of \$750k and those that must be shown to avoid significant components of the capital budget in the miscellaneous category. A justification for these programs/projects is provided in Section 2.0 and the reference numbers in the table correspond to the write up. All expenditures are shown without contributed capital.

Table 1 – General Plant Expenditures

Section	Budget Program	2011 \$000
2.1	Buildings - Facilities	\$6,260
2.2	CIS Enhancements	3,916
2.3	Customer Service Strategy	452
2.4	Environmental Sustainability Strategy	875
2.5	Fleet Replacement	1,867
2.6	GRM System Enhancements	589
2.7	Information Services and Technology	2,387
2.8	New PC & Peripheral	245
2.9	Tools Replacement	701
2.10	Miscellaneous	831
	TOTAL	\$18,123



1 **2.0 GENERAL PLANT CAPITAL EXPENDITURES**

2

3 **2.1 Buildings - Facilities**

4

5 Hydro Ottawa Limited (“Hydro Ottawa”) operates five work centres; Albion, Bank,
6 Carling, Merivale and Maplegrove. The work centres contain a mix of administrative
7 offices, warehouses, vehicle bays, construction offices, control rooms, and related
8 functions.

9

10 Expenditures in 2011 are for the initiation of the facilities strategy as outlined in Exhibit
11 B1-2-5. The inclusion of \$5.5M in the capital budget in 2011 relates to acquiring \$3.0M
12 for a new East Operations Centre (representing the land of \$1.5M and initial construction
13 of \$1.5M), and \$2.5M in land for a new Administrative building.

14

15 As part of the Facilities Strategy, the Albion, Bank and Merivale work centres will be
16 disposed of in future years. Until such time as employees are relocated, ongoing
17 maintenance and capital investments are required to maintain the sites in safe working
18 order, but large capital investments will be deferred. Ongoing maintenance and capital
19 investment requirements continue at the Carling and Maplegrove worksites. Planned
20 capital expenditures in 2011 include general repairs of rooftop units, windows and doors.

21

22 **2.2 CIS Enhancements**

23

24 Hydro Ottawa’s Customer Information System (“CIS”) was implemented in September
25 2004. Since its implementation the CIS has proven to be a stable, reliable product that
26 is adaptable to changing regulatory and/or business requirements. A change to the risk
27 profile associated with operating a mission-critical business requirement on this
28 application occurred in 2009 with the end of Premier Support from the vendor, Oracle.
29 Hydro Ottawa intends to pursue a CIS transition project as outlined in Exhibit B1-2-7.
30 Expenditures in 2011 are for the initiation of the project.

31



1 **2.3 Customer Service Strategy**

2

3 Hydro Ottawa has developed a Customer Service Strategy to improve customer
4 satisfaction. Capital expenditures in 2011 to support the Customer Service Strategy are
5 for call centre hardware and software, as outlined in Exhibit D1-4-4.

6

7 **2.4 Environmental Sustainability Strategy**

8

9 Expenditures in 2011 for the Environmental Sustainability Strategy are outlined in Exhibit
10 B1-2-8.

11

12 **2.5 Fleet Replacement**

13

14 Hydro Ottawa continues investment in its fleet in 2011 to meet operational requirements.
15 Expenditures for fleet replacement in 2011 support the strategy in exhibit B1-2-5, and
16 are contained in Table 2.

17



1

Table 2 – 2011 Fleet Expenditures

Unit Type	2011 Budget
Cars	0
Bucket trucks	1
Stake trucks/Flatbed trucks	0
Radial Boom Derricks	2
Knuckle boom trucks	0
Compact pickup trucks	2
Full size pickup trucks	4
Full size cargo vans	7
Compact vans	2
Step Vans/Cube vans	5
Forklifts	3
Tension machines	0
Trailers	2
TOTAL	28

2

3 Additional expenditures will be undertaken for environmental initiatives as part of the
4 Environmental Sustainability Strategy; Exhibit B1-2-8.

5

6 **2.6 GRM Enhancements**

7

8 Geographic Resource Management (“GRM”) System Enhancement expenditures
9 continue as business needs and technologies evolve. Expenditures in 2011 include
10 ongoing software licensing and mobile unit deployment.

11

12 A commercially available software package is used by Hydro Ottawa to perform
13 distribution system analysis. Enhancements are planned in 2011 to the existing
14 interface between the geographic information system and this analysis software which
15 will allow for historical load data to be imported into the analysis software.

16



1 A new project to integrate smart meter data with the Outage Management System
2 (“OMS”) is planned for 2011. This project will include items such as “last gasp” feature
3 which will notify OMS when customer meters lose supply power, and ping after
4 restoration, to remotely verify if supply power has been restored to customer meters.
5

6 **2.7 Information Services and Technology (“IS&T”)**

7
8 Hydro Ottawa will continue to maintain and improve appropriate system security,
9 redundancy, reliability, availability, lifecycle management of IT equipment and related
10 services. Acquisition of software, hardware, systems and services will be made to
11 support the ongoing demands of the business in 2011.
12

13 Replacement of network servers and switches, acquisition of security applications,
14 storage networks, training tools, monitoring tools and software as well as enhancements
15 to the telecommunications system is part of the overall support plan to meet expanding
16 requirements of the business, as directed by the Information Technology Strategy
17 (Exhibit B1-2-4).
18

19 **2.8 New PCs and Peripherals**

20
21 New PCs and Peripherals expenditures include additions to the “computer equipment” at
22 Hydro Ottawa. Typical expenditures include computers for new staff, newly identified
23 printer and plotter requirements, new software and upgrades to existing equipment to
24 make staff more mobile.
25

26 **2.9 Tools Replacement**

27
28 Hydro Ottawa’s work force requires tools for ongoing operation, construction,
29 maintenance and repair of its distribution system and fleet. Tools are integral for staff to
30 perform work safely and efficiently.
31



1 Some of the tools Hydro Ottawa employees use are commonly recognized tools such as
2 wrenches and ladders, whereas, other tools are industry specific, such as insulated live
3 line tools. Hydro Ottawa's trades staff work in proximity to dangerous voltage levels, at
4 heights, in confined spaces and in all kinds of weather. Having the appropriate
5 protective devices and tools is critical to the safety of personnel.

6

7 Expenditures are budgeted every year for identified tools that require replacement due to
8 normal wear. In addition to the normal replacement, new tools may be purchased due to
9 technology advancements or a new legislative requirement.

10

11 Specific tools budgeted for purchase 2011 include three-phase relay test set, earth
12 resistance meters, portable transformer oil test set, underground pulling equipment,
13 overhead stringing equipment, fault finding equipment and mobile computers.

14

15 **2.10 Miscellaneous**

16

17 The general plant budget consists of the aforementioned material programs, as well as
18 programs below the materiality threshold. The budget for the material programs is
19 shown here as a sum of the individual budgets. In 2011, the smaller sustainment
20 programs consist of the following programs.

21

- 22 • Furniture & Equipment
- 23 • Electronic Collection Field Activities
- 24 • GIS/OMS/CIS/IVR Integration
- 25 • Outbound Calling Auto-Dialler
- 26 • PC/Peripheral Replacement
- 27 • Website Enhancements



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CAPITAL PROJECTS EXPENDITURES, 2011 TEST YEAR

1.0 INTRODUCTION

Distribution plant and general plant capital expenditures for 2011 are outlined in Exhibit B4-4-1 and Exhibit B4-4-2. Table 1 contains a listing of programs and projects which have expenditures above the materiality limit of \$750k, the capital expenditures in 2011, the start date of the project and the in-service date of the project.

The in-service dates indicate the capitalization of the project expenditures. Capital expenditures for some projects continue beyond the in-service date for items such as civil reinstatement. Where the in service date has been listed as “As constructed”, the program/project has started prior to 2011 and expenditures are typically capitalized as they are made.

In-service dates for distribution projects indicate the in service date for distribution equipment included in the project. In projects such as switchgear replacement and stations new capacity, land and buildings may be capitalized prior to the in service date.



1

Table 1 - Capital Projects Expenditures, 2011

Budget/Capital Program	Project	2011 \$000	Start Date	In Service Date
Stations New Capacity	Hinchey	1,800	2011	2012
Stations New Capacity	Terry Fox	7,713	2009	2013 (building in 2012)
Stations New Capacity	Beacon Hill	2,950	2009	2011
Pole Replacement	Program	7,097	2011	2011
Pole Replacement	Plot Area 54B2C	1,147	2011	2011
Pole Replacement	Plot Area 65A3D	2,495	2011	2011
Pole Replacement	Plot Area 65A4C	1,640	2011	2011
Pole Replacement	Kilborn Voltage Conversion	1,763	2010	As constructed
Cable Replacement	Program	2,004	2011	2011
Plant Failure Capital	Program	2,411	2011	2011
Dist TX replacement	Program	2,425	2011	2011
Line Extensions	Program	5,393	2011	2011
Line Extensions	New Cyrville Feeder	810	2011	2011
Line Extensions	Ellwood Egress	950	2011	2011
Line Extensions	Cambrian Road 28 kV tie	767	2011	2011
Line Extensions	Billberry M2 Tie	1,351	2011	2011
System Voltage Conversion	Kilborn	909	2009	As constructed
Station Transformer Replacement	Barrhaven T1 and T2	1,119	2011	2012
Stations Enhancements	Program	728	2011	2011
Stations Automation	Program	1,232	2011	2011
Distribution Automation	Program	719	2011	2011
SCADA Upgrades	Program	1,056	2011	2011
Fleet Replacement	Program	1,867	2011	2011
Environmental Sustainability Strategy		875	2011	2011
IS&T	Program	2,387	2011	2011
Buildings - Facilities	New East End Ops Centre	2,855	2011	2012 (Land in 2011)
Buildings - Facilities	New Administrative Building Land	2,273	2011	2011
CIS Enhancements	CIS Upgrade	3,916	2011	2012
Green Energy Act	All but Line Extension	1,187	2011	2011
Green Energy Act	Line Extension	1,378	2011	2012

2



DISTRIBUTION CAPITAL EXPENDITURE,
2009 through 2011

1.0 INTRODUCTION

This Exhibit provides a summary of total capital expenditures, distribution and general plant for the period from 2009 through 2011. Discussions on yearly variances of distribution capital expenditures are included in the following sections of this Exhibit and variances for general plant capital expenditures are discussed in Exhibit B4-5-2.

Table 1 provides details of capital expenditures for the Test Year in the groupings provided in the Ontario Energy Board 2006 Electricity Distribution Rate Model.

Table 1 – Capital Expenditures, 2009 through 2011

Board Groupings	2009 Actual \$000	2010 Budget \$000	2011 Budget \$000
Land and Buildings	\$5,726	\$1,572	9,334
TS Primary Above 50 kV	10,071	14,944	12,182
DS	6,444	8,061	3,386
Poles, Wires	25,405	27,721	34,643
Line Transformers	8,431	7,950	8,963
Services and Meters	16,100	13,042	11,894
General Plant	1,366	1,642	1,155
Equipment	2,243	3,686	4,052
IT Assets	4,827	7,002	7,520
Other Distribution Assets	979	1,316	2,161
Gross TOTAL	\$81,592	\$86,936	\$95,290
Capital Contributions	(\$20,896)	(\$16,746)	(\$16,570)
Net TOTAL	\$60,696	\$70,190	\$78,720



1 **1.1 Total Expenditures Overview**

2

3 The final stages of the Smart Meter program will result in decreased expenditures for
4 Services and Meters, year over year.

5

6 Increased expenditures in 2010 are due to the JD Edwards upgrade project (IT Assets)
7 and Stations New Capacity projects (TS Primary Above 50 kV and DS).

8

9 Expenditures increase in 2011 due to the implementation of the Facilities Strategy (Land
10 and Buildings), start of the CIS Transition Project (IT Assets), increased distribution
11 Asset Replacement (Poles, Wires), and implementation of Hydro Ottawa's *Green Energy*
12 *Act Basic Plan*.

13

14 **1.2 Variance Explanations**

15

16 Hydro Ottawa Limited ("Hydro Ottawa") plans and budgets work by program and project;
17 therefore, the above variances will be explained in terms of these programs/projects.

18 The following tables list the distribution plant capital expenditures for the period 2009
19 through 2011. Only those programs that have a yearly variance that exceeds the
20 materiality limit of \$750k are discussed in this Exhibit.

21

22



1 **2.0 SUSTAINMENT – CAPITAL PROGRAMS**

2

3

Table 2 - Distribution Capital Program Expenditures, Sustainment

Section	Capital Program	2009 \$000	2010 \$000	2011 \$000
2.1	Distribution Asset	\$12,184	\$12,712	\$15,709
2.2	Distribution Enhancement	4,079	6,213	9,004
2.3	Stations Asset	5,909	4,220	2,164
2.4	Stations Capacity	13,592	17,295	13,834
2.5	Stations Enhancement	1,818	2,280	728
2.6	Stations Automation	0	0	1,231
	System Ops. Automation	576	636	1,128
	Distribution Automation	216	221	719
	Facility Programs - Stations	693	712	707
	Finance	(601)	0	0
	TOTAL	\$38,465	\$44,289	\$45,224

4

5 **2.1 Distribution Assets**

6

7 Hydro Ottawa revised the asset management plan in 2010 resulting in the creation of the
8 Hydro Ottawa *2010 Asset Management Plan* ("2010 AMP") (Exhibit B1-2-2). Using
9 current information, the 2010 AMP recommends replacement rates for distribution
10 assets, which has resulted in increased distribution asset expenditures in 2011.

11

12 **2.2 Distribution Enhancements**

13

14 Increased Distribution Enhancement expenditures from 2009 through 2011 are primarily
15 due to increased expenditures in the line extensions budget program (section 3.3).

16



1 **2.3 Stations Asset**

2

3 Stations Asset replacement expenditures decrease over the three-year period. Stations
4 Asset replacement expenditures largely consists of transformer, switchgear and relay
5 replacements. These projects do require preconstruction engineering, design and
6 equipment procurement, which resulted in increases year over year until the initial
7 projects were well underway.

8

9 The major driver for this program is equipment age. Individual project equipment
10 expenditures are impacted by market prices for raw materials used in the equipment
11 construction, including copper and steel.

12

13 Yearly expenditure variances are expected, and planned for, in this category due to
14 discrete nature of the large projects and timing of expenses. Stations Switchgear and
15 Stations Relay Replacement projects currently underway will be near completion in 2011
16 (section 3.4), decreasing expenditures in 2011.

17

18 **2.4 Stations Capacity**

19

20 Stations Capacity expenditures are typically for the construction of new substations,
21 which are relatively large, multi-year projects.

22

23 Expenditures increased in 2009 with the purchase of Fallowfield and Richmond South
24 substations from Hydro One Networks Inc., as well as the start of multi-year construction
25 of the new Terry Fox substation. These projects will address capacity requirement in
26 south Nepean and south Kanata. Increases in 2009 are also due to a rearrangement of
27 internal responsibilities and project organization; the costs for land, buildings and
28 associated facilities items are now included in this capital program, rather than in
29 Facilities Programs – Stations. A corresponding decrease in the expenditures of
30 Facilities Programs – Stations occurred in 2009.

31



1 Expenditures increase in 2010 due to the continuation of the Ellwood substation
2 construction, the continuation of the replacement of the failed Beacon Hill substation and
3 the start of construction of the Terry Fox substation project.

4
5 Expenditures decrease in 2011 due to the completion of the Ellwood substation.

6
7 Drivers for Stations New Capacity program include the load growth, and the geographic
8 location of the load growth relative to available capacity.

9
10 Yearly variations in expenditures are expected and planned for due to the large, discrete
11 nature of the projects. Uncontrollable delays in environmental assessment approvals,
12 land purchases and equipment delivery can impact overall construction schedules and
13 timing of expenditures.

14 15 **2.5 Stations Enhancements**

16
17 Stations Enhancement projects include capital repairs and refurbishment of existing
18 stations assets for the purposes of extending the life of the assets. Stations
19 enhancement projects include cable replacement, reclose blocking, transformer oil
20 refurbishment, insulator replacement and transformer cooling fan installations.

21
22 Expenditures are planned to decrease in 2011 due to completion of the reclose blocking
23 and transformer cooling fan programs.

24 25 **2.6 Stations Automation**

26
27 Stations Automation expenditures were performed initially as a pilot project in 2006.
28 Expenditures increase in 2011 with the reintroduction of this program as part of the
29 overall automation plan developed in the 2010 AMP. Capital expenditures in 2011 are
30 for the installation of online oil condition monitoring on station transformers with prior



1 condition assessments that indicate continued monitoring is required, are not at end of
2 life, and are not scheduled for replacement.

3 4 5 **3.0 SUSTAINMENT – BUDGET PROGRAMS**

6
7 Table 3 lists individual budget programs that exceed the materiality limit of \$750k. Due
8 to the reduced scope of this list, the totals will not match what is in Table 2.

9
10 **Table 3 - Distribution Capital Program Expenditure, Sustainment**

Section	Budget Program	2009 \$000	2010 \$000	2011 \$000
3.1	Cable Replacement EOL	\$3,109	\$2,130	\$2,004
3.2	Planned Pole Replacement	2,702	3,590	7,097
3.3	Line Extensions	1,154	2,857	5,393
3.4	Stations Switchgear and Relay Replacement	2,818	2,602	439
2.4	Stations New Capacity	13,592	17,295	13,834
2.5	Stations Enhancements	1,818	2,280	728
2.6	Stations Automation	0	0	1,232
3.5	SCADA Upgrades	0	274	1,056

11 12 **3.1 Cable Replacement**

13
14 Yearly Cable Replacement expenditures have fluctuated due to the large, discrete
15 nature of the projects; however, expenditures have typically ranged between \$2M and
16 \$3M. Decreased expenditures in 2010 are due to the mix of individual projects, and is
17 consistent with the results of the 2010 AMP recommendations for 2011.



1 **3.2 Planned Pole Replacement**

2

3 Hydro Ottawa revised the asset management plan in 2010, which recommends
4 increased pole replacement rates.

5

6 **3.3 Line Extensions**

7

8 Line extensions expenditures increase by \$3.5M in 2011. The projects identified for
9 construction in 2011 will increase the operability and reliability of the distribution system.
10 Three of the projects totalling expenditures of \$2M (Ellwood egress, new Cyrville feeder
11 and Fallowfield feeder) involve constructing additional circuits out of recently completed
12 Stations New Capacity projects.

13

14 **3.4 Station Switchgear and Relay Replacement**

15

16 Stations Switchgear and Relay Replacement expenditures decrease in 2011 as the
17 currently ongoing projects near completion. Expenditures will increase in 2013 when a
18 new list of replacement projects is undertaken.

19

20 **3.5 SCADA Upgrades**

21

22 In 2011 automation based programs have been rearranged within the capital structure
23 under one capital program, Automation, to allow for a unified planning approach. The
24 2010 AMP addresses automation as a unique category, and has resulted in the planned
25 automation expenditures for 2011.

26

27 Increased expenditures in 2011 are to support the overall automation plan through
28 upgrades and integrating additional data sources into the SCADA system.

29

30



1 **4.0 DEMAND**

2

3

Table 4 - Distribution Capital Program Expenditure, Demand

Section	Capital Program	Budget Program	2009 \$000	2010 \$000	2011 \$000
4.1	Commercial	New Commercial Development	\$7,791	\$5,563	\$6,078
4.2	Infill & Upgrade	Infill Service	2,852	2,836	3,706
4.3	Metering	Smart Meters	8,132	2,720	1,428
NA		Remote Disconnect Smart Meter	71	86	83
NA		Suite Metering	0	656	0
4.4	Plant Relocation	Plant Relocation & Upgrade	5,698	6,812	5,700
4.5	Residential	Residential Subdivision	8,334	6,552	6,762
4.6	System Expansion	System Expansion Demand	1,881	2,811	3,493
4.7		Long Term Load Transfers	403	362	1,172
NA	Miscellaneous		637	1,433	956
TOTAL			\$35,799	\$29,831	\$29,378

4

5 Demand expenditures are budgeted to decrease in 2010, primarily due to the pending
6 completion of the Smart Meter program. Although there are yearly fluctuations in
7 developer driven demand expenditure budget programs, overall, developer driven
8 demand activity is budgeted to remain relatively constant.

9

10 Expenditures to construct the volume of demand work are impacted by other drivers
11 such as:

12

- 13 • equipment costs
- 14 • internal labour costs, and
- 15 • productivity.

16



1 **4.1 New Commercial Development**

2
3 Expenditures in New Commercial Development result from developer requests for
4 service connections. New Commercial Development remained strong in the Ottawa
5 area in past years. The impact of the economic downturn on New Commercial
6 Development expenditures has been dampened by the nature of the commercial
7 industry in the Ottawa area, which is largely government and high tech based, versus
8 traditional manufacturing which has been significantly impacted in other regions. A
9 decrease in expenditures is projected for 2010, with a recovery in 2011.

10
11 **4.2 Infill Services**

12
13 Infill Services expenditures includes residential and small commercial infill connection
14 requests. Large infill construction, such as multi-storey residential or mixed-use
15 buildings are not included in this category, but in commercial construction.

16
17 Infill Services remain strong due to the City of Ottawa (the "City") *Official Plan* which
18 encourages urban infill developments. Since the peak of expenditures in 2006, Infill
19 Services expenditures have declined. Infill expenditures are expected to increase in
20 2011 with improved economic conditions and the continuing focus on urban infill.

21
22 **4.3 Smart Meters/Meters**

23
24 Hydro Ottawa has made significant progress in the installation of smart meters, with the
25 majority of required installations completed by the end of 2009. Expenditures in 2010
26 are for the installation of meters in locations that have not been easy, for a variety of
27 reasons, to access and upgrade. Additional information regarding the Smart Meter
28 program and associated expenditures is located in Exhibit I2-1-1.

29
30 Expenditures in 2011 are no longer for the Smart Meter Program, but the ongoing
31 installation of meters due to new construction, service upgrades and seal expiries.



1 **4.4 Plant Relocation and Upgrade**

2

3 Plant Relocation and Upgrade has remained strong in recent years due to continuing
4 City road works and the City's *Official Plan* supporting urban intensification requiring
5 resolution of clearance requirements from overhead lines.

6

7 In 2009 the City obtained infrastructure stimulus funds and consequently increased the
8 amount of road works in 2009 and 2010. The increase in expenditures in this category
9 in 2010, and subsequent decrease in 2011, is largely due to the volume of City road
10 works.

11

12 **4.5 Residential Subdivision**

13

14 Expenditures in Residential Subdivisions result from new subdivision construction by
15 developers. Residential construction has historically been strong in the Ottawa area due
16 to the strong housing market. In 2009 expenditures decreased slightly as a result of the
17 economic slowdown. Expenditures are expected to decrease further in 2010 and begin
18 to recover in 2011 with improved economic conditions.

19

20 **4.6 System Expansion Demand**

21

22 System Expansion Demand expenditures have been relatively constant in recent years
23 with a slight upward trend. Although the City's *Official Plan* focuses on urban infill,
24 developers continue with suburban expansion. System Expansion expenditures are
25 expected to increase as commercial and residential development continues in suburban
26 Ottawa.

27



1 **4.7 Long Term Load Transfers**

2
3 Hydro Ottawa is required to eliminate the presence of Long Term Load Transfer
4 customers between itself and Hydro One Networks Inc. Increases in this program are to
5 implement the plan to eliminate these customers.
6
7

8 **5.0 CONTRIBUTED CAPITAL**

9
10 **Table 5 – Contributed Capital**

	Budget Program	2009 \$000	2010 \$000	2011 \$000
5.1	New Commercial Development	(\$8,469)	(\$5,547)	(\$6,117)
5.2	Plant Relocation & Upgrade	(4,162)	(3,411)	(2,932)
5.3	Residential Subdivision	(6,306)	(4,997)	(4,242)
	Miscellaneous	(1,956)	(2,791)	(3,279)
	TOTAL	(\$20,893)	(\$16,746)	(\$16,570)

11
12 **5.1 New Commercial Development**

13
14 New Commercial Development expenditures are recovered through financial
15 contributions. The amount of cost recovery through financial contributions has followed
16 the same trend as Hydro Ottawa's expenditures. Changes in the yearly contributions are
17 due to the changes in the yearly expenditure budgets.
18

19 **5.2 Plant Relocation and Upgrade**

20
21 Plant Relocation and Upgrade expenditures are due to requests by third parties to
22 relocate or upgrade plant. The proportion of the expenditure recovered through the
23 contribution depends on the nature of the project.



- 1 • City of Ottawa requests to accommodate road works fall under the Ontario *Public*
2 *Service Works in Highways Act* and recover 50 percent labour and labour saving
3 devices.
- 4 • Other requests are 100 percent recoverable. In some cases Hydro Ottawa
5 reduces the contribution percentage based on recognition of the existing asset
6 age/condition.

7
8 Expenditures increase in 2010 due to increased City road works. Contributions in 2010
9 decrease due to the higher proportion of work expected to be completed under the
10 funding formula in the Ontario *Public Service Works in Highways Act*.

11
12 Expenditures decrease in 2011 due to the decrease in budgeted expenditures.

14 **5.3 Residential Subdivision**

15
16 Residential Subdivision contributions are determined through the use of the Board's
17 prescribed economic evaluation methodology. Inputs into the model include projected
18 load characteristics of the subdivision, the value of contributed plant and Hydro Ottawa's
19 expenditures to service the subdivision.

20
21 The decreased budgeted contributions in 2010 are due to decreases in budgeted
22 expenditures. The decreased budgeted contributions in 2011 are due a change to
23 Appendix B of the *Distribution System Code* requiring upstream costs no longer form
24 part of the economic evaluation formula for load customers.

25
26



1 **6.0 GREEN ENERGY ACT**

2

3

Table 6 – Green Energy Act

Budget Program	2009 \$000	2010 \$000	2011 \$000
Green Energy Act	\$0	\$0	\$2,566
TOTAL	\$0	\$0	\$2,566

4

5 Hydro Ottawa has prepared a *Green Energy Act Basic Plan* with proposed expenditures
6 starting in 2011. There are no expenditures in prior years as this is a new capital

7 program. Hydro Ottawa's *Green Energy Act Basic Plan* is contained in Exhibit B1-2-3.



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GENERAL PLANT CAPITAL EXPENDITURE,
2009-2011

1.0 INTRODUCTION

This Exhibit provides general plant capital expenditures for the period from 2009 through 2011. Only those budget programs that have a yearly variance that exceeds the materiality limit of \$750k are discussed in the Section 2. These expenditures are included in the Total Capital Expenditures shown in Table 1 of Exhibit B4-5-1.

2.0 GENERAL PLANT CAPITAL EXPENDITURES

Overall general plant expenditures increased over the period from 2009 through 2011. The increase is primarily due to the implementation of the new facilities strategy in 2011, a required Customer Information System (“CIS”) upgrade, the creation of an Environmental Sustainability Strategy and increased expenditures in Information Services and Technology.



1

Table 1 - General Plant Capital Expenditures

Section	Budget Program	2009 \$000	2010 \$000	2011 \$000
2.1	Buildings - Facilities	\$1,742	\$1,248	\$6,260
2.2	CIS Enhancements	952	1,896	3,916
2.3	Environmental Sustainability Strategy	0	548	875
2.4	ERP/JDE Project	765	1,130	0
2.5	Fleet Replacement	1,461	2,232	1,867
2.6	Information Services and Technology	276	1,697	2,387
	Customer Service Strategy	0	0	452
	GRM System Enhancement	700	653	589
	Outbound Calling Auto-Dialer	0	55	5
	Furniture & Equipment	202	255	195
	Street Light Intelligence	0	486	0
	New PC & Peripherals	270	758	245
	PC/Peripheral Replacement	172	220	199
	Electronic Collection Field Activities	0	43	36
	Tools Replacement	592	792	701
	Website Enhancements	147	312	283
	GIS/OMS/CIS/IVR Integration	190	493	113
	Finance Burden Adjustment	-50	0	0
	TOTAL	\$7,419	\$12,818	\$18,123

2

3 **2.1 Buildings - Facilities**

4

5 There are five main work centers occupied by Hydro Ottawa Limited ("Hydro Ottawa"),
6 which are located at Albion Road, Merivale Road, Bank Street, Maple Grove Road and
7 Carling Avenue. Yearly expenditures are for the general capital maintenance and
8 upgrades of the five facilities. Items addressed include roofs, windows, paved parking
9 areas and security.

10

11 Hydro Ottawa Limited ("Hydro Ottawa") has plans to consolidate employees located
12 within older buildings within a new administrative building. Yearly expenditures decrease



1 in 2010 as capital projects in the older buildings that will be disposed of are deferred.
2 Investment is required in all buildings employees work in to maintain existing buildings in
3 good working order.

4

5 Expenditures increase in 2011 with the start of the implementation of the revised
6 Facilities Strategy (Exhibit B1-2-6). Expenditures are for land purchases and the
7 beginning of construction of a new area operations centre.

8

9 **2.2 CIS Enhancements**

10

11 The Customer Information System (“CIS”) system was implemented in September of
12 2004. On an annual basis, CIS enhancement initiatives are undertaken to achieve new
13 regulatory requirements and to facilitate business efficiencies.

14

15 Increased expenditures from 2009 to 2011 reflect the transition from ongoing operations
16 to the upgrade development efforts. Refer to Exhibit B1-2-7 for information on the CIS
17 Transition Project.

18

19 **2.3 Environmental Sustainability Strategy**

20

21 In 2010 Hydro Ottawa adopted a new Environmental Sustainability Strategy which
22 covers all aspects of the company’s operations. Refer to Exhibit B1-2-8 for information
23 regarding the Environmental Sustainment Strategy and related expenditures.

24

25 **2.4 ERP/JDE Project**

26

27 Hydro Ottawa utilizes J.D. Edwards (“JDE”) as its enterprise resource planning system
28 (“ERP”). The JDE manages budgets, procurement, inventory, payroll, job cost, and
29 general ledger functions. The expenditures in 2009 and 2010 are related to the upgrade
30 of JDE from release 7.3.3 to the most current version of 9.0. Beyond benefits inherent
31 from the current release of the JDE product, a prime driver for the upgrade was to



1 support implementation of International Financial Reporting Standards within Hydro
2 Ottawa. With the completion of the project planned for the end of 2010, the project is
3 eliminated in the 2011 budget.

4

5 **2.5 Fleet Replacement**

6

7 Fleet replacement expenditures occurred over the period to meet the operational
8 requirements of the company. Like other asset classes, fleet assets have an expected
9 lifespan and require replacement and refurbishment. Exhibit B1-2-6 outlines Hydro
10 Ottawa's fleet strategy. Variances in yearly expenditures are due to the number, and
11 type, of vehicles that require replacement each year. One of the goals of the fleet
12 strategy is to develop the assets to a condition where required expenditures are fairly
13 constant on a yearly basis. Table 2 outlines yearly purchases for the period 2009
14 through 2011; numbers in parenthesis indicate additional vehicles, whereas other
15 numbers indicate a replacement.

16



1

Table 2 – Fleet Replacement

Unit Type	2009	2010 Budget	2011 Budget
Cars	0	3	0
Bucket trucks	2	2	1
Stake trucks/Flatbed trucks	0	0	0
Radial Boom Derricks	1	2 + (1)	2
Knuckle boom trucks	0	0	0
Compact pickup trucks	0	0	2
Full size pickup trucks	2 + (1)	1	4
Full size cargo vans	0	0	7
Compact vans	3	2	2
Step Vans/Cube vans	1	0	5
Forklifts	0	0	3
Tension machines	0	2 (Refurbish)	0
Trailers	4 + (1)	3	2
TOTAL	15	16	28

2

3 **2.6 Information Services and Technology**

4

5 Information Services and Technology (“IS&T”) expenditures increase yearly from 2009
6 through 2011. Expenditures increases are required to replace aging equipment and to
7 enhance the existing IS&T infrastructure. Expenditures are explained in the descriptions
8 below.

9

10 Lifecycle Management

11 The largest increase in expenditures occurs due to Lifecycle Management. To ensure
12 ongoing service levels, Hydro Ottawa’s communications switches require replacement
13 based on their age (7 to 12 years). Additionally, computer server replacement
14 expenditures are increased for 2010 and 2011 to reflect increase in server fleet size.

15

16



1 System Integration

2 Increased expenditures occur in 2011 for implementation of systems integration
3 infrastructure to enhance or replace existing point-to-point application integration.
4 Benefits from adopting and implementing a systems integration infrastructure will occur
5 in the areas of more efficient business processes, potential reduction of redundant
6 systems, global sharing and reporting of information and lower development and
7 maintenance costs.

8

9 Security Programs

10 Hydro Ottawa's information systems contain customer data, distribution system
11 information, human resources information and typical corporate information. Security
12 related expenditures increase in 2010 to manage the evolving security threats.



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CAPITAL EXPENDITURES by USofA
2005 through 2011

1.0 INTRODUCTION

The following tables list programs/projects by Uniform System of Accounts (“USofA”) for the period 2005 through 2011. All expenditures are shown without contributed capital.



1 **2.0 ACTUAL EXPENDITURES - 2005**

2

3

Table 1 - Capital Expenditures, 2005 (\$000)

	1806	1815	1820	1830	1835	1840	1845	1850	1855	1860	1908	1915	1920	1925	1930	1940	1945	1955	1960	1980	
Sustainment	17	699	2,633	5,341	3,452	2,389	5,038	2,985	1,492	20	369	-	-	-	-	-	-	-	-	-	382
Demand	-	-	15	2,330	1,923	3,886	3,832	3,961	6,752	3,163	-	31	-	-	-	-	-	-	-	-	43
General Plant	-	-	-	-	-	-	-	30	-	-	11,107	(63)	(56)	7,634	2,449	555	6	150	115	56	
CDM	-	320	-	-	-	-	-	-	-	314	-	-	-	34	-	-	-	-	-	-	-
TOTAL	17	1,019	2,648	7,671	5,375	6,275	8,870	6,976	8,244	3,497	11,476	(32)	(56)	7,668	2,449	555	6	150	115	481	

4



1 **Table 2 - Distribution Capital Program Expenditure, Sustainment 2005 (\$000)**

Budget Program	1806	1815	1820	1830	1835	1840	1845	1850	1855	1860	1908	1980
Cable Replacement	\$0	\$0	\$0	\$0	\$0	\$1,370	\$536	\$16	\$69	\$0	\$0	\$0
Distribution Minor Enhancements	17	0	0	2,092	1,112	632	1,637	136	765	0	0	0
Distribution Transformer Replacement	0	0	0	0	0	62	25	505	32	0	0	0
Facility Programs - Stations	0	0	0	0	0	0	0	0	0	0	369	0
Insulator Replacement	0	0	0	307	235	0	0	0	13	0	0	0
Line Extensions	0	0	0	270	478	139	593	35	65	0	0	0
Planned Pole Replacement	0	0	0	2,120	655	42	284	128	160	21	0	0
Plant Failure Capital	0	0	0	399	910	0	1,336	2,197	20	0	0	23
Stations Enhancements	0	560	2,219	0	0	82	0	0	0	0	0	38
Stations Plant Failure Capital	0	24	343	0	0	0	0	0	0	0	0	0
Splice Replacement Program	0	0	0	0	0	0	221	0	0	0	0	0
Switchgear New and Rehabilitation	0	0	0	0	0	0	277	0	4	0	0	0
Miscellaneous	0	115	72	152	62	61	129	(34)	364	(2)	0	322
TOTAL	\$17	\$699	\$2,633	\$5,341	\$3,452	\$2,389	\$5,038	\$2,985	\$1,492	\$20	\$369	\$382

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1 **Table 3 - Distribution Capital Program Expenditure, Demand 2005 (\$000)**

Budget Program	1820	1830	1835	1840	1845	1850	1855	1860	1915	1980
New Commercial Development	\$0	\$81	\$88	\$82	\$1,835	\$1,793	\$1,149	\$461	\$0	\$0
Damage to Plant	0	0	0	0	0	0	1,004	0	0	0
Infill & Upgrade	0	353	181	25	135	633	2,171	351	0	0
Wholesale Meter Upgrade	0	0	0	0	0	0	0	1,685	0	0
Plant Relocation and Upgrade	0	1,407	1,325	598	573	171	602	0	0	0
Residential Subdivision	0	117	49	3,114	1,109	1,500	1,865	151	0	0
System Expansion	0	403	328	13	272	32	51	17	0	12
Miscellaneous	15	(31)	(48)	54	(91)	(168)	(91)	498	31	31
TOTAL	\$15	\$2,330	\$1,923	\$3,886	\$3,832	\$3,961	\$6,753	\$3,163	\$31	\$43

2
 3 **Table 4 – General Plant Capital Program Expenditure, 2005 (\$000)**

Budget Program	1850	1908	1915	1920	1925	1930	1940	1945	1955	1960	1980
Buildings – Facilities	\$0	\$7,065	\$0	\$0	\$0	\$0	\$0	\$0	\$15	\$0	\$0
CIS Enhancements	0	0	0	0	2,029	0	0	0	0	0	0
Control Room Modernization	0	4,042	0	115	0	0	0	0	128	0	56
Fleet Replacement	0	0	0	0	254	2,449	0	0	0	0	0
GIS Budget Program	0	0	(144)	(401)	4,981	0	0	0	0	0	0
Tools Replacement	0	0	33	0	0	0	555	6	0	115	0
Miscellaneous	30	0	48	230	369	0	0	0	7	0	0
TOTAL	\$30	\$11,107	(\$63)	(\$56)	\$7,633	\$2,449	\$555	\$6	\$150	\$115	\$56



1 **3.0 ACTUAL EXPENDITURES - 2006**

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Table 5 - Capital Expenditures, 2006 (\$000)

	1806	1808	1815	1820	1830	1835	1840	1845	1850	1855	1860	1908	1915	1920	1925	1930	1940	1945	1955	1960	1970	1975	1980	
Sustainment	15	63	4311	2504	4466	4604	3718	4404	5341	2003	-	1921	-	-	-	-	-	-	-	-	-	-	-	1347
Demand	-	-	-	50	2878	2065	3781	4132	5677	5968	17943	-	-	-	-	-	839	-	-	-	-	-	-	334
General Plant	-	29	-	-	-	-	-	-	-	-	-	2663	465	1886	6321	3168	829	49	12	28	-	-	-	
CDM	-	-	264	-	4	58	-	-	19	17	522	-	-	6	35	-	-	-	-	7	519	72	-	
TOTAL	15	92	4,575	2,554	7,348	6,727	7,499	8,536	11,037	7,988	18,465	4,584	465	1,892	6,356	3,168	1,668	49	12	35	519	72	1,681	

4



1 **Table 6- Distribution Capital Program Expenditure, Sustainment 2006 (\$000)**

Budget Program	1806	1808	1815	1820	1830	1835	1840	1845	1850	1855	1908	1980
Cable Replacement	\$0	\$0	\$0	\$0	\$71	\$30	\$1,667	\$801	\$74	\$126	\$0	\$0
Distribution Minor Enhancements	15	0	0	0	1,047	1,457	194	505	276	764	0	0
Distribution Transformer Replacement	0	0	0	0	0	0	0	0	2,735	14	0	0
Facility Programs - Stations	0	63	0	0	0	0	0	0	0	0	1,921	0
Insulator Replacement	0	0	0	0	0	1,225	0	0	0	4	0	0
Line Extensions	0	0	0	0	109	31	810	497	35	48	0	0
Planned Pole Replacement	0	0	0	0	3,243	1,407	74	323	458	323	0	0
Plant Failure Capital	0	0	0	31	205	609	0	1,218	1,688	6	0	0
SCADA Upgrades	0	0	0	0	0	0	0	0	0	0	0	1,271
Stations New Capacity	0	0	1,637	0	0	0	0	0	0	0	0	0
Stations Automation	0	0	616	0	0	0	0	0	0	0	0	0
Stations Enhancements	0	0	428	1,739	0	0	8	26	0	0	0	30
Stations Switchgear Replacement	0	0	640	557	0	0	0	0	0	0	0	0
Stations Transformer Replacement	0	0	562	0	0	0	0	0	0	0	0	0
Switchgear New and Rehab	0	0	0	0	0	0	142	353	0	24	0	0
System Reliability	0	0	0	0	9	52	515	416	4	27	0	0
System Voltage Conversion	0	0	0	0	5	17	13	44	267	60	0	0
Civil Rehabilitation Program	0	0	0	0	0	0	434	1	0	0	0	0
Miscellaneous	0	0	428	177	(223)	(224)	(139)	220	(196)	607	0	46
TOTAL	\$15	\$63	\$4,311	\$2,504	\$4,466	\$4,604	\$3,718	\$4,404	\$5,341	\$2,003	\$1,921	\$1,347

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1 **Table 7 - Distribution Capital Program Expenditure, Demand 2006 (\$000)**

Budget Program	1820	1830	1835	1840	1845	1850	1855	1860	1940	1980
New Commercial Development	\$0	\$275	\$119	\$384	\$2,322	\$3,099	\$846	\$459	\$0	\$0
Damage to Plant	0	0	0	0	0	9	1,111	0	0	0
Infill and Upgrade	0	285	219	7	124	857	2,465	330	0	0
Smart Meters	0	0	0	0	0	0	0	15,761	839	0
Wholesale Meter Upgrade	0	80	53	20	0	0	0	1,105	0	0
Plant Relocation and Upgrade	0	1,643	1,261	982	693	204	456	0	0	0
Residential Subdivision	0	152	85	2,329	1,062	1,573	1,938	301	0	0
System Expansion Demand	0	581	429	147	127	74	52	26	0	8
Miscellaneous	50	(138)	(100)	(88)	(196)	(139)	(900)	(39)	0	326
TOTAL	\$50	\$2,878	\$2,066	\$3,781	\$4,132	\$5,677	\$5,968	\$17,943	\$839	\$334

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Table 8 – General Plant Capital Program Expenditure, 2006 (\$000)

	1908	1808	1915	1920	1925	1930	1940	1945	1955	1960
Buildings - Facilities	\$2,654	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8	\$0
CIS Enhancements	0	0	0	0	831	0	0	0	0	0
Fleet Replacement	0	0	0	0	50	3,168	4	0	0	0
GIS Budget Program	0	0	0	863	5,322	0	0	0	0	0
Tools Replacement Budget	11	0	0	0	0	0	829	49	0	28
Information Services and Technology	0	0	0	486	72	0	0	0	0	0
Miscellaneous	-2	29	465	537	46	0	0	0	4	0
TOTAL	\$2,663	\$29	\$465	\$1,886	\$6,321	\$3,168	\$829	\$49	\$12	\$28

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4.0 ACTUAL EXPENDITURES - 2007

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Table 9 - Capital Expenditures, 2007 (\$000)

	1805	1806	1808	1815	1820	1830	1835	1840	1845	1850	1855	1860	1908	1915	1920	1925	1930	1940	1945	1960	1980	
Sustainment	1,443	392	2,519	9,251	2,933	4,659	4,032	5,713	2,836	4,961	2,644	-	(1,145)	-	-	-	-	-	-	-	-	839
Demand	-	-	-	-	387	3,003	1,976	3,990	6,310	6,096	5,669	12,802	-	-	53	1,198	-	-	-	-	-	(66)
General Plant	-	-	-	-	-	-	-	-	-	-	-	-	2,330	349	3,503	4,372	3,070	806	9	40	-	
CDM	-	-	-	-	-	-	55	-	-	-	-	-	4	-	-	(4)	-	-	2	35	-	
TOTAL	1,443	392	2,519	9,251	3,320	7,662	6,063	9,703	9,146	11,057	8,313	12,802	1,189	349	3,557	5,566	3,070	806	11	75	773	

7



1 **Table 10 - Distribution Capital Program Expenditure, Sustainment 2007 (\$000)**

Budget Program	1805	1806	1808	1815	1820	1830	1835	1840	1845	1850	1855	1908	1980
Cable Replacement	\$0	\$0	\$0	\$0	\$0	\$18	\$37	\$2,751	\$614	\$299	\$135	\$0	\$0
Civil Rehabilitation Program	0	0	0	0	0	0	0	345	6	0	0	0	0
Distribution Minor Enhancements	0	395	0	0	0	1,262	768	41	357	574	917	0	0
Distribution Transformer Replacement	0	0	0	0	0	0	0	40	69	2,218	11	0	0
Facility Programs - Stations	1,438	0	2,535	0	0	0	0	0	0	0	0	(1,117)	0
Insulator Replacement	0	0	0	0	0	0	495	0	0	0	4	0	0
Line Extensions	0	0	0	0	0	162	80	1,378	(42)	0	77	0	0
Planned Pole Replacement	0	0	0	0	0	2,006	852	0	97	372	85	0	0
Plant Failure Capital	0	0	0	0	0	140	472	4	685	935	231	0	0
SCADA - RTU Additions	0	0	0	0	0	0	0	0	0	0	0	0	131
SCADA Upgrades	0	0	0	0	0	0	0	0	0	0	0	0	669
Stations New Capacity	0	0	0	3,908	0	0	0	0	0	0	0	0	0
Stations Enhancements	0	0	0	201	1,559	0	0	0	0	0	0	0	0
Stations Relay Replacement	0	0	0	781	545	0	0	0	0	0	0	0	0
Stations Switchgear Replacement	0	0	0	3,732	778	0	0	0	0	0	0	0	0
Stations Transformer Replacement	0	0	0	456	0	0	0	0	0	0	0	0	0
System Reliability	0	0	0	0	0	63	107	413	137	0	17	0	0
System Voltage Conversion	0	0	0	0	0	949	1,146	707	584	605	(42)	0	0
Miscellaneous	4	(3)	(16)	173	51	59	75	34	329	(42)	1,209	(28)	39
TOTAL	\$1,443	\$392	\$2,519	\$9,251	\$2,933	\$4,659	\$4,032	\$5,713	\$2,836	\$4,961	\$2,644	(\$1,145)	\$839



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Table 11 - Distribution Capital Program Expenditure, Demand 2007 (\$000)

Budget Program	1820	1830	1835	1840	1845	1850	1855	1860	1860	1920	1925	1980
New Commercial Development	\$0	\$155	\$42	\$589	\$2,966	\$3,216	\$620	\$244	\$0	\$0	\$0	\$0
Damage to Plant	0	0	0	37	0	6	699	0	0	0	0	0
Infill and Upgrade	0	180	86	1	76	504	2,209	219	0	0	0	0
Smart Meters	0	0	0	0	0	0	0	0	10,849	54	1,208	0
Wholesale Meter Upgrade	0	43	49	1	0	13	0	991	0	0	0	0
Plant Relocation and Upgrade	0	1,232	685	923	1,568	87	286	1	0	0	0	0
Residential Subdivision	0	169	77	2,203	1,375	2,207	1,879	425	0	0	0	0
System Expansion Demand	0	1,253	1,067	238	413	90	147	0	0	0	0	7
Miscellaneous	387	(28)	(31)	(3)	(89)	(27)	(170)	11	63	(1)	(9)	(73)
TOTAL	\$387	\$3,003	\$1,976	\$3,990	\$6,310	\$6,096	\$5,669	\$1,890	\$10,912	\$53	\$1,198	(\$66)

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Table 12 – General Plant Capital Program Expenditure, 2007 (\$000)

Budget Program	1908	1915	1920	1925	1930	1940	1945	1960
Buildings - Facilities	\$2,328	\$0	\$0	\$0	\$0	\$0	\$0	\$0
CIS Enhancements	0	0	0	813	0	0	0	0
Fleet Replacement	0	0	0	13	3,070	0	0	0
GIS Budget Program	0	2	2,273	3,375	0	0	0	0
Information Services and Technology	0	0	865	(4)	0	0	0	0
New PC & Peripheral	0	0	122	131	0	0	0	0
Tools Replacement	2	0	0	0	0	806	9	40
Miscellaneous	0	347	244	43	0	0	0	0
TOTAL	\$2,330	\$349	\$3,504	\$4,372	\$3,070	\$806	\$9	\$40

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ACTUAL EXPENDITURES - 2008

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Table 13 - Capital Expenditures, 2008 (\$000)

	1805	1808	1815	1820	1830	1835	1840	1845	1850	1855	1860	1905	1908	1915	1920	1925	1930	1940	1960	1970	1975	1980		
Sustainment	20	2,325	10,432	5,736	1,887	2,975	2,111	3,496	2,022	2,678	32	4	-	-	-	-	-	-	-	-	-	-	1,068	
Demand	-	-	-	360	1,680	1,772	3,819	6,812	5,259	5,836	15,222	-	-	-	5	816	-	-	-	-	-	-	-	(301)
General Plant	-	79	-	-	-	-	-	-	-	-	-	4	1,364	531	1,077	2,497	1,795	612	77	-	-	-	-	
CDM	-	-	-	-	-	-	-	-	-	-	-	-	330	-	6	-	-	-	-	(10)	(58)	-	-	
TOTAL	20	2,404	10,432	6,096	3,567	4,747	5,930	10,308	7,281	8,514	15,254	8	1,694	531	1,088	3,313	1,795	612	77	(10)	(58)	767		

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1 **Table 14 - Distribution Capital Program Expenditure, Sustainment 2008 (\$000)**

Budget Program	1805	1806	1808	1815	1820	1830	1835	1840	1845	1850	1855	1860	1980
Cable Replacement	\$0	\$0	\$0	\$0	\$0	\$27	\$1	\$1,408	\$599	\$169	\$128	\$0	\$0
Distribution Minor Enhancements	0	4	0	0	0	220	1,022	11	195	122	639	32	0
Distribution Transformer Replacement	0	0	0	0	0	0	0	84	76	898	53	0	0
Distribution Automation	0	0	0	0	0	26	52	0	0	3	20	0	160
Facility Programs - Stations	19	0	2,325	0	0	0	0	0	0	0	0	0	0
Insulator Replacement	0	0	0	0	0	181	638	21	76	0	0	0	0
Line Extensions	0	0	0	0	0	89	102	166	707	(20)	52	0	0
O/H Equipment New and Rehab	0	0	0	0	0	0	142	0	0	0	0	0	0
Planned Pole Replacement	0	0	0	0	0	997	372	0	0	220	55	0	0
Plant Failure Capital	0	0	0	0	0	260	460	8	1,145	674	413	0	0
SCADA - RTU Additions	0	0	0	0	0	0	0	0	0	0	0	0	523
SCADA Upgrades	0	0	0	0	0	0	0	0	0	0	0	0	367
Stations Battery Replacement	0	0	0	15	181	0	0	0	0	0	0	0	0
Stations Enhancements	0	0	0	61	1,099	0	0	0	0	0	0	0	(20)
Stations New Capacity	1	0	0	7,305	0	0	0	0	0	0	0	0	0
Stations Plant Failure Capital	0	0	0	276	446	0	0	8	0	0	0	0	0
Stations Relay Replacement	0	0	0	261	182	0	0	0	0	0	0	0	0
Stations Switchgear Replacement	0	0	0	2,429	3,541	0	0	0	0	0	0	0	38
Stations Transformer Replacement	0	0	0	86	288	0	0	0	0	0	0	0	0
Switchgear New and Rehab	0	0	0	0	0	9	41	74	317	0	19	0	0
System Reliability	0	0	0	0	0	7	5	72	247	0	7	0	0
Miscellaneous	0	0	0	0	0	69	140	260	133	(43)	1,293	0	0
TOTAL	\$20	\$4	\$2,325	\$10,432	\$5,736	\$1,887	\$2,975	\$2,111	\$3,496	\$2,023	\$2,678	\$32	\$1,068



1 **Table 15 - Distribution Capital Program Expenditure, Demand 2008 (\$000)**

Budget Program	1820	1830	1835	1840	1845	1850	1855	1860	1860	1920	1925	1980
New Commercial Development	\$0	\$263	\$419	\$604	\$2,700	\$2,220	\$720	\$151	\$0	\$0	\$0	\$0
Damage to Plant	0	0	0	29	28	18	746	0	0	0	0	0
Infill and Upgrade	0	168	112	1	166	398	1,742	180	0	0	0	0
Smart Meters	0	0	0	0	0	0	0	0	13,721	5	816	0
Plant Relocation & Upgrade	0	872	1,019	710	1,581	196	308		0	0	0	0
Residential Subdivision	0	85	89	2,007	1,771	2,341	2,160	463	0	0	0	0
Embedded Generation Projects	360	0	0	0	0	0	0	0	0	0	0	(301)
System Expansion Demand	0	292	133	468	565	48	145	0	0	0	0	0
Miscellaneous	0	0	0	0	0	38	15	602	105	0	0	0
TOTAL	\$360	\$1,680	\$1,772	\$3,819	\$6,812	\$5,259	\$5,836	\$1,396	\$13,826	\$5	\$816	(\$301)

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Table 16 – General Plant Capital Program Expenditure, 2008 (\$000)

Budget Program	1808	1905	1908	1915	1920	1925	1930	1940	1960
Buildings - Facilities	\$79	\$4	\$1,364	\$0	\$0	\$0	\$0	\$0	\$0
CIS Enhancements	0	0	0	0	0	686	0	0	0
Fleet Replacement	0	0	0	0	0	5	1,795	0	0
GRM System Enhancements	0	0	0	0	66	946	0	0	0
Information Services and Technology	0	0	0	0	486	302	0	0	0
New PC & Peripheral	0	0	0	0	133	489	0	0	0
Tools Replacement	0	0	0	0	0	0	0	612	77
Miscellaneous	0	0	0	531	392	69	0	0	0
TOTAL	\$79	\$4	\$1,364	\$531	\$1,077	\$2,497	\$1,795	\$612	\$77

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ACTUAL EXPENDITURES - 2009

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Table 17 - Capital Expenditures, 2009 (\$000)

	1805	1808	1815	1820	1830	1835	1840	1845	1850	1855	1860	1908	1915	1920	1925	1930	1940	1960	1980
Sustainment	253	4,894	10,497	6,190	2,487	2,254	2,796	2,525	2,876	2,831	-	20	-	-	-	-	10	-	742
Demand	-	-	-	24	3,017	2,464	4,240	5,352	5,545	6,027	7,762	-	-	156	1,211	-	-	-	-
General Plant	-	100	-	-	-	-	-	-	-	-	-	1,630	201	907	2,551	1,443	505	82	-
TOTAL	253	4,994	10,497	6,214	5,504	4,718	7,036	7,877	8,421	8,858	7,762	1,650	201	1,063	3,762	1,443	515	82	742

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1 **Table 18 - Distribution Capital Program Expenditure, Sustainment 2009 (\$000)**

Budget Program	1805	1808	1815	1820	1830	1835	1840	1845	1850	1855	1908	1940	1980
Cable Replacement	\$0	\$0	\$0	\$0	\$53	\$3	\$2,063	\$948	(\$30)	\$73	\$0	\$0	\$0
Distribution Minor Enhancements	0	0	0	0	121	178	0	6	11	565	0	0	0
Distribution Transformer Replacement	0	0	227	10	52	0	162	34	2154	16	0	0	0
Facility Programs - Stations	0	673	0	0	0	0	0	0	0	0	20	0	0
Insulator Replacement	0	0	0	0	0	331	0	9	0	1	0	0	0
Line Extensions	0	0	0	0	444	78	296	276	15	46	0	0	0
O/H Equipment New and Rehab	0	0	0	0	1	208	0	0	0	18	0	0	0
Planned Pole Replacement	0	0	0	0	1184	808	31	304	268	107	0	0	0
Plant Failure Capital	0	0	0	0	462	434	48	937	397	464	0	0	0
SCADA - RTU Additions	0	0	0	0	0	0	0	0	0	0	0	0	582
Stations Enhancements	0	0	98	1,704	0	0	0	0	0	0	0	0	16
Stations New Capacity	253	4,226	9,112	0	0	0	0	0	0	1	0	0	0
Stations Plant Failure Capital	0	0	534	542	0	0	0	0	0	0	0	10	0
Stations Switchgear Replacement	0	49	570	2,150	25	6	0	0	6	4	0	0	0
Stations Transformer Replacement	0	0	28	1,787	0	0	0	0	0	0	0	0	9
Switchgear New and Rehab	0	0	0	0	0	0	23	52	0	25	0	0	0
System Voltage Conversion	0	0	0	0	161	196	0	37	68	45	0	0	0
Miscellaneous	0	(54)	(72)	(3)	(17)	12	173	(78)	(11)	1,464	0	0	134
TOTAL	\$253	\$4,894	\$10,497	\$6,190	\$2,487	\$2,254	\$2,796	\$2,525	\$2,876	\$2,831	\$20	\$10	\$742

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1 **Table 19 - Distribution Capital Program Expenditure, Demand 2009 (\$000)**

Budget Program	1820	1830	1835	1840	1845	1850	1855	1860	1860	1920	1925
New Commercial Development	\$21	\$648	\$532	\$313	\$2401	\$2,940	\$721	\$216	\$0	\$0	\$0
Damage to Plant	0	0	0	0	0	0	942	0	0	0	0
Infill and Upgrade	0	173	112	12	70	618	1,705	161	0	0	0
Smart Meters	0	0	0	0	0	0	0	0	6,765	156	1,211
Wholesale Meter Upgrade	0	0	0	0	0	0	0	(34)	0	0	0
Plant Relocation and Upgrade	0	1,271	1,231	1,073	1,293	204	625	0	0	0	0
Residential Subdivision	0	96	136	2,713	1,410	1,675	1,848	456	0	0	0
System Expansion Demand	0	705	421	164	245	126	220	0	0	0	0
Miscellaneous	3	125	32	(35)	(67)	(18)	(34)	128	70	0	0
TOTAL	\$24	\$3,017	\$2,464	\$4,240	\$5,352	\$5,545	\$6,027	\$927	\$6,834	\$156	\$1,211

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Table 20 – General Plant Capital Program Expenditure, 2009 (\$000)

Budget Program	1808	1908	1915	1920	1925	1930	1940	1960
Buildings - Facilities	\$101	\$1,641	\$0	\$0	\$0	\$0	\$0	\$0
CIS Enhancements	0	0	0	0	952	0	0	0
Fleet Replacement	0	0	0	0	1	1,453	7	0
GRM System Enhancements	0	0	0	41	659	0	0	0
Information Services and Technology	0	0	0	182	94	0	0	0
ERM / JDE Project	0	0	0	398	367	0	0	0
New PC & Peripheral	0	0	0	113	157	0	0	0
Tools Replacement	0	0	0	8	0	0	501	82
Miscellaneous	(1)	(11)	201	166	321	(11)	(3)	(1)
TOTAL	\$100	\$1,630	\$201	\$907	\$2,551	\$1,443	\$505	\$82

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7.0 BUDGETED EXPENDITURES - 2010

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Table 21 - Capital Expenditures, 2010 (\$000)

	1805	1808	1815	1820	1830	1835	1840	1845	1850	1855	1860	1908	1915	1920	1925	1930	1940	1955	1960	1980	2900
Sustainment	860	712	14,942	8,001	2,640	1,821	3,810	4,458	3,233	2,989	6	-	-	-	-	-	-	-	-	817	-
Demand	-	-	2	61	2,914	2,630	3,439	6,008	4,717	5,980	4,067	-	-	-	-	-	-	-	-	13	-
General Plant	-	-	-	-	-	-	-	-	-	-	-	1,643	255	2,578	4,424	2,342	717	323	50	-	486
TOTAL	860	712	14,944	8,062	5,554	4,452	7,249	10,466	7,950	8,969	4,073	1,643	255	2,578	4,424	2,342	717	323	50	830	486

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1 **Table 22 – Distribution Plant Capital Program Expenditure, Sustainment 2010 (\$000)**

Budget Program	1805	1808	1860	1815	1820	1980	1845	1840	1850	1835	1830	1855
Facilities Stations	\$0	\$712	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Distribution Asset	0	0	6	0	0	4	2,566	2,029	3,232	1,799	2,634	443
Distribution Automation	0	0	0	0	11	173	0	0	1	23	7	7
Distribution Enhancement	0	0	0	0	0	0	1,893	1,782	0	0	0	2,539
Stations Asset	0	0	0	603	3,617	0	0	0	0	0	0	0
Stations Capacity	860	0	0	13,606	2,829	0	0	0	0	0	0	0
Stations Enhancement	0	0	0	733	1,544	3	0	0	0	0	0	0
System Operations Automation	0	0	0	0	0	636	0	0	0	0	0	0
TOTAL	\$860	\$712	\$6	\$14,942	\$8,001	\$817	\$4,458	\$3,810	\$3,233	\$1,821	\$2,640	\$2,989

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1 **Table 23 – Distribution Plant Capital Program Expenditure, Demand 2010 (\$000)**

Budget Program	1860	1815	1820	1980	1845	1840	1850	1835	1830	1855
Damage to Plant	\$0	\$0	\$0	\$0	\$13	\$25	\$13	\$0	\$0	\$1,220
Embedded Generation Projects	0	2	61	0	0	0	0	0	0	0
Infill & Upgrades	112	0	0	0	237	6	538	134	216	1,592
Long Term Load Transfers	0	0	0	1	52	29	10	66	191	14
New Commercial Development	134	0	0	0	2,103	295	2,067	134	145	685
Plant Relocation & Upgrade	0	0	0	0	1,859	1,143	249	1,574	1,387	600
Remote Disconnected Smart Meter	86	0	0	0	0	0	0	0	0	0
Residential Subdivision	259	0	0	0	1,172	1,625	1,697	29	53	1,716
Smart Meters	2,720	0	0	0	0	0	0	0	0	0
Suite Metering	656	0	0	0	0	0	0	0	0	0
System Expansion Demand	0	0	0	12	571	315	143	695	923	152
Wholesale Meter Upgrade	100	0	0	0	0	0	0	0	0	0
TOTAL	\$4,067	\$2	\$61	\$13	\$6,008	\$3,439	\$4,717	\$2,630	\$2,914	\$5,980

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Table 24 – General Plant Capital Program Expenditure, 2010 (\$000)

Budget Program	1908	1915	1920	1925	1955	2900	1930	1940	1960
Buildings - Facilities	\$1,248	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
CIS Enhancements	0	0	0	1,896	0	0	0	0	0
Electronic Collection Field Activities	0	0	20	23	0	0	0	0	0
Environmental Sustainability Strategy	394	0	44	0	0	0	110	0	0
Fleet Replacement	0	0	0	0	0	0	2,232	0	0
Furniture & Equipment	0	255	0	0	0	0	0	0	0
GIS/OMS/CIS/IVR Integration	0	0	110	383	0	0	0	0	0
GRM System Enhancements	0	0	240	303	0	0	0	0	0
Information Services & Technology	0	0	843	531	323	0	0	0	0
ERM / JDE Project	0	0	965	164	0	0	0	0	0
New PC & Peripheral	0	0	111	757	0	0	0	0	0
Outbound Calling Auto-Dialer	0	0	0	55	0	0	0	0	0
PC/Peripheral Replacement	0	0	220	0	0	0	0	0	0
Tools Replacement	0	0	25	0	0	0	0	717	50
Website Enhancements	0	0	0	312	0	0	0	0	0
Adaptive Streetlighting	0	0	0	0	0	486	0	0	0
TOTAL	\$1,643	\$255	\$2,578	\$4,424	\$323	\$486	\$2,342	\$717	\$50

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1 **8.0 BUDGETED EXPENDITURES - 2011**

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Table 25 - Capital Expenditures, 2011 (\$000)

	1808	1815	1820	1830	1835	1840	1845	1850	1855	1860	1905	1908	1915	1920	1925	1930	1940	1955	1970	1980	1980	
Sustainment	3,825	11,542	3,333	4,872	2,515	5,279	5,775	3,610	2,764	14	-	-	-	-	-	-	-	-	-	-	-	1,696
Demand	-	1	63	3,471	2,936	3,358	5,059	5,353	6,667	2,449	-	-	-	-	-	-	-	-	-	-	-	20
General Plant	381	-	-	-	-	-	-	-	-	-	3,637	2,623	194	1,889	5,541	2,263	608	856	-	131	-	-
GEA	-	-	628	689	689	-	-	-	-	-	-	24	-	-	90	-	-	-	99	-	-	347
TOTAL	4,205	11,543	4,024	9,032	6,140	8,637	10,834	8,963	9,431	2,463	3,637	2,647	194	1,889	5,631	2,263	608	856	99	131	2,062	

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Table 26 – Distribution Plant Capital Program Expenditure, Sustainment 2010 (\$000)

Capital Program	1808	1860	1815	1820	1980	1845	1840	1850	1835	1830	1855
Facilities Stations	\$609	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Distribution Asset	0	14	0	0	4	2,264	1,974	3,607	2,441	4,851	554
Distribution Automation	0	0	0	36	563	0	0	3	74	22	22
Distribution Enhancement	0	0	0	0	0	3,511	3,305	0	0	0	2,188
Stations Asset	0	0	505	1,659	0	0	0	0	0	0	0
Stations Automation	0	0	92	1,139	0	0	0	0	0	0	0
Stations Capacity	3,215	0	10,717	0	0	0	0	0	0	0	0
Stations Enhancement	0	0	228	499	1	0	0	0	0	0	0
System Operations Automation	0	0	0	0	1,128	0	0	0	0	0	0
TOTAL	\$3,825	\$14	\$11,542	\$3,333	\$1,696	\$5,775	\$5,279	\$3,610	\$2,515	\$4,872	\$2,764

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1 **Table 27 – Distribution Plant Capital Program Expenditure, Demand 2011 (\$000)**

Budget Program	1860	1820	1980	1845	1840	1850	1835	1830	1855
Damage to Plant	\$0	\$0	\$0	\$8	\$18	\$9	\$0	\$0	\$856
Embedded Generation Projects	0	64	0	0	0	0	0	0	0
Infill & Upgrade	214	0	0	139	7	633	157	255	2,302
Long Term Load Transfers	0	0	5	238	131	48	301	385	63
New Commercial Development	134	0	0	2,173	327	2,290	313	74	766
Plant Relocation & Upgrade	0	0	0	1,429	902	194	1,225	1,472	477
Remote Disconnected Meter	83	0	0	0	0	0	0	0	0
Residential Subdivision	589	0	0	362	1,580	2,001	76	139	2,014
Meters	1,428	0	0	0	0	0	0	0	0
System Expansion Demand	0	0	15	709	391	178	863	1,146	189
TOTAL	\$2,449	\$64	\$20	\$5,059	\$3,358	\$5,353	\$2,936	\$3,471	\$6,667

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Table 28 – General Plant Capital Program Expenditure, 2011 (\$000)

Budget Program	1905	1908	1808	1915	1920	1925	1955	1930	1940	1960
Buildings - Facilities	\$3,637	\$2,623	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
CIS Enhancements	0	0	0	0	247	3,668	0	0	0	0
Electronic Collection Field Ac	0	0	0	0	19	17	0	0	0	0
Environmental Sustainability Strategy	0	0	381	0	49	0	0	396	0	49
Fleet Replacement	0	0	0	0	0	0	0	1,867	0	0
Furniture & Equipment	0	0	0	194	0	0	0	0	0	0
GIS/OMS/CIS/IVR Integration	0	0	0	0	109	457	0	0	0	0
GRM System Enhancements	0	0	0	0	158	430	0	0	0	0
Information Services and Technology	0	0	0	0	968	564	856	0	0	0
New PC & Peripheral	0	0	0	0	128	117	0	0	0	0
Outbound Calling Auto-Dialler	0	0	0	0	0	5	0	0	0	0
PC/Peripheral Replacement	0	0	0	0	199	0	0	0	0	0
Tools Replacement Budget	0	0	0	0	12	0	0	0	608	82
Website Enhancements	0	0	0	0	0	283	0	0	0	0
TOTAL	\$3,637	\$2,623	\$381	\$194	\$1,889	\$5,541	\$856	\$2,263	\$608	\$131

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CAPTIAL EXPENDITURES, 2011 through 2013

1.0 INTRODUCTION

Hydro Ottawa Limited (“Hydro Ottawa”) is not applying for approval of 2012 or 2013 capital expenditures. Planned expenditures in 2012 and 2013 are shown in the following tables as required by the *Filing Requirements for Transmission and Distribution Applications*, and to demonstrate investment in distribution and general plant will continue beyond 2011. Budgets for 2012 and 2013 are subject to refinement as time proceeds, based on current information and operating requirements. A similar adjustment for the Harmonized Sales Tax (“HST”) as described in Exhibit B4-4-1 is included for the capital expenditures in 2012 and 2013.

2.0 THREE YEAR FORECAST OF CAPITAL EXPENDITURES

Table 1 - Capital Category Expenditures

Capital Category	2011 \$000	2012 \$000	2013 \$000
Sustainment	\$45,224	\$50,674	\$46,714
Demand Gross	29,378	32,134	36,963
Contributed Capital	(16,570)	(18,048)	(21,527)
General Plant	18,123	35,454	53,187
Green Energy Act	2,566	2,688	800
TOTAL	\$78,721	\$102,902	\$116,137

The overall capital budget increases yearly during the period 2011 through 2013. The significant driver for the increase is General Plant capital category, which contains two large projects during the timeframe; the Facilities Strategy and Customer Information System (“CIS”) Transition Project.



1 Demand capital expenditures increase, and correspondingly, contributed capital, as the
2 economy recovers and the City of Ottawa (the “City”) continues to grow.

3
4 **2.1 Sustainment Capital Expenditures**

5
6 **Table 2 - Distribution Capital Program Expenditure, Sustainment**

Capital Program	2011 \$000	2012 \$000	2013 \$000
Facilities Programs - Stations	\$707	\$714	\$714
Distribution Asset	15,709	21,710	20,188
Distribution Enhancement	9,004	11,133	7,597
Stations Asset	2,164	5,256	7,688
Stations Capacity	13,834	8,918	7,947
Stations Enhancement	728	1,571	1,475
Automation	3,078	1,372	1,105
TOTAL	\$45,224	\$50,674	\$46,714

7
8 Distribution Asset expenditures increase due to increased volumes of Pole Replacement
9 as indicated by the *2010 Asset Management Plan* (“2010 AMP”).

10
11 Distribution Enhancement expenditures fluctuate with the completion of the Kilborn
12 Voltage Conversion project and fluctuations of expenditures for Line Extension projects.

13
14 Station Asset expenditures increase over the period primarily due to expenditures for
15 Station Transformer Replacement as directed by the 2010 AMP

16
17 Stations Capacity expenditures decrease over the period due to the expenditures
18 required to complete the existing projects. Station Capacity expenditures are budgeted
19 near the \$10M point for ongoing years.



1 **2.2 Demand Capital Expenditures**

2

3

Table 3 - Distribution Capital Program Expenditures, Demand

Capital Program	2011 \$000	2012 \$000	2013 \$000
Commercial	\$6,078	7,316	7,393
Damage To Plant	892	897	967
Infill and Upgrade	3,706	4,388	4,475
Metering	1,511	1,548	1,585
Plant Relocation	5,700	5,816	6,423
Residential	6,762	6,920	8,645
Stations Demand	64	65	66
System Expansion	4,665	5,184	5,261
Light Rail Transit	0	0	2,148
TOTAL	\$29,378	\$32,134	\$36,963

4

5

Table 4 - Distribution Capital Program Expenditures, Contributed Capital

Capital Program	2011 \$000	2012 \$000	2013 \$000
Commercial	(\$6,117)	(\$7,316)	(\$7,393)
Damage To Plant	(447)	(449)	(483)
Infill & Upgrade	(1,686)	(1,758)	(1,792)
Plant Relocation	(2,932)	(2,967)	(3,271)
Residential	(4,242)	(4,298)	(5,338)
Stations Demand Projects	(64)	(65)	(66)
System Expansion	(1,082)	(1,195)	(1,143)
Light Rail Transit	0	0	(2,041)
TOTAL	(\$16,570)	(\$18,048)	(\$21,527)

6

7 Demand expenditures, and correspondingly contributed capital, are budgeted to

8 increase yearly over the period 2011 to 2013 as the City continues to grow.

9

10 A new Capital Program, Light Rail Transit, is budgeted to start in 2013. The City is

11 currently undertaking the planning of a Light Rail Transit system. An expedited



1 environmental assessment for the project is underway and approval is expected to be
2 granted in 2010. Hydro Ottawa has been working with the City on preliminary project
3 planning and is expecting requirements to construct temporary and permanent power
4 supplies, as well as relocate existing plant to accommodate the project.

6 2.3 General Plant Capital Expenditures

8 **Table 5 – General Plant Capital Program Expenditures**

Budget Program	2011 \$000	2012 \$000	2013 \$000
Buildings - Facilities	\$6,260	\$13,578	\$38,321
CIS Enhancements	3,916	16,066	8,065
Customer Service Strategy	452	0	0
Electronic Collection Field Activities	36	37	2
Environmental Sustainability Strategy	875	755	855
Fleet Replacement	1,867	1,623	1,687
Furniture & Equipment	195	198	198
GIS/OMS/CIS/IVR Integration	113	55	55
GRM System Enhancements	589	514	459
Information Services and Technology	2,387	1,381	2,346
New PC & Peripheral	245	236	219
Outbound Calling Auto-Dialer	5	5	5
PC/Peripheral Replacement	199	203	155
Tools Replacement	701	695	699
Website Enhancements	283	108	121
TOTAL	\$18,123	\$35,454	\$53,187

9
10 General Plant capital expenditures continue to ensure employees have the tools and
11 equipment required to work safely and effectively. Increased expenditures during the
12 period are due to the implementation of the Facilities Strategy (Exhibit B1-2-5) and the
13 CIS Transition Project (Exhibit B1-2-7).



1 **2.4 Green Energy Act Expenditures**

2

3

Table 6 – Green Energy Act Capital Program Expenditures

Capital Program	2011 \$000	2012 \$000	2013 \$000
GEA	\$2,566	\$2,688	\$800
TOTAL	\$2,566	\$2,688	\$800

4

5 Green Energy Act expenditures are based on the plan outlined in the Hydro Ottawa

6 Limited *Green Energy Act Basic Plan* (Exhibit B1-2-3).



1 **ALLOWANCE FOR FUNDS USED DURING CONSTRUCTION**

2
3 A financing charge, referred to as Allowance for Funds Used During Construction
4 (“AFUDC”), will be applied against projects with construction durations greater than two
5 months. The AFUDC is at the rate deemed by the Ontario Energy Board (the “Board”)
6 for rate-setting purposes, and is capitalized.

7
8
9 **1.0 LAST BOARD APPROVED YEAR**

10
11 **Table 1 – AFUDC Applied to 2008 Capital Projects**

Capital Project	2008 Approved AFUDC \$000	2008 Actual AFUDC \$000	Variance \$000
Facilities	29	0	(\$29)
Facilities Programs - Stations	45	0	(45)
CIS Enhancements	18	0	(18)
Stations Transformer Replacement	21	0	(21)
Stations Switchgear Replacement	169	233	64
Stations New Capacity	413	454	41
TOTAL	\$695	\$687	(\$8)

12
13 The variance between the 2008 Approved and 2008 Actual AFUDC charge applied to
14 capital projects was (\$8k). Individual budget program actual charges did vary from the
15 2008 Approved however well under the materiality threshold.

16
17 AFUDC applied to Facilities Programs - Stations was lower than approved, largely due to
18 the delay in commencing construction of the new Ellwood Substation until 2009,
19 reducing AFUDC in 2008. Refer to Exhibit B5-2-1.

20
21 The Customer Information System version upgrade did not proceed as described in
22 Exhibit B5-2-2, which resulted in elimination of these AFUDC charges.



1 **Table 2 – AFUDC Applied to 2005-2011 Capital Projects**

Budget Program	2005 \$000	2006 \$000	2007 \$000	2008 \$000	2009 \$000	2010 Budget \$000	2011 Budget \$000
Cable Replacement	\$4	\$0	\$0	\$0	\$104	\$0	\$1
Planned Pole Replacement	0	0	0	0	18	0	109
Stations Switchgear Replacement	0	0	51	233	163	110	9
Stations New Capacity	0	9	202	454	410	782	964
SCADA - RTU Additions	0	0	0	0	10	0	0
Buildings - Facilities	170	0	0	0	0	0	0
Control Room Modernization	121	0	0	0	0	0	0
GIS Budget Program	145	184	0	0	0	0	0
Remaining Budget Programs	27	0	0	0	190	129	71
TOTAL	\$467	\$193	\$253	\$687	\$895	\$1,021	\$1,174

2
3 The AFUDC amounts shown in Table 2 for the Bridge and Test year were calculated
4 during the budgeting process based on the budgeted amounts and plans. During 2010
5 and 2011 AFUDC will be applied based on actual expenditures.

6
7 The yearly AFUDC increases in the period 2005 through 2011 are primarily due to
8 increases in yearly Stations New Capacity capital expenditures, which are longer
9 duration, larger expenditure construction projects.

10
11 As described in Exhibit B5-1-2, the Geographic Information System development
12 program was completed in 2006. Ongoing Geospatial Resource Management projects
13 started subsequent to 2006 are smaller in scope and duration, so do not attract AFUDC.
14 Also described in Exhibit B5-1-2, the refurbishment of multiple worksites and the
15 construction of the new system office were completed at the end of 2005, resulting in the
16 decrease of AFUDC charges in building facilities and control room modernization.

17
18 AFUDC charges applied to Stations Switchgear Replacement capital expenditures
19 increased in 2007 due to projects initiated in 2006. Yearly charges were, and will



- 1 continue to be, based on the expenditures and capitalization timing of the individual
- 2 projects.



SERVICE QUALITY AND RELIABILITY PERFORMANCE

Hydro Ottawa Limited (“Hydro Ottawa”) reports service quality indicators, which consist of service quality and service reliability metrics, to the Ontario Energy Board (the “Board”) on an annual basis. Hydro Ottawa did meet the minimum standards for all service quality indicators in 2006, 2007, 2008 and 2009 as shown in Table 1 below. As reflected, there were additional Service Quality Indicators added in 2009. In all cases, the required service standards were met.

Although some reliability metrics are higher in 2009 than in 2008, 2007 and 2006, they remain within the acceptable range of performance over the three previous years. Hydro Ottawa tracks reliability metrics throughout the year and uses the system performance information to direct maintenance activities and to support the development of the *2010 Asset Management Plan* (Exhibit B1-2-2).

Despite annual variations in the System Average Interruption Frequency Index (“SAIFI”) and System Average Interruption Duration Index (“SAIDI”) the three-year reliability averages have remained relatively constant. Loss of supply, defective equipment and foreign interference continue to be the three leading causes for outage frequency and duration, in excess of 50 percent.

The largest contributor to both the frequency and duration of customer interruptions in 2009 was loss of supply at Hawthorne TS, Fallowfield TS and Merivale TS. Most striking was the increase in the SAIDI contribution over 2008 levels, without a proportionate increase in SAIFI. The aforementioned transmission station outages in 2009 contributed nearly 80 percent of the loss of supply for the SAIDI and 40 percent for the SAIFI.

Defective equipment was the second largest contributor of SAIFI and SAIDI results in 2009. While significant reductions in interruptions due to underground cable and pole attachments (insulators) have been attained, these have been outpaced by increasing reliability issues in other equipment classes.



1 Foreign interference interruptions increased significantly, due to animal and bird
2 contacts, in 2009. This increase is attributed to a handful of contacts in high impact
3 locations, resulting in sizable interruptions.

4

5 In response to reliability analysis and worst feeder performance reviews, Hydro Ottawa
6 is focusing on improving reliability measures. Joint planning efforts between Hydro One
7 Networks Inc. and Hydro Ottawa are continuing to focus on reliability of supply to the
8 service area to reduce impacts of loss of supply. In addition, asset replacement
9 programs are focusing efforts on insulator replacements, as well as, elbow and insert
10 replacements in areas of poor reliability.



1

Table 1 – Service Quality Indicators 2006, 2007, 2008 and 2009

Service Quality Indicator	Minimum Standard	2006	2007	2008	2009
Connection of New Services – Low Voltage	90% or better	98.9%	95.8%	97.8%	98.7%
Connection of New Services – High Voltage	90% or better	100%	100%	100%	100%
Underground Cable Locates	90% or better	98.5%	97.5%	98.4%	N/A
Appointments Scheduling	90% or better	N/A	N/A	N/A	100%
Appointments Met	90% or better	99.9%	98.8%	99.9%	99.3%
Rescheduling a Missed Appointment	100%	N/A	N/A	N/A	100%
Telephone Accessibility (Telephone Service Factor)	65% or better	72.0%	71.9%	72.9%	69.0%
Telephone Call Abandon Rate	Less than 10%	N/A	N/A	N/A	5.8%
Written Response to Inquiries	80% or better	99.1%	99.2%	99.6%	99.8%
Emergency Response - Urban	80% or better	96.2%	98.1%	94.4%	95.3%
Emergency Response - Rural	80% or better	N/A	N/A	N/A	N/A
SAIDI (System Average Interruption Duration Index)	Within the range of performance over the previous 3 years	1.51	1.40	0.98	1.50
SAIFI (System Average Interruption Frequency Index)	Within the range of performance over the previous 3 years	1.19	1.21	1.02	1.15
CAIDI (Customer Average Interruption Duration Index)	Within the range of performance over the previous 3 years	1.27	1.15	0.97	1.30
SAIDI (System Average Interruption Duration Index) – exclude Code 2 loss of supply	Within the range of performance over the previous 3 years	N/A	0.96	0.92	1.05
SAIFI (System Average Interruption Frequency Index) – exclude Code 2 loss of supply	Within the range of performance over the previous 3 years	N/A	0.59	0.75	0.82
CAIDI (Customer Average Interruption Duration Index) – exclude Code 2 loss of supply	Within the range of performance over the previous 3 years	N/A	1.63	1.22	1.28



LOAD FORECAST

1.0 INTRODUCTION

In the 2006 Electricity Distribution Rate (“EDR”) Application, Hydro Ottawa Limited (“Hydro Ottawa”) used an internally developed forecasting methodology. Although this load forecasting method performed reasonably well, the decision was taken to improve future load forecasts by including a more rigorous weather correcting methodology. As a result of a competitive process, Itron Inc.’s advanced statistical modeling software *MetrixND* was selected. *MetrixND* is the dominant software program for electricity and gas forecasting with over 500 users worldwide. The following is a list of other Canadian users of *MetrixND* software, as provided by Itron Inc.

- Independent Electricity System Operator Manitoba Hydro
- Region of Peel
- Ontario Power Generation
- BC Hydro
- New Brunswick Power Corporation
- Enersource Hydro Mississauga
- TransAlta
- Alberta Electricity System Operator
- Enmax Power Corporation
- Enmax Corporation
- Union Gas Limited

Table 1 provides a comparison of the forecasted, actual and weather normalized system MWhs (purchases) over the past five years. Figure 1 provides the same information in a graph. As can be seen the variance between the forecast and the weather normalized MWhs has been in an acceptable range.



1

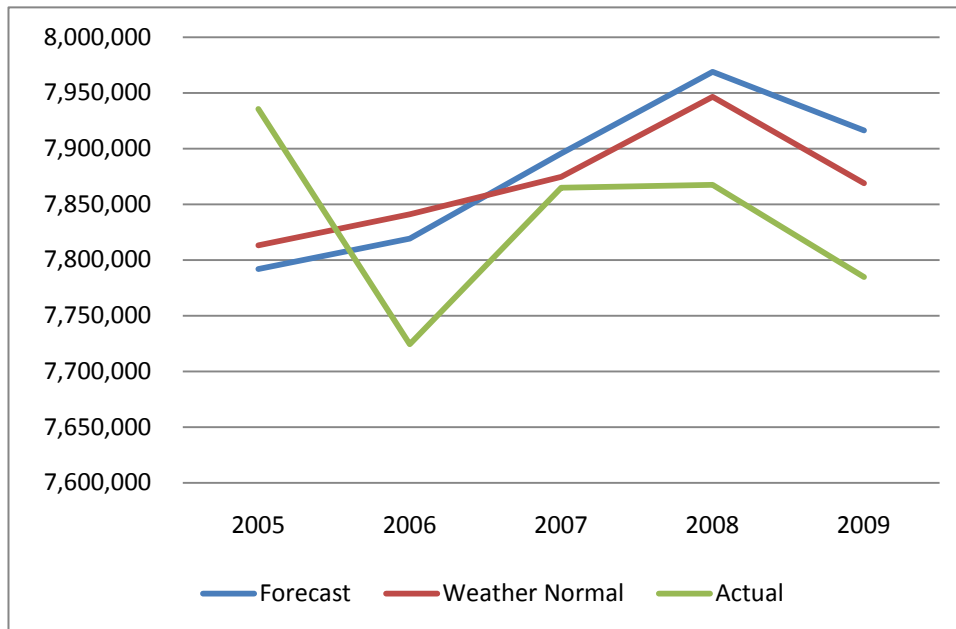
Table 1 – Forecast, Actual and Weather Normal Purchased MWh

Year	Forecast MWh	Actual MWh	Variance Actual to Forecast	Weather Normalized MWh	Variance Actual to Weather Normal
2005	7,791,934	7,935,615	1.84%	7,813,168	0.27%
2006	7,819,252	7,724,426	-1.21%	7,840,902	0.28%
2007	7,895,507	7,864,855	-0.39%	7,874,574	-0.27%
2008	7,968,944	7,867,414	-1.27%	7,946,312	-0.28%
2009	7,916,296	7,784,723	-1.66%	7,868,901	0.27%

2

3

Figure 1 – Forecast, Actual and Weather Normal Purchased MWh



4

5

6

7

2.0 MODELLING PROCESS AND WEATHER NORMALIZATION

8

9

Hydro Ottawa's load forecast was developed using a series of regression models developed

10

through a contract with the Load Forecasting group at Itron Inc. These models were produced



1 using a statistical analysis software program called *MetrixND*. The following historical data was
2 used as inputs into the models:

- 3
- 4 • system load data May 2002 to January 2010 – hourly energy data,
- 5 • system load data prior to May 2002 – monthly energy data,
- 6 • customer count, energy consumption and peak demand (monthly sales data,
7 2002 to January 2010),
- 8 • weather data from 1952 to 2009 – temperature and humidity, monthly Heating Degree
9 Days (“HDD”) and Cooling Degree Days (CDD”) obtained from Environment Canada for
10 the Ottawa Macdonald-Cartier International Airport, and
- 11 • economic variables for the Ottawa area: population, Gross Domestic Product (“GDP”),
12 Real Personal Income (“RPI”), etc., received from the Conference Board of Canada.

13
14 Two main forecasts were developed for the purposes of the rate setting exercise; a system
15 forecast of energy and demand, and a class sales forecast. As well, a forecast of peak demand
16 was developed for system planning purposes based on more extreme weather conditions.

17 18 19 **3.0 MODELLING RESULTS**

20 21 **3.1 System Energy Forecast**

22
23 The system energy forecast (purchases) model was estimated using the available data from
24 1997 through early 2010, thus including both a period of strong growth from 1997-2002, a
25 period of reduced growth 2002-2007 and a period of recession 2008-2009. The main variable
26 driving the model is Gross Domestic Product for the Greater Ottawa area, which was obtained
27 from the Conference Board of Canada. Heating Degree Days with bases of 8 and 18 degrees
28 Celsius and Cooling Degree Days with an 18 degree Celsius base were found to best capture
29 the relationship between weather and system wide energy consumption.

30
31 Hydro Ottawa reviewed the results of the system energy forecast using 10 year, 20 year and 30
32 year weather. As can be seen in Table 2 below, the impact of using a shorter period for the



1 weather normalization is a slight (0.1%) decrease in the forecasted system energy and a slight
2 (0.5%) increase in forecasted system demand.

3
4

Table 2 – Weather Normalization Period

	HDD8	CDD18	Forecast System Energy MWh	Forecast System Demand MW
30 years	2137.3	250.0	7,966,856	1,427
20 years	2102.4	255.6	7,962,369	1,432
10 years	2082.5	254.1	7,955,582	1,434

5

6 A ten year average from 2000 to 2009 was adopted as the appropriate definition of normal
7 weather. This most recent 10 year average is more consistent with recent years' weather and
8 has been used by and accepted in other electricity distribution rate applications for 2008, 2009
9 and 2010 (Toronto Hydro Electric System Limited EB-2005-0421, EB-2007-0680 and Veridian
10 EB-2009-0140).

11

12 The model also contains other binary variables to capture non weather-related seasonality.
13 This model specification does a good job of capturing the historical behaviour of energy with
14 respect to economics and weather. Hydro Ottawa typically looks at two statistics in evaluating
15 the performance of the model:

16

- 17 • the adjusted R^2 or coefficient of determination, where R^2 is a statistical measure of how
18 well the regression line approximates the real data points. An R^2 of 1.0 indicates that
19 the regression line perfectly fits the data. The adjusted R^2 is a modification of R^2 that
20 adjusts for the number of explanatory terms in a model, and
- 21 • The Mean Absolute Percentage Error (“MAPE”) which is a measure of the accuracy in a
22 fitted time series. A low MAPE indicates that model residuals or errors are low.

23

24 The 10 year weather system energy forecast performs very well with an adjusted R^2 of 0.985
25 indicating that 98.5% of the variations in energy are explained by the variables in the model and
26 a MAPE of 0.78%.

27



1 As can be seen in Table 3, system energy is projected to grow at a rate of 0.82% for 2011,
2 reflecting expectations of moderate economic growth in Greater Ottawa.

3
4

Table 3 – Actual and Forecasted System Energy (MWh)

Year	Actual/Forecast MWh	Growth	Normalized Weather MWh	Growth
1997	7,086,302		7,078,238	
1998	7,019,209	-0.90%	7,146,335	-0.96%
1999	7,318,456	4.30%	7,274,021	1.79%
2000	7,441,441	1.70%	7,544,233	3.71%
2001	7,728,593	3.90%	7,758,347	2.84%
2002	7,834,251	1.40%	7,799,939	0.54%
2003	7,882,046	0.60%	7,864,704	0.83%
2004	7,799,186	-1.10%	7,850,775	-0.18%
2005	7,935,615	1.75%	7,813,168	-0.48%
2006	7,724,426	-2.66%	7,840,902	0.35%
2007	7,864,855	1.82%	7,874,574	0.43%
2008	7,867,414	0.03%	7,946,312	0.91%
2009	7,784,723	-1.05%	7,868,901	-0.97%
2010	7,891,173	1.37%	7,891,173	0.28%
2011	7,955,582	0.82%	7,955,582	0.82%

5

6 **3.2 System Peak Forecast**

7

8 The system peak forecast was derived using the maximum hourly load value for each month for
9 the time period after May 2002. As the system level peak data prior to 2002 was not available
10 to use in the model, the problem of imposing growth on the peak forecast was resolved by
11 using, as an input variable, a 12-month moving average of system energy. Utilizing this moving
12 average of system energy allowed the growth trend to be isolated, while at the same time
13 allowing the seasonal effects of weather on the system peak to be captured by using peak-day
14 weather variables.

15



1 The system peak model was specified using peak-producing weather (i.e. weather on the day
2 of the peak). Monthly binary variables were also used to account for non weather-related
3 seasonality, as well as to mark off any anomalous observations. The model does a very good
4 job fitting the data with an adjusted R^2 of 0.90 and MAPE of 2.75%.

5

6 Table 4 shows the actual and forecasted growth in system peak for the years 2003 through
7 2011.

8

9

Table 4 – Actual and Forecasted System Peak

Year	Actual/Forecast System Peak	Growth	Weather Normal System Peak	Growth
2002	1,444		1,426	
2003	1,420	-1.70%	1,419	-0.54%
2004	1,405	-1.10%	1,395	-1.68%
2005	1,464	4.20%	1,442	3.41%
2006	1,495	2.10%	1,441	-0.06%
2007	1,425	-4.70%	1,403	-2.64%
2008	1,355	-4.90%	1,427	1.68%
2009	1,363	0.60%	1,402	-1.73%
2010	1,426	4.60%	1,426	1.66%
2011	1,434	0.60%	1,434	0.60%

10

11

12 **4.0 CONSERVATION AND DEMAND MANAGEMENT ADJUSTMENT**

13

14 Hydro Ottawa supports the Provincial Government's Conservation and Demand Management
15 ("CDM") initiatives and from 2005 to 2008 delivered CDM programs funded through 3rd tranche
16 revenue and is currently delivering CDM programs that are funded through the Ontario Power
17 Authority ("OPA"). The impact of these historical programs on the load in future years is
18 incorporated in the load forecast presented above, through the modelling process.

19



1 The prepared forecasts do not take into account aggressive new CDM targets planned for the
2 Province of Ontario. On March 31, 2010, the Minister of Energy and Infrastructure issued a
3 Directive to the Ontario Energy Board (the “Board”) to establish electricity conservation and
4 demand management targets for each local distribution company (“LDC”). These targets must
5 total 1,330 MW (1,329 MW in Table 5 below) of provincial peak demand and 6,000 GWh (5,964
6 GWh in Table 4 below) of reduced electricity consumption over a four year period starting in
7 2011. The Board has not yet established specific targets for all distributors, however based on
8 Hydro Ottawa’s contribution to the provincial total demand (3.3%) and energy (6.2%), yearly
9 estimates of the expected targets have been calculated. These targets are shown below in
10 Tables 5 and 6. The sales forecasts have been adjusted to reflect the 2010 and 2011
11 reductions, i.e. total MWh sales have been reduced by 121,980 or 1.5% and MW sales have
12 been reduced by 34 or 0.2%.

13
14

Table 5 – Cumulative annual energy savings (GWh)¹

	2010 ²	2011	2012	2013	2014	TOTAL
LDC Aggregate Target		577	1,197	1,812	2,360	5,964
Codes and Standards		534	1,102	1,744	2,405	5,785
Other influences (e.g. government)		100	199	299	396	994
Total	767	1,211	2,498	3,855	5,161	12,725
Hydro Ottawa contribution (6.2%)	47	75	155	239	320	789

15
16

Table 6 – Cumulative Summer Peak Demand Reduction (MW)¹

	2010 ²	2011	2012	2013	2014
LDC Aggregate Target		517	824	1,150	1,329
Codes and Standards		140	293	447	602
Other influences (e.g. government)		14	28	42	56
Total	350	671	1,145	1,639	1,987
Hydro Ottawa contribution (3.3%)	12	22	38	54	66

¹ Breakdown of LDC Aggregate Target and contributions of Codes and Standards and Other Influences obtained from the Electricity Distributors Association spreadsheet developed to calculate individual LDC targets from the Provincial targets in consultation with the Ministry of Energy and Infrastructure.

² 2010 Savings not included in the Provincial targets but included in the adjustment to Hydro Ottawa’s load forecast.



1 As a result of the adjustment for CDM, the load forecast for 2011 is revised as shown in Table
2 7.

3 **Table 7 – CDM Adjusted Load Forecast**

	10 Year Weather Forecast MWh	Growth %	10 Year Weather Forecast MW	Growth %
2010	7,891,173		1,426	
2010 CDM Adjusted	7,844,173		1,414	
2011	7,955,582	0.82%	1,434	0.60%
2011 CDM Adjusted	7,833,602	-0.13%	1,400	-1.0%

4

5

6 **5.0 SALES FORECASTS**

7

8 **5.1 Class Billed Sales and Demand Forecast**

9

10 The class sales forecast process consisted of three sequential steps. First, sales forecast
11 models for each class were created that capture the relationship between class sales and a
12 number of explanatory variables. Second, the billed-month forecast was converted to a
13 calendar-month basis by simulating the models with calendar-month weather variables. In the
14 final step, the calendar-month class sales forecasts were calibrated to the system energy
15 forecast to produce the final class level sales forecast.

16

17 Class sales forecast models were created for the following customer groups:

18

- 19 • Residential,
- 20 • GS50 (General Service Less Than 50 kW),
- 21 • GS1000NI (Non-Interval 50 kW – 1000 kW),
- 22 • GS1000I (Interval 50 kW – 1000 kW),
- 23 • GS1500 (1000 kW – 1500 kW),
- 24 • GS5000 (1500 kW – 5000 kW),
- 25 • GSLRG (Over 5000 kW),
- 26 • Street Lighting, and



- 1 • Unmetered Scattered Loads (“USL”).

2

3 Note that the GS 1000NI, GS1000I and GS1500 customer groups combine to be the General
4 Service 50 to 1,499 kW Rate Class. Billing demand forecasts were estimated directly using the
5 billed-month data and were not calibrated to a control total. Class demand forecast models
6 were created for the following customer groups:

7

- 8 • GS1000NI (Non-Interval 50 kW – 1000 kW),
9 • GS1000I (Interval 50 kW – 1000 kW),
10 • GS1500 (1000 kW – 1500 kW),
11 • GS5000 (1500 KW – 5000 kW),
12 • GSLRG (Over 5000 kW), and
13 • Street Lighting.

14

15 Customer class sales models are structured similarly to one another and contain variables that
16 combine weather and economics to drive the forecast. In addition, the models employ binary
17 variables to mark off anomalous observations, capture any non-weather-related seasonality,
18 and to account for systematic, unexplained shifts in the data.

19

20 The forecast models sales reasonably well, given the noise in the data, with an adjusted R^2
21 ranging between 0.827 and 0.968 for most classes (except for GS50 where adjusted R^2 is
22 0.623). Table 8 provides the actual and forecasted Sales in MWh by Class which include the
23 CDM adjustment. Table 9 provides the weather normal and forecasted Sales in MWh by Class.
24 Total class sales are projected to contract at a rate of -0.1%, with some classes showing small
25 growth (Residential: +0.3%, GS 1000I: +0.7%) and the remainder following the trend of system
26 energy.



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Table 8 – Actual/Forecast Sales (MWh) by Class

Year	Res	GS50	GS1000NI	GS1000I	GS1500	GS5000	GSLRG	StLgt	USL	Total	% Growth
2005	2,358,152	784,296	1,857,173	805,206	372,746	821,857	626,330	37,438		7,663,197	
2006	2,226,416	747,557	1,754,320	840,405	369,187	821,669	654,955	36,133	12,722	7,463,363	-2.6%
2007	2,234,039	748,535	1,718,518	887,912	387,421	843,570	666,074	40,591	18,134	7,544,795	1.1%
2008	2,226,079	742,015	1,693,799	952,211	374,836	845,348	665,878	37,459	21,295	7,558,919	0.2%
2009	2,256,568	731,103	1,650,879	1,019,856	356,051	850,115	633,983	38,844	19,879	7,557,278	0.0%
2010	2,222,788	762,838	1,660,563	1,014,057	349,176	840,262	647,261	39,623	17,193	7,553,761	-0.05%
2011	2,229,754	756,994	1,651,810	1,021,506	345,895	839,344	645,269	38,922	17,002	7,546,496	-0.1%

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Table 9 – Weather Normal/Forecast Sales (MWh) by Class

Year	Res	GS50	GS1000NI	GS1000I	GS1500	GS5000	GSLRG	StLgt	USL	Total	% Growth
2005	2,275,236	766,620	1,868,137	785,810	368,565	811,199	614,678	36,893		7,527,137	
2006	2,244,471	766,154	1,775,971	854,680	368,846	818,385	653,803	38,143		7,520,453	-0.1%
2007	2,255,875	741,852	1,708,864	900,830	391,218	848,434	674,915	39,662	21,429	7,583,079	0.8%
2008	2,239,394	755,114	1,720,686	969,161	381,025	859,462	668,185	37,820	21,677	7,652,523	0.9%
2009	2,261,789	740,166	1,676,495	1,006,025	352,131	841,800	641,326	38,360	19,761	7,577,853	-1.0%
2010	2,222,788	762,838	1,660,563	1,014,057	349,176	840,262	647,261	39,623	17,193	7,553,761	-0.3%
2011	2,229,754	756,994	1,651,810	1,021,506	345,895	839,344	645,269	38,922	17,002	7,546,496	-0.1%

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1 **5.2 Customer Forecast**

2

3 Customer models were created for each customer class and are generally simple, containing
4 employment and non-manufacturing employment as drivers and binary variables that capture
5 shifts in the data. These models perform very well with adjusted R^2 ranging from 0.867 to 0.999
6 and low model MAPEs. Tables 10 and 11 below show the actual and forecast yearly average
7 and year end customer numbers. One adjustment has been made in 2010 for suite meters;
8 Residential class customers was increased by 500 representing the anticipated take up of
9 Hydro Ottawa's suite metering pilot project. The annual growth rate for 2010 in average
10 customer numbers varies between 0% for the Large User class to 2.0% for Residential
11 customers.



1 **Table 10 – Average Customer/Connection Numbers**

Year	Res	GS50	GS1000NI	GS1000I	GS1500	GS5000	GSLRG	TOTAL	% Growth	StLgt	USL
2005	250,552	23,024	2,698	372	58	61	10	276,776		44,901	2,813
2006	254,245	23,026	2,733	429	60	64	11	280,568	1.4%	45,813	2,494
2007	258,262	23,182	2,687	468	64	66	11	284,740	1.5%	47,006	3,019
2008	262,786	23,306	2,700	494	64	67	11	289,428	1.6%	50,784	2,862
2009	267,225	23,312	2,675	546	58	67	11	293,894	1.5%	51,222	2,896
2010	271,587	23,461	2,631	573	53	66	12	298,382	1.5%	54,366	2,853
2011	276,039	23,554	2,640	572	53	66	12	302,935	1.5%	54,645	2,853

2
 3 **Table 11 – Year End Customer/Connection Numbers**

Year	Res	GS50	GS1000NI	GS1000I	GS1500	GS5000	GSLRG	TOTAL	% Growth	StLgt	USL
2005	252,268	23,050	2,714	451	61	64	11	278,619		46,355	2,510
2006	255,993	22,979	2,774	406	60	62	10	282,284	1.3%	44,932	2,485
2007	260,359	23,292	2,685	481	68	67	11	286,963	1.7%	49,722	2,855
2008	264,958	23,314	2,721	510	59	66	11	291,639	1.6%	50,971	2,885
2009	269,288	23,338	2,682	564	57	67	11	296,007	1.5%	52,861	2,848
2010	273,892	23,504	2,636	572	53	66	12	300,735	1.6%	54,432	2,853
2011	277,842	23,596	2,642	574	53	65	12	304,783	1.3%	54,876	2,853



1 As shown in Table 12 below, Hydro Ottawa is forecasting a revised number of customers
2 requiring standby capacity, for embedded generation.

3
4

Table 12 – Customers with Load Displacement Generation

Class	2008 Approved	2011 Forecast
GS > 50 < 1500 kW	3	2
GS > 1500 kW	5	2
Large Use	1	0
TOTAL	9	4

5

6 Some of the 2008 forecasted load displacement generators did not materialize and although
7 the total amount of revenue for Standby Charges is not material, Hydro Ottawa expects that as
8 the number of Feed in Tariff contracts increase, the number of customers in this class will
9 increase.

10

11 **5.3 Demand Forecast**

12

13 Table 13 shows class level billing demand history and forecast. The results are mostly in line
14 with the class sales forecast that was used to drive the demand forecast models. Table 14
15 provides weather normal class level billing demand history and forecast.

16

17 The demand models perform very well with adjusted R^2 values ranging from 0.817 to 0.945.
18 The model's MAPEs range from 0.76% for street lighting to 3.84% for GS 1000NI. Growth
19 rates for 2011 peak demand range from -0.3% for the GS5000 class to -2.4% for the GS1000I
20 class.

21

22



1 **Table 13 –Actual/Forecast Class Demand Forecast in kW**

Year	GS1000NI	GS1000I	GS1500	GS5000	GSLRG	StLght	Total	%Growth
2005	4,789,887	1,773,952	797,327	1,753,347	1,129,428	103,797	10,347,738	
2006	4,481,680	1,866,191	811,301	1,752,702	1,180,104	105,451	10,197,429	-1.5%
2007	4,418,364	1,999,381	841,991	1,808,250	1,203,247	109,808	10,381,041	1.8%
2008	4,311,012	2,111,535	818,932	1,764,993	1,190,146	112,373	10,308,991	-0.7%
2009	4,187,823	2,267,003	780,521	1,765,293	1,150,430	113,406	10,264,476	-0.4%
2010	4,283,859	2,348,922	799,697	1,782,060	1,189,306	117,267	10,521,111	2.5%
2011	4,351,162	2,405,768	807,483	1,787,025	1,197,001	118,127	10,666,566	1.4%

2
 3 **Table 14 –Weather Normal/Forecast Class Demand Forecast in kW**

Year	GS1000NI	GS1000I	GS1500	GS5000	GSLRG	StLght	Total	% Growth
2005	4,771,010	1,768,520	789,695	1,762,236	1,139,853	103,838	10,335,153	
2006	4,469,745	1,878,220	804,991	1,760,524	1,176,390	106,074	10,195,944	-1.3%
2007	4,355,149	1,981,384	831,802	1,784,983	1,191,837	110,785	10,255,939	0.6%
2008	4,304,704	2,123,939	818,602	1,774,162	1,191,967	111,963	10,325,337	0.7%
2009	4,216,300	2,268,409	790,846	1,769,671	1,152,054	113,544	10,310,825	-0.1%
2010	4,283,859	2,348,922	799,697	1,782,060	1,189,306	117,267	10,521,111	2.0%
2011	4,351,162	2,405,768	807,483	1,787,025	1,197,001	118,127	10,666,566	1.4%

4
 5 The kW's for standby charges are forecasted as shown in Table 15.

6
 7 **Table 15– Standby Customers for Embedded Generation, kW**

Class	2008 Approved	2011 Forecast
GS > 50 < 1500 kW	15,000	28,800
GS > 1500 kW	144,960	86,400
Large Use	4,800	0
TOTAL	164,760	115,200

8
 9
 10 **6.0 TRANSFORMER OWNERSHIP CREDIT**

11
 12 Hydro Ottawa is not proposing any change to the current Transformer Ownership Credit
 13 (“TOC”) of \$0.45/kW for customers who own their transformers. Table 16 shows TOC for 2008
 14 Approved, 2008 Actual, 2009 Actual, 2010 Budget and 2011 Budget.



1

Table 16 –Transformer Ownership Credit

	2008 Approved		2008 Actual		2009 Actual		2010 Budget		2011 Budget	
	MW	\$000	MW	\$000	MW	\$000	MW	\$000	MW	\$000
TOTAL	2,575	\$1,159	2,556	\$1,150	2,515	\$1,132	2,622	\$1,180	2,604	\$1,172

2

3 The 2011 forecast for TOC of \$1,171,603 has been added to the Base Revenue Requirement
 4 before the Revenue Deficiency/Sufficiency was calculated.

5

6

7 **7.0 ECONOMIC VARIABLES**

8

9 Gross Domestic Product (“GDP”) and Real Personal Income (“RPI”) are used to drive the sales
 10 models; population (“POP”) and employment, both total (“Emp”) and non-manufacturing
 11 employment (“NManEmp”), are used to drive the customer models. Table 17 presents the
 12 major economic variables used in the forecast and their associated growth rates since 2003.

13

14

15

Table 17 – Economic Variables¹

Year	GDP	% Chg	RPI	% Chg	POP	% Chg	Emp	% Chg	NMan Emp	% Chg
2003	487,986		451,521		1,132		606		35	
2004	502,380	2.95%	463,901	2.74%	1,142	0.91%	609	0.50%	37	6.43%
2005	516,415	2.79%	475,681	2.54%	1,151	0.76%	619	1.66%	37	0.60%
2006	533,355	3.28%	495,549	4.18%	1,162	1.00%	643	3.88%	42	10.81%
2007	546,599	2.48%	513,675	3.66%	1,169	0.60%	651	1.26%	43	4.45%
2008	551,452	0.89%	524,177	2.04%	1,201	2.68%	669	2.67%	38	-11.53%
2009	545,129	-1.15%	527,853	0.70%	1,221	1.66%	660	-1.35%	36	-6.22%
2010	560,119	2.75%	531,118	0.62%	1,235	1.21%	666	0.94%	36	0.03%
2011	571,928	2.11%	531,355	0.05%	1,244	0.70%	669	0.47%	37	3.94%

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¹From the Conference Board of Canada.



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VARIANCE ANALYSIS

1.0 INTRODUCTION

The Attachment U to this Exhibit provides throughput revenue showing customer count by rate class, volumes (in kWhs and kWts), rates and revenues for the following years:

- 2008 Board-approved
- 2008 Actual
- 2008 Actual weather normalized
- 2009 Actual
- 2009 Actual weather normalized
- 2010 Forecast
- 2011 Forecast

The throughput revenue for 2011 is calculated using the load forecast provided in Exhibit C1-1-1 and the rates established in Exhibit H1-2-1. Table 1 below summarized the key inputs for each scenario and the resulting Distribution Revenue.



1

Table 1 – Summary of Throughput Revenue

	2008 Approved	2008 Actual	2008 Weather Normal	2009 Actual	2009 Weather Normal	2010 Forecast	2011 Forecast
Year End Customer Numbers	293,221	291,639	291,639	296,007	296,007	300,735	304,783
kWh sales (MWh)	3,053,111	2,989,388	3,016,185	3,007,550	3,021,716	3,002,819	3,003,750
kW sales (MW)	10,571	10,309	10,325	10,264	10,311	10,521	10,667
Distribution Revenue without Smart Meters (\$M)	\$138.4	\$130.8	\$131.4	\$137.5	\$137.9	\$139.3	\$159.4
Smart Meter Adder (\$M)	\$4	\$5.9	\$6	\$5.3	\$5.3	\$6	n/a
TOTAL (\$M)	\$142.3	\$136.7	\$137.5	\$142.8	\$143.2	\$145.3	\$159.4

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3



1 The following Table 2 shows weather normalized (“WN”) average historical actual
2 consumption per customer for 5 historic years, 2008 Ontario Energy Board Approved
3 and forecast average consumption for 2010 and 2011. The most significant net change
4 has been in the Residential class where average monthly consumption has dropped by
5 7% from 2005 to 2009 and is forecasted to continue to fall by another 4.5% in 2010 and
6 2011. The primary reason for this is the Conservation and Demand Management
7 Programs that have been introduced and the ‘culture of conservation’ that is starting to
8 take hold. Figure 1 provides a visual presentation of this decline.



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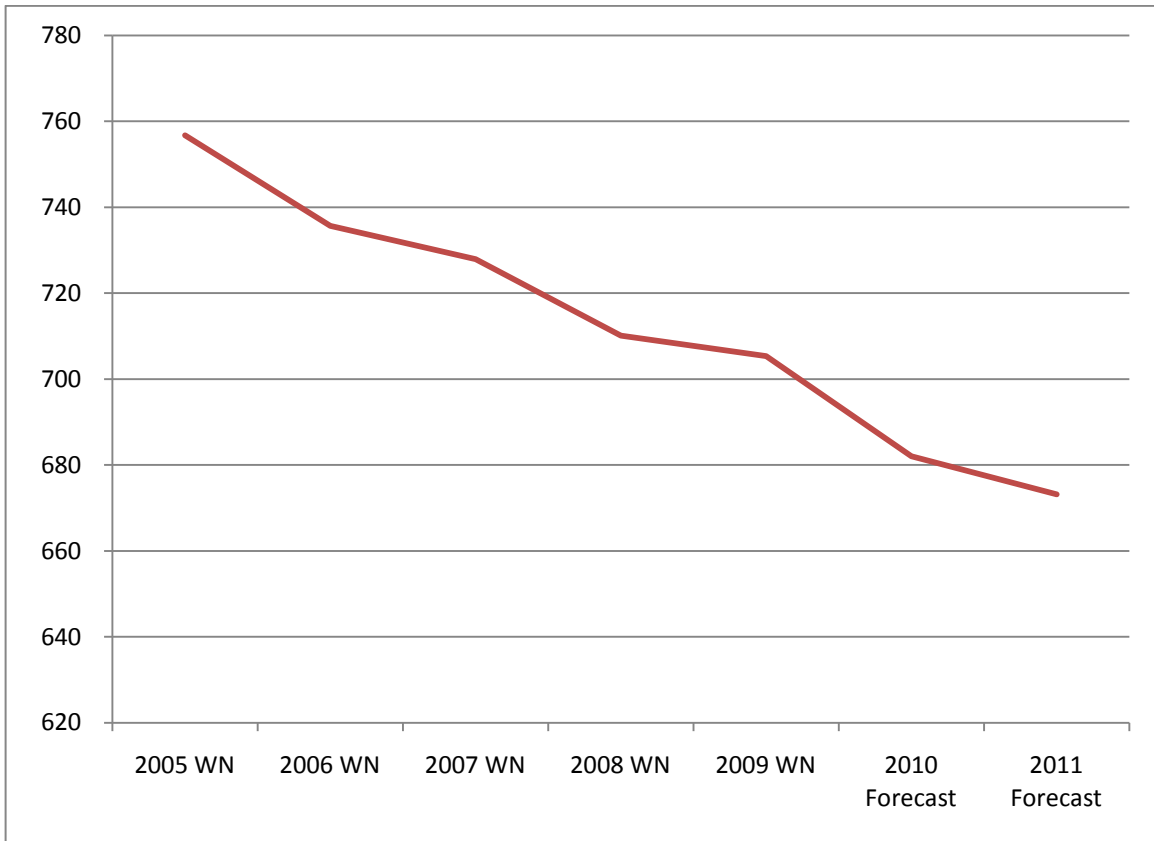
Table 2 – Average Monthly Consumption

kWh or kW	2005 WN	2006 WN	2007 WN	2008 Approved	2008 WN	2009 WN	2010 Forecast	2011 Forecast
RESIDENTIAL	757	736	728	714	710	705	682	673
GENERAL SERVICE < 50 KW	2,775	2,773	2,667	2,802	2,700	2,646	2,710	2,678
GENERAL SERVICE 50-1499 KW	1,670	1,613	1,313	186	1,550	1,609	1,740	1,761
GENERAL SERVICE ≥1500 KW	2,398	2,298	1,850	1,808	2,215	2,218	2,256	2,271
LARGE USE	9,499	9,263	9,029	8,844	9,030	8,728	8,259	8,313
STREET LIGHTING	0.19	0.19	0.20	0.19	0.18	0.18	0.18	0.18
UNMETERED SCATTERED LOAD			591	542	631	569	502	497

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1 **Figure 1 – Residential Average Weather Normal Consumption kWh/month**



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Attachment U - Throughput Revenue

2008 Approved Distribution Revenue

Customer/Connection Numbers	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average/Total
Customer/Connection Numbers													
RESIDENTIAL	261,450	261,914	262,388	262,862	263,336	263,821	264,305	264,789	265,283	265,778	266,267	266,766	264,080
GENERAL SERVICE <50KW	23,048	23,049	23,049	23,050	23,050	23,051	23,052	23,052	23,053	23,054	23,054	23,055	23,051
GENERAL SERVICE 50-1500KW	3,284	3,285	3,288	3,290	3,292	3,295	3,297	3,299	3,301	3,303	3,305	3,307	3,296
GENERAL SERVICE 1500-5000 KW	80	80	81	81	81	81	81	81	81	82	82	82	81
LARGE USERS	11	11	11	11	11	11	11	11	11	11	11	11	11
STREET LIGHTING	46,905	46,960	47,017	47,073	47,130	47,188	47,246	47,304	47,363	47,422	47,480	47,540	47,219
UNMETERED SCATTERED LOADS	3,115	3,115	3,115	3,115	3,115	3,115	3,115	3,115	3,115	3,115	3,115	3,115	3,115
STANDBY 50-1500 KW	3	3	3	3	3	3	3	3	3	3	3	3	3
STANDBY 1500-5000 KW	5	5	5	5	5	5	5	5	5	5	5	5	5
STANDBY LARGE USE	1	1	1	1	1	1	1	1	1	1	1	1	1
kWh/kW Sales													
RESIDENTIAL	239,346,821	215,433,866	201,884,078	162,146,551	152,275,831	170,993,349	207,369,854	187,521,874	151,076,648	161,122,432	184,294,716	223,795,188	2,257,261,208
GENERAL SERVICE <50KW	74,491,078	68,936,559	67,025,482	59,007,189	58,844,572	61,518,664	66,462,581	64,560,904	59,218,194	59,853,594	63,819,973	71,810,790	775,549,580
GENERAL SERVICE 50-1500KW	629,031	629,339	616,922	634,446	598,504	603,623	591,011	621,783	605,956	605,684	620,978	616,134	7,373,411
GENERAL SERVICE 1500-5000 KW	138,663	134,430	140,004	137,480	145,185	150,189	155,965	161,711	161,716	150,329	148,050	134,110	1,757,833
LARGE USERS	90,331	88,109	89,775	88,327	92,253	103,361	108,759	108,997	107,691	102,737	97,020	90,035	1,167,396
STREET LIGHTING	8,931	8,932	8,932	8,933	8,934	8,935	8,936	8,936	8,937	8,938	8,939	8,940	107,223
UNMETERED SCATTERED LOADS	1,676,231	1,619,424	1,658,512	1,634,696	1,737,029	1,730,682	1,702,684	1,748,330	1,765,869	1,688,625	1,658,993	1,679,279	20,300,353
STANDBY 50-1500 KW	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	15,000
STANDBY 1500-5000 KW	12,080	12,080	12,080	12,080	12,080	12,080	12,080	12,080	12,080	12,080	12,080	12,080	144,960
STANDBY LARGE USE	400	400	400	400	400	400	400	400	400	400	400	400	4,800
Rates - Fixed Monthly													
RESIDENTIAL	\$ 8.40	\$ 8.40	\$ 8.40	\$ 8.40	\$ 8.40	\$ 8.40	\$ 8.40	\$ 8.40	\$ 8.40	\$ 8.40	\$ 8.40	\$ 8.40	\$ 8.40
GENERAL SERVICE <50KW	\$ 14.53	\$ 14.53	\$ 14.53	\$ 14.53	\$ 14.53	\$ 14.53	\$ 14.53	\$ 14.53	\$ 14.53	\$ 14.53	\$ 14.53	\$ 14.53	\$ 14.53
GENERAL SERVICE 50-1500KW	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39
GENERAL SERVICE 1500-5000 KW	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89
LARGE USERS	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68
STREET LIGHTING	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.48
UNMETERED SCATTERED LOADS	\$ 3.97	\$ 3.97	\$ 3.97	\$ 3.97	\$ 3.97	\$ 3.97	\$ 3.97	\$ 3.97	\$ 3.97	\$ 3.97	\$ 3.97	\$ 3.97	\$ 3.97
STANDBY 50-1500 KW	\$ 106.38	\$ 106.38	\$ 106.38	\$ 106.38	\$ 106.38	\$ 106.38	\$ 106.38	\$ 106.38	\$ 106.38	\$ 106.38	\$ 106.38	\$ 106.38	\$ 106.38
STANDBY 1500-5000 KW	\$ 106.38	\$ 106.38	\$ 106.38	\$ 106.38	\$ 106.38	\$ 106.38	\$ 106.38	\$ 106.38	\$ 106.38	\$ 106.38	\$ 106.38	\$ 106.38	\$ 106.38
STANDBY LARGE USE	\$ 106.38	\$ 106.38	\$ 106.38	\$ 106.38	\$ 106.38	\$ 106.38	\$ 106.38	\$ 106.38	\$ 106.38	\$ 106.38	\$ 106.38	\$ 106.38	\$ 106.38
Rates - Volumetric Charge													
RESIDENTIAL	\$ 0.021	\$ 0.021	\$ 0.021	\$ 0.021	\$ 0.021	\$ 0.021	\$ 0.021	\$ 0.021	\$ 0.021	\$ 0.021	\$ 0.021	\$ 0.021	\$ 0.021
GENERAL SERVICE <50KW	\$ 0.018	\$ 0.018	\$ 0.018	\$ 0.018	\$ 0.018	\$ 0.018	\$ 0.018	\$ 0.018	\$ 0.018	\$ 0.018	\$ 0.018	\$ 0.018	\$ 0.018
GENERAL SERVICE 50-1500KW	\$ 2.992	\$ 2.992	\$ 2.992	\$ 2.992	\$ 2.992	\$ 2.992	\$ 2.992	\$ 2.992	\$ 2.992	\$ 2.992	\$ 2.992	\$ 2.992	\$ 2.992
GENERAL SERVICE 1500-5000 KW	\$ 2.857	\$ 2.857	\$ 2.857	\$ 2.857	\$ 2.857	\$ 2.857	\$ 2.857	\$ 2.857	\$ 2.857	\$ 2.857	\$ 2.857	\$ 2.857	\$ 2.857
LARGE USERS	\$ 2.735	\$ 2.735	\$ 2.735	\$ 2.735	\$ 2.735	\$ 2.735	\$ 2.735	\$ 2.735	\$ 2.735	\$ 2.735	\$ 2.735	\$ 2.735	\$ 2.735
STREET LIGHTING	\$ 3.404	\$ 3.404	\$ 3.404	\$ 3.404	\$ 3.404	\$ 3.404	\$ 3.404	\$ 3.404	\$ 3.404	\$ 3.404	\$ 3.404	\$ 3.404	\$ 3.404
UNMETERED SCATTERED LOADS	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020
STANDBY 50-1500 KW	\$ 1.4196	\$ 1.4196	\$ 1.4196	\$ 1.4196	\$ 1.4196	\$ 1.4196	\$ 1.4196	\$ 1.4196	\$ 1.4196	\$ 1.4196	\$ 1.4196	\$ 1.4196	\$ 1.4196
STANDBY 1500-5000 KW	\$ 1.3022	\$ 1.3022	\$ 1.3022	\$ 1.3022	\$ 1.3022	\$ 1.3022	\$ 1.3022	\$ 1.3022	\$ 1.3022	\$ 1.3022	\$ 1.3022	\$ 1.3022	\$ 1.3022
STANDBY LARGE USE	\$ 1.4451	\$ 1.4451	\$ 1.4451	\$ 1.4451	\$ 1.4451	\$ 1.4451	\$ 1.4451	\$ 1.4451	\$ 1.4451	\$ 1.4451	\$ 1.4451	\$ 1.4451	\$ 1.4451
Revenue													
RESIDENTIAL	\$ 7,102,794	\$ 6,616,475	\$ 6,342,686	\$ 5,532,048	\$ 5,333,680	\$ 5,721,456	\$ 6,471,242	\$ 6,068,425	\$ 5,325,450	\$ 5,535,541	\$ 6,014,683	\$ 6,828,638	\$ 72,893,118
GENERAL SERVICE <50KW	\$ 1,698,072	\$ 1,596,434	\$ 1,561,470	\$ 1,414,745	\$ 1,411,778	\$ 1,460,723	\$ 1,551,207	\$ 1,516,415	\$ 1,418,653	\$ 1,430,291	\$ 1,502,885	\$ 1,649,127	\$ 18,211,800
GENERAL SERVICE 50-1500KW	\$ 2,694,287	\$ 2,695,638	\$ 2,659,055	\$ 2,712,059	\$ 2,605,106	\$ 2,621,004	\$ 2,583,860	\$ 2,676,507	\$ 2,629,606	\$ 2,629,240	\$ 2,675,450	\$ 2,661,390	\$ 31,843,203
GENERAL SERVICE 1500-5000 KW	\$ 715,547	\$ 704,128	\$ 720,652	\$ 714,037	\$ 736,647	\$ 751,505	\$ 768,604	\$ 785,579	\$ 786,191	\$ 754,251	\$ 748,334	\$ 709,101	\$ 8,894,576
LARGE USERS	\$ 405,986	\$ 399,910	\$ 404,466	\$ 400,506	\$ 411,244	\$ 441,627	\$ 456,392	\$ 457,043	\$ 453,469	\$ 439,919	\$ 424,283	\$ 405,178	\$ 5,100,025
STREET LIGHTING	\$ 52,912	\$ 52,942	\$ 52,972	\$ 53,001	\$ 53,031	\$ 53,062	\$ 53,092	\$ 53,123	\$ 53,154	\$ 53,185	\$ 53,215	\$ 53,247	\$ 636,936
UNMETERED SCATTERED LOADS	\$ 45,555	\$ 44,430	\$ 45,204	\$ 44,733	\$ 46,759	\$ 46,633	\$ 46,079	\$ 46,982	\$ 47,330	\$ 45,800	\$ 45,214	\$ 45,615	\$ 550,334
STANDBY 50-1500 KW	\$ 2,094	\$ 2,094	\$ 2,094	\$ 2,094	\$ 2,094	\$ 2,094	\$ 2,094	\$ 2,094	\$ 2,094	\$ 2,094	\$ 2,094	\$ 2,094	\$ 25,124
STANDBY 1500-5000 KW	\$ 16,262	\$ 16,262	\$ 16,262	\$ 16,262	\$ 16,262	\$ 16,262	\$ 16,262	\$ 16,262	\$ 16,262	\$ 16,262	\$ 16,262	\$ 16,262	\$ 195,150
STANDBY LARGE USE	\$ 684	\$ 684	\$ 684	\$ 684	\$ 684	\$ 684	\$ 684	\$ 684	\$ 684	\$ 684	\$ 684	\$ 684	\$ 8,213
TOTAL													\$ 138,358,477
Smart Meter Adder	\$ 328,176	\$ 328,707	\$ 329,251	\$ 329,795	\$ 330,339	\$ 330,895	\$ 331,450	\$ 332,006	\$ 332,572	\$ 333,139	\$ 333,699	\$ 334,272	\$ 3,974,301
Total with Smart Meters													\$ 142,332,778



Attachment U - Throughput Revenue

2008 Actual Distribution Revenue

Customer/Connection Numbers	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average/Total
RESIDENTIAL	260,827	261,199	261,451	261,864	262,172	262,501	262,992	263,242	263,324	264,257	264,641	264,958	262,786
GENERAL SERVICE <50KW	23,297	23,291	23,271	23,272	23,267	23,317	23,322	23,324	23,332	23,344	23,323	23,314	23,306
GENERAL SERVICE 50-1000KW NONI	2,704	2,705	2,715	2,720	2,723	2,676	2,681	2,680	2,681	2,691	2,699	2,721	2,700
GENERAL SERVICE 50-1000KW INT	480	483	477	480	483	484	502	508	506	506	509	510	494
GENERAL SERVICE 1000-1500KW	68	70	70	70	70	71	58	60	59	59	59	59	64
GENERAL SERVICE 1500-5000 KW	67	67	67	68	67	67	66	68	66	66	66	66	67
LARGE USERS	11	11	11	11	11	11	11	11	11	11	11	11	11
STREET LIGHTING	50,702	50,707	50,711	50,684	50,838	50,729	50,729	50,729	50,788	50,842	50,979	50,971	50,784
UNMETERED SCATTERED LOADS	2,859	2,859	2,859	2,858	2,859	2,859	2,859	2,859	2,859	2,858	2,868	2,885	2,862
kWh/kW Sales													
RESIDENTIAL	202,756,761	214,357,455	214,740,933	203,003,187	165,954,806	145,446,060	162,260,096	189,276,602	184,128,292	173,018,057	184,087,933	187,048,471	2,226,078,653
GENERAL SERVICE <50KW	63,357,472	74,848,659	58,401,766	66,602,023	59,409,519	59,229,677	54,854,529	61,944,950	60,397,446	60,124,465	60,081,988	62,762,756	742,015,251
GENERAL SERVICE 50-1000KW NONI	367,093	321,804	431,062	350,263	357,256	377,926	333,857	353,137	340,863	342,842	350,423	384,486	4,311,012
GENERAL SERVICE 50-1000KW INT	167,944	162,643	163,164	159,653	181,006	169,265	202,937	192,015	181,306	180,471	168,089	183,041	2,111,535
GENERAL SERVICE 1000-1500KW	72,084	70,286	72,787	67,926	75,289	73,114	60,595	69,863	63,496	65,367	62,637	65,489	818,932
GENERAL SERVICE 1500-5000 KW	140,330	139,793	141,217	135,335	151,172	146,825	161,435	169,305	148,132	145,024	140,063	146,364	1,764,993
LARGE USERS	93,402	90,400	91,539	89,994	98,756	96,997	109,619	125,910	107,081	99,782	92,017	94,649	1,190,146
STREET LIGHTING	9,282	9,444	9,330	9,326	9,398	9,342	9,353	9,358	9,361	9,386	9,408	9,384	112,373
UNMETERED SCATTERED LOADS	1,526,524	1,422,998	1,600,312	1,461,394	1,563,794	2,611,004	2,478,030	2,572,659	1,462,163	1,562,869	1,463,149	1,569,630	21,294,526
Rates - Fixed Monthly													
RESIDENTIAL	\$ 7.50	\$ 7.50	\$ 7.50	\$ 7.50	\$ 8.40	\$ 8.40	\$ 8.40	\$ 8.40	\$ 8.40	\$ 8.40	\$ 8.40	\$ 8.40	\$ 8.40
GENERAL SERVICE <50KW	\$ 8.56	\$ 8.56	\$ 8.56	\$ 8.56	\$ 14.53	\$ 14.53	\$ 14.53	\$ 14.53	\$ 14.53	\$ 14.53	\$ 14.53	\$ 14.53	\$ 14.53
GENERAL SERVICE 50-1000KW NONI	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39
GENERAL SERVICE 50-1000KW INT	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39
GENERAL SERVICE 1000-1500KW	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39
GENERAL SERVICE 1500-5000 KW	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89
LARGE USERS	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68
STREET LIGHTING	\$ 0.32	\$ 0.32	\$ 0.32	\$ 0.32	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.48
UNMETERED SCATTERED LOADS	\$ 4.28	\$ 4.28	\$ 4.28	\$ 4.28	\$ 3.97	\$ 3.97	\$ 3.97	\$ 3.97	\$ 3.97	\$ 3.97	\$ 3.97	\$ 3.97	\$ 3.97
Rates - Volumetric Charge													
RESIDENTIAL	\$ 0.0183	\$ 0.0183	\$ 0.0183	\$ 0.0183	\$ 0.0205	\$ 0.0205	\$ 0.0205	\$ 0.0205	\$ 0.0205	\$ 0.0205	\$ 0.0205	\$ 0.0205	\$ 0.0205
GENERAL SERVICE <50KW	\$ 0.0180	\$ 0.0180	\$ 0.0180	\$ 0.0180	\$ 0.0183	\$ 0.0183	\$ 0.0183	\$ 0.0183	\$ 0.0183	\$ 0.0183	\$ 0.0183	\$ 0.0183	\$ 0.0183
GENERAL SERVICE 50-1000KW NONI	\$ 2.5463	\$ 2.5463	\$ 2.5463	\$ 2.5463	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918
GENERAL SERVICE 50-1000KW INT	\$ 2.5463	\$ 2.5463	\$ 2.5463	\$ 2.5463	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918
GENERAL SERVICE 1000-1500KW	\$ 2.5463	\$ 2.5463	\$ 2.5463	\$ 2.5463	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918
GENERAL SERVICE 1500-5000 KW	\$ 2.3357	\$ 2.3357	\$ 2.3357	\$ 2.3357	\$ 2.8573	\$ 2.8573	\$ 2.8573	\$ 2.8573	\$ 2.8573	\$ 2.8573	\$ 2.8573	\$ 2.8573	\$ 2.8573
LARGE USERS	\$ 2.5918	\$ 2.5918	\$ 2.5918	\$ 2.5918	\$ 2.7352	\$ 2.7352	\$ 2.7352	\$ 2.7352	\$ 2.7352	\$ 2.7352	\$ 2.7352	\$ 2.7352	\$ 2.7352
STREET LIGHTING	\$ 2.4671	\$ 2.4671	\$ 2.4671	\$ 2.4671	\$ 3.4037	\$ 3.4037	\$ 3.4037	\$ 3.4037	\$ 3.4037	\$ 3.4037	\$ 3.4037	\$ 3.4037	\$ 3.4037
UNMETERED SCATTERED LOADS	\$ 0.0191	\$ 0.0191	\$ 0.0191	\$ 0.0191	\$ 0.0198	\$ 0.0198	\$ 0.0198	\$ 0.0198	\$ 0.0198	\$ 0.0198	\$ 0.0198	\$ 0.0198	\$ 0.0198
Revenue													
RESIDENTIAL	\$ 5,666,651	\$ 5,881,734	\$ 5,890,642	\$ 5,678,938	\$ 5,604,318	\$ 5,186,653	\$ 5,535,465	\$ 6,091,403	\$ 5,986,552	\$ 5,766,629	\$ 5,996,787	\$ 6,060,141	\$ 69,345,912
GENERAL SERVICE <50KW	\$ 1,339,857	\$ 1,546,647	\$ 1,250,432	\$ 1,398,045	\$ 1,425,264	\$ 1,422,699	\$ 1,342,707	\$ 1,472,490	\$ 1,444,287	\$ 1,439,466	\$ 1,438,384	\$ 1,487,311	\$ 17,007,587
GENERAL SERVICE 50-1000KW NONI	\$ 1,603,671	\$ 1,488,599	\$ 1,769,276	\$ 1,564,776	\$ 1,742,483	\$ 1,792,696	\$ 1,662,086	\$ 1,719,519	\$ 1,683,048	\$ 1,691,441	\$ 1,716,101	\$ 1,823,453	\$ 20,257,150
GENERAL SERVICE 50-1000KW INT	\$ 546,383	\$ 533,628	\$ 533,469	\$ 525,272	\$ 661,024	\$ 626,144	\$ 731,335	\$ 700,146	\$ 667,610	\$ 665,113	\$ 628,811	\$ 673,791	\$ 7,492,725
GENERAL SERVICE 1000-1500KW	\$ 200,370	\$ 196,286	\$ 202,654	\$ 190,276	\$ 242,567	\$ 236,308	\$ 195,636	\$ 223,859	\$ 204,564	\$ 210,160	\$ 201,993	\$ 210,526	\$ 2,515,199
GENERAL SERVICE 1500-5000 KW	\$ 594,287	\$ 593,032	\$ 596,360	\$ 586,598	\$ 698,461	\$ 686,041	\$ 723,808	\$ 754,251	\$ 685,799	\$ 676,917	\$ 662,742	\$ 680,747	\$ 7,939,044
LARGE USERS	\$ 400,993	\$ 393,212	\$ 396,165	\$ 392,159	\$ 429,032	\$ 424,220	\$ 458,743	\$ 503,303	\$ 451,801	\$ 431,836	\$ 410,598	\$ 417,798	\$ 5,109,860
STREET LIGHTING	\$ 39,125	\$ 39,526	\$ 39,245	\$ 39,227	\$ 56,391	\$ 56,148	\$ 56,183	\$ 56,201	\$ 56,241	\$ 56,353	\$ 56,492	\$ 56,407	\$ 607,540
UNMETERED SCATTERED LOADS	\$ 41,393	\$ 39,416	\$ 42,802	\$ 40,145	\$ 42,313	\$ 63,048	\$ 60,415	\$ 62,289	\$ 40,301	\$ 42,291	\$ 40,356	\$ 42,532	\$ 557,302
TOTAL													\$ 130,832,321
Smart Meter Adder	\$ 500,170	\$ 500,817	\$ 501,228	\$ 501,964	\$ 329,224	\$ 503,081	\$ 503,960	\$ 504,414	\$ 504,563	\$ 506,225	\$ 506,876	\$ 507,452	\$ 5,869,974
Total with Smart Meters													\$ 136,702,294



Attachment U - Throughput Revenue

2008 Weather Normal Distribution Revenue

Customer/Connection Numbers	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average/Total
RESIDENTIAL	260,827	261,199	261,451	261,864	262,172	262,501	262,992	263,242	263,324	264,257	264,641	264,958	262,786
GENERAL SERVICE <50KW	23,297	23,291	23,271	23,272	23,267	23,317	23,322	23,324	23,332	23,344	23,323	23,314	23,306
GENERAL SERVICE 50-1000KW NONI	2,704	2,705	2,715	2,720	2,723	2,676	2,681	2,680	2,681	2,691	2,699	2,721	2,700
GENERAL SERVICE 50-1000KW INT	480	483	477	480	483	484	502	508	506	506	509	510	494
GENERAL SERVICE 1000-1500KW	68	70	70	70	70	71	58	60	59	59	59	59	64
GENERAL SERVICE 1500-5000 KW	67	67	67	68	67	67	66	68	66	66	66	66	67
LARGE USERS	11	11	11	11	11	11	11	11	11	11	11	11	11
STREET LIGHTING	50,702	50,707	50,711	50,684	50,838	50,729	50,729	50,729	50,788	50,842	50,979	50,971	50,784
UNMETERED SCATTERED LOADS	2,859	2,859	2,859	2,858	2,859	2,859	2,859	2,859	2,859	2,858	2,868	2,885	2,862
kWh/kW Sales													
RESIDENTIAL	232,645,130	215,753,670	203,930,820	159,206,300	152,500,040	169,985,060	202,021,960	182,580,630	165,097,250	165,937,110	180,024,390	209,711,310	2,239,393,670
GENERAL SERVICE <50KW	82,796,910	72,899,040	60,363,270	55,716,200	49,650,330	56,007,270	61,172,490	63,786,270	55,973,370	60,735,720	62,754,020	73,259,200	755,114,090
GENERAL SERVICE 50-1000KW NONI	384,193	356,042	389,664	374,512	321,234	352,369	339,880	352,681	337,900	359,402	370,755	366,072	4,304,704
GENERAL SERVICE 50-1000KW INT	167,530	160,756	174,644	163,684	172,819	170,674	202,567	185,742	186,499	186,820	172,794	179,411	2,123,939
GENERAL SERVICE 1000-1500KW	70,050	66,429	75,999	67,394	75,179	71,288	62,113	70,467	65,457	67,638	63,338	63,251	818,602
GENERAL SERVICE 1500-5000 KW	139,156	132,291	148,759	136,143	152,419	145,605	165,340	163,397	153,463	155,133	141,071	141,386	1,774,162
LARGE USERS	94,097	86,285	94,167	88,666	101,070	100,354	111,102	114,415	108,356	107,537	91,854	94,065	1,191,967
STREET LIGHTING	9,156	9,344	9,337	9,258	9,339	9,347	9,307	9,367	9,334	9,381	9,378	9,415	111,963
UNMETERED SCATTERED LOADS	1,715,940	1,383,330	1,559,960	1,467,930	1,649,060	2,695,670	2,565,500	2,707,330	1,425,050	1,504,300	1,410,840	1,592,030	21,676,940
Rates - Fixed Monthly													
RESIDENTIAL	\$ 7.50	\$ 7.50	\$ 7.50	\$ 7.50	\$ 8.40	\$ 8.40	\$ 8.40	\$ 8.40	\$ 8.40	\$ 8.40	\$ 8.40	\$ 8.40	\$ 8.40
GENERAL SERVICE <50KW	\$ 8.56	\$ 8.56	\$ 8.56	\$ 8.56	\$ 14.53	\$ 14.53	\$ 14.53	\$ 14.53	\$ 14.53	\$ 14.53	\$ 14.53	\$ 14.53	\$ 14.53
GENERAL SERVICE 50-1000KW NONI	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39
GENERAL SERVICE 50-1000KW INT	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39
GENERAL SERVICE 1000-1500KW	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39
GENERAL SERVICE 1500-5000 KW	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89
LARGE USERS	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68
STREET LIGHTING	\$ 0.32	\$ 0.32	\$ 0.32	\$ 0.32	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.48
UNMETERED SCATTERED LOADS	\$ 4.28	\$ 4.28	\$ 4.28	\$ 4.28	\$ 3.97	\$ 3.97	\$ 3.97	\$ 3.97	\$ 3.97	\$ 3.97	\$ 3.97	\$ 3.97	\$ 3.97
Rates - Volumetric Charge													
RESIDENTIAL	\$ 0.0183	\$ 0.0183	\$ 0.0183	\$ 0.0183	\$ 0.0205	\$ 0.0205	\$ 0.0205	\$ 0.0205	\$ 0.0205	\$ 0.0205	\$ 0.0205	\$ 0.0205	\$ 0.0205
GENERAL SERVICE <50KW	\$ 0.0180	\$ 0.0180	\$ 0.0180	\$ 0.0180	\$ 0.0183	\$ 0.0183	\$ 0.0183	\$ 0.0183	\$ 0.0183	\$ 0.0183	\$ 0.0183	\$ 0.0183	\$ 0.0183
GENERAL SERVICE 50-1000KW NONI	\$ 2.5463	\$ 2.5463	\$ 2.5463	\$ 2.5463	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918
GENERAL SERVICE 50-1000KW INT	\$ 2.5463	\$ 2.5463	\$ 2.5463	\$ 2.5463	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918
GENERAL SERVICE 1000-1500KW	\$ 2.5463	\$ 2.5463	\$ 2.5463	\$ 2.5463	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918
GENERAL SERVICE 1500-5000 KW	\$ 2.3357	\$ 2.3357	\$ 2.3357	\$ 2.3357	\$ 2.8573	\$ 2.8573	\$ 2.8573	\$ 2.8573	\$ 2.8573	\$ 2.8573	\$ 2.8573	\$ 2.8573	\$ 2.8573
LARGE USERS	\$ 2.5918	\$ 2.5918	\$ 2.5918	\$ 2.5918	\$ 2.7352	\$ 2.7352	\$ 2.7352	\$ 2.7352	\$ 2.7352	\$ 2.7352	\$ 2.7352	\$ 2.7352	\$ 2.7352
STREET LIGHTING	\$ 2.4671	\$ 2.4671	\$ 2.4671	\$ 2.4671	\$ 3.4037	\$ 3.4037	\$ 3.4037	\$ 3.4037	\$ 3.4037	\$ 3.4037	\$ 3.4037	\$ 3.4037	\$ 3.4037
UNMETERED SCATTERED LOADS	\$ 0.0191	\$ 0.0191	\$ 0.0191	\$ 0.0191	\$ 0.0198	\$ 0.0198	\$ 0.0198	\$ 0.0198	\$ 0.0198	\$ 0.0198	\$ 0.0198	\$ 0.0198	\$ 0.0198
Revenue													
RESIDENTIAL	\$ 6,213,608	\$ 5,907,285	\$ 5,692,817	\$ 4,877,455	\$ 5,328,496	\$ 5,689,702	\$ 6,350,583	\$ 5,954,136	\$ 5,596,415	\$ 5,621,470	\$ 5,913,484	\$ 6,524,729	\$ 69,670,180
GENERAL SERVICE <50KW	\$ 1,689,767	\$ 1,511,554	\$ 1,285,739	\$ 1,202,100	\$ 1,246,671	\$ 1,363,729	\$ 1,458,325	\$ 1,506,186	\$ 1,363,327	\$ 1,450,652	\$ 1,487,282	\$ 1,679,396	\$ 17,244,726
GENERAL SERVICE 50-1000KW NONI	\$ 1,647,213	\$ 1,575,781	\$ 1,663,865	\$ 1,626,521	\$ 1,634,710	\$ 1,716,234	\$ 1,680,104	\$ 1,718,155	\$ 1,674,182	\$ 1,740,987	\$ 1,776,931	\$ 1,768,361	\$ 20,223,046
GENERAL SERVICE 50-1000KW INT	\$ 545,329	\$ 528,821	\$ 562,700	\$ 535,536	\$ 636,528	\$ 630,360	\$ 730,231	\$ 681,376	\$ 683,146	\$ 684,109	\$ 642,885	\$ 662,930	\$ 7,523,952
GENERAL SERVICE 1000-1500KW	\$ 195,190	\$ 186,464	\$ 210,834	\$ 188,922	\$ 242,238	\$ 230,844	\$ 200,178	\$ 225,667	\$ 210,429	\$ 216,954	\$ 204,090	\$ 203,832	\$ 2,515,643
GENERAL SERVICE 1500-5000 KW	\$ 591,546	\$ 575,510	\$ 613,976	\$ 588,485	\$ 702,025	\$ 682,554	\$ 734,967	\$ 737,370	\$ 701,032	\$ 705,802	\$ 665,622	\$ 666,523	\$ 7,965,412
LARGE USERS	\$ 402,794	\$ 382,547	\$ 402,975	\$ 388,718	\$ 435,359	\$ 433,402	\$ 462,799	\$ 471,860	\$ 455,290	\$ 453,048	\$ 410,151	\$ 416,199	\$ 5,115,144
STREET LIGHTING	\$ 38,813	\$ 39,279	\$ 39,262	\$ 39,060	\$ 56,190	\$ 56,165	\$ 56,027	\$ 56,231	\$ 56,149	\$ 56,335	\$ 56,389	\$ 56,513	\$ 606,413
UNMETERED SCATTERED LOADS	\$ 45,011	\$ 38,658	\$ 42,032	\$ 40,270	\$ 44,002	\$ 64,724	\$ 62,147	\$ 64,955	\$ 39,566	\$ 41,131	\$ 39,321	\$ 42,976	\$ 564,793
TOTAL													\$ 131,429,309
Smart Meter Adder	\$ 500,170	\$ 500,817	\$ 501,228	\$ 501,964	\$ 502,500	\$ 503,081	\$ 503,960	\$ 504,414	\$ 504,563	\$ 506,225	\$ 506,876	\$ 507,452	\$ 6,043,250
Total with Smart Meters													\$ 137,472,558



Attachment U - Throughput Revenue

2009 Actual Distribution Revenue

Customer/Connection Numbers	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average/Total
Customer/Connection Numbers													
RESIDENTIAL	265,551	265,928	266,042	266,389	266,662	266,920	267,222	267,461	267,891	268,412	268,934	269,288	267,225
GENERAL SERVICE <50KW	23,300	23,301	23,286	23,272	23,268	23,332	23,325	23,319	23,320	23,339	23,342	23,338	23,312
GENERAL SERVICE 50-1000KW NONI	2,678	2,697	2,703	2,709	2,702	2,640	2,645	2,649	2,658	2,669	2,671	2,682	2,675
GENERAL SERVICE 50-1000KW INT	528	529	530	530	528	548	554	554	556	561	563	564	545
GENERAL SERVICE 1000-1500KW	60	60	60	60	60	57	57	57	57	57	57	57	58
GENERAL SERVICE 1500-5000 KW	66	66	67	67	68	65	66	66	66	67	67	67	67
LARGE USERS	11	11	11	11	11	11	11	11	11	11	11	11	11
STREET LIGHTING	50,929	50,932	50,926	50,924	50,925	50,921	50,947	50,949	51,068	51,345	51,939	52,861	51,222
UNMETERED SCATTERED LOADS	2,897	2,901	2,900	2,905	2,896	2,899	2,897	2,903	2,903	2,901	2,900	2,848	2,896
kWh/kW Sales													
RESIDENTIAL	210,605,254	213,959,878	239,482,324	203,020,832	162,122,271	142,601,660	162,008,343	177,766,184	184,951,926	181,868,541	188,338,735	189,841,910	2,256,567,858
GENERAL SERVICE <50KW	63,387,499	63,232,971	73,262,221	65,387,835	58,091,040	53,614,920	56,295,229	67,018,403	52,151,468	60,114,530	59,260,800	59,285,938	731,102,854
GENERAL SERVICE 50-1000KW NONI	398,844	333,806	396,857	346,500	335,325	381,467	331,264	364,121	281,258	358,764	337,427	322,191	4,187,823
GENERAL SERVICE 50-1000KW INT	190,787	179,555	177,674	179,853	195,744	201,189	200,171	188,290	206,474	187,467	174,610	185,188	2,267,003
GENERAL SERVICE 1000-1500KW	66,043	63,742	64,927	61,907	66,593	64,146	67,354	66,225	68,614	62,516	62,898	65,556	780,521
GENERAL SERVICE 1500-5000 KW	143,374	141,319	140,188	138,926	150,092	148,966	159,454	164,062	160,720	143,536	134,167	140,490	1,765,293
LARGE USERS	103,023	83,136	95,542	89,613	87,718	96,070	105,574	117,078	108,853	94,632	79,876	89,314	1,150,430
STREET LIGHTING	9,371	9,381	9,378	9,377	9,380	9,376	9,391	9,385	9,413	9,492	9,613	9,851	113,406
UNMETERED SCATTERED LOADS	1,490,422	1,354,323	1,693,166	1,489,332	1,594,815	1,493,518	2,317,442	2,591,492	1,395,186	1,535,149	1,417,612	1,506,576	19,879,033
Rates - Fixed Monthly													
RESIDENTIAL	\$ 8.40	\$ 8.40	\$ 8.40	\$ 8.40	\$ 8.50	\$ 8.50	\$ 8.50	\$ 8.50	\$ 8.50	\$ 8.50	\$ 8.50	\$ 8.50	\$ 8.50
GENERAL SERVICE <50KW	\$ 14.53	\$ 14.53	\$ 14.53	\$ 14.53	\$ 14.70	\$ 14.70	\$ 14.70	\$ 14.70	\$ 14.70	\$ 14.70	\$ 14.70	\$ 14.70	\$ 14.70
GENERAL SERVICE 50-1000KW NONI	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31
GENERAL SERVICE 50-1000KW INT	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31
GENERAL SERVICE 1000-1500KW	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31
GENERAL SERVICE 1500-5000 KW	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 4,024.83	\$ 4,024.83	\$ 4,024.83	\$ 4,024.83	\$ 4,024.83	\$ 4,024.83	\$ 4,024.83	\$ 4,024.83	\$ 4,024.83
LARGE USERS	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,617.15	\$ 14,617.15	\$ 14,617.15	\$ 14,617.15	\$ 14,617.15	\$ 14,617.15	\$ 14,617.15	\$ 14,617.15	\$ 14,617.15
STREET LIGHTING	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.49	\$ 0.49	\$ 0.49	\$ 0.49	\$ 0.49	\$ 0.49	\$ 0.49	\$ 0.49	\$ 0.49
UNMETERED SCATTERED LOADS	\$ 3.97	\$ 3.97	\$ 3.97	\$ 3.97	\$ 4.02	\$ 4.02	\$ 4.02	\$ 4.02	\$ 4.02	\$ 4.02	\$ 4.02	\$ 4.02	\$ 4.02
Rates - Volumetric Charge													
RESIDENTIAL	\$ 0.0205	\$ 0.0205	\$ 0.0205	\$ 0.0205	\$ 0.0207	\$ 0.0207	\$ 0.0207	\$ 0.0207	\$ 0.0207	\$ 0.0207	\$ 0.0207	\$ 0.0207	\$ 0.0207
GENERAL SERVICE <50KW	\$ 0.0183	\$ 0.0183	\$ 0.0183	\$ 0.0183	\$ 0.0185	\$ 0.0185	\$ 0.0185	\$ 0.0185	\$ 0.0185	\$ 0.0185	\$ 0.0185	\$ 0.0185	\$ 0.0185
GENERAL SERVICE 50-1000KW NONI	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 2.9918	\$ 3.0271	\$ 3.0271	\$ 3.0271	\$ 3.0271	\$ 3.0271	\$ 3.0271	\$ 3.0271	\$ 3.0271	\$ 3.0271
GENERAL SERVICE 50-1000KW INT	\$ 2.992	\$ 2.992	\$ 2.992	\$ 2.992	\$ 3.027	\$ 3.027	\$ 3.027	\$ 3.027	\$ 3.027	\$ 3.027	\$ 3.027	\$ 3.027	\$ 3.027
GENERAL SERVICE 1000-1500KW	\$ 2.992	\$ 2.992	\$ 2.992	\$ 2.992	\$ 3.027	\$ 3.027	\$ 3.027	\$ 3.027	\$ 3.027	\$ 3.027	\$ 3.027	\$ 3.027	\$ 3.027
GENERAL SERVICE 1500-5000 KW	\$ 2.857	\$ 2.857	\$ 2.857	\$ 2.857	\$ 2.891	\$ 2.891	\$ 2.891	\$ 2.891	\$ 2.891	\$ 2.891	\$ 2.891	\$ 2.891	\$ 2.891
LARGE USERS	\$ 2.735	\$ 2.735	\$ 2.735	\$ 2.735	\$ 2.767	\$ 2.767	\$ 2.767	\$ 2.767	\$ 2.767	\$ 2.767	\$ 2.767	\$ 2.767	\$ 2.767
STREET LIGHTING	\$ 3.404	\$ 3.404	\$ 3.404	\$ 3.404	\$ 3.444	\$ 3.444	\$ 3.444	\$ 3.444	\$ 3.444	\$ 3.444	\$ 3.444	\$ 3.444	\$ 3.444
UNMETERED SCATTERED LOADS	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020
Revenue													
RESIDENTIAL	\$ 6,548,036	\$ 6,619,973	\$ 7,144,140	\$ 6,399,595	\$ 5,622,558	\$ 5,220,674	\$ 5,624,960	\$ 5,953,179	\$ 6,105,578	\$ 6,046,181	\$ 6,184,551	\$ 6,218,676	\$ 73,688,100
GENERAL SERVICE <50KW	\$ 1,498,540	\$ 1,495,727	\$ 1,679,044	\$ 1,534,740	\$ 1,416,724	\$ 1,334,856	\$ 1,384,339	\$ 1,582,630	\$ 1,307,606	\$ 1,455,202	\$ 1,439,452	\$ 1,439,858	\$ 17,568,719
GENERAL SERVICE 50-1000KW NONI	\$ 1,855,772	\$ 1,665,893	\$ 1,856,012	\$ 1,706,838	\$ 1,691,399	\$ 1,815,557	\$ 1,664,839	\$ 1,765,301	\$ 1,516,719	\$ 1,754,092	\$ 1,690,002	\$ 1,646,636	\$ 20,629,058
GENERAL SERVICE 50-1000KW INT	\$ 701,418	\$ 668,061	\$ 662,682	\$ 669,201	\$ 724,702	\$ 746,188	\$ 744,609	\$ 708,646	\$ 764,191	\$ 707,907	\$ 669,485	\$ 701,759	\$ 8,468,848
GENERAL SERVICE 1000-1500KW	\$ 212,432	\$ 205,546	\$ 209,092	\$ 200,057	\$ 216,601	\$ 208,445	\$ 218,155	\$ 214,737	\$ 221,970	\$ 203,509	\$ 204,666	\$ 212,711	\$ 2,527,922
GENERAL SERVICE 1500-5000 KW	\$ 672,202	\$ 666,331	\$ 667,078	\$ 663,471	\$ 707,605	\$ 692,275	\$ 726,621	\$ 739,941	\$ 730,279	\$ 684,626	\$ 657,541	\$ 675,820	\$ 8,283,790
LARGE USERS	\$ 440,702	\$ 386,306	\$ 420,240	\$ 404,024	\$ 403,462	\$ 426,565	\$ 452,858	\$ 484,685	\$ 461,931	\$ 422,589	\$ 381,766	\$ 407,876	\$ 5,093,004
STREET LIGHTING	\$ 56,343	\$ 56,376	\$ 56,363	\$ 56,361	\$ 57,257	\$ 57,240	\$ 57,305	\$ 57,285	\$ 57,440	\$ 57,848	\$ 58,557	\$ 59,826	\$ 688,202
UNMETERED SCATTERED LOADS	\$ 41,011	\$ 38,333	\$ 45,038	\$ 41,022	\$ 43,219	\$ 41,226	\$ 57,531	\$ 62,982	\$ 39,295	\$ 42,058	\$ 39,727	\$ 41,279	\$ 532,720
TOTAL													\$ 137,480,363
Smart Meter Adder	\$ 333,101	\$ 333,555	\$ 333,677	\$ 334,063	\$ 492,742	\$ 493,203	\$ 493,718	\$ 494,117	\$ 494,859	\$ 495,795	\$ 496,684	\$ 497,292	\$ 5,292,806
Total with Smart Meters													\$ 142,773,169



Attachment U - Throughput Revenue

Hydro Ottawa Limited
 EB-2010-0133
 Exhibit C1
 Tab 1
 Schedule 2
 Attachment U
 Filed: 2010-06-14
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2009 Weather Normal Distribution Revenue

Customer/Connection Numbers	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average/Total
RESIDENTIAL	265,551	265,928	266,042	266,389	266,662	266,920	267,222	267,461	267,891	268,412	268,934	269,288	267,225
GENERAL SERVICE <50KW	23,300	23,301	23,286	23,272	23,268	23,332	23,325	23,319	23,320	23,339	23,342	23,338	23,312
GENERAL SERVICE 50-1000KW NONI	2,678	2,697	2,703	2,709	2,702	2,640	2,645	2,649	2,658	2,669	2,671	2,682	2,675
GENERAL SERVICE 50-1000KW INT	528	529	530	530	528	548	554	554	556	561	563	564	545
GENERAL SERVICE 1000-1500KW	60	60	60	60	60	57	57	57	57	57	57	57	58
GENERAL SERVICE 1500-5000 KW	66	66	67	67	68	65	66	66	66	67	67	67	67
LARGE USERS	11	11	11	11	11	11	11	11	11	11	11	11	11
STREET LIGHTING	50,929	50,932	50,926	50,924	50,925	50,921	50,947	50,949	51,068	51,345	51,939	52,861	51,222
UNMETERED SCATTERED LOADS	2,897	2,901	2,900	2,905	2,896	2,899	2,897	2,903	2,903	2,901	2,900	2,848	2,896

kWh/kW Sales

RESIDENTIAL	226,259,460	195,641,510	207,914,570	163,682,160	160,099,840	168,284,530	196,827,410	202,873,910	166,758,950	173,514,740	186,908,350	213,023,560	2,261,788,990
GENERAL SERVICE <50KW	77,353,400	70,388,860	63,906,950	49,462,280	48,567,690	54,671,680	64,324,180	61,269,140	51,739,290	61,590,700	64,880,200	72,011,320	740,165,690
GENERAL SERVICE 50-1000KW NONI	382,241	344,012	412,238	370,370	306,541	339,368	330,823	345,947	324,446	348,026	364,944	347,345	4,216,300
GENERAL SERVICE 50-1000KW INT	190,104	177,544	190,674	177,217	187,110	188,732	201,708	187,331	199,831	196,216	184,193	187,749	2,268,409
GENERAL SERVICE 1000-1500KW	64,540	61,294	67,935	73,281	55,630	64,987	69,688	67,891	67,691	67,711	64,257	65,940	790,846
GENERAL SERVICE 1500-5000 KW	144,088	133,219	147,539	136,896	149,789	143,182	162,733	157,650	157,792	156,828	140,061	139,894	1,769,671
LARGE USERS	90,406	84,092	97,822	87,199	91,905	96,168	108,019	108,814	106,588	102,876	87,545	90,620	1,152,054
STREET LIGHTING	9,377	9,415	9,406	9,427	9,423	9,444	9,438	9,472	9,452	9,510	9,544	9,636	113,544
UNMETERED SCATTERED LOADS	1,492,830	1,314,400	1,623,540	1,425,290	1,622,750	1,545,940	2,525,570	2,463,370	1,401,210	1,423,430	1,391,620	1,531,180	19,761,130

Rates - Fixed Monthly

RESIDENTIAL	\$ 8.40	\$ 8.40	\$ 8.40	\$ 8.40	\$ 8.50	\$ 8.50	\$ 8.50	\$ 8.50	\$ 8.50	\$ 8.50	\$ 8.50	\$ 8.50	\$ 8.50
GENERAL SERVICE <50KW	\$ 14.53	\$ 14.53	\$ 14.53	\$ 14.53	\$ 14.70	\$ 14.70	\$ 14.70	\$ 14.70	\$ 14.70	\$ 14.70	\$ 14.70	\$ 14.70	\$ 14.70
GENERAL SERVICE 50-1000KW NONI	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31
GENERAL SERVICE 50-1000KW INT	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31
GENERAL SERVICE 1000-1500KW	\$ 247.39	\$ 247.39	\$ 247.39	\$ 247.39	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31
GENERAL SERVICE 1500-5000 KW	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 3,977.89	\$ 4,024.83	\$ 4,024.83	\$ 4,024.83	\$ 4,024.83	\$ 4,024.83	\$ 4,024.83	\$ 4,024.83	\$ 4,024.83	\$ 4,024.83
LARGE USERS	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,446.68	\$ 14,617.15	\$ 14,617.15	\$ 14,617.15	\$ 14,617.15	\$ 14,617.15	\$ 14,617.15	\$ 14,617.15	\$ 14,617.15	\$ 14,617.15
STREET LIGHTING	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.49	\$ 0.49	\$ 0.49	\$ 0.49	\$ 0.49	\$ 0.49	\$ 0.49	\$ 0.49	\$ 0.49
UNMETERED SCATTERED LOADS	\$ 3.97	\$ 3.97	\$ 3.97	\$ 3.97	\$ 4.02	\$ 4.02	\$ 4.02	\$ 4.02	\$ 4.02	\$ 4.02	\$ 4.02	\$ 4.02	\$ 4.02

Rates - Volumetric Charge

RESIDENTIAL	0.0205	0.0205	0.0205	0.0205	0.0207	0.0207	0.0207	0.0207	0.0207	0.0207	0.0207	0.0207	0.0207
GENERAL SERVICE <50KW	0.0183	0.0183	0.0183	0.0183	0.0185	0.0185	0.0185	0.0185	0.0185	0.0185	0.0185	0.0185	0.0185
GENERAL SERVICE 50-1000KW NONI	2.9918	2.9918	2.9918	2.9918	3.0271	3.0271	3.0271	3.0271	3.0271	3.0271	3.0271	3.0271	3.0271
GENERAL SERVICE 50-1000KW INT	\$ 2.992	\$ 2.992	\$ 2.992	\$ 2.992	\$ 3.027	\$ 3.027	\$ 3.027	\$ 3.027	\$ 3.027	\$ 3.027	\$ 3.027	\$ 3.027	\$ 3.027
GENERAL SERVICE 1000-1500KW	\$ 2.992	\$ 2.992	\$ 2.992	\$ 2.992	\$ 3.027	\$ 3.027	\$ 3.027	\$ 3.027	\$ 3.027	\$ 3.027	\$ 3.027	\$ 3.027	\$ 3.027
GENERAL SERVICE 1500-5000 KW	\$ 2.857	\$ 2.857	\$ 2.857	\$ 2.857	\$ 2.891	\$ 2.891	\$ 2.891	\$ 2.891	\$ 2.891	\$ 2.891	\$ 2.891	\$ 2.891	\$ 2.891
LARGE USERS	\$ 2.735	\$ 2.735	\$ 2.735	\$ 2.735	\$ 2.767	\$ 2.767	\$ 2.767	\$ 2.767	\$ 2.767	\$ 2.767	\$ 2.767	\$ 2.767	\$ 2.767
STREET LIGHTING	\$ 3.404	\$ 3.404	\$ 3.404	\$ 3.404	\$ 3.444	\$ 3.444	\$ 3.444	\$ 3.444	\$ 3.444	\$ 3.444	\$ 3.444	\$ 3.444	\$ 3.444
UNMETERED SCATTERED LOADS	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020

Revenue

RESIDENTIAL	\$ 6,868,947	\$ 6,244,446	\$ 6,497,001	\$ 5,593,152	\$ 5,580,694	\$ 5,752,310	\$ 6,345,714	\$ 6,472,908	\$ 5,728,984	\$ 5,873,257	\$ 6,154,942	\$ 6,698,536	\$ 73,810,892
GENERAL SERVICE <50KW	\$ 1,754,116	\$ 1,626,680	\$ 1,507,843	\$ 1,243,302	\$ 1,240,542	\$ 1,354,406	\$ 1,532,875	\$ 1,476,268	\$ 1,299,981	\$ 1,482,511	\$ 1,543,411	\$ 1,675,278	\$ 17,737,213
GENERAL SERVICE 50-1000KW NONI	\$ 1,806,098	\$ 1,696,424	\$ 1,902,029	\$ 1,778,254	\$ 1,604,268	\$ 1,688,119	\$ 1,663,504	\$ 1,710,286	\$ 1,647,455	\$ 1,721,586	\$ 1,773,301	\$ 1,722,779	\$ 20,714,102
GENERAL SERVICE 50-1000KW INT	\$ 699,375	\$ 662,044	\$ 701,576	\$ 661,316	\$ 698,565	\$ 708,480	\$ 749,263	\$ 705,741	\$ 744,081	\$ 734,388	\$ 698,495	\$ 709,509	\$ 8,472,834
GENERAL SERVICE 1000-1500KW	\$ 207,933	\$ 198,224	\$ 218,092	\$ 234,087	\$ 183,416	\$ 210,991	\$ 225,220	\$ 219,781	\$ 219,176	\$ 219,237	\$ 208,780	\$ 213,873	\$ 2,558,809
GENERAL SERVICE 1500-5000 KW	\$ 674,242	\$ 643,187	\$ 688,083	\$ 657,672	\$ 706,728	\$ 675,552	\$ 736,101	\$ 721,405	\$ 721,816	\$ 723,053	\$ 674,580	\$ 674,097	\$ 8,296,517
LARGE USERS	\$ 406,191	\$ 388,923	\$ 426,477	\$ 397,420	\$ 415,044	\$ 426,837	\$ 459,624	\$ 461,822	\$ 455,663	\$ 445,395	\$ 402,982	\$ 411,490	\$ 5,097,868
STREET LIGHTING	\$ 56,363	\$ 56,492	\$ 56,459	\$ 56,529	\$ 57,407	\$ 57,476	\$ 57,467	\$ 57,586	\$ 57,577	\$ 57,909	\$ 58,320	\$ 59,087	\$ 688,672
UNMETERED SCATTERED LOADS	\$ 41,059	\$ 37,542	\$ 43,659	\$ 39,754	\$ 43,772	\$ 42,264	\$ 61,652	\$ 60,445	\$ 39,414	\$ 39,846	\$ 39,212	\$ 41,766	\$ 530,385
TOTAL													\$ 137,907,292
Smart Meter Adder	\$ 333,101	\$ 333,555	\$ 333,677	\$ 334,063	\$ 492,742	\$ 493,203	\$ 493,718	\$ 494,117	\$ 494,859	\$ 495,795	\$ 496,684	\$ 497,292	\$ 5,292,806
													\$ 143,200,098



Attachment U - Throughput Revenue

2010 Forecast Distribution Revenue

Customer/Connection Numbers	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average/Total
Customer/Connection Numbers													
RESIDENTIAL	269,683	270,025	270,365	270,705	271,044	271,381	271,718	272,055	272,390	272,725	273,059	273,892	271,587
GENERAL SERVICE <50KW	23,415	23,425	23,433	23,441	23,449	23,457	23,465	23,473	23,480	23,488	23,496	23,504	23,461
GENERAL SERVICE 50-1000KW NONI	2,626	2,627	2,628	2,628	2,629	2,630	2,631	2,632	2,633	2,634	2,635	2,636	2,631
GENERAL SERVICE 50-1000KW INT	572	572	573	573	574	574	574	574	573	573	572	572	573
GENERAL SERVICE 1000-1500KW	52	53	53	53	53	53	53	53	53	53	53	53	53
GENERAL SERVICE 1500-5000 KW	66	66	66	66	66	66	66	66	66	66	66	66	66
LARGE USERS	12	12	12	12	12	12	12	12	12	12	12	12	12
STREET LIGHTING	54,361	54,353	54,340	54,337	54,342	54,342	54,349	54,364	54,375	54,391	54,411	54,432	54,366
UNMETERED SCATTERED LOADS	2,851	2,853	2,853	2,853	2,853	2,853	2,853	2,853	2,853	2,853	2,853	2,853	2,853
kWh/kW Sales													
RESIDENTIAL	207,389,999	199,120,157	199,835,857	166,332,829	156,783,163	178,336,105	196,120,246	193,853,349	162,131,728	165,813,742	181,245,215	215,825,699	2,222,788,088
GENERAL SERVICE <50KW	76,515,893	68,922,847	67,112,842	57,835,731	55,614,111	59,850,599	63,708,869	63,313,973	57,228,934	58,183,959	62,312,777	72,237,051	762,837,587
GENERAL SERVICE 50-1000KW NONI	335,863	364,145	395,330	378,657	345,481	365,527	338,137	351,055	348,727	346,428	353,874	360,634	4,283,859
GENERAL SERVICE 50-1000KW INT	196,834	191,963	189,902	186,300	198,290	198,805	203,429	196,500	208,450	196,084	190,567	191,797	2,348,922
GENERAL SERVICE 1000-1500KW	62,067	63,727	66,497	61,461	69,187	67,969	69,724	70,376	69,934	66,702	66,729	65,324	799,697
GENERAL SERVICE 1500-5000 KW	139,757	140,291	138,668	140,912	147,079	153,187	158,452	162,488	163,681	150,194	150,035	137,316	1,782,060
LARGE USERS	91,352	87,259	90,962	89,964	95,407	102,851	110,990	114,324	111,407	104,033	97,070	93,689	1,189,306
STREET LIGHTING	10,341	10,098	9,613	9,628	9,644	9,659	9,675	9,691	9,706	9,722	9,737	9,753	117,267
UNMETERED SCATTERED LOADS	1,487,879	1,389,741	1,428,895	1,372,714	1,418,150	1,441,061	1,457,641	1,461,448	1,459,987	1,407,236	1,405,496	1,462,890	17,193,138
Rates - Fixed Monthly													
RESIDENTIAL	\$ 8.50	\$ 8.50	\$ 8.50	\$ 8.50	\$ 8.52	\$ 8.52	\$ 8.52	\$ 8.52	\$ 8.52	\$ 8.52	\$ 8.52	\$ 8.52	\$ 8.52
GENERAL SERVICE <50KW	\$ 14.70	\$ 14.70	\$ 14.70	\$ 14.70	\$ 14.73	\$ 14.73	\$ 14.73	\$ 14.73	\$ 14.73	\$ 14.73	\$ 14.73	\$ 14.73	\$ 14.73
GENERAL SERVICE 50-1000KW NONI	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.76	\$ 250.76	\$ 250.76	\$ 250.76	\$ 250.76	\$ 250.76	\$ 250.76	\$ 250.76	\$ 250.76
GENERAL SERVICE 50-1000KW INT	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.76	\$ 250.76	\$ 250.76	\$ 250.76	\$ 250.76	\$ 250.76	\$ 250.76	\$ 250.76	\$ 250.76
GENERAL SERVICE 1000-1500KW	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.31	\$ 250.76	\$ 250.76	\$ 250.76	\$ 250.76	\$ 250.76	\$ 250.76	\$ 250.76	\$ 250.76	\$ 250.76
GENERAL SERVICE 1500-5000 KW	\$ 4,024.83	\$ 4,024.83	\$ 4,024.83	\$ 4,024.83	\$ 4,032.07	\$ 4,032.07	\$ 4,032.07	\$ 4,032.07	\$ 4,032.07	\$ 4,032.07	\$ 4,032.07	\$ 4,032.07	\$ 4,032.07
LARGE USERS	\$ 14,617.15	\$ 14,617.15	\$ 14,617.15	\$ 14,617.15	\$ 14,643.46	\$ 14,643.46	\$ 14,643.46	\$ 14,643.46	\$ 14,643.46	\$ 14,643.46	\$ 14,643.46	\$ 14,643.46	\$ 14,643.46
STREET LIGHTING	\$ 0.49	\$ 0.49	\$ 0.49	\$ 0.49	\$ 0.49	\$ 0.49	\$ 0.49	\$ 0.49	\$ 0.49	\$ 0.49	\$ 0.49	\$ 0.49	\$ 0.49
UNMETERED SCATTERED LOADS	\$ 4.02	\$ 4.02	\$ 4.02	\$ 4.02	\$ 4.03	\$ 4.03	\$ 4.03	\$ 4.03	\$ 4.03	\$ 4.03	\$ 4.03	\$ 4.03	\$ 4.03
Rates - Volumetric Charge													
RESIDENTIAL	\$ 0.0207	\$ 0.0207	\$ 0.0207	\$ 0.0207	\$ 0.0207	\$ 0.0207	\$ 0.0207	\$ 0.0207	\$ 0.0207	\$ 0.0207	\$ 0.0207	\$ 0.0207	\$ 0.0207
GENERAL SERVICE <50KW	\$ 0.0185	\$ 0.0185	\$ 0.0185	\$ 0.0185	\$ 0.0185	\$ 0.0185	\$ 0.0185	\$ 0.0185	\$ 0.0185	\$ 0.0185	\$ 0.0185	\$ 0.0185	\$ 0.0185
GENERAL SERVICE 50-1000KW NONI	\$ 3.0271	\$ 3.0271	\$ 3.0271	\$ 3.0271	\$ 3.0325	\$ 3.0325	\$ 3.0325	\$ 3.0325	\$ 3.0325	\$ 3.0325	\$ 3.0325	\$ 3.0325	\$ 3.0325
GENERAL SERVICE 50-1000KW INT	\$ 3.0271	\$ 3.0271	\$ 3.0271	\$ 3.0271	\$ 3.0325	\$ 3.0325	\$ 3.0325	\$ 3.0325	\$ 3.0325	\$ 3.0325	\$ 3.0325	\$ 3.0325	\$ 3.0325
GENERAL SERVICE 1000-1500KW	\$ 3.0271	\$ 3.0271	\$ 3.0271	\$ 3.0271	\$ 3.0325	\$ 3.0325	\$ 3.0325	\$ 3.0325	\$ 3.0325	\$ 3.0325	\$ 3.0325	\$ 3.0325	\$ 3.0325
GENERAL SERVICE 1500-5000 KW	\$ 2.8910	\$ 2.8910	\$ 2.8910	\$ 2.8910	\$ 2.8962	\$ 2.8962	\$ 2.8962	\$ 2.8962	\$ 2.8962	\$ 2.8962	\$ 2.8962	\$ 2.8962	\$ 2.8962
LARGE USERS	\$ 2.7665	\$ 2.7665	\$ 2.7665	\$ 2.7665	\$ 2.7725	\$ 2.7725	\$ 2.7725	\$ 2.7725	\$ 2.7725	\$ 2.7725	\$ 2.7725	\$ 2.7725	\$ 2.7725
STREET LIGHTING	\$ 3.4439	\$ 3.4439	\$ 3.4439	\$ 3.4439	\$ 3.4501	\$ 3.4501	\$ 3.4501	\$ 3.4501	\$ 3.4501	\$ 3.4501	\$ 3.4501	\$ 3.4501	\$ 3.4501
UNMETERED SCATTERED LOADS	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020	\$ 0.020
Revenue													
RESIDENTIAL	\$6,585,278	\$6,416,997	\$6,434,705	\$5,744,079	\$5,554,704	\$6,003,727	\$6,374,730	\$6,330,673	\$5,676,893	\$5,755,962	\$6,078,241	\$6,801,156	\$73,757,144
GENERAL SERVICE <50KW	\$1,759,745	\$1,619,425	\$1,586,057	\$1,414,547	\$1,374,266	\$1,452,757	\$1,524,251	\$1,517,061	\$1,404,602	\$1,422,385	\$1,498,883	\$1,682,597	\$18,256,575
GENERAL SERVICE 50-1000KW NONI	\$1,674,004	\$1,759,910	\$1,854,467	\$1,804,141	\$1,706,894	\$1,767,932	\$1,685,113	\$1,724,516	\$1,717,759	\$1,711,081	\$1,733,946	\$1,754,594	\$20,894,359
GENERAL SERVICE 50-1000KW INT	\$739,015	\$724,257	\$718,204	\$707,489	\$745,301	\$746,846	\$760,852	\$739,822	\$775,911	\$738,260	\$721,382	\$725,168	\$8,842,507
GENERAL SERVICE 1000-1500KW	\$200,899	\$206,132	\$214,517	\$199,272	\$223,056	\$219,363	\$224,687	\$226,662	\$225,323	\$215,522	\$215,602	\$211,344	\$2,582,378
GENERAL SERVICE 1500-5000 KW	\$669,677	\$671,098	\$666,247	\$672,612	\$691,523	\$709,130	\$724,261	\$735,869	\$739,241	\$700,099	\$699,559	\$662,643	\$8,341,959
LARGE USERS	\$428,131	\$416,807	\$427,051	\$424,291	\$440,237	\$460,875	\$483,440	\$492,684	\$484,598	\$464,154	\$444,849	\$435,474	\$5,402,590
STREET LIGHTING	\$62,251	\$61,410	\$59,732	\$59,784	\$59,900	\$59,954	\$60,011	\$60,072	\$60,130	\$60,192	\$60,256	\$60,319	\$724,010
UNMETERED SCATTERED LOADS	\$40,921	\$38,985	\$39,760	\$38,648	\$39,576	\$40,030	\$40,358	\$40,433	\$40,404	\$39,360	\$39,325	\$40,462	\$478,262
TOTAL													\$139,279,785
Smart Meter Adder	\$497,996	\$498,590	\$499,178	\$499,764	\$500,349	\$500,931	\$501,512	\$502,092	\$502,669	\$503,245	\$503,821	\$505,235	\$6,015,380
Total with Smart Meters													\$145,295,165



Attachment U - Throughput Revenue

2011 Forecast Distribution Revenue

Customer/Connection Numbers	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average/Total
RESIDENTIAL	274,225	274,557	274,888	275,219	275,549	275,878	276,207	276,535	276,862	277,189	277,516	277,842	276,039
GENERAL SERVICE <50KW	23,512	23,519	23,527	23,535	23,542	23,550	23,558	23,565	23,573	23,581	23,588	23,596	23,554
GENERAL SERVICE 50-1000KW NONI	2,636	2,637	2,638	2,639	2,639	2,640	2,641	2,641	2,641	2,641	2,642	2,642	2,640
GENERAL SERVICE 50-1000KW INT	573	573	573	572	572	572	572	572	572	573	573	574	572
GENERAL SERVICE 1000-1500KW	53	53	53	53	53	53	53	53	53	53	53	53	53
GENERAL SERVICE 1500-5000 KW	66	66	66	66	66	66	66	66	66	66	66	66	66
LARGE USERS	12	12	12	12	12	12	12	12	12	12	12	12	12
STREET LIGHTING	54,456	54,485	54,513	54,544	54,579	54,613	54,651	54,689	54,731	54,776	54,821	54,876	54,645
UNMETERED SCATTERED LOADS	2,853	2,853	2,853	2,853	2,853	2,853	2,853	2,853	2,853	2,853	2,853	2,853	2,853
SENTINEL LIGHTS	82	82	82	82	82	82	82	82	82	82	82	82	82
STANDBY 50-1500 KW	2	2	2	2	2	2	2	2	2	2	2	2	2
STANDBY 1500-5000 KW	2	2	2	2	2	2	2	2	2	2	2	2	2

kWh/kW Sales

RESIDENTIAL	226,442,812	202,602,572	197,614,108	164,292,484	155,969,845	176,753,946	193,830,300	192,899,652	161,001,806	164,684,967	180,012,966	213,649,041	2,229,754,498
GENERAL SERVICE <50KW	75,063,206	67,766,306	66,947,958	57,354,826	55,522,667	59,512,725	63,186,992	63,111,728	56,894,930	57,878,817	62,033,192	71,720,253	756,993,599
GENERAL SERVICE 50-1000KW NONI	385,565	374,770	396,837	379,844	346,033	365,675	338,577	351,768	349,420	346,615	354,426	361,632	4,351,162
GENERAL SERVICE 50-1000KW INT	193,468	198,922	195,118	191,508	203,412	203,928	208,706	201,949	213,971	201,438	196,034	197,313	2,405,768
GENERAL SERVICE 1000-1500KW	64,316	64,595	66,966	61,920	69,611	68,387	70,218	70,923	70,476	67,144	67,156	65,771	807,483
GENERAL SERVICE 1500-5000 KW	142,101	141,154	138,665	141,006	147,076	153,235	158,650	162,871	164,087	150,378	150,265	137,536	1,787,025
LARGE USERS	93,648	87,638	91,387	90,374	95,832	103,277	111,547	114,960	112,034	104,564	97,552	94,186	1,197,001
STREET LIGHTING	9,758	9,774	9,790	9,805	9,821	9,836	9,852	9,867	9,883	9,898	9,914	9,929	118,127
UNMETERED SCATTERED LOADS	1,453,752	1,360,984	1,416,666	1,358,128	1,412,224	1,429,137	1,439,696	1,451,388	1,448,275	1,395,479	1,392,731	1,443,192	17,001,652
SENTINEL LIGHTS	18	18	18	18	18	18	18	18	18	18	18	18	216
STANDBY 50-1500 KW	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	28,800
STANDBY 1500-5000 KW	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	86,400

Rates - Fixed Monthly

RESIDENTIAL	\$ 9.67	\$ 9.67	\$ 9.67	\$ 9.67	\$ 9.67	\$ 9.67	\$ 9.67	\$ 9.67	\$ 9.67	\$ 9.67	\$ 9.67	\$ 9.67	\$ 9.67
GENERAL SERVICE <50KW	\$ 16.71	\$ 16.71	\$ 16.71	\$ 16.71	\$ 16.71	\$ 16.71	\$ 16.71	\$ 16.71	\$ 16.71	\$ 16.71	\$ 16.71	\$ 16.71	\$ 16.71
GENERAL SERVICE 50-1000KW NONI	\$ 284.49	\$ 284.49	\$ 284.49	\$ 284.49	\$ 284.49	\$ 284.49	\$ 284.49	\$ 284.49	\$ 284.49	\$ 284.49	\$ 284.49	\$ 284.49	\$ 284.49
GENERAL SERVICE 50-1000KW INT	\$ 284.49	\$ 284.49	\$ 284.49	\$ 284.49	\$ 284.49	\$ 284.49	\$ 284.49	\$ 284.49	\$ 284.49	\$ 284.49	\$ 284.49	\$ 284.49	\$ 284.49
GENERAL SERVICE 1000-1500KW	\$ 284.49	\$ 284.49	\$ 284.49	\$ 284.49	\$ 284.49	\$ 284.49	\$ 284.49	\$ 284.49	\$ 284.49	\$ 284.49	\$ 284.49	\$ 284.49	\$ 284.49
GENERAL SERVICE 1500-5000 KW	\$ 4,574.50	\$ 4,574.50	\$ 4,574.50	\$ 4,574.50	\$ 4,574.50	\$ 4,574.50	\$ 4,574.50	\$ 4,574.50	\$ 4,574.50	\$ 4,574.50	\$ 4,574.50	\$ 4,574.50	\$ 4,574.50
LARGE USERS	\$ 16,613.44	\$ 16,613.44	\$ 16,613.44	\$ 16,613.44	\$ 16,613.44	\$ 16,613.44	\$ 16,613.44	\$ 16,613.44	\$ 16,613.44	\$ 16,613.44	\$ 16,613.44	\$ 16,613.44	\$ 16,613.44
STREET LIGHTING	\$ 0.56	\$ 0.56	\$ 0.56	\$ 0.56	\$ 0.56	\$ 0.56	\$ 0.56	\$ 0.56	\$ 0.56	\$ 0.56	\$ 0.56	\$ 0.56	\$ 0.56
UNMETERED SCATTERED LOADS	\$ 4.57	\$ 4.57	\$ 4.57	\$ 4.57	\$ 4.57	\$ 4.57	\$ 4.57	\$ 4.57	\$ 4.57	\$ 4.57	\$ 4.57	\$ 4.57	\$ 4.57
SENTINEL LIGHTS	\$ 2.14	\$ 2.14	\$ 2.14	\$ 2.14	\$ 2.14	\$ 2.14	\$ 2.14	\$ 2.14	\$ 2.14	\$ 2.14	\$ 2.14	\$ 2.14	\$ 2.14
STANDBY 50-1500 KW	\$ 122.34	\$ 122.34	\$ 122.34	\$ 122.34	\$ 122.34	\$ 122.34	\$ 122.34	\$ 122.34	\$ 122.34	\$ 122.34	\$ 122.34	\$ 122.34	\$ 122.34
STANDBY 1500-5000 KW	\$ 122.34	\$ 122.34	\$ 122.34	\$ 122.34	\$ 122.34	\$ 122.34	\$ 122.34	\$ 122.34	\$ 122.34	\$ 122.34	\$ 122.34	\$ 122.34	\$ 122.34

Rates - Volumetric Charge

RESIDENTIAL	\$ 0.0235	\$ 0.0235	\$ 0.0235	\$ 0.0235	\$ 0.0235	\$ 0.0235	\$ 0.0235	\$ 0.0235	\$ 0.0235	\$ 0.0235	\$ 0.0235	\$ 0.0235	\$ 0.0235
GENERAL SERVICE <50KW	\$ 0.0210	\$ 0.0210	\$ 0.0210	\$ 0.0210	\$ 0.0210	\$ 0.0210	\$ 0.0210	\$ 0.0210	\$ 0.0210	\$ 0.0210	\$ 0.0210	\$ 0.0210	\$ 0.0210
GENERAL SERVICE 50-1000KW NONI	\$ 3.4405	\$ 3.4405	\$ 3.4405	\$ 3.4405	\$ 3.4405	\$ 3.4405	\$ 3.4405	\$ 3.4405	\$ 3.4405	\$ 3.4405	\$ 3.4405	\$ 3.4405	\$ 3.4405
GENERAL SERVICE 50-1000KW INT	\$ 3.4405	\$ 3.4405	\$ 3.4405	\$ 3.4405	\$ 3.4405	\$ 3.4405	\$ 3.4405	\$ 3.4405	\$ 3.4405	\$ 3.4405	\$ 3.4405	\$ 3.4405	\$ 3.4405
GENERAL SERVICE 1000-1500KW	\$ 3.4405	\$ 3.4405	\$ 3.4405	\$ 3.4405	\$ 3.4405	\$ 3.4405	\$ 3.4405	\$ 3.4405	\$ 3.4405	\$ 3.4405	\$ 3.4405	\$ 3.4405	\$ 3.4405
GENERAL SERVICE 1500-5000 KW	\$ 3.2858	\$ 3.2858	\$ 3.2858	\$ 3.2858	\$ 3.2858	\$ 3.2858	\$ 3.2858	\$ 3.2858	\$ 3.2858	\$ 3.2858	\$ 3.2858	\$ 3.2858	\$ 3.2858
LARGE USERS	\$ 3.1455	\$ 3.1455	\$ 3.1455	\$ 3.1455	\$ 3.1455	\$ 3.1455	\$ 3.1455	\$ 3.1455	\$ 3.1455	\$ 3.1455	\$ 3.1455	\$ 3.1455	\$ 3.1455
STREET LIGHTING	\$ 3.9142	\$ 3.9142	\$ 3.9142	\$ 3.9142	\$ 3.9142	\$ 3.9142	\$ 3.9142	\$ 3.9142	\$ 3.9142	\$ 3.9142	\$ 3.9142	\$ 3.9142	\$ 3.9142
UNMETERED SCATTERED LOADS	\$ 0.0227	\$ 0.0227	\$ 0.0227	\$ 0.0227	\$ 0.0227	\$ 0.0227	\$ 0.0227	\$ 0.0227	\$ 0.0227	\$ 0.0227	\$ 0.0227	\$ 0.0227	\$ 0.0227
SENTINEL LIGHTS	\$ 8.2031	\$ 8.2031	\$ 8.2031	\$ 8.2031	\$ 8.2031	\$ 8.2031	\$ 8.2031	\$ 8.2031	\$ 8.2031	\$ 8.2031	\$ 8.2031	\$ 8.2031	\$ 8.2031
STANDBY 50-1500 KW	\$ 1.6326	\$ 1.6326	\$ 1.6326	\$ 1.6326	\$ 1.6326	\$ 1.6326	\$ 1.6326	\$ 1.6326	\$ 1.6326	\$ 1.6326	\$ 1.6326	\$ 1.6326	\$ 1.6326
STANDBY 1500-5000 KW	\$ 1.4976	\$ 1.4976	\$ 1.4976	\$ 1.4976	\$ 1.4976	\$ 1.4976	\$ 1.4976	\$ 1.4976	\$ 1.4976	\$ 1.4976	\$ 1.4976	\$ 1.4976	\$ 1.4976

Revenue

RESIDENTIAL	\$ 7,969,714	\$ 7,413,042	\$ 7,299,092	\$ 6,519,738	\$ 6,327,474	\$ 6,818,768	\$ 7,222,981	\$ 7,204,297	\$ 6,458,350	\$ 6,548,010	\$ 6,911,140	\$ 7,704,229	\$ 84,396,835
GENERAL SERVICE <50KW	\$ 1,968,365	\$ 1,815,341	\$ 1,798,294	\$ 1,597,074	\$ 1,558,748	\$ 1,642,623	\$ 1,719,869	\$ 1,718,417	\$ 1,588,061	\$ 1,608,839	\$ 1,696,162	\$ 1,899,608	\$ 20,611,401
GENERAL SERVICE 50-1000KW NONI	\$ 2,076,574	\$ 2,039,579	\$ 2,115,740	\$ 2,057,504	\$ 1,941,398	\$ 2,009,146	\$ 1,916,077	\$ 1,961,618	\$ 1,953,601	\$ 1,944,003	\$ 1,970,923	\$ 1,995,737	\$ 23,981,899
GENERAL SERVICE 50-1000KW INT	\$ 828,536	\$ 847,366	\$ 834,187	\$ 821,677	\$ 862,543	\$ 864,295	\$ 880,715	\$ 857,445	\$ 898,928	\$ 855,933	\$ 837,464	\$ 842,018	\$ 10,231,109
GENERAL SERVICE 1000-1500KW	\$ 236,307	\$ 237,266	\$ 245,424	\$ 228,063	\$ 254,525	\$ 250,311	\$ 256,612	\$ 259,038	\$ 257,499	\$ 246,037	\$ 246,079	\$ 241,312	\$ 2,958,473
GENERAL SERVICE 1500-5000 KW	\$ 767,373	\$ 764,171	\$ 755,900	\$ 763,546	\$ 783,401	\$ 803,544	\$ 821,247	\$ 835,071	\$ 838,975	\$ 793,837	\$ 793,374	\$ 751,458	\$ 9,471,896
LARGE USERS	\$ 493,931	\$ 475,025	\$ 486,819	\$ 483,632	\$ 500,801	\$ 524,218	\$ 550,232	\$ 560,965	\$ 551,764	\$ 528,265	\$ 506,210	\$ 495,623	\$ 6,157,483
STREET LIGHTING	\$ 68,470	\$ 68,547	\$ 68,624	\$ 68,702	\$ 68,782	\$ 68,862	\$ 68,943	\$ 69,026	\$ 69,110	\$ 69,195	\$ 69,281	\$ 69,373	\$ 826,915
UNMETERED SCATTERED LOADS	\$ 46,030	\$ 43,925	\$ 45,188	\$ 43,860	\$ 45,087	\$ 45,471	\$ 45,711	\$ 45,976	\$ 45,905	\$ 44,707	\$ 44,645	\$ 45,790	\$ 542,296
SENTINEL LIGHTS	\$ 323	\$ 323	\$ 323	\$ 323	\$ 323	\$ 323	\$ 323	\$ 323	\$ 323	\$ 323	\$ 323	\$ 323	\$ 3,882
STANDBY 50-1500 KW	\$ 4,163	\$ 4,163	\$ 4,163	\$ 4,163	\$ 4,163	\$ 4,163	\$ 4,163	\$ 4,163	\$ 4,163	\$ 4,163	\$ 4,163	\$ 4,163	\$ 49,955
STANDBY 1500-5000 KW	\$ 11,027	\$ 11,027	\$ 11,027	\$ 11,027	\$ 11,027	\$ 11,027	\$ 11,027	\$ 11,027	\$ 11,027	\$ 11,027	\$ 11,027	\$ 11,027	\$ 132,327
TOTAL	\$ 14,470,813	\$ 13,719,775	\$ 13,664,782	\$ 12,599,310	\$ 12,358,272	\$ 13,042,751	\$ 13,497,900	\$ 13,527,367	\$ 12,677,708	\$ 12,654,341	\$ 13,090,791	\$ 14,060,661	\$ 159,364,470



OTHER REVENUE SUMMARY

1.0 INTRODUCTION

Other revenue, which is also called Revenue Offsets, relates to all utility revenues other than distribution and cost of power revenues. Hydro Ottawa Limited (“Hydro Ottawa”) has classified these into the following categories, which are the same categories used in the 2008 Cost of Service Application: Specific Service Charges, Late Payment Charges, Standard Supply Service (“SSS”) Administration Charge, Other Distribution Revenue, and Other Income and Deductions.

Table 1 provides a summary of Other Revenue for 2008 through 2011.

Table 1 - Other Revenue Summary

Other Revenue	2008 Approved	2008 Actual	2009 Actual	2010 Budget	2011 Budget
Specific Service Charges	(\$2,956,318)	(\$3,865,896)	(\$3,735,135)	(\$3,682,795)	(\$3,707,794)
Late Payment Charges	(1,600,000)	(1,614,726)	(1,349,209)	(1,384,800)	(1,400,000)
SSS Admin Charge	(768,826)	(780,973)	(782,904)	(794,253)	(802,546)
Other Distribution Revenue	(341,400)	(339,916)	(347,527)	(349,400)	(351,400)
Other Income & Deductions	(1,919,869)	(2,290,679)	(1,709,043)	(1,730,699)	(1,665,550)
TOTAL	(\$7,586,140)	(\$8,892,190)	(\$7,923,818)	(\$7,941,947)	(\$7,927,290)

A detailed breakdown of Other Distribution Revenue and Other Income and Deductions is provided in Attachment V – Appendix 2-D.



1 **2.0 SPECIFIC SERVICE CHARGES**

2

3 There are three components of Specific Service Charges: Miscellaneous Rates and
4 Charges, Pole Attachments and Dry Core Transformer Loss Charges.

5

6 **2.1 Miscellaneous Rates and Charges**

7

8 Hydro Ottawa is not proposing any changes to miscellaneous rates and charges for
9 2011, other than the update to the Dry Core Transformer Loss Charges outlined in
10 Section 2.3. Table 2 that follows summarizes the volumes and revenues associated with
11 each miscellaneous rate and charge for 2008, 2009, 2010 and 2011.

12

13 2.1.1 Arrears Certificate

14

15 A charge is levied to research and issue a certificate of arrears per service address.
16 This is typically provided to lawyers during a property purchase.

17

18 2.1.2 Duplicate Invoice

19

20 A charge is levied to cover the additional costs for reproducing an invoice that was
21 previously issued.

22

23 2.1.3 Request for Other Billing Information

24

25 A charge is levied to cover the additional costs of providing billing information other than
26 an invoice.

27

28 2.1.4 Credit Reference / Credit Check

29

30 Customers opening an account may qualify for a waiver on a security deposit based on
31 a satisfactory credit check. This credit check is done at the customer's expense.



1 2.1.5 Unprocessed Payment Charge

2

3 This charge is applied to a customer's account for each payment that cannot be
4 processed.

5

6 2.1.6 Account Setup Charge

7

8 When a customer establishes a new account, a charge is applied to their first bill to
9 cover the cost of setting up the new account. This charge applies to both those
10 customers who are new to Hydro Ottawa's distribution service area and those who have
11 moved locations within the distribution service area.

12

13 2.1.7 Collection of Account Charge

14

15 A Collection Charge is applied when a collection visit is made at a customer's premises.
16 This charge is not applied if the collections trip does not result in payment. Only one
17 Collection Charge will be applied per billing period unless a partial payment has been
18 made. A Collection Charge will not be applied if a reconnection charge is applied in the
19 same billing period following a service disconnection for non-payment.

20

21 2.1.8 Disconnect / Reconnect Charge

22

23 A customer disconnected for non-payment is required to pay a reconnection fee before
24 the service will be reconnected. The level of the fee is dependent on whether the
25 reconnection is done during regular hours or after-hours as defined in Hydro Ottawa's
26 *Conditions of Service*. The charges are higher for disconnect/reconnects completed at a
27 pole or pad mount transformer rather than a meter base because of the additional skill
28 level required to complete the work.



Table 2 - Miscellaneous Rates and Charges

SPECIFIC SERVICE CHARGES	2008 Rate	2008 Forecast Volume	2008 Forecast Revenue	2008 Actual Volume	2008 Actual Revenue	2009 Actual Volume	2009 Actual Revenue	2010 Forecast Volume	2010 Budget Revenue	2011 Rate	2011 Forecast Volume	2011 Budget Revenue
Enrollment Request Fee ¹	\$100	0	\$0	2	\$600	1	\$300	0	\$0	\$100	0	\$0
Arrears certificate	15	1,116	16,740	973	14,602	839	12,591	970	14,544	15	970	14,544
Duplicate invoices for previous billing	15	360	5,400	458	8,730	257	4,995	606	9,090	15	606	9,090
Request for other billing information	15	-	-	283	4,530	234	4,765			15		
Credit reference/credit check (plus credit agency costs)	15	2,736	41,040	3,527	53,010	4,472	67,020	4,667	70,000	15	4,667	70,000
Unprocessed payment charge (plus bank charges)	15	3,333	49,995	2,460	30,498	2,189	32,040	2,020	30,300	15	2,020	30,300
Account set up charge/change of occupancy charge (plus credit agency costs if applicable)	30	54,000	1,620,000	63,818	1,915,066	61,572	1,838,436	59,167	1,775,000	30	60,000	1,800,000
Collection of account charge - no disconnection	30	1,200	36,000	1,049	31,500	1,152	34,380	1,212	36,360	30	1,212	36,360
Disconnect/Reconnect at meter - during regular hours	65	1,320	85,800	2,897	207,245	2,934	207,187	3,200	208,001	65	3,200	208,000
Disconnect/Reconnect at meter - after regular hours	185	325	60,125	485	89,355	612	112,480	605	112,000	185	605	112,000
Disconnect/Reconnect at pole - during regular hours	185	132	24,420	95	2,075		-	-	-	185	-	-
Disconnect/Reconnect at pole - after regular hours	415	35	14,525	5	-	6	2,490	6	2,500	415	6	2,500
Temporary service install & remove - overhead - no transformer	500	-	-	-	-	-	-	-	-	500	-	-
Access to the Power Poles	22.35/pole		980,273		1,324,481		1,395,053		1,400,000	22.35/pole		1,400,000
Dry Core Transformer Charge - Demand			22,000		11,887		23,398		25,000			25,000
SUBTOTAL			2,956,318		3,693,579		3,735,135		3,682,795			3,707,794
Dry Core Transformer Charge - Energy ²					172,317							
TOTAL			\$2,956,318		\$3,865,896		\$3,735,135		\$3,682,795			\$3,707,794

¹ Fees should have been recorded to Retail Services Revenue in 2008 and 2009

² Charges should have been applied to Cost of Power Revenue in 2008



1 **2.2 Pole Attachment Charges**

2

3 As per the Ontario Energy Board's (the "Board's") Decision in 2005, Hydro Ottawa
4 proposes to continue to charge for pole attachments at a rate of \$22.35 per pole per
5 month.

6

7 **2.3 Dry Core Transformer Loss Charges**

8

9 Hydro Ottawa currently has approval from the Board for the recovery of losses from the
10 installation of customer owned dry core transformers. Dry core transformers are
11 installed on the line side of Hydro Ottawa's revenue meters and therefore any lost
12 energy and demand is not charged. The dry core transformer charge is intended to
13 recover this lost energy and demand.

14

15 The proposed dry core transformer charges are based on specific transformer sizes that
16 are common in Hydro Ottawa's service area and are separated into cost-of-power
17 (commodity, wholesale market and transmission) and distribution charges. The
18 distribution portion has been included as other revenue to reduce the base revenue
19 requirement. The cost-of-power portion will be part of Hydro Ottawa's retail settlement
20 variance account (RSVA_{POWER}).

21

22 Hydro Ottawa is proposing to update the dry core transformer charges schedule as
23 follows:

24

- 25 • Revising the commodity charge from \$0.062/kWh to \$0.070/kWh, which
26 represents an average of the current two tier price for Regulated Price Plan
27 customers,
- 28 • Revising the transmission charge from \$3.6049/kW to \$4.4990/kW which
29 represents the average of the sum of the current Transmission Network Charge,
30 Connection Charge and Low Voltage charges for the General Service > 50 kW <
31 1500 kW, General Service > 1,500 kW and Large Use Classes, and



- 1 • Revising the distribution charge from \$3.1561/kW to \$2.8689/kW which
2 represents the average of the 2010 approved variable distribution rates for the
3 General Service > 50 kW < 1500 kW, General Service > 1,500 kW and Large
4 Use Classes.

5

6 These revisions are included in Exhibit H1-5-1 Proposed Rate Schedule.

7

8

9 **3.0 LATE PAYMENT CHARGES**

10

11 Hydro Ottawa proposes to continue to charge 1.5 percent per month (19.56 percent
12 annually) for late payments. This would be applied to all accounts not paid by the due
13 date. Bills are due and payable 16-days from the mailing date. This charge is levied on
14 any bill, including final bills, with no minimum set. Where the customer has made a
15 partial payment on or before the due date, the late payment charge applies only to the
16 amount of the bill outstanding at the due date and inclusive of arrears from previous
17 billings.

18

19 Credit balances arising from customer overpayments may be refunded at the request of
20 the customer. In such instances, no interest is applied to the amount.

21

22

23 **4.0 OTHER DISTRIBUTION REVENUE**

24

25 Other distribution revenue relates to amounts recorded in USofA Accounts 4082 and
26 4084 for services to electricity retailers.

27

28



1 **5.0 STANDARD SUPPLY SERVICE ADMINISTRATION CHARGE**

2

3 Hydro Ottawa will continue to charge the existing \$0.25 per month for all customers that
4 take their electricity commodity under the regulated price plan, as set by the Ontario
5 Energy Board.

6

7

8 **6.0 OTHER INCOME AND DEDUCTIONS**

9

10 Included within Other Income and Deductions are four categories: Work for Others,
11 Property Rental, Disposal of Assets and Interest Income.

12

13 **6.1 Work for Others**

14

15 Work for Others includes services provided to the City of Ottawa, services provided to
16 affiliates and services to third parties.

17

18 6.1.1 Services to the City of Ottawa

19

20 Beyond the sale of electricity, Hydro Ottawa rents poles and ducts to the City of Ottawa,
21 as well as, performs minor routine work. Revenue associated with pole attachments is
22 part of Specific Service Charges.

23

24 6.1.2 Services to Affiliates

25

26 Hydro Ottawa provides a few services to affiliates under the terms of service level
27 agreements. Up until it was sold May 1, 2008, Hydro Ottawa rented ducts, charged for
28 pole attachments (part of Specific Service Charges) and provided some corporate
29 services (Human Resources, Information Technology and Facilities) to Telecom Ottawa
30 Inc. Hydro Ottawa provides meter data services (via web portal), mechanical services
31 and some corporate services (Human Resources, Information Technology, Finance and



1 Facilities) to Energy Ottawa Inc. Hydro Ottawa provides some corporate services
2 (Human Resources, Information Technology, Finance, Facilities and Communications) to
3 Hydro Ottawa Holding Inc.

4
5 Details of revenues from affiliate transactions are included in Exhibit C2-2-1.

6
7 **6.1.3 Services to Third-Parties**

8
9 These revenues, net of expenses, relate to services provided to customers including
10 temporary services, isolation/re-energization of services, transformer vault shutdown
11 escort and inspection, and billing water heaters. Duct rentals, pole attachments (part of
12 Specific Service Charges), and water heater services continue to be provided to third
13 parties. A small amount of revenue is also forecast for providing ad hoc web portal
14 services for viewing interval meter data in a web-based format.

15
16 **6.2 Property Rental**

17
18 Property rental relates to fees paid by Hydro One Networks Inc. (“Hydro One”) for land
19 owned by Hydro Ottawa. In many locations in Ottawa, Hydro Ottawa and Hydro One
20 have joint facilities for transformer stations. For locations in which Hydro Ottawa owns
21 the land on which Hydro One has facilities, a rental fee is paid.

22
23 **6.3 Disposal of Assets**

24
25 Hydro Ottawa occasionally disposes of assets that were never, or are no longer,
26 necessary in serving the public (e.g. a fully amortized vehicle, equipment, et cetera).
27 Where the proceeds vary from the net book value of an asset, Hydro Ottawa treats the
28 variances as a debit or credit to income.



1 **6.4 Interest Income**

2

3 Interest income relates to interest earned on cash balances in the year.

4

5

6 **7.0 NON-UTILITY INCOME**

7

8 Non-utility income is not considered a “revenue offset” in that it does not reduce the
9 distribution (base) revenue requirement. Hydro Ottawa has very little non-utility income
10 with the exception of Conservation and Demand Management (“CDM”) activities. In
11 addition to CDM activities, a second source of non-utility income is the rent paid by the
12 tenants of a small number of houses Hydro Ottawa purchased next to distribution
13 stations many years ago to facilitate future station expansion. Hydro Ottawa also
14 receives office rental revenue from Atria, a private company, for the property at 90 Maple
15 Grove. This asset has been removed from rate base and the associated costs and
16 revenue are not reflected in Hydro Ottawa’s distribution revenue requirement.

17

18 In 2010 and 2011, Hydro Ottawa anticipates a modest amount of revenue from the
19 Ontario Power Authority microFIT program, from operating solar panels at two Hydro
20 Ottawa properties. The assets associated with these panels have also been removed
21 from the 2011 rate base.



Other Operating Revenue

Uniform System of Accounts	Description	2008 Actual	2009 Actual	2010 Budget	2011 Budget
4080	Standard Supply Administration Charge	(780,973)	(782,904)	(794,253)	(802,546)
4082	Retail Services Revenue	(324,191)	(338,783)	(339,000)	(341,000)
4084	Service Transaction Requests	(15,725)	(8,744)	(10,400)	(10,400)
4225	Late Payment Charges	(1,614,726)	(1,349,209)	(1,384,800)	(1,400,000)
4235	Specific Service Charges	(3,865,896)	(3,735,135)	(3,682,795)	(3,707,794)
4315	Revenues from Electric Plant Leased to Others				
	Duct Rental	(512,992)	(820,464)	(821,000)	(821,000)
	Service Level Agreements - Telecom Ottawa	(256,496)	-	-	-
		(769,488)	(820,464)	(821,000)	(821,000)
4325 and 4330	(Revenues)/Expenses from Merch, Jobbing..				
	Work for Others Net Revenue	(296,104)	(92,016)	(19,647)	47,523
	Service Level Agreements - Energy	(127,801)	(145,520)	(171,053)	(171,053)
	Service Level Agreements - Hydro Ottawa Holding	(276,073)	(598,795)	(560,000)	(560,000)
	Service Level Agreements - Telecom Ottawa	(192,015)	-	-	-
	Misc (Revenues)/Expenses	(13,886)	240	-	-
		(905,879)	(836,091)	(750,700)	(683,530)
4355/4360	Net (Gain)/Loss on Disposal of Property	(206,391)	(11,797)	(101,000)	(103,020)
4405	Interest and Dividend Income	(408,921)	(40,691)	(58,000)	(58,000)
	Total Other Income and Deductions	(2,290,679)	(1,709,043)	(1,730,700)	(1,665,550)
	Total Other Operating Income	(8,892,190)	(7,923,818)	(7,941,948)	(7,927,290)



REVENUE OFFSETS 2008 ACTUAL VERSUS 2008 APPROVED

1.0 INTRODUCTION

Revenue offsets are defined as other operating income and other distribution revenue that offset the service revenue requirement to determine the distribution revenue requirement. Table 1 summarizes the differences between the revenue offset for 2008 approved versus the actual for 2008. Explanations for these differences are then provided for each category of revenue.

Table 1 - Revenue Offsets 2008 Actual to 2008 Approved

Revenue Offsets	2008 Approved	2008 Actual	Variance
Specific Service Charges:			
Specific Service Charges (excluding poles)	(\$1,976,045)	(\$2,541,415)	(\$565,370)
Pole Attachment Revenues	(980,273)	(1,324,481)	(344,208)
Sub Total	(2,956,318)	(3,865,896)	(909,578)
Late Payment Charge	(1,600,000)	(1,614,726)	(14,726)
Other Distribution Revenue			
STR and retail revenue	(341,400)	(339,916)	1,484
SSS Admin Charge	(768,826)	(780,973)	(12,147)
Other Income and Deductions:			
Property Rental	(454,200)	(769,488)	(315,288)
Net Revenue Work for Others	(1,425,669)	(905,880)	519,789
Interest Income	(40,000)	(408,921)	(368,921)
Disposal of Assets		(206,390)	(206,390)
Sub Total	(1,919,869)	(2,290,679)	(370,810)
TOTAL	(\$7,586,140)	(\$8,892,190)	(\$1,306,050)



1 **2.0 SPECIFIC SERVICE CHARGES**

2

3 Included within this category are both the revenue for miscellaneous services to end-use
4 consumers and revenue from other utilities for pole attachments.

5

6 **2.1 Miscellaneous Rates and Charges to Consumers**

7

8 Excluding pole attachment revenue, actual specific service charge revenue in 2008 was
9 \$565k higher than forecasted. Revenues associated with dry core transformer energy
10 charges, amounting to \$172k were erroneously recorded in this revenue category. The
11 largest variance was a \$295k increase in account set up charges, driven by higher than
12 expected customer move-in / move-out activity. Reconnection revenues were \$112k
13 above forecast due to increased service disconnection, and correspondingly,
14 reconnection activity. Revenues from arrears certificates, unprocessed payments, field
15 collection charges and dry core transformer demand charges fell below forecast.

16

17 Exhibit C2-1-1 provides a summary of volumes and revenues for each type of
18 miscellaneous rate and charge.

19

20 **2.2 Pole Attachments**

21

22 Pole attachment revenues include amounts paid by an affiliate and amounts paid by
23 other utilities. Actual revenues were \$344k above forecast due to a new contract with
24 the City of Ottawa (the "City"), negotiated in late 2008 and a reconciliation of 2007 pole
25 attachments that were trued up in 2008.

26



1 **2.3 Dry Core Transformer Loss Charges**

2

3 Dry core transformer charges (demand) were very close to budget.

4

5 **2.4 Summary**

6

7 In summary, the \$910k increase was due to the following:

8

9 (\$172k) dry core transformer energy charges that should have been recorded as
10 cost of power revenue;

11 (\$295k) higher than forecasted customer move-in/move-out activity;

12 (\$112k) higher than forecasted disconnection/reconnection activity;

13 (\$344k) new contract negotiated with City of Ottawa and a true-up of 2007 pole
14 attachments, in 2008;

15 \$13k net revenue offsets in remaining categories

16 (\$910k) Total

17

18

19 **3.0 LATE PAYMENT CHARGES**

20

21 In 2008, late payment charges trended to the approved.

22

23

24 **4.0 OTHER DISTRIBUTION REVENUE**

25

26 Other distribution revenue involves fees charged to retailers for service transaction
27 requests and distributor consolidated billing.

28

29 **4.1 Fees to Retailers**

30

31 There were no material changes in actual revenues relating to Retailer transaction
32 requests compared to the 2008 budget.



1 **5.0 STANDARD SUPPLY SERVICE (“SSS”) ADMINISTRATIVE CHARGE**

2

3 Hydro Ottawa Limited (“Hydro Ottawa”) is authorized to collect \$0.25 cents, per month,
4 for all customers participating on the SSS. There was a slight increase in actual
5 revenue, related solely to customer growth.

6

7

8 **6.0 OTHER INCOME AND DEDUCTIONS**

9

10 Other Income and Deductions exceeded approved by \$370k in 2008. The key sources
11 for the increase came from property rental, interest income and disposal of assets.
12 These revenues were, partially offset by decreases in work for others revenue.

13

14 **6.1 Work for Others**

15

16 In accordance with the Uniform System of Accounts, the revenue and expenses
17 associated with work for others are part of Other Income and Deductions. It should be
18 noted that for Hydro Ottawa’s financial statements, the revenue associated with work for
19 others is shown as “Other Revenue” while the expenses are part of “Operations
20 Expense”. For this reason, both Other Revenue and Operations Expense will be higher
21 in the audited financial statements, than in the regulatory set of accounts.

22

23 In 2008 there was \$519k less net revenue earnings due to work for others. Work for
24 others is segmented into three main areas: revenue for services provided to the City,
25 revenue from services provided to other affiliates and revenue from services to third
26 parties.

27

28 **6.1.1 Services to the City**

29

30 In 2008 Hydro Ottawa rented ducts and pole attachments (part of Specific Service
31 Charges) to the City, as well as, performed routine work. Duct and pole rental services



1 are provided through an Agreement, of which the terms and conditions are the same as
2 any other third party.

3
4 **6.1.2 Services provided to Other Affiliates**

5
6 Hydro Ottawa provided services to the affiliated companies. The Service Level
7 Agreements (“SLAs”) pertaining to this work is provided in Exhibit A1-7-3. Pole and Duct
8 Rental services are provided through a contractual Agreement. Services included are
9 detailed below.

- 10
11 • Duct and pole rental, mapping, supply chain and corporate services for Telecom
12 Ottawa.

13 The actual revenue from this affiliate was \$810k below budget due to the
14 sale of Telecom Ottawa May 1, 2008. Actual revenues totaled \$416k. As
15 of May 1, 2008, lease payments for the use of the Maple Grove office
16 were no longer part of an SLA, but continued from a third party and,
17 therefore, were recorded as a property rental.

- 18 • Metering and Meter Data, Control Room and Corporate Services to Energy
19 Ottawa.

20 Hydro Ottawa provided control room services, along with metering and
21 meter data services for the Chaudière generating plants and Corporate
22 Services to Energy Ottawa. Actual revenues in 2008 exceeded forecast
23 by \$139k, due to the continuance of mechanical services, which had
24 initially been planned to end.

- 25 • Corporate Services to the Hydro Ottawa Holding Inc. (the “Holding Company”).
26 During 2008, Hydro Ottawa provided Facilities, Human Resources and
27 Information Technology services to the Holding Company for revenue of
28 \$276k.

29
30 In summary, revenues from SLAs with affiliates were \$649k less than the 2008 forecast.
31 Reductions due to the sale of Telecom Ottawa as of May 1, 2008, were partially offset by
32 unplanned services to Energy Ottawa and the Holding Company.



1 6.1.3 Services to Third Parties

2
3 In 2008, Hydro Ottawa earned revenues from third-parties in the following areas.

4
5 • Water heater services

6 Hydro Ottawa continued to bill for water heaters for a third-party throughout
7 2008, resulting in net revenues of \$121k.

8 • Duct and pole rental services

9 Hydro Ottawa rented duct space and pole attachments to several third parties,
10 including the successor company to Telecom Ottawa. Associated revenues for
11 duct services totaled \$770k in 2008, \$115k lower than forecasted. Pole
12 attachment revenue is included in Specific Service Charges.

13 • Service Desk

14 This revenue is associated with services provided to customers on request.
15 Services include temporary service installations, isolation and re-energization of
16 services and transformer vault shutdown, escort and inspection. Vault
17 shutdowns are operated at a loss to encourage annual vault maintenance. The
18 associated net revenues for these services exceeded budget by \$244k. This
19 variance was mainly attributed to a reduction of \$193k in servicing costs and
20 additional revenues of \$51k due to increased customer demand for cost
21 estimates.

22
23 **6.2 Property Rental**

24
25 Hydro One Networks Inc. (“Hydro One”) pays property rental fees for land owned by
26 Hydro Ottawa. In many locations in Ottawa, Hydro Ottawa and Hydro One have joint
27 facilities for transformer stations. For locations in which Hydro Ottawa owns the land on
28 which Hydro One has facilities, a rental fee is paid. Hydro Ottawa also rented office
29 space to the successor company of Telecom Ottawa at Maple Grove Road, effective
30 May 1, 2008. This had been budgeted as a SLA revenue from Telecom Ottawa, as part
31 of Work for Others. This resulted in an increase in actual property rental for 2008.

32



1 **6.3 Disposal of Assets**

2

3 As a normal course of business, Hydro Ottawa disposes of items that are no longer of
4 use to operations, such as vehicles, equipment, et cetera. For 2008, there was an
5 amount of \$206k recorded due to the sale of used vehicles which had not been
6 forecasted for 2008.

7

8 **6.4 Interest Income**

9

10 Hydro Ottawa had stronger than anticipated working capital in 2008. This coupled with
11 higher interest rate earnings on bank balances created additional interest income.



1 **REVENUE OFFSETS 2008 ACTUAL VERSUS 2009 ACTUAL**

2
3 **1.0 INTRODUCTION**

4
5 Revenue offsets are defined as other operating income and other distribution revenue
6 that offset the service revenue requirement to determine the distribution revenue
7 requirement. Table 1 summarizes the differences between the revenue offset for 2008
8 actual versus the actual for 2009. Explanations for these differences are then provided
9 for each category of revenue.

10
11 **Table 1 - Revenue Offsets 2008 Actual to 2009 Actual**

Revenue Offsets	2008 Actual	2009 Actual	Variance
Specific Service Charges:			
Specific Service Charges (excluding poles)	(\$2,541,415)	(\$2,340,082)	\$201,333
Pole Attachment Revenues	(1,324,481)	(1,395,054)	(70,573)
Total Specific Service Charges	(3,865,896)	(3,735,135)	130,761
Late Payment Charge	(1,614,726)	(1,349,209)	265,517
Other Distribution Revenue:			
STR and retail revenue	(339,916)	(347,527)	(7,611)
SSS Admin Charge	(780,973)	(782,904)	(1,931)
Other Income and Deductions:			
Property Rental	(769,488)	(820,464)	(50,976)
Net Revenue work for others	(905,880)	(836,091)	69,789
Interest Income	(408,921)	(40,691)	368,230
Disposal of Assets	(206,390)	(11,797)	194,593
Total Other Income and Deductions	(2,290,679)	(1,709,043)	581,636
Total	(\$8,892,190)	(\$7,923,818)	\$968,372



1 **2.0 SPECIFIC SERVICE CHARGES**

2

3 Included within this category are both the revenue for miscellaneous services to end-use
4 consumers and revenue from other utilities for pole attachments.

5

6 **2.1 Miscellaneous Rates and Charges to Consumers**

7

8 Excluding pole attachment revenue, specific service charge revenue in 2009 fell below
9 2008 revenues by approximately \$201k. The \$172k transfer of dry core transformer
10 energy charges from miscellaneous service charges to cost of power revenue in 2008
11 was the largest contributor to this variance, as noted in Exhibit C2-1-2. Account set up
12 charges also fell approximately \$77k, which was attributable to a 3.5 percent decrease in
13 customer moves in 2009 over 2008. The introduction of electronic billing and account
14 history information reduced requests for manually produced information and associated
15 revenues by \$6k. These reductions were offset by increased pole attachment revenue
16 of \$71k, additional reconnection revenues of \$23k, credit reference check revenues in
17 excess of \$14k and additional dry core transformer demand revenues of \$12k.

18

19 Exhibit C2-1-1 provides a summary of volumes and revenues for each type of
20 miscellaneous rate and charge.

21

22 **2.2 Pole Attachments**

23

24 Pole attachment revenues include amounts paid by an affiliate and amounts paid by
25 other utilities. Actual revenues were \$71k above 2008 levels due to the reconciliation of
26 2008 pole attachments that were trued up 2009.

27



1 **2.3 Dry Core Transformer Loss Charges**

2

3 Dry core transformer charges (demand) were approximately \$12k higher over 2008
4 actual revenues, due to the charges having been applied for the full year of 2009.

5

6 **2.4 Summary**

7

8 In summary, the \$131k overall reduction was due to the following:

9

10	\$172k	transfer of dry core transformer energy charges to cost of power revenue;
11	\$ 77k	lower than forecasted account set up revenues;
12	<u>\$ 6k</u>	lower than forecasted requests for documented account information;
13	\$255k	
14		
15	(\$71k)	higher than forecasted pole attachment revenue;
16	(\$23k)	higher than forecasted reconnection revenues;
17	(\$14k)	higher than forecasted credit check revenues;
18	(\$12k)	higher than forecasted dry core transformer demand charges;
19	<u>(\$ 4k)</u>	net revenue variances in remaining categories
20	(\$124k)	
21	_____	
22	\$131k	Net revenue reduction

23

24

25 **3.0 LATE PAYMENT CHARGES**

26

27 Late payment revenues fell \$265k below 2008 levels, primarily due to reduced balances
28 in accounts receivables under 30 days overdue. The issuance of Reminder Notices was
29 moved closer to the due date expiration, which enabled customers to respond earlier
30 and reduce their exposure to late payment charges.

31



1 **4.0 OTHER DISTRIBUTION REVENUE**

2

3 Other distribution revenue relates to fees charge to retailers for service transaction
4 requests and distributor consolidated billing.

5

6 **4.1 Fees to Retailers**

7

8 There were no material changes in revenues relating to Retailer transaction requests in
9 2009.

10

11

12 **5.0 STANDARD SUPPLY SERVICE (“SSS”) ADMINISTRATIVE CHARGE**

13

14 Hydro Ottawa is authorized to collect \$0.25 cents, per month, for all customers
15 participating on the SSS. There was a slight increase in actual revenue in 2009 related
16 solely to customer growth.

17

18

19 **6.0 OTHER INCOME AND DEDUCTIONS**

20

21 Other Income and Deductions were \$581k lower overall, than 2008 levels. The key
22 areas of reduction were work for others, disposal of assets and interest income.

23

24 **6.1 Work for Others**

25

26 In accordance with the Uniform System of Accounts, the revenue and expenses
27 associated with work for others are both part of Other Income and Deductions. It should
28 be noted that for Hydro Ottawa’s financial statements, the revenue associated with work
29 for others is shown as “Other Revenue” while the expenses are part of “Operations
30 Expense”. For this reason, both Other Revenue and Operations Expense will be higher
31 in the audited financial statements, than in the regulatory set of accounts.

32



1 6.1.1. Services to the City of Ottawa

2
3 In 2009, Hydro Ottawa rented poles and ducts to the City of Ottawa (the “City”), as well
4 as performing minor routine work. Revenue associated with pole attachments is part of
5 Specific Service Charges.

6
7 6.1.2 Services provide to Other Affiliates

8
9 Hydro Ottawa provided some services to its affiliated companies. The Service Level
10 Agreements (“SLAs”) for this work are included in Exhibit A1-7-3.

- 11
- 12 • Metering and Meter Data, Mechanic and Corporate Services to Energy Ottawa.
13 Hydro Ottawa had been providing the services of a Mechanic, along with
14 metering and meter data services to Energy Ottawa. This arrangement was
15 anticipated to end in 2008; however, amendments to the Affiliate Relationships
16 Code in 2008 relaxed the restrictions on employee sharing arrangements, which
17 apply to the services provided to Energy Ottawa. As a result, this arrangement
18 has continued. Corporate services revenues for 2009 have increased due to the
19 addition of financial services, which were formally provided by Telecom Ottawa.
20 Overall revenues exceeded 2008 levels by \$42k due to an increase in
21 mechanical services at the generating plant.
 - 22 • Corporate Services to Hydro Ottawa Holding Inc. (the “Holding Company “).
23 Revenues from the Holding Company totaled \$598k in 2009, representing an
24 increase of \$323k in 2009, resulting from the addition of Communications and
25 Finance services to the existing Facilities, Human Resources and Information
26 Technology services.

27
28 In total, 2009 revenues from SLAs with affiliates were \$51k lower than 2008 revenues.
29 The additional revenues associated with Holding Company services, were in part, offset
30 by the loss of Telecom Ottawa revenues.



1 6.1.3. Services for Third Parties

2
3 In 2009, Hydro Ottawa earned modest revenue from third-parties in the following areas.

4
5 • **Water Heaters and Metering and Meter Data Services**

6 Hydro Ottawa continued to bill for water heaters for a third party, earning net
7 revenues of \$132k.

8 • **Duct and Pole Rental Services**

9 Hydro Ottawa rented duct space and pole attachments (part of Specific Service
10 Charges) to several third parties. Associated revenues for these services
11 exceeded the 2008 level by \$50k.

12 • **Service Desk Revenue**

13 This revenue is associated with services provided to customers, on request.
14 Services include temporary service installations, isolation and re-energization of
15 services and transformer vault shutdown, escort and inspection. As discussed in
16 Exhibit C2-1-2, vault shutdowns are operated at a loss to encourage vault
17 maintenance. The associated revenues in 2009 were \$70k lower than 2008
18 amounts.

19
20 **6.2 Property Rental**

21
22 Hydro One Networks Inc. (“Hydro One”) pays property rental fees for land owned by
23 Hydro Ottawa. In many locations in Ottawa, Hydro Ottawa and Hydro One have joint
24 facilities for transformer stations. For locations in which Hydro Ottawa owns the land on
25 which Hydro One has facilities, a rental fee is paid. The associated revenues in 2009
26 were in line with 2008 amounts.



1 **6.3 Disposal of Assets**

2

3 As a normal course of business, Hydro Ottawa disposes of items that are no longer of
4 use to operations, such as vehicles, equipment, et cetera. For 2009, there was a
5 modest gain of \$12k associated with the sale of used vehicles, which was much lower
6 than the \$206k gain in 2008.

7

8 **6.4 Interest Income**

9

10 Interest earnings in 2009 were \$368k lower than 2008 earnings due to a combination of
11 lower working capital balances and prime rate reductions.



1 **REVENUE OFFSETS 2010 BUDGET VERSUS 2009 ACTUAL**

2
3 **1.0 INTRODUCTION**

4
5 Revenue offsets are defined as other operating income and other distribution revenue
6 that offset the service revenue requirement to determine the distribution revenue
7 requirement. Table 1 summarizes the differences between the revenue offset for 2009
8 Actual and 2010 Budget. Explanations for these differences are then provided for each
9 category of revenue.

10
11 **Table 1 - Revenue Offsets 2009 Actual to 2010 Budget**

Revenue Offsets	2009 Actual	2010 Budget	Variance
Specific Service Charges:			
Specific Service Charges (excluding poles)	(\$2,340,082)	(\$2,282,795)	\$57,287
Pole Attachment Revenues	(1,395,053)	(1,400,000)	(4,947)
Sub Total	(3,735,135)	(3,682,795)	52,340
Late Payment Charge	(1,349,209)	(1,384,800)	(35,591)
Other Distribution Revenue:			
STR and retail revenue	(347,527)	(349,400)	(1,873)
SSS Admin Charge	(782,904)	(794,253)	(11,349)
Other Income and Deductions:			
Property Rental	(820,464)	(821,000)	(536)
Net Revenue work for others	(836,091)	(750,699)	85,392
Interest Income	(40,691)	(58,000)	(17,309)
Disposal of Assets	(11,797)	(101,000)	(89,203)
Sub Total	(1,709,043)	(1,730,699)	(21,656)
Total	(\$7,923,818)	(\$7,941,947)	(\$18,129)



1 **2.0 SPECIFIC SERVICE CHARGES**

2

3 Included within this category are both the revenue for miscellaneous services to
4 consumers and revenue from other utilities for pole attachments.

5

6 **2.1 Miscellaneous Rates and Charges to Consumers**

7

8 Relative to 2009, overall 2010 specific service charges revenue are budgeted to
9 decrease slightly, due to a reduction in forecasted customer move-in/move-out activity,
10 as was seen between 2008 and 2009. All remaining categories are expected to trend to
11 historical levels, with minor adjustments for modest growth.

12

13 Exhibit C2-1-1 provides a summary of volumes and revenues for each type of
14 miscellaneous rate and charge.

15

16 **2.2 Pole Attachments**

17

18 Pole attachment revenues include amounts paid by other utilities. Revenues are
19 expected to remain in line with the 2009 actual levels and associated true-ups will be
20 applied within the 2010 year.

21

22

23 **3.0 LATE PAYMENT CHARGES**

24

25 Late payment charges are budgeted to trend to 2009 levels, adjusted for customer and
26 inflationary growth.

27

28



1 **4.0 OTHER DISTRIBUTION REVENUE**

2

3 Other distribution revenue relates to fees charged to retailers for service transaction
4 requests and distributor consolidated billing.

5

6 **4.1 Fees to Retailers**

7

8 There are no material changes in revenues relating to Retailer transaction requests in
9 2010. Associated revenues reflect a modest level of growth, consistent with historical
10 trends.

11

12

13 **5.0 STANDARD SUPPLY SERVICE (“SSS”) ADMINISTRATIVE CHARGE**

14

15 Hydro Ottawa Limited (“Hydro Ottawa”) is authorized to collect \$0.25 cents, per month,
16 for all customers participating on the SSS. There is a slight increase in revenue related
17 solely to customer growth.

18

19

20 **6.0 OTHER INCOME AND DEDUCTIONS**

21

22 Other Income and Deductions are budgeted to be relatively consistent with 2009 levels.
23 Interest earnings are expected to increase modestly, along with further disposal of
24 assets.



1 **6.1 Work for Others**

2
3 In accordance with the Uniform System of Accounts, the revenue and expenses
4 associated with work for others are both part of Other Income and Deductions. It should
5 be noted that for Hydro Ottawa's financial statements, the revenue associated with work
6 for others is shown as "Other Revenue" while the expenses are part of "Operations
7 Expense". For this reason, both Other Revenue and Operations Expense will be higher
8 in the audited financial statements, than in the regulatory set of accounts.

9
10 **6.1.1. Services to the City of Ottawa (the "City")**

11
12 Hydro Ottawa continues to rent poles and ducts to the City, as well as performing minor
13 routine work. Revenue associated with pole attachments is part of Specific Service
14 Charges.

15
16 **6.1.2 Services for Other Affiliates**

17
18 Hydro Ottawa provides some services to its affiliated companies. The Service Level
19 Agreements ("SLAs") for this work are included in Exhibit A1-7-3.

- 20
- 21 • Metering and Meter Data, Mechanic and Corporate Services to Energy Ottawa.
22 Hydro Ottawa continues to provide the services of a Mechanic, along with
23 metering and meter data services to Energy Ottawa. Corporate services
24 revenues budgeted for 2010 are consistent with 2009 amounts.
 - 25 • Corporate Services to Hydro Ottawa Holding Inc. (the "Holding Company").
26 Services provided to the Holding Company include Facilities, Human Resources,
27 Information Technology, Communications and Finance services. Revenues from
28 the Holding Company for 2010 are budgeted to be \$560k, which is \$40k lower
29 than 2009 revenues.



1 In summary, overall revenues from SLAs with affiliates are budgeted to decrease by
2 \$43k in 2010.

3

4 6.1.3. Services for Third Parties

5

6 In 2010, Hydro Ottawa expects to earn revenue from third-parties in the following areas:

7

- 8 • Water Heaters and Metering and Meter Data Services

9 Hydro Ottawa continues to bill for water heaters for a third party in 2010. Net
10 revenues are budgeted to be \$174k.

- 11 • Duct and Pole Rental Services

12 Hydro Ottawa rents duct space and pole attachments (part of Specific Service
13 Charges) to several third parties. Associated revenues for these services are
14 budgeted to be \$821k in 2010, which is consistent with historical amounts.

- 15 • Service Desk Revenue

16 This revenue is associated with services provided to customers, on request.
17 Services include temporary service installations, isolation and re-energization of
18 services and transformer vault shutdown, escort and inspection. As discussed in
19 Exhibit C2-1-2, vault shutdowns are operated at a loss to encourage vault
20 maintenance. The budgeted revenue for 2010 is \$3M, which is consistent with
21 historical amounts.

22

23 6.2 Property Rental

24

25 Hydro One Networks Inc. ("Hydro One") pays property rental fees for land owned by
26 Hydro Ottawa. In many locations in Ottawa, Hydro Ottawa and Hydro One have joint
27 facilities for transformer stations. For locations in which Hydro Ottawa owns the land on
28 which Hydro One has facilities, a rental fee is paid. This was budgeted at the 2009 level.

29

30



1 **6.3 Disposal of Assets**

2

3 As a normal course of business, Hydro Ottawa disposes of items that are no longer of
4 use to operations, such as vehicles, equipment, et cetera. Consistent with historical
5 years, a gain of \$101k is budgeted for 2010.

6

7 **6.4 Interest Income**

8

9 Interest earnings for 2010 are budgeted to be \$18k higher in anticipation of rising
10 interest rates.



1 **REVENUE OFFSETS 2011 BUDGET VERSUS 2010 BUDGET**

2
3 **1.0 INTRODUCTION**

4
5 Revenue offsets are defined as other operating income and other distribution revenue
6 that offset the service revenue requirement to determine the distribution revenue
7 requirement. Table 1 summarizes the differences between the revenue offset for 2010
8 Budget and 2011 Budget. Explanations for these differences are then provided for each
9 category of revenue.

10
11 **Table 1 - Revenue Offsets 2010 Budget to 2011 Budget**

Revenue Offsets	2010 Budget	2011 Budget	Variance
Specific Service Charges:			
Specific Service Charges (excluding poles)	(\$2,282,795)	(\$2,307,794)	(\$24,999)
Pole Attachment Revenues	(1,400,000)	(1,400,000)	0
Sub Total	(3,682,795)	(3,707,794)	(24,999)
Late Payment Charge	(1,384,800)	(1,400,000)	(15,200)
Other Distribution Revenue:			
STR and retail revenue	(349,400)	(351,400)	(2,000)
SSS Admin Charge	(794,253)	(802,546)	(8,293)
Other Income and Deductions:			
Property Rental	(821,000)	(821,000)	0
Net Revenue work for others	(750,699)	(683,530)	67,169
Interest Income	(58,000)	(58,000)	0
Disposal of Assets	(101,000)	(103,020)	(2,020)
Sub Total	(1,730,699)	(1,665,550)	65,149
Total	(\$7,941,947)	(\$7,927,290)	\$14,657



1 **2.0 SPECIFIC SERVICE CHARGES**

2

3 Included within this category are both the revenue for miscellaneous services to
4 consumers and revenue from other utilities for pole attachments. Other than updating
5 Dry Core Transformer Loss Charges, as outlined in Exhibit C2-1-1, Section 2.3, there
6 are no increases or additions to specific service charges being requested for 2011.

7

8 **2.1 Miscellaneous Rates and Charges to Consumers**

9

10 Budgeted revenues for 2011 are \$25k higher in anticipation of additional account set up
11 charges due to customer move-in/move-out activity. All remaining forecasts are in line
12 with 2010 projections.

13

14 Exhibit C2-1-1 provides a summary of volumes and revenues for each type of
15 miscellaneous rate and charge.

16

17 **2.2 Pole Attachments**

18

19 Pole attachment revenues include amounts paid by other utilities. Revenues are
20 expected to remain in line with the 2010 budgeted levels and associated true-ups will be
21 applied within the 2011 year.

22

23

24 **3.0 LATE PAYMENT CHARGES**

25

26 Late payment charges are budgeted to trend to 2010 levels, adjusted for customer and
27 inflationary growth.

28

29



1 **4.0 OTHER DISTRIBUTION REVENUE**

2

3 Other distribution revenue relates to fees charge to retailers for service transaction
4 requests and distributor consolidated billing.

5

6 **4.1 Fees to Retailers**

7

8 There are no material changes in revenues relating to Retailer transaction requests in
9 2011. Associated revenues reflect a modest level of growth, consistent with historical
10 trends.

11

12

13 **5.0 STANDARD SUPPLY SERVICE (“SSS”) ADMINISTRATIVE CHARGE**

14

15 Hydro Ottawa is authorized to collect \$0.25 cents, per month, for all customers
16 participating on the SSS. There is a slight increase in revenue related solely to
17 customer growth.

18

19

20 **6.0 OTHER INCOME AND DEDUCTIONS**

21

22 Other Income and Deductions is projected to be relatively consistent with 2009 levels.

23

24 **6.1 Work for Others**

25

26 In accordance with the Uniform System of Accounts, the revenue and expenses
27 associated with work for others are both part of Other Income and Deductions. It should
28 be noted that for Hydro Ottawa’s financial statements, the revenue associated with work
29 for others is shown as “Other Revenue” while the expenses are part of “Operations
30 Expense”. For this reason, both Other Revenue and Operations Expense will be higher
31 in the audited financial statements, than in the regulatory set of accounts.



1 6.1.1. Services to the City of Ottawa (the “City”)

2

3 Hydro Ottawa continues to rent poles and ducts to the City, as well as perform minor
4 routine work. Revenue associated with pole attachments is part of Specific Service
5 Charges.

6

7 6.1.2 Services for Other Affiliates

8

9 Hydro Ottawa provides some services to its affiliated companies. The Service Level
10 Agreements (“SLAs”) for this work are included in Exhibit A1-7-3.

11

- 12 • Metering and Meter Data, Mechanic and Corporate Services to Energy Ottawa.
13 Hydro Ottawa plans to continue providing the services of a Mechanic, along with
14 metering and meter data services to Energy Ottawa. Corporate Services
15 revenues budgeted for 2011 are consistent with 2010 budget levels.
- 16 • Corporate Services to Hydro Ottawa Holding Inc. (the “Holding Company”)
17 Revenues from the Holding Company 2011 are budgeted to be in line with the
18 budgeted revenues for 2010 at \$560k. The services provided include Facilities,
19 Human Resources, Information Technology, Communications and Finance
20 Services.

21

22 In summary, revenues from SLAs with affiliates are budgeted to be \$900k, which is in
23 line with 2010 budget levels.

24

25



1 6.1.3. Services for Third Parties

2
3 In 2011, Hydro Ottawa expects to earn revenue from third-parties in the following areas.

4
5 • **Water Heaters and Metering and Meter Data Services**

6 Hydro Ottawa plans to continue to bill for water heaters for a third party in 2011.
7 Net revenues are budgeted to remain at the 2010 level of \$174k.

8 • **Duct and Pole Rental Services**

9 Hydro Ottawa will continue to rent duct space and pole attachments (part of
10 Specific Service Charges) to several third parties. Associated revenues for these
11 services are budgeted to be \$821k, in 2011, which is consistent with 2010 budget
12 levels.

13 • **Service Desk Revenue**

14 This revenue is associated with services provided to customers, on request.
15 Services include temporary service installations, isolation and re-energization of
16 services and transformer vault shutdown, escort and inspection. As discussed in
17 Exhibit C2-1-2, vault shutdowns are operated at a loss to encourage vault
18 maintenance. The budgeted revenue for 2011 will remain at the 2010 budget
19 amount of \$3M; however, the associated expenses are budgeted to be \$67k
20 higher than 2010.

21
22 **6.2 Property Rental**

23
24 Hydro One Networks Inc. (“Hydro One”) pays property rental fees for land owned by
25 Hydro Ottawa. In many locations in Ottawa, Hydro Ottawa and Hydro One have joint
26 facilities for transformer stations. For locations in which Hydro Ottawa owns the land on
27 which Hydro One has facilities, a rental fee is paid. The associated revenues budgeted
28 for 2011 are equivalent to 2010 budget levels at \$745k.



1 **6.3 Disposal of Assets**

2

3 As a normal course of business, Hydro Ottawa disposes of items that are no longer of
4 use to operations, such as vehicles, equipment, et cetera. Consistent with historical
5 years, a gain of \$103k is budgeted for 2011.

6

7 **6.4 Interest Income**

8

9 Interest earnings for 2011 are budgeted near to 2010 budget amounts.



SERVICES TO AFFILIATES

1.0 INTRODUCTION

Hydro Ottawa Limited (“Hydro Ottawa”) has provided a small number of services to affiliated companies including Energy Ottawa Inc. (“Energy Ottawa”), Telecom Ottawa Holding Inc. (“Telecom Ottawa”) and Hydro Ottawa Holding Inc. (the “Holding Company”). Affiliate Telecom Ottawa was sold to a third party as of May 1, 2008; therefore, the associated services provided to the affiliate reflect this change.

As discussed in Exhibit A1-7-1, Hydro Ottawa is the largest within the Hydro Ottawa Group of Companies, contributing approximately 94 percent of the revenues and owning 94 percent of the Group’s assets. With the exception of strategic Management Services, Internal Audit, Legal, Treasury and Enterprise Risk Management services from the Holding Company, Hydro Ottawa maintains its own resources for the corporate services of Human Resources (“HR”), Information Technology (“IT”), Facilities, Supply Chain, Building and Real Estate Support, Fleet, Communications, Regulatory and Finance Services. While the affiliates also have some resources of their own, Hydro Ottawa does provide certain corporate services for Energy Ottawa and the Holding Company. These services are provided under the terms of Service Level Agreements (“SLA”) that are provided in Exhibit A1-7-3.

1.1 Energy Ottawa

Hydro Ottawa plans to continue offering some corporate services, along with mechanical services for the generating plant and meter and data services to Energy Ottawa.

1.2 Hydro Ottawa Holding Inc. (the “Holding Company”)

Hydro Ottawa plans to continue offering corporate services which include, facilities, HR, IT, Communications and Finance to the Holding Company.



1 **1.3 The City of Ottawa**

2
3 In 2010, Hydro Ottawa will be participating in a pilot project testing adaptive street
4 lighting control technology. There will be no financial transactions between Hydro
5 Ottawa and the City of Ottawa (the "City"). Further details on this initiative are provided
6 in Exhibit B4-3-2.

7
8 No other services are planned for the City in 2011 beyond performing minor routine work
9 to accommodate the annual City works program and the provision of electricity
10 distribution services.

11
12
13 **2.0 SERVICES TO AFFILIATES**

14
15 Tables 1 through 5 summarize the services Hydro Ottawa has provided, or will provide to
16 affiliates from 2008 through 2011.

17
18 **2.1 2008 Approved Net Revenues**

19
20 The following table summarizes the services that were forecast to be provided to
21 affiliates as part of the 2008 Cost of Service Application. The differences between the
22 actual and forecast revenues in 2008 are discussed in Exhibit C2-1-2.

23
24 **Table 1 - 2008 Approved Net Revenues**

Affiliate Names	Activity	Revenue
Energy Ottawa	Facilities, Human Resources and IT Services (SLA)	\$63,007
	Metering and Meter Data Services	\$100,296
Holding Company	Facilities, Human Resources and IT Services (SLA)	\$260,121
Telecom Ottawa	Facilities, Human Resources and IT Services (SLA)	\$254,473
	Pole Attachments and Duct Rental	\$964,457
	Mapping	\$7,000



1 **2.2 2008 Actual Net Revenues**

2

3 Table 2 summarizes the services that were provided to affiliates and the associated net
 4 revenues in 2008. The differences between the actual and forecast net revenues in
 5 2008 are discussed in Exhibit C2-1-2.

6

7

Table 2 - 2008 Actual Net Revenues

Affiliate	Activity	Revenue	Pricing
Energy Ottawa	Facilities, Human Resources and IT Services (SLA)	\$127,801	IT Technical Support is market-based. IT Business Application Support is cost-based. HR Services are cost-based. Facility Services relate to property taxes at two generating stations allocated based on cost.
	Mechanical services for generating plant	\$74,001	Mechanical services for the generating plant were based on \$60/hour for regular hours and \$120/hour for overtime for the mechanic. Control room monitoring services were based on \$60/hour.
	Metering and Meter Data Services	\$100,128	Metering and Meter Data Services were based on market pricing.
Holding Company	Facilities, Human Resources and IT Services (SLA)	\$276,073	IT Technical Support is market-based. IT Network, Equipment and Business Application Support are cost-based. HR Services, Facility furniture rentals and special projects are cost-based. Office space is based on market pricing obtained through a consultant.
Telecom Ottawa	Facilities, Human Resources, Supply Chain and IT Services (SLA)- January to April	\$133,015	IT Technical Support is market-based. IT VPN and Business Application Support are cost based. HR Services, Supply chain, Facility utilities and special projects are cost-based. Office space is leased for 5 years, based on market pricing.
	Pole Attachments and Duct Rental – January to April	\$283,067	For pole attachments, the Ontario Energy Board (the "Board") approved rate of \$22.35 per pole per month is applied. For duct rental, the current price is \$6 per metre for standard duct and \$12 per meter for critical crossings.

8



1 **2.3 2009 Actual Net Revenues**

2

3 Table 3 summarizes the services that were provided to affiliates and the associated net
4 revenues in 2009.

5

6

Table 3 - 2009 Actual Net Revenues

Affiliate	Activity	Revenue	Pricing
Energy Ottawa	Corporate Services (Facilities, Human Resources, IT, and Finance Services)	\$145,520	IT, Finance and HR services are cost-based. Facility Services relate to property taxes at two generating stations that are allocated based on cost.
	Mechanic services for generating plant	\$107,004	Mechanical services for the generating plant were based on \$62/hour for regular hours and \$124/hour for overtime for the mechanic.
	Metering and Meter Data Services	\$91,840	Metering and Meter Data Services are based on market pricing.
Holding Company	Facilities, Human Resources, IT, Communications and Finance –Services (SLA)	\$598,795	IT, HR, Communications and Finance services, Facility furniture rentals and special projects are cost-based. Office space is based on market pricing obtained through a consultant.

7



1 **2.4 2010 Budget Net Revenues**

2

3 Table 4 summarizes the services to affiliates and the associated net revenues that have
4 been budgeted for 2010.

5

6

Table 4 - 2010 Budget Net Revenues

Affiliate	Activity	Revenue	Pricing
City of Ottawa	None	\$0	Other than normal work for relocating distribution plant as part of City works programs, there are no forecasted revenues from the City in 2010. Pricing for the relocation of plant on road allowances must comply with the <i>Public Service Works on Highways Act</i> . In addition, Hydro Ottawa bills the City for electricity charges based on the current rate order issued by the Board.
Energy Ottawa	Facilities, Human Resources, IT and Finance Services (SLA)	\$171,053	IT, Finance and HR services are cost-based. Facility Services relate to property taxes at two generating stations that are cost-based.
	Metering and Meter Data Services	\$80,295	Metering and Meter Data Services are based on market pricing.
	Mechanic Services for Generation Plant	\$89,000	Mechanical services for the generating plant were based on \$62/hour for regular hours and \$124/hour for overtime for the mechanic.
Holding Company	Facilities, Human Resources, IT, Communications and Finance Services (SLA)	\$560,000	IT, Finance, Communications, HR services, Facility furniture rentals and special projects are cost-based. Office space is based on market pricing obtained through a consultant.

7

8 **2.5 2011 Budget Net Revenues**

9

10 Table 5 summarizes the services to affiliates and the associated net revenues that have
11 been budgeted for 2011.

12



1

Table 5 - 2011 Budget Net Revenues

Affiliate	Activity	Revenue	Pricing
City of Ottawa	None	\$0	Other than normal work for relocating distribution plant as part of City works programs, there are no forecasted revenues from the City in 2011. Pricing for the relocation of plant on road allowances must comply with the <i>Public Service Works on Highways Act</i> . In addition, Hydro Ottawa bills the City for electricity charges based on the current rate order issued by the Board.
Energy Ottawa	Facilities, Human Resources, IT and Finance Services (SLA)	\$171,053	IT, Finance and HR services are cost-based. Facility Services relate to property taxes at two generating stations that are cost-based.
	Metering and Meter Data Services	\$80,295	Metering and Meter Data Services are based on market pricing.
	Mechanic Services for Generation Plant	\$89,000	Mechanical services for the generating plant are based on the employee's annual compensation.
Holding Company	Facilities, Human Resources, IT, Communications and Finance Services (SLA)	\$560,000	IT, Finance, Communications, HR services, Facility furniture rentals and special projects are cost-based. Office space is based on market pricing obtained through a consultant.

2



OPERATIONS, MAINTENANCE AND ADMINISTRATION COSTS

1.0 INTRODUCTION

There are a number of factors, both external and internal, that affect Hydro Ottawa Limited's ("Hydro Ottawa") Operations, Maintenance and Administration ("OM&A") costs in the period 2008 to 2011. In general, increasing labour costs, legislative changes, an aging workforce and improvements in customer satisfaction are the key drivers influencing increases in OM&A.

The electrical utility industry in Ontario has a history of being a stable and secure employer. Many employees, particularly technical and trades labour, spend their entire career within the electricity utility sector. An area of concern shared by most utilities is an aging employee demographic where the average age is more than 40 years old. Many experienced employees will reach retirement age within the next decade.

The apprenticeship program, introduced by Hydro Ottawa in 2005, has reduced this average in many of the trade groups, but a shortage of skilled trades is still forecasted. Hydro Ottawa's Workforce Planning Strategy, Exhibit D1-5-1, analyzes the requirements within the skilled trades group, but also expands the focus of the aging demographics to other employee groups such as professional staff, managers and supervisors. It also looks at the needs created by technological change and legislated requirements.

An important aspect of workforce planning is the replacement of managerial staff that are typically older and, certainly in the utility industry, more technically oriented. The Engineer in Training ("EIT") program has been instituted to prepare the next generation of technical employees to assume supervisory and managerial roles. In addition to the EIT program, Hydro Ottawa has also launched a comprehensive management training program that will provide current and future management employees with the necessary skill to be effective leaders.



1 Legislative changes, such as the *Green Energy and Green Economy Act* (“GEA”),
2 continue to drive the industry towards a smarter and more flexible distribution system.
3 Greater emphasis on conservation, distributed generation and smart grid initiatives will
4 require a highly skilled workforce to support the addition of a vast amount of technology.
5 These changes will require a fundamental shift in how utilities plan, build and maintain
6 their distribution assets. Careful attention is needed to ensure Hydro Ottawa is ready for
7 the challenge.

8
9 In the wake of the many changes occurring in Ontario’s electrical marketplace, such as
10 time of use rates, alternative energy programs and conservation and demand
11 management, customers will require more education and support than ever before.
12 Emerging technologies will not only challenge the industry and employees, but
13 customers as well.

14
15 Hydro Ottawa is implementing a Customer Service Strategy Plan (“CSSP”) specifically
16 aimed at enhancing Hydro Ottawa’s relationship with its customers. By providing timely,
17 accurate and topical information about Ontario’s electricity market, Hydro Ottawa aims to
18 keep its customers as informed as possible. Hydro Ottawa’s goal is to be a leading utility
19 provider in the area of customer service. The plan to achieve this goal is included in
20 Exhibit D1-4-4.

21
22 The future also includes an Environmental Strategy that will ensure Hydro Ottawa
23 reduces its environmental footprint over the coming years by probing all aspects of its
24 operations from purchasing policies to waste reduction. Refer to Exhibit B1-2-8,
25 Environmental Sustainability Strategy for details.

26
27 Hydro Ottawa’s Information Technology (“IT”) Strategy, Exhibit B1-2-4, will set the
28 framework to provide a reliable, secure, agile, effective and extensible IT environment for
29 years to come. The goal of the strategy is to ensure Hydro Ottawa’s IT infrastructure is
30 well positioned for the future as the GEA and Smart Grid initiatives place greater
31 demands on distribution systems and the computers that help run them.

32



1 The following is a brief description of other drivers and the programs that influence
2 OM&A cost.

3

4 **1.1 Growth**

5

6 The City of Ottawa (the “City”) continues to post positive growth in customer numbers
7 despite the recent downturn in the economy, however, the growth rates were less than
8 forecasted in the 2008 EDR. Hydro Ottawa fell short of its 2008 customer forecast by
9 1,581 units (291,639 versus 293,220) for a growth rate of 1.6% on average per year
10 instead of the forecasted 1.9% per year from 2006 to 2008. This trend continued in
11 2009 with the addition of only 4,368 customers for an average annual growth rate from
12 2007 to 2009 of 1.6%. Hydro Ottawa is forecasting a modest decrease in customer
13 growth by the end of 2011 to a rate of 1.3% per year. This percentage would be even
14 lower if not for the addition of 500 customers in 2010 as a result of the introduction of
15 new metering technology now offered to bulk metered customers. Suite Metering will
16 allow Hydro Ottawa, under certain conditions, to retrofit bulk metered customers into
17 individual rate payers responsible for their personal consumption. This strategy will help
18 foster a conservation attitude that does not prevail with customers unaware of their own
19 usage.

20

21 **1.2 Compensation**

22

23 Hydro Ottawa’s current collective agreement with the International Brotherhood of
24 Electrical Workers ended March 31, 2010. Although negotiations are ongoing no
25 settlement has been reached at the time of writing. Adjustments for 2011 are estimated
26 from settlements that have occurred in Ontario, both within and outside of the industry
27 and in the Ottawa area, and in consideration of the Ontario and Ottawa Consumer Price
28 Index. Management staff compensation has also been forecasted in a similar manner.

29

30 The Hydro Ottawa Group of Companies underwent only minor changes since its
31 restructuring outlined in the 2008 EDR with some financial staff moving from Hydro



1 Ottawa to Hydro Ottawa Holding Inc. (the “Holding Company”). As a result, Hydro
2 Ottawa compensation was adjusted accordingly in 2009 by 6 full time equivalents.

3 4 **1.3 Workforce Planning**

5
6 In 2005, Hydro Ottawa launched its apprenticeship program to meet the challenges
7 presented by an aging workforce. The apprenticeship program continued to grow
8 through 2008 and 2009. It now includes five distinct groups of skilled trades including
9 power line maintainers, cable jointers, stations electricians, system operators and meter
10 technicians. The total number of apprentices anticipated by the end of December 2010
11 is 52, and 18 more are planned for 2011, as 14 Power Line Maintainers and four Meter
12 Technicians will be added to bring the total apprentice count to 61. Of these 18
13 apprentice positions, five will replace vacancies that already exist; therefore the affect on
14 OM&A is based on 13 new positions. These apprentices are anticipated to be fully
15 qualified within five years of their hire. In addition to the apprentices discussed
16 previously, Hydro Ottawa has a development program for distribution system designers
17 and engineers to ensure qualified staff is available as current senior staff retires. Further
18 details of this apprenticeship program and staffing plans are included in Exhibit D1-5-1,
19 Workforce Planning.

20 21 **1.4 Asset Management Strategy**

22
23 Although Hydro Ottawa’s asset management strategy focuses predominately on capital
24 assets, some items in the plan are related to OM&A activities. In particular the asset
25 management strategy deals with such items as vegetation management, asset
26 maintenance and spot testing. Refer to Hydro Ottawa’s 2010 Asset Management Plan
27 provided as Exhibit B1-2-2 and Exhibit D1-4-2 on Vegetation Management.

28 29 **1.5 Environmental Requirements**

30
31 Hydro Ottawa maintains its ISO 140001:2004 certification for environmental stewardship,
32 and continues to maintain a high standard on environment issues. Environment Canada



1 Polychlorinated Biphenyl (“PCB”) Regulations require a phased-in approach to the
2 elimination of PCBs from the electrical distribution system. Hydro Ottawa applied for and
3 was granted an exemption permit regarding a 2009 deadline that could not be met due
4 to the technical infeasibility of the elimination. Hydro Ottawa is on target with the terms
5 and conditions of the permit and the regulations.

6

7 **1.6 Review of Overhead Allocation and Capitalization**

8

9 As discussed in Exhibit B1-3-1, Hydro Ottawa changed its accounting estimates in 2007
10 for allocating overhead costs to OM&A and capital programs. This had two impacts on
11 the OM&A costs. First, with fewer overhead costs allocated to capital programs, the total
12 OM&A costs increased. Furthermore, to develop a simpler approach for accounting,
13 overhead administration costs are no longer allocated out to maintenance programs.
14 This means that these corporate overheads will remain part of the Administration
15 grouping in the Uniform System of Accounts (“USofA”) for OM&A expenses. All
16 subsequent years from 2008 to 2011 adhere to this new procedure.

17

18

19 **2.0 OM&A COSTS**

20

21 Table 1 shows the OM&A by year as required by the Board’s filing requirements and
22 USofA. These numbers are shown net of allocations out to capital.

23

24

Table 1 - OM&A Summary

	USofA	2008 Board Approved \$	2008 Actual \$	2009 Actual \$	2010 Budget \$	2011 Budget \$
Operation		\$13,062,448	\$11,752,560	\$11,364,065	\$14,996,358	\$15,269,439
Load Dispatching	5010	2,011,117	2,978,011	3,177,345	2,250,971	2,290,007
Station Buildings and Fixtures	5012	732,357	599,061	623,465	677,407	690,955
Trans. Station Equip. – Labour	5014	116,603	78,285	98,211	100,377	102,177



	USofA	2008 Board Approved \$	2008 Actual \$	2009 Actual \$	2010 Budget \$	2011 Budget \$
Trans. Station Equip. - Expenses	5015	27,448	12,480	43,680	21,471	21,804
Distribution Station Equipment - Labour	5016	243,378	251,317	269,275	325,494	330,426
Distribution Station Equipment – Expenses	5017	69,984	28,070	108,428	186,803	187,470
Overhead Distribution Lines and Feeders – Labour	5020	776,621	733,746	743,584	820,895	829,978
Overhead Distribution Lines and Feeders – Expenses	5025	2,621,470	2,016,977	1,668,647	2,382,482	2,430,131
Overhead Distribution Transformers – Operation	5035	1,072,084	9,611	12,295	2,090	2,131
Underground Distribution Lines – Labour	5040	356,363	544,634	806,140	778,195	787,810
Underground Distribution Lines – Expenses	5045	1,281,495	1,314,610	1,491,329	1,706,187	1,740,310
Underground Distribution Trans – Operation	5055	47,871	14,164	33,366	18,831	19,208
Meter Expense	5065	2,101,464	1,174,985	1,588,162	3,619,926	3,352,547
Miscellaneous Distribution Expense	5085	1,604,193	1,996,609	700,138	2,105,230	2,484,483
Maintenance		\$5,111,153	\$5,183,949	\$5,171,079	\$6,006,658	\$6,086,041
Maintenance of Transformer Stations Equipment	5112	116,205	93,206	336,148	342,029	344,063
Maintenance of Distribution Stations Equipment	5114	761,773	1,234,750	1,049,989	1,275,876	1,287,135
Maintenance of Poles, Towers a Fixtures	5120	75,824	207,011	300,728	345,812	348,779
Maintenance of Overhead Conductors and Devices	5125	861,632	954,977	738,310	744,378	754,245
Maintenance of Overhead Services	5130	301,708	430,113	502,993	786,179	801,575
Maintenance of Underground Conduit	5145	114,200	66,769	174,315	172,096	171,830
Maintenance of Underground Conductors and Devices	5150	1,263,011	779,433	713,449	723,277	732,898



	USofA	2008 Board Approved \$	2008 Actual \$	2009 Actual \$	2010 Budget \$	2011 Budget \$
Maintenance of Underground Services	5155	361,073	336,843	327,659	441,781	449,782
Maintenance of Line Transformers	5160	467,410	598,240	451,095	497,373	506,000
Maintenance of Meters	5175	788,317	482,607	576,393	677,858	689,734
Billing and Collecting		\$11,716,819	\$10,365,089	\$10,233,636	\$10,579,743	\$10,840,730
Meter Reading Expense	5310	1,000,000	708,787	497,472	285,502	291,212
Customer Billing	5315	6,805,651	6,384,603	6,454,518	6,947,188	7,073,022
Collecting	5320	1,911,160	1,823,584	1,766,044	1,844,053	1,943,436
Collections Charges	5330	-	14	(709)	-	-
Bad Debt Expenses	5335	2,000,008	1,448,101	1,516,311	1,503,000	1,533,060
Community Relations		\$4,759,852	\$4,588,888	\$4,594,942	\$5,459,667	\$6,607,061
Community Relations - Sundry	5410	4,515,270	4,388,497	4,470,513	5,265,624	5,905,497
Energy Conservation (GEA)	5415	-	-	-	-	501,641
Demonstration and Selling Expenses	5510	244,582	200,391	124,429	194,043	199,923
Administrative and General		\$20,679,521	\$19,738,418	\$20,670,993	\$22,601,943	\$24,163,018
Executive Salaries and Expenses	5605	2,537,200	2,672,170	2,699,842	2,348,838	2,230,022
Management Salaries and Expenses	5610	4,968,391	5,244,002	5,206,365	5,320,045	5,804,604
General Administrative Salaries and Expenses	5615	2,556,915	2,503,658	2,452,624	1,895,154	2,679,969
Office Supplies and Expenses	5620	3,749,097	3,439,394	3,356,987	3,935,367	4,061,460
Administrative Expense Transferred – Credit	5625	(3,783,390)	(4,470,835)	(2,445,112)	(2,347,722)	(1,931,338)
Outside Services Employed	5630	724,598	496,031	201,012	655,900	569,018
Insurance Expenses	5635	325,692	321,100	338,543	764,618	780,070
Injuries and Damages	5640	672,575	746,130	628,598	614,591	626,883
Employee Pensions and Benefits	5645	600,000	594,981	605,814	700,000	728,000



	USofA	2008 Board Approved \$	2008 Actual \$	2009 Actual \$	2010 Budget \$	2011 Budget \$
Regulatory Expenses	5655	1,223,250	1,116,045	1,127,054	1,397,800	1,419,756
General Advertising Expenses	5660	-	-	3,843	-	-
Miscellaneous General Expenses	5665	2,718,637	2,230,717	2,166,054	2,613,370	2,517,516
Maintenance of General Plant	5675	4,346,556	4,731,062	4,266,187	4,653,483	4,625,549
Charitable Contributions	6205	40,000	113,963	63,182	50,500	51,510
SUB TOTAL		\$55,329,793	\$51,628,904	\$52,034,715	\$59,644,370	\$62,966,289
Taxes Other Than Income Taxes	6105	1,758,250	1,741,965	1,793,952	1,761,997	1,800,217
TOTAL		\$57,088,043	\$53,370,869	\$53,828,667	\$61,406,367	\$64,766,506

1

2

3 3.0 OPERATIONS AND MAINTENANCE

4

5 Operation is defined as work that encompasses actions of a detective, preventative,
6 and/or monitoring nature. Maintenance is defined as the routine activity to ensure the
7 equipment or device operates correctly (generally work performed in a reactionary
8 manner based on the results of an Operation activity).

9

10 Many departments within Hydro Ottawa carry out operations and maintenance functions;
11 however, this responsibility lies primarily with the Construction and Maintenance (“C&M”)
12 division. C&M has day-to-day responsibility to carry out construction, maintenance and
13 operational activities. The Distribution Asset Management (“DAM”) division has
14 responsibility for the system control room but also has responsibility for maintenance of
15 stations. The Metering and Electricity Revenue (“MER”) division has both operations
16 and maintenance functions for metering. Reasonable effort has been taken to provide
17 the appropriate split between operations and maintenance; however the nature of the
18 business is such that in many cases the same employees perform both functions. This
19 can lead to some inconsistencies year over year; therefore, for the purposes of doing



1 comparisons between years, operations and maintenance expenses should be
2 considered in their totality.

3

4 The following sections contain descriptions of typical operation activities and
5 maintenance programs.

6

7 **3.1 Control Room**

8

9 Hydro Ottawa's control room is the "control authority" for the service area and also
10 sometimes called the system office. The control room is operated 24 hours per day, 7
11 days per week ("24/7") to monitor system operation, authorize device operations and to
12 provide key support for outage and emergency response requirements.

13

14 **3.2 General Switching**

15

16 Hydro Ottawa has remotely operable switches; however, the vast majority of switches in
17 the distribution system require manual operation. Qualified staff are required to travel to
18 these devices in order to perform general system reconfigurations.

19

20 **3.3 Station Transformer Oil Analysis**

21

22 Dissolved gases trapped in station transformers are a result of arcing and heating and
23 can provide a general indication of the condition of the transformer. Oil tests are
24 performed periodically to monitor transformer condition.

25

26 **3.4 Asbestos Removal and Arc-Proofing of Cables**

27

28 Cables in cable chambers and vaults are wrapped with an arc-proof tape. For health
29 and safety reasons, workers cannot work freely in a cable chamber or vault with older,
30 asbestos containing tape. This program involves removing asbestos tape and replacing
31 it with a new model of arc-proof tape that is asbestos free.

32



1 **3.5 Supervisory Control and Data Acquisition (“SCADA”) Maintenance**

2

3 SCADA equipment is installed throughout the distribution system. Many remote devices
4 are battery powered and the batteries require periodic replacement. The
5 communications devices such as antennas and radios require repairs, as do other
6 components, from time to time.

7

8 **3.6 Thermographic Scan and Inspection**

9

10 Hydro Ottawa uses infrared scanning, a heat detection technology, as an early detection
11 and preventative maintenance method to find possible plant failure. The program results
12 in an increase in system reliability and safety and extends the useful life of the assets in
13 the distribution system. The scan program also provides an opportunity to inspect assets
14 on a regular basis.

15

16 **3.7 CO₂ Wash**

17

18 The CO₂ wash program for pad-mounted switchgear is based on the results of the
19 Thermographic Scan and Inspection program. The CO₂ method has allowed switchgear
20 to be maintained in an efficient and cost effective manner. The process involves
21 cleaning energized switchgear using dry ice. Compared to washing with water, this
22 affords flexibility to schedule switchgear maintenance throughout the year while
23 decreasing maintenance costs, eliminating interruptions, avoiding switching thereby
24 removing the associated safety concerns and freeing up manpower.

25

26 **3.8 Insulator Washing**

27

28 The insulators in the Hydro Ottawa system become contaminated by road salt, vehicle
29 exhaust, and other airborne contaminants. The City uses more salt during the winter
30 than many other municipalities, given the local weather conditions. In damp weather,
31 these insulators can flashover, resulting in pole fires, and jeopardize the system’s
32 reliability. To avoid this, Hydro Ottawa has adopted an extensive insulator-washing



1 program along the major roadways where contamination builds normally. Full washing
2 of these critical, 44 kV, 27.6 kV and 13.2 kV circuits is done around mid-February, and
3 selective washing in the fall (around mid-October) each year. The program also involves
4 washing all under-build (lower voltage lines on the same pole line as higher voltage
5 lines) of 8 kV or more.

6 7 **3.9 Graffiti Abatement**

8
9 The purpose of the graffiti abatement is to remove and/or prevent inappropriate
10 messages and statements, graphical or text, on Hydro Ottawa's assets (e.g., buildings,
11 pad-mounted transformers or switchgear), from general public visibility. The requirement
12 for this service is established under Hydro Ottawa's commitment to the City of Ottawa
13 Utility Coordinating Committee and the City's *Graffiti Management* by-law enacted in
14 2008. Assets to be addressed are identified by the City of Ottawa by-law enforcers, the
15 police and the public at large.

16
17 The program typically involves provision of standard or anti-graffiti coating on Hydro
18 Ottawa's pad-mounted equipment. The standard paint coating is a quick-dry gloss
19 enamel type, while the anti-graffiti coating is an epoxy base or aliphatic clear finish.
20 Normally, Hydro Ottawa's field representative assesses the type of coating needed. The
21 program also includes the re-instatement of the area around the equipment, and re-
22 labelling of the equipment using the approved materials and label placement
23 specifications.

24 25 **3.10 Tree Trimming / Vegetation Management**

26
27 Information on Hydro Ottawa's vegetation management program is contained in Exhibit
28 D1-4-2.

29



1 **3.11 Cable Chamber Inspection and Cleaning**

2
3 Cable chambers are the access point to Hydro Ottawa's underground distribution
4 system. There are approximately 3,300 cable chambers in Hydro Ottawa's distribution
5 system. The majority are located along road right of ways, either in the road or within
6 the sidewalk area. Regular access is required to plan projects to connect new
7 customers, replace older cables, troubleshoot outages or accommodate road
8 construction.

9
10 The primary reason for cable chamber inspections is to maintain the integrity of the civil
11 structures and below grade electrical system.

12
13 Items checked during a cable chamber inspection include:

- 14
15 • condition and height of the cover, the part that closes the cable chamber to the
16 public and is therefore the utmost importance for public safety,
17 • condition of cable splices and cable racks,
18 • integrity of the concrete,
19 • existence of rust on steel components, and
20 • cleanliness of the cable chamber.

21
22 There is also a need to identify which cable chambers contain cables that have been
23 treated with arc-proof tape containing asbestos. Work may still be performed within a
24 cable chamber with tape containing asbestos; however, the presence must be identified
25 for worker safety.

26
27 Many of the cable chambers are connected to the City storm sewer system that may
28 backup into the cable chambers. The lids of the cable chambers are not sealed and do
29 allow water and dirt to enter the cable chamber over time. To ensure the contaminants
30 do not degrade the equipment in the cable chamber and to allow for a safe working
31 environment, the cable chambers are often cleaned prior to planned or emergency work.

32



1 **3.12 Underground Locates**

2

3 Information on Hydro Ottawa's Locates activities is contained in Exhibit D1-4-3.

4

5

6 **4.0 BILLING AND COLLECTING**

7

8 The billing and collecting function provides a variety of services that directly meet the
9 needs of electricity customers within Hydro Ottawa's service area. This function is
10 responsible for customer billing, collection of electricity accounts and meter reading.
11 Meter reading has historically been a very manual process that required a door-to-door
12 field visit every one to two months (depending on customer class). Smart Meters has
13 completely changed the way utilities perform meter reading. What used to take
14 contractors weeks to accomplish can now be done remotely in minutes. Meter reading
15 expense has been reduced, however this has shifted to the need for more technical staff
16 required to maintain the Smart Meter infrastructure and to manage the immense amount
17 of new data.

18

19 Meter Data Services, the technical group in Billing and Collecting responsible for remote
20 meter reading, has expanded its role to include data management for all remote meters
21 including residential and small commercial Smart Meters. In the past, their responsibility
22 focused on reading and processing interval data for large commercial users, determining
23 the net system load shape and interfacing with the Independent Electricity System
24 Operator ("IESO") and Hydro One Networks Inc ("Hydro One") on billing related issues.
25 This new expanded role has Meter Data Services responsible for all meter data.

26

27 The collection of active accounts is an internally resourced function. The collection of
28 inactive accounts is also resourced internally until all avenues for collecting these
29 accounts have been exhausted. At this point the arrears are transferred to an external
30 collection agency that is paid a percentage of the amount that is recovered.

31



1 The other function within the Billing and Collecting group is Customer Information
2 System (“CIS”) Support. This function has responsibility for all support functions for
3 Hydro Ottawa’s CIS including the day-to-day support and oversight of any changes to
4 the system or the reports that are produced from it. This function is separate but closely
5 related to the information technology functions in the company that are part of the
6 Administration grouping.

7
8
9 **5.0 COMMUNITY RELATIONS**

10
11 Costs included in the Community Relations group include the Customer Contact team;
12 Hydro Ottawa’s customer facing organization. The Customer Contact team is organized
13 to serve a diverse customer base of more than 297,000 residential and small commercial
14 customers.

15
16 This group is responsible for all customer account and relationship activities including
17 the handling of customer telephone calls, correspondence and move requests. The
18 Customer Contact team routinely handles more than 300,000 customer generated
19 account maintenance and outage reporting calls, over 30,000 pieces of written
20 correspondence and 50,000 customer initiated move requests per year. Over 80% of
21 customer calls are answered within 30 seconds (exceeding the Board requirement of
22 65%), and 99% of written correspondence is answered within 10 business days
23 (exceeding the Ontario Energy Board (the “Board”) requirement of 90%).

24
25 A call centre that operates between 8:00 am and 8:00 pm on business days handles
26 customer telephone inquiries. This outsourced call centre handles high volume, low
27 complexity “First Level” calls. Customer requests that are lower in volume but higher in
28 complexity are directed internally to the “Second Level” support team. This group also
29 handles paper based move requests, miscellaneous correspondence, return mail,
30 lawyer’s letters, Auto Pay and Budget Billing requests, escalations and reporting.



1 The Customer Contact team is initiating a program to fundamentally change its customer
2 service culture. The Customer Service Strategy Plan will focus all areas of the
3 organization in providing world class service to our customers. Refer to Exhibit D1-4-4,
4 for further details.

5 6 7 **6.0 ADMINISTRATIVE AND GENERAL EXPENSES**

8
9 Included with the Administrative and General Expenses are all corporate service
10 functions for Hydro Ottawa. Each of the following functions is lead by a member of the
11 senior management team. For simplicity, this grouping of accounts will be called
12 Administration expenses in subsequent sections.

13 14 **6.1 Human Resources**

15
16 The Human Resources Department is responsible for all payroll issues, labour relations,
17 compensation reviews, internal communications, employee events and the development
18 and oversight of human resources polices.

19
20 The Human Resources department also has oversight for safety, training and
21 environmental programs. These functions together comprise the company's
22 Occupational Health, Safety and Environment ("OHS&E") function. The costs of safety
23 and training are considered an Administration cost; however, environment program costs
24 are grouped with O&M expenses because they are primarily related to this function. An
25 overview of Hydro Ottawa's approach to OHS&E is included in Exhibit D1-4-1.

26 27 **6.2 Finance**

28
29 Included within the Finance group are separate functions for general accounting,
30 accounts receivable, accounts payable, payment processing (including electricity bill
31 payments), retail settlements, budgeting/business planning, financial forecasting, taxes
32 and treasury services.



1 Responsibility for the maintenance and upkeep of Hydro Ottawa's facilities is also a key
2 function for the Finance department. This includes the corporate administrative office,
3 three additional operations centre across the city, a separate fleet/training facility and
4 approximately 70 distribution stations (buildings only). Costs for maintaining the general
5 plant (i.e. office buildings) are part of Administration expenses whereas maintenance for
6 facilities at transformer stations is part of O&M costs.

7
8 Another major responsibility for the Finance group is procurement /supply chain
9 management. This group sets and oversees procurement policies and procures all
10 products and services for the company. Details of Hydro Ottawa's Procurement Strategy
11 are provided in Exhibit D1-3-1.

12 13 **6.3 Information Technology ("IT")**

14
15 The IT department has responsibility for all core IT infrastructure, corporate applications,
16 voice services and data services. Business specific systems (SCADA, Outage
17 Management System, Geographic Information System and Customer Information
18 System) are currently administered or operated by the operational departments; they are
19 the predominant users of each system. The IT department oversees coordination
20 between systems through various working groups and steering committees.

21
22 For 2011, the IT department will focus on cyber security and the integration of its core
23 systems. Data sharing will be vital to the deployment of smart grid technologies and key
24 to ensuring Hydro Ottawa has the information needed to make reliable decisions about
25 its distribution system. Please refer to Exhibit B1-2-4, IT Strategy for further details.

26 27 **6.4 Communications**

28
29 The communications team is responsible for the delivery of customer communication
30 and community initiatives that promote customer and public awareness of business and
31 industry activities. This function also maintains Hydro Ottawa's website, develops
32 customer brochures, organizes community information sessions, interfaces with the



1 media and local government representatives and manages the on-call and outage
2 support procedures, schedules and training.

3

4 **6.5 Regulatory Affairs**

5

6 Regulatory Affairs is responsible for all filings with the Board and the Independent
7 Electricity System Operator (“IESO”) including comments on consultations, rate and
8 other applications, compliance reporting, licence applications and renewals and
9 reporting and record-keeping requirements. Regulatory accounting is also part of this
10 group working closely with the finance staff. This involves mapping the company’s
11 financial results from Hydro Ottawa’s system of accounts to the USofA. Forecasting of
12 cost of power and distribution revenue and variance and deferral accounts is also done
13 by Regulatory Affairs. Major expenses for the Regulatory Affairs department include the
14 Board Annual Cost Assessment, Cost Awards paid to intervenors and annual fees to the
15 Electrical Safety Authority.

16

17 **6.6 Corporate Costs/Chief Operating Officer (“COO”)**

18

19 The COO has oversight responsibility for all of Hydro Ottawa’s activities including the
20 functions described in Sections 3, 4, 5 and 6. A major initiative for 2011 is the
21 continuation of Hydro Ottawa’s Lean program aimed at the review of internal processes
22 to ensure that all activities are aligned to common goals and are being performed in the
23 most efficient manner.

24

25 The USofA requires all executive salaries to be recorded in Account 5605. While Hydro
26 Ottawa’s internal accounting normally records these salaries as part of the operational
27 department costs, to be consistent with the USofA, the costs have been considered a
28 corporate cost within the Administration grouping. Therefore all salaries and associated
29 departmental expenses for the senior management team (COO and Directors) are
30 included as corporate costs and therefore are part of Administration expenses. In
31 addition, corporate costs include bank charges, prudential requirements to the IESO,
32 association fees (Canadian Electricity Association, Ontario Energy Association,



1 Electricity Distributors Association), allocations from the Holding Company, audit fees
2 and employee future benefits.

3
4
5 **7.0 INSURANCE EXPENSE**

6
7 While insurance expense is normally part of corporate costs, the amount was separated
8 out for the 2006 EDR Application. Therefore, for consistency the insurance expense is
9 shown separately again. It should be noted that this includes only property and fleet
10 insurance.

11
12
13 **8.0 BAD DEBT EXPENSE**

14
15 Bad debt expense is the cost of earned revenue not realized through billing and
16 collections efforts. The expense is recorded from the year over year change in an
17 allowance for doubtful accounts that is based on a percentage of aged arrears. This
18 provides a weighting related to risk that the amount will not be collected. The allowance
19 is monitored monthly and adjusted as appropriate through bad debt expense.

20
21 There are two categories of bad debt expense. One is related to electricity billing and
22 one is related to billing for other services. These other services could be pole
23 attachments, damages to plant, temporary services, service isolation and re-energization
24 to permit maintenance and upgrades, etc.

25
26
27 **9.0 ADVERTISING EXPENSE**

28
29 Included with Advertising Expense are Accounts 5515 and 5660. For Account 5515 the
30 advertising would be *“designed to promote or retain the use of utility service”*. For
31 Account 5660 the advertising would be *“primarily designed to improve the image of the*
32 *utility or the industry”*. Hydro Ottawa has not identified any advertising for 2010 that



1 would fit these descriptions, except for the advertising related to Conservation and
2 Demand Management (“CDM”) that is separate from this application. Therefore no
3 amounts are estimated for 2010 or forecasted for 2011 for Advertising Expenses.

4
5
6 **10.0 ALLOWABLE CHARITABLE DONATIONS**

7
8 Hydro Ottawa is a sponsor for the Winter Warmth Program, coordinated by the United
9 Way. This is a charity to which a customer can apply for assistance in paying their
10 electricity bill. These types of charitable donations were eligible for recovery in past rate
11 applications; therefore the costs have been included in this application.

12
13
14 **11.0 OTHER DISTRIBUTION EXPENSES**

15
16 Included within the Other Distribution Expenses grouping are two unrelated accounts.
17 The first is for Account 6105, taxes other than income taxes. Since the large corporation
18 taxes are dealt with through the allowance for Payments in Lieu of Taxes, the only
19 amount included in Other Distribution Expenses is for property taxes.

20
21 The other two accounts in Other Distribution Expenses are Account 5510 Supervision for
22 sales activities and 5515 Demonstrating and Selling Expenses. Hydro Ottawa has
23 recorded the expenses related to providing service to large customers referred to as “key
24 accounts” in these accounts. These customers are the highest consumers of electricity
25 within Hydro Ottawa’s service area and merit ongoing and more complex service
26 support. While this is where the expenses have been mapped to the USofA, this function
27 operates as part of Hydro Ottawa’s Customer Contact team.



1 **12.0 SMART METER EXPENSES**

2

3 In previous applications, Smart Meter expenses have been shown separately and
4 recovered by means of a rate adder and a variance account. Hydro Ottawa's Smart
5 Meter program will be substantially complete by the end of 2010. For 2011, therefore
6 meter expenses have been treated as part of the regular distribution revenue
7 requirements and included in base distribution rates.



1 **OPERATIONS, MAINTENANCE AND ADMINISTRATION**
2 **SUMMARY AND COST DRIVERS**

3
4 **1.0 INTRODUCTION**

5
6 The following is Hydro Ottawa Limited's ("Hydro Ottawa") Operations, Maintenance and
7 Administration ("OM&A") Cost Summary and Cost Drivers as required by the Ontario
8 Energy Board's (the "Board") Chapter 2 of the Filing Requirements for Transmission and
9 Distribution Applications Section 2.5, issued May 27, 2009. Table 1 is a summary of
10 OM&A cost with variances for 2008 Rebasing Year, Board Approved and Actual, 2009
11 Actual, 2010 Bridge Year Budget and 2011 Current Test Year Budget. Table 2 provides
12 a list of cost drivers that affected OM&A in a substantial way and the dollars associated
13 with those drivers. Included are the 2008 Last Rebasing Year Actual, 2009 Actual, 2010
14 Bridge Year Budget and 2011 Test Year Budget.

15
16 Table 3 is a summary of regulatory costs and Table 4 is a summary of cost per customer
17 and full time equivalent ("FTE") year-over-year.

18



1

Table 1 – Summary of OM&A Expense

	2008 Board Approved	2008 Actual	Variance 2008 BA – 2008 ACT	2009 Actual	Variance 2009 ACT- 2008 ACT	2010 Budget (BY)	Variance 2010 BY- 2009 ACT	2011 Budget (TY)	Variance 2011 TY – 2010 BY
Operation	\$13,062,449	\$11,752,560	(\$1,309,888)	\$11,364,065	(\$388,495)	\$14,996,358	\$3,632,293	\$15,269,439	\$273,080
Maintenance	5,111,152	5,183,949	72,797	5,171,079	(12,870)	6,006,658	835,579	6,086,041	79,383
Billing and Collecting	11,716,820	10,365,089	(1,351,732)	10,233,636	(131,453)	10,579,743	346,107	10,840,730	260,987
Community Relations	4,759,853	4,588,888	(170,965)	4,594,942	6,054	5,459,667	864,725	\$6,607,061	1,147,394
Administrative and General	20,679,522	19,738,418	(941,105)	20,670,993	932,575	22,601,943	1,930,950	24,163,018	1,561,075
Taxes	1,758,250	1,741,965	(16,285)	1,793,952	51,987	1,761,997	(31,955)	1,800,217	38,220
Total OM&A Expenses	\$57,088,046	\$53,370,869	(\$3,717,174)	\$53,828,667	\$457,798	\$61,406,367	\$7,577,700	\$64,766,506	\$3,360,139
Variance from previous year				\$457,798		7,577,700		3,360,139	
Percent change (year over year)				0.9%		14.1%		5.5%	
Percent Change Test year vs. Most Current Actual				20.3%					
Percent Change Test Year vs. Last Board Approved Rebasing Year act.				21.4%					
Average for (2009 ACT vs. 2008 ACT)				0.9%					
Compound Growth rate (2009 ACT vs. 2008 ACT)				0.9%					



1 **2.0 COST DRIVERS**

2

3 The following is a brief description of the drivers that influence OM&A expenses. Some
 4 of the descriptions refer to Exhibits included elsewhere in the application. Each driver
 5 represents a net change year-over-year and are not cumulative. With the exception of
 6 collective agreement/annual progressions, inflationary budget impacts for 2010 and
 7 2011 are reflected as Inflation and Other.

8

9

Table 2 - OM&A Cost Driver Table (\$Millions)

	2008 Actual	2009 Actual	2010 BY	2011 TY
Opening Balance (Millions)	\$43.70	\$53.40	\$53.80	\$61.40
Workforce Planning Strategy	1.70	0.30	0.60	2.40
Collective Agreement/Annual progressions	1.40	1.40	1.50	1.50
Other Compensation	-	0.80	2.15	0.95
Standards Department	-	-	0.50	-
Customer Service Strategic Plan (CSSP)	-	-	0.39	0.52
Fuel Price and Volume	0.25	(0.30)	0.18	(0.20)
Smart Grid/Renewable Generation (GEA)	-	-	-	0.50
Environmental Sustainability	-	-	-	0.20
TOU Rate Roll Out	-	-	1.20	(0.50)
Capitalization Policy Change	5.87	-	-	-
Changes in Capital and WFO Allocations	-	(1.40)	(2.10)	(1.40)
Vegetation Management	-	-	0.80	-
Beacon Hill Substation Fire	-	(1.10)	1.10	-
Insurance Cost Reassessment	-	-	0.43	-
CIS Support Increase	-	-	0.50	-
Productivity Target	-	-	-	(1.00)
Inflation and Other	0.48	0.70	0.35	0.43
Ending Balance	\$53.40	\$53.80	\$61.40	\$64.80

10

11



1 **2.1 Workforce Planning Strategy**

2

3 The Workforce Planning Strategy driver is related to the replacement of Hydro Ottawa's
4 aging workforce. It includes the addition of apprentices, the Engineer in Training
5 program, specific support positions, and management training. Refer to Exhibit D1-5-1,
6 Workforce Planning Strategy and Exhibit D4-1-1, Employee Compensation Breakdown
7 for greater detail.

8

9 **2.2 Collective Agreement/Annual Progression**

10

11 Annual salary increases and new employee progressions are governed by Hydro
12 Ottawa's collective agreement for unionized staff. Each year unionized employee
13 salaries are adjusted based on a negotiated percentage. Hydro Ottawa's current
14 collective agreement ended March 31, 2010. Adjustments for 2011 are estimated from
15 settlements that have occurred in Ontario, both within and outside of the industry and in
16 the Ottawa area, and in consideration of the Ontario and Ottawa Consumer Price Index.
17 A similar basis was used for management staff salaries.

18

19 **2.3 Other Compensation**

20

21 This cost driver represents regular annual benefit increases and a benefit reassessment
22 in 2010. The increase in benefit costs is a direct result of the effect of an aging
23 workforce and the increased claims processed by insurance carriers. Also included are
24 overtime costs based on historical requirements for after-hours outage responses, and
25 for 2010 Hydro Ottawa has established a management development program aimed at
26 preparing the next generation of leaders as current managers and supervisors prepare
27 for retirement.

28

29

30

31



1 **2.4 Customer Service Strategy Plan**

2

3 Hydro Ottawa is implementing a Customer Service Strategy Plan (“CSSP”) specifically
4 aimed at enhancing Hydro Ottawa’s relationship with its customers. By providing timely,
5 accurate and topical information about Ontario’s electricity market, Hydro Ottawa aims to
6 keep its customers as informed as possible. The plan includes employee training and
7 the addition of contact management system to help manage customer correspondence.
8 Refer to Exhibit D1-4-4, Customer Service Strategy Plan for further details.

9

10 **2.5 Fuel Costs**

11

12 Fuel cost fluctuations have become a greater concern over the last 5 years as fuel prices
13 have shown significant volatility. Hydro Ottawa attempts to minimize fuel cost by buying
14 in bulk in collaboration with the City of Ottawa (the “City”). Hydro Ottawa has also
15 instituted an anti-idling policy in an attempt to reduce fuel volumes. All fleet vehicles are
16 equipped with vehicle GPS monitors that assess usage and track non productive time.
17 Idle time reports are reviewed frequently to ensure vehicles are used appropriately.

18

19 **2.6 Smart Grid/Renewable Generation**

20

21 Hydro Ottawa has submitted a *Green Energy Act Basic Plan* that includes capital and
22 operating expenditures for the period 2011 through 2015; however, in this rate
23 application Hydro Ottawa is only seeking approval for 2011 expenditures. With the
24 evolving market and knowledge base in green energy and smart grid, Hydro Ottawa
25 plans to review its plans for 2012 through 2015 prior to other applications. Please refer
26 to Exhibit B1-2-3, Green Energy Act Plan for further details.

27

28 **2.7 Environmental Sustainability**

29

30 The Environmental Sustainability Strategy will reduce Hydro Ottawa environmental
31 impact by reducing emissions and waste across the organization. It will include investing



1 in alternate fuel, reducing waste and changing purchasing criteria. Refer to Exhibit B1-2-
2 8, Environmental Sustainability Strategy.

3

4 **2.8 Time-of-Use Rate Roll Out**

5

6 The introduction of time-of-use rates to residential and small commercial customers will
7 require an extensive communication plan, staff training and changes to billing systems to
8 ensure a smooth transition to the new rates. Hydro Ottawa is anticipating higher call
9 volumes as customers adjust to the new rates and has developed an extensive change
10 management program. As such, much of these expenses are expected to be a one-time
11 cost in 2010.

12

13 **2.9 Standards Department**

14

15 Hydro Ottawa has budgeted in 2010 for a new department that will be responsible for the
16 creation of processes, procedures and standards to fulfil regulatory obligations imposed
17 by local, provincial and federal government agencies. This new department will provide
18 guidance to operational staff with respect to Ontario Regulation 22/04, the GEA, Hydro
19 Ottawa's *Conditions of Service* and other regulations by producing standards and work
20 methods to ensure compliance. This department will also be responsible for dealing with
21 the various government departments, at all levels, with respect to standards and code
22 compliance. This department will reside in the Distribution Asset Management group and
23 interface with Asset Planning and Distribution Design to ensure Hydro Ottawa's
24 distribution system continues to meet all regulatory requirements.

25

26 **2.10 Capitalization Policy Change**

27

28 In 2007, Hydro Ottawa updated its capitalization policy following an extensive review that
29 was assisted by KPMG and reviewed by Deloitte and Touche. This change in
30 capitalization methodology was implemented January 1, 2008 and resulted in a
31 reduction to the amount of OM&A expenses that could be capitalized. The change was



1 approved by the Board as part of Hydro Ottawa's 2008 EDR application. The net result
2 is an increase in OM&A expense from 2007 to 2008. The policy has been in place for all
3 reported years since 2008. Refer to Exhibit B1-3-1, Hydro Ottawa Capitalization
4 Procedure for further details.

5 6 **2.11 Changes in Capital and Work for Others Allocations**

7
8 Each year the amount of capital and work for others cost can vary depending on the
9 capital plan, the economy, and the level of new construction in Hydro Ottawa's service
10 territory. An increase in the overall capital expenditures will result in a proportionate
11 increase in the allocations of costs to capital. This cost driver reflects these fluctuations
12 in capital allocations that occur year over year. As noted in 2.11, Hydro Ottawa's
13 capitalization policy is unchanged since 2008.

14 15 **2.12 Vegetation Management**

16
17 The vegetation management program was not fully completed in 2009 due to
18 unforeseen circumstances with the service provider. The remainder of the program was
19 completed in 2010 which has resulted in higher than planned expenses. Refer to Exhibit
20 D1-4-2, Vegetation Management

21 22 **2.13 Beacon Hill Substation Fire**

23
24 A catastrophic fire at Hydro Ottawa's Beacon Hill substation in March 2009 diverted staff
25 normally involved in regular maintenance activities to help with the restoration of the
26 station. The incremental costs associated with the cleanup were captured in a separate
27 account and an insurance claim is sought for the recovery of such costs. Capital
28 reconstruction of the station is proceeding in 2010, while the extraordinary incremental
29 operating costs and insurance recovery that were incurred in 2009 will not recur. Refer
30 to Exhibit D2-1-1, Extraordinary Event for further details.

31



1 **2.14 Insurance Cost Reassessment**

2

3 Property insurance is forecasted to double in 2010 due to a number of large claims
4 experienced by Hydro Ottawa’s insurance carrier. The loss experience of the
5 underwriter, aging infrastructure in the utility sector and valuation levies have driven
6 premiums to an increase of over 100%.

7

8 **2.15 Customer Information System (“CIS”) Support Increase**

9

10 The support contract for Hydro Ottawa’s CIS was increased in 2010 as more support is
11 anticipated since the software is no longer being support by the vendor. Additional costs
12 are also anticipated for supporting TOU rates.

13

14 **2.16 Productivity Target**

15

16 Each year Hydro Ottawa targets reductions in OM&A expenses to offset rising labour
17 and material cost due to inflation and compensation increases. Each department is
18 asked to review operations and curtail discretionary spending to contribute to cost
19 reduction without impacting reliability or service to the customer. Hydro Ottawa has
20 adopted the “Lean” methodology to identify efficiency gains in its internal processes.
21 This methodology will contribute to future productivity gains. On Table 2, productivity
22 achievements of over \$1.0 million per year are reflected within individual cost drivers for
23 2009 and 2010. For 2011 the productivity target of \$1.0M will be applied to programs as
24 process improvements and cost reductions are continually identified.

25

26 **2.17 Inflation and Other**

27

28 This category captures all other variables that can influence OM&A costs from year to
29 year, but individually are not material. For 2010 and 2011, this includes estimates of
30 non-compensation inflation, and an allowance for normally occurring vacant positions.

31



1 **3.0 ONE TIME COSTS**

2

3 There are no onetime costs in 2011 as part of this application.

4

5

6 **4.0 REGULATORY COSTS**

7

8 Table 3 shows the regulatory costs that are included in USofA 5655. This includes OEB
9 cost assessments and licence fees, ESA cost assessments, intervenor cost awards,
10 professional service (legal and consulting) and costs to publish notices. Hydro Ottawa
11 has seen increases in all of these categories. The volume of proceedings at the Board
12 continues to increase and result in higher annual cost awards. Furthermore, as Hydro
13 Ottawa explained in Exhibit A1-2-2, the continual changes within the electricity industry,
14 and issues related to aging infrastructure and an aging workforce means that Hydro
15 Ottawa needs to rebase on a more frequent basis. The costs for legal and consulting
16 fees have increased for both the 2010 and 2011 budgets to reflect this requirement.

17

18 It should be noted that Hydro Ottawa has not included the costs of regulatory staff or
19 other staff working on regulatory applications in Account 5655. For staff outside of the
20 regulatory department, this is difficult to track. For staff within the regulatory department,
21 work includes functions such as revenue and cost of power forecasting that may not be
22 considered part of regulatory at other LDCs. An increase has not been budgeted for
23 these costs; however, an analysis will be completed to determine if additional staffing is
24 required to meet the increasing needs and whether this would reduce consulting costs.

25



1

Table 3 – Regulatory Cost Schedule

Regulatory Cost Category	USofA	Ongoing or One-time Cost?	2008 Actual \$	2009 Actual \$	2010 Budget \$	Change in 2010 vs. 2009 Actual %	2011 Budget \$	Change in 2011 vs. 2010 %
1. OEB Annual Assessment	5655	Ongoing	\$761,852	\$894,203	\$941,700	9.8	\$956,716	1.6
2. OEB Hearing Assessments (applicant initiated)								
3. OEB Section 30 Costs (OEB initiated)								
4. Expert Witness cost for regulatory matters								
5. Legal costs for regulatory matters	5655	Ongoing	129,774	43,863	136,100	210.3	138,000	1.4
6. Consultants costs for regulatory matters	5655	Ongoing	27,996	3,223	40,000	1,141.1	40,640	1.6
7. Operating expenses associated with staff resources allocated to regulatory matters								
8. Operating expenses associated with other resources allocated to regulatory matters								
9. Other regulatory agency fees or assessments	5655	Ongoing	90,934	119,293	125,000	4.8	127,000	1.6
10. Any other cost for regulatory matters	5655	Ongoing	-	-	5,000	N/A	5,100	2.0
11. Intervenor Costs	5655	Ongoing	105,489	103,017	150,000	45.6	152,300	1.5
TOTAL			\$1,116,045	\$1,127,054	\$1,397,800	24.0	\$1,419,756	1.6



1 **5.0 OM&A COST PER CUSTOMER AND PER FTE**

2

3 Table 4 summarizes OM&A costs year over year as it relates to the number of
4 customers and the number of Full Time Equivalent Employees ("FTE").

5

6

Table 4 - OM&A Cost per Customer and FTE

	2008 Actual	2009 Actual	2010 Budget Year	2011 Test Year
Number of Customers	291,639	297,007	300,735	304,783
Total OM&A	\$53,370,869	\$53,828,667	\$61,406,367	\$64,766,506
OM&A cost per Customer	\$183.00	\$181.24	\$204.19	\$212.50
Number of FTEs	536.6	557.1	571	603.5
Customers per FTE	543.5	533.1	526.7	505.0
OM&A cost per FTE	\$99,461	\$96,623	\$107,542	\$107,318

7

8

9 **6.0 LOW-INCOME ENERGY CONSUMER PROGRAMS (LEAP)**

10

11 Hydro Ottawa is committed to providing Conservation and Demand Management
12 ("CDM") programs to its low-income customers and continues to follow provincial
13 guidelines for the delivery of CDM programs. Hydro Ottawa expects low-income CDM
14 programs to be in place by January 2011 and will work closely with government
15 agencies once the programs have been established.

16

17

18 **7.0 GREEN ENERGY AND GREEN ECONOMY (GEA)**

19

20 Hydro Ottawa has included expenses in 2011 related to the *Green Energy Green*
21 *Economy Act* that are ongoing for the five year plan. Please refer to Exhibit B1-2-3,
22 Green Energy Act Plan for further details.

23



1 **8.0 CHARITABLE DONATIONS**

2

3 Hydro Ottawa has teamed up with the Ottawa Chapter of the United Way in an effort to
4 help the less fortunate. The creation of a Targeted Community Investment fund
5 specifically supports initiatives that help keep Ottawa residents in need sheltered and
6 warm. Hydro Ottawa matches funds raised by employees through the United Way which
7 are placed in the “Hydro Ottawa Shelter and Warmth Fund”. Based on the
8 recommendations of United Way, the fund will provide assistance to several local
9 organizations each year that are helping those most at risk of homelessness to find or
10 maintain stable, affordable housing.

11

12 Hydro Ottawa also contributes to the Winter Warmth program in Ottawa, which provides
13 one-time assistance to low-income households who are facing difficulty paying their
14 energy bills during the winter month, thereby alleviating the risk of disconnection of
15 service. This program is administered by United Way / Centraide Ottawa and the
16 Salvation Army Booth Centre, in collaboration with a range of front-line social service
17 organizations in the community.

18



SERVICES FROM AFFILIATES

1.0 INTRODUCTION

The majority of services Hydro Ottawa Limited (“Hydro Ottawa”) receives from affiliates are those which are strategic and governance in nature. All of the operations of the affiliate Telecom Ottawa Holding Inc. (“Telecom Ottawa”) were sold to a third party as of May 1, 2008; therefore, the associated pricing for services received through affiliate services reflect this change.

1.1 Energy Ottawa Inc.

The only ongoing service provided to Hydro Ottawa by Energy Ottawa Inc. (“Energy Ottawa”) is the electricity that Hydro Ottawa purchases from the embedded generators owned by Energy Ottawa. These purchases are made at spot market prices as required by the Retail Settlement Code or settlement under the terms of contracts with the Ontario Power Authority.

Energy Ottawa’s expertise is in renewable generation and energy services. On that basis, Hydro Ottawa does contract with Energy Ottawa from time-to-time to undertake certain conservation and demand management and renewable generation activities. Details are provided in the tables below.

1.2 Telecom Ottawa

Hydro Ottawa purchased fibre services from Telecom Ottawa up until May 1, 2008. Telecom Ottawa Inc. owned fibre assets between the distribution stations and operations centres of Hydro Ottawa. Since no other carrier had fibre assets directly to these locations, no other carrier could provide these services at a reasonable cost. Hydro Ottawa paid a fair market value to Telecom Ottawa for fibre optic services.



1 **1.3 Hydro Ottawa Holding Inc.**

2
3 The Hydro Ottawa Holding Inc. (the “Holding Company”) provides strategic direction and
4 oversight to Hydro Ottawa in the areas of Finance, Treasury, Internal Audit, Risk
5 Management, Legal, Regulatory, Corporate Administration, Human Resources, Safety
6 and Environment, Communications and Management Services. The Holding Company
7 does not engage in operational work for Hydro Ottawa, with the exception of some legal
8 services. These all fall under the definition of shared corporate services, as defined by
9 the Affiliate Relationships Code for Electricity Distributors and Transmitters.

10
11 The Holding Company costs are allocated to all affiliates based on an assessment of the
12 budgeted costs in relation to activity level within each affiliate. Items such as Board of
13 Directors costs, shareholder costs and business development are excluded. This
14 assessment is completed, at least, annually to determine the appropriate allocation of
15 costs. The prices of the services are cost-based. Refer to Attachment W - Appendix 2-
16 M for the list of services, prices and allocation percentages. At year end, the allocations
17 are reviewed and adjusted through a true up process to ensure costs are properly
18 allocated to subsidiaries.

19
20 For 2008, approximately 41 percent of the total Holding Company expenses were
21 allocated to Hydro Ottawa. As of May 1, 2008, a portion of the Holding Company
22 expenses that were previously allocated to Telecom Ottawa which was sold, were
23 subsequently allocated to Hydro Ottawa. This is because the cost allocation had been
24 done, as required, on a fully allocated costing model, rather than based on an
25 incremental cost basis. The telecom business had little impact on the total corporate
26 costs at the Holding Company, but, by using a fully allocated costing model, this
27 business had been allocated a percentage of these costs. For example, the loss of the
28 Telecom business did not change the need for a company Treasurer, so, the total cost
29 remains the same. Hydro Ottawa’s treasury function is provided by the Holding
30 Company. This is more cost effective than having its own treasury function because the
31 costs are shared by affiliated companies. Without Telecom Ottawa there are fewer



1 affiliates to share this cost, but, the cost is still lower than it would have been if the
2 treasury function was stand-alone within Hydro Ottawa.

3
4 A corporate reorganization at the beginning of 2009 transferred six headcount from the
5 Hydro Ottawa Finance department to the Holding Company. The Finance department
6 in the Holding Company provides enterprise support, in addition to, serving the needs of
7 Hydro Ottawa. Additionally, one headcount from the Hydro Ottawa Communications
8 department was transferred to the Holding Company mid-year.

9
10 Additional costs were allocated from the Holding Company to Hydro Ottawa relating to
11 Enterprise Risk Management (“ERM”) and Internal Audit as of 2009. The ERM function
12 was established to assist in managing risks and opportunities in a consistent and
13 integrated manner across the organization. A metric-based ERM model allows
14 management to track and evaluate its risks and risk mitigation strategies, which are then
15 reported to the Board of Directors quarterly. An annual assessment of major risks and
16 sources of risks ensures that the ERM model is current and in pace with the growth and
17 evolution of the industry.

18
19 The Internal Audit function was re-established in 2009 to provide assurance to the
20 management and the Audit Committee on the effectiveness and efficiency of operations
21 and on the existence and adequacy of internal controls. A risk-based, three-year
22 internal audit plan (“Plan”) was approved and rolled out. Implementation has been in
23 accordance with the approved Plan.

24
25 In 2010, the positions of Chief Information Officer, Supervisor of Treasury Services,
26 Manager of Human Resources and Executive Assistant were added. These staffing
27 changes increased the level of services being provided to Hydro Ottawa, overall, as well
28 as, increased the Holding Company allocation for Management Services from 41 percent
29 to 55 percent.

30



1 The apportionment of costs of ERM and Internal Audit to Hydro Ottawa reflects the
2 extent of coverage and focus that these functions provide to Hydro Ottawa. The three-
3 year internal audit plan focuses mainly on Hydro Ottawa.

4
5 As a result of the above changes, the total Holding Company costs allocated to Hydro
6 Ottawa increased from approximately 41 percent in 2008 to 53 percent in 2009. This is
7 due to the resource increases in Finance, Internal Audit, and Enterprise Risk
8 Management services. The allocation methodology has been applied consistently
9 between 2009 and 2011 and represents approximately 50 to 53 percent of total Holding
10 Company costs, on average.

11
12 The 2010 and 2011 budget set Hydro Ottawa's allocation of the total Holding Company
13 costs at \$4.74M and \$4.86M, respectively. This represents 50 percent of the Holding
14 Company's total costs. The increased costs are primarily related to the economic
15 increases in compensation, as well as, an inflationary increase in expenses. Headcount
16 assumptions were based on vacant positions in 2009 that were expected to be filled in
17 early 2010.

18
19 The Holding Company does not include a profit in the cost allocation to affiliates. In
20 addition, the Holding Company has responsibility for all external financing for itself and
21 the affiliates. The Holding Company issues debt in the external markets and Hydro
22 Ottawa pays interest expense to the Holding Company under the terms of a promissory
23 note. Currently, there are 4 promissory notes issued totalling \$297M.

24 25 **1.4 The City of Ottawa**

26
27 From the City of Ottawa (the "City"), Hydro Ottawa procures water and sewer services
28 and pays property taxes on the same terms as any business in the City. Hydro Ottawa
29 procures some of its fuel for its fleet from the City because the City is able to get a
30 volume discount beyond what Hydro Ottawa's volumes alone could obtain. Hydro



1 Ottawa also receives mapping information from the City by participating in the City's
2 Central Utility Registry.

3
4 In 2008, the City participated in a traffic light retrofit pilot which was initiated by Hydro
5 Ottawa's CDM department to test the energy efficiency of LED lights.

6
7 In 2010, Hydro Ottawa will be participating in a pilot project, testing street lighting control
8 technology. There will be no financial transactions between Hydro Ottawa and the City.
9 Further details on this initiative are provided in Exhibit B4-3-2.

10
11

12 **2.0 SERVICES FROM AFFILIATES**

13

14 Tables 1 through 5 that follow summarize the services Hydro Ottawa has received or
15 plans to receive from affiliates in 2008 through 2011.

16

17 **2.1 2008 Approved Expenses**

18

19 Table 1 summarizes the services that were forecasted to be received from affiliates and
20 the associated expenses in 2008, as part of the 2008 cost of service rate application.



1

Table 1 - 2008 Approved Expenses

Affiliate Names	Activity	Value	Basis Pricing
City of Ottawa	Property Taxes	\$1,758,250	Market-based pricing as per expected municipal assessment
	Water and sewer charges, fuel and other miscellaneous city services	\$536,000	Market-based pricing as per expected municipal rate calculations
Holding Company	Net interest expense (long-term and short-term)	\$15,724,416	Market-based pricing based on external debt held by the Holding Company inclusive of debt issuance costs and administration. Interest on short-term borrowing to be charged at the bank rate, plus applicable administrative charges
	Administration and Corporate Services expense	\$2,140,000	Cost-based pricing based on activity level, excluding some specific shareholder costs absorbed by the Holding Company
Telecom Ottawa	Broadband data services and dark fibre rental	\$1,259,859	Market-based pricing based on same determinants for external customers including length of contract, number of strands, etc.

2

3



1 **2.2 2008 Actual Expenses**

2

3 Table 2 summarizes the services that were received from affiliates and the associated
 4 expenses in 2008.

5

6

Table 2 - 2008 Actual Expenses

Affiliate Names	Activity	Value	Pricing Basis
City of Ottawa	Property Taxes	\$1,741,965	Market-based pricing as per expected municipal assessment
	Water and sewer charges, fuel and other miscellaneous city services	\$670,000	Market-based pricing as per expected municipal rate calculations
	CDM initiative – LED traffic light pilot	\$291,000	Cost-based pricing
Holding Company	Net interest expense and financing costs (long-term and short-term)	\$14,832,000	Market-based pricing based on external debt held by the Holding Company inclusive of debt issuance costs and administration. Interest on short-term borrowing to be charged at the bank rate, plus applicable administrative charges
	Administration and Corporate Services expense	\$2,260,000	Cost-based pricing based on activity level, excluding some specific shareholder costs absorbed by the Holding Company. The 2008 allocation is based on 41 percent of total costs
Energy Ottawa	CDM – solar panels and a total demand response program	\$419,000	Solar Panels (\$255k) Total Demand Response Program (\$164k)
Telecom Ottawa	Broadband data services and dark fibre rental – January to April	\$419,953	Market-based pricing based on same determinants for external customers including length of contract and number of strands

7

8



1 **2.3 2009 Actual Expenses**

2

3 Table 3 summarizes the services that were received from affiliates and the associated
4 expenses in 2009.

5

6

Table 3 - 2009 Actual Expenses

Affiliate Names	Activity	Value	Pricing Basis
City of Ottawa	Property Taxes	\$1,793,952	Market-based pricing as per expected municipal assessment
	Water and sewer charges, fuel and other miscellaneous city services	\$374,000	Market-based pricing as per expected municipal rate calculations
Holding Company	Net interest expense and financing costs (long-term and short-term)	\$15,592,715	Market-based pricing based on external debt held by the Holding Company inclusive of debt issuance costs and administration. Interest on short-term borrowing to be charged at the bank rate, plus applicable administrative charges
	Administration and Corporate Services expense	\$3,892,000	Cost-based pricing based on activity level, excluding some specific shareholder costs absorbed by the Holding Company. The 2009 allocation is based on 53 percent of total costs
	IFRS Implementation ¹	\$503,116	Cost-based
Energy Ottawa	CDM – building automation systems	\$252,600	Market-based. Master Services Agreement

7

8

9

¹ IFRS costs are transferred to regulatory assets per Ontario Energy Board



1 **2.4 2010 Budget Expenses**

2

3 Table 4 summarizes the services to be received from affiliates and the associated
4 expenses that have been budgeted for 2010.

5

6

Table 4 - 2010 Budget Expenses

Affiliate Names	Activity	Value	Pricing Basis
City of Ottawa	Property Taxes	\$1,761,997 ¹	Market-based pricing as per expected municipal assessment
	Water and sewer charges, fuel and other miscellaneous city services	\$464,201	Market-based pricing as per expected municipal rate calculations
Holding Company	Net interest expense and financing costs (long-term and short-term)	\$17,120,080	Market-based pricing based on external debt issued by the Holding Company inclusive of debt issuance costs and administration. Interest on short-term borrowing to be charged at the bank rate, plus applicable administrative charges
	Administration and Corporate Services expense	\$4,740,000	Cost-based pricing based on activity level, excluding some specific shareholder costs absorbed by the Holding Company. The 2010 allocation is based on 50 percent of total costs
	IFRS Implementation ²	\$354,037	Cost-based
Energy Ottawa	Vendor, customer and project management services for Suite Metering Initiative	\$375,000	Master Services Agreement based on 750 units at \$500 each installed

7

8

¹ Does not include Property Tax for Non Utility Assets

² IFRS costs are transferred to regulatory assets per Ontario Energy Board



1 **2.5 2011 Budget Expenses**

2

3 Table 5 summarizes the services to be received from affiliates and the associated
4 expenses that have been budgeted for 2011.

5

6

Table 5 - 2011 Budget Expenses

Affiliate Names	Activity	Value	Pricing Basis
City of Ottawa	Property Taxes	\$1,800,217 ¹	Market-based pricing as per expected municipal assessment
	Water and sewer charges, fuel and other miscellaneous city services	\$375,985	Market-based pricing as per expected municipal rate calculations
Holding Company	Net interest expense and financing costs (long-term and short-term)	\$17,852,361	Market-based pricing based on external debt issued by the Holding Company inclusive of debt issuance costs and administration. Interest on short-term borrowing to be charged at the bank rate, plus applicable administrative charges
	Administration and Corporate Services expense	\$4,855,200	Cost-based pricing based on activity level, excluding some specific shareholder costs absorbed by the Holding Company. The 2011 allocation is based on 50 percent of total costs
	IFRS Implementation ²	\$361,118	Cost-based

7

8

¹ Does not include Property Tax for Non Utility Assets

² IFRS costs are transferred to regulatory assets per Ontario Energy Board



Attachment W - Appendix 2-M

Shared Services / Corporate Cost Allocation

Year	From	To	Service Offered	Price for the service \$000	Cost for the service \$000	% Allocation
2008	HOHI	HOL	Legal, Corporate Admin & Regulatory	459,716	892,172	52%
			Finance, Internal Audit, and Enterprise Risk Mgmt	976,959	1,801,995	54%
			HR, Safety & Environment	379,562	539,992	70%
			Corporate Communications	123,420	550,679	22%
			Management Services	320,001	778,793	41%
			Non-Allocated activities	-	985,443	0%
			\$ 2,259,658	\$ 5,549,074	41%	
2009	HOHI	HOL	Legal, Corporate Admin & Regulatory	609,406	875,198	70%
			Finance, Internal Audit, and Enterprise Risk Mgmt	2,026,172	3,399,246	60%
			HR, Safety & Environment	621,311	660,358	94%
			Corporate Communications	165,544	551,812	30%
			Management Services	469,219	1,135,395	41%
			Non-Allocated activities	-	684,690	0%
			\$ 3,891,652	\$ 7,306,699	53%	
2010	HOHI	HOL	Legal, Corporate Admin & Regulatory	644,891	939,472	69%
			Finance, Internal Audit, and Enterprise Risk Mgmt	2,473,853	3,999,270	62%
			HR, Safety & Environment	689,860	741,126	93%
			Corporate Communications	271,875	906,251	30%
			Management Services	659,521	1,199,130	55%
			Non-Allocated activities	-	1,751,548	0%
			\$ 4,740,000	\$ 9,536,797	50%	
2011	HOHI	HOL	Legal, Corporate Admin & Regulatory	661,187	963,212	69%
			Finance, Internal Audit, and Enterprise Risk Mgmt	2,531,587	4,100,332	62%
			HR, Safety & Environment	707,293	759,854	93%
			Corporate Communications	278,745	929,152	30%
			Management Services	676,187	1,229,432	55%
			Non-Allocated activities	-	1,795,810	0%
			\$ 4,855,000	\$ 9,777,792	50%	

Variance Analysis

Explanation	2011 Price	2008 Price	Variance Price for Service	Price Percentage Change
In May 1, 2008, a portion of the Holding Company costs, previously allocated to Telecom Ottawa, were re-allocated to Hydro Ottawa, increasing the allocation percentages. In 2009, Enterprise Risk Management and Internal Audit Services were added, six staff from Finance and one staff from Communications were transferred to the Holding Company (the latter mid-year). In 2010, 4 additional positions were added, namely Chief Information Officer, Supervisor of Treasury Services, Manager of Human Resources and an Executive Assistant. As well, the allocation for Management Services increased from 41 to 55 percent. Remaining cost increases were due to inflation.	\$ 4,855,000	\$ 2,259,658	\$ 2,595,342	115%
The 2009 amounts do not reflect a full year of staff additions for Enterprise Risk Management, Internal Audit, Communications and some Finance positions. Further, 4 additional positions were added in 2010, namely Chief Information Officer, Supervisor of Treasury Services, Manager of Human Resources and an Executive Assistant. Allocation percentages remained relatively constant, with the exception of Management Services which increased from 41 to 55 percent. Remaining cost increases were due to inflation.	\$ 4,855,000	\$ 3,891,652	\$ 963,348	25%



PROCUREMENT STRATEGY

1.0 SUPPLY CHAIN

Hydro Ottawa Limited's ("Hydro Ottawa") Supply Chain organization is responsible for the acquisition of goods and services for the company. There are two basic components to the organization; Procurement and Material Management, which together are responsible for the end-to-end process of acquiring, receiving, storing and issuing (direct material used by Construction and Maintenance), all ordered goods and services.

The Enterprise Procurement Policy, Attachment X, stipulates that all acquisitions shall be covered by purchase orders, with noted exceptions, such as utilities and taxes, as defined by policy. Spending authority is defined by the Procurement Policy and controlled by electronic workflow embedded in the business system (JD Edwards – One World). Acquisitions requiring formal, written quotations are evaluated using a predetermined weighted scoring matrix to ensure awards are made to the bidder offering the best value; however, pricing does carry a minimum of 50% of the matrix scoring for goods and 30% for contracted services.

In 2009 \$140M worth of invoices were processed for all goods and services. A total of \$17.5M in direct material (average of \$1.5M per month) was received and a total of \$16.9M (average of \$1.4M per month) was issued. Overall, an inventory of between \$6.4M and \$8.4M was maintained over the year, ending at \$7.1M as of December 31, 2009. Although issues track receipts closely, the overall running inventory level does not change appreciably, as there is a core of material kept for emergency repairs which has been pared down from a high of \$18M in 2001 to \$6.6M at December 31, 2008 and maintained at this level since.



1 The procurement practices Hydro Ottawa has in place enable the optimal inventory
2 turnover ratio. The actual turnover ratio is currently running around 3.1. Typically,
3 electric utilities in Canada run between a turnover ratio of 1 and 2.5. This inventory
4 minimization is the result of proactive processes.

5
6 • Forecasting

7 Hydro Ottawa has long standing alliances with six key suppliers. Monthly
8 forecast sessions with sales management personnel from the four largest of
9 these alliance partners and the design and planning group enable the supplier to
10 work their supply channels to pipeline material to meet projected need dates with
11 minimal commitment on Hydro Ottawa's part. Meetings are documented and
12 updated monthly as the forecasts are continuously refined.

13 • Drop Shipping

14 The alliance partnerships position Hydro Ottawa to take delivery only when ready
15 to proceed with the relevant job. The material is delivered to the job site on the
16 day specified and is charged to the covering work order upon delivery, i.e. it is
17 not taken into inventory; the supplier holds the inventory. All residential
18 transformers and underground cable are delivered in this manner in addition to
19 some commercial transformers and poles for new or replacement pole lines.

20
21 Company overheads have been reduced by consolidating the warehousing into one
22 central location from four (with one ancillary yard and small stock to serve the special
23 needs of the downtown core). Materials for the next day's jobs are delivered to the
24 corresponding work centres around the city overnight by common carrier. This enables
25 line crews to be out on the road as soon as they arrive for work and not have to access
26 stores before they can start work, as was traditionally done.

27
28 There are formal strategic alliances established with six key suppliers. The net effect is
29 that Hydro Ottawa has full visibility into their pricing models and, after establishing
30 baseline pricing through a competitive process; price changes (up and down) are
31 transparently discussed and agreed. Because of the pre-agreed pricing, buyers do not



1 have to go through a pricing and availability cycle every time an item comes up for
2 replenishment. This greatly economizes on their time by eliminating this traditional low-
3 level activity in favour of more strategic vendor communications. Also, the pricing
4 reflects the total usage expectation of the company, where each item is priced
5 accordingly, not at the level of each discrete buy quantity, as would be the case in a
6 traditional scenario. This open relationship has enabled the above-mentioned forecast
7 process to see lead times become almost a non-issue from previously having to deal
8 with 18 to 26 weeks plus scenarios.

9
10 Overall, the continued thrust is to minimize inventory investment and at the same time
11 improve service levels. Continuous improvement is actively pursued so that the
12 company can continue to do more with less; less investment in inventory and productive
13 processes. As the acquisition process is so pivotal in improving effectiveness,
14 investments have been made in more advanced skill sets and tools in the Procurement
15 Department. A recent major initiative has been to position Procurement to play a more
16 supportive and leadership role in the acquisition of non-stock goods and services. This
17 has involved providing guidance as to the best sourcing and tendering methodologies,
18 establishing a meaningful evaluation matrix, and post award contract management
19 services. This initiative is led by two Senior Procurement Agents and supported by an
20 analyst. The overarching objective has been to establish as leading edge a process for
21 non-stock procurement as is currently in place for direct material. The Enterprise
22 Procurement Policy underwent a major review through 2006-2007 and was re-released
23 in amended form in November 2007. An extensive audit review of the entire "Procure to
24 Pay" Cycle is planned for early 2010 and the Procurement Department is involved in
25 ongoing professional development with the Purchasing Management Association of
26 Canada and is looking towards more involvement in the International Association for
27 Contract and Commercial Management. As the procuring of contracted services
28 consistently represents 65-70% of the annual spend, proactive contract management will
29 remain a strong focus.

30



1 Year over year expectations for 2010 through 2015 center on process improvements as
2 described above. The planned staff complement has the elasticity to carry Hydro Ottawa
3 over this time period, barring an unplanned major change to the company's customer
4 base or business model. The processes now in place are expected to continue to drive
5 inventory levels down, while also improving service levels to the company.

8 **2.0 GLOBAL MARKET IMPACT ON DISTRIBUTION EQUIPMENT**

10 **2.1 Discussion**

12 Distribution equipment contains parts composed of various metals. Current carrying
13 components, such as those on switches, transformers, cables and conductors are made
14 of copper and aluminum. Casings for equipment such as transformers and pad-mounted
15 switches are constructed of steel, and transformer cores require high-grade electrical
16 steel. Underground Paper Insulated Lead Cable ("PILC") cable contains lead and oil as
17 well.

19 The global market prices for metals, particularly steel, copper and aluminum have been
20 very volatile in recent years. The high grade core steel for transformers has undergone
21 price spikes and even market allocations as production has been rationalized between
22 Asia and North America. The last Canadian manufacturer of the legacy product PILC
23 Cable has ceased production and may close the factory entirely. The global market for
24 oil has increased as well, which impacts the cost of shipping and the cost of plastic
25 underground insulation and jacketing. As material costs to equipment manufacturers
26 have risen, the costs for manufactured equipment have risen.

28 Costs for manufactured equipment are expected to remain volatile with the long term
29 trend being upwards. In recent years, Hydro Ottawa has seen a rise in equipment costs
30 beyond historic rises, largely due to the increased prices of metals and oil. Figure 1,
31 from www.infomine.com, shows the 10-year trend in copper prices.



1 Measures already in place for some time in Supply Chain activities will assist in
2 mitigating the risk of increasing equipment costs, for example, strategic alliances
3 developed with suppliers lower overall costs and lead times. Significant increases in
4 global market prices for raw materials will have an impact on Hydro Ottawa's costs for
5 manufactured equipment.

6
7

Figure 1 – Yearly Copper Prices



8
9

10 2.2 Impact on Distribution Equipment Costs

11

12 This section provides an illustrative comparison of some Hydro Ottawa distribution
13 equipment costs that have risen significantly during the period of December 2005
14 through December 2009. For this analysis, the cost of equipment purchased was
15 explored, although it is realized, this may not be the cost of the equipment capitalized
16 within the same year.



1 Equipment costs rose sharply from 2005 to 2006. In subsequent years the rate of cost
2 increases has decreased, and in some cases costs have decreased. Most distribution
3 equipment purchased in 2009 was purchased at a cost higher than the cost in 2005 plus
4 a yearly inflationary increase.

5

6 **2.2.1 Cables and Conductors**

7

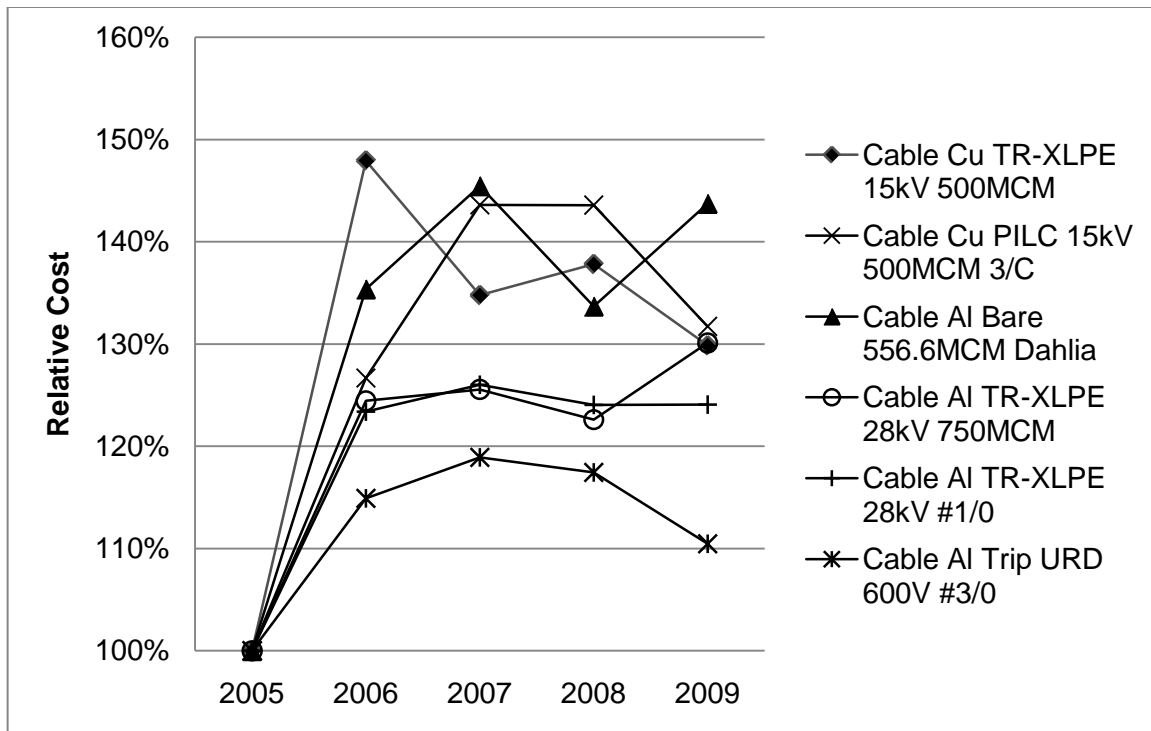
8 Cable and conductor prices increased significantly over the period. A significant
9 increase in the global market prices for copper and aluminum were responsible.

10 Comparing prices of commonly used overhead and underground cables, purchased in
11 high volumes; Hydro Ottawa experienced a cost increase in the range of 130% between
12 2005 and 2009. Hydro Ottawa purchased in excess of 200 km of cable in each of 2007,
13 2008 and 2009.

14

15

Figure 2 – Cable Costs Relative to 2005 Costs



16

17



1 2.2.2 Distribution Transformers

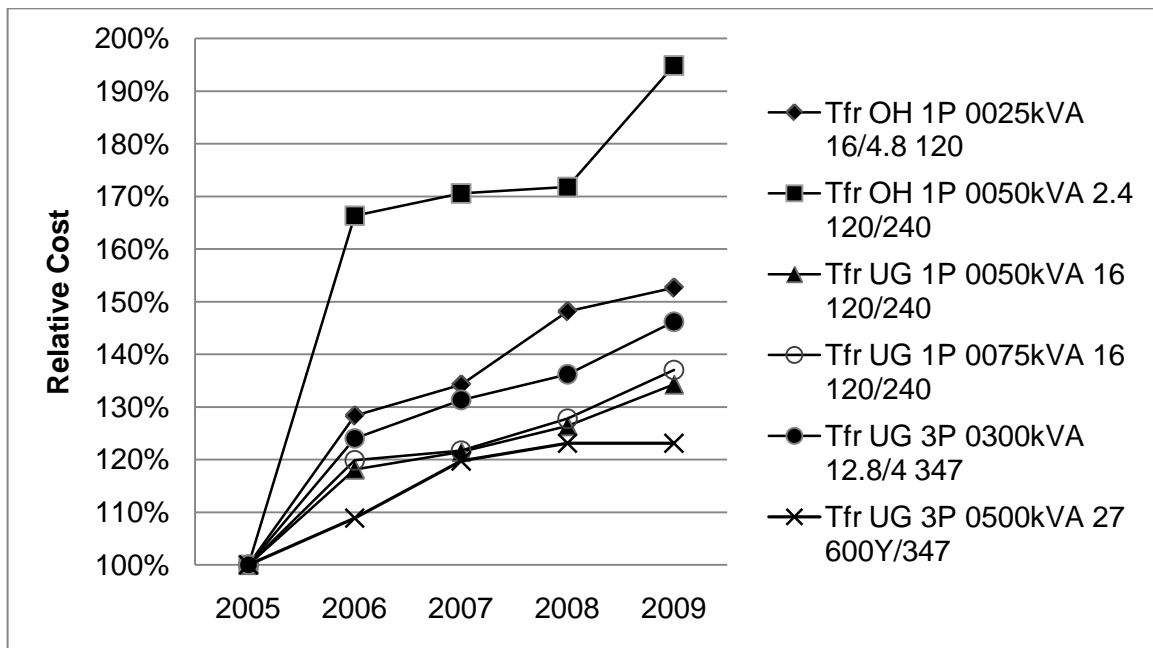
2
3 Distribution transformer prices increased significantly over the period due to significant
4 increases in global market prices for copper, oil and steel.

- 5
6
 - Copper is used in the transformer electrical components.
 - Oil is the insulating medium of the transformers.
 - Steel is used in transformer construction for the mechanical housing of the units,
9 and high-grade steel is used for the transformer cores.

10

11 Hydro Ottawa purchases in the order of hundreds of transformers, of various sizes and
12 voltage combinations, each year.

13
14 **Figure 3 – Distribution Transformer Costs Relative to 2005 Costs**





1 2.2.4 Shipping

2

3 Oil prices increased during the period impacting shipping prices. Shipping costs are
4 included in the unit costs for those prices supplied by Hydro Ottawa's strategic alliance
5 partners.

Policy Number: SUP-002.02	Subject: Enterprise Procurement Policy
Effective Date: October 3, 2007	Policy Owner: CFO

Purpose of the policy

The purpose of this policy is to provide rules and guidelines and establish an Enterprise approach for the acquisition of goods and services at the Hydro Ottawa Group of Companies.

The Group's acquisition of goods and services shall be in accordance with this policy and will be consistent with the current versions of other relevant Enterprise or subsidiary policies such as Approval and Authorizations, Invoice Payment, Credit Card and Petty Cash Purchases, Contractor Safety Program, Environmental, and the Code of Conduct.

Attached is a Summary (Appendix A) that outlines the basic elements of the Policy.

Applicability

This policy applies to all the Hydro Ottawa Group of Companies (hereinafter referred to as the "Group").

Policy Statement

The Group is committed to adopting procurement practices that

- ◇ Enable purchase of quality goods and services efficiently and at the most favourable prices to maximize the value of its acquisitions for its stake-holders
- ◇ Ensure the fair and equitable treatment of vendors
- ◇ Support the protection of the environment
- ◇ Promote competition in the selection of suppliers
- ◇ Ensure fair, open, transparent and accountable competitive processes to acquire goods and services
- ◇ Ensure compliance with all applicable laws and regulations.

This policy recognizes that specific situations arise for which a competitive process cannot be undertaken or undertaking a competitive process is not in the best interest of the Group or its stakeholders. Within this context, this policy identifies the circumstances under which a non-competitive process is allowable. There are two circumstances: Sole Source and Directed Source. Sole Source is a situation where there is only one identifiable source for a given good or service. Directed Source is a situation where there is more than one identifiable source but there are compelling reasons why one source should be selected without an open competition.

Procurement (which is defined as an individual or a team of individuals responsible for the procurement function within the companies) will have the primary responsibility for ensuring that all goods and services required by any of the Hydro Ottawa Group of companies are acquired using the appropriate procurement method to serve the principles of this policy. However, ultimate accountability for conformance with procurement related policies and practices vests with the senior management in each of the companies.

All acquisitions of goods and services shall be covered by purchase orders, unless otherwise provided for in this policy.

Enterprise approved templates for standard contractual offerings will be used as a basis for all agreements. However, when deemed appropriate by Procurement in consultation with the user, contracts and agreements may be drafted in consultation with the Corporate Counsel, to ensure that unique clauses to protect the Group's interests are incorporated.

Roles and Responsibilities

Enterprise Policies

Policy Number: SUP-002.02	Subject: Enterprise Procurement Policy
Effective Date: October 3, 2007	Policy Owner: CFO

The overall responsibilities to acquire goods and services in accordance with this policy are set out below.

User Responsibilities:

- Identify and compile a list of goods or services that need to be acquired from external suppliers.
- Ensure the availability of required funding to support the acquisition.
- Initiate a purchase requisition in JDE and, through the imbedded workflow, secure approval to purchase.
- Develop the statement of requirements or detailed specification, as applicable to the requirement and the acquisition method.
- Work collaboratively with procurement to define the evaluation criteria and the selection method as appropriate to the acquisition method.
- Evaluate submissions in accordance with the pre-determined evaluation criteria and process to the satisfaction of Procurement.
- Participate with Procurement to debrief unsuccessful suppliers.
- Administer supplier contracts as further described below under “Contract Management”.

Procurement Responsibilities:

- Act as custodian of this Procurement Policy and all associated procurement procedures and in so doing:
 - Monitor conformance with the policy and procedures,
 - Reject any purchase requisitions which, in the opinion of Procurement, do not conform with this policy and procedures, and
 - Raise any incidents of non-compliance through the procurement management hierarchy for resolution.
- Provide advice and guidance to users and work collaboratively with them during a procurement event to:
 - Determine the most appropriate acquisition method, and
 - Prepare the solicitation documents including the definition of requirements or detailed specifications and the evaluation criteria and selection process as applicable to the acquisition method.
 - Support the user during the evaluation of supplier submissions and ensure adherence to the pre-determined evaluation and selection process.
- Work collaboratively with each subsidiary to determine opportunities to aggregate buys and establish vehicles for the acquisition of common buys.
- Routinely inform users about the availability of standing offers, supply arrangements, supplier source lists for the acquisition of goods or services.
- Debrief unsuccessful suppliers, in consultation with the users, if requested by a supplier.
- Submit to the executive team, reports on procurement activity.
- Administer supplier contracts as further described below under “Contract Management”.

Enterprise Policies

Policy Number: SUP-002.02	Subject: Enterprise Procurement Policy
Effective Date: October 3, 2007	Policy Owner: CFO

Management Responsibilities:

Within their specific functional areas of responsibility, management is accountable to ensure that goods and services are acquired in accordance with this policy, and other applicable policies (e.g. Approval and Authorization Policy). Any issues of non-compliance with the procurement related policies and associated procedures that cannot be resolved at the management level must be raised to the applicable COO.

Procurement Options

Credit cards, procurement cards and petty cash may be utilized in lieu of purchase orders (except for inventory items), as set out in the policies and procedures that accompany them. Refer to Appendix A of the Invoice Payment Policy for an exception list of items that may be processed for payment without reference to a purchase order, regardless of the dollar value.

Purchase Requisition

Purchase Requisitions must be created electronically via the JD Edwards (JDE) Enterprise Business System (EBS) and are required as a precursor for the acquisition of any goods or services not covered by credit cards, procurement cards, petty cash or excepted per Appendix A of the Invoice Payment Policy. Requisitions shall be subject to authorization pursuant to the relevant Finance policy embedded in JD Edwards – Enterprise Business Systems (JDE EBS). Procurement staff shall only proceed with a duly executed and approved requisition as per the subsidiary's authority matrix.

Evaluation and Selection of suppliers

Obtaining best value is one of the key objectives of procurement activities. The ability to select the optimal proposal is a function of designing evaluation criteria and evaluation and selection processes that are appropriate to the requirement and the acquisition method used. In some situations, price will be the sole basis upon which selection is made, e.g. lowest price is the typical basis of selection when a Request for Quotation method is used. In other instances, the design of relevant objective and qualitative criteria together with an appropriate weighting will form the basis of final selection. However, the contribution of price to the overall evaluation and selection should be significant and must be no less than 50% of the criteria matrix for the purchase of goods or services, and 30% for the purchase of professional services.

Objective and qualitative evaluation criteria appropriate to the requirement will be defined by the user and to the satisfaction of Procurement and set out in the solicitation document.

It is critical to evaluate and score proposals in accordance with the pre-determined evaluation criteria and evaluation process in order to maintain fairness, openness and transparency in the procurement. Evaluation criteria are designed to assess key aspects of the suppliers' ability to address the requirements such as:

- Compliance with specifications or other requirements contained in the bid
- Quality of goods or services
- Suppliers qualifications (e.g. capability, skills)
- Experience of the supplier providing similar goods or services
- Past performance
- Price, and other financial terms

Purchase Orders

Enterprise Policies

Policy Number: SUP-002.02	Subject: Enterprise Procurement Policy
Effective Date: October 3, 2007	Policy Owner: CFO

All purchases shall have covering Purchase Orders issued. However, goods and services with a total value less than \$1000 may be acquired without a PO, or competitive process, provided they are paid for at the time of transaction with cash, corporate credit card or P-Card to prevent invoices being sent to Accounts Payable that can't be matched to the employee who acquired the good or service. Purchase orders are subject to the current Enterprise and subsidiary finance policies relating to authority limits, invoice payment processes and authorization.

If an amendment is required to a released purchase order the requisition must be re-submitted by the originator reflecting the desired change. The reason for the amendment must be appended to the requisition. The requisition will then flow through the same approval route and trigger Procurement to effect the purchase order amendment. The ceiling on amendments is a maximum of 50% of initial contract value. Beyond 50%, or in the case where a significant change in scope has been introduced, a new procurement process must be initiated. Procurements initiated with a Sole Source justification must have the Sole Source rationale resubmitted for approval if the amendments exceed the 50% threshold or if more than 12 months have elapsed since the initial approval date of the Sole Source request.

In general, the terms of the agreements established for associated purchase orders will specify, as a minimum, total estimated cost or upset limit. Per diem rates are not sufficient, neither are lump sum retainers. Deliverables, with associated timeframes, should be clearly identified.

Standing Offers

Where Standing Offers are in place, call-ups of goods and services of over \$100,000 require a competitive process among the existing Standing Offer suppliers (where there is more than one offeror). The COO/CEO, within their authorization limits, will have the authority to waive the competitive process among Standing Offer suppliers, for a specific purchase on a case-by-case basis. The request is to be documented on a Sole Source / Directed Source form as the vehicle to record the COO's approval.

Suppliers with whom Group members have existing standing offer arrangements will be used for all purchases for products or services of the kind provided by the standing offeror(s).

Sole Sourcing

Sole sourcing is a non-competitive method of acquiring goods and services from a single supplier. Within the Hydro Group of Companies, some of the situations for which a sole source contract is allowable are as follows:

- The need is one of pressing urgency and must be addressed quickly to alleviate a threat to the health, safety or welfare of the public; or an event that could cause loss or damage to the public or other property; or an event that has disrupted essential services that must be re-established without delay.
- There is only one qualified supplier with the specific expertise required.
- There is only one qualified supplier capable of supplying the required good(s) or service(s).
- There are pre-requisites to bidding that can only be satisfied by one supplier.
- The need is a follow-on to a previously acquired good or service and is therefore most appropriately provided by the original contractor.

A Request for Sole Source / Directed Source form must be completed to justify the non-competitive acquisition of goods or services in excess of \$1,000. This form sets out the definitive list of situations, and the criteria to be specified, for which the award of a sole source contract is allowable. The completed form, with the concurrence of Procurement, is to be signed-off by a Manager for requirements less than \$10,000, by either a Director / VP / COO for requirements between \$10,000 and \$25,000, and by the President/CEO for requirements over \$25,000.

Work Orders

Enterprise Policies

Policy Number: SUP-002.02	Subject: Enterprise Procurement Policy
Effective Date: October 3, 2007	Policy Owner: CFO

If three or more separate purchase orders are anticipated to carry out a single project, then a work order should be opened to collect costs on such capital and operating budgetary initiatives.

“No-splitting” Rule

Any acquisition for a single purpose cannot be split across multiple PO's or multiple suppliers with the intent of avoiding a competitive process or circumventing the approval and authorization process. An acquisition would be deemed for a single purpose if it were the purchase of the same product or service, whether from one or more suppliers. In this context, the estimated annual purchase value of the item would also be considered in establishing the threshold value for the no-splitting rule.

Acquisition of Inventory Items

Stock levels of inventoried items are managed solely by Procurement through a combination of triggers – reorder points based on historic usage, lead time, and item cost; commitments based on work order parts lists released for implementation by field staff; and formal forecasting processes or other criteria developed in consultation with the user. Procurement initiates and issues purchase orders, authorized through the embedded JDE EBS approval hierarchy, for the acquisition of inventoried items.

Acquisition of Non-inventory Goods and Services

Acquisitions of non-inventory Goods and Services for an amount less than \$100,000 may be enabled by a call-up against a Standing Offer. For acquisitions above \$100,000 specific rules around the use of Standing Offers will apply.

Purchases < \$ 25,000

In the absence of a Standing Offer, goods and services for an amount greater than \$1000 and less than \$25,000 will be acquired using an appropriate acquisition method and where a minimum of 2 oral or written quotes are obtained, and filed with the purchase order. An oral quotation will be documented and contain a description and an evaluation of the criteria established to determine the successful bidder.

The specific acquisition method that will be used will be decided by Procurement based upon a joint assessment undertaken by Procurement and the user considering the scope and nature of the requirement.

The usual processes of requisitioning and having a covering purchase order issued are required. However, if the requirement conforms to the allowable circumstances for sole sourcing, the user must also complete a Request for Sole Source/Directed Source form and submit it in accordance with the approval levels and documentation requirements set out in the form, to enable the placement of an order without obtaining competitive quotes.

Purchases >\$25,000

In the absence of a Standing Offer, goods and services amounting to more than \$25,000 will be acquired using an appropriate acquisition method and where a minimum of 3 vendors have been requested to bid and the results obtained filed with the purchase order. The acquisition methods typically applicable to acquisitions >\$25,000 include:

- Request for Tender
- Request for Proposal
- Request for Quotation
- Call-up against a Standing Offer (however subject to limitations for Standing Offer procurements > \$100,000)

Enterprise Policies

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The specific acquisition method that will be used will be decided by Procurement based upon a joint assessment undertaken by Procurement and the user considering the scope and nature of the requirement.

The usual processes of requisitioning and having a covering purchase order issued are required. However, if the requirement conforms to the allowable circumstances for sole sourcing, the user must complete a Request for Sole Source/Directed Source form and submit it in accordance with the approval levels and documentation requirements set out in the form, to enable the placement of an order without obtaining competitive quotes.

Reporting

The Procurement department will compile and make available for the executive team, information and reports on the procurement activity, and with a frequency as specified by the Executive of the respective Group member or the President, as appropriate.

Conflict of Interest

Employee Related Conflict of Interest:

Hydro Ottawa's Code of Conduct identifies the principles of good conduct and standards of behaviour that the Group employees are expected to demonstrate in the performance of their duties and functions. Within these specific contexts, each employee of the Group has a *continuing obligation* to declare any conflict of interest situation arises.

For all competitive acquisitions for which a formal tendering process is undertaken and a Bid Evaluation form prepared, the requisitioner will be required to confirm that he/she is not in a conflict of interest situation with respect to the transaction.

For all sole source acquisitions of goods and services, the individual recommending the award of a sole source contract and completing the Request for Sole Source/Directed Source form must confirm that he/she is not in a conflict of interest by checking the applicable box on the form.

Supplier Related Conflict of Interest:

As part of their response to an acquisition, suppliers will be asked to declare if they have any conflict of interest. Specifically, suppliers will be asked to declare if they have or have had access to any information about the requirement (confidential information) that may give them an unfair competitive advantage relative to the specific acquisition.

Communications

All bidders will be informed of whether or not they are the successful bidder. If a supplier requests a debriefing about the results of their particular evaluation, Procurement and the user will meet with the supplier(s) requesting the debriefing.

Contract Management

Once a contract has been awarded, the contract(s) must be managed throughout the term of the contract as described herein. The associated user will be responsible to ensure that the contractor(s) complies with the technical terms conditions of the contract, e.g. to ensure that the contractor(s) complies with to the delivery and quality requirements. Procurement, and Safety, Environment and Training (SE&T) where applicable, will be responsible to ensure that the contractor(s) complies with procedural terms of the contract such as receipt of insurance certificates, tracking warranty periods, contract extension options and expiry dates.

Should issues of non-compliance arise, the user and procurement must work collaboratively to attempt to remedy the problem. Any formal communication with the supplier regarding contractual performance issues shall emanate from procurement, with consultation with the user (with the exception of the formal, interface that SE&T undertakes with contractors with respect to

Enterprise Policies

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compliance issues under its jurisdiction). This encompasses everything from giving the supplier notice that they are found to be delinquent or in breach, to a request for corrective action, to termination for cause. Similarly, communication with the supplier of termination for convenience shall also emanate from procurement, with consultation with the user. All negotiations to terminate a contract will be led by procurement.

Records Management

In the case of competitive processes, Procurement shall file, electronically or in hard copy, as appropriate, all documents associated with the procurement process and contract award (the solicitation document and any addendum and questions and answers; the successful supplier(s) proposal or submission; the Purchase Orders; all contract related documents; and any other relevant supporting documentation), systematically for ease of reference and retrieval and in accordance with The Group's retention policy.

In the case of sole source acquisitions, Procurement shall file electronically or in hard copy, as appropriate, the approved Request for Sole Source/Directed Source form, the contract documents and any other relevant supporting documentation, systematically for ease of reference and retrieval and in accordance with the Group's retention policy.

Amendment to the Policy

This policy may only be amended with the approval of the Chief Financial Officer and President/CEO.

Approval Levels

Approval levels for creating requisitions and releasing purchase orders are embedded in JDE EBS and reflect the approval hierarchy defined in the current Enterprise and subsidiary Finance policy relating to Approval and Authorizations.

Enterprise Policies

Policy Number: SUP-002.02	Subject: Enterprise Procurement Policy
Effective Date: October 3, 2007	Policy Owner: CFO

Policy Compliance

There will be **no exceptions** to the requirements of this policy in the execution of day-to-day business. This policy lays down the minimum standard that each subsidiary should follow. If required, the COO may implement stricter thresholds and design additional controls and procedures within the minimum thresholds and requirements established by this policy. Employees must report incidents of non-compliance relating to this policy in a timely manner to the COO.



President & CEO
Rosemarie Leclair



CFO
Wojciech Zielonka

Enterprise Policies

Policy Number: SUP-002.02	Subject: Enterprise Procurement Policy
Effective Date: October 3, 2007	Policy Owner: CFO

Appendix A

Purchase Requisitions are required as a precursor for the acquisition of any goods or services not covered by credit cards, procurement cards, petty cash or excepted per Appendix A of the Invoice Payment Policy. The following is a summary of significant areas in the Procurement Policy.

Procurement Method	Threshold	Process Requirement	Documentation	Permitted Authority
Credit Card/ P card	<\$1,000	As set out in the applicable separate policies		Within Position's authority limits
Inventory Purchase	N/A	As set out in the relevant procurement procedures		Procurement; Within position's authority limits
Non-Inventory Purchase	<\$1000	Credit Card, P-Card, Cash – otherwise a requisition & purchase order are required.		Within position's authority limits
	\$1,000 - \$25,000	Call-up on standing offer or other appropriate acquisition method (As determined jointly with procurement)	Purchase Requisition. For non-standing offer: Documentation of a minimum of 2 oral or written quotes	Within position's authority limits
	> \$25,000	Call-up on standing offer or other appropriate acquisition method (Sole source, RFP, RFT, RFQ)	Purchase Requisition. For non-standing offer: Documentation and results where a minimum of 3 vendors have been asked to bid	Within position's authority limits
Call-up of Standing Offer	<\$100,000	Purchase Requisition. Other requirements as set out in the relevant Procurement procedures		Within position's authority limits
	>\$100,000	Competitive Process among Standing Offer Suppliers	Purchase requisition. Waiver of Competitive Process Justification to be documented on Sole Source / Directed Source form	COO / CEO within their authority limits
Sole Sourcing	<\$1,000	N/A		
	\$1,000 - \$10,000		Purchase Requisition. Justification to be documented on Sole Source / Directed Source form	Procurement and a Manager
	\$10,001 – \$25,000		Purchase Requisition. Justification to be documented on Sole Source / Directed Source form	Procurement and a Director / VP / COO or CEO
	\$25,001+		Purchase Requisition. Justification to be documented on Sole Source / Directed Source form	Procurement and President & CEO
Contract Amendments	Within Thresholds established above	As described above for each Procurement Method	As described above	Within Position's authority limit or limit prescribed by policy.



1 **HEALTH, SAFETY AND ENVIRONMENT OVERVIEW**

2

3 **1.0 INTRODUCTION**

4

5 Hydro Ottawa Limited (“Hydro Ottawa”) recognizes the importance of health, safety and
6 environmental considerations in ongoing activities. The internal responsibility system is
7 a cooperative accountability framework for parties within the workplace that is created by
8 the *Occupational Health and Safety Act*. Building upon the foundation of the internal
9 responsibility system, Hydro Ottawa has adopted a best practice approach to meet high
10 standards of health, safety and environmental requirements conducive to the nature and
11 risks associated with business activities. Hydro Ottawa has successfully implemented
12 and maintains an integrated environmental and health and safety management system
13 certified to International Organization for Standardization (“ISO”) 14001:2004 and
14 Occupational Health and Safety Assessment Series (“OHSAS”) 18001:2007.

15

16

17 **2.0 MANAGEMENT SYSTEM**

18

19 To ensure that the integrated health, safety and environmental management system,
20 programs, practices, policies, procedures and work instructions are available, known and
21 used, Hydro Ottawa:

22

- 23 • Conducts formal risk-based assessments of health and safety hazards and
24 environmental aspects where appropriate,
25 • Maintains and assesses a safety communication strategy for management
26 system information, and
27 • Maintains a process for monitoring conformance to the integrated management
28 system.

29

30 To ensure that all employees know and understand their roles, responsibilities and
31 accountability within the integrated management system, Hydro Ottawa has:



- 1 • Enhanced programs outlining health, safety and environmental roles,
2 responsibilities and accountability for all levels of management, and
3 • Ensured performance is integrated into the management performance evaluation
4 system.

5

6 To provide ongoing training and support to ensure proficiency for all employees in the
7 work that they do, Hydro Ottawa:

8

- 9 • Maintains a comprehensive training matrix by occupation and risk, and tracks all
10 training,
11 • Delivers training as required to meet compliance and program requirements, and
12 • Assesses training effectiveness on an ongoing basis.

13

14 To effectively promote health, safety and environment throughout the company, Hydro
15 Ottawa:

16

- 17 • Maintains an effective communications process,
18 • Plans and executes health, safety and environment events that are meaningful to
19 employees and effective in improving program performance,
20 • Reinforces best in class safe work practices, and
21 • Implements processes that promote consultation with/engagement of employees.

22

23 To ensure that practices related to contractor construction and maintenance activities
24 have been established and implemented through the integrated health, safety and
25 environmental management system, Hydro Ottawa:

26

- 27 • Ensures that the current documented program reflects the actions and needs of
28 Hydro Ottawa stakeholders,
29 • Establishes a framework for project execution that clearly outlines stakeholder
30 involvement and accountabilities, and



- 1 • Audits the project safety management program to determine conformance /
2 compliance and efficacy.

3

4 To comply with legal requirements, Hydro Ottawa:

5

- 6 • Compiled and maintains a registry of applicable legislation,
7 • Communicates legislated duties, responsibilities and accountability to employees,
8 and
9 • Conducts audits for compliance on a regular basis.

10

11

12 **3.0 DUE DILIGENCE**

13

14 The elements of a health, safety and environmental program are best justified by a
15 comparison to what has been established in current case law. Common elements of an
16 effective health, safety and environmental program as established in the courts outline
17 the following requirements.

18

19 To establish instruction, training and orientation programs, Hydro Ottawa has (for all
20 operational work):

21

- 22 • Lead Hands appointed to lead two and three person crews,
23 • Coordinators appointed to lead multiple crews,
24 • Supervisors appointed to manage the work of the Coordinators, Lead Hands and
25 workers,
26 • Developed training profiles and implemented training to ensure all are competent
27 for the work they do,
28 • Project management processes in place that take health, safety and environment
29 issues into account during the initial work planning,
30 • Job safety planning processes in place to ensure health, safety and environment
31 issues are discussed during the operational work planning,



- 1 • Tailboard conference processes in place to ensure health, safety and
2 environment issues are discussed at the actual job site by the workers present to
3 do the work, and
4 • A comprehensive Crew Inspection/Audit process in place to ensure compliance
5 to Hydro Ottawa health, safety and environment programs.

6

7 To audit or review the workplace for foreseeable health, safety and environmental risks,
8 Hydro Ottawa:

9

- 10 • Maintains a risk-based approach (procedures and database) to assess risks and
11 ensure proper controls are in place,
12 • Maintains an annual process for comprehensive internal and external audits of
13 the certified integrated management system, and
14 • Maintains a system of 'safety accountability' for the management team, which
15 requires them to perform specific activities (safety meetings, safety tours, crew
16 visits, inspections, etc.) to ensure a safe work environment for employees.

17

18 To ensure programs, practices, policies, procedures, work instructions are in place to
19 protect workers and the environment against risks, Hydro Ottawa:

20

- 21 • Maintains an integrated environmental, health and safety management system
22 certified to ISO 14001:2004 and OHSAS 18001:2007. The management system
23 has a comprehensive listing of documents based on the hierarchy of
24 Management System Manual/Environment and Health and Safety
25 Policies/Procedures/Work Instructions,
26 • Maintains a risk-based approach and developed two databases; environmental
27 aspects and health and safety hazards. Both databases list the foreseeable
28 risks, the controls put in place to mitigate the risks to acceptable levels and the
29 legislation that applies, and



- 1 • Maintains a process to assess all business units using risk-based approach to
2 ensure documented health, safety and environmental practices are in place
3 where appropriate.
4

5 To receive regular reports on the operation of the health, safety and environmental
6 program, particularly cases of non-compliance with legislation or regulations and serious
7 incidents, Hydro Ottawa has:

- 8
- 9 • A Steering Committee that meets quarterly to review the health, safety and
10 environmental management system and discuss the status of programs, review
11 follow-up actions, etc.,
 - 12 • A comprehensive workplace inspection/audit program that formally tracks all non-
13 compliance issues/deficiencies found to completion. These are reported to
14 appropriate management on an ongoing basis and outstanding issues reviewed
15 by the Steering Committee,
 - 16 • A safety communications system where all incidents resulting in medical aid and
17 lost time injuries and incidents with high potential are reported throughout the
18 organization immediately using Bulletins and/or Notices, and
 - 19 • Various health, safety and environmental metrics that are reported on a monthly
20 basis.
- 21

22 To maintain records, Hydro Ottawa has implemented a formal document management
23 system to ensure that:

- 24
- 25 • Documents in our health, safety and environmental integrated management
26 system are managed in accordance with legislative compliance and ISO
27 requirements, and
 - 28 • Records are kept in accordance with corporate policy, legislative requirements
29 and ISO standards.
- 30
31



1 **4.0 2010 ACTIVITIES**

2
3 Ongoing operation and maintenance of the integrated health, safety and environmental
4 management system continues in 2010. An important basis of management system
5 processes is the plan-do-check-act methodology that leads to continual improvement.
6 As part of the continual improvement process, specific objectives are set each year. The
7 program objectives in 2010 are listed below.

- 8
- 9 • Reduce carbon footprint as per Environmental Sustainability Strategy.
 - 10 • Reduce the number of soft tissue injuries and support increased reporting of soft
11 tissue hazards and injuries, including continued roll-out of the Occupational
12 Athlete Program.
 - 13 • Train management on Safety Accountability Program, including safety
14 communications system, and monitor and report on status of program
15 adherence.
 - 16 • Increase rigor of incident investigation process to be more proactive and to also
17 include processing of repeat occurrences of low risk incidents of concern.
 - 18 • Reduce preventable vehicle collisions through competency assessments,
19 increased training and awareness, and establishment of performance
20 expectations.

21
22 In addition, in 2010, other OHSE activities include:

- 23
- 24 • The implementation of Bill 168 – An Act to amend the Occupational Health and
25 Safety Amendment Act with respect to violence in the workplace and other
26 matters, and
 - 27 • In response to impending retirements at the Supervisory level, the development
28 and implementation of a program for new trade supervisors to ensure that once
29 they assume their position, they have been trained in health, safety and
30 environmental functions which will increase their level of competence and
31 accountability as required by legislation.



1 **5.0 2011 ACTIVITIES**

2

3 Ongoing operation and maintenance of the integrated health, safety and environmental
4 management system will continue in 2011. An important basis of management system
5 processes is the plan-do-check-act methodology that leads to continual improvement. In
6 the fall of each year existing program objectives are reviewed and analyzed to determine
7 performance and assist in the setting of new objectives for the next year (2011).

8

9 The objectives specific to 2011 will be based on:

10

- 11 • Areas recommended for improvement from audits performed in 2010 on the
12 integrated health, safety and environmental management system,
- 13 • Areas of concern arising from monitoring of metrics, especially as it relates to
14 incidents,
- 15 • Legislative and regulatory changes, and
- 16 • New strategies, programs or operational changes.



VEGETATION MANAGEMENT

1.0 INTRODUCTION

Hydro Ottawa Limited's ("Hydro Ottawa") Vegetation Management involves managing trees, plants and shrubs in the distribution corridors within its service area. A corridor is defined as the area adjacent to overhead lines. Hydro Ottawa has rights to construct, operate and maintain electric utility distribution lines (i.e., distribution feeders) as a licensed Local Distribution Company. Corridors provide the land base for constructing and installing lines at voltage levels of 44 kV and below. Keeping these corridors free from obstructions is an important means of safeguarding the distribution plant and maintaining reliability standards. Hydro Ottawa has an obligation to ensure proper clearance between trees and power lines to avoid outages and safety hazards.

Hydro Ottawa's planned vegetation management is completed by the successful contractor(s) through a formal competitive tendering process. Depending on the nature of the responses to the request for proposal, the work may all be done by one contractor, or shared between two. The quality and safety of the work of the contractor(s) is overseen by Hydro Ottawa forestry inspectors. In circumstances of emergency, Hydro Ottawa staff may do their own vegetation management, or may call upon the contractor(s) on a time and material basis.

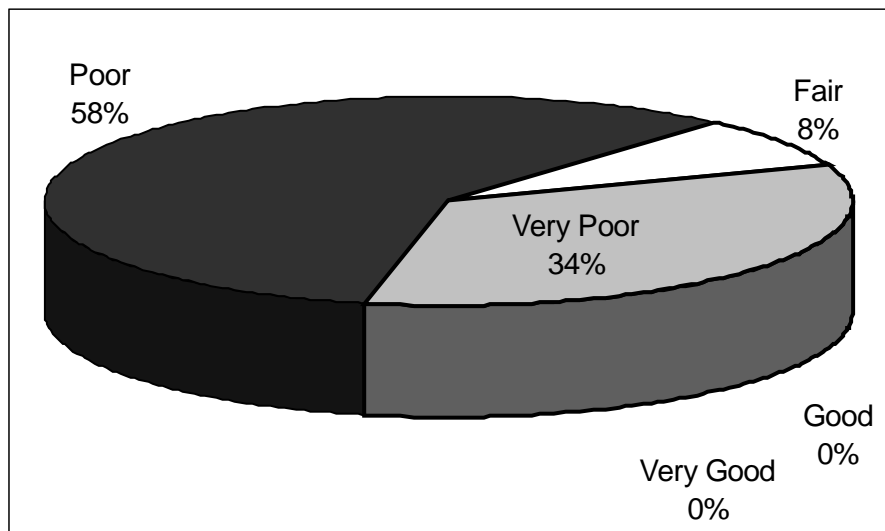
2.0 CONDITION ASSESSMENT

Demographic information for corridors has been collected from various sources included in Hydro Ottawa's existing condition assessment and vegetation management programs. Hydro Ottawa manages about 2,710 km of lines that require tree clearance work. Those lines occupy corridors that must be maintained regularly to ensure the safe and reliable supply of electricity to Hydro Ottawa's customers.



1 Condition demographics were developed as part of the work for the Asset Management
2 Plan that was finalized in 2005. A summary of the condition assessment for corridors is
3 shown in Figure 1. This was based on an initial survey of 12 areas scheduled for a full
4 trim in 2004. It had been three years since these areas had been trimmed. The chart
5 below shows that immediately leading up to a trim, corridors are generally in Poor and
6 Very Poor condition. The condition assessment of corridors just prior to a trim indicates
7 that the trim rate should be no longer than the current 3-year cycle. With increased
8 cutback distances (e.g. greater than 10 feet), the cycle could be extended, however
9 increased trimming is limited by practical reasons such as National Capital Commission
10 guidelines, the City of Ottawa (the "City"), customer expectations and general aesthetics.
11
12

Figure 1 – Vegetation Condition Assessment (pre-trim)



13
14
15
16
17

3.0 TRIM CYCLE

18 Prior to the analysis of this program in the 2005 Asset Management Plan, Hydro Ottawa
19 had adopted a three-year trim cycle with full and spot trimming activities. The trimming
20 season started on the first working day of the year and was completed by Christmas in
21 each year. The program broke the service area within the City into defined trim areas.

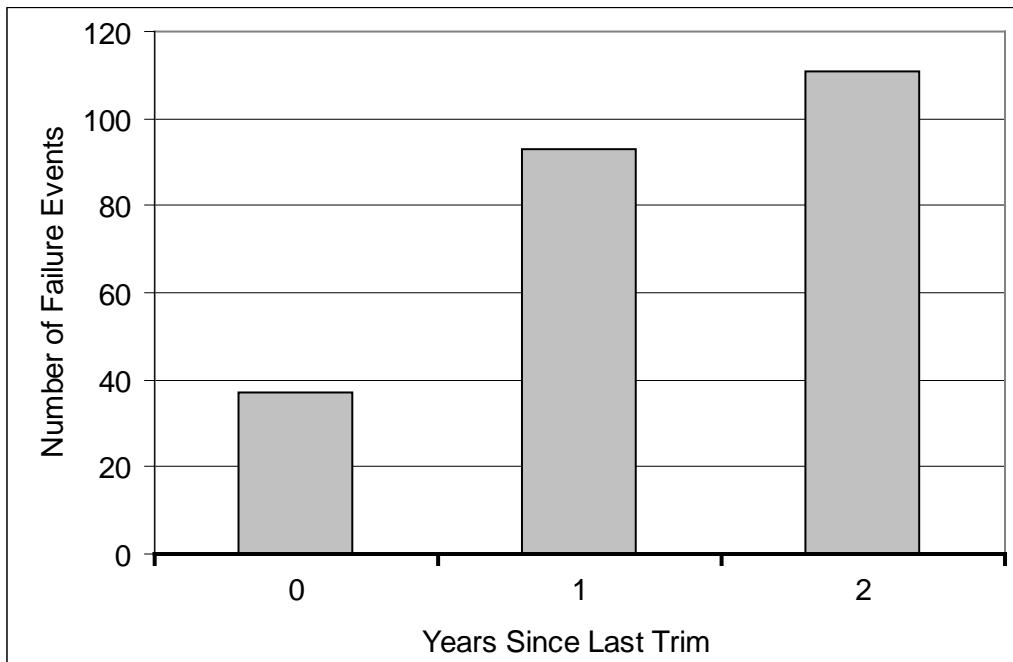


1 The order of completion by the contractor was at the preference of Hydro Ottawa.
2 Based on current trim areas and cycles, the vegetation management program required
3 an estimated 45,500 person-hours each year, excluding any emergency and off-cycle
4 trimming.

5
6 The 2005 Asset Management Plan compared the costs and benefits of a faster tree-
7 trimming program. Figure 2 shows the number of tree-related failure events for each
8 year after a full trim. This illustrates the direct correlation between power outages and
9 the elapsed time since trees have been trimmed.

10
11

Figure 2 – Tree Related Failures in Relation to Last Tree-Trim



12
13

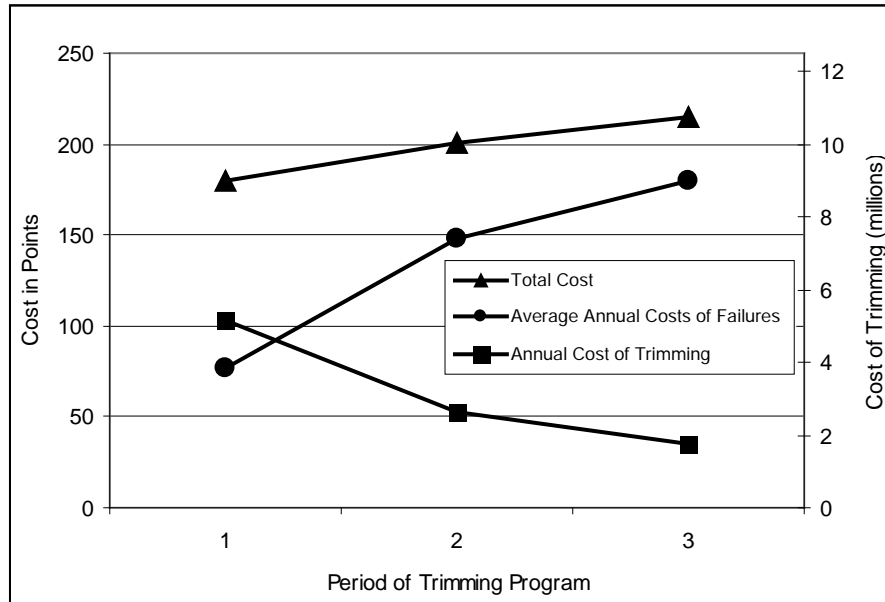
14 Figure 3 shows a model of tree-trimming program costs developed for the 2005 Asset
15 Management Plan. The annual cost of trimming was based on Hydro Ottawa's trim
16 cycle at the time, which covered one-third of the total system each year. The cost of
17 failures was based on an estimated number of yearly outages for each trim cycle, and
18 then calculating the consequence-cost of those failures. Based on this, the annual cost
19 of a one-year or a two-year trimming cycle was estimated.



1 The Total Cost curve shows there may be an advantage to a faster tree-trimming
2 program.

3
4

Figure 3 – Tree Trimming Costs



5
6

7 The 2005 Asset Management Plan for vegetation management will be revisited upon a
8 material change to the easement assets or passage of time to create new inputs into the
9 model. The analysis on vegetation management was not revised as part of the *2010*
10 *Distribution System Asset Management Annual Report*.

11
12

13 **4.0 CONTRACT**

14

15 A new tender was issued in 2007 for a six-year program that occurs from 2008 through
16 2013. To better align the current program to the recommendations in the 2005 Asset
17 Management Plan, the Ottawa Core is trimmed on a two-year cycle and the Ottawa
18 Suburb is trimmed on a three-year cycle. The trim frequency was increased in the
19 Ottawa Core because this area contains denser development, load and customer
20 numbers. The infrastructure in the Ottawa Core also consists of overhead lines in older



1 developments where:

- 2
- 3 • infrastructure and therefore system load is denser than in the suburbs,
 - 4 • structures are nearer to the lot lines resulting in tighter tree clearances, and
 - 5 • trees are older, larger and more likely to interfere with overhead lines.
- 6

7 During previous contracts the breakdown of geographic areas had resulted in uneven
8 work requirements year over year. For this tender, Hydro Ottawa revised the geographic
9 areas and schedule to equalize the work requirements for each year.

10

11 The impact of the change in trimming frequency will be tracked and used as real data
12 (vs. estimated data) into the Asset Management Plan to re-evaluate the cost
13 effectiveness of the trim cycles, that is, the data will be used to reconstruct Figure 3.

14

15 In addition to the general trimming, bidders were also required to submit separate prices
16 to carry out full brushing and clean up of Hydro Ottawa's off-road right of ways and
17 easements, on a "time and material" basis

18

19 Although Hydro Ottawa has performed tree trimming in the Village of Casselman in past
20 years, this was the first time the area was included in the larger contract.

21

22

23 **5.0 IMPACT OF EMERALD ASH BORER**

24

25 In July of 2008 the Canadian Food Inspection Agency confirmed the presence of
26 emerald ash borer ("EAB") in the City. The City estimates approximately 25 percent of
27 the tree canopy is made of ash trees.

28

29 The City has implemented an EAB management strategy for its trees. Phase one
30 occurred in 2009 when new trees were planted in areas with severe ash decline. The
31 second phase includes the identification of individual trees with severe decline based on



1 a city-wide monitoring program, and eventual removal to allow new and other species of
2 trees to grow. Removal of the infected trees is scheduled for the winter of 2010 as the
3 EAB is dormant in the winter.

4

5 The City anticipates the loss of thousands of ash trees over the next 10 to 15 years. The
6 City approved a new budget item of \$500k in 2009 to counter the impact of the EAB.

7

8 Hydro Ottawa's tree trimming activities will be impacted by the presence of EAB. A need
9 is expected for Hydro Ottawa to supervise removal of, or perform the removal of, ash
10 branches in proximity to its overhead lines as third parties remove EAB infected trees.
11 The operational and financial impacts have not yet been realized and are unknown in
12 scope and timing.

13

14

15 **6.0 VEGETATION MANAGEMENT EXPENDITURES**

16

17 Total costs for vegetation management include the scheduled contract, contractor spot
18 trimming and emergency trimming, Hydro Ottawa internal labour to manage and inspect
19 contractors, Hydro Ottawa internal labour for emergency trimming and allocation of
20 overheads.

21

Year	Expense \$000
2008 Actual	\$2,566
2009 Actual	2,160
2010 Budget	2,369
2011 Budget	2,419

22



UNDERGROUND LOCATES

1.0 INTRODUCTION

Hydro Ottawa Limited (“Hydro Ottawa”) distributes electricity through overhead and underground systems. Underground systems consist of pad-mounted equipment, such as transformers and switches, and underground cables. The cables may be direct buried, in plastic or steel conduit, or contained within a concrete duct and manhole system. The voltages that Hydro Ottawa installs in underground systems range from 120 V through 44 kV.

As with overhead systems, the underground systems are located along road right of ways or in land easements on private property. Customer services may be located on the customers’ private property without documented land rights.

Unlike overhead plant, underground plant is not visible to the public and its location may not be obvious. When homeowners and contractors are doing routine construction such as putting in fence posts, planting a tree or excavating for a pool, deck or a new addition, they may come across underground cables. Contact and damage to energized underground cables can have serious consequences such as:

- Personal injury,
- Loss of essential services, creating a safety risk for others, and
- Expensive restoration costs and potential legal actions.

For these reasons, and to meet the requirements of the *Ontario Occupational Health and Safety Act*, Regulation 213/91 *Construction Projects*, section 228, Hydro Ottawa and other utilities in the province will locate underground cables for customers free of charge.



1 **2.0 ASSOCIATIONS**

2

3 Hydro Ottawa is an active participant, and sponsor of the Ontario Regional Common
4 Ground Alliance (“ORCGA”), a group of industry stakeholders that promote efficient and
5 effective damage prevention for Ontario's underground infrastructure. The ORCGA has
6 developed Best Practices guidelines for activities such as locating and marking,
7 excavating and education that are used throughout the province.

8

9

10 **3.0 CUSTOMER COMMUNICATIONS**

11

12 Hydro Ottawa is a member of Ontario 1-Call, a call centre that receives excavator locate
13 requests and notifies utilities that have plant in the vicinity of the dig site. The utilities
14 then mark the location of underground equipment within the vicinity of the excavation
15 site. This service provides homeowners and contractors the ability to call a single phone
16 number and have multiple utilities identified, thus increasing the likelihood that Hydro
17 Ottawa will be notified of relevant excavations.

18

19 Hydro Ottawa refers customers to use the Ontario 1-Call service through its internet site,
20 its Conditions of Service, the brochure *Swimming Pools in the Vicinity of Electrical Wires*,
21 the brochure *Tree Planting Advice*, through many written communications on City Site
22 Plan Circulations and through customer newsletters.

23


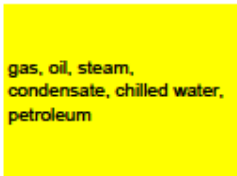
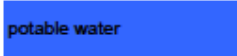

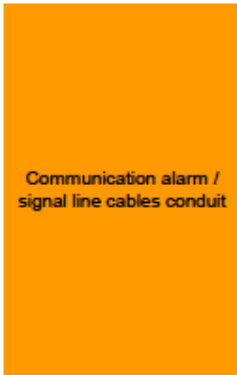

24 In 2009 the Ottawa Utilities Co-ordinating Committee, to which Hydro Ottawa belongs,
25 published a list of numbers to call for damages, locates and general inquiries for utilities
26 installed within City of Ottawa roadways. The list was formatted as an indoor/outdoor
27 sticker that can be placed in the visor of construction vehicles, within hardhats, and other
28 easy to reference locations for construction personnel. Copies of the stickers were
29 made available to organizations and groups who have direct contact with constructors
30 within Ottawa's public roadways such as the utilities on the label, relevant City of Ottawa



1 departments, ORCGA and the National Capital Heavy Construction Association. Soft
 2 copies of the label were also distributed to any requesting party.

3
 4

Figure 1 – Underground Plant Phone Numbers

		CITY OF OTTAWA			
		IN CASE OF EMERGENCY CALL 911			
		<i>Seven working days before you dig call your local utilities for a location of their service</i>			
		DAMAGE	LOCATES	GENERAL INQUIRIES	
 electrical power lines, cables, conduit, street lighting, traffic signals	Hydro One Distribution	1-888-664-9376	1-888-664-9376		
	Hydro One Transmission	1-888-664-9376	Ontario One Call		
	Hydro Ottawa	613 738-0188	Ontario One Call	613-738-0188	
	City of Ottawa	311	311	311	
	PWGSC	1-800-463-1850	1-800-463-1850		
 gas, oil, steam, condensate, chilled water, petroleum	Enbridge Gas Distribution	1-866-763-5427	Ontario One Call	Ontario One Call	
	PWGSC	1-800-463-1850	1-800-463-1850		
	Imperial Oil	1-519-339-2145	1-905-689-6462		
	Petro Canada	613-229-2655	613-727-8056		
	Trans Canada Pipeline	1-888-982-7222	Ontario One Call		
	Trans Northern Pipeline	1-800-361-0608	Ontario One Call		
 potable water	City of Ottawa Water	311	311	311	
	PWGSC	1-800-463-1850	1-800-463-1850		
 sewers drain lines	City of Ottawa Sewers	311	311	311	
	PWGSC	1-800-463-1850	1-800-463-1850		
 Communication alarm / signal line cables conduit	Allstream	1-800-837-6448	1-800-837-6448	1-800-837-6448	
	Atria	1-888-424-7771	1-888-424-7771	1-888-424-7771	
	Bell	Ontario One Call	Ontario One Call	611	
	City Of Ottawa	311	311	311	
	Group Telecom	Ontario One Call	Ontario One Call	Ontario One Call	
	PWGSC	1-800-463-1850	1-800-463-1850		
	House of Commons (HoC)	613-293-2537	613-293-2537		
	Privy Council of Canada (PCO)	613-286-8369	613-286-8369		
	Persona an Eastlink company	1-866-737-7662	1-800-667-2894 x 2264		
	P2P Fiber	1-877-727-3889	1-877-727-3889	1-877-727-3889	
	Rogers	1-866-246-6362	1-800-738-7893	1-800-738-7893	
	Telus	1-800-887-1221	Ontario One Call		
	Videotron	1-800-361-2727	Ontario One Call	Ontario One Call	
		 Ontario One Call 1-800-400-2255 <small>1-800-400-2255</small>			
<p>*Don't forget to report damaged plant using the Damage Information Reporting Tool (DIRT) at Ontario One Call*</p> <p>*For City of Ottawa Tree & OC Transpo Issues Please Call 311*</p> <p>** 311 is a local City of Ottawa number - for those outside of Ottawa please dial 613 580-2400</p>					

5
 6
 7



1 **4.0 LOCATING DISTRIBUTION PLANT**

2

3 Hydro Ottawa contracts its underground system locating to a locate contractor. The
4 busy season for Hydro Ottawa, and for locates activities, runs from early spring through
5 the fall. By contracting this service Hydro Ottawa lessens the drain on its field resources
6 during the busy construction season, achieves operational efficiencies and cost savings
7 by having a dedicated contractor attend to this seasonal task.

8

9 The locate contractor is selected through a competitive bid process. Typically a 3-year
10 tender is issued by Hydro Ottawa and the contractors are evaluated on price, technical
11 qualifications and performance. Throughout the contract Hydro Ottawa performs quality
12 assurance audits to verify the number of locates, the locate accuracy and that locates
13 are being performed to Hydro Ottawa's standards.

14

15 The last tender in 2007 resulted in a 2-year contract (2008 and 2009) with the option for
16 a third year. The one-year extension for 2010 has been finalized with a 2 percent
17 increase in pricing. Hydro Ottawa is planning to issue a tender for locate services in the
18 summer of 2010 for subsequent years.

19

20

21 **5.0 ACTIVITY LEVEL**

22

23 Locate requests are projected to remain high year over year as combined public and
24 private construction within the area remains fairly stable, the population continues to
25 grow and public awareness of the need for locates continues to improve.

26

27 2009 saw a rise in the volume of locate requests, due largely to increase in road works
28 by the City in response to Infrastructure Stimulus Funds. This increased volume is
29 expected to continue into 2010 and plateau in 2011 as shown in Table 1 below.

30



1 2009 also saw a rise in locate expenses as shown in Table 1. A portion of the increase
2 was due to the volume of locate requests; however, the majority of the increase was due
3 to the introduction of the electronic mapping for cable locating. This required the locate
4 contractor to use both paper maps and the electronic records contained within the
5 Geographic Information System (“GIS”) in 2009 to transition the contractor to the new
6 GIS tool. Using the GIS as the data source for locates will ensure real-time asset
7 information is available to the contractor improving locate accuracy.

8
9

Table 1 - Activity Level

Year	Requests		Expense \$	\$/Locate
2005	27,013	Actual	843,072.91 ¹	31.21
2006	28,796	Actual	1,160,120.09	40.29
2007	31,239	Actual	1,119,144.54	35.83
2008	32,988	Actual	1,099,352.00	33.33
2009	37,840	Actual	1,432,225.00	37.85
2010	38,000	Budget	1,165,800.00	30.68
2011	38,000	Budget	1,189,116.00	31.29

10

¹ Internal labour is not included in the 2005 expenses, as recordkeeping at the time did not contain this detailed breakdown.



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CUSTOMER SERVICE STRATEGY PLAN

1.0 INTRODUCTION

Hydro Ottawa Limited's ("Hydro Ottawa") customer service vision is to be "recognized by its customers and the electrical industry at large as a leading utility provider in the area of customer service".

While significant activities have already been accomplished in the area of customer service, Hydro Ottawa undertook an exercise to determine what more is required to fully realize its customer service vision. To that end, the Customer Service Strategy Plan ("CSSP") was developed to focus Hydro Ottawa and move it towards its customer service vision.

2.0 DEVELOPMENT OF CUSTOMER SERVICE STRATEGY PLAN

Work was undertaken in 2009 to support development of the CSSP, including:

- Validating work to-date in the area of customer service,
- Reviewing best/leading practices within and outside of the industry,
- Conducting commercial and residential customer research and analysis which included staff and customer focus groups, and interviews with Hydro Ottawa management,
- Conducting a mini-call centre diagnostic of the outsourced call centre,
- Preparing a gap analysis of the current state relative to its vision, and
- Developing the CSSP to move the organization towards its vision.

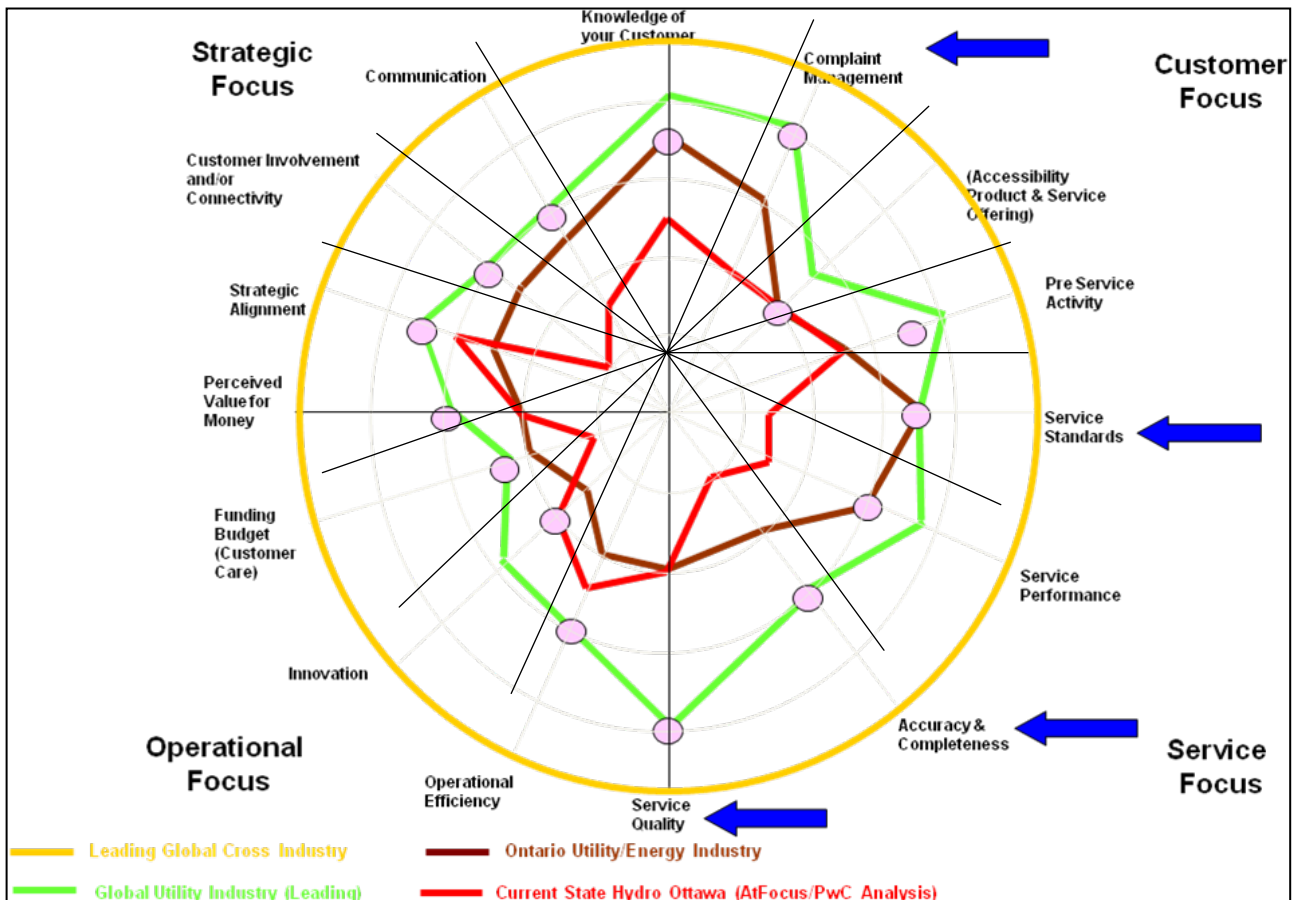
Figure 1 depicts the outcome of the gap analysis, illustrating all 15 dimensions of Customer Service and Hydro Ottawa's relative performance to exemplar organizations



1 on each of these dimensions. Service excellence is depicted by the outer most circle
 2 and the 15 small dots represents Hydro Ottawa's desired level of excellence. The four
 3 areas of focus for 2010 and 2011 are highlighted by blue arrows.

4
 5

Figure 1 -Customer Service Gap Analysis



6
 7

8 Through the current state assessment, research and gap analysis, 13 areas were
 9 identified as requiring enhancement for Hydro Ottawa to achieve its customer service
 10 vision. The scope of activities within these areas will require significant investment
 11 (financial and staff time). Although all areas were deemed necessary, the Hydro
 12 Ottawa's Executive Customer Service Steering Committee endorsed a strategy which
 13 focuses organizational efforts for the next two years (some extending into year three due
 14 to timing of resource / budgetary commitments) on four critical areas. These four critical



1 areas are where largest improvement is required, and which will result in the most
2 significant movement towards Hydro Ottawa's customer service vision and what
3 customers want most.

4
5 The four key areas of focus in 2010 and 2011 depicted in Figure 1 are:

- 6
- 7 1. Complaint Management,
- 8 2. Service Standards,
- 9 3. Accuracy and Completeness, and
- 10 4. Service Quality.

11

12

13 **3.0 CUSTOMER SERVICE STRATEGY PLAN**

14
15 The CSSP identifies 12 activities and the need to support these activities with a robust
16 change management plan to achieve success in the four areas of focus. The 12
17 activities are grouped and described in Table 1.

18
19 **Table 1 – Activity Grouping**

Grouping	Activity Description
Foundation Setting Activities	Project Management Office and Project Support
	Training
	Customer-Focused Culture
	Communication
Standards and Measurement Related Activities	Service Standards / Definitions
	Report and Data Gathering Templates
	Customer research
Process Related Activities	Call Center Related
	Business Process Redesign (analysis and redesign)
	Centralization of Functions
Technology Related Activities	Business Requirements Development
	Data Strategy

20



1 Upon successful completion of the two-year CSSP, Hydro Ottawa will be significantly
2 closer to its customer service vision. Hydro Ottawa expects to lead the Ontario energy
3 market in many areas of customer service and will be in a position to demonstrate, to its
4 internal and external customers, peers, the Board, shareholder and stakeholders, its
5 commitment to establishing and promoting a customer service culture.

6

7 To achieve the goals set for the next two years (2010/2011) Hydro Ottawa will need to
8 make investments in:

9

- 10 • Business processes,
- 11 • Enabling software and technology,
- 12 • People (through Training, Communications, Change Management etc), and
- 13 • Measurement and Management methodologies.

14

15 Table 2 provides detail in terms of the budget requirements in 2010 and 2011.

16



1 **Table 2 – Customer Service Strategy Project Budget**

Budget Item	Operating \$000		Capital \$000	
	2010	2011	2010	2011
Project Management Office staffing	\$160	\$160	\$-	\$-
Project Support Costs	100	100	-	-
Service Standards (internal resources)	-	-	-	-
Report & Data gathering Templates	30	-	-	-
Call Centre (IVR application development, phone switch)	50	-	-	300
Complaint Management software	-	-	50	-
Training (internal resources)	-	-	-	-
Reporting and Analytics software and configuration	-	-	-	200
Business process redesign	-	100	-	-
Customer research (Benchmark customer service)	-	50	-	-
Data strategy	-	100	-	-
Business Requirements Development (customer relationship management implementation)	-	100	-	-
Knowledge Management Software	-	-	-	-
Centralization of function	-	-	-	-
Communication Support	50	200	-	-
Branding (part of corporate wide strategy)	-	-	-	-
Customer Focused Culture	-	100	-	-
TOTAL	\$390	\$910	\$50	\$500

2
 3 The investments in 2010 are centered on development of complaint management
 4 capabilities, development of service standards to improve focus on the customer
 5 experience, measurement and reporting of service standards, call centre assessment
 6 and change management activities to launch and support the customer service initiative.

7
 8 In 2011 Hydro Ottawa will continue to focus on Service Standards as well as increase its
 9 efforts in:

- 10
 11 • Call Center and Interactive Voice Response (“IVR”) excellence,
 12 • Reporting and Analytics,
 13 • Business Process re-design,
 14 • Customer Relationship Management, and
 15 • Change Management activities.

16



1 Also in 2011, Hydro Ottawa's progress towards its customer service vision will be
2 benchmarked and a plan developed for 2012 and 2013.

3
4

5 **4.0 VALUE TO HYDRO OTTAWA, CUSTOMERS AND STAKEHOLDERS**

6
7

7 **4.1 Value to Hydro Ottawa**

8
9

9 Achievement of Hydro Ottawa's customer service vision, which is to be recognized as a
10 leader in customer service, will enable Hydro Ottawa to experience:

11

- 12 • Increased positive visibility in the communities in which it operates,
- 13 • Increased ability to attract employees of choice,
- 14 • Recognition as an organization that can be trusted (especially critical when there
15 is a need to bring in/offer new products and services with less resistance), and
- 16 • Increased stakeholder satisfaction (less customer complaints) thereby increasing
17 value.

18

19 **4.2 Value to Customers and Stakeholders**

20

21 In 2009 Hydro Ottawa surveyed its customers (commercial and residential) in terms of
22 the Customer Service Principles that mattered most to them. The results were
23 compared to data available from an external firm with the outcome of identifying six
24 customer service principles that mattered most to Hydro Ottawa's customers.

25 Accordingly, Hydro Ottawa codified these principles into a document known as "Our
26 Guiding Principles for Customer Service". The Guiding Principles are as follows:

27

- 28 • Competent,
- 29 • Understanding,
- 30 • Accessible,
- 31 • Dependable,



- 1 • Good Communicators, and
- 2 • Responsive.

3

4 For each Guiding Principle a list of descriptive behaviours was developed that helps
5 employees understand the full meaning of each Guiding Principle. The Guiding
6 Principles were codified and introduced across the company in 2010 and over the life of
7 the CSSP will be incorporated into the decision and management processes of Hydro
8 Ottawa.

9

10 From a customer perspective, the better Hydro Ottawa performs with respect to the
11 Guiding Principles for Customer Service, the better customers' experiences will be. This
12 will translate into improved customer service scores.

13

14 These same Guiding Principles are being applied to interactions with Hydro Ottawa's
15 Stakeholders to the extent possible with an expectation of similar outcomes.

16

17

18 **5.0 REASONABLENESS OF CUSTOMER SERVICE INVESTMENT**

19

20 In addition to the previously listed benefits which focused largely on benefits to external
21 customers and stakeholders, the same areas of focus are also applicable to internal
22 clients. Focus groups with employees, employee surveys and interviews, have shown
23 that the same guiding principles and activities relating to the four key areas of focus for
24 2010 and 2011 also support Hydro Ottawa's internal performance requirements. For
25 example, improvements to business processes that enable employees to better serve
26 customers also supports employee satisfaction which in turn, translates into a more
27 stable work force. Similarly, improvements in the areas of Service Quality, Service
28 Standards, Complaint Management and Data Accuracy and Completeness will help
29 empower employees, build job satisfaction and create opportunities to engage
30 employees.

31



1 The CSSP investments are organized and focused in a manner that maximizes their
2 impact on both a day-to-day operational basis and their strategic impact in terms of the
3 CSSP. Although the payback from significantly more satisfied customers and more
4 engaged employees is difficult to measure, it is believed that the financial returns from
5 the CSSP will be positive and have a strategic impact on positioning the organization for
6 the future.



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WORKFORCE PLANNING

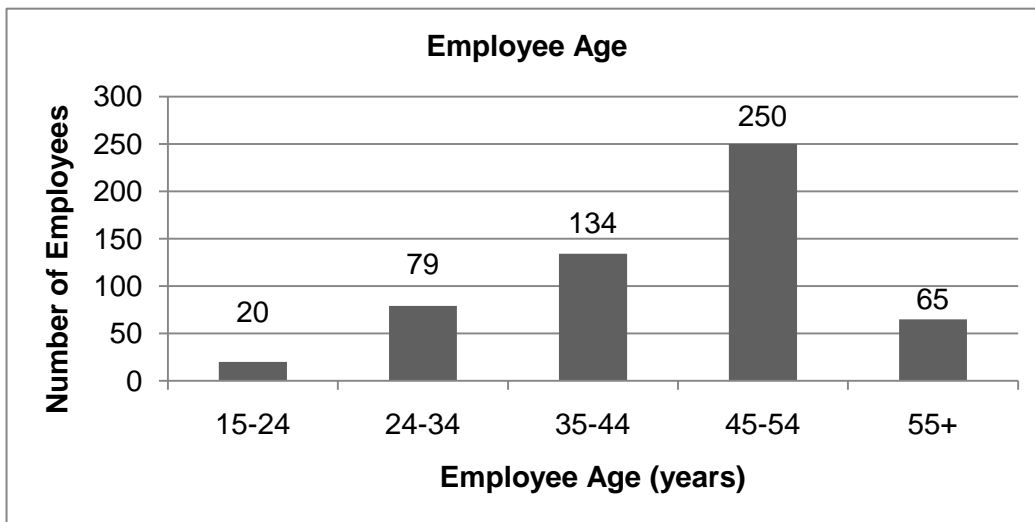
1.0 BACKGROUND

Hydro Ottawa Limited (“Hydro Ottawa”) is facing the same critical challenges as many other organizations in the electricity industry in Ontario, Canada and globally; an aging workforce, aging infrastructure, customer growth and technological advances.

1.1 Aging Workforce

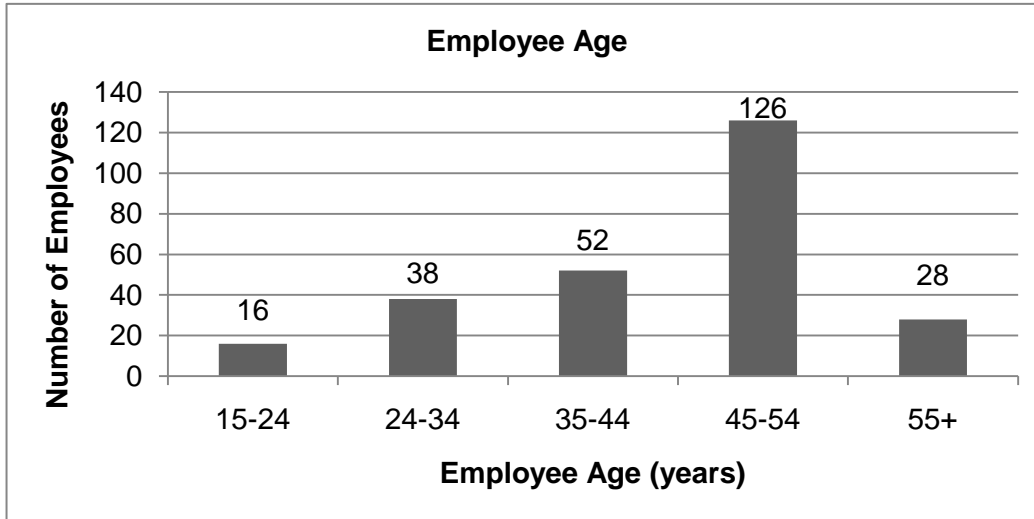
The average age of Hydro Ottawa’s current workforce is 44, which is also the average age of employees in the trades and technical group. The average retirement age at Hydro Ottawa is 57. Table 1 and Table 2 demonstrate that 58% of all employees and almost 60% of trades and technical employees are 45 or older.

Table 1 – All Employees by Age Category





1 **Table 2 –Trades and Technical Employees by Age Category**



2
3

4 As the workforce continues to age, the need to continually recruit and retain skilled and
 5 competent workers remains at the forefront of Hydro Ottawa’s workforce strategy. This
 6 is not unique to Hydro Ottawa and over the next decade, Hydro Ottawa will experience a
 7 significant number of retirements. Based on historical data and the criteria to retire and
 8 receive a pension, forecasting indicates that between 2010 and 2020, 243 employees
 9 will be eligible to retire as summarized in Table 3. This represents 45% of staff as of
 10 December 31, 2009; which is higher than the predictions of the Electricity Sector
 11 Council¹ that 40% of the Canadian electricity sector’s labour force will retire over the
 12 next 10 years.

13
14

Table 3 – Forecast of Retirements, All Employees

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL
33	11	14	12	15	20	25	32	19	35	27	243

15
16
17

Of the 243 employees eligible to retire by 2020, 134 are trades and technical employees as outlined in Table 4, which represents over 50% of that workforce.

¹ The Electricity Sector Council researches human resources trends and solutions to Canada’s skilled-labour shortage in the electricity sector. It is a not-for-profit partnership between business, labour, education and government with a mandate to address needs identified by the Canadian Electricity Association and Human Resources and Skills Development Canada for electricity sector recruitment and retention strategies.



1 **Table 4 – Forecast of Retirements, Trades and Technical Employees**

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL
14	8	10	6	6	9	18	19	11	18	15	134

2

3 **1.2 Aging Infrastructure**

4

5 Hydro Ottawa’s *2010 Asset Management Plan* (Exhibit B1-2-2) involves a long term
6 strategy for investment in, and expansion of, the distribution system. A major
7 component of this plan includes a replacement strategy for aging infrastructure. Two
8 thirds of Hydro Ottawa’s distribution system assets are older than 25 years, resulting in
9 programs such as stations switchgear and pole replacement emerging as leading
10 infrastructure issues. A skilled and competent workforce will be required to execute this
11 plan focusing mainly on power line maintainers (“PLMs”), cable jointers, stations
12 electricians, designers, engineers, supervisory and managerial staff. As a result of the
13 anticipated retirements, it is essential to hire and train workers and the associated
14 supervisory and managerial personnel to meet the future work demands.

15

16 **1.3 Customer Growth**

17

18 The ongoing growth of Hydro Ottawa’s customer base (Exhibit C1-1-1) and the
19 implementation of the Customer Service Strategy Plan (Exhibit D1-4-4) aimed at
20 improving the customer experience supports the ongoing requirement to supplement our
21 workforce to meet those needs.

22

23 **1.4 Technological Changes**

24

25 Technological changes also impact the way Hydro Ottawa does business. Advances in
26 technology may improve service offerings, create efficiencies and lead to cost savings;
27 however, they also increase the need for more specialized skills, especially in
28 information systems.

29

30



1 **2.0 WORKFORCE STRATEGY**

2
3 The Electricity Sector Council's research indicates that in the electricity sector there is an
4 urgent need for target occupations such as electrical power line and cable workers,
5 power system operators and electricians, utility managers and supervisors, information
6 systems analysts and consultants. These labour shortages in the industry, and at Hydro
7 Ottawa, are primarily as a result of pending retirements. Additional attrition factors
8 including resignations and internal promotions also contribute to the skilled labour
9 shortages. For system analysts, the shortage is also created by new skills required for
10 evolving technologies.

11
12 The Electricity Sector Council indicates that 30% of firms in the electricity sector do not
13 have a plan to manage the pending retirements; however, in light of Hydro Ottawa's
14 demographics and strategic direction, Hydro Ottawa has performed a targeted and
15 comprehensive analysis of its workforce requirements. The resultant strategy
16 addresses, through a multi-faceted approach, the elements required to leverage
17 projected attrition and selectively add jobs in order to meet business needs.

18
19 Hydro Ottawa's strategy provides for:

- 20
- 21 • The need to supplement the trades' apprenticeship programs which have been in
22 place since 2005 and are positioning Hydro Ottawa for future staffing
23 requirements,
 - 24 • Best practice principles which allow for overlap between the existing experienced
25 incumbent and new employee to ensure transfer of knowledge for key positions,
 - 26 • Preparation of employees to assume higher level positions in the supervisory and
27 managerial ranks,
 - 28 • Augmenting technical positions required for the purposes of realizing the
29 strategic direction, and
 - 30 • Flexibility to be adaptable to actual conditions which may arise, such as higher
31 than planned attrition or increased labour requirements.



1 **2.1 Replenishing Trades Positions**

2
3 Hydro Ottawa recognizes the value in maintaining highly trained, fully qualified and
4 competent trades personnel to provide the safe and reliable delivery of electricity to
5 customers. Hydro Ottawa's apprenticeship programs support the core business; the
6 construction, operation and maintenance of the distribution system.

7
8 As illustrated in Table 5, between 2005 and 2010 Hydro Ottawa has hired 61
9 apprentices consisting of PLMs, cable jointers, system operators, stations electricians
10 and metering technicians. A total of 52 apprentices have been retained throughout the
11 same period. Apprentices not retained have been mainly for reasons of non-suitability.
12 Six apprentices will reach their journeyman status in 2010.

13
14 **Table 5 – Apprentices Hired and Retained by Trade (Hired/Retained)**

Hired/Retained	2005	2006	2007	2008	2009	2010	TOTAL
PLM	8/6	0	10/10	8/8	0	0	26/24
Cable Jointer	0	6/6	0	4/4	0	0	10/10
System Operator	0	2/0	4/4	5/4	0	2/1	13/9
Stations Electrician	0	2/0	2/1	1/1	3/3	3/3	11/8
Metering Technician	0	0	0	0	0	1/1	1/1
Total Hired	8	10	16	18	3	6	61
Total Retained	6	6	15	17	3	5	52

15
16 The internally operated apprenticeship programs have well positioned many of the
17 trades groups to manage the impending retirements. Cable jointers, system operators
18 and stations electrician trades can therefore be addressed on a more ad hoc basis.
19 Additional apprentice hiring is required in the PLM and metering technician trades.



1 2.1.1 Replenishing PLM Positions

2
3 The PLM trade will experience a significant amount of attrition due to retirements over
4 the next ten years. Table 6 indicates that by the time the apprentices hired in 2011
5 achieve journeyman status in 2016; this trade group will have 45 journeymen
6 eligible for retirement. A further 13 PLMs will be eligible for retirement in 2017, bringing
7 the total to 58 or 50% of the complement for the trade. Although 24 apprentice PLMs
8 currently retained will be in a position to replace the retiring journeymen, that number
9 will not be sufficient to maintain the complement required to perform core work and
10 implement the asset management plan. The continued hiring of apprentice PLMs is vital
11 to the effective long term operation of the company and demonstrates an ongoing
12 investment in the future of the company resulting in increased employee morale and
13 productivity, and better labour relations.

14
15 **Table 6 – Projected PLM Retirements**

2010	2011	2012	2013	2014	2015	2016	SUBTOTAL	2017	TOTAL
5	6	8	4	6	6	10	45	13	58

16
17 Given the training requirements established through the Ministry of Training, Colleges
18 and Universities, Hydro Ottawa needs to hire 14 apprentice PLMs in 2011 and a further
19 10 in 2012 to offset anticipated retirements in 2016 and 2017, and deliver on the asset
20 management plan.

21
22 The competition for fully qualified PLMs means that external recruitment of fully qualified
23 journeymen cannot be relied upon given the overall sector labour shortages
24 provincially, nationally and globally. Contractors are also facing the same shortages and
25 therefore will not necessarily be a reliable alternative to internal staff. If opportunities
26 present themselves to recruit qualified journeymen, Hydro Ottawa would take
27 advantage of such; however, in the last 5 years, only 2 such opportunities have
28 materialized. Retention of previously hired fully qualified journeymen has not proven
29 successful given that these workers are generally interested in working for defined
30 periods of time and then moving on to other opportunities.



1 Hydro Ottawa's apprentice program has experienced a retention rate of 92% to date for
2 apprentice PLMs hired since 2005. Once these apprentices become journeypersons it is
3 anticipated that the retention rate may decrease as they will be highly sought after by
4 other organizations, making it more critical to continue with the apprenticeships at the
5 level and years identified.

6
7 Part of Hydro Ottawa's approach to ensuring the efficient operation of the apprenticeship
8 programs is to work with and partner with community colleges. In 2008, Hydro Ottawa
9 hired two apprentices who had graduated from Cambrian College's Power Line
10 Technician program, decreasing the period of their Hydro Ottawa apprenticeship from
11 five years to three years, and correspondingly decreasing the costs associated with their
12 apprenticeship.

13
14 Hydro Ottawa is in the beginning of developing a joint training and partnership venture
15 with a local college for Power Line Technicians. The partnership would see the college
16 deliver a two year technician program that provides graduates with a diploma, co-
17 operative work experience, and hours accumulated towards their apprenticeship. In turn
18 Hydro Ottawa would deliver the classroom "Line Safety" and the field practical "Line
19 Work" portions of the program. Under the current proposed plan, Hydro Ottawa would
20 receive some compensation for the time it spends providing training at the college,
21 helping to reduce its overall costs for developing apprentices. Select graduates of the
22 program would be offered positions as apprentices at Hydro Ottawa, but with fewer
23 hours of training remaining before becoming qualified journeypersons.

24 25 2.1.2 Replenishing Metering Technician Positions

26
27 The Metering Department, which has a journeyperson employee base of 18, will see six
28 metering technicians become eligible to retire in the next five years and three more in the
29 two subsequent years, bringing the total to 9. Based on this projection, in addition to the
30 apprentice hired in 2010, Hydro Ottawa needs to hire four apprentice metering
31 technicians in 2011 and three in 2013.



1 **Table 7 –Projected Metering Technician Retirements**

2010	2011	2012	2013	2014	2015	2016	Total	2017	2018	Total
2	0	0	0	0	1	3	6	1	2	9

2

3 **2.2 Transfer of Knowledge**

4

5 To ensure the transfer of knowledge for key positions prior to retirements occurring,
6 Hydro Ottawa needs to allow for overlap between the existing experienced incumbent
7 and a new employee. This proactive approach is supported by the Electricity Sector
8 Council’s recommendation that processes be put in place to ensure that the knowledge,
9 skills and tremendous amount of corporate memory is passed onto to the next
10 generation of the electricity workforce. Coupling of employees will also ensure that the
11 transition of work is seamless and maximizes the efficiency of the new employee.

12

13 Nine positions have been identified in 2011 as key, requiring overlap averaging six
14 months per position, with the existing experienced incumbent and new employee prior to
15 the incumbent’s anticipated retirement. This equates to an additional 4.5 full time
16 employees. These positions include:

17

- 18 • Inspector,
- 19 • Stations Coordinator,
- 20 • Field Representative,
- 21 • Supervisor, Construction and Maintenance (4 positions),
- 22 • Supervisor, Information Services and Technology, and
- 23 • Manager, Human Resources.

24

25 **2.3 Management Succession**

26

27 Given the anticipated retirements of 9 managers and 21 supervisors, for a total of 30
28 managerial personnel in the next five years, Hydro Ottawa has been and is continuing to
29 prepare employees to assume higher level positions in the supervisory and managerial
30 ranks. This includes ongoing training and development programs and a succession



1 planning program with targeted development plans for successors, all so that the leaders
2 of the future have the necessary education, experiences, skills and competencies to
3 assume leadership roles.

5 **2.4 New Positions Guided by Strategic Plans**

7 In addition to staffing requirements to maintain the ongoing core business, a number of
8 strategic initiatives are planned that require new positions in order to meet specific
9 objectives.

11 Strategic hiring will ensure that Hydro Ottawa delivers on the Customer Service Plan,
12 Environmental Sustainability Strategy and the Information Technology Plan (specifically
13 as it relates to systems integration and the management of systems risk exposures).
14 Strategic hiring will also position Hydro Ottawa to manage stray voltage demands,
15 explore opportunities further to the *Green Energy and Green Economy Act*, and increase
16 organizational effectiveness by developing, supporting and maintaining work flow
17 processes. The augmentation of the headcount by the following seven additional
18 positions in 2011 will ensure that Hydro Ottawa is able to meet requirements expected of
19 utilities.

- 21 • Senior Customer Contact Agent
- 22 • Environmental Officer
- 23 • Security Analyst
- 24 • Systems Support
- 25 • System Operations Technical Specialist
- 26 • Green Energy Engineer
- 27 • Technical Specialist



1 **3.0 CONCLUSION**

2

3 Over the course of the next decade, Hydro Ottawa will experience the full impact of
4 employee demographics with the associated loss of highly skilled, experienced and
5 competent employees due to retirements. The impact of the retirements will present a
6 challenge to fulfill responsibilities to our customers. The need to replace the wealth of
7 skills and experience this demographic group possesses is key to continuing to deliver
8 the core business, asset management plan and for strategic initiatives. The anticipated
9 labour shortages, resulting from the increased demand for employees both across the
10 province, throughout the country and abroad will significantly diminish or eliminate the
11 pool of available candidates for the electricity sector.

12

13 Hydro Ottawa's multi-prong Workforce Strategy has been developed to minimize the
14 effect of these changes on Hydro Ottawa and ensure that the appropriate employee
15 resources are in place to meet the long term needs of the business and customers.



1 **EXTRAORDINARY EVENTS**

2
3 **1.0 INTRODUCTION**

4
5 Hydro Ottawa Limited (“Hydro Ottawa”) experienced one extraordinary event within the
6 past 5-year period; 2005 through 2009. On March 13, 2009, a catastrophic fire at the
7 Beacon Hill Substation located in the east end of Ottawa resulted in the loss of the
8 asset. The 44 kV outdoor substation was constructed in 1972, contained two station
9 transformers, and had a remaining net book value of \$116k.

10
11
12 **2.0 BEACON HILL LOSS**

13
14 Expenditures in 2009 resulting from the event are categorized in Table 1. Discussions
15 are underway with the insurer regarding the cost recovery of the expensed amounts.
16 Descriptions of the activities are provided in Section 2.0 and the reference numbers in
17 the table correspond to the write up.

18
19 **Table 1 – Beacon Hill Expenditures**

	Budget Program	2009 Capital \$000	2009 Expense \$000
2.1	Initial Response	\$0	\$245
2.2	Environmental Remediation	0	473
2.4	Station Dismantling	0	82
2.4	Temporary Station Construction	514	794
2.5	New substation	437	0
	TOTAL	\$951	\$1,594

20
21 **2.1 Initial Response**

22
23 The initial response to the event includes activities by Hydro Ottawa to respond to the
24 fire and restore power to impacted customers.



1 The substation was disconnected from supply and loads to isolate the incident, and
2 allow for safe fire department response. As the event occurred on a Friday evening,
3 load on the circuits was low enough that Hydro Ottawa was able to restore all customers
4 through existing alternate circuits.

5

6 Total load on the alternate circuits during the week days was expected to increase
7 beyond the circuit capacities. Hydro Ottawa installed a mobile substation, rented from
8 Hydro One Networks Inc., to ensure continuity of supply to its customers.

9

10 **2.2 Environmental Remediation**

11

12 The fire at the substation was fuelled by the oil contained within the substation
13 transformers. The damage to the substation from the fire and the water used to
14 extinguish the fire resulted in oil loss into the natural environment. Hydro Ottawa's initial
15 response included on-site response by an environmental contractor and communications
16 with the Ontario Ministry of Environment. All costs related to the environmental
17 remediation were expensed. Neither of the transformers on site contained oil with
18 polychlorinated biphenyl concentrations greater than 50 parts per million.

19

20 **2.3 Station Dismantling**

21

22 The station was completely destroyed during the fire through the creation of soot, and
23 the fire's heat which damaged equipment and weakened equipment structures. Costs
24 were incurred to clear the site of the damaged equipment and dispose of the items.

25

26 **2.4 Temporary Substation Construction**

27

28 The mobile substation was rented and was intended for emergency restoration use. A
29 temporary substation was constructed in 2009 within the original site to supply the
30 customers, and the mobile substation was removed. The temporary substation was
31 constructed with a spare transformer and a procured used transformer. Although the



1 station is operational and providing reliable, safe electricity to the customers, it is not a
2 long term solution.

3

4 Hydro Ottawa retained advice from its auditors regarding the accounting treatment of the
5 temporary substation construction, which is intended to be in service for a few years.

6 Following this advice, only the equipment that would be reused in another location was
7 capitalized. All other items related to the temporary station construction were expensed.

8

9 **2.5 New Substation Construction**

10

11 A new, modern substation will be constructed within the existing property. The capital
12 expenditures for this project will be within Stations New Capacity budget program.

13 Design and equipment procurement began in 2009. Construction will commence in
14 2010 and be substantially completed by the end of 2011 (Exhibit B4-3-1).

15

16

17 **3.0 Z FACTOR**

18

19 Hydro Ottawa has not applied for a Z factor recovery for this extraordinary event and is
20 not applying as part of this application. The extent of insurance coverage is still being
21 discussed with the insurer, and once this is completed, Hydro Ottawa will assess the
22 criteria for a Z factor and make a final determination if recovery will be sought.



OPERATIONS, MAINTENANCE AND ADMINISTRATION
2008 APPROVED VERSUS 2008 ACTUAL

1.0 INTRODUCTION

Table 1 summarizes Hydro Ottawa Limited's ("Hydro Ottawa") actual 2008 Operations, Maintenance and Administration ("OM&A") expenses by detailed Uniform System of Accounts ("USofA") based on the grouping of accounts from the Ontario Energy Board's ("the Board") 2006 Electricity Distribution Rates ("EDR") process and compares them to the 2008 expenses approved in Hydro Ottawa's 2008 EDR EB-2007-0713 Settlement Decision. The USofA groupings for OM&A are shown net of the allocations to capital programs.

Table 1 - OM&A 2008 Actual versus 2008 Approved Rate Application

	USofA	2008 Actual \$	2008 Board Approved \$	Variance \$	Percent Change %
Operation		\$11,752,560	\$13,062,448	(\$1,309,888)	(10.0%)
Load Dispatching	5010	2,978,011	2,011,117	966,894	48.1
Station Buildings and Fixtures	5012	599,061	732,357	(133,296)	(18.2)
Trans. Station Equip - Labour	5014	78,285	116,603	(38,318)	(32.9)
Trans. Station Equip - Expenses	5015	12,480	27,448	(14,968)	(54.5)
Distribution Station Equipment - Labour	5016	251,317	243,378	7,939	3.3
Distribution Station Equipment - Expenses	5017	28,070	69,984	(41,914)	(59.9)
Overhead Distribution Lines and Feeders - Labour	5020	733,746	776,621	(42,875)	(5.5)
Overhead Distribution Lines and Feeders - Expenses	5025	2,016,977	2,621,470	(604,493)	(23.1)
Overhead Distribution Transformers - Operation	5035	9,611	1,072,084	(1,062,473)	(99.1)
Underground Distribution Lines - Labour	5040	544,634	356,363	188,271	52.8
Underground Distribution Lines - Expenses	5045	1,314,610	1,281,495	33,115	2.6



	USofA	2008 Actual \$	2008 Board Approved \$	Variance \$	Percent Change %
Underground Distribution Trans - Operation	5055	14,164	47,871	(33,707)	(70.4)
Meter Expense	5065	1,174,985	2,101,464	(926,479)	(44.1)
Miscellaneous Distribution Expense	5085	1,996,609	1,604,193	392,416	24.5
Maintenance		\$5,183,949	\$5,111,153	\$72,796	1.4%
Maintenance of Transformer Stations Equipment	5112	93,206	116,205	(22,999)	(19.8)
Maintenance of Distribution Stations Equipment	5114	1,234,750	761,773	472,977	62.1
Maintenance of Poles, Towers & Fixtures	5120	207,011	75,824	131,187	173.0
Maintenance of Overhead Conductors and Devices	5125	954,977	861,632	93,345	10.8
Maintenance of Overhead Services	5130	430,113	301,708	128,405	42.6
Maintenance of Underground Conduit	5145	66,769	114,200	(47,431)	(41.5)
Maintenance of Underground Conductors and Devices	5150	779,433	1,263,011	(483,578)	(38.3)
Maintenance of Underground Services	5155	336,843	361,073	(24,230)	(6.7)
Maintenance of Line Transformers	5160	598,240	467,410	130,830	28.0
Maintenance of Meters	5175	482,607	788,317	(305,710)	(38.8)
Billing and Collecting		\$10,365,089	\$11,716,819	(\$1,351,730)	(11.5%)
Meter Reading Expense	5310	708,787	1,000,000	(291,213)	(29.1)
Customer Billing	5315	6,384,603	6,805,651	(421,048)	(6.2)
Collecting	5320	1,823,584	1,911,160	(87,576)	(4.6)
Collections Charges	5330	14	-	14	-
Bad Debt Expenses	5335	1,448,101	2,000,008	(551,907)	(27.6)
Community Relations		\$4,588,888	\$4,759,852	(\$170,964)	(3.6%)
Community Relations - Sundry	5410	4,388,497	4,515,270	(126,773)	(2.8)
Demonstration and Selling Expenses	5510	200,391	244,582	(44,191)	(18.1)
Administrative and General		\$19,738,418	\$20,679,521	(\$941,103)	(4.6%)
Executive Salaries and Expenses	5605	2,672,170	2,537,200	134,970	5.3



	USofA	2008 Actual \$	2008 Board Approved \$	Variance \$	Percent Change %
Management Salaries and Expenses	5610	5,244,002	4,968,391	275,611	5.5
General Administrative Salaries and Expenses	5615	2,503,658	2,556,915	(53,257)	(2.1)
Office Supplies and Expenses	5620	3,439,394	3,749,097	(309,703)	(8.3)
Administrative Expense Transferred - Credit	5625	(4,470,835)	(3,783,390)	(687,445)	18.2
Outside Services Employed	5630	496,031	724,598	(228,567)	(31.5)
Insurance Expenses	5635	321,100	325,692	(4,592)	(1.4)
Injuries and Damages	5640	746,130	672,575	73,555	10.9
Employee Pensions and Benefits	5645	594,981	600,000	(5,019)	(0.8)
Regulatory Expenses	5655	1,116,045	1,223,250	(107,205)	(8.8)
Miscellaneous General Expenses	5665	2,230,717	2,718,637	(487,920)	(17.9)
Maintenance of General Plant	5675	4,731,062	4,346,556	384,506	8.8
Charitable Contributions	6205	113,963	40,000	73,963	184.9
SUB TOTAL		\$51,628,904	\$55,329,793	(\$3,700,889)	(6.7%)
Taxes Other Than Income Taxes	6105	1,741,965	1,758,250	(16,285)	(0.9)
TOTAL		\$53,370,869	\$57,088,043	(\$3,717,174)	(6.5%)

1

2 The Board's Update to Chapter 2 of the Filing Requirements for Transmission and
 3 Distribution Applications, May 27, 2009 ("Filing Requirement") state that: "The applicant
 4 must provide justification for changes from year to year to its rate base, capital
 5 expenditures, OM&A and other items above a materiality threshold. The materiality
 6 thresholds differ for each applicant, depending on the magnitude of the revenue
 7 requirement". As per Exhibit A3-5-1, Materiality Threshold, Hydro Ottawa will use \$750k
 8 in preparing its variance analysis.

9

10 Overall, 2008 results are approximately \$3.7M lower than stated in Hydro Ottawa 2008
 11 EDR EB-2007-0713 Settlement Decision. Hydro Ottawa proactively works to manage
 12 expenses within the envelope approved by the Board. Since the rate year did not
 13 commence until May 1, this Board approval was not finalized until the second quarter of
 14 2008. When unanticipated cost overruns are identified, Hydro Ottawa responds by



1 reducing discretionary expenses, identifying areas where the company may experience
2 cost savings, or deferring non-critical expenses. Office Supplies, Outside Services and
3 Miscellaneous General Expenses are most often targeted for discretionary reductions.
4 Conservation and Demand Management is not included in this analysis.

5
6
7 **2.0 OPERATION**

8
9 Operation Expense includes all activities that are related to USofA Accounts 5005
10 through 5096 of the Accounting Procedures Handbook (“APH”) relating to operating
11 Hydro Ottawa’s distribution plant.

12
13 As a result of the 2008 EDR EB-2007-0713 Settlement Decision Hydro Ottawa reduced
14 its proposed OM&A by \$1.5 million; this reduction was not spread across all accounts
15 but rather it was taken solely from USofA account 5010, Load Dispatching. This was
16 done for expediency, not based on the expectations that all of the reductions would
17 occur from this account. In the past, accounts 5005 to 5085 were only shown rolled up
18 to an Operation grouping, and therefore an adjustment in an individual USofA account
19 was not relevant. Prior to this adjustment, account 5010 was originally budgeted at \$ 3.5
20 million which would have resulted in this account being under spent by \$533k. This
21 amount was the result of a department reorganization that occurred at the end of August
22 2008 that moved staff in the 24/7 Response Group to another business unit. Had the
23 omnibus reduction been applied across all accounts, all variances would have been
24 adjusted accordingly.

25
26 A savings of \$604k in account 5025 is the result of a revised vegetation management
27 program which increased the trim cycle from 3 years to 2 years in Ottawa’s downtown
28 core. This resulted in reduced numbers of unplanned tree removals and spot trimming.
29 Please refer to Exhibit D1-4-2, Vegetation Management for greater details.



1 The original budget for account 5035, Overhead Distribution Transformers – Operation,
2 covered costs associated with the cleanup of transformer oil spills and was subsequently
3 transferred to account 5085, Miscellaneous Distribution Expense. No major spills
4 occurred in 2008 which significantly reduced cost for environmental cleanup.

5
6 Meter Expense, account 5065, is down significantly from planned because of the
7 number of new meters in the system which did not require re-sealing or repairs. It is
8 expected that meter expense will increase once the new meters become part of the
9 regular meter maintenance and repair cycle.

10
11
12 **3.0 MAINTENANCE**

13
14 Maintenance Expense includes all activities that are related to USofA Accounts 5105
15 through 5195 of the Accounting Procedures Handbook relating to the maintenance of
16 Hydro Ottawa's distribution plant.

17
18 Overall, Maintenance costs for 2008 were in-line with the approved rate application.
19 Adjustments to individual programs were done during the year to accommodate
20 additional asbestos removal at several Distribution Substations. This resulted in a shift
21 of approximately \$475k from account 5150 to 5114.

22
23 General maintenance programs, as described in Exhibit D1-1-1, such as Infrared
24 Scanning, CO₂ and Insulator Washing and Graffiti Abatement were completed in
25 accordance with plan.

26
27 Account 5175, Maintenance of Meters is down \$305k due once again to the number of
28 new meters in the system.



1 **4.0 BILLING AND COLLECTIONS**

2
3 Billing and Collections Expense includes all activities that are related to USofA Accounts
4 5305 through 5340 of the Accounting Procedures Handbook.

5
6 Billing and Collections was \$1.3M lower than originally anticipated. Approximately \$551k
7 of this relates to a reduction in bad debt expense. This reduction is due primarily to
8 improved processes with respect to collection of aged arrears as well as the collection of
9 aged arrears for a number of large accounts in 2007 thus reducing the anticipated 2008
10 bad debt expense. The bad debt expense for 2008 had been budgeted well below the
11 2006 actual expense.

12
13 Customer Billing, account 5315 was down approximately \$421k due to a reduction in
14 salaries arising from unplanned staff vacancies and favourable pricing on IT
15 maintenance contracts.

16
17 In addition, meter reading expense is lower by \$291k due to the installation of Smart
18 Meters that has reduced the need for manual reads. This expense is expected to
19 continue to decrease as old traditional meters are replaced but replaced by meter data
20 management costs.

21
22
23 **5.0 COMMUNITY RELATIONS**

24
25 Community Relations includes all activities that are related to USofA Accounts 5405
26 through 5520 of the Accounting Procedures Handbook and includes costs related to
27 Hydro Ottawa's Call Centre, both external and internal, front cash operations and
28 customer contact. Overall expenditures on Community Relations were approximately
29 \$171k lower than approved in the rate application. This was primary due to reductions in
30 management salaries arising from unplanned vacancies.



1 **6.0 ADMINISTRATION AND GENERAL**

2

3 Administration and General Expense includes all activities that are related to USofA
4 Accounts 5605 through 6205 of the Accounting Procedures Handbook. Administration
5 and General Expense was \$941k lower then approved. Most of this decrease relates to
6 higher than planned capital cost recovery under account 5625 and resulted in an
7 additional credit of \$687k. The remainder is due to a continued effort by Hydro Ottawa
8 to reduce costs where possible and was not attributed to a specific item or event.



OPERATIONS, MAINTENANCE AND ADMINISTRATION
2009 ACTUAL VERSUS 2008 ACTUAL

1.0 INTRODUCTION

Table 1 summarizes the differences between Hydro Ottawa Limited's ("Hydro Ottawa") 2009 Actual and the 2008 Actual results. Explanations for these differences are then provided for each category of expense. The Uniform System of Accounts ("USofA") groupings for Operations, Maintenance and Administration ("OM&A") are shown net of the allocations to capital programs.

Table 1 - OM&A 2009 Actual versus 2008 Actual

Account Description	USofA	2009 Actual \$	2008 Actual \$	Variance \$	Percent Change %
Operation		\$11,364,065	\$11,752,560	(\$388,495)	(3.3%)
Load Dispatching	5010	3,177,345	2,978,011	199,334	6.7
Station Buildings and Fixtures	5012	623,465	599,061	24,404	4.1
Trans. Station Equip. - Labour	5014	98,211	78,285	19,926	25.5
Trans. Station Equip. - Expenses	5015	43,680	12,480	31,200	250.0
Distribution Station Equipment - Labour	5016	269,275	251,317	17,958	7.1
Distribution Station Equipment - Expenses	5017	108,428	28,070	80,358	286.3
Overhead Distribution Lines and Feeders - Labour	5020	743,584	733,746	9,838	1.3
Overhead Distribution Lines and Feeders - Expenses	5025	1,668,647	2,016,977	(348,330)	(17.3)
Overhead Distribution Transformers - Operation	5035	12,295	9,611	2,684	27.9
Underground Distribution Lines - Labour	5040	806,140	544,634	261,506	48.0
Underground Distribution Lines - Expenses	5045	1,491,329	1,314,610	176,719	13.4
Underground Distribution Trans - Operation	5055	33,366	14,164	19,202	135.6
Meter Expense	5065	1,588,162	1,174,985	413,177	35.2
Miscellaneous Distribution Expense	5085	700,138	1,996,609	(1,296,471)	(64.9)



Account Description	USofA	2009 Actual \$	2008 Actual \$	Variance \$	Percent Change %
Maintenance		\$5,171,079	\$5,183,949	(\$12,870)	(0.2%)
Maintenance of Transformer Stations Equipment	5112	336,148	93,206	242,942	260.7
Maintenance of Distribution Stations Equipment	5114	1,049,989	1,234,750	(184,761)	(15.0)
Maintenance of Poles, Towers & Fixtures	5120	300,728	207,011	93,717	45.3
Maintenance of Overhead Conductors and Devices	5125	738,310	954,977	(216,667)	(22.7)
Maintenance of Overhead Services	5130	502,993	430,113	72,880	16.9
Maintenance of Underground Conduit	5145	174,315	66,769	107,546	161.1
Maintenance of Underground Conductors and Devices	5150	713,449	779,433	(65,984)	(8.5)
Maintenance of Underground Services	5155	327,659	336,843	(9,184)	(2.7)
Maintenance of Line Transformers	5160	451,095	598,240	(147,145)	(24.6)
Maintenance of Meters	5175	576,393	482,607	93,786	19.4
Billing and Collecting		\$10,233,636	\$10,365,089	(\$131,453)	(1.3%)
Meter Reading Expense	5310	497,472	708,787	(211,315)	(29.8)
Customer Billing	5315	6,454,518	6,384,603	69,915	1.1
Collecting	5320	1,766,044	1,823,584	(57,540)	(3.2)
Collections Charges	5330	(709)	14	(723)	(5,164.3)
Bad Debt Expenses	5335	1,516,311	1,448,101	68,210	4.7
Community Relations		\$4,594,942	\$4,588,888	\$6,054	0.1%
Community Relations - Sundry	5410	4,470,513	4,388,497	82,016	1.9
Demonstration and Selling Expenses	5510	124,429	200,391	(75,962)	(37.9)
Administrative and General		\$20,670,993	\$19,738,418	\$932,575	4.7%
Executive Salaries and Expenses	5605	2,699,842	2,672,170	27,672	1.0
Management Salaries and Expenses	5610	5,206,365	5,244,002	(37,637)	(0.7)
General Administrative Salaries and Expenses	5615	2,452,624	2,503,658	(51,034)	(2.0)
Office Supplies and Expenses	5620	3,356,987	3,439,394	(82,407)	(2.4)
Administrative Expense Transferred - Credit	5625	(2,445,112)	(4,470,835)	2,025,723	(45.3)



Account Description	USofA	2009 Actual \$	2008 Actual \$	Variance \$	Percent Change %
Outside Services Employed	5630	201,012	496,031	(295,019)	(59.5)
Insurance Expenses	5635	338,543	321,100	17,443	5.4
Injuries and Damages	5640	628,598	746,130	(117,532)	(15.8)
Employee Pensions and Benefits	5645	605,814	594,981	10,833	1.8
Regulatory Expenses	5655	1,127,054	1,116,045	11,009	1.0
General Advertising Expenses	5660	3,843	-	3,843	-
Miscellaneous General Expenses	5665	2,166,054	2,230,717	(64,663)	(2.9)
Maintenance of General Plant	5675	4,266,187	4,731,062	(464,875)	(9.8)
Charitable Contributions	6205	63,182	113,963	(50,781)	(44.6)
SUB TOTAL		\$52,034,715	\$51,628,904	\$405,811	0.8%
Taxes Other Than Income Taxes	6105	1,793,952	1,741,965	51,987	3.0
TOTAL		\$53,828,667	\$53,370,869	\$457,798	0.9%

1

2 The Ontario Energy Board's (the "Board") Update to Chapter 2 of the Filing
3 Requirements for Transmission and Distribution Applications, May 27, 2009 ("Filing
4 Requirement") state that: "The applicant must provide justification for changes from year
5 to year to its rate base, capital expenditures, OM&A and other items above a materiality
6 threshold. The materiality thresholds differ for each applicant, depending on the
7 magnitude of the revenue requirement". As per Exhibit A3-5-1, Materiality Threshold,
8 Hydro Ottawa will use \$750k in preparing its variance analysis. Overall, 2009 results are
9 \$457k higher than 2008 actual. The following is a brief discussion of variances in the
10 main categories.

11

12

13 2.0 OPERATION

14

15 Operation Expense includes all activities that are related to USofA Accounts 5005
16 through 5096 of the Accounting Procedures Handbook ("APH") relating to operating
17 Hydro Ottawa's distribution plant.

18



1 The main driver for increases from 2008 to 2009 was a 3 percent wage increase for
2 unionized staff. This was partially offset by a 3 percent increase in the amount of labour
3 being capitalized and the cost recovery related to the failure of Beacon Hill Substation.

4
5 A savings of \$348k in account 5025 is the result of a reduction in contract cost for
6 vegetation management as the tree trimming cycle fell behind schedule, but there was
7 also a reduction in emergency and spot trimming. Refer to Exhibit D1-4-2 Vegetation
8 Management for greater details.

9
10 Meter Expense, account 5065, was up \$413k from 2008 because of incremental costs
11 related to the Smart Meter program.

12
13 Miscellaneous Distribution Expense, account 5085 was lower in 2009 by \$1.3M. The
14 primary cause for this reduction was the additional capital and maintenance cost
15 recovery for the Beacon Hill Substation failure. In addition, \$304k of savings was
16 realized by a decrease in average fuel cost from \$1.09/litre in 2008 to \$0.83/litre in 2009.
17 Pole attachment costs were also down by \$105k. These savings were partially offset by
18 higher labour rates.

19 20 21 **3.0 MAINTENANCE**

22
23 Maintenance Expense includes all activities that are related to USofA Accounts 5105
24 through 5195 of the Accounting Procedures Handbook relating to the maintenance of
25 Hydro Ottawa's distribution plant. Overall, Maintenance costs for 2009 were unchanged
26 from 2008. As in most years minor adjustments to individual programs were done to
27 accommodate fluctuation in maintenance schedules. All programs were completed as
28 planned in 2009.



1 **4.0 BILLING AND COLLECTIONS**

2

3 Billing and Collections Expense includes all activities that are related to USofA Accounts
4 5305 through 5340 of the Accounting Procedures Handbook.

5

6 No major variances are reported from 2008 to 2009 for Billing and Collections expenses.
7 Wage increases were offset by managing staff levels and a decrease in meter reading
8 expenses. Overall, 2009 was \$131k lower than 2008.

9

10

11 **5.0 COMMUNITY RELATIONS**

12

13 Community Relations includes all activities that are related to USofA Accounts 5405
14 through 5520 of the Accounting Procedures Handbook and includes costs related to
15 Hydro Ottawa's Call Centre, both external and internal, front cash operations and
16 customer contact. No major variances are reported in Community Relations.

17

18

19 **6.0 ADMINISTRATION AND GENERAL**

20

21 Administration and General Expense includes all activities that are related to USofA
22 Accounts 5605 through 6205 of the Accounting Procedures Handbook. Administration
23 and General Expense was \$932k higher than in 2008. In addition, a corporate
24 reorganization transferred six shared service positions to the Holding Company, and the
25 enterprise risk management and internal audit function was re-established and staffed.
26 Refer to Exhibit D1-2-1, Services from Affiliates for further details.

27

28 Account 5625, Administrative Expense Transferred, had a decrease in credit of more
29 than \$2M. An increase of \$1.6M in transfer cost from the Holding Company and a lower
30 than expected capital recovery in the amount of \$450k for Hydro Ottawa Corporate
31 Costs were the main drivers for the increase. For additional information about



1 allocations and the sale of Telecom Ottawa please refer to Exhibit D1-2-1, Services from
2 Affiliates for further details.

3

4 Account 5630, Outside Services Employed, was lower in 2009 by \$295k. After the
5 signing of the collective agreement in 2007 Hydro Ottawa experienced an increase in
6 collective agreement disputes that required arbitration in 2008. An additional cost of
7 \$220k exists in 2008 that is not present in 2009.

8

9 Account 5675, Maintenance of General Plant, was lower in 2009 by \$465k due primarily
10 to a change in Hydro Ottawa's building security contractor - \$74k, reduced overtime
11 labour cost - \$83k and a reduction in electricity cost due to conservation measures at the
12 Albion Road office - \$69k.



OPERATIONS, MAINTENANCE AND ADMINISTRATION
2010 BUDGET VERSUS 2009 ACTUAL

1.0 INTRODUCTION

Table 1 summarizes the variances between Hydro Ottawa Limited's ("Hydro Ottawa") 2010 Budget and 2009 Actual. Explanations for these differences are then provided for each category of expense. The Uniform System of Accounts ("USofA") account grouping for Operations, Maintenance and Administration ("OM&A") are shown net of the allocations to capital programs.

Table 1 - OM&A 2010 Budget versus 2009 Actual

	USofA	2010 Budget	2009 Actual	Variance \$	Percent Change %
Operation		\$14,996,358	\$11,364,065	\$3,632,293	32.0%
Load Dispatching	5010	2,250,971	3,177,345	(926,374)	(29.2)
Station Buildings and Fixtures	5012	677,407	623,465	53,942	8.7
Trans. Station Equip. - Labour	5014	100,377	98,211	2,166	2.2
Trans. Station Equip. - Expenses	5015	21,471	43,680	(22,209)	(50.8)
Distribution Station Equipment - Labour	5016	325,494	269,275	56,219	20.9
Distribution Station Equipment - Expenses	5017	186,803	108,428	78,375	72.3
Overhead Distribution Lines and Feeders - Labour	5020	820,895	743,584	77,311	10.4
Overhead Distribution Lines and Feeders - Expenses	5025	2,382,482	1,668,647	713,835	42.8
Overhead Distribution Transformers - Operation	5035	2,090	12,295	(10,205)	(83.0)
Underground Distribution Lines - Labour	5040	778,195	806,140	(27,945)	(3.5)
Underground Distribution Lines - Expenses	5045	1,706,187	1,491,329	214,858	14.4
Underground Distribution Trans - Operation	5055	18,831	33,366	(14,535)	(43.6)
Meter Expense	5065	3,619,926	1,588,162	2,031,764	127.9
Miscellaneous Distribution Expense	5085	2,105,230	700,138	1,405,092	200.7
Maintenance		\$6,006,658	\$5,171,079	\$835,579	16.2%



	USofA	2010 Budget	2009 Actual	Variance \$	Percent Change %
Maintenance of Transformer Stations Equipment	5112	342,029	336,148	5,881	1.7
Maintenance of Distribution Stations Equipment	5114	1,275,876	1,049,989	225,887	21.5
Maintenance of Poles, Towers & Fixtures	5120	345,812	300,728	45,084	15.0
Maintenance of Overhead Conductors and Devices	5125	744,378	738,310	6,068	0.8
Maintenance of Overhead Services	5130	786,179	502,993	283,186	56.3
Maintenance of Underground Conduit	5145	172,096	174,315	(2,219)	(1.3)
Maintenance of Underground Conductors and Devices	5150	723,277	713,449	9,828	1.4
Maintenance of Underground Services	5155	441,781	327,659	114,122	34.8
Maintenance of Line Transformers	5160	497,373	451,095	46,278	10.3
Maintenance of Meters	5175	677,858	576,393	101,465	17.6
Billing and Collecting		\$10,579,743	\$10,233,636	\$346,107	3.4%
Meter Reading Expense	5310	285,502	497,472	(211,970)	(42.6)
Customer Billing	5315	6,947,188	6,454,518	492,670	7.6
Collecting	5320	1,844,053	1,766,044	78,009	4.4
Collections Charges	5330	-	(709)	709	(100.0)
Bad Debt Expenses	5335	1,503,000	1,516,311	(13,311)	(0.9)
Community Relations		\$5,459,667	\$4,594,942	\$864,725	18.8%
Community Relations - Sundry	5410	5,265,624	4,470,513	795,111	17.8
Demonstration and Selling Expenses	5510	194,043	124,429	69,614	55.9
Administrative and General		\$22,601,943	\$20,670,993	\$1,930,950	9.3%
Executive Salaries and Expenses	5605	2,348,838	2,699,842	(351,004)	(13.0)
Management Salaries and Expenses	5610	5,320,045	5,206,365	113,680	2.2
General Administrative Salaries and Expenses	5615	1,895,154	2,452,624	(557,470)	(22.7)
Office Supplies and Expenses	5620	3,935,367	3,356,987	578,380	17.2
Administrative Expense Transferred - Credit	5625	(2,347,722)	(2,445,112)	97,390	(4.0)
Outside Services Employed	5630	655,900	201,012	454,888	226.3
Insurance Expenses	5635	764,618	338,543	426,075	125.9
Injuries and Damages	5640	614,591	628,598	(14,007)	(2.2)
Employee Pensions and Benefits	5645	700,000	605,814	94,186	15.5
Regulatory Expenses	5655	1,397,800	1,127,054	270,746	24.0



	USofA	2010 Budget	2009 Actual	Variance \$	Percent Change %
General Advertising Expenses	5660	-	3,843	(3,843)	(100.0)
Miscellaneous General Expenses	5665	2,613,370	2,166,054	447,316	20.7
Maintenance of General Plant	5675	4,653,483	4,266,187	387,296	9.1
Charitable Contributions	6205	50,500	63,182	(12,682)	(20.1)
SUB TOTAL		\$59,644,370	\$52,034,715	\$7,609,655	14.6%
Taxes Other Than Income Taxes	6105	1,761,997	1,793,952	(31,955)	(1.8)
TOTAL		\$61,406,367	\$53,828,667	\$7,577,700	14.1%

1

2 The Ontario Energy Board's (the "Board") Update to Chapter 2 of the Filing
3 Requirements for Transmission and Distribution Applications, May 27, 2009 ("Filing
4 Requirement") state that: "The applicant must provide justification for changes from year
5 to year to its rate base, capital expenditures, OM&A and other items above a materiality
6 threshold. The materiality thresholds differ for each applicant, depending on the
7 magnitude of the revenue requirement". As per Exhibit A3-5-1, Materiality Threshold,
8 Hydro Ottawa will use \$750k in preparing its variance analysis.

9

10 Overall, 2010 budget is \$7.57M higher than 2009 actual. Hydro Ottawa's OM&A budget
11 is based primarily on 2009 budget rather than actuals. Because of the cyclical nature of
12 OM&A expenses such as storm repairs, equipment failures, tree trimming and cable
13 locates, which are driven primarily by new construction, Hydro Ottawa has chosen to rely
14 more on historical budget values and current economic drivers than on previous years'
15 actual expenses. This approach insures adequate funding for programs that can vary
16 from year-to-year and attempts to factor out anomalies such as the failure of a large
17 piece of equipment or a major storm.

18

19 Just such an event occurred in 2009, the Beacon Hill Substation fire, which caused a
20 significant portion of incremental maintenance expense to be recovered through
21 insurance funds rather than expensed to planned maintenance activities. This resulted
22 in a reduction in OM&A expenses in 2009. This type of event cannot be forecasted nor
23 budgeted for.

24



1 Other factors that have influenced the 2010 budget are forecasted annual wage
2 increases and the winding down of the Smart Meter deployment capital program
3 resulting in staff returning to operational duties in 2010. Hydro Ottawa continues to
4 budget to fill a number of staff vacancies as a result of its Succession Plan in an attempt
5 to replace its aging workforce. All of these factors contribute to an increase in OM&A
6 spending in 2010. The following is a brief discussion of variances in the main
7 categories.

8
9
10 **2.0 OPERATION**

11
12 Operation Expense includes all activities that are related to USofA Accounts 5005
13 through 5096 of the Accounting Procedures Handbook (“APH”) relating to operating
14 Hydro Ottawa’s distribution plant.

15
16 Account 5010 is lower by \$926k because many of the apprentices will be working in
17 other areas in 2010 including doing capital and maintenance work for other departments
18 as part of their training program.

19
20 Account 5025 is higher by \$713k since the 2009 vegetation management cost were
21 much lower then historical due to fewer emergency and spot tree trims or removals and
22 to catch up on the trimming cycle that fell behind in 2009. The 2008 actuals more
23 closely match historical values and therefore 2010 budget is based primarily on historical
24 values. Refer to Exhibit D1-4-2, Vegetation Management for greater details.

25
26 A large increase is occurring in Meter Expense, account 5065, for 2010. A significant
27 portion of the \$2M increase is due to the reduction in labour capitalization that was
28 ongoing during the Smart Meter deployment project. Staffs responsible for the
29 deployment of Smart Meters are now returning to operation and maintenance activities.
30 2010 will also include a number of one-time costs associated with the rollout of Time-of-
31 Use rates which will require such items as a Media Communication Plan (\$210k), staff



1 training (\$373k) and the use of outside consultants to modify existing computer systems
2 (\$186k).

3

4 Miscellaneous Distribution Expense, account 5085 is higher by \$1.4M. The 2009 actual
5 expenses in this account were lower than historical amounts due to the additional capital
6 and maintenance cost recovery for the Beacon Hill Substation fire. This additional cost
7 recovery is not expected for 2010 and therefore must be factored out when establishing
8 budget levels for 2010. For further details on the Beacon Hill substation fire please refer
9 to Exhibit D2-1-1, Extraordinary Event.

10

11 Hydro Ottawa has budgeted for a new department that will be responsible for the
12 creation of processes, procedures and standards to fulfil regulatory obligations imposed
13 by local, provincial and federal government agencies. This new department will provide
14 guidance to operational staff with respect to Regulation 22/04, the GEA, Hydro Ottawa's
15 *Conditions of Service* and other regulations by producing standards and work methods
16 to ensure compliance. This department will also be responsible for dealing with the
17 various government departments, at all levels, with respect to standards and code
18 compliance. This department will reside in the Distribution Asset Management group and
19 interface with Asset Planning and Distribution Design to ensure Hydro Ottawa's
20 distribution system continues to meet all regulatory requirements.

21

22 Other items influencing an increase in account 5085 are annual wage increases and an
23 expected significant increase in benefit costs. The increase in benefit costs is a direct
24 result of the effect of an aging workforce and the increased claims processed by
25 insurance carriers.

26

27

28



1 **3.0 MAINTENANCE**

2

3 Maintenance Expense includes all activities that are related to USofA Accounts 5105
4 through 5195 of the Accounting Procedures Handbook relating to the maintenance of
5 Hydro Ottawa's distribution plant.

6

7 Maintenance costs for 2010 will return to normal levels, an increase from 2009 of \$835k.
8 This is a result of the effects of the Beacon Hill Substation fire on the maintenance
9 allocations in 2009. Maintenance programs are expected to be un-affected in 2010 and
10 completed as planned.

11

12

13 **4.0 BILLING AND COLLECTIONS**

14

15 Billing and Collections Expense includes all activities that are related to USofA Accounts
16 5305 through 5340 of the Accounting Procedures Handbook.

17

18 Overall Billing and Collecting increases \$346k between 2009 and 2010. Meter reading
19 expense, account 5310, is expected to continue downwards as a result of the
20 deployment of Smart Meters, reducing expenses by \$212k, but there are new expenses
21 for meter data management. Customer Billing, account 5315, is up by \$493k as a result
22 of annual wage increases, the use of an outside consultant to help with the roll-out of
23 Time-of-Use ("TOU") rates and an annual increase in the managed services contract for
24 the Customer Information System ("CIS"). See Exhibit I2-1-1 for further details regarding
25 Smart Meters and TOU rates.

26

27

28

29

30



1 **5.0 COMMUNITY RELATIONS**

2

3 Community Relations includes all activities that are related to USofA Accounts 5405
4 through 5520 of the APH and includes costs related to Hydro Ottawa's Call Centre, both
5 external and internal, front cash operations and customer contact.

6

7 Hydro Ottawa is focused on providing its customers with the very best experience in all
8 its day-to-day activities. From phone calls to face-to-face visits, Hydro Ottawa wants
9 each and every customer to be satisfied that the company has listened and done its
10 utmost to resolve their issue. To this end Hydro Ottawa has initiated a strategic program
11 aimed at changing Hydro Ottawa's customer service culture. The Customer Service
12 Strategy Plan ("CSSP") will focus on training employees, providing tools to track the
13 customer experience and refocus our priorities. Hydro Ottawa is rolling out its CSSP
14 starting in 2010 and continuing on in 2011. This program will focus on areas of
15 improvement across the enterprise and target aspects of Hydro Ottawa's service delivery
16 to better align its processes with industry best practices. Refer to Exhibit D1-4-4,
17 Customer Service Strategic Plan, for further details. This new strategy adds \$390k of
18 additional expenses in account 5410. The remainder of the \$795k increase is a result of
19 annual wage and benefit increases as well as an increase of \$207k to outside services
20 for Hydro Ottawa's Customer Call Centre.

21

22

23 **6.0 ADMINISTRATION AND GENERAL**

24

25 Administration and General Expense includes all activities that are related to USofA
26 Accounts 5605 through 6205 of the Accounting Procedures Handbook.

27

28 Administration and General Expense is \$1.93M higher than in 2009. Increases in all
29 areas have elements based on inflation including transportation costs, increases in
30 building maintenance and many other outside influences. Increases are also forecast for



1 wages and benefits. The following is a brief description of the more pertinent variances
2 by USofA accounts.

3

4 Account 5605, Executive salaries and Expenses, is lower in 2010 by \$351k. The main
5 reason is the roll-up of the variable compensation to the executive business unit.

6 Executive and management compensation has two components, a portion that is fixed
7 and a portion that is variable. The variable component ranges from a factor of 0 to a

8 factor of 1.5 based on achieving individual objectives. The 2010 budget is based on the
9 average employee achieving their goals and receiving compensation equal to a factor of

10 1.0. The variable compensation is budgeted, along with base salary, at the individual
11 management business unit level but expensed at the executive level to ensure

12 confidentiality. The resulting budget amount for account 5605 is lower by \$206k.

13

14 Account 5615, General Administrative Salaries and Expenses is lower by \$557k in 2010.

15 Hydro Ottawa has budgeted to fill a number of vacancies in 2010 across the

16 organization as part of its overall staffing plan. All of the vacancies are based on a full

17 year's compensation. Hydro Ottawa acknowledges that not all of these vacancies will be

18 filled starting January 2010 and therefore has provisioned for an offsetting amount in

19 account 5615 that better reflects the actual compensation increase. The vacancy

20 allowance for 2010 was set at \$764k and has offset any increase in account 5615.

21

22 Account 5620, Office Supplies and Expenses has increased in 2010 by \$578k due

23 primarily to the roll-out of Time-of-Use rates and a number of other initiatives. Media

24 Communications has increased by \$175k in response to several major new projects in

25 2010, such as the Customer Service Strategy Plan, the Environmental Sustainability

26 Strategy, and the introduction of a revised Conditions of Service. The promotion of

27 these new projects, together with increased focus on planned outages communication

28 and a growing emphasis on community outreach activities will require increased funding

29 in 2010.

30



1 Due to an increasing number of sponsorship requests, Hydro Ottawa is currently
2 developing a new community investment program in consultation with its stakeholders.
3 To ensure its effectiveness, additional dollars have been allocated to this program in
4 2010 in the amount of \$87k to evaluate how sponsorship requests can best be handled.

5

6 Legal and consulting fees for contract negotiations are expected to increase by \$82k in
7 2010, with a contributing factor being the re-negotiation of Hydro Ottawa's collective
8 agreement.

9

10 Account 5630, Outside Services Employed, has increased by \$454k from 2009 due to
11 two key initiatives planned for 2010. Professional services are required in the area of
12 Organizational Development as part of Hydro Ottawa's succession planning strategy for
13 replacing its aging workforce. Hydro Ottawa has acknowledged that many managers
14 and supervisors will be eligible for retirement in the coming years and must plan today
15 for the replacement of a great number of experienced employees. \$300k is included in
16 2010 to cover management assessments, customer service and management
17 development training. Refer to Exhibit D1-5-1, Workforce Planning for further details.

18

19 Account 5635, Insurance Expenses, is forecasted to double in 2010 due to a number of
20 large claims experienced by Hydro Ottawa's insurance carrier. The insurance carrier
21 was forced to find a new underwriter for its policies after its current underwriter backed
22 out. In order to secure a new liability underwriter insurance premiums and asset values
23 were reassessed and premiums increased by more than 200%. The forecasted increase
24 in insurance premiums is \$426k.



OPERATIONS, MAINTENANCE AND ADMINISTRATION
2011 BUDGET VERSUS 2010 BUDGET

1.0 INTRODUCTION

Table 1 summarizes the differences between Hydro Ottawa Limited's ("Hydro Ottawa") 2011 and 2010 Budget. The Uniform System of Accounts ("USofA") account grouping for Operations and Maintenance ("O&M") and Administration are shown net of the allocations to capital programs.

Table 1 - OM&A 2011 Budget versus 2010 Budget

	USofA	2011 Budget \$	2010 Budget \$	Variance \$	Percent Change %
Operation		\$15,269,439	\$14,996,358	\$273,080	1.8%
Load Dispatching	5010	2,290,007	2,250,971	39,036	1.7
Station Buildings and Fixtures	5012	690,955	677,407	13,548	2.0
Trans. Station Equip. - Labour	5014	102,177	100,377	1,800	1.8
Trans. Station Equip. - Expenses	5015	21,804	21,471	333	1.5
Distribution Station Equipment - Labour	5016	330,426	325,494	4,932	1.5
Distribution Station Equipment - Expenses	5017	187,470	186,803	667	0.4
Overhead Distribution Lines and Feeders - Labour	5020	829,978	820,895	9,083	1.1
Overhead Distribution Lines and Feeders - Expenses	5025	2,430,131	2,382,482	47,650	2.0
Overhead Distribution Transformers - Operation	5035	2,131	2,090	42	2.0
Underground Distribution Lines - Labour	5040	787,810	778,195	9,615	1.2
Underground Distribution Lines - Expenses	5045	1,740,310	1,706,187	34,124	2.0
Underground Distribution Trans - Operation	5055	19,208	18,831	377	2.0
Meter Expense	5065	3,352,547	3,619,926	(267,379)	(7.4)
Miscellaneous Distribution Expense	5085	2,484,483	2,105,230	379,253	18.0



	USofA	2011 Budget \$	2010 Budget \$	Variance \$	Percent Change %
Maintenance		\$6,086,041	\$6,006,658	\$79,383	1.3%
Maintenance of Transformer Stations Equipment	5112	344,063	342,029	2,034	0.6
Maintenance of Distribution Stations Equipment	5114	1,287,135	1,275,876	11,259	0.9
Maintenance of Poles, Towers & Fixtures	5120	348,779	345,812	2,967	0.9
Maintenance of Overhead Conductors and Devices	5125	754,245	744,378	9,867	1.3
Maintenance of Overhead Services	5130	801,575	786,179	15,396	2.0
Maintenance of Underground Conduit	5145	171,830	172,096	(266)	(0.2)
Maintenance of Underground Conductors and Devices	5150	732,898	723,277	9,621	1.3
Maintenance of Underground Services	5155	449,782	441,781	8,001	1.8
Maintenance of Line Transformers	5160	506,000	497,373	8,627	1.7
Maintenance of Meters	5175	689,734	677,858	11,876	1.8
Billing and Collections		\$10,840,730	\$10,579,743	\$260,987	2.5%
Meter Reading Expense	5310	291,212	285,502	5,710	2.0
Customer Billing	5315	7,073,022	6,947,188	125,834	1.8
Collecting	5320	1,943,436	1,844,053	99,383	5.4
Bad Debt Expenses	5335	1,533,060	1,503,000	30,060	2.0
Community Relations		\$6,607,061	\$5,459,667	\$1,147,394	21.0%
Community Relations - Sundry	5410	5,905,497	5,265,624	639,873	12.2
Energy Conservation (GEA)	5415	501,641	-	501,641	-
Demonstration and Selling Expenses	5510	199,923	194,043	5,880	3.0
Administrative and General		\$24,163,018	\$22,601,943	\$1,561,075	6.9%
Executive Salaries and Expenses	5605	2,230,022	2,348,838	(118,816)	(5.1)
Management Salaries and Expenses	5610	5,804,604	5,320,045	484,559	9.1
General Administrative Salaries and Expenses	5615	2,679,969	1,895,154	784,814	41.4
Office Supplies and Expenses	5620	4,061,460	3,935,367	126,093	3.2
Administrative Expense Transferred - Credit	5625	(1,931,338)	(2,347,722)	416,384	(17.7)
Outside Services Employed	5630	569,018	655,900	(86,882)	(13.2)



	USofA	2011 Budget \$	2010 Budget \$	Variance \$	Percent Change %
Insurance Expenses	5635	780,070	764,618	15,452	2.0
Injuries and Damages	5640	626,883	614,591	12,292	2.0
Employee Pensions and Benefits	5645	728,000	700,000	28,000	4.0
Regulatory Expenses	5655	1,419,756	1,397,800	21,956	1.6
General Advertising Expenses	5660	-	-	-	-
Miscellaneous General Expenses	5665	2,517,516	2,613,370	(95,854)	(3.7)
Maintenance of General Plant	5675	4,625,549	4,653,483	(27,934)	(0.6)
Charitable Contributions	6205	51,510	50,500	1,010	2.0
SUB TOTAL		\$62,966,289	\$59,644,370	\$3,321,919	5.6%
Taxes Other Than Income Taxes	6105	1,800,217	1,761,997	38,220	2.2
TOTAL		\$64,766,506	\$61,406,367	\$3,360,139	5.5%

1

2 The Ontario Energy Board's (the "Board") Update to Chapter 2 of the Filing
3 Requirements for Transmission and Distribution Applications, May 27, 2009 ("Filing
4 Requirement") state that: "The applicant must provide justification for changes from year
5 to year to its rate base, capital expenditures, OM&A and other items above a materiality
6 threshold. The materiality thresholds differ for each applicant, depending on the
7 magnitude of the revenue requirement". As per Exhibit A3-5-1, Materiality Threshold,
8 Hydro Ottawa will use \$750k in preparing its variance analysis.

9

10

11 **2.0 OPERATIONS AND MAINTENANCE**

12

13 O&M includes all activities that are related to USofA Accounts 5005 through 5195
14 relating to the operating and maintenance of Hydro Ottawa's distribution plant.
15 Variances are discussed in the total compensation, O&M programs and allocated costs.
16 Overall O&M costs are forecast to increase by \$273k.

17

18 **2.1 Compensation**

19

20 Compensation expense will increased \$2.9 million in 2011 due mainly to the addition of
21 fourteen apprentice power line maintainers, four apprentice meter technicians, two



1 technical specialists, one distribution engineer and two supervisors related to workforce
2 planning, as discussed at Exhibit D1-5-2. Staff increases and replacements account for
3 \$1.13M of the increase, taking into account that five of the power line maintainers will be
4 replacing existing vacancies. The remainder of the increase, \$1.8M, is attributed to
5 annual compensation increases and step progression increases. Compensation
6 increases have been mitigated to some extent by reducing expenses in other areas.

7 8 **2.2 Programs**

9
10 O&M programs include all of the costs in addition to compensation. Excluding
11 compensation, the costs for planned maintenance programs are forecast to stay virtually
12 unchanged in 2011, with only modest increases from 2010.

13
14 Vegetation Management – This program is described in Exhibit D1-4-2. The one area of
15 concern is the uncertainty that exists with the emerald ash borer and its impact on ash
16 trees in the Ottawa area. Hydro Ottawa is working closely with the City of Ottawa (the
17 “City”) to determine the extent of Hydro Ottawa’s involvement in the removal of
18 thousands of ash trees. Spot removals will be required in the vicinity of overhead lines
19 and Hydro Ottawa is not anticipating any funding from the City.

20
21 Cable Locates – This program is described in Exhibit D1-4-3 and is provided as a free
22 service to any individual or company that plans to construct in the vicinity of underground
23 plant. Cost for this program is forecasted to remain above historical values due to the
24 City’s continued focus on urban intensification in its official plan. The local construction
25 market is expected to remain strong despite the economic uncertainty.

26
27 General Maintenance Programs – These are described in Exhibit D1-1-1 and include
28 switch maintenance, graffiti abatement program and manhole inspections. Hydro
29 Ottawa addresses graffiti in accordance with the City by-law requirements. Funding for
30 these programs is expected to remain constant in 2011.



1 **3.0 BILLING AND COLLECTIONS**

2

3 Billings and collections expenses are forecast to increase by approximately \$261k in
4 2011. Increases in compensation related to salary increases accounts for approximately
5 \$121k of this increase. In addition, \$100k has been budgeted for temporary services
6 related to the roll-out of TOU rates.

7

8

9 **4.0 COMMUNITY RELATIONS**

10

11 Community Relations expenses are forecast to increase by \$640k in 2011. The
12 Customer Service Strategy Plan (“CSSP”), as noted in Exhibit D3-1-3, accelerates in
13 2011 and is forecast to add an additional \$520k in Community Relations expenses. For
14 full details on the CSSP please refer to Exhibit D1-4-4, Customer Service Strategy Plan.

15

16 Hydro Ottawa has also budgeted \$502k in Community Relations with respect to the
17 *Green Energy and Green Economy Act* (GEA). Provision has been made to hire four full
18 time employees in key areas and to fund a university research lab specializing in
19 Sustainable and Renewable Energy Engineering. Refer to exhibit B1-2-3 for further
20 details.

21

22

23 **5.0 ADMINISTRATIVE AND GENERAL**

24

25 Administration costs are forecast to increase \$1.5M in 2011. In general Hydro Ottawa
26 has budgeted for an annual increase in compensation and for the addition of a few key
27 staff positions.

28



1 **5.1 Compensation**

2

3 Administration compensation will increased by \$1.5M in 2011. As discussed in Exhibit
4 D1-5-1, Workforce Planning, three new positions are forecast for 2011 including two
5 Information Technology (“IT”) positions and one environmental officer. In addition to the
6 new positions two salary overlaps are included for retiring employees. The total increase
7 in compensation related to new positions and replacements is \$313k. The remainder is
8 due to annual increases, including annual scale progressions.

9

10

11 **6.0 INSURANCE EXPENSE**

12

13 Insurance expense includes property and fleet insurance. A significant increase in
14 insurance cost occurred between 2009 and 2010 as a result of a reassessment by Hydro
15 Ottawa’s insurance carrier; please refer to Exhibit D3-1-3 for further details. The amount
16 budgeted in 2011 is consistent with 2010 with a small inflationary increase.

17

18

19 **7.0 BAD DEBT EXPENSE**

20

21 Bad debts expense is made up of two components, bad debt related to electricity sales
22 and bad debt related to other services, including pole attachments, street lighting
23 contacts and work for others. Overall, bad debt is expected to remain consistent with
24 2009 and 2010 at approximately \$1.5 million. The 2011 budget for bad debt includes
25 \$1.2M for electricity sales and \$300k for other services.

26

27

28 **8.0 ADVERTISING EXPENSE**

29

30 As described at Exhibit D1-1-1, no advertising expenses related to USofA Accounts
31 5515 and 5660 are estimated for 2010 or forecast for 2011.



1 **9.0 ALLOWABLE CHARITABLE DONATIONS**

2

3 There is no anticipated increase in the allowable charitable donations.

4

5

6 **10.0 OTHER DISTRIBUTION EXPENSES**

7

8 Expenses for sales, marketing and key accounts and for property taxes are forecast to
9 be in line with amounts budgeted in 2010.



EMPLOYEE COMPENSATION BREAKDOWN

1.0 HEAD COUNT

Table 1 summarizes Hydro Ottawa Limited's ("Hydro Ottawa") head count for 2008 Board Approved, 2008 and 2009 Actual, 2010 and 2011 Budget. Head count is defined as the total number of full-time, part-time (prorated) and temporary employees working at Hydro Ottawa on December 31st of each year. Hydro Ottawa has completed Appendix 2-L, Employee Compensation Breakdown, (Attachment Y), as required by the Update to Chapter 2 of the Filing Requirements for Transmission and Distribution Applications, May 27, 2009. For the purposes of Attachment Y, Hydro Ottawa has used Full Time Equivalents ("FTE") for actuals and head count for budgets. FTE is a calculated value derived from the total hours worked each year in a group divided by the normal hours of work each year by a single employee in that group. Table 1 shows head count at year-end for all years.

Temporary employees are used to staff projects, back fill for staff seconded to projects or replace employees on leave. Including temporary employees in the count provides a better indication of resource requirements each year and therefore the numbers in Table 1 include temporary employees.

As of December 31, 2009 Hydro Ottawa's head count was 560 employees.

Table 1 – Head Count¹

	2008 Approved	2008 Actual	2009 Actual	2010 Budget	2011 Budget
Executive	7	7	6		
Management	94	105	104		
Non-unionized	49	48	39		
Unionized	420	414	411		
Total	570	574	560	569	592

¹ Hydro Ottawa files head count numbers with the Ontario Energy Board (the "Board") as part of the reporting and record-keeping requirements on an annual basis. In these filings, Hydro Ottawa has not included temporary employees.



1 **1.1 Executive**

2

3 Executive staff includes the Chief Operating Officer (“COO”) and Directors. The
4 positions currently included within the executive/senior management group are listed in
5 Exhibit A1-7-2. No further changes are expected for 2010 and 2011.

6

7 **1.2 Management**

8

9 The Management group includes managers, supervisors and professional engineers
10 within Hydro Ottawa. Increases in this category are due to the addition of professional
11 engineers to support the *Green Energy Green Economy Act* (“GEA”) in the areas of
12 renewable generation and distribution system analysis as well as providing for an
13 overlap period for retiring managers and supervisors. The positions planned for hiring in
14 2010 and 2011 include:

15

- 16 • Manager, Human Resources - Overlap for a retiring employee.
- 17 • Supervisor, Information Systems & Technology - Overlap for a retiring employee.
- 18 • 4 Supervisors, Construction and Maintenance - Overlap for retiring employees.
- 19 • Supervisor, CIS Technical Support - Overlap for a retiring employee.
- 20 • Renewable Generation Engineer – This position will be responsible for interfacing
21 with potential generators wanting to connect to Hydro Ottawa’s distribution grid.

22

23 **1.3 Non-unionized Positions**

24

25 Included in the non-union group is the professional staff at Hydro Ottawa including
26 engineers-in-training, budget officers, executive assistants, et cetera.

27

28 Additional staff planned for 2010 and 2011 include:

29

- 30 • Distribution Engineer – These two Engineers-in-Training will be involved in
31 analysis of the distribution system related to GEA and Smart Grid technologies.



- 1 • Environmental Officer – This employee will be directly involved in Hydro Ottawa's
2 Environmental Sustainability Strategy.

3

4 **1.4 Unionized Positions**

5

6 The unionized workforce is represented by the International Brotherhood of Electrical
7 Workers (“IBEW”). The represented employees include both tradespersons and
8 administrative/clerical staff, sometimes referred to as “inside” and “outside” staff.

9

10 1.4.1 Workforce Planning

11

12 The majority of the increase in staff is related to the demographic challenges facing
13 Hydro Ottawa as discussed in Exhibit D1-5-1. This is described as workforce planning.

14 The positions planned for hiring in 2010 and 2011 include:

15	PLM Apprentices	14
16	Meter Technician Apprentices	4
17	Technical Specialist	2
18	Stations Coordinator	1
19	Inspector	1
20	Metering Field Representative	1
21	IT System Support	2
22	Customer Contact Agent	2
23	Customer Communications Officer	1
24	CIS Technical Support Analyst	<u>1</u>
25	Total	29

26

27

28 **2.0 TOTAL COMPENSATION**

29

30 Table 2 summarizes the total compensation in the categories tracked by Hydro Ottawa's
31 financial system. As can be seen, the 2011 total compensation is \$8.2M higher than the



1 actual compensation for 2009. For 2010 and 2011, compensation increases are based
2 on the new positions as discussed previously, annual increases in base pay for existing
3 staff and increasing costs for benefits programs. Union overtime is affected by the
4 number and type of power outages in the year, typically affected by weather.

5

6

Table 2 – Total Compensation¹

	2008 Approved \$	2008 Actual \$	2009 Actual \$	2010 Budget \$	2011 Budget \$
Executive/Management/Non-union	14,113,613	13,365,512	13,247,661		
Unionized	25,717,292	24,242,591	25,879,165		
Union Overtime	2,138,095	1,600,356	1,841,437	2,266,947	2,418,496
Benefits ²	9,807,913	8,062,261	8,625,570	9,655,431	10,455,182
Total Annual Compensation³	\$51,776,913	\$47,270,720	\$49,593,833	\$53,765,449	\$57,790,635

7

8 **2.1 Compensation Increase for Workforce Planning**

9

10 For 2010 and 2011, workforce planning represents \$3.0M of the total \$8.2M increase in
11 compensation from the 2009 actuals.

12

13 **2.2 Annual Increases to Base Pay**

14

15 In 2007, a new three-year collective agreement was signed with the IBEW. This
16 agreement included a 3% wage increase in 2007 and 3.25% for 2008 and 2009. The

¹ Total compensation in this table does not include staff dedicated to CDM activities, Board of Directors and students.

² Benefits include OMERS, WSIB, CPP, EI, EHT, Employee Insured Benefits plus miscellaneous benefits. Hydro Ottawa budgeted benefits also include Future Employee Benefits, Safety Clothing Equipment, and Employee Assistance Plan which do not flow directly through compensation therefore are not in actuals.

³ Total Annual Compensation does not match that shown on Attachment Y as the above does not include items such as Future Employee Benefits, Safety Clothing Equipment, Employee Assistance Plan and temporary services which are included in Attachment Y.



1 agreement also included some enhancements to the benefit plan for unionized staff.
2 Adjustments for 2011 are estimated from settlements that have occurred in Ontario, both
3 within and outside of the industry and in the Ottawa area, and in consideration of the
4 Ontario and Ottawa Consumer Price Index.

5
6 The collective agreement sets out the grade progression for each new unionized
7 employee until they reach the maximum grade for that position. In the past, these
8 progressions have been less material because the majority of employees had already
9 reached the maximum. However, as more apprentices are hired and the average years
10 of service for the workforce decreases, there will be a period of time in which there will
11 be greater wage increases related to progression up the scale.

12
13 In total the increases to base are expected to be approximately \$1.5M in both 2010 and
14 2011.

15 16 **2.3 Other Factors Affecting Compensation**

17
18 Other factors in the total compensation for the company are overtime for unionized staff,
19 benefits, and the incentive plan for executive, management and non-unionized staff¹.

20
21 A significant increase in benefits is budgeted for in 2010 as Hydro Ottawa's benefit
22 providers raise rates due to increased usage by members. This increased usage is a
23 result of the aging demographic of Hydro Ottawa's workforce.

24
25 Executive and management staff has a portion of their compensation that is fixed and a
26 portion that is variable based on achievement of company and individual objectives.
27 Incentive pay currently can range from a factor of 0 to 1.5 for the variable portion of the
28 pay, depending on performance. The forecast for 2010 and 2011 is based on a factor of
29 1.0.

30

¹ Non-unionized and some management staff are no longer part of the incentive plan.



1 **3.0 AVERAGE ANNUAL BASE WAGE**

2

3 Table 3 summarizes the average base wage by employee group for 2008 through to
4 2011.

5

6

Table 3 – Average Annual Base Wage

	2008 Approved \$	2008 Actual \$	2009 Actual \$	2010 Budget \$	2011 Budget \$
Executive / senior management	\$132,561	\$131,950	\$134,281		
Management	82,633	92,094	92,499		
Non-unionized	70,938	72,401	70,684		
Unionized	59,750	62,447	64,355		

7

8 The average change in base wages is affected by both the new positions included in the
9 group and the average pay increases. For instance, the increase in the average annual
10 base wage is affected by the number of new staff planned to be hired at entry level
11 wages.

12

13

14 **4.0 AVERAGE ANNUAL OVERTIME**

15

16 Table 4 summarizes the average overtime paid per employee.

17



1

Table 4 – Average Annual Overtime

	2008 Approved \$	2008 Actual \$	2009 Actual \$	2010 Budget \$	2011 Budget \$
Unionized	\$5,209	\$5,295	\$6,605	\$5,682	\$5,828

2

3 For non-unionized and management staff, overtime is not applicable except in highly
4 unusual and extenuating circumstances. No amounts are forecast for 2010 or 2011.

5

6

7 **5.0 AVERAGE ANNUAL INCENTIVE PAY**

8

9 Table 5 summarizes the average annual incentive (variable) pay for executive,
10 management and non-unionized staff.

11

Table 5 – Average Annual Incentive Pay

	2008 Approved \$	2008 Actual \$	2009 Actual \$	2010 Budget \$	2011 Budget \$
Executive / senior management	\$30,934	\$34,692	\$37,676	\$32,849	\$34,163
Management	11,481	5,970	11,757	10,789	11,221
Non-unionized	7,157	3,245	0	0	0

12

13 As noted previously, Hydro Ottawa forecasts incentive pay in 2010 and 2011 on an
14 average performance factor of 1.0. In 2007, the company adopted a new compensation
15 plan which moved a portion or all of the compensation from the incentive plan for non-
16 unionized and some management employees to base wages. The transition to this new
17 plan occurred in 2007 and 2008 resulting in the decrease shown for the incentive pay in
18 2008, and the full elimination in subsequent years.

19

20

21

22



1 **6.0 AVERAGE ANNUAL BENEFITS**

2

3 Table 6 summarizes the average annual benefit costs by employee group.

4

5

Table 6 – Average Annual Benefits

	2008 Approved \$	2008 Actual \$	2009 Actual \$	2010 Budget \$	2011 Budget \$
Executive / senior management	\$27,924	\$29,651	\$29,549		
Management	19,208	17,891	18,186		
Non-unionized	14,200	9,871	10,754		
Unionized	13,816	12,899	14,017		

6

7

8 **7.0 PENSION COSTS**

9

10 Pensions are provided to Hydro Ottawa employees through the Ontario Municipal
11 Employees Retirement System (“OMERS”). Table 7 summarizes the actual and
12 expected employer contributions to OMERS based on employee payroll.

13

14

Table 7 – OMERS Payments

	2008 Approved \$	2008 Actual \$	2009 Actual \$	2010 Budget \$	2011 Budget \$
Pension Premiums	\$2,966,832	\$2,831,191	\$2,868,790	\$3,132,871	\$3,383,373

15

16 Employer pension contributions are lower in 2009 due to the lower than expected total
17 compensation. Pension contributions are expected to increase for 2010 and 2011 with
18 the additional staff and actual and anticipated increases in OMERS contributions.

19



1 **8.0 POST RETIREMENT BENEFITS**

2

3 No material changes are expected for post-retirement benefits as summarized in Table 8
4 that follows. Post retirement benefits are for life insurance and a small retiring allowance
5 for eligible employees.

6

7

Table 8 – Post Retirement Benefits

	2008 Approved \$	2008 Actual \$	2009 Actual \$	2010 Budget \$	2011 Budget \$
Post Retirement Benefits	\$600,000	\$596,784	\$502,798	\$700,000	\$728,000

8



Attachment Y - Employee Compensation Breakdown

	Last Rebasings Year 2008	Historical Year 2009	Bridge Year 2010	Test Year 2011
Number of Employees (FTEs including Part-Time)				
Executive	6	6		
Management	96	101		
Non-Union	39	37		
Union	388	402		
Total	529	547	569	592
Number of Part-Time Employees				
Executive	0	0	0	0
Management	1	0	1	3
Non-Union	5	3	1	1
Union	4	4	4	4
Total	10	7	6	8
Total Salary and Wages (\$)				
Executive	791,698	805,687		
Management	8,862,186	9,370,149		
Non-Union	2,787,422	2,622,382		
Union	24,242,591	25,879,165		
Total	36,683,897	38,677,382	41,354,577	44,408,922
Total Benefits (\$)				
Executive	177,908	188,093		
Management	1,803,966	1,945,918		
Non-Union	572,534	559,210		
Union	5,507,852	5,943,148		
Total	8,062,261	8,636,370	9,655,431	10,455,182
Total Compensation (Salary, Wages, & Benefits) (\$)				
Executive	969,607	993,780		
Management	10,666,152	11,316,067		
Non-Union	3,359,956	3,181,592		
Union	29,750,444	31,822,313		
Total	44,746,158	47,313,752	51,010,008	54,864,104
Compensation - Average Yearly Base Wages (\$)				
Executive	131,950	134,281		
Management	92,094	92,499		
Non-Union	72,401	70,684		
Union	62,447	64,355		
Total	70,392	70,769	72,506	74,583
Compensation - Average Yearly Overtime (\$)				
Executive	0	0	0	0
Management	0	0	0	0
Non-Union	0	0	0	0
Union	5,295	6,605	5,682	5,828
Total	5,295	6,605	5,682	5,828
Compensation - Average Yearly Incentive Pay (\$)				
Executive	34,692	37,676	32,849	34,163
Management	5,970	11,757	10,789	11,221
Non-Union	3,245	0	0	0
Union	0	0	0	0
Total	6,949	17,978	16,084	16,727
Compensation - Average Yearly Benefits (\$)				
Executive	29,651	29,549		
Management	17,891	18,186		
Non-Union	9,871	10,754		
Union	12,899	14,017		
Total	13,619	14,620		
Total Compensation (\$)				
	49,538,906	51,881,632	54,499,459	59,091,992
Total Compensation Charged to OM&A (\$)				
	35,756,345	36,302,775	39,775,111	43,846,194
Total Compensation Capitalized (\$)				
	14,805,466	16,139,120	16,000,565	16,573,063



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PURCHASE OF NON-AFFILIATE SERVICES

1.0 HISTORIC EXPENDITURES

The tables below contain information on the purchases of non-affiliate services for 2005 through 2009 by Hydro Ottawa Limited (“Hydro Ottawa”). The total costs are the costs paid to the Suppliers each year, excluding tax. The dollar amounts have been redacted for confidentiality purposes. If parties feel that the information is required, Hydro Ottawa will follow the Ontario Energy Board’s (the “Board”) Practice Direction on Confidential Filings in order to provide the information. The amount purchased each year is not the same as the amount expensed on distribution projects. Suppliers have been included in the list if the total purchases exceeded \$750k.

Beside each supplier reference in the table below is an indication of the type(s) of procurement methodology employed. The Procurement Strategy contained in Exhibit D1-3-1, describes how, and under what conditions, each method is applied.



1

Table 1: 2005 Suppliers

Supplier	Service / Product	Procurement Method	\$
Altec Industries	Automotive/Fleet Related	RFP ¹	
Asplundh Canada	Forestry	RFSO ²	
Drain-All	Waste/Recycling	RFSO	
Greely Construction Ltd.	Civil Construction	RFSO	
Guelph Utility Pole	Poles	Strategic Alliance	
HD Supply Utilities (Formerly Grafton)	Pole Line Hardware	Strategic Alliance	
Hydro One (SSA)	Utility	Sole Source	
IBM Canada	Information Technology	Sole Source	
Intergraph	Software	RFP	
K-Line Maintenance	Pole Line Construction	RFSO	
Olameter Inc.	Meter Reading/Collection	RFP	
PeopleSoft Canada	Software	Sole Source	
Prysmian Power Cables & Systems Can. Ltd.	Cable	Strategic Alliance	
Source Facilities Management Inc.	Facilities Related	Sole Source	
Teraflex	Construction	Sole Source	

2

¹ RFP means Request for Proposal

² RFSO means Request for Standing Offer



1

Table 2: 2006 Suppliers

Supplier	Service / Product	Procurement Method	\$
Aecon Utilities Inc.	Civil Construction	RFSO	
Altec Industries	Automotive/Fleet Related	RFP	
Asplundh Canada	Forestry	RFP	
Dundas Power Line Ltd.	Pole Line Construction	RFSO	
Elster Metering	Metering	RFP	
Greely Construction Ltd.	Civil Construction	RFSO	
Guelph Utility Pole	Poles	Strategic Alliance	
HD Supply Utilities (Formerly Grafton)	Pole Line Hardware	Strategic Alliance	
Hydro One (SSA)	Utility	Sole Source	
Hyundai Canada Inc.	Transformers	RFP	
IBM Canada	Information Technology	Sole Source	
Intergraph	Software	RFP	
K-Line Maintenance	Pole Line Construction	RFSO	
Olameter Inc.	Meter Reading/Collection	RFP	
Prysmian Power Cables & Systems Can. Ltd.	Cable	Strategic Alliance	

2



1

Table 3: 2007 Suppliers

Supplier	Service / Product	Procurement Method	\$
Asplundh Canada	Forestry	RFP	
Dual Ade Inc.	Electrical	RFP	
Elster Metering	Metering	RFP	
Greely Construction Ltd.	Civil Construction	RFSO	
Guelph Utility Pole	Poles	Strategic Alliance	
HD Supply Utilities (Formerly Grafton)	Pole Line Hardware	Strategic Alliance	
Hyundai Canada Inc.	Transformers	RFP	
IBM Canada	Information Technology	Sole Source	
Intergraph	Software	RFP	
J.W. Leslie Utilities	Civil Construction	RFSO	
K-Line Maintenance	Pole Line Construction	RFSO	
Laurin & Company	Construction	RFP	
Olameter Inc.	Meter Reading/Collection	RFP	
Promark Telecon	Cable Location	RFSO	
Prysmian Power Cables & Systems Can. Ltd.	Cable	Strategic Alliance	
S&C Electric (Toronto)	Switchgear	RFP	
Siemens Canada Ltd.	Protection & Control Systems	RFP	

2



1

Table 4: 2008 Suppliers

Supplier	Service / Product	Procurement Method	\$
Asplundh Canada	Forestry	RFSO	
CG Power Systems c/o Virelli & Associates	Transformers	RFP	
Drain-All	Waste/Recycling	RFSO	
Dual Ade Inc.	Protection & Control Systems	RFP	
Elster Metering	Metering	RFP	
Greely Construction Ltd.	Civil Construction	RFSO	
HD Supply Utilities (Formerly Grafton)	Pole Line Hardware	Strategic Alliance	
Hyundai Canada Inc.	Transformers	RFP	
IBM Canada	Information Technology	Sole Source	
Intergraph	Software	RFP	
J.W. Leslie Utilities	Civil Construction	RFSO	
Laurin & Company	Construction	RFP	
Ogilvy Renault	Legal Services	Sole Source	
Olameter Inc.	Meter Reading/Collection	RFP	
Promark Telecon	Cable Location	RFSO	
Prysmian Power Cables & Systems Can. Ltd.	Cable	Strategic Alliance	
S&C Electric (Toronto)	Switchgear	RFP	
Tamarack Tree Care Ltd.	Forestry	RFSO	

2



1

Table 5: 2009 Suppliers

Supplier	Service / Product	Procurement Method	\$
Asplundh Canada	Forestry	RFSO	
Atria Networks LP	Communications	Sole Source	
B.G. High Voltage Systems	Construction	RFP	
BPR Energie Inc.	Engineering	RFSO	
Bradley Kelly Construction Ltd.	Civil Construction	RFSO	
Drain-All	Waste/Recycling	RFP	
Elster Metering	Metering	RFP	
Greely Construction Ltd.	Civil Construction	RFSO	
Guelph Utility Pole	Poles	Strategic Alliance	
HD Supply Utilities (Formerly Grafton)	Pole Line Hardware	Strategic Alliance	
Hydro One (SSA)	Utility	Sole Source	
IBM Canada	Information Technology	Sole Source	
Intergraph	Software	RFP	
J.W. Leslie Utilities	Civil Construction	RFSO	
Nedco	Utility	RFP	
Olameter Inc.	Meter Reading/Collection	RFP	
Oracle	Software	Sole Source	
Promark Telecon	Cable Location	RFP	
Prysmian Power Cables & Systems Can. Ltd	Cable	Strategic Alliance	
Tamarack Tree Care LTD	Forestry	RFSO	

2

3

4 **2.0 BRIDGE AND TEST YEARS**

5

6 Commitments to suppliers have not been made for the Bridge Year (2010) or the Test
7 Year (2011). Purchases for 2010 and 2011 will be determined by the operating and
8 capital works occurring in each year. Purchases will continue to be based on the
9 methodology outlined in the Procurement Policy.



1 **DEPRECIATION/AMORTIZATION/DISPOSAL SCHEDULE**

2
3 Hydro Ottawa Limited (“Hydro Ottawa”) is not proposing to make any changes from the
4 amortization rates that were used in the 2008 Electricity Distribution Rate Application
5 (EB-2007-0713). As per the Capitalization Policy (Attachment Q to Exhibit B1-3-1) this
6 means following the method and lives set out by the Ontario Energy Board. Therefore
7 an amortization study is not included with this application.

8
9 The following table details the amortization expenses for 2008 Approved, 2008 Actual,
10 2009 Actual, 2010 and 2011 Budget, by asset group. Also included is the amortization
11 period for the various assets that make up each grouping. As detailed in Exhibit I2-1-1,
12 Hydro Ottawa received approval to recover the cost of meters stranded as a result of the
13 installation of Smart Meters over a six year period. \$2,985k has been included in the
14 amortization expense for 2011, which is the fourth year of the six year period.

15
16
17 Also included in Table 1 is the affect on amortization from disposals in 2008 and 2009.
18 There are no disposals budgeted for 2010 and 2011.



Table 1 – Approved/Actual Amortization Expense 2008 to 2009

Asset Group	2008 Approved Amortization Expense	2008 Actual Amortization Expense	2008 Actual Disposals	2009 Actual Amortization Expense	2009 Actual Disposals	Amortization Period (years)
	\$000	\$000	\$000	\$000	\$000	
Land and Buildings	(77)	(759)	1	1,798	4	Note 1
TS Primary Above 50	(1,049)	(874)	0	(1,330)	0	40
DS	(1,148)	(1,102)	2	(1,870)	427	30
Poles, Wires	(14,766)	(14,692)	0	(15,129)	36,124	25
Line Transformers	(4,042)	(3,926)	0	(3,902)	28,006	25
Services and Meters	(6,720)	(7,365)	(219)	(7,903)		Note 2
General Plant	(1,089)	(359)	0	(2,999)		Note 3
Equipment	(2,912)	(2,947)	9,947	(3,152)	1,066	10
IT Assets	(8,237)	(8,892)	16,455	(8,734)	(436)	Note 4
Other Distribution Assets	(782)	(661)	94	(677)	3,966	Note 5
TOTAL	(\$40,822)	(\$41,576)	\$26,279	(\$43,898)	\$69,157	

Notes:

1. Land is not amortized; Land Rights and Buildings are amortized over 50 years.
2. Services and conventional meters are amortized over 25 years; Smart Meters over 15 years.
3. Buildings & Fixtures – Brick, Concrete and Steel is amortized over 50 years; Other construction over 25 years.
4. Computer hardware and some software are amortized over 5 years; the CIS is amortized over 10 years.
5. Load Management Controls are amortized over 10 years; System Supervisory Equipment over 15 years.



Table 2 – Budget Amortization Expense 2010 to 2011

Asset Group	2010 Budget Amortization Expense \$000	2011 Budget Amortization Expense \$000	Amortization Period (years)
Land and Buildings	(347)	(476)	Note 1
TS Primary Above 50	(1,526)	(1,786)	40
DS	(1,770)	(1,972)	30
Poles, Wires	(15,764)	(16,056)	25
Line Transformers	(3,567)	(3,261)	25
Services and Meters	(8,813)	(9,262)	Note 2
General Plant	(902)	(941)	Note 3
Equipment	(3,218)	(3,438)	10
IT Assets	(9,830)	(9,402)	Note 4
Other Distribution Assets	(740)	(855)	Note 5
TOTAL	(\$46,476)	(\$47,450)	

Notes:

1. Land is not amortized; Land Rights and Buildings are amortized over 50 years.
2. Services and conventional meters are amortized over 25 years; Smart Meters over 15 years.
3. Buildings & Fixtures – Brick, Concrete and Steel is amortized over 50 years; Other construction over 25 years.
4. Computer hardware and some software are amortized over 5 years; the CIS is amortized over 10 years.
5. Load Management Controls are amortized over 10 years; System Supervisory Equipment over 15 years.



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PAYMENTS IN LIEU OF TAXES CALCULATION

1.0 INTRODUCTION

Hydro Ottawa Limited (“Hydro Ottawa”) is required to make Payments in Lieu of Taxes (“PILs”) based on its taxable income. The amount for PILs included in the 2011 revenue requirement is \$9,555,063. Hydro Ottawa’s model to calculate the forecasted 2011 PILs (“the Tax Model”) is based on the 2009 Electricity Distribution Rate (“EDR”) Tax Model developed by the Ontario Energy Board for 2009 and later year rate applications. Modifications have been made to update the model to the new Test Year of 2011 for any applicable legislative changes in taxation rates; however, no modifications have been made to the general principles and methodologies of the model. The Model reflects the 2009 Historical Year, 2010 Bridge Year and 2011 Test Year with the appropriate roll forward of balances to project the 2011 taxes.

2.0 GENERAL METHODOLOGY

For 2011 income taxes, Hydro Ottawa has used a combined Federal and Ontario tax rate of 28.25%, down from 34.5% used in 2008. This rate is applied to Hydro Ottawa’s regulatory taxable income determined through the Tax Model. This amount is then grossed up by the tax rate to determine the tax provision component of the revenue requirement.

To determine the regulatory taxable income, the Capital Cost Allowance (“CCA”) for 2011 was forecasted. This forecast uses the estimated ending 2010 Undepreciated Capital Cost (“UCC”) balance as the opening balance for 2011 and the forecast 2011 capital additions (applying the half-year rule) to determine the closing UCC balance for 2011. The Cumulative Eligible Capital (“CEC”) deduction for 2011 is also determined based on the 2011 forecast eligible capital expenditures.



1 **3.0 PRINCIPLES**

2

3 As noted above, Hydro Ottawa has followed the same principles as it has for its previous
4 rate applications. These are summarized in the sections that follow.

5

6 **3.1 Non-Recoverable and Disallowed Expenses**

7

8 All disallowed and non-recoverable expenses have been identified and recorded in the
9 regulatory tax calculations.

10

11 **3.2 Loss Carry-Forwards**

12

13 Hydro Ottawa does not have any non capital or capital loss carry forwards at the end of
14 2009 and does not expect to have any such loss carry forwards available for 2011.

15

16 **3.3 Undepreciated Capital Cost and Capital Cost Allowance**

17

18 Hydro Ottawa is taking the full CCA for 2011 as calculated in the Tax Model.

19

20 **3.4 Regulatory Tax Treatment of Eligible Capital Expenditure (“ECE”)**

21

22 Hydro Ottawa is taking the maximum ECE deduction allowed for 2011. The ECE used in
23 the calculation reflects costs for land rights.

24

25 **3.5 Interest deduction**

26

27 Hydro Ottawa has deducted the deemed interest in the Tax Model as it is higher than the
28 forecast actual interest expense. This approach is consistent with prior rate
29 applications.

30



1 **3.6 Overlapping Year-Ends**

2

3 Hydro Ottawa did not have to make any assumptions about the rate year being the same
4 as the tax year (calendar 2011) for tax calculation purposes because Hydro Ottawa is
5 applying for a January 1, 2011 implementation of rates. This has simplified the process
6 of calculating taxes.

7

8 **3.7 Ontario Corporate Minimum Tax**

9

10 Hydro Ottawa has not included any Ontario Corporate Minimum Tax in its calculations,
11 as it does not apply.

12

13 **3.8 Non-distribution elimination**

14

15 Hydro Ottawa has excluded all non-distribution costs and revenues.

16

17 **3.9 Tax credits**

18

19 In previous years, Hydro Ottawa has claimed the Federal Apprenticeship Job Creation
20 Tax Credit and the Ontario Apprenticeship Training Credit. Based on Hydro Ottawa's
21 Apprenticeship Program this has been continued in 2011 with a forecast \$348,000 tax
22 credit reflected in the PILs calculation. The forecast credit is based on the tax
23 apprenticeship additions included in operating and maintenance expenses.

24

25 **3.10 Property Taxes**

26

27 The Tax Model only addresses corporate income and capital taxes. Property tax is
28 included as part of Operation, Maintenance and Administration.

29



1 **3.11 Capital Leases**

2

3 No capital leases capitalized for accounting purposes are deducted for tax purposes.

4

5 **3.12 Tax Re-Assessments**

6

7 The Ministry of Finance has completed its reviews of Hydro Ottawa for the 2001 to 2005
8 tax years. Any tax adjustments for these years have been reflected in the subsequent
9 tax years balances as appropriate.

10

11 **3.13 Reserves**

12

13 Hydro Ottawa records tax reserves related to customer credit balances and deposits,
14 regulatory accounts and other allowances. These reserves are normally an adjustment
15 to taxable income and are timing differences that over time should have a NIL effect on
16 taxable income. Hydro Ottawa has always taken the position that the inclusion of these
17 types of taxable adjustments only create year over year fluctuations and would require
18 annual PILs adjustments if included in the revenue requirement. This approach provides
19 a more stable PILs calculation and therefore less volatility to rates. To maintain this
20 consistency, tax reserves have been excluded from the PILs calculation.

21

22 **3.14 Tax Model**

23

24 Attached is the Tax Model used to determine the 2011 PILs. (Attachment Z). The model
25 is a modified version of the 2009 EDR Tax Model. The model was updated for the new
26 test year and reflects legislative changes enacted since that time.



PILS OR INCOME TAXES WORK FORM

Name of LDC: Hydro Ottawa Limited

File Number: EB-2010-xxxx

Rate Year: 2011

Version: 1.0

Table of Content

<u>Sheet</u>	<u>Name</u>
A	A. Data Input Sheet
B	B. Tax Rates & Exemptions
C	C. Sch 8 and 10 UCC&CEC Hist
D	D. Sch 13 Tax Reserves Hist
E	E. Sch 7-1 Loss Cfd Hist
F	F. Adjusted Taxable Income Hist
G	G. Schedule 8 CCA Bridge Year
H	H. Schedule 10 CEC Bridge Year
I	I. Sch 13 Tax Reserves Bridge
J	J. Sch 7-1 Loss Cfd Bridge
K	K. Adjusted Taxable Income Brid
L	L. Schedule 8 CCA Test Year
M	M. Schedule 10 CEC Test Year
N	N. Sch 7-1 Loss Cfd
O	O. Taxable Income Test Year
P	P. OCT
Q	Q. PILs,Tax Provision

Notes:

- (1) Pale green cells represent inputs
- (2) **Please note that this model uses MACROS. Before starting, please ensure that macros have been enabled.**

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PILS OR INCOME TAXES WORK FORM

Name of LDC: Hydro Ottawa Limited

File Number: EB-2010-xxxx

Rate Year: 2011

Data Input Sheet

Applicants Rate Base		Rate Re-Basing Amount	
Average Net Fixed Assets			
Gross Fixed Assets - Re-Basing Opening	\$ 1,029,615,983	A	
Add: CWIP Re-Basing Opening	\$ 19,632,006	B	
Re-Basing Capital Additions	\$ 78,721,253	C	
Re-Basing Capital Disposals	\$ -	D	
Re-Basing Capital Retirements	\$ -	E	
Deduct: CWIP Re-Basing Closing	-\$ 28,416,491	F	
Gross Fixed Assets - Re-Basing Closing	\$ 1,099,552,751	G	
Average Gross Fixed Assets	\$ 1,064,584,367	H = (A + G) / 2	
Accumulated Depreciation - Re-Basing Opening			
Accumulated Depreciation - Re-Basing Opening	\$ 503,447,473	I	
Re-Basing Depreciation Expense	\$ 47,449,596	J	
Re-Basing Disposals	\$ -	K	
Re-Basing Retirements	\$ -	L	
Accumulated Depreciation - Re-Basing Closing	\$ 550,897,069	M	
Average Accumulated Depreciation	\$ 527,172,271	N = (I + M) / 2	
Average Net Fixed Assets	\$ 537,412,096	O = H - M	
Working Capital Allowance			
Working Capital Allowance Base	\$ 667,857,123	P	
Working Capital Allowance Rate	14.1%	Q	
Working Capital Allowance	\$ 94,167,854	R = P * Q	
Rate Base	\$ 631,579,950	S = O + R	
Return on Rate Base			
Deemed ShortTerm Debt %	4.00%	T	\$ 25,263,198
Deemed Long Term Debt %	56.00%	U	\$ 353,684,772
Deemed Equity %	40.00%	V	\$ 252,631,980
			W = S * T
			X = S * U
			Y = S * V
Short Term Interest	2.17%	Z	\$ 548,211
Long Term Interest	5.35%	AA	\$ 18,925,672
Return on Equity (Regulatory Income)	9.85%	AB	\$ 24,884,250
Return on Rate Base	\$ 44,358,134	AF = AC + AD + AE	

Questions that must be answered

	Historic Yes or No	Bridge Yes or No	Test Year Yes or No
1. Does the applicant have any Investment Tax Credits (ITC)?	No	No	No
2. Does the applicant have any Scientific Research and Experimental	No	No	No
3. Does the applicant have any Capital Gains or Losses for tax purposes?	Yes	No	No
4. Does the applicant have any Capital Leases?	No	No	No
5. Does the applicant have any Loss Carry-Forwards (non-capital or net capital)?	No	No	No
6. Since 1999, has the applicant acquired another regulated applicant's assets?	No	No	No
7. Did the applicant pay dividends? <i>If Yes, please describe what was the tax treatment in the manager's summary.</i>	Yes	Yes	Yes
8. Did the applicant elect to capitalize interest incurred on CWIP for tax purposes?	No	No	No



PILS OR INCOME TAXES WORK FORM

Name of LDC: Hydro Ottawa Limited

File Number: EB-2010-xxxx

Rate Year: 2011

Tax Rates & Exemptions

Tax Rates

Federal & Provincial As of March 26, 2009

Federal income tax

General corporate rate

Federal tax abatement

Adjusted federal rate

Surtax (4% of line 3)

Rate reduction

Ontario income tax

Combined federal and Ontario

Federal & Ontario Small Business

Federal small business threshold

Ontario Small Business Threshold

Federal small business rate

Ontario small business rate

Ontario surtax claw-back of 4.25% starts at \$500,000 and eliminates the SBC at \$1,500,000.

Ontario Capital Tax

Capital deduction

Capital tax rate

OCT will be eliminated on July 1, 2010 but tax will be prorated for the first 6 months in 2010.

NOTES:

1. Based on the federal government's October 30, 2007 Economic Statement.

Bill C-28 received Royal Assent on December 14, 2007.

2. Ontario Economic Statement of December 13, 2007 became Bill 44 and received Royal Assent on May 14, 2008.

Capital tax rate changes and small business deduction income thresholds made retroactive to January 1, 2007.

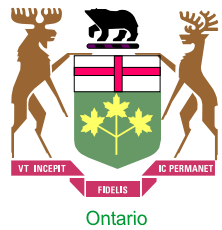
3. Federal Budget of January 27, 2009 The federal small business limit was increased from \$400,000 to \$500,000 on January 1, 2009

3. Federal Budget of March 26, 2009 The provincial corporate tax rate was reduced

	Effective January 1, 2006	Effective January 1, 2007	Effective January 1, 2008	Effective January 1, 2009	Effective January 1, 2010	Effective January 1, 2011	Effective January 1, 2012	Effective January 1, 2013	Effective January 1, 2014
1	38.00%	38.00%	38.00%	38.00%	38.00%	38.00%	38.00%		
2	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%		
3	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%		
4	1.12%	1.12%	0.00%	0.00%	0.00%	0.00%	0.00%		
	29.12%	29.12%	28.00%	28.00%	28.00%	28.00%	28.00%		
	-7.00%	-7.00%	-8.50%	-9.00%	-10.00%	-11.50%	-13.00%		
	22.12%	22.12%	19.50%	19.00%	18.00%	16.50%	15.00%	15.00%	15.00%
	14.00%	14.00%	14.00%	14.00%	13.00%	11.75%	11.25%	10.50%	10.00%
	36.12%	36.12%	33.50%	33.00%	31.00%	28.25%	26.25%	25.50%	25.00%

Federal small business threshold	400,000	400,000	400,000	500,000	500,000	500,000	500,000		
Ontario Small Business Threshold	400,000	500,000	500,000	500,000	500,000	500,000	500,000		
Federal small business rate	13.12%	13.12%	11.00%	11.00%	11.00%	11.00%	11.00%		
Ontario small business rate	5.50%	5.50%	5.50%	5.50%	5.00%	4.50%	4.50%	0.00%	

Capital deduction	10,000,000	12,500,000	15,000,000	15,000,000	15,000,000				
Capital tax rate	0.300%	0.225%	0.225%	0.225%	0.075%				



PILS OR INCOME TAXES WORK FORM

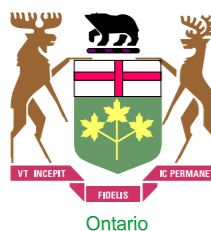
Name of LDC: Hydro Ottawa Limited

File Number: EB-2010-xxxx

Rate Year: 2011

Schedule 8 and 10 UCC and CEC

Historic - 2009				
Class	Class Description	UCC End of Year Historic per tax returns	Less: Non-Distribution Portion	UCC Bridge Year Opening Balance
1	Distribution System - post 1987	238,232,325	1,478,575	236,753,750
2	Distribution System - pre 1988	86,524,399	0	86,524,399
8	General Office/Stores Equip	9,270,086	4,762	9,265,324
10	Computer Hardware/ Vehicles	5,551,957	0	5,551,957
10.1	Certain Automobiles	0	0	0
12	Computer Software	769,632	0	769,632
13 ₁	Lease # 1	0	0	0
13 ₂	Lease #2	0	0	0
13 ₃	Lease # 3	0	0	0
13 ₄	Lease # 4	0	0	0
14	Franchise	0	0	0
17	New Electrical Generating Equipment Acq'd after Feb 27/00 Other Than Bldgs	0	0	0
43.1	Certain Energy-Efficient Electrical Generating Equipment	0	0	0
45	Computers & Systems Software acq'd post Mar 22/04	519,354	0	519,354
46	Data Network Infrastructure Equipment (acq'd post Mar 22/04)	0	0	0
47	Distribution System - post February 2005	186,450,818	0	186,450,818
50	Data Network Infrastructure Equipment - post Mar 2007	720,049	0	720,049
1.3	Buildings - post 2007	9,926,161	0	9,926,161
3	Buildings - pre 1988	12,501,965	0	12,501,965
42	Fibre Optic Cable	704,308	0	704,308
		0	0	0
		0	0	0
	SUB-TOTAL - UCC	551,171,054	1,483,337	549,687,717
CEC	Goodwill	0	0	0
CEC	Land Rights	1,024,477	0	1,024,477
CEC	FMV Bump-up	0	0	0
		0	0	0
		0	0	0
	SUB-TOTAL - CEC	1,024,477	0	1,024,477



PILS OR INCOME TAXES WORK FORM

Name of LDC: Hydro Ottawa Limited

File Number: EB-2010-xxxx

Rate Year: 2011

Schedule 13 Tax Reserves Historical - 2009

CONTINUITY OF RESERVES

Description	Historical Balance as per tax returns	Non-Distribution Eliminations	Utility Only
Capital Gains Reserves ss.40(1)			0
Tax Reserves Not Deducted for accounting purposes			
Reserve for doubtful accounts ss. 20(1)(l)	555,247		555,247
Reserve for goods and services not delivered ss. 20(1)(m)			0
Reserve for unpaid amounts ss. 20(1)(n)			0
Debt & Share Issue Expenses ss. 20(1)(e)			0
Other tax reserves			0
Regulatory Assets	2,811,268		2,811,268
			0
Total	3,366,515	0	3,366,515
Financial Statement Reserves (not deductible for Tax Purposes)			
General Reserve for Inventory Obsolescence (non-specific)			0
General reserve for bad debts	1,888,147		1,888,147
Accrued Employee Future Benefits:			0
- Medical and Life Insurance			0
- Short & Long-term Disability			0
- Accumulated Sick Leave			0
- Termination Cost			0
- Other Post-Employment Benefits			0
Provision for Environmental Costs			0
Restructuring Costs			0
Accrued Contingent Litigation Costs			0
Accrued Self-Insurance Costs			0
Other Contingent Liabilities			0
Bonuses Accrued and Not Paid Within 180 Days of Year-End ss. 78(4)			0
Unpaid Amounts to Related Person and Not Paid Within 3 Taxation Years ss. 78(1)			0
Other			0
Regulatory Liabilities	1,434,221		1,434,221
			0
Total	3,322,368	0	3,322,368



PILS OR INCOME TAXES WORK FORM

Name of LDC: Hydro Ottawa Limited

File Number: EB-2010-xxxx

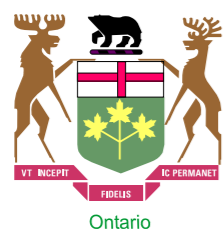
Rate Year: 2011

Sch 7-1 Loss Carry Forward Historic - 2009

Corporation Loss Continuity and Application

	Total	Non-Distribution Portion	Utility Balance
Non-Capital Loss Carry Forward Deduction			
Actual Historic			0

	Total	Non-Distribution Portion	Utility Balance
Net Capital Loss Carry Forward Deduction			
Actual Historic			0



PILS OR INCOME TAXES WORK FORM

Name of LDC: Hydro Ottawa Limited

File Number: EB-2010-xxxx

Rate Year: 2011

Historic Year Adjusted Taxable Income - 2009

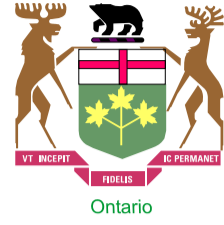
Historic				
	T2S1 line #	Total for Legal Entity	Non-Distribution Eliminations	Historic Wires Only
Income before PILS/Taxes	A	38,357,187	0	38,357,187
Additions:				
Interest and penalties on taxes	103	79,053	0	79,053
Amortization of tangible assets	104	40,852,832	0	40,852,832
Amortization of intangible assets	106	0	0	0
Recapture of capital cost allowance from Schedule 8	107	0	0	0
Gain on sale of eligible capital property from Schedule 10	108	0	0	0
Income or loss for tax purposes- joint ventures or partnerships	109	0	0	0
Loss in equity of subsidiaries and affiliates	110	0	0	0
Loss on disposal of assets	111	0	0	0
Charitable donations	112	63,182	0	63,182
Taxable Capital Gains	113	0	0	0
Political Donations	114	0	0	0
Deferred and prepaid expenses	116	0	0	0
Scientific research expenditures deducted on financial statements	118	0	0	0
Capitalized interest	119	0	0	0
Non-deductible club dues and fees	120	0	0	0
Non-deductible meals and entertainment expense	121	70,153	0	70,153
Non-deductible automobile expenses	122	0	0	0
Non-deductible life insurance premiums	123	0	0	0
Non-deductible company pension plans	124	0	0	0
Tax reserves deducted in prior year	125	3,047,144	0	3,047,144
Reserves from financial statements- balance at end of year	126	3,322,368	0	3,322,368
Soft costs on construction and renovation of buildings	127	0	0	0
Book loss on joint ventures or partnerships	205	0	0	0
Capital items expensed	206	0	0	0
Debt issue expense	208	0	0	0
Development expenses claimed in current year	212	0	0	0
Financing fees deducted in books	216	0	0	0
Gain on settlement of debt	220	0	0	0
Non-deductible advertising	226	0	0	0
Non-deductible interest	227	0	0	0
Non-deductible legal and accounting fees	228	0	0	0
Recapture of SR&ED expenditures	231	0	0	0
Share issue expense	235	0	0	0
Write down of capital property	236	0	0	0
Amounts received in respect of qualifying environment trust per paragraphs 12(1)(z.1) and 12(1)(z.2)	237	0	0	0
Other Additions				
Interest Expensed on Capital Leases	290	0	0	0
Realized Income from Deferred Credit Accounts	291	0	0	0
Pensions	292	0	0	0
Apprenticeship Tax Credits	293	184,801	0	184,801
Employee Future Benefit expenses as per financial statements	294	587,788	0	587,788
Paragraph 12 (1)(g) income inclusion - Smart Meter Depreciation Recovery	295	3,038,628	0	3,038,628
Total Additions		51,245,949	0	51,245,949
Deductions:				
Gain on disposal of assets per financial statements	401	11,797	0	11,797
Dividends not taxable under section 83	402	0	0	0
Capital cost allowance from Schedule 8	403	39,776,775	0	39,776,775
Terminal loss from Schedule 8	404	0	0	0
Cumulative eligible capital deduction from Schedule 10	405	77,111	0	77,111
Allowable business investment loss	406	0	0	0
Deferred and prepaid expenses	409	0	0	0
Scientific research expenses claimed in year	411	0	0	0
Tax reserves claimed in current year	413	3,366,515	0	3,366,515
Reserves from financial statements - balance at beginning of year	414	5,356,521	0	5,356,521
Contributions to deferred income plans	416	0	0	0
Book income of joint venture or partnership	305	0	0	0
Equity in income from subsidiary or affiliates	306	0	0	0
<i>Other deductions: (Please explain in detail the nature of the item)</i>				
Interest capitalized for accounting deducted for tax	390	0	0	0
Capital Lease Payments	391	0	0	0
Non-taxable imputed interest income on deferral and variance accounts	392	0	0	0
Allowance for Funds Used During Construction	393	895,239	0	895,239
Actual Employee Benefits Paid	394	388,396	0	388,396
Total Deductions		49,872,354	0	49,872,354
Net Income for Tax Purposes		39,730,781	0	39,730,781
Charitable donations from Schedule 2	311	63,182	0	63,182
Taxable dividends deductible under section 112 or 113, from Schedule 3 (item 82)	320	0	0	0
Non-capital losses of preceding taxation years from Schedule 4	331	0	0	0
Net-capital losses of preceding taxation years from Schedule 4 (Please include explanation and calculation in Manager's summary)	332	0	0	0
Limited partnership losses of preceding taxation years from Schedule 4	335	0	0	0
TAXABLE INCOME		39,667,599	0	39,667,599



PILS OR INCOME TAXES WORK
 Name of LDC: Hydro Ottawa Limited
 File Number: EB-2010-xxxx
 Rate Year: 2011

Schedule 10 CEC Bridge Year - 2010

Cumulative Eligible Capital				<u>1,024,477</u>
<u>Additions</u>				
Cost of Eligible Capital Property Acquired during Test Year	0			
Other Adjustments	0			
Subtotal	<u>0</u>	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 =	<u>0</u>	<u>0</u>
Amount transferred on amalgamation or wind-up of subsidiary	0			0
		Subtotal		<u>1,024,477</u>
<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	x 3/4 =	<u>0</u>
Cumulative Eligible Capital Balance				1,024,477
Current Year Deduction				1,024,477 x 7% = 71,713
Cumulative Eligible Capital - Closing Balance				952,764



**PILS OR INCOME TAXES WORK
FORM**

Name of LDC: Hydro Ottawa Limited
File Number: EB-2010-xxxx
Rate Year: 2011

Schedule 13 Tax Reserves Bridge Year - 2010

CONTINUITY OF RESERVES

Description	Historic Utility Only	Eliminate Amounts Not Relevant for Bridge Year	Adjusted Utility Balance	Bridge Year Adjustments		Balance for Bridge Year	Change During the Year	Disallowed Expenses
				Additions	Disposals			
Capital Gains Reserves ss.40(1)	0		0			0	0	
Tax Reserves Not Deducted for accounting purposes								
Reserve for doubtful accounts ss. 20(1)(l)	555,247		555,247			555,247	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	
	2,811,268		2,811,268			2,811,268	0	
	0		0			0	0	
Total	3,366,515	0	3,366,515	0	0	3,366,515	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	1,888,147		1,888,147			1,888,147	0	
Accrued Employee Future Benefits:	0		0			0	0	
- Medical and Life Insurance	0		0			0	0	
- Short & Long-term Disability	0		0			0	0	
- Accumulated 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	
	1,434,221		1,434,221			1,434,221	0	
	0		0			0	0	
Total	3,322,368	0	3,322,368	0	0	3,322,368	0	0



PILS OR INCOME TAXES WORK FORM

Name of LDC: Hydro Ottawa Limited

File Number: EB-2010-xxxx

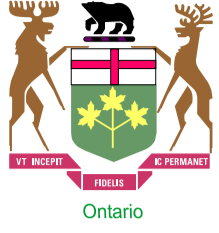
Rate Year: 2011

Sch 7-1 Loss Carry Forward Bridge Year - 2010

Corporation Loss Continuity and Application

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	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



PILS OR INCOME TAXES WORK

Name of LDC: Hydro Ottawa Limited

File Number: EB-2010-xxxx

Rate Year: 2011

Bridge Year Adjusted Taxable Income - 2010

Bridge		
	T2S1 line #	Total for Legal Entity
Income before PILs/Taxes	A	33,784,708
Additions:		
Interest and penalties on taxes	103	0
Amortization of tangible assets	104	43,472,368
Amortization of intangible assets	106	0
Recapture of capital cost allowance from Schedule 8	107	0
Gain on sale of eligible capital property from Schedule 10	108	0
Income or loss for tax purposes- joint ventures or partnerships	109	0
Loss in equity of subsidiaries and affiliates	110	0
Loss on disposal of assets	111	0
Charitable donations	112	50,500
Taxable Capital Gains	113	0
Political Donations	114	0
Deferred and prepaid expenses	116	0
Scientific research expenditures deducted on financial statements	118	0
Capitalized interest	119	0
Non-deductible club dues and fees	120	0
Non-deductible meals and entertainment expense	121	70,000
Non-deductible automobile expenses	122	0
Non-deductible life insurance premiums	123	0
Non-deductible company pension plans	124	0
Tax reserves deducted in prior year	125	0
Reserves from financial statements- balance at end of year	126	0
Soft costs on construction and renovation of buildings	127	0
Book loss on joint ventures or partnerships	205	0
Capital items expensed	206	0
Debt issue expense	208	0
Development expenses claimed in current year	212	0
Financing fees deducted in books	216	0
Gain on settlement of debt	220	0
Non-deductible advertising	226	0
Non-deductible interest	227	0
Non-deductible legal and accounting fees	228	0
Recapture of SR&ED expenditures	231	0
Share issue expense	235	0
Write down of capital property	236	0
Amounts received in respect of qualifying environment trust per paragraphs 12(1)(z.1) and 12(1)(z.2)	237	0
Other Additions		
Interest Expensed on Capital Leases	290	0
Realized Income from Deferred Credit Accounts	291	0
Pensions	292	0
Non-deductible penalties	293	0
	294	0
	295	0
Total Additions		43,592,868
Deductions:		
Gain on disposal of assets per financial statements	401	0
Dividends not taxable under section 83	402	0
Capital cost allowance from Schedule 8	403	43,318,689
Terminal loss from Schedule 8	404	0
Cumulative eligible capital deduction from Schedule 10	405	71,713
Allowable business investment loss	406	0
Deferred and prepaid expenses	409	0
Scientific research expenses claimed in year	411	0
Tax reserves claimed in current year	413	0
Reserves from financial statements - balance at beginning of year	414	0
Contributions to deferred income plans	416	0
Book income of joint venture or partnership	305	0
Equity in income from subsidiary or affiliates	306	0
<i>Other deductions: (Please explain in detail the nature of the item)</i>		
Interest capitalized for accounting deducted for tax	390	0
Capital Lease Payments	391	0
Non-taxable imputed interest income on deferral and variance accounts	392	0
AFUDC	393	1,020,799
	394	0
Total Deductions		44,411,202
Net Income for Tax Purposes		32,966,374
Charitable donations from Schedule 2	311	50,500
Taxable dividends deductible under section 112 or 113, from Schedule 3 (item 82)	320	0
Non-capital losses of preceding taxation years from Schedule 4	331	0
Net-capital losses of preceding taxation years from Schedule 4 (Please include explanation and calculation in Manager's summary)	332	0
Limited partnership losses of preceding taxation years from Schedule 4	335	0
TAXABLE INCOME		32,915,874



PILS OR INCOME TAXES WORK

Name of LDC: Hydro Ottawa Limited

File Number: EB-2010-xxxx

Rate Year: 2011

Schedule 10 CEC Test Year - 2011

Cumulative Eligible Capital

952,764

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 0

Amount transferred on amalgamation or wind-up of subsidiary

0

0

Subtotal 952,764

Deductions

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 0

Cumulative Eligible Capital Balance

952,764

Current Year Deduction (Carry Forward to Tab "Test Year Taxable Income")

952,764 x 7% = 66,693

Cumulative Eligible Capital - Closing Balance

886,070



PILS OR INCOME TAXES WORK FORM

Name of LDC: Hydro Ottawa Limited

File Number: EB-2010-xxxx

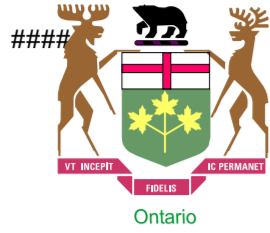
Rate Year: 2011

Sch 7-1 Loss Carry Forward Test Year - 2011

Corporation Loss Continuity and Application

	Total	Non-Distribution Portion	Utility Balance
Non-Capital Loss Carry Forward Deduction			
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

	Total	Non-Distribution Portion	Utility Balance
Net Capital Loss Carry Forward Deduction			
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



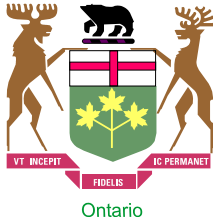
PILS OR INCOME TAXES WORK FORM

Name of LDC: Hydro Ottawa Limited

File Number: EB-2010-xxxx

Rate Year: 2011

	T2 S1 line #	Test Year	Taxable Income
Net Income Before Taxes			24,884,250
Additions:			
Interest and penalties on taxes	103		
Amortization of tangible assets 2-4 ADJUSTED ACCOUNTING DATA P489	104		47,449,596
Amortization of intangible assets 2-4 ADJUSTED ACCOUNTING DATA P490	106		
Recapture of capital cost allowance from Schedule 8	107		
Gain on sale of eligible capital property from Schedule 10	108		
Income or loss for tax purposes- joint ventures or partnerships	109		
Loss in equity of subsidiaries and affiliates	110		
Loss on disposal of assets	111		
Charitable donations	112		50,000
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		70,000
Non-deductible automobile expenses	122		
Non-deductible life insurance premiums	123		
Non-deductible company pension plans	124		
Tax reserves beginning of year	125		
Reserves from financial statements- balance at end of year	126		
Soft costs on construction and renovation of buildings	127		
Book loss on joint ventures or partnerships	205		
Capital items expensed	206		
Debt issue expense	208		
Development expenses claimed in current year	212		
Financing fees deducted in books	216		
Gain on settlement of debt	220		
Non-deductible advertising	226		
Non-deductible interest	227		
Non-deductible legal and accounting fees	228		
Recapture of SR&ED expenditures	231		
Share issue expense	235		
Write down of capital property	236		
Amounts received in respect of qualifying environment trust per paragraphs 12(1)(z.1) and 12(1)(z.2)	237		
<i>Other Additions: (please explain in detail the nature of the item)</i>			
Interest Expensed on Capital Leases	290		
Realized Income from Deferred Credit Accounts	291		
Pensions	292		
Non-deductible penalties	293		
Future Employee Benefits per F/S	294		728,000
Apprenticeship Tax Credit - 2011	295		348,000
	296		
	297		
Total Additions			48,645,596
Deductions:			
Gain on disposal of assets per financial statements	401		
Dividends not taxable under section 83	402		
Capital cost allowance from Schedule 8	403		47,638,126
Terminal loss from Schedule 8	404		
Cumulative eligible capital deduction from Schedule 10 CEC	405		66,693
Allowable business investment loss	406		
Deferred and prepaid expenses	409		
Scientific research expenses claimed in year	411		
Tax reserves end of year	413		
Reserves from financial statements - balance at beginning of year	414		
Contributions to deferred income plans	416		
Book income of joint venture or partnership	305		
Equity in income from subsidiary or affiliates	306		
<i>Other deductions: (Please explain in detail the nature of the item)</i>			
Interest capitalized for accounting deducted for tax	390		
Capital Lease Payments	391		
Non-taxable imputed interest income on deferral and variance accounts	392		
Actual Future Employee Benefits Paid	393		325,000
	394		
	395		
	396		
	397		
Total Deductions			48,029,819
NET INCOME FOR TAX PURPOSES			25,500,027
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 years from Schedule 4	335		
REGULATORY TAXABLE INCOME			25,500,027



PILS OR

Name of LDC: Hydro Ottawa Limited

File Number: EB-2010-xxxx

Rate Year: 2011

Ontario Capital Tax

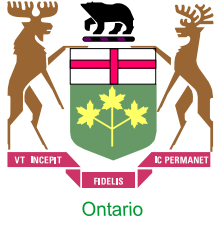
Applicant	Rate Base	OCT Exemption
		15,000,000
Hydro Ottawa Limited	\$ -	\$ -
Affiliates (if applicable)		
1		\$ -
2		\$ -
3		\$ -
4		\$ -
5		\$ -
Total	\$ -	\$ -

Section A

Wires Only

ONTARIO CAPITAL TAX

Rate Base	\$ 631,579,950
Less: Exemption	\$ -
Deemed Taxable Capital	\$ 631,579,950
Rate in Test Year	0.000%
Net Amount (Taxable Capital x Rate)	\$ -



PILS OR INCOME TAXES WORK FORM

Name of LDC: Hydro Ottawa Limited
 File Number: EB-2010-xxxx
 Rate Year: 2011

PILs, Tax Provision

				Wires Only		
Regulatory Taxable Income				\$ 25,500,027		A
Ontario Income Taxes						
Income tax payable	Ontario income tax	11.75%	B	\$ 2,996,253	C = A * B	
Small business credit	Ontario Small Business Threshold	\$ 500,000	D			
	Rate reduction	-8.50%	E	-\$ 42,500	F = D * E	
Surtax		\$ 1,000,000	G = A - D			
Ontario Income tax	Ontario surtax claw-back	4.25%	H	\$ 42,500	I = G * H	\$ 2,996,253
Combined Tax Rate and PILs				11.75%	K = J / A	
	Effective Ontario Tax Rate			16.50%	L	
	Federal tax rate					28.25%
	Combined tax rate					M = L + L
Total Income Taxes				\$ 7,203,758		N = A * M
Investment Tax Credits				\$ 348,000		O
Miscellaneous Tax Credits				\$ 348,000		P
Total Tax Credits				\$ 348,000		Q = O + P
Corporate PILs/Income Tax Provision for Test Year				\$ 6,855,758		R = N - Q
Corporate PILs/Income Tax Provision Gross Up		71.75%	S = 1 - M	\$ 2,699,305		T = R / S - N
Income Tax (grossed-up)				\$ 9,555,063		U = R + T
Ontario Capital Tax (not grossed-up)				\$ -		V
Tax Provision for Test Year Rate Recovery				\$ 9,555,063		W = U + V



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PAYMENTS IN LIEU OF TAXES VARIANCES

1.0 INTRODUCTION

Table 1 summarizes the Payments in Lieu of Taxes (“PILs”) for 2008 (Approved and Actual), 2009 (Actual), 2010 (Bridge Year) and 2011 (Test Year). The PILs include amounts related to income taxes and capital taxes.

Table 1 – PILs by Year

	2008 Approved \$000	2008 Actual \$000	2009 Actual¹ \$000	2010 Budget \$000	2011 Budget \$000
Income Taxes	\$12,061	\$12,604	\$12,914	\$10,800	\$9,555
Capital Taxes	1,615	1,181	1,275	390	NIL
TOTAL	\$13,676	\$13,785	\$14,189	\$11,190	\$9,555

2.0 2008 ACTUAL TO 2008 APPROVED

No material variance noted. Hydro Ottawa Limited's 2008 Tax Return is provided in Attachment AA.

3.0 2009 ACTUAL TO 2008 ACTUAL

PILs remain relatively static year over year with higher taxable income offset by decreasing tax rates and an adjustment made to taxable income for year over year changes in the balances of deferral and variance accounts (tax reserves as discussed in Exhibit D7-1-1).

¹ 2009 Draft filing as of date of application



1 **4.0 2010 BUDGET TO 2009 ACTUAL**

2

3 PILs decrease approximately \$4.0M due to lower taxable income, differences between
4 tax and book treatment of certain costs, and a further 2% reduction in scheduled
5 corporate tax rate reductions.

6

7 Ontario Capital taxes have been eliminated as of July 1, 2010.

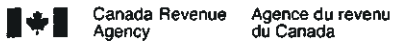
8

9

10 **5.0 2011 BUDGET TO 2010 BUDGET**

11

12 PILs decrease approximately \$1.6M due to lower taxable income, differences between
13 tax and book treatment of certain costs, and a further 2.75% reduction in scheduled
14 corporate tax rate reductions.



T2 CORPORATION INCOME TAX RETURN

200

PIL FILING

This form serves as a federal, provincial, and territorial corporation income tax return, unless the corporation is located in Ontario (for tax years ending before 2009), Quebec, or Alberta. If the corporation is located in one of these provinces, you have to file a separate provincial corporation return.

Parts, sections, subsections, and paragraphs mentioned on this return refer to the federal *Income Tax Act*. This return may contain changes that had not yet become law at the time of printing.

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
COPY

Identification	
Business Number (BN) 001 86339 1363 RC0001	
Corporation's name 002 Hydro Ottawa Limited	
Address of head office Has this address changed since the last time you filed your T2 return? 010 1 Yes <input type="checkbox"/> 2 No <input checked="" type="checkbox"/> (If yes, complete lines 011 to 018)	
011 3025 Albion Road North	
012 P.O. Box 8700	
015 Ottawa	016 ON
Country (other than Canada)	Postal code/Zip code
017	018 K1G 3S4
Mailing address (if different from head office address) Has this address changed since the last time you filed your T2 return? 020 1 Yes <input type="checkbox"/> 2 No <input checked="" type="checkbox"/> (If yes, complete lines 021 to 028)	
021 c/o	
022	
023	
025 Ottawa	026 ON
Country (other than Canada)	Postal code/Zip code
027	028 K1G 3S4
Location of books and records Has the location of books and records changed since the last time you filed your T2 return? 030 1 Yes <input type="checkbox"/> 2 No <input checked="" type="checkbox"/> (If yes, complete lines 031 to 038)	
031 3025 Albion Road North	
032 P.O. Box 8700	
035 Ottawa	036 ON
Country (other than Canada)	Postal code/Zip code
037	038 K1G 3S4
040 Type of corporation at the end of the tax year	
1 <input checked="" type="checkbox"/> Canadian-controlled private corporation (CCPC)	4 <input type="checkbox"/> Corporation controlled by a public corporation
2 <input type="checkbox"/> Other private corporation	5 <input type="checkbox"/> Other corporation (specify, below)
3 <input type="checkbox"/> Public corporation	
If the type of corporation changed during the tax year, provide the effective date of the change. 043 _____ YYYY MM DD	
To which tax year does this return apply?	
060 2008-01-01	061 2008-12-31
YYYY MM DD	YYYY MM DD
Has there been an acquisition of control to which subsection 249(4) applies since the previous tax year? 063 1 Yes <input type="checkbox"/> 2 No <input checked="" type="checkbox"/> If yes, provide the date control was acquired 065 _____ YYYY MM DD	
Is the date on line 061 a deemed tax year-end in accordance with subsection 249(3.1)? 066 1 Yes <input type="checkbox"/> 2 No <input checked="" type="checkbox"/>	
Is the corporation a professional corporation that is a member of a partnership? 067 1 Yes <input type="checkbox"/> 2 No <input checked="" type="checkbox"/>	
Is this the first year of filing after:	
Incorporation? 070 1 Yes <input type="checkbox"/> 2 No <input checked="" type="checkbox"/>	
Amalgamation? 071 1 Yes <input type="checkbox"/> 2 No <input checked="" type="checkbox"/>	
If yes, complete lines 030 to 038 and attach Schedule 24.	
Has there been a wind-up of a subsidiary under section 88 during the current tax year? 072 1 Yes <input type="checkbox"/> 2 No <input checked="" type="checkbox"/> If yes, complete and attach Schedule 24.	
Is this the final tax year before amalgamation? 076 1 Yes <input type="checkbox"/> 2 No <input checked="" type="checkbox"/>	
Is this the final return up to dissolution? 078 1 Yes <input type="checkbox"/> 2 No <input checked="" type="checkbox"/>	
If an election was made under section 261, state the functional currency used 079 _____	
Is the corporation a resident of Canada? 080 1 Yes <input checked="" type="checkbox"/> 2 No <input type="checkbox"/> If no, give the country of residence on line 081 and complete and attach Schedule 97.	
081 _____	
Is the non-resident corporation claiming an exemption under an income tax treaty? 082 1 Yes <input type="checkbox"/> 2 No <input checked="" type="checkbox"/> If yes, complete and attach Schedule 91.	
If the corporation is exempt from tax under section 149, tick one of the following boxes:	
085 1 <input type="checkbox"/> Exempt under paragraph 149(1)(e) or (l)	
2 <input type="checkbox"/> Exempt under paragraph 149(1)(j)	
3 <input type="checkbox"/> Exempt under paragraph 149(1)(l)	
4 <input type="checkbox"/> Exempt under other paragraphs of section 149	
Do not use this area	
091	092
100	
093	094
	095
	096

Attachments**Financial statement information:** Use GIF1 schedules 100, 125, and 141.**Schedules** – Answer the following questions. For each Yes response, **attach** to the T2 return the schedule that applies.

	Yes	Schedule
Is the corporation related to any other corporations?	150 <input checked="" type="checkbox"/>	9
Is the corporation an associated CCPC?	160 <input checked="" type="checkbox"/>	23
Is the corporation an associated CCPC that is claiming the expenditure limit?	161 <input type="checkbox"/>	49
Does the corporation have any non-resident shareholders?	151 <input type="checkbox"/>	19
Has the corporation had any transactions, including section 85 transfers, with its shareholders, officers, or employees, other than transactions in the ordinary course of business? Exclude non-arm's length transactions with non-residents	162 <input type="checkbox"/>	11
If you answered yes to the above question, and the transaction was between corporations not dealing at arm's length, were all or substantially all of the assets of the transferor disposed of to the transferee?	163 <input type="checkbox"/>	44
Has the corporation paid any royalties, management fees, or other similar payments to residents of Canada?	164 <input type="checkbox"/>	14
Is the corporation claiming a deduction for payments to a type of employee benefit plan?	165 <input checked="" type="checkbox"/>	15
Is the corporation claiming a loss or deduction from a tax shelter acquired after August 31, 1989?	166 <input type="checkbox"/>	T5004
Is the corporation a member of a partnership for which a partnership identification number has been assigned?	167 <input type="checkbox"/>	T5013
Did the corporation, a foreign affiliate controlled by the corporation, or any other corporation or trust that did not deal at arm's length with the corporation have a beneficial interest in a non-resident discretionary trust?	168 <input type="checkbox"/>	22
Did the corporation have any foreign affiliates during the year?	169 <input type="checkbox"/>	25
Has the corporation made any payments to non-residents of Canada under subsections 202(1) and/or 105(1) of the federal <i>Income Tax Regulations</i> ?	170 <input type="checkbox"/>	29
Has the corporation had any non-arm's length transactions with a non-resident?	171 <input type="checkbox"/>	T106
For private corporations: Does the corporation have any shareholders who own 10% or more of the corporation's common and/or preferred shares?	173 <input checked="" type="checkbox"/>	50
Has the corporation made payments to, or received amounts from, a retirement compensation plan arrangement during the year?	172 <input type="checkbox"/>	
Is the net income/loss shown on the financial statements different from the net income/loss for income tax purposes?	201 <input checked="" type="checkbox"/>	1
Has the corporation made any charitable donations; gifts to Canada, a province, or a territory; gifts of cultural or ecological property; or gifts of medicine?	202 <input checked="" type="checkbox"/>	2
Has the corporation received any dividends or paid any taxable dividends for purposes of the dividend refund?	203 <input checked="" type="checkbox"/>	3
Is the corporation claiming any type of losses?	204 <input type="checkbox"/>	4
Is the corporation claiming a provincial or territorial tax credit or does it have a permanent establishment in more than one jurisdiction?	205 <input type="checkbox"/>	5
Has the corporation realized any capital gains or incurred any capital losses during the tax year?	206 <input type="checkbox"/>	6
i) Is the corporation 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 ii) is the corporation claiming the refundable portion of Part I tax?	207 <input type="checkbox"/>	7
Does the corporation have any property that is eligible for capital cost allowance?	208 <input checked="" type="checkbox"/>	8
Does the corporation have any property that is eligible capital property?	210 <input checked="" type="checkbox"/>	10
Does the corporation have any resource-related deductions?	212 <input type="checkbox"/>	12
Is the corporation claiming reserves of any kind?	213 <input checked="" type="checkbox"/>	13
Is the corporation claiming a patronage dividend deduction?	216 <input type="checkbox"/>	16
Is the corporation a credit union claiming a deduction for allocations in proportion to borrowing or an additional deduction?	217 <input type="checkbox"/>	17
Is the corporation an investment corporation or a mutual fund corporation?	218 <input type="checkbox"/>	18
Is the corporation carrying on business in Canada as a non-resident corporation?	220 <input type="checkbox"/>	20
Is the corporation claiming any federal or provincial foreign tax credits, or any federal or provincial logging tax credits?	221 <input type="checkbox"/>	21
Does the corporation have any Canadian manufacturing and processing profits?	227 <input type="checkbox"/>	27
Is the corporation claiming an investment tax credit?	231 <input checked="" type="checkbox"/>	31
Is the corporation claiming any scientific research and experimental development (SR&ED) expenditures?	232 <input type="checkbox"/>	T661
Is the total taxable capital employed in Canada of the corporation and its related corporations over \$10,000,000?	233 <input checked="" type="checkbox"/>	
Is the total taxable capital employed in Canada of the corporation and its associated corporations over \$10,000,000?	234 <input checked="" type="checkbox"/>	
Is the corporation claiming a surtax credit?	237 <input type="checkbox"/>	37
Is the corporation subject to gross Part VI tax on capital of financial institutions?	238 <input type="checkbox"/>	38
Is the corporation claiming a Part I tax credit?	242 <input type="checkbox"/>	42
Is the corporation subject to Part IV.1 tax on dividends received on taxable preferred shares or Part VI.1 tax on dividends paid?	243 <input type="checkbox"/>	43
Is the corporation agreeing to a transfer of the liability for Part VI.1 tax?	244 <input type="checkbox"/>	45
Is the corporation subject to Part II - Tobacco Manufacturers' surtax?	249 <input type="checkbox"/>	46
For financial institutions: Is the corporation a member of a related group of financial institutions with one or more members subject to gross Part VI tax?	250 <input type="checkbox"/>	39
Is the corporation claiming a Canadian film or video production tax credit refund?	253 <input type="checkbox"/>	T1131
Is the corporation claiming a film or video production services tax credit refund?	254 <input type="checkbox"/>	T1177
Is the corporation subject to Part XIII.1 tax? (Show your calculations on a sheet that you identify as Schedule 92.)	255 <input type="checkbox"/>	92

Attachments – continued from page 2

		Yes	Schedule
Did the corporation have any foreign affiliates that are not controlled foreign affiliates?	256	<input type="checkbox"/>	T1134-A
Did the corporation have any controlled foreign affiliates?	258	<input type="checkbox"/>	T1134-B
Did the corporation own specified foreign property in the year with a cost amount over \$100,000?	259	<input type="checkbox"/>	T1135
Did the corporation transfer or loan property to a non-resident trust?	260	<input type="checkbox"/>	T1141
Did the corporation receive a distribution from or was it indebted to a non-resident trust in the year?	261	<input type="checkbox"/>	T1142
Has the corporation entered into an agreement to allocate assistance for SR&ED carried out in Canada?	262	<input type="checkbox"/>	T1145
Has the corporation entered into an agreement to transfer qualified expenditures incurred in respect of SR&ED contracts?	263	<input type="checkbox"/>	T1146
Has the corporation entered into an agreement with other associated corporations for salary or wages of specified employees for SR&ED?	264	<input type="checkbox"/>	T1174
Did the corporation pay taxable dividends (other than capital gains dividends) in the tax year?	265	<input checked="" type="checkbox"/>	55
Has the corporation made an election under subsection 89(11) not to be a CCPC?	266	<input type="checkbox"/>	T2002
Has the corporation revoked any previous election made under subsection 89(11)?	267	<input type="checkbox"/>	T2002
Did the corporation (CCPC or deposit insurance corporation (DIC)) pay eligible dividends, or did its general rate income pool (GRIP) change in the tax year?	268	<input checked="" type="checkbox"/>	53
Did the corporation (other than a CCPC or DIC) pay eligible dividends, or did its low rate income pool (LRIP) change in the tax year?	269	<input type="checkbox"/>	54

Additional information

Is the corporation inactive?	280	1 Yes <input type="checkbox"/>	2 No <input checked="" type="checkbox"/>
Has the major business activity changed since the last return was filed? (enter yes for first-time filers)	281	1 Yes <input type="checkbox"/>	2 No <input checked="" type="checkbox"/>
What is the corporation's major business activity? (Only complete if yes was entered at line 281)	282		
If the major business activity involves the resale of goods, show whether it is wholesale or retail	283	1 Wholesale <input type="checkbox"/>	2 Retail <input type="checkbox"/>
Specify the principal product(s) mined, manufactured, sold, constructed, or services provided, giving the approximate percentage of the total revenue that each product or service represents.	284	DIST. OF ELECTRICITY	285 100.000 %
	286		287 %
	288		289 %
Did the corporation immigrate to Canada during the tax year?	291	1 Yes <input type="checkbox"/>	2 No <input checked="" type="checkbox"/>
Did the corporation emigrate from Canada during the tax year?	292	1 Yes <input type="checkbox"/>	2 No <input checked="" type="checkbox"/>
Do you want to be considered as a quarterly instalment remitter if you are eligible?	293	1 Yes <input type="checkbox"/>	2 No <input type="checkbox"/>
If the corporation was eligible to remit instalments on a quarterly basis for part of the tax year, provide the date the corporation ceased to be eligible	294	YYYY MM DD	
If the corporation's major business activity is construction, did you have any subcontractors during the tax year?	295	1 Yes <input type="checkbox"/>	2 No <input type="checkbox"/>

Taxable income

Net income or (loss) for income tax purposes from Schedule 1, financial statements, or GIFL	300	38,017,164	A
Deduct: Charitable donations from Schedule 2	311	67,292	
Gifts to Canada, a province, or a territory from Schedule 2	312		
Cultural gifts from Schedule 2	313		
Ecological gifts from Schedule 2	314		
Gifts of medicine from Schedule 2	315		
Taxable dividends deductible under section 112 or 113, or subsection 138(6) from Schedule 3	320		
Part VI.1 tax deduction *	325		
Non-capital losses of previous tax years from Schedule 4	331		
Net capital losses of previous tax years from Schedule 4	332		
Restricted farm losses of previous tax years from Schedule 4	333		
Farm losses of previous tax years from Schedule 4	334		
Limited partnership losses of previous tax years from Schedule 4	335		
Taxable capital gains or taxable dividends allocated from a central credit union	340		
Prospector's and grubstaker's shares	350		
	Subtotal	67,292	67,292 B
	Subtotal (amount A minus amount B) (if negative, enter "0")	37,949,872	C
Add: Section 110.5 additions or subparagraph 115(1)(a)(vii) additions	355		D
Taxable income (amount C plus amount D)	360	37,949,872	
Income exempt under paragraph 149(1)(t)	370		
Taxable income for a corporation with exempt income under paragraph 149(1)(t) (line 360 minus line 370)		37,949,872	Z

* This amount is equal to 3 times the Part VI.1 tax payable at line 724.

Small business deduction

Canadian-controlled private corporations (CCPCs) throughout the tax year

Income from active business carried on in Canada from Schedule 7	400	38,017,164	A
Taxable income from line 360, minus 10/3 of the amount on line 632*, minus 3 times the amount on line 636**, and minus any amount that, because of federal law, is exempt from Part I tax	405	37,949,872	B

Calculation of the business limit:

For all CCPCs, calculate the amount at line 4 below.

400,000	x	Number of days in the tax year after 2006 and before 2009	366	=	400,000	1	
		Number of days in the tax year	366				
500,000	x	Number of days in the tax year after 2008		=		2	
		Number of days in the tax year	366				
Add amounts at lines 1 and 2						400,000	4

Business limit (see notes 1 and 2 below)	410	400,000	C
--	-----	---------	---

- Notes:**
- For CCPCs that are not associated, enter the amount from line 4 on line 410. However, if the corporation's tax year is less than 51 weeks, prorate the amount from line 4 by the number of days in the tax year divided by 365, and enter the result on line 410.
 - For associated CCPCs, use Schedule 23 to calculate the amount to be entered on line 410.

Business limit reduction:

Amount C	400,000	x	415 ***	1,301,489	D	=	46,275,164	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	Number of days in the tax year before January 1, 2008		x	16 %	=		5
		Number of days in the tax year	366					

Amount A, B, C, or F whichever is the least	x	Number of days in the tax year after December 31, 2007	366	x	17 %	=		6
		Number of days in the tax year	366					

Total of amounts 5 and 6 – enter on line 9 **430** G

- * Calculate the amount of foreign non-business income tax credit deductible on line 632 without reference to the refundable tax on the CCPC's investment income (line 604) and without reference to the corporate tax reductions under section 123.4.
- ** Calculate the amount of foreign business income tax credit deductible on line 636 without reference to the corporate tax reductions under section 123.4.

***** Large corporations**

- If the corporation is not associated with any corporations in both the current and the previous tax years, the amount to be entered at line 415 is: (Total taxable capital employed in Canada for the prior year minus \$10,000,000) x 0.225%.
- If the corporation is not associated with any corporations in the current tax year, but was associated in the previous tax year, the amount to be entered at 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.

Resource deduction

Taxable resource income [as defined in subsection 125.11(1)]	435		H
--	-----	--	---

Amount H	x	Number of days in the tax year in 2006		x	5 %	=		I
		Number of days in the tax year	366					

Amount H	x	Number of days in the tax year in 2007		x	7 %	=		J
		Number of days in the tax year	366					

Note: Resource deduction is no longer available for tax years starting after December 31, 2006.

Resource deduction – Total of amounts I and J	438		K
---	-----	--	---

Enter amount K on line 10.

General tax reduction for Canadian-controlled private corporations

Canadian-controlled private corporations throughout the tax year

Taxable income from line 360						<u>37,949,872</u>	A	
Lesser of amounts V and Y (line Z1) from Part 9 of Schedule 27							B	
Amount QQ from Part 13 of Schedule 27							C	
Taxable resource income from line 435							D	
Amount used to calculate the credit union deduction from Schedule 17							E	
Amount from line 400, 405, 410, or 425, whichever is the least							F	
Aggregate investment income from line 440							G	
Total of amounts B, C, D, E, F, and G						<u>37,949,872</u>	H	
Amount A minus amount H (if negative, enter "0")						<u>37,949,872</u>	I	
Amount I	<u>37,949,872</u>	x	Number of days in the tax year before January 1, 2008		x	7 %	=	J
			Number of days in the tax year	<u>366</u>				
Amount I	<u>37,949,872</u>	x	Number of days in the tax year after December 31, 2007, and before January 1, 2009	<u>366</u>	x	8.5 %	=	<u>3,225,739</u> K
			Number of days in the tax year	<u>366</u>				
Amount I	<u>37,949,872</u>	x	Number of days in the tax year after December 31, 2008, and before January 1, 2010		x	9 %	=	L
			Number of days in the tax year	<u>366</u>				
Amount I	<u>37,949,872</u>	x	Number of days in the tax year after December 31, 2009, and before January 1, 2011		x	10 %	=	L1
			Number of days in the tax year	<u>366</u>				
General tax reduction for Canadian-controlled private corporations – Total of amounts J, K, L, and L1								<u>3,225,739</u> M
Enter amount M on line 638.								

General tax reduction

Do not complete this area if you are a Canadian-controlled private corporation, an investment corporation, a mortgage investment corporation, or a mutual fund corporation, and for tax years starting after May 1, 2006, any corporation with taxable income that is not subject to the corporation tax rate of 38%.

Taxable income from line 360 (for tax years starting after May 1, 2006, amount Z)								N
Lesser of amounts V and Y (line Z1) from Part 9 of Schedule 27								O
Amount QQ from Part 13 of Schedule 27								P
Taxable resource income from line 435								Q
Amount used to calculate the credit union deduction from Schedule 17								R
Total of amounts O, P, Q, and R								<u> </u> S
Amount N minus amount S (if negative, enter "0")								<u> </u> T
Amount T		x	Number of days in the tax year before January 1, 2008		x	7 %	=	U
			Number of days in the tax year	<u>366</u>				
Amount T		x	Number of days in the tax year after December 31, 2007, and before January 1, 2009	<u>366</u>	x	8.5 %	=	V
			Number of days in the tax year	<u>366</u>				
Amount T		x	Number of days in the tax year after December 31, 2008, and before January 1, 2010		x	9 %	=	W
			Number of days in the tax year	<u>366</u>				
Amount T		x	Number of days in the tax year after December 31, 2009, and before January 1, 2011		x	10 %	=	W1
			Number of days in the tax year	<u>366</u>				
General tax reduction – Total of amounts U, V, W, and W1								<u> </u> X
Enter amount X on line 639.								

Refundable portion of Part I tax

Canadian-controlled private corporations throughout the tax year

Aggregate investment income from Schedule 7 **440** x 26 2 / 3 % = A

Foreign non-business income tax credit from line 632

Deduct:

Foreign investment income from Schedule 7 **445** x 9 1 / 3 % =
(if negative, enter "0")

Amount A minus amount B (if negative, enter "0") C

Taxable income from line 360 **37,949,872**

Deduct:

Amount from line 400, 405, 410, or 425, whichever is the least

Foreign non-business income tax credit from line 632 x 25 / 9 =

Foreign business income tax credit from line 636 x 3 =

37,949,872
x 26 2 / 3 % = **10,119,966** D

Part I tax payable minus investment tax credit refund (line 700 minus line 780) **7,374,454**

Deduct: Corporate surtax from line 600

Net amount **7,374,454** E

Refundable portion of Part I tax – Amount C, D, or E, whichever is the least **450** F

Refundable dividend tax on hand

Refundable dividend tax on hand at the end of the previous tax year **460** 8 653

Deduct: Dividend refund for the previous tax year **465** 8,653

Add the total of:

Refundable portion of Part I tax from line 450 above

Total Part IV tax payable from Schedule 3

Net refundable dividend tax on hand transferred from a predecessor corporation on amalgamation, or from a wound-up subsidiary corporation **480** H

Refundable dividend tax on hand at the end of the tax year – Amount G plus amount H **485**

Dividend refund

Private and subject corporations at the time taxable dividends were paid in the tax year

Taxable dividends paid in the tax year from line 460 of Schedule 3 **14,000,000** x 1 / 3 **4,666,667** I

Refundable dividend tax on hand at the end of the tax year from line 485 above

Dividend refund – Amount I or J, whichever is less (enter this amount on line 784)

Part I tax

Base amount of Part I tax – Taxable income (line 360 or amount Z, whichever applies) multiplied by 38.00 % **550** **14,420,951** **A**

Corporate surtax calculation

Base amount from line A above **14,420,951** **1**

Deduct:

10 % of taxable income (line 360 or amount Z, whichever applies) **3,794,987** **2**

Investment corporation deduction from line 620 below **3**

Federal logging tax credit from line 640 below **4**

Federal qualifying environmental trust tax credit from line 648 below **5**

For a mutual fund corporation or an investment corporation throughout the tax year, enter amount a, b, or c below on line 6, whichever is the least:

28.00 % of taxable income from line 360 **a**

28.00 % of taxed capital gains **b**

Part I tax otherwise payable **c**

(line A plus lines C and D minus line F) **3,794,987** **7**

Total of lines 2 to 6 **10,625,964** **8**

Net amount (line 1 minus line 7) **10,625,964** **8**

Corporate surtax*

Line 8 **10,625,964** x Number of days in the tax year before January 1, 2008 x 4 % = **600** **B**
Number of days in the tax year **366**

* The corporate surtax is zero effective January 1, 2008.

Recapture of investment tax credit from Schedule 31 **602** **C**

Calculation for the refundable tax on the Canadian-controlled private corporation's (CCPC) investment income (if it was a CCPC throughout the tax year)

Aggregate investment income from line 440 **i**

Taxable income from line 360 **37,949,872**

Deduct:

Amount from line 400, 405, 410, or 425, whichever is the least **37,949,872** **ii**

Net amount **37,949,872** **ii**

Refundable tax on CCPC's investment income – 6 2 / 3 % of whichever is less: amount i or ii **604** **D**

Subtotal (add lines A, B, C, and D) **14,420,951** **E**

Deduct:

Small business deduction from line 430 **9**

Federal tax abatement **608** **3,794,987**

Manufacturing and processing profits deduction from Schedule 27 **616**

Investment corporation deduction **620**

Taxed capital gains **624** **628**

Additional deduction – credit unions from Schedule 17 **628**

Federal foreign non-business income tax credit from Schedule 21 **632**

Federal foreign business income tax credit from Schedule 21 **636**

Resource deduction from line 438 **10**

General tax reduction for CCPCs from amount M **638** **3,225,739**

General tax reduction from amount X **639**

Federal logging tax credit from Schedule 21 **640**

Federal political contribution tax credit **644**

Federal political contributions **646** **648**

Federal qualifying environmental trust tax credit **648**

Investment tax credit from Schedule 31 **652** **25,771**

Subtotal **7,046,497** **F**

Part I tax payable – Line E minus line F **7,374,454** **G**

Enter amount G on line 700.

Summary of tax and credits

Federal tax

Part I tax payable	700	7,374,454
Part I.3 tax payable from Schedule 33, 34, or 35	704	
Part II surtax payable from Schedule 46	708	
Part III.1 tax payable from Schedule 55	710	
Part IV tax payable from Schedule 3	712	
Part IV.1 tax payable from Schedule 43	716	
Part VI tax payable from Schedule 38	720	
Part VI.1 tax payable from Schedule 43	724	
Part XIII.1 tax payable from Schedule 92	727	
Part XIV tax payable from Schedule 20	728	

Add provincial or territorial tax:

Total federal tax **7,374,454**

Provincial or territorial jurisdiction **750** ON

(if more than one jurisdiction, enter "multiple" and complete Schedule 5)

Net provincial or territorial tax payable (except Ontario [for tax years ending before 2009], Quebec, and Alberta)

760

Provincial tax on large corporations (New Brunswick and Nova Scotia)

765

Total tax payable **770** **7,374,454** A

Deduct other credits:

Investment tax credit refund from Schedule 31	780
Dividend refund	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 **801**

Provincial and territorial capital gains refund from Schedule 18	808
Provincial and territorial refundable tax credits from Schedule 5	812
Tax instalments paid	840

7,374,454

Total credits **890** **7,374,454** B

Refund code **894** Overpayment

Balance (line A minus line B)

Direct deposit request

To have the corporation's refund deposited directly into the corporation's bank account at a financial institution in Canada, or to change banking information you already gave us, complete the information below:

Start Change information

910 Branch number

914 Institution number **918** Account number

If the result is negative, you have an **overpayment**. If the result is positive, you have a **balance unpaid**. Enter the amount on whichever line applies.

Generally, we do not charge or refund a difference of \$2 or less.

Balance unpaid

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?

896 1 Yes 2 No

Certification

I, **950** Grue Last name in block letters **951** Mike First name in block letters **954** Treasurer Position, office, or rank

am an authorized signing officer of the corporation. I certify that I have examined this return, including accompanying schedules and statements, and that the information given on this return is, to the best of my knowledge, correct and complete. I further certify that the method of calculating income for this tax year is consistent with that of the previous year except as specifically disclosed in a statement attached to this return.

955 2009/06/22 Date (yyyy/mm/dd)

Signature of the authorized signing officer of the corporation

956 (613) 738-5499 Telephone number

Is the contact person the same as the authorized signing officer? If no, complete the information below

957 1 Yes 2 No

958 Name in block letters

959 Telephone number

Language of correspondence -- Langue de correspondance

Indicate your language of correspondence by entering 1 for English or 2 for French. Indiquez votre langue de correspondance en inscrivant 1 pour anglais ou 2 pour français.

990 1

Schedule of Instalment Remittances

Name of corporation contact Mike Grue
 Telephone number (613) 738-5499

Effective interest date	Description (instalment remittance, split payment, assessed credit)	Amount of credit
		7,374,454
Total amount of instalments claimed (carry the result to line 840 of the T2 Return)		<u>7,374,454</u> A
Total instalments credited to the taxation year per T9		<u>7,374,454</u> B

Transfer

Account number	Taxation year end	Amount	Effective interest date	Description
From: _____	_____	_____	_____	_____
To: _____	_____	_____	_____	_____
From: _____	_____	_____	_____	_____
To: _____	_____	_____	_____	_____
From: _____	_____	_____	_____	_____
To: _____	_____	_____	_____	_____
From: _____	_____	_____	_____	_____
To: _____	_____	_____	_____	_____
From: _____	_____	_____	_____	_____
To: _____	_____	_____	_____	_____



Form identifier 100

GENERAL INDEX OF FINANCIAL INFORMATION – GIF1

Name of corporation	Business Number	Tax year end Year Month Day
Hydro Ottawa Limited	86339 1363 RC0001	2008-12-31

Balance sheet information

Account	Description	GIFI	Current year	Prior year
Assets				
	Total current assets	1599 +	134,311,000	151,671,000
	Total tangible capital assets	2008 +	951,714,000	477,030,000
	Total accumulated amortization of tangible capital assets	2009 -	456,982,000	
	Total intangible capital assets	2178 +		
	Total accumulated amortization of intangible capital assets	2179 -		
	Total long-term assets	2589 +	13,046,000	13,378,000
	* Assets held in trust	2590 +		
	Total assets (mandatory field)	2599 =	642,089,000	642,079,000

Liabilities				
	Total current liabilities	3139 +	121,255,000	124,639,000
	Total long-term liabilities	3450 +	296,927,000	301,321,000
	* Subordinated debt	3460 +		
	* Amounts held in trust	3470 +		
	Total liabilities (mandatory field)	3499 =	418,182,000	425,960,000

Shareholder equity				
	Total shareholder equity (mandatory field)	3620 +	223,907,000	216,119,000

	Total liabilities and shareholder equity	3640 =	642,089,000	642,079,000
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Retained earnings				
	Retained earnings/deficit – end (mandatory field)	3849 =	56,826,000	49,038,000

* Generic item

Current Assets**SCHEDULE 100**

Form identifier 1599

Account	Description	GIFI	Current year	Prior year
Cash and deposits				
	* Cash and deposits	1000		3,432,000
	Cash and deposits		+	<u>3,432,000</u>
Accounts receivable				
	* Accounts receivable	1060	124,088,000	137,753,000
	Accounts receivable		+	<u>124,088,000</u>
Inventories				
	* Inventories	1120	6,512,000	7,884,000
	Inventories		+	<u>6,512,000</u>
Other current assets				
Reg Ass	* Other current assets	1480	3,039,000	1,745,000
	Prepaid expenses	1484	672,000	857,000
	Other current assets		+	<u>3,711,000</u>
	Total current assets	1599	=	<u>134,311,000</u>

* Generic item

Tangible Capital Assets and Accumulated Amortization

Form identifier 2008/2009

Account	Description	GIFI	Tangible capital assets	Accumulated amortization	Prior year
Land					
	Land improvements	1601	6,268,000		
	Accumulated amortization of land improvements	1602		917,000	
	Total		<u>6,268,000</u>	<u>917,000</u>	
Buildings					
	* Buildings	1680	62,774,000		
	* Accumulated amortization of buildings	1681		14,726,000	
	Total		<u>62,774,000</u>	<u>14,726,000</u>	
Machinery, equipment, furniture and fixtures					
	* Machinery, equipment, furniture, and fixtures	1740	69,170,000		
	* Accumulated amortization of machinery, equipment, furniture, and fixtures	1741		35,155,000	
	Total		<u>69,170,000</u>	<u>35,155,000</u>	
Other tangible capital assets					
	* Other tangible capital assets	1900	794,388,000		477,030,000
	* Accumulated amortization of other tangible capital assets	1901		406,184,000	
	Other capital assets under construction	1920	19,114,000		
	Total		<u>813,502,000</u>	<u>406,184,000</u>	
	Total tangible capital assets	2008	<u>951,714,000</u>		<u>477,030,000</u>
	Total accumulated amortization of tangible capital assets	2009		<u>456,982,000</u>	

* Generic item

Long-term Assets

SCHEDULE 100

Form identifier 2589

Account	Description	GIFI	Current year	Prior year
Other long-term assets				
	* Other long-term assets	2420	13,046,000	13,118,000
	Other deferred items/charges	2424		260,000
	Other long-term assets		<u>13,046,000</u>	<u>13,378,000</u>
		+		
	Total long-term assets	2589 =	<u>13,046,000</u>	<u>13,378,000</u>

* Generic item

Current Liabilities**SCHEDULE 100**

Form identifier 3139

Account	Description	GIFI	Current year	Prior year
Amounts payable and accrued liabilities				
	* Amounts payable and accrued liabilities	2620	118,953,000	121,510,000
	Amounts payable and accrued liabilities		+ 118,953,000	121,510,000
	* Taxes payable	2680	+ 463,000	3,129,000
Short-term debt				
	* Short-term debt	2700	134,000	
	Short-term debt		+ 134,000	
Other current liabilities				
Reg Lia	* Other current liabilities	2960	1,705,000	
	Other current liabilities		+ 1,705,000	
	Total current liabilities	3139	= 121,255,000	124,639,000

* Generic item

Long-term Liabilities**SCHEDULE 100**

Form identifier 3450

Account	Description	GIFI	Current year	Prior year
Long-term debt				
	* Long-term debt	3140	282,185,000	282,185,000
	Long-term debt		<u>282,185,000</u>	<u>282,185,000</u>
Other long-term liabilities				
	* Other long-term liabilities	3320	14,742,000	19,136,000
	Other long-term liabilities		<u>14,742,000</u>	<u>19,136,000</u>
	Total long-term liabilities	3450	<u>296,927,000</u>	<u>301,321,000</u>

* Generic item

Shareholder Equity

SCHEDULE 100

Form identifier 3620

Account	Description	GIFI	Current year	Prior year
	* Common shares	3500 +	167,081,000	167,081,000
	* Retained earnings/deficit	3600 +	56,826,000	49,038,000
	Total shareholder equity	3620 =	223,907,000	216,119,000

* Generic item

Retained Earnings/Deficit

SCHEDULE 100

Form identifier 3849

Account	Description	GIFI	Current year	Prior year
	* Retained earnings/deficit – start	3660 +	49,038,000	52,399,000
	* Net income/loss	3680 +	21,788,000	18,639,000
Dividends declared				
	* Dividends declared	3700	14,000,000	22,000,000
	Dividends declared	-	<u>14,000,000</u>	<u>22,000,000</u>
	Retained earnings/deficit – end	3849 =	<u>56,826,000</u>	<u>49,038,000</u>

* Generic item

Form identifier 125

GENERAL INDEX OF FINANCIAL INFORMATION – GIF1

Name of corporation	Business Number	Tax year end Year Month Day
Hydro Ottawa Limited	86339 1363 RC0001	2008-12-31

Income statement information

Description	GIFI
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Operating name	0001	
Description of the operation	0002	
Sequence Number	0003	01

Account	Description	GIFI	Current year	Prior year
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Income statement information				
	Total sales of goods and services	8089	+ 692,894,000	681,549,000
	Cost of sales	8518	- 544,192,000	548,081,000
	Gross profit/loss	8519	= 148,702,000	133,468,000
	Cost of sales	8518	+ 544,192,000	548,081,000
	Total operating expenses	9367	+ 114,444,000	100,862,000
	Total expenses (mandatory field)	9368	= 658,636,000	648,943,000
	Total revenue (mandatory field)	8299	+ 692,894,000	681,549,000
	Total expenses (mandatory field)	9368	- 658,636,000	648,943,000
	Net non-farming income	9369	= 34,258,000	32,606,000

Farming income statement information				
	Total farm revenue (mandatory field)	9659	+	
	Total farm expenses (mandatory field)	9898	-	
	Net farm income	9899	=	

	Net income/loss before taxes and extraordinary items	9970	=	34,258,000	32,606,000
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Extraordinary items and income (linked to Schedule 140)					
	Extraordinary item(s)	9975	-		
	Legal settlements	9976	-		
	Unrealized gains/losses	9980	+		
	Unusual items	9985	-		
	Current income taxes	9990	-	12,470,000	13,967,000
	Deferred income tax provision	9995	-		
	Net income/loss after taxes and extraordinary items (mandatory field)	9999	=	21,788,000	18,639,000

Revenue

SCHEDULE 125

Form identifier 8299

Account	Description	GIFI	Current year	Prior year
	* Trade sales of goods and services	8000 +	692,894,000	681,549,000
	Total sales of goods and services	8089 =	692,894,000	681,549,000
	Total revenue	8299 =	<u>692,894,000</u>	<u>681,549,000</u>

* Generic item

Cost of Sales

SCHEDULE 125

Form identifier 8518

Account	Description	GIFI	Current year	Prior year
	* Purchases/cost of materials	8320 +	544,192,000	548,081,000
	Cost of sales	8518 =	<u>544,192,000</u>	<u>548,081,000</u>

* Generic item

Operating Expenses**SCHEDULE 125**

Form identifier 9367

Account	Description	GIFI	Current year	Prior year
	* Amortization of tangible assets	8670 +	39,480,000	37,552,000
Interest paid (financial institutions)				
	* Interest paid (financial institutions)	8740	14,050,000	13,697,000
	Interest paid (financial institutions)	+	<u>14,050,000</u>	<u>13,697,000</u>
Business taxes, licences, and memberships				
	* Business taxes, licences, and memberships	8760	914,000	834,000
	Business taxes, licences, and memberships	+	<u>914,000</u>	<u>834,000</u>
Other expenses				
	* Other expenses	9270	60,000,000	48,779,000
	Other expenses	+	<u>60,000,000</u>	<u>48,779,000</u>
	Total operating expenses	9367 =	<u>114,444,000</u>	<u>100,862,000</u>

* Generic item



NOTES CHECKLIST

Corporation's name Hydro Ottawa Limited	Business Number 86339 1363 RC0001	Tax year-end Year Month Day 2008-12-31
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- 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.
- For more information, see Guide RC4088, *General Index of Financial Information (GIFI) for Corporations* and Guide T4012, *T2 Corporation – Income Tax Guide*.
- Complete this schedule, and include it with your T2 return along with the other GIFI schedules.

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.

Part 1 – Information on the accountant preparing or reporting on the financial statements

Does the accountant have a professional designation? **095** 1 Yes 2 No

Is the accountant connected* with the corporation? **097** 1 Yes 2 No

* 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: **198**

Completed an auditor's report 1

Completed a review engagement report 2

Conducted a compilation engagement 3

Part 3 – Reservations

If you selected option "1" or "2" under **Type of involvement with the financial statements** above, answer the following question:

Has the accountant expressed a reservation? **099** 1 Yes 2 No

Part 4 – Other information

If you have a professional designation and are not the accountant associated with the financial statements in Part 1 above, choose one of the following options:

110

Prepared the tax return (financial statements prepared by client) 1

Prepared the tax return and the financial information contained therein
(financial statements have not been prepared) 2

Were notes to the financial statements prepared? **101** 1 Yes 2 No

If yes, complete lines 102 to 107 below:

Are any values presented at other than cost? **102** 1 Yes 2 No

Has there been a change in accounting policies since the last return? **103** 1 Yes 2 No

Are subsequent events mentioned in the notes? **104** 1 Yes 2 No

Is re-evaluation of asset information mentioned in the notes? **105** 1 Yes 2 No

Is contingent liability information mentioned in the notes? **106** 1 Yes 2 No

Is information regarding commitments mentioned in the notes? **107** 1 Yes 2 No

Does the corporation have investments in joint venture(s) or partnership(s)? **108** 1 Yes 2 No

If yes, complete line 109 below:

Are you filing financial statements of the joint venture(s) or partnership(s)? **109** 1 Yes 2 No

Canada Revenue Agency
Agence du revenu
du Canada**NET INCOME (LOSS) FOR INCOME TAX PURPOSES****SCHEDULE 1**

Corporation's name Hydro Ottawa Limited	Business Number 86339 1363 RC0001	Tax year end Year Month Day 2008-12-31
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- 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*.
- Please provide us with the applicable details in the identification area, and complete the applicable lines that contain a numbered black box. You should report amounts in accordance with the Generally Accepted Accounting Principles (GAAP).
- Sections, subsections, and paragraphs referred to on this schedule are from the *Income Tax Act*.

Net income (loss) after taxes and extraordinary items per financial statements			21,788,000	A
Add:				
Provision for income taxes – current	101	12,470,000		
Interest and penalties on taxes	103	338		
Amortization of tangible assets	104	39,480,000		
Charitable donations and gifts from Schedule 2	112	67,292		
Non-deductible meals and entertainment expenses	121	105,736		
Tax reserves deducted in prior year from Schedule 13	125	7,947,000		
Reserves from financial statements – balance at the end of the year	126	5,356,521		
		Subtotal of additions	65,426,887	
				65,426,887
Other additions:				
Miscellaneous other additions:				
600 Employee future benefit per Financial Statements	290	598,302		
601 12(1)(g) inclusion	291	2,025,752		
602 Apprenticeship Job Creation Tax Credit Claimed in 2007	292	32,000		
Ontario Specified Tax Credits		83,200		
		Total	83,200	
604				
		Subtotal of other additions	2,739,254	
		Total additions	68,166,141	
				2,739,254
				68,166,141
Deduct:				
Gain on disposal of assets per financial statements	401	206,414		
Capital cost allowance from Schedule 8	403	40,389,095		
Cumulative eligible capital deduction from Schedule 10	405	101,708		
Tax reserves claimed in current year from Schedule 13	413	3,047,144		
Reserves from financial statements – balance at the beginning of the year	414	7,177,000		
		Subtotal of deductions	50,921,361	
				50,921,361
Other deductions:				
Miscellaneous other deductions:				
700 Actual employee benefits paid	390	328,644		
701 Allowance for Funds Used During Construction	391	686,972		
704				
		Total	394	
		Subtotal of other deductions	1,015,616	
		Total deductions	51,936,977	
				1,015,616
				51,936,977
Net income (loss) for income tax purposes – enter on line 300 of the T2 return				38,017,164

* For reference purposes only

T2 SCH 1 E (08)

Canada



CHARITABLE DONATIONS AND GIFTS

Name of corporation Hydro Ottawa Limited	Business Number 86339 1363 RC0001	Tax year-end Year Month Day 2008-12-31
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- 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

Charity/Recipient	Amount (\$100 or more only)
Montford Hospital Foundation	327
Friends of Hospice Ottawa	100
Southern Victoria Cancer Assistance Fund	100
Ottawa Catholic School Board	500
Canadian Cancer Society	100
Bytown Brigantine Inc	500
Centraide	65,665
	Subtotal 67,292
	Add: Total donations of less than \$100 each
	Total donations in current tax year 67,292

	Federal	Quebec	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	250		
Total current-year charitable donations made (enter this amount on line 112 of Schedule 1)	210	67,292	
Subtotal (line 250 plus line 210)	67,292	67,292	67,292
Deduct: Adjustment for an acquisition of control (for donations made after March 22, 2004)	255		
Total charitable donations available	67,292	67,292	67,292
Deduct: Amount applied against taxable income (cannot be more than amount K in Part 2) (enter this amount on line 311 of the T2 return)	260	67,292	67,292
Charitable donations closing balance	280		

Amounts carried forward – Charitable donations

Year of origin:		Federal	Quebec	Alberta
1 st prior year	2007			
2 nd prior year	2006			
3 rd prior year	2005			
4 th prior year	2004			
5 th prior year	2003			
6 th prior year *	2002			
Total (to line A)				

* These donations expired in the current year.

Part 2 – Calculation of the maximum allowable deduction for charitable donations

Net income for tax purposes* multiplied by 75 %				28,512,873	B
Taxable capital gains arising in respect of gifts of capital property included in Part 1 **	225				C
Taxable capital gain in respect of deemed gifts of non-qualifying securities per subsection 40(1.01)	227				D
The amount of the recapture of capital cost allowance in respect of charitable gifts	230				
Proceeds of disposition, less outlays and expenses **					E
Capital cost **					F
Amount E or F, whichever is less	235				
Amount on line 230 or 235, whichever is less					G
Subtotal (add amounts C, D, and G)					H
Amount H multiplied by 25 %					I
Subtotal (amount B plus amount I)				28,512,873	J

Maximum allowable deduction for charitable donations (enter amount A from Part 1, amount J, or net income for tax purposes, whichever is less) 67,292 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.

Part 3 – Gifts to Canada, a province, or a territory

Gifts to Canada, a province, or a territory at the end of the previous tax year				
Deduct: Gifts to Canada, a province, or a territory expired after five tax years	339			
Gifts to Canada, a province, or a territory at the beginning of the tax year	340			
Add: Gifts to Canada, a province, or a territory transferred on an amalgamation or the windup of a subsidiary	350			
Total current-year gifts made to Canada, a province, or a territory *	310			
Subtotal (line 350 plus line 310)				
Deduct: Adjustment for an acquisition of control (for gifts made after March 22, 2004)	355			
Total gifts to Canada, a province, or a territory available				
Deduct: Amount applied against taxable income (enter this amount on line 312 of the T2 return).	360			
Gifts to Canada, a province, or a territory closing balance	380			

* Not applicable for gifts made after February 18, 1997, unless a written agreement was made before this date. If no written agreement exists, enter the amount on line 210 and complete Part 2.

Part 4 – Gifts of certified cultural property

	Federal	Quebec	Alberta
Gifts of certified cultural property at the end of the previous tax year			
Deduct: Gifts of certified cultural property expired after five tax years	439		
Gifts of certified cultural property at the beginning of the tax year	440		
Add: Gifts of certified cultural property transferred on an amalgamation or the windup of a subsidiary	450		
Total current-year gifts of certified cultural property	410		
Subtotal (line 450 plus line 410)			
Deduct: Adjustment for an acquisition of control (for gifts made after March 22, 2004)	455		
Total gifts of certified cultural property available			
Deduct: Amount applied against taxable income (enter this amount on line 313 of the T2 return)	460		
Gifts of certified cultural property closing balance	480		

Amount carried forward – Gifts of certified cultural property

Year of origin:	Federal	Quebec	Alberta
1 st prior year	2007		
2 nd prior year	2006		
3 rd prior year	2005		
4 th prior year	2004		
5 th prior year	2003		
6 th prior year *	2002		
Total			

* These donations expired in the current year.

Part 5 – Gifts of certified ecologically sensitive land

	Federal	Quebec	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	539		
Gifts of certified ecologically sensitive land at the beginning of the tax year	540		
Add: Gifts of certified ecologically sensitive land transferred on an amalgamation or the windup of a subsidiary	550		
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		
Total gifts of certified ecologically sensitive land available			
Deduct: Amount applied against taxable income (enter this amount on line 314 of the T2 return)	560		
Gifts of certified ecologically sensitive land closing balance	580		

Amounts carried forward – Gifts of certified ecologically sensitive land

Year of origin:	Federal	Quebec	Alberta
1 st prior year	2007		
2 nd prior year	2006		
3 rd prior year	2005		
4 th prior year	2004		
5 th prior year	2003		
6 th prior year *	2002		
Total			

* These donations expired in the current year.

Part 6 – Additional deduction for gifts of medicine

	Federal	Quebec	Alberta
Additional deduction for gifts of medicine at the end of the previous tax year	_____	_____	_____
Deduct: Additional deduction for gifts of medicine expired after five tax years	639	_____	_____
Additional deduction for gifts of medicine at the beginning of the tax year	640	_____	_____
Add: Additional deduction for gifts of medicine transferred on an amalgamation or the wind-up of a subsidiary	650	_____	_____
Additional deduction for gifts of medicine for the current year:			
Proceeds of disposition	602	1	1
Cost of gifts of medicine	601	2	2
Subtotal (line 1 minus line 2)	_____	3	3
Line 3 multiplied by 50 %	_____	4	4
Eligible amount of gifts	600	5	5
<p>Federal</p> <p>A _____ x $\left(\frac{B}{C}\right)$ = Additional deduction for gifts of medicine for the current year 610</p> <p>Quebec</p> <p>A _____ x $\left(\frac{B}{C}\right)$ = Additional deduction for gifts of medicine for the current year</p> <p>Alberta</p> <p>A _____ x $\left(\frac{B}{C}\right)$ = Additional deduction for gifts of medicine for the current year</p>			
where:			
A is the lesser of line 2 and line 4			
B is the eligible amount of gifts (line 600)			
C is the proceeds of disposition (line 602)			
Subtotal (line 650 plus line 610)	_____	_____	_____
Deduct: Adjustment for an acquisition of control	655	_____	_____
Total additional deduction for gifts of medicine available	_____	_____	_____
Deduct: Amount applied against taxable income (enter this amount on line 315 of the T2 return)	660	_____	_____
Additional deduction for gifts of medicine closing balance	680	_____	_____

Amounts carried forward – Additional deduction for gifts of medicine

Year of origin:	Federal	Quebec	Alberta
1 st prior year	2007	_____	_____
2 nd prior year	2006	_____	_____
3 rd prior year	2005	_____	_____
4 th prior year	2004	_____	_____
5 th prior year	2003	_____	_____
6 th prior year *	2002	_____	_____
Total	_____	_____	_____

* These donations expired in the current year.

DIVIDENDS RECEIVED, TAXABLE DIVIDENDS PAID, AND PART IV TAX CALCULATION

SCHEDULE 3

Name of corporation Hydro Ottawa Limited	Business Number 86339 1363 RC0001	Tax year end Year Month Day 2008-12-31
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- 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 for purposes of 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 taxation 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*.
- For more information, see the sections about Schedule 3 in the *T2 Corporation Income Tax Guide*.
- "X" under column A if dividend received from a foreign source (connected corporation only).
- "1" under column B if the payer corporation is connected.
- Enter in column F1, the amount of dividends received reported in column 240 that are eligible.
- Under column F2, enter the code that applies to the deductible taxable dividend.

Part 1 – Dividends received during the taxation year

Do not include dividends received from foreign non-affiliates.		Complete if payer corporation is connected			E Non-taxable dividend under section 83
A	B	C Business Number	D Taxation year end of the payer corporation in which the sections 112/113 and subsection 138(6) dividends were paid YYYY/MM/DD		
Name of payer corporation (Use only one line per corporation, abbreviating its name if necessary)					
	200	205	210	220	230
1		2			
Total					

Note: If your corporation's taxation year end is different than that of the connected payer corporation, your corporation could have received dividends from more than one taxation year of the payer corporation. If so, use a separate line to provide the information for each taxation year of the payer corporation.

If payer corporation is not connected, leave these columns blank.		F2	G Total taxable dividends paid by connected payer corporation	H Dividend refund of the connected payer corporation	I Part IV tax before deductions F x 1 / 3 *
F Taxable dividends deductible from taxable income under section 112, subsections 113(2) and 138(6), and paragraphs 113(1)(a), (b), or (d)	F1 Eligible dividends				
240			250	260	270
1					
Total (enter amount of column F on line 320 of the T2 return)					
J					

For dividends received from connected corporations: Part IV tax equals: $\frac{\text{Column F} \times \text{Column H}}{\text{Column G}}$

* Life insurers are not subject to Part IV tax on subsection 138(6) dividends.
Public corporations (other than subject corporations) do not need to calculate Part IV tax.

Part 2 – Calculation of Part IV tax payable

Part IV tax before deductions (amount J in Part 1)

Deduct:
 Part IV.I tax payable on dividends subject to Part IV tax **320**
 Subtotal

Deduct:
 Current-year non-capital loss claimed to reduce Part IV tax **330**
 Non-capital losses from previous years claimed to reduce Part IV tax **335**
 Current-year farm loss claimed to reduce Part IV tax **340**
 Farm losses from previous years claimed to reduce Part IV tax **345**
 Total losses applied against Part IV tax x 1 / 3 =

Part IV tax payable (enter amount on line 712 of the T2 return) **360**

Part 3 – Taxable dividends paid in the taxation year for purposes of a dividend refund

A	B	C	D
Name of connected recipient corporation	Business Number	Taxation year end of connected recipient corporation in which the dividends in column D were received YYYY/MM/DD	Taxable dividends paid to connected corporations
400	410	420	430
1 Hydro Ottawa Holding Inc.	89411 0816 RC0001	2008-12-31	14,000,000
2			

Note
 If your corporation's taxation year end is different than that of the connected recipient corporation, your corporation could have paid dividends in more than one taxation year of the recipient corporation. If so, use a separate line to provide the information for each taxation year of the recipient corporation.

Total **14,000,000**

Total taxable dividends paid in the taxation year to other than connected corporations **450**

Total taxable dividends paid in the taxation year for the purposes of a dividend refund (total of column D above plus line 450) **460** 14,000,000

Part 4 – Total dividends paid in the taxation year

Complete this part if the total taxable dividends paid in the taxation year for purposes of a dividend refund (line 460 above) is different from the total dividends paid in the taxation year.

Total taxable dividends paid in the taxation year for the purposes of a dividend refund (from above) 14,000,000

Other dividends paid in the taxation year (total of 510 to 540)

Total dividends paid in the taxation year **500** 14,000,000

Deduct:
 Dividends paid out of capital dividend account **510**
 Capital gains dividends **520**
 Dividends paid on shares described in subsection 129(1.2) **530**
 Taxable dividends paid to a controlling corporation that was bankrupt at any time in the year **540**
 Subtotal ▶

Total taxable dividends paid in the taxation year for purposes of a dividend refund 14,000,000



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SCHEDULE 8

CAPITAL COST ALLOWANCE (CCA)

Name of corporation Hydro Ottawa Limited	Business Number 86339 1363 RC0001	Tax year end Year Month Day 2008-12-31
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For more information, see the section called "Capital Cost Allowance" in the T2 Corporation Income Tax Guide.

Is the corporation electing under regulation 1101(5q)?

101 1 Yes 2 No

1 Class number (See Note)	2 Undepreciated capital cost at the beginning of the year (undepreciated capital cost at the end of last year)	3 Cost of acquisitions during the year (new property must be available for use)*	4 Net adjustments**	5 Proceeds of dispositions during the year (amount not to exceed the capital cost)	6 50% rule (1/2 of the amount, if any, by which the net cost of acquisitions exceeds column 5)***	7 Reduced undepreciated capital cost	8 CCA rate %	9 Recapture of capital cost allowance (line 107 of Schedule 1)	10 Terminal loss (line 404 of Schedule 1)	11 Capital cost allowance (column 7 multiplied by column 8; or a lower amount (line 403 of Schedule 1)****	12 Undepreciated capital cost at the end of the year (column 6 plus column 7 minus column 11)
200	201	203	205	207	211	212	213	215	217	220	
1	272,586,358			0		272,586,358	4	0	0	10,903,454	261,682,904
2	1,962,126	6,130,795		72,494	3,029,151	4,991,276	6	0	0	299,477	7,720,950
3	89,107,550			0		89,107,550	6	0	0	5,346,453	83,761,097
4	13,852,592			0		13,852,592	5	0	0	692,630	13,159,962
5	9,216,558	1,369,618		23	684,798	9,901,355	20	0	0	1,980,271	8,605,882
6	7,326,313	1,823,694		222,098	800,798	8,127,111	30	0	0	2,438,133	6,489,776
7	3,177,092	3,284,145		0	1,642,073	4,819,164	100	0	0	4,819,164	1,642,073
8	794,730			0		794,730	12	0	0	95,368	699,362
9	1,716,873			0		1,716,873	45	0	0	772,593	944,280
10	2,320,365	766,821		0	383,411	2,703,775	55	0	0	1,487,076	1,600,110
11	118,204,572	52,452,758		0	26,226,379	144,430,951	8	0	0	11,554,476	159,102,854
	520,265,129	65,827,831		294,615	32,766,610	553,031,735		0	0	40,389,095	545,409,250
Total											

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.

**** 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.



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SCHEDULE 9

RELATED AND ASSOCIATED CORPORATIONS

Name of corporation Hydro Ottawa Limited	Business Number 86339 1363 RC0001	Tax year end Year Month Day 2008-12-31
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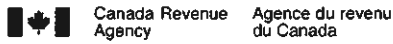
This schedule is to be completed by a corporation having one or more of the following:

- related corporation(s)
- associated corporations(s)

	100	200	300	400	500	550	600	650	700
Name		Country of residence (if other than Canada)	Business Number (Canadian corporation only) (see note 1)	Relationship code (see note 2)	Number of common shares owned	% of common shares owned	Number of preferred shares owned	% of preferred shares owned	Book value of capital stock
1. Hydro Ottawa Holding Inc.			89411 0816 RC0001	1					
2. Energy Ottawa Inc.			86338 9961 RC0001	3					
3. Telecom Ottawa Holding Inc.			86202 9337 RC0001	3					
4. PowerTrail Inc.		CA	82829 3944 RC0001	3					

Note 1: Enter "NR" if a corporation is not registered.

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.



SCHEDULE 10

CUMULATIVE ELIGIBLE CAPITAL DEDUCTION

Name of corporation Hydro Ottawa Limited	Business Number 86339 1363 RC0001	Tax year end Year Month Day 2008-12-31
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- 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 and carry-forward

Cumulative eligible capital - Balance at the end of the preceding taxation year (if negative, enter "0")	200	<u>1,157,632</u>	A
Add: Cost of eligible capital property acquired during the taxation year	222	<u>393,794</u>	
Other adjustments	226	<u> </u>	
Subtotal (line 222 plus line 226)		<u>393,794</u>	B
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	228	<u> </u>	C
amount B minus amount C (if negative, enter "0")		<u>295,346</u>	D
Amount transferred on amalgamation or wind-up of subsidiary	224	<u> </u>	E
Subtotal (add amounts A, D, and E)	230	<u>1,452,978</u>	F
Deduct: Proceeds of sale (less outlays and expenses not otherwise deductible) from the disposition of all eligible capital property during the taxation year	242	<u> </u>	G
The gross amount of a reduction in respect of a forgiven debt obligation as provided for in subsection 80(7)	244	<u> </u>	H
Other adjustments	246	<u> </u>	I
(add amounts G,H, and I)		<u> </u>	J
Cumulative eligible capital balance (amount F minus amount J) (if amount K is negative, enter "0" at line M and proceed to Part 2)		<u>1,452,978</u>	K
Cumulative eligible capital for a property no longer owned after ceasing to carry on that business	249	<u> </u>	
amount K		<u>1,452,978</u>	
less amount from line 249		<u> </u>	
Current year deduction		<u>1,452,978</u> x 7.00 % =	250
(line 249 plus line 250) (enter this amount at line 405 of Schedule 1)		<u>101,708</u>	L
Cumulative eligible capital - Closing balance (amount K minus amount L) (if negative, enter "0")	300	<u>1,351,270</u>	M

* You can claim any amount up to the maximum deduction of 7%. The deduction may not exceed the maximum amount prorated by the number of days in the taxation year divided by 365.



Part 2 – Amount to be included in income arising from disposition
(complete this part only if the amount at line K is negative)

Amount from line K (show as positive amount)		N
Total of cumulative eligible capital (CEC) deductions from income for taxation years beginning after June 30, 1988	400	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	402	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")	▶	5
Total of lines 1, 2 and 5		6
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
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")		▶
Line N minus line O (if negative, enter "0")		O
Line 5	x 1 / 2 =	P
Line P minus line Q (if negative, enter "0")		Q
Amount R	x 2 / 3 =	R
Amount N or amount O, whichever is less		S
Amount to be included in income (amount S plus amount T) (enter this amount on line 108 of Schedule 1) 410		T



CONTINUITY OF RESERVES

Name of corporation Hydro Ottawa Limited	Business Number 86339 1363 RC0001	Tax year end Year Month Day 2008-12-31
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- For use by corporations to provide a continuity of all reserves claimed which are allowed for tax purposes.
- References to parts, sections, subsections, paragraphs, and subparagraphs are from the federal *Income Tax Act*.
- File one completed copy of this schedule with the corporation's *T2 Corporation Income Tax Return*.
- For more information, see the *T2 Corporation Income Tax Guide*.

Part 1 – Capital gains reserves

Description of property	Balance at the beginning of the year \$	Transfer on amalgamation or wind-up of subsidiary \$	Add \$	Deduct \$	Balance at the end of the year \$
001	002	003			004
1					
Totals	008	009			010

The total capital gains reserve at the beginning of the taxation year plus the total capital gains reserve transfer on amalgamation or wind-up of subsidiary should be entered on line 880, and the total capital gains reserve at the end of the taxation year, should be entered on line 885 of Schedule 6.

Part 2 – Other reserves

Description	Balance at the beginning of the year \$	Transfer on amalgamation or wind-up of subsidiary \$	Add \$	Deduct \$	Balance at the end of the year \$
Reserve for doubtful debts <input type="checkbox"/>	110 1,443,000	115		475,768	120 967,232
Reserve for undelivered goods and services not rendered <input type="checkbox"/>	130	135			140
Reserve for prepaid rent <input type="checkbox"/>	150	155			160
Reserve for December 31, 1995 income <input type="checkbox"/>	170	175			180
Reserve for refundable containers <input type="checkbox"/>	190	195			200
Reserve for unpaid amounts <input type="checkbox"/>	210	215			220
Other tax reserves <i>REG. ASSETS</i> <input type="checkbox"/>	230 6,504,000	235		4,424,088	240 2,079,912
Totals	270 7,947,000	275		280 4,899,856	280 3,047,144

Enter "X" in the column above if the tax reserve has also been reported on the corporation's financial statements. This allows offsetting entries on Schedule 1, resulting in a zero effect on net income for tax purposes.

The amount from line 270 plus the amount from line 275 should be entered on line 125 of Schedule 1 as an addition. The amount from line 280 should be entered on line 413 of Schedule 1 as a deduction.

Continuity of financial statement reserves (not deductible)

Financial statement reserves (not deductible)					
Description	Balance at the beginning of the year	Transfer on amalgamation or wind-up of subsidiary	Add	Deduct	Balance at the end of the year
1 Regulatory Liabilities	5,234,000			1,907,000	3,327,000
2 Allowance for Doubtful Debts	1,943,000		86,521		2,029,521
3					
Reserves from Part 2 of Schedule 13					
Totals	7,177,000		86,521	1,907,000	5,356,521

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.



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SCHEDULE 15

DEFERRED INCOME PLANS

Name of corporation Hydro Ottawa Limited	Business Number 86339 1363 RC0001	Tax year end Year Month Day 2008-12-31
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- Complete the information below if the corporation deducted payments from its income made to a registered pension plan (RPP), a registered supplementary unemployment benefit plan (RSUBP), a deferred profit sharing plan (DPSP), or an employee profit sharing plan (EPSP).
- If the trust that governs an employee profit sharing plan is **not resident** in Canada, please indicate if the T4PS, *Statement of Employees Profit Sharing Plan Allocations and Payments*, Supplementary slip(s) were filed for the last calendar year, and whether they were filed by the trustee or the employer.

Type of plan (see note 1)	Amount of contribution \$ (see note 2)	Registration number (RPP, RSUBP, and DPSP only)	Name of EPSP trust	Address of EPSP trust	T4PS slip(s) filed by: (see note 3) (EPSP only)
100	200	300	400	500	600
1	1	2,811,000	345983		

Note 1: Enter the applicable code number:
 1 – RPP
 2 – RSUBP
 3 – DPSP
 4 – EPSP

Note 2: You do not need to add to Schedule 1 any payments you made to deferred income plans. To reconcile such payments, calculate the following amount:

Total of all amounts indicated in column 200 of this schedule **2,811,000 A**

Less:
 Total of all amounts for deferred income plans deducted in your financial statements **2,811,000 B**

Deductible amount for contributions to deferred income plans (amount A minus amount B) (if negative, enter "0") **C**

Enter amount C on line 417 of Schedule 1

Note 3: T4PS slip(s) filed by: 1 – Trustee
 2 – Employer



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:

Calendar year	Acceptable range
2004	\$225,001 to \$250,000
2005	\$250,001 to \$300,000
2006	maximum \$300,000
2007	\$300,001 to \$400,000
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.

Allocating the business limit

Date filed (do not use this area)		025	Year Month Day		
Enter the calendar year to which the agreement applies		050	Year 2008		
Is this an amended agreement for the above-noted calendar year that is intended to replace an agreement previously filed by any of the associated corporations listed below?		075	1 Yes <input type="checkbox"/>	2 No <input checked="" type="checkbox"/>	
1 Names of associated corporations	2 Business Number of associated corporations	3 Association 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 Hydro Ottawa Limited	86339 1363 RC0001	1	400,000	100.0000	400,000
2 Hydro Ottawa Holding Inc.	89411 0816 RC0001	1	400,000		
3 Energy Ottawa Inc.	86338 9961 RC0001	1	400,000		
4 Telecom Ottawa Holding Inc.	86202 9337 RC0001	1	400,000		
5 PowerTrail Inc.	82829 3944 RC0001	1	400,000		
Total				100.0000	400,000 A

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 $0.225\% \times (A - \$10,000,000)$ 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, 2007, 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 \$400,000 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.



INVESTMENT TAX CREDIT – CORPORATIONS

General information

1. For use by a corporation that during a tax year:
 - earned an investment tax credit (ITC);
 - is claiming a deduction against its Part I tax payable;
 - is claiming a refund of credit earned during the current tax year;
 - is claiming a carryforward of credit from previous tax years;
 - is transferring 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*;
 - is requesting a credit carryback; or
 - is subject to a recapture of ITC.
2. References to parts, sections, and subsections on this schedule are from the federal *Income Tax Act* and the federal *Income Tax Regulations*. References to interpretation bulletins and information circulars are to the latest versions.
3. 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 for credits earned in tax years that end after 1997 and a ten-year carryforward for credits earned in tax years that end before 1998. The apprenticeship job creation tax credit can only be carried back to tax years that end after May 1, 2006.
4. Investments or expenditures, as defined in subsection 127(9) and Part XLVI of the federal *Income Tax Regulations*, that earn the ITC are:
 - qualified property (Parts 4 to 7);
 - qualified expenditures that are part of the SR&ED qualified expenditure pool (Parts 8 to 17). Complete and 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).
5. Attach a completed copy of this schedule with the *T2 Corporation Income Tax Return*.
6. For more information on ITCs, see the section called "Investment Tax Credit" in the *T2 Corporation – Income Tax Guide*, Information Circular IC 78-4, *Investment Tax Credit Rates*, and its related Special Release. Also, see Interpretation Bulletin IT-151, *Scientific Research and Experimental Development Expenditures*.
7. For information on SR&ED, see Interpretation Bulletin IT-151, *Scientific Research and Experimental Development Expenditures*; Information Circular 86-4, *Scientific Research and Experimental Development*; Pamphlet T4052, *An Introduction to the Scientific Research and Experimental Development Program*; and T4088, *Guide to Form T661 Scientific Research and Experimental Development (SR&ED) Expenditures Claim*.

Detailed information

1. For the purpose of this schedule, "investment" means:
The capital cost of the property (excluding amounts added by an election under section 21), determined without reference to subsections 13(7.1) and 13(7.4), minus the amount of any government or non-government assistance that the corporation has received, is entitled to receive, or can reasonably be expected to receive for that property when it files the income tax return for the year in which the property was acquired.
2. 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.
3. Property acquired has to be "available for use" before a claim for an ITC can be made.
4. 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 the expenditures or capital costs were incurred.
5. 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 of the Act is not applicable for the agreement to share any income or loss. For more information, see Interpretation Bulletin IT-151. Special rules apply to specified and limited partners.
6. For SR&ED expenditures made after February 22, 2005, 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 SR&ED expenditures made before February 23, 2005, the expression "in Canada" generally includes the 12 nautical mile territorial sea.

Name of corporation Hydro Ottawa Limited	Business Number 86339 1363 RC0001	Tax year-end Year Month Day 2008-12-31
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Part 1 – Investments, expenditures and percentages

	Specified percentage
Investments	
Qualified property acquired primarily for use in Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, the Gaspé Peninsula, or a prescribed offshore region	10 %
Expenditures	
If you are a Canadian-controlled private corporation (CCPC) throughout the tax year, this percentage may apply to the portion that you claim of the SR&ED qualified expenditure pool that does not exceed your expenditure limit (see Part 10)	35 %
Note: If your current year's qualified expenditures are more than 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 throughout the current tax year that incurred qualified expenditures for SR&ED in any area in Canada after 1995	20 %
If you are a taxable Canadian corporation that incurred pre-production mining expenditures after 2004:	10 %
If you paid salary and wages to apprentices in the first 24 months of their apprenticeship contract for employment after May 1, 2006	10 %
If you incurred eligible expenditures after March 18, 2007, for the creation of licensed child care spaces for the children of your employees and, potentially, for other children	25 %

Part 2 – Determination of a qualifying corporation

Is the corporation a qualifying corporation? 101 1 Yes 2 No

For the purpose of a refundable ITC, a **qualifying corporation** is defined under subsection 127.1(2). The corporation has to be a CCPC throughout the current tax year and the taxable income (before any loss carrybacks) for its previous tax year cannot be more than its qualifying income limit for the particular tax year. If the corporation is associated with any other corporations during the tax year, the total of the taxable incomes of the corporation and the associated corporations (before any loss carrybacks), for their last tax year ending in the previous calendar year, cannot be more than their qualifying income limit for the particular tax year.

Note: A CCPC calculating a refundable ITC for tax years ending after March 22, 2004, 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 both corporations; and
- one of the corporations has at least one shareholder who is not common to both corporations.

If you are a **qualifying corporation**, you will earn a **100%** refund on your share of any ITCs earned at the 35% rate on qualified **current** expenditures for SR&ED, up to the allocated expenditure limit. The 100% refund does not apply to qualified **capital** expenditures eligible for the 35% credit rate. They are only eligible for the **40%** refund.

Some CCPCs that are not qualifying corporations may also earn a 100% refund on their share of any ITCs earned at the 35% rate on qualified current expenditures for SR&ED, up to the allocated expenditure limit. The expenditure limit can be determined in Part 10. The 100% refund does not apply to qualified capital expenditures eligible for the 35% credit rate. They are only eligible for the 40% refund.

The 100% refund will not be available to a corporation that is an **excluded corporation** as defined under subsection 127.1(2).

A corporation is an excluded corporation if, at any time during the year, it is a corporation that is either controlled by (directly or indirectly, in any manner whatever) or is related to:

- a) one or more persons exempt from Part I tax under section 149;
- b) Her Majesty in right of a province, a Canadian municipality, or any other public authority; or
- c) any combination of persons referred to in a) or b) above.

Part 3 – Corporations in the farming industry

Complete this area if the corporation is making SR&ED contributions

Is the corporation claiming a contribution in the current year to an agricultural organization whose goal is to finance SR&ED work (for example, check-off dues)? 102 1 Yes 2 No

If **yes**, complete Schedule 125, *Income Statement Information*, to identify the type of farming industry the corporation is involved in. For more information on Schedule 125, see the *Guide to the General Index of Financial Information (GIFI) for Corporations*. Enter contributions on line 350 of Part 8.

QUALIFIED PROPERTY

Part 4 – Eligible investments for qualified property from the current tax year

CCA* class number	Description of investment	Date available for use	Location used (province)	Amount of investment
105	110	115	120	125

*CCA: capital cost allowance

Total investment – enter in formula on line 240 in Part 5

Part 5 – Calculation of current-year credit and account balances – ITC from investments in qualified property

ITC at the end of the previous tax year

Deduct:

Credit deemed as a remittance of co-op corporations 210

Credit expired* 215

Subtotal 220

ITC at the beginning of the tax year

Add:

Credit transferred on amalgamation or wind-up of subsidiary 230

ITC from repayment of assistance 235

Total current-year credit: total of column 125 x 10% = 240

Credit allocated from a partnership 250

Subtotal

Total credit available

Deduct:

Credit deducted from Part I tax (enter on line B1 in Part 30) 260

Credit carried back to the previous year(s) (from Part 6) A

Credit transferred to offset Part VII tax liability 280

Subtotal

Credit balance before refund B

Deduct:

Refund of credit claimed on investments from qualified property (from Part 7) 310

ITC closing balance of investments from qualified property 320

* The credit expires after 20 tax years if it was earned in a tax year ending after 1997 and 10 tax years if it was earned in a tax year ending before 1998.

Part 6 – Request for carryback of credit from investments in qualified property

	Year	Month	Day		
1st previous tax year				Credit to be applied	901
2nd previous tax year				Credit to be applied	902
3rd previous tax year				Credit to be applied	903
Total (enter on line A in Part 5)					

Part 7 – Calculation of refund for qualifying corporations on investments from qualified property

Current-year ITCs (total of lines 240 and 250 in Part 5) C

Credit balance before refund (amount B from Part 5) D

Refund (40 % of amount C or D, whichever is less) E

Enter amount E 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).

Name of corporation Hydro Ottawa Limited	Business Number 86339 1363 RC0001	Tax year-end Year Month Day 2008-12-31
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SR&ED

Part 8 – Qualified expenditures for SR&ED

Current expenditures (including contributions to agricultural organizations for SR&ED)*	350	
Capital expenditures	360	
Repayments made in the year (from line 560 on Form T661)	370	
Total (this must equal the amount from line 570 on Form T661)*	380	

* Do not file form T661 if you are only claiming contributions made to agricultural organizations for SR&ED.

Part 9 – Components of the SR&ED expenditure limit calculation

Part 9 only applies if the corporation is a CCPC throughout the current tax year.

Note: A CCPC that calculates SR&ED expenditure limit for tax years ending after March 22, 2004, 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 2 No

Complete lines 390, 395 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).

a) Enter your taxable income for the previous tax year* (prior to any loss carry-backs applied).	390	<u>39,027,318</u>
b) Enter your reduced business limit** for the current tax year* (this amount cannot be more than the amount at line 4 on page 4 of the T2 return).	395	
c) 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.	547,700,106 398	<u>40,000,000</u>

* If either of the tax years referred to at line 390 or 395 is less than 51 weeks, multiply the taxable income or the business limit by the following result: 365 divided by the number of days in these tax years. For details on the expression "Reduced business limit," see line 652 of the *T2 Corporation – Income Tax Guide*.

** If the corporation is claiming only a portion of the business limit from line 4 on page 4 of the T2 return because of its association with other corporations, calculate your reduced business limit as if the corporation was not associated in the current tax year. Enter the result at line 395.

Part 10 – Calculation of SR&ED expenditure limit for a CCPC throughout the current tax year

For stand-alone corporations:

Calculation 1: tax year ends before February 26, 2008.

$[(\$6,000,000 \text{ minus } (10 \times (\text{line 390 from Part 9 or } \$400,000, \text{ whichever is more})))] \times ((\text{line 395 from Part 9}) \text{ divided by line 4 on page 4 of the T2 return})$

Calculation 2: tax year starts after February 26, 2008.

$[(\$7,000,000 \text{ minus } (10 \times (\text{line 390 from Part 9 or } \$400,000, \text{ whichever is more})))] \times ((\$40,000,000 \text{ minus line 398 from Part 9}) \text{ divided by } \$40,000,000)$

Calculation 3: tax year includes February 26, 2008.

AA + [(BB minus AA) x (CC divided by DD)] where,

AA = $[(\$6,000,000 \text{ minus } (10 \times (\text{line 390 from Part 9 or } \$400,000, \text{ whichever is more})))] \times ((\text{line 395 from Part 9}) \text{ divided by line 4 on page 4 of the T2 return});$

BB = $[(\$7,000,000 \text{ minus } (10 \times (\text{line 390 from Part 9 or } \$400,000, \text{ whichever is more})))] \times ((\$40,000,000 \text{ minus line 398 from Part 9}) \text{ divided by } \$40,000,000);$

CC = number of days in the tax year after February 25, 2008;

DD = number of days in the tax year.

Enter the amount from Calculation 1, 2 or 3, whichever is applicable *G

For associated corporations:

If associated, the allocation of the SR&ED expenditure limit as provided on Schedule 49 400 *H

Where the tax year of the corporation is less than 51 weeks, calculate the amount of the expenditure limit as follows:

Line G or H \times $\frac{\text{Number of days in the tax year}}{365}$ $=$ 366 I

Your SR&ED expenditure limit for the year (enter the amount from line G, H, or I, whichever applies) 410

* Amount G or H cannot be more than \$3,000,000 (\$2,000,000 if tax year ending before February 26, 2008).

Part 11 – Calculation of investment tax credits on SR&ED expenditures

Enter whichever is less: current expenditures (line 350 from Part 8) or the expenditure limit (line 410 from Part 10)* **420** x 35 % = J
 Line 350 minus line 410 (if negative, enter "0") **430** x 20 % = K
 Line 410 minus line 350 (if negative, enter "0") L
 Enter whichever is less: capital expenditures (line 360 from Part 8) or line L above* **440** x 35 % = M
 Line 360 minus line L (if negative, enter "0") **450** x 20 % = N

Repayments (amount from line 370 in Part 8)
 If a corporation makes a repayment of any government or non-government assistance, or contract payments that reduced the amount of qualified expenditures for ITC purposes, the amount of the repayment is eligible for a credit at the rate that would have applied to the repaid amount. Enter the amount of the repayment on the line that corresponds to the appropriate rate.
460 x 35 % =
480 x 20 % =
 Total ▶ O

Current-year SR&ED ITC (total of lines J, K, M, N, and O; enter on line 540 in Part 12)
 * For corporations that are not CCPCs throughout the year, enter "0" on lines J and M.

Part 12 – Calculation of current-year credit and account balances – ITC from SR&ED expenditures

ITC at the end of the previous tax year
Deduct:
 Credit deemed as a remittance of co-op corporations **510**
 Credit expired* **515**
 Subtotal ▶
 ITC at the beginning of the tax year **520**
Add:
 Credit transferred on amalgamation or wind-up of subsidiary **530**
 Total current-year credit **540**
 Credit allocated from a partnership **550**
 Subtotal ▶
 Total credit available
Deduct:
 Credit deducted from Part I tax (enter on line B2 in Part 30) **560**
 Credit carried back to the previous year(s) (from Part 13) P
 Credit transferred to offset Part VII tax liability **580**
 Subtotal ▶
 Credit balance before refund Q
Deduct:
 Refund of credit claimed on expenditures of SR&ED (from Part 14 or 15, whichever applies) **610**
ITC closing balance on SR&ED **620**

* The credit expires after 20 tax years if it was earned in a tax year ending after 1997 and 10 tax years if it was earned in a tax year ending before 1998.

Part 13 – Request for carryback of credit from SR&ED expenditures

	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 on line P in Part 12)					.....

Name of corporation Hydro Ottawa Limited	Business Number 86339 1363 RC0001	Tax year-end Year Month Day 2008-12-31
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Part 14 – Calculation of refund of ITC for qualifying corporations – SR&ED

Complete this part only if you are a qualifying corporation as determined at line 101.

Is the corporation an excluded corporation as defined under subsection 127.1(2)? **650** 1 Yes 2 No

Credit balance before refund (amount Q from Part 12) R

Current-year ITC (lines 540 plus 550 from Part 12 minus line O from Part 11) S

Refundable credits (amount R or S, whichever is less)* T

Amount J from Part 11 U

Subtract: Amount T or U, whichever is less V

Net amount (if negative, enter "0") W

Amount W x 40 % X

Add: Amount V Y

Refund of ITC (amounts X plus Y – enter this, or a lesser amount, on line 610 in Part 12) Z

Enter the total of lines 310 from Part 5 and 610 from Part 12 on line 780 of the T2 return.

* If you are also an excluded corporation [as defined in subsection 127.1(2)], this amount must be multiplied by 40%. Claim this, or a lesser amount, as your refund of ITC on line Z.

Part 15 – Calculation of refund of ITC for CCPCs that are not qualifying or excluded corporations – SR&ED

Complete this box only if you are a CCPC that is not a qualifying or excluded corporation as determined in Part 2.

Credit balance before refund (amount Q from Part 12) AA

Amount J from Part 11 BB

Subtract: Amount AA or BB, whichever is less CC

Net amount (if negative, enter "0") DD

Amount M from Part 11 EE

Amount DD or EE, whichever is less x 40 % FF

Add : Amount CC above GG

Refund of ITC (amounts FF plus GG) HH

Enter HH, or a lesser amount, on line 610 in Part 12 and also on line 780 of the T2 return.

RECAPTURE – SR&ED

– Part 16 – Calculating the 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, or in any of the 10 previous tax years, if the credit was earned in a tax year ending before 1998;
- you claimed the cost of the property as a qualified expenditure for SR&ED on Form T661;
- the cost of the property was included in calculating your ITC or was the subject of an agreement made under subsection 127(13) to transfer qualified expenditures; and
- you disposed of the property or converted it to commercial use after February 23, 1998. This condition is also met if you disposed of or converted to commercial use a property that incorporates the particular property previously referred to.

Note:

The recapture **does not apply** if you disposed of the property to a non-arm's length purchaser who intended to use it all or substantially all for SR&ED. When the non-arm's length purchaser later sells or converts the property to commercial use, the recapture rules will apply to the purchaser based on the historical ITC rate of the original user.

You will report a recapture on the T2 return for the year in which you disposed of the property or converted it to commercial use. In the following tax year, add the amount of the ITC recapture to the SR&ED expenditure pool.

If you have more than one disposition for calculations 1 and 2, complete the columns for each disposition for which a recapture applies, using the calculation formats below.

Calculation 1 – If you meet all of the above conditions

Amount of ITC you originally calculated for the property you acquired, or the original user's ITC where you acquired the property from a non-arm's length party, as described in the note above	Amount calculated using ITC rate at the date of acquisition (or the original user's date of acquisition) on either the proceeds of disposition (if sold in an arm's length transaction) or the fair market value of the property (in any other case)	Amount from column 700 or 710, whichever is less
700	710	
1.		

Subtotal (enter this amount on line LL in Part 17) _____ **||**

Calculation 2 – Only if you transferred all or a part of the qualified expenditure to another person under an agreement described in subsection 127(13); otherwise, enter nil at line JJ in Part 16.

A	B	C
Rate percentage 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

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Part 16 – Calculating the recapture of ITC for corporations and corporate partnerships – SR&ED (continued)

Calculation 2 (continued) – Only if you transferred all or a part of the qualified expenditure to another person under an agreement described in subsection 127(13); otherwise, enter nil on line JJ below.

D Amount determined by the formula (A x B) - C	E ITC earned by the transferee for the qualified expenditures that were transferred	F Amount from column D or E, whichever is less
	750	

Subtotal (enter this amount on line MM in Part 17) 750 **JJ**

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 on page 5. 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 KK below.

Corporate partner's share of the excess of SR&ED ITC (amount to be reported on line NN in Part 17) 760 **KK**

Part 17 – Total recapture of SR&ED investment tax credit

Recaptured ITC for calculation 1 from line II in Part 16	.....	_____	LL
Recaptured ITC for calculation 2 from line JJ in Part 16 above	.....	_____	MM
Recaptured ITC for calculation 3 from line KK in Part 16 above	.....	_____	NN
Total recapture of SR&ED investment tax credit – Add lines LL, MM and NN	.....	_____	OO

Enter amount OO at line A1 in Part 29.

PRE-PRODUCTION MINING

Part 18 – Pre-production mining expenditures

Exploration information

A mineral resource that qualifies for the credit means a mineral deposit from which the principal mineral to be extracted is diamond, a base or precious metal deposit, or a mineral deposit from which the principal mineral to be extracted is an industrial mineral that, when refined, results in a base or precious metal.

In column 800, list all minerals for which pre-production mining expenditures have taken place in the tax year.

List of minerals 800

For each of the minerals reported in column 800 above, identify each project, mineral title, and mining division where title is registered. If there is no mineral title, identify the project and mining division only.

Project name 805	Mineral title 806	Mining division 807

Pre-production mining expenditures *

Pre-production mining expenditures that the corporation incurred in the tax year for the purpose of determining the existence, location, extent, or quality of a mineral resource in Canada:

Prospecting	810		PP
Geological, geophysical, or geochemical surveys	811		QQ
Drilling by rotary, diamond, percussion, or other methods	812		RR
Trenching, digging test pits, and preliminary sampling	813		SS

Pre-production mining expenditures incurred in the tax year for bringing a new mine in a mineral resource in Canada into production in reasonable commercial quantities and incurred before the new mine comes into production in such quantities:

Clearing, removing overburden, and stripping	820		TT
Sinking a mine shaft, constructing an adit, or other underground entry	821		UU

Other pre-production mining expenditures incurred in the tax year:

Description 825	Amount 826

Add amounts at column 826 ▶ _____ VV

Total pre-production mining expenditures (add amounts PP to VV) **830** _____

Deduct: Total of all assistance (grants, subsidies, rebates, and forgivable loans) or reimbursements that the corporation has received or is entitled to receive in respect of the amounts referred to at line 830 above **832** _____

Excess (line 830 minus line 832) (if negative, enter "0") _____ WW

Add: Repayments of government and non-government assistance **835** _____ XX

Pre-production mining expenditures (amount WW plus amount XX) YY

* A pre-production mining expenditure is defined under subsection 127(9) and does not include an amount renounced under subsection 66(12.6).

Name of corporation Hydro Ottawa Limited	Business Number 86339 1363 RC0001	Tax year-end Year Month Day 2008-12-31
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Part 19 – Calculation of current-year credit and account balances – ITC from pre-production mining expenditures

ITC at the end of the previous tax year

Deduct:

Credit deemed as a remittance of co-op corporations **841**

Credit expired* **845**

Subtotal **850**

ITC at the beginning of the tax year **850**

Add:

Credit transferred on amalgamation or wind-up of subsidiary **860**

Expenditures from line YY in Part 18 **870** x 10 % = **880**

Total credit available

Deduct:

Credit deducted from Part I tax (enter on line B3 in Part 30) **885**

Credit carried back to the previous year(s) (from Part 20) CCC

Subtotal **890**

ITC closing balance from pre-production mining expenditures **890**

* The credit expires after 20 tax years if it was earned in a tax year ending after 1997 and 10 years if it was earned in a tax year ending before 1998.

Part 20 – Request for carryback of credit from pre-production mining expenditures

	Year	Month	Day		
1st previous tax year				..... Credit to be applied	921
2nd previous tax year				..... Credit to be applied	922
3rd previous tax year				..... Credit to be applied	923
Total (enter on line CCC in Part 19)					923

APPRENTICESHIP JOB CREATION

Part 21 – Calculation of total current-year credit – ITC from apprenticeship job creation expenditures

If you are a related person as defined under subsection 251(2), has it been agreed in writing that you are the only employer who will be claiming the apprenticeship job creation tax credit for this tax year for each apprentice whose contract number (or social insurance number or name) appears below? (If not, you cannot claim the tax credit.)

..... **611** 1 Yes 2 No

For each apprentice in their first 24 months of the apprenticeship, enter the apprenticeship contract number registered with Canada, or a province or territory, under an apprenticeship program designed to certify or license individuals in the trade. For the province, the trade must be a Red Seal trade. If there is no contract number, enter the social insurance number (SIN) or the name of the eligible apprentice. Also enter the name of the eligible trade, the eligible salary and wages* payable for employment after May 1, 2006, and 10% of this amount. Then enter the lesser of 10% of eligible salary and wages or \$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
1.	Eric Venne PA6228	Lineworker	7,786	779	779
2.	Joshua Hemphill PB5164	Lineworker	6,989	699	699
3.	Jeff Nicholas PB8006	Lineworker	7,073	707	707
4.	Evan Houle PA6241	Lineworker	7,739	774	774
5.	Cory Nixon PB8007	Lineworker	7,031	703	703
6.	Matt Ruppell PB5166	Lineworker	7,031	703	703
7.	Dustin James PB5165	Lineworker	7,073	707	707
8.	Brendan Coker PB8005	Lineworker	6,989	699	699
9.	Rory Sandilands 23460	Lineworker	54,694	5,469	2,000
10.	Craig Wilson 23455	Lineworker	55,989	5,599	2,000
11.	Travis Rowe 23456	Lineworker	60,347	6,035	2,000
12.	Travis Baker 23454	Lineworker	53,862	5,386	2,000
13.	Anthony Buttazzoni 23457	Lineworker	57,570	5,757	2,000
14.	Chris Costello 23462	Lineworker	55,355	5,536	2,000
15.	Jonathan Parker 23458	Lineworker	55,516	5,552	2,000
16.	Tony VanderVeen 23461	Lineworker	53,652	5,365	2,000
17.	Shawn Ryan D03828	Lineworker	55,826	5,583	2,000
18.	Craig Briscoe 23459	Lineworker	55,428	5,543	2,000
19.					
Total current-year credit (enter at line 640)					25,771

* Net of any other government or non-government assistance received or to be received.

Part 22 – Calculation of current-year credit and account balances – ITC from apprenticeship job creation expenditures

ITC at the end of the previous tax year

Deduct:

Credit deemed as a remittance of co-op corporations **612** _____

Credit expired after 20 tax years **615** _____

Subtotal **625** _____

ITC at the beginning of the tax year

Add:

Credit transferred on amalgamation or wind-up of subsidiary **630** _____

ITC from repayment of assistance **635** _____

Total current-year credit (total of column 605) **640** 25,771

Credit allocated from a partnership **655** _____

Subtotal **25,771** ▶ 25,771

Total credit available 25,771

Deduct:

Credit deducted from Part I tax (enter on line B4 in Part 30) **660** 25,771

Credit carried back to the previous year(s) (from Part 23) **DDD** _____

Subtotal **25,771** ▶ 25,771

ITC closing balance from apprenticeship job creation expenditures **690** _____

Part 23 – Request for carryback of credit from apprenticeship job creation expenditures

Carryback of this credit is restricted to tax years ending after May 1, 2006.

	Year	Month	Day		
1st previous tax year				..... Credit to be applied	931 _____
2nd previous tax year				..... Credit to be applied	932 _____
3rd previous tax year				..... Credit to be applied	933 _____
				Total (enter on line DDD in Part 22)	_____

Name of corporation Hydro Ottawa Limited	Business Number 86339 1363 RC0001	Tax year-end Year Month Day 2008-12-31
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CHILD CARE SPACES

Part 24 – Eligible child care spaces expenditures

Enter the eligible expenditures that the corporation incurred after March 18, 2007, to create licensed child care spaces for the children of the employees and, potentially, for other children. The corporation is not a child care services business. The eligible expenditures include:

- the cost of depreciable property (other than specified property); and
- the specified child care start-up expenditures;

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 property from the current tax year **715** EEE

Add: Specified child care start-up expenditures from the current tax year **705** FFF

Total gross eligible expenditures for child care spaces (line 715 plus line 705) GGG

Deduct: Total of all assistance (including grants, subsidies, rebates, and forgivable loans) or reimbursements that the corporation has received or is entitled to receive in respect of the amounts referred to at line GGG **725** HHH

Excess (amount GGG minus amount HHH) (if negative, enter "0") III

Add: Repayments of government and non-government assistance **735** JJJ

Total eligible expenditures for child care spaces (amount III plus amount JJJ) **745**

* CCA: capital cost allowance

Part 25 – Calculation of current-year credit – ITC from child care spaces expenditures

The credit is equal to 25% of eligible child care spaces expenditures incurred after March 18, 2007, to a maximum of \$10,000 per child care space created in a licensed child care facility.

Eligible expenditures (line 745)	_____	x	25 %	=	_____	KKK	
Number of child care spaces	755	x	\$ 10,000	=	_____	LLL	
ITC from child care spaces expenditures (amount KKK or LLL, whichever is less)						_____	MMM

Part 26 – Calculation of current-year credit and account balances – ITC from child care spaces expenditures

ITC at the end of the previous tax year	_____				
Deduct:					
Credit deemed as a remittance of co-op corporations	765	_____			
Credit expired after 20 tax years	770	_____			
	Subtotal	_____ ▶			
ITC at the beginning of the tax year	775 _____				
Add:					
Credit transferred on amalgamation or wind-up of subsidiary	777	_____			
Total current-year credit (amount MMM above)	780	_____			
Credit allocated from a partnership	782	_____			
	Subtotal	_____ ▶			
Total credit available	_____				
Deduct:					
Credit deducted from Part I tax (enter on line B5 in Part 30)	785	_____			
Credit carried back to the previous year(s) (from Part 27)	_____				NNN
	Subtotal	_____ ▶			
ITC closing balance from child care spaces expenditures	790 _____				

Part 27 – Request for carryback of credit from child care space expenditures

	Year	Month	Day		
1st previous tax year	2007	12	31	..... Credit to be applied	941 _____
2nd previous tax year	2006	12	31	..... Credit to be applied	942 _____
3rd previous tax year	2005	12	31	..... Credit to be applied	943 _____
				Total (enter on line NNN in Part 26)	_____

Name of corporation Hydro Ottawa Limited	Business Number 86339 1363 RC0001	Tax year-end Year Month Day 2008-12-31
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RECAPTURE – CHILD CARE SPACES

Part 28 – Calculating the 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)) **792** ZZZ

In the case of eligible expenditures (paragraph 127(27.12)(b)), the lesser of:

The amount that can reasonably be considered to have been included in the original ITC .. **795**

25% of either the proceeds of disposition (if sold in an arm's length transaction) or the fair market value (in any other case) of the property **797**

Amount from line 795 or line 797, whichever is less 000

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 on page 13. 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 PPP below.

Corporate partner's share of the excess of ITC **799** PPP

Total recapture of child care spaces investment tax credit – Add lines ZZZ, 000, and PPP
Enter amount QQQ on line A2 in Part 29. QQQ

Part 29 – Total recapture of investment tax credit

Recaptured SR&ED ITC from line 00 in Part 17 A1

Recaptured child care spaces ITC from line QQQ in Part 28 above A2

Total recapture of investment tax credit – Add lines A1 and A2
Enter amount A3 on line 602 of the T2 return. A3

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) B1

ITC from SR&ED expenditures deducted from Part I tax (from line 560 in Part 12) B2

ITC from pre-production mining expenditures deducted from Part I tax (from line 885 in Part 19) B3

ITC from apprenticeship job creation expenditures deducted from Part I tax (from line 660 in Part 22) **25,771** B4

ITC from child care space expenditures deducted from Part I tax (from line 785 in Part 26) B5

Total ITC deducted from Part I tax (add lines B1, B2, B3, B4, and B5) **25,771** B6
Enter amount B6 at line 652 of the T2 return.

Summary of Investment Tax Credit Carryovers

Continuity of investment tax credit carryovers

CCA class number 97 Apprenticeship job creation ITC

Current year

Addition current year (A)	Applied current year (B)	Claimed as a refund (C)	Carried back (D)	ITC end of year (A-B-C-D)
25,771	25,771			

Prior years

Taxation year	ITC beginning of year (E)	Adjustments (F)	Applied current year (G)	ITC end of year (E-F-G)
2007-12-31				
2006-12-31				
2005-12-31				
2004-12-31				
2003-12-31				
2002-12-31				
2001-12-31				
2001-09-30				
2000-09-30				
1999-09-30				*
1998-09-30				
1997-09-30				
1996-09-30				
1995-09-30				
1994-09-30				
1993-09-30				
1992-09-30				
1991-09-30				
1990-09-30				
1989-09-30				*
Total				

B+C+D+G **Total ITC utilized** 25,771

* 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.

Attached Schedule with Total

Part 1 – All loans and advances to the corporation

Title Part 1 – All loans and advances to the corporation

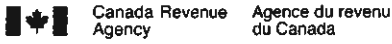
Description	Amount
Customer Deposits	24,257,256 00
Notes Payable	282,185,000 00
Tender Deposits	50,101 00
Key Deposits	27,000 00
A/P to related parties >120 days	9,987 00
A/P to non-related parties >365 days	56,026 00
Interco advances Parent Co.	12,000,000 00
Total	318,585,370 00

Attached Schedule with Total

Part 1 – Reserves that have not been deducted in computing income for the year under Part I

Title Part 1 – Reserves that have not been deducted in computing income for th

Description	Amount
Deferred Revenue	510,294 00
Employee Future Benefits	4,890,439 00
Total	5,400,733 00



SCHEDULE 37

CALCULATION OF UNUSED SURTAX CREDIT

Name of corporation Hydro Ottawa Limited	Business Number 86339 1363 RC0001	Tax year-end Year Month Day 2008-12-31
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- Use this schedule to calculate a corporation's unused surtax credit or to ask for a carryback of unused surtax credit.
- Any unused surtax credit can be carried back three years and carried forward seven years. Unused surtax credits must be applied in order of the oldest first.
- Refer to subsection 181.1(7) of the *Income Tax Act* when calculating the amount deductible for a corporation's unused surtax credits where control of the corporation has been acquired between the year in which the credits arose and the year in which you want to claim them.
- Attach this schedule to the *T2 Corporation Income Tax Return* or mail it separately to the tax centre where the return is filed.

Part 1 – Calculation of closing balance of unused surtax credit

Unused surtax credit at the end of the previous tax year _____

Deduct: Unused surtax credit expired after seven tax years **115** _____

Unused surtax credit at the beginning of the tax year **120** _____

Add: Unused surtax credit transferred on an amalgamation or the wind-up of a subsidiary **220** _____

Subtotal **A**

Deduct: Amount of unused surtax credit carried forward from previous years and applied to reduce Part I.3 tax payable in the current year (see line 862 of Schedule 33, line 862 of Schedule 34, or line 862 of Schedule 35, whichever applies) **320** _____

Unused surtax credit balance _____

Deduct: Amount of unused surtax credit carried forward from previous years and applied to reduce Part VI tax payable in the current year. (If the current tax year ends before July 1, 2006, enter amount from line 887 of Schedule 38. If the current tax year starts after June 30, 2006, enter amount from line 885 of Schedule 38. If the current tax year straddles July 1, 2006, enter amount from line 887 of Schedule 38 multiplied by the number of days in the tax year before July 1, 2006, divided by the number of days in the tax year, **plus** amount from line 885 of Schedule 38 multiplied by the number of days in the tax year after June 30, 2006, divided by the number of days in the tax year.) **420** _____

Excess _____

Add: Current-year unused surtax credit (enter amount from line 850 of Schedule 33, line 850 of Schedule 34, or line 850 of Schedule 35) **600** _____

Subtotal _____

Deduct: Unused surtax credit carried back to previous tax year(s) (complete Part 2 below) **B**

Closing balance of unused surtax credit **820** _____

Part 2 – Request for carryback of unused surtax credit

	Year Month Day	Part I.3 Tax	Part VI Tax
1st previous tax year	2007-12-31	Credit to be applied 901 _____	911 _____
2nd previous tax year	2006-12-31	Credit to be applied 902 _____	912 _____
3rd previous tax year	2005-12-31	Credit to be applied 903 _____	913 _____
		Subtotal C	..... D
Total of C and D (enter this amount at line B in Part 1 above) _____			

If you carry back an amount against Part VI tax payable to a tax year that straddles July 1, 2006, see Part 3.

Part 3 – Calculation of current-year unused surtax credit that can be carried back against Part VI tax payable to a tax year that straddles July 1, 2006

Line 600* _____ x $\frac{\text{Days in the tax year** before July 1, 2006 (181)}}{\text{Days in the tax year** (365)}}$ = _____ E

Net Part VI tax payable for the period before July 1, 2006
(line HH of Schedule 38 for the straddle tax year) _____ F

Enter amount E or F, whichever is less _____ **G**

Line 600* _____ x $\frac{\text{Days in the tax year** after June 30, 2006 (184)}}{\text{Days in the tax year** (365)}}$ = _____ H

Net Part VI tax payable for the period after June 30, 2006
(line RR of Schedule 38 for the straddle tax year) _____ I

Enter amount H or I, whichever is less _____ **J**

Current-year unused surtax credit that can be carried back against Part VI tax payable to a tax year that straddles July 1, 2006 (amount G plus amount J) _____ **K**

Amount K is the maximum amount that you can carry back against Part VI tax payable to a tax year that straddles July 1, 2006. Enter the amount you want to carry back on line 911, 912 or 913 (whichever applies).

* Deduct from line 600 any amount of the current-year unused surtax credit that is being carried back against Part I.3 or Part VI tax payable to a tax year that ended before the straddle year.

** Tax year to which the credit will be carried back.



SCHEDULE 50

SHAREHOLDER INFORMATION

Name of corporation Hydro Ottawa Limited	Business Number 86339 1363 RC0001	Tax year end Year Month Day 2008-12-31
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All private corporations must complete this schedule for any shareholder who holds 10% or more of the corporation's common and/or preferred shares.

	Name of shareholder (after name, indicate in brackets if the shareholder is a corporation, partnership, individual, or trust)	Provide only one number per shareholder			Percentage common shares	Percentage preferred shares
		Business Number	Social insurance number	Trust number		
	100	200	300	350	400	500
1	Hydro Ottawa Holding Inc.	89411 0816 RC0001			100.000	
2						
3						
4						
5						
6						
7						
8						
9						
10						



GENERAL RATE INCOME POOL (GRIP) CALCULATION

Name of corporation Hydro Ottawa Limited	Business Number 86339 1363 RC0001	Tax year-end Year Month Day 2008-12-31
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On: 2008-12-31

- 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 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 5.

Change in the type of corporation

4. Was the corporation a CCPC during its preceding taxation year? Yes No
5. Corporations that become a CCPC or a DIC Yes No
If the answer to question 5 is yes, complete Part 4.

Amalgamation (first year of filing after amalgamation)

6. Corporations that were formed as a result of an amalgamation Yes No
If the answer to question 6 is yes, answer questions 7 and 8. If the answer is no, go to question 9.
7. Was one or more of the predecessor corporations neither a CCPC nor a DIC? Yes No
If the answer to question 7 is yes, complete Part 4.
8. Was one or more of the predecessor corporation a CCPC or a DIC during the taxation year that ended immediately before amalgamation? Yes No
If the answer to question 8 is yes, complete Part 3.

Winding-up

9. Corporations that wound-up a subsidiary Yes No
If the answer to question 9 is yes, answer questions 10 and 11. If the answer is no, go to Part 1.
10. Was the subsidiary neither a CCPC nor a DIC during its last taxation year? Yes No
If the answer to question 10 is yes, complete Part 4.
11. Was the subsidiary a CCPC or a DIC during its last taxation year? Yes No
If the answer to question 11 is yes, complete Part 3.

Part 1 – Calculation of general rate income pool (GRIP)

GRIP at the end of the previous tax year	100	50,132,837	A
Taxable income for the year (DICs enter "0")*	110	37,949,872	B
Income for the credit union deduction* (amount E in Part 3 of Schedule 17)	120		
Amount on line 400, 405, 410, or 425 of the T2 return, whichever is less*	130		
Subtotal (add lines 120 and 130)			C
For a CCPC, aggregate investment income (line 440 of the T2 return)*			D
Line B minus line C (if negative enter "0")		37,949,872	E
Amount from line D or E, whichever is less	140		F
Income taxable at the general corporate rate (line B minus lines C and F)	150	37,949,872	
After-tax income (line 150 multiplied by 68 %)	190	25,805,913	G
Eligible dividends received in the tax year	200		
Dividends deductible under section 113 received in the tax year	210		
Subtotal (add lines 200 and 210)			H
GRIP addition:			
Becoming a CCPC (line PP from Part 4)	220		
Post-amalgamation (total of lines EE from Part 3 and lines PP from Part 4)	230		
Post-wind-up (total of lines EE from Part 3 and lines PP from Part 4)	240		
Subtotal (add lines 220, 230, and 240)	290		I
Subtotal (add lines A, G, H, and I)		75,938,750	J
Eligible dividends paid in the previous tax year	300		
Excessive eligible dividend designations made in the previous tax year	310		
Note: If becoming a CCPC (subsection 89(4) applies), enter "0" on lines 300 and 310.			
Subtotal (line 300 minus line 310)			K
GRIP before adjustment for specified future tax consequences (line J minus line K) (amount can be negative)	490	75,938,750	
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)	590	75,938,750	
Enter this amount on line 160 on Schedule 55.			

* Note: For lines 110, 120, 130 and D, the income amount is the amount before considering specified future tax consequences. This phrase is defined in subsection 248(1). It includes the deduction of a loss carryback from subsequent tax years, a reduction of Canadian exploration expenses and Canadian development expenses that were renounced in subsequent tax years (e.g., flow-through share renunciations), reversals of income inclusions where an option is exercised in subsequent tax years, and the effect of certain foreign tax credit adjustments.

Part 2 – GRIP adjustment for specified future tax consequences to previous tax years

Complete this part if the corporation's taxable income of any of the previous three tax years took into account the specified future tax consequences defined in subsection 248(1) from the current tax year. Otherwise, enter "0" on line 560 or leave it blank.

First previous tax year 2007-12-31

Taxable income before specified future tax consequences from the current tax year		39,027,318	J1
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")		39,027,318	O1

Part 2 – GRIP adjustment for specified future tax consequences to previous tax years (continued)

Future tax consequences that occur for the current year					
Amount carried back from the current year to a prior year					
Non-capital loss carry-back (paragraph 111 (1)(a) ITA)	Capital loss carry-back	Restricted farm loss carry-back	Farm loss carry-back	Other	Total carrybacks

Taxable income after specified future tax consequences P1

Enter the following amounts after specified future tax consequences:

Income for the credit union deduction (amount E in Part 3 of Schedule 17) ... Q1

Amount on line 400, 405, 410, or 425 of the T2 return, whichever is less ... R1

Aggregate investment income (line 440 of the T2 return) S1

Subtotal (add lines Q1, R1, and S1) T1

Subtotal (line P1 minus line T1) (if negative, enter "0") U1

Subtotal (line O1 minus line U1) (if negative, enter "0") V1

GRIP adjustment for specified future tax consequences to first previous tax year (line V1 multiplied by 68 %) ... **500**

Second previous tax year 2006-12-31

Taxable income before specified future tax consequences from the current tax year 31,158,031 J2

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) ... K2

Amount on line 400, 405, 410, or 425 of the T2 return, whichever is less ... L2

Aggregate investment income (line 440 of the T2 return) 32,450 M2

Accelerated tax reduction (line 637 of T2 return) multiplied by 100/7 32,450

Subtotal (add lines K2, L2, and M2) 32,450 N2

Subtotal (line J2 minus line N2) (if negative, enter "0") 31,125,581 O2

Future tax consequences that occur for the current year					
Amount carried back from the current year to a prior year					
Non-capital loss carry-back (paragraph 111 (1)(a) ITA)	Capital loss carry-back	Restricted farm loss carry-back	Farm loss carry-back	Other	Total carrybacks

Taxable income after specified future tax consequences P2

Enter the following amounts after specified future tax consequences:

Income for the credit union deduction (amount E in Part 3 of Schedule 17) ... Q2

Amount on line 400, 405, 410, or 425 of the T2 return, whichever is less ... R2

Aggregate investment income (line 440 of the T2 return) S2

Accelerated tax reduction (line 637 of T2 return) multiplied by 100/7 32,450

Subtotal (add lines Q2, R2, and S2) T2

Subtotal (line P2 minus line T2) (if negative, enter "0") U2

Subtotal (line O2 minus line U2) (if negative, enter "0") V2

GRIP adjustment for specified future tax consequences to second previous tax year (line V2 multiplied by 68 %) ... **520**

Part 2 – GRIP adjustment for specified future tax consequences to previous tax years (continued)

Third previous tax year 2005-12-31

Taxable income before specified future tax consequences from the current tax year 3,855,343 J3

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) K3
 Amount on line 400, 405, 410, or 425 of the T2 return, whichever is less L3
 Aggregate investment income (line 440 of the T2 return) M3
 Accelerated tax reduction (line 637 of T2 return) multiplied by 100/7

Subtotal (add lines K3, L3, and M3) N3
 Subtotal (line J3 minus line N3) (if negative, enter "0") 3,855,343 ▶ 3,855,343 O3

Future tax consequences that occur for the current year					
Amount carried back from the current year to a prior year					
Non-capital loss carry-back (paragraph 111 (1)(a) ITA)	Capital loss carry-back	Restricted farm loss carry-back	Farm loss carry-back	Other	Total carrybacks

Taxable income after specified future tax consequences P3

Enter the following amounts after specified future tax consequences:

Income for the credit union deduction (amount E in Part 3 of Schedule 17) Q3
 Amount on line 400, 405, 410, or 425 of the T2 return, whichever is less R3
 Aggregate investment income (line 440 of the T2 return) S3
 Accelerated tax reduction (line 637 of T2 return) multiplied by 100/7

Subtotal (add lines Q3, R3, and S3) T3
 Subtotal (line P3 minus line T3) (if negative, enter "0") U3
 Subtotal (line O3 minus line U3) (if negative, enter "0") V3

GRIP adjustment for specified future tax consequences to third previous tax year (line V3 multiplied by 68 %) . . . **540**

Total GRIP adjustment for specified future tax consequences to previous tax years: (add lines 500, 520, and 540) (if negative, enter "0") W

Enter amount W on line 560.

Part 3 – Worksheet to calculate the GRIP addition post-amalgamation or post-wind-up (predecessor or subsidiary was a CCPC or DIC in its last tax year)

nb. 1 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 corporation was a CCPC or DIC in its last tax year. In the calculation below, corporation means a predecessor or a subsidiary. The last tax year for a predecessor corporation was its tax year that ended immediately before the amalgamation and for a subsidiary corporation was its tax year during which its assets were distributed to the parent on the wind-up.

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 a CCPC or DIC in its last tax year. Keep a copy of this calculation for your records, in case we ask to see it later.

Corporation's GRIP at the end of its last tax year AA

Eligible dividends paid by the corporation in its last tax year BB

Excessive eligible dividend designations made by the corporation in its last tax year CC

Subtotal (line BB minus line CC) DD

GRIP addition post-amalgamation or post-wind-up (predecessor or subsidiary was a CCPC or DIC in its last tax year) (line AA minus line DD) EE

After you complete this calculation for each predecessor and each subsidiary, calculate the total of all the EE lines. Enter this total amount on:

- line 230 for post-amalgamation; or
- line 240 for post-wind-up.



PART III.1 TAX ON EXCESSIVE ELIGIBLE DIVIDEND DESIGNATIONS

Name of corporation Hydro Ottawa Limited	Business Number 86339 1363 RC0001	Tax year-end Year Month Day 2008-12-31
--	---	---

Do not use this area

- Every corporation resident in Canada that pays a taxable dividend (other than a capital gains dividend within the meaning assigned by subsection 130.1(4) or 131(1)) in the tax year must file this schedule.
- Canadian-controlled private corporations (CCPC) and deposit insurance corporations (DIC) must complete Part 1. 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 Calculation (LRIP)*; whichever is applicable.
- File the completed schedules with your *T2 Corporation Income Tax Return* no later than six months from the end of the tax year.
- Parts, subsections, and paragraphs mentioned in this schedule refer to the *Income Tax Act*.
- Subsection 89(1) defines the terms eligible dividend, excessive eligible dividend designation, general rate income pool (GRIP), and low rate income pool (LRIP).
- The calculations in Part 1 and Part 2 do not apply if the excessive eligible dividend designation arises from the application of paragraph (c) of the definition of excessive eligible dividend designation in subsection 89(1). This paragraph applies when an eligible dividend is paid to artificially maintain or increase the GRIP or to artificially maintain or decrease the LRIP.

Part 1 – Canadian-controlled private corporations and deposit insurance corporations

Taxable dividends paid in the tax year not included in Schedule 3	_____		
Taxable dividends paid in the tax year included in Schedule 3	14,000,000		
Total taxable dividends paid in the tax year	100	14,000,000	
Total eligible dividends paid in the tax year			150
GRIP at the end of the year (line 590 on Schedule 53) (if negative, enter "0")			160 75,938,750
Excessive eligible dividend designation (line 150 minus line 160)			_____ A
Part III.1 tax on excessive eligible dividend designations – CCPC or DIC (line A multiplied by 20%)		x 20%	190
Enter the amount from line 190 at line 710 of the T2 return.			

Part 2 – Other corporations

Taxable dividends paid in the tax year not included in Schedule 3	_____		
Taxable dividends paid in the tax year included in Schedule 3	_____		
Total taxable dividends paid in the tax year	200		
Total excessive eligible dividend designations in the tax year (line A of Schedule 54)			_____ B
Part III.1 tax on excessive eligible dividend designations – Other corporations (line B multiplied by 20%)		x 20%	290
Enter the amount from line 290 at line 710 of the T2 return.			

T2 BAR CODE RETURN

COPY

Name: **Hydro Ottawa Limited**

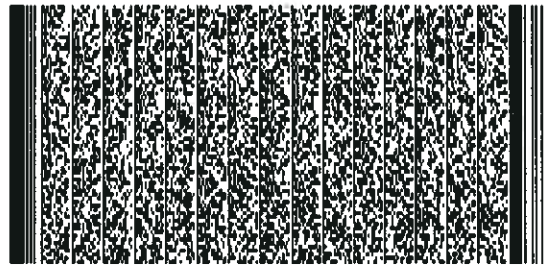
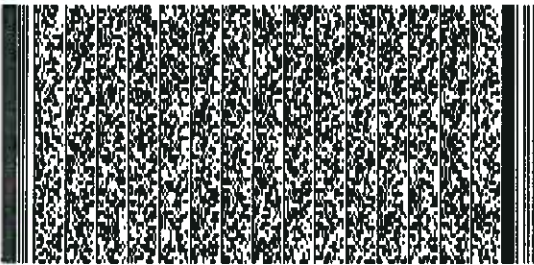
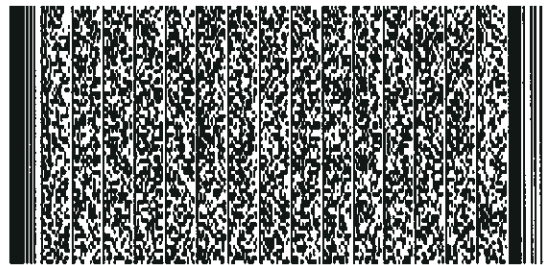
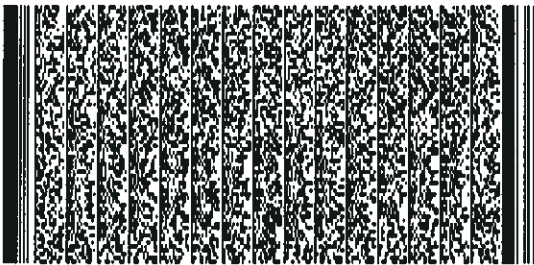
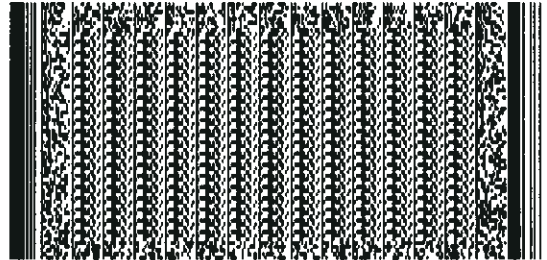
BN: **86339 1363 RC 0001**

Tax Year Start: **2008-01-01**

Taxation Year End: **2008-12-31**

For agency use
[055]

For agency use
[095] _____
[096] _____



This page must be sent to the Canada Revenue Agency

T2 BAR CODE RETURN

Name: Hydro Ottawa Limited

BN: 86339 1363 RC 0001

Tax Year Start: 2008-01-01

Taxation Year End: 2008-12-31

Under the Income Tax Act, you must keep all records used to prepare your corporation income tax return, and provide this information to us upon request.

Certification

I, Mike Grue am an authorized signing officer of the corporation.

I certify that the following amounts are, to the best of my knowledge, correct and complete, and fully disclose the corporation's income tax payable. These amounts also reflect the information given on the corporation's income tax return for the taxation year noted on this return.

Table with 2 columns: Description and Amount. Rows include Net income (or loss) for income tax purposes from Schedule 001, financial statements or GIFL (\$ 38 017 164), Part I tax payable (\$ 7 374 454), Part I.3 tax payable (\$ 0), Part II surtax payable (\$ 0), Part III.1 tax payable (\$ 0), Part IV tax payable (\$ 0), Part IV.1 tax payable (\$ 0), Part VI tax payable (\$ 0), Part VI.1 tax payable (\$ 0), Part XIII.1 tax payable (\$ 0), Part XIV tax payable (\$ 0), Net provincial and territorial tax payable (\$ 0), Provincial tax on large corporations (\$ 0), and Enclosed payment (\$ 0).

I further certify that the method of calculating income for this taxation year is consistent with that of the previous year except as specifically disclosed in a statement attached to this return.

Signature of an authorized signing officer of the corporation (613)738-5499 Phone Treasurer Position, office or rank

Contact person, if different to authorized signing officer Phone Date

This page must be sent to the Canada Revenue Agency

Hydro Ottawa Limited
86339 1363 RC0001
December 31, 2008

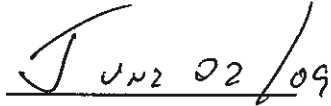
Pursuant to subsection 13(7.4) of the Income Tax Act, Hydro Ottawa Limited is electing to reduce the capital cost of additions to Class 47 by \$17,842,708.

Signature: _____



Mike Grue, Treasure
Hydro Ottawa Limited

Date: _____





Ontario

Ministry of Revenue
Corporations Tax
33 King Street West
PO Box 620
Oshawa ON L1H 8E9

2007

CT23 Corporations Tax and Annual Return

For taxation years commencing after December 31, 2004

Corporations Tax Act - Ministry of Finance (MOF)
Corporations Information Act - Ministry of Government Services (MGS)

This form is a combination of the Ministry of Finance (MOF) CT23 Corporations Tax Return and the Ministry of Government Services (MGS) Annual Return. Page 1 is a common page required for both Returns. For tax purposes, depending on which criteria the corporation satisfies, it must complete either the Exempt from Filing (EFF) declaration on page 2 or file the CT23 Return on pages 3-17. Corporations that do not meet the EFF criteria but do meet the Short-Form criteria, may request and file the CT23 Short-Form Return (see page 2).

The Annual Return (common page 1 and MGS Schedule A on pages 18 and 19, and Schedule K on page 20) contains non-tax information collected under the authority of the Corporations Information Act for the purpose of maintaining a public database of corporate information. This return must be completed by Ontario share-capital corporations or Foreign-Business share-capital corporations that have an extra-provincial licence to operate in Ontario.

MGS Annual Return Required? *(Not required if already filed or Annual Return exempt. Refer to Guide)* Yes No **Page 1 of 20**

COPY

Ontario Corporations Tax Account No. (MOF)
1800113

This Return covers the Taxation Year

Start

year	month	day
2008	01	01

End

year	month	day
2008	12	31

Corporation's Legal Name (including punctuation)

Hydro Ottawa Limited

Mailing Address

3025 Albion Road North
P.O. Box 8700
Ottawa
ON CA K1G 3S4

Has the mailing address changed since last filed CT23 Return? Yes

Date of Change

year	month	day
------	-------	-----

Date of Incorporation or Amalgamation

year	month	day
2000	10	03

Registered/Head Office Address

3025 Albion Road North
P.O. Box 8700
Ottawa
ON CA K1G 3S4

Ontario Corporation No. (MGS)

1427586

Location of Books and Records

3025 Albion Road North
P.O. Box 8700
Ottawa
ON CA K1G 3S4

Canada Revenue Agency Business No.

If applicable, enter
86339 1363 RC0001

Name of person to contact regarding this CT23 Return

Telephone No.

Fax No.

Mike Grue

(613) 738-5499

(613) 738-5484

Jurisdiction Incorporated

Ontario

Address of Principal Office in Ontario (Extra-Provincial Corporations only) (MGS)

Ontario Canada

If not incorporated in Ontario, indicate the date Ontario business activity commenced and ceased:

Commenced

year	month	day
------	-------	-----

Ceased

year	month	day
------	-------	-----

Not Applicable

Former Corporation Name (Extra-Provincial Corporations only) Not Applicable (MGS)

Preferred Language / Langue de préférence

English anglais French français

Information on Directors/Officers/Administrators must be completed on MGS Schedule A or K as appropriate. If additional space is required for Schedule A, only this schedule may be photocopied. State number submitted (MGS). ▶

No. of Schedule(s)

If there is no change to the Directors'/Officers'/Administrators' information previously submitted to MGS, please check (X) this box. Schedule(s) A and K are not required (MGS). ▶ No Change

Ministry Use



Certification (MGS)

I certify that all information set out in the Annual Return is true, correct and complete.

Name of Authorized Person (Print clearly or type in full)

Mike Grue

Title Director Officer Other individuals having knowledge of the Corporation's business activities

Note: Sections 13 and 14 of the Corporations Information Act provide penalties for making false or misleading statements or omissions.

Hydro Ottawa Limited

1800113

2008-12-31

CT23 Corporations Tax Return

Identification continued (for CT23 filers only)

Please check applicable (X) box(es) and complete required information.

Type of corporation

- 1**
- 1 Canadian-controlled Private (CCPC) all year (Generally a private corporation of which 50% or more shares are owned by Canadian residents.) (fed.s.125(7)(b))
 - 2 Other Private
 - 3 Public
 - 4 Non-share Capital
 - 5 Other (specify) ▼

Share Capital with full voting rights owned by Canadian Residents 100 % (nearest percent)

- 2**
- 1 Family Farm corporation s.1(2)
 - 2 Family Fishing corporation s.1(2)
 - 3 Mortgage Investment corporation s.47
 - 4 Credit Union s.51
 - 5 Bank Mortgage subsidiary s.61(4)
 - 6 Bank s.1(2)
 - 7 Loan and Trust corporation s.61(4)
 - 8 Non-resident corporation s.2(2)(a) or (b)
 - 9 Non-resident corporation s.2(2)(c)
 - 10 Mutual Fund corporation s.48
 - 11 Non-resident owned Investment corporation s.49
 - 12 Non-resident ship or aircraft under reciprocal agreement with Canada s.28(b)
 - 14 Bare Trustee corporation
 - 15 Branch of Non-resident s.63(1)
 - 16 Financial institution prescribed by Regulation only
 - 17 Investment Dealer
 - 18 Generator of electrical energy for sale or producer of steam for use in the generation of electrical energy for sale
 - 19 Hydro successor, municipal electrical utility or subsidiary of either
 - 20 Producer and seller of steam for uses other than for the generation of electricity
 - 21 Insurance Exchange s.74.4
 - 22 Farm Feeder Finance Co-operative corporation
 - 23 Professional corporation (incorporated professionals only)

- This is the first year filing after incorporation or an amalgamation (If checked, attach Ontario Schedule 24.)
- Amended Return
- Taxation year end change – Canada Revenue Agency approval required
- Final taxation year up to dissolution (Note: for discontinued businesses, see guide.)
- Final taxation year before amalgamation
- The corporation has a floating fiscal year end
- There has been a transfer or receipt of asset(s) involving a corporation having a Canadian permanent establishment outside Ontario
- There was an acquisition of control to which subsection 249(4) of the federal *Income Tax Act* (ITA) applies since the previous taxation year
If checked, date control was acquired year month day
- The corporation was involved in a transaction where all or substantially all (90% or more) of the assets of a non-arm's length corporation were received in the taxation year and subsection 85(1) or 85(2) of the federal ITA applied to the transaction (If checked, attach Ontario Schedule 44.)
- First year filing of a parent corporation after winding-up a subsidiary corporation(s) under section 88 of the federal ITA during the taxation year. (If checked, attach Ontario Schedule 24.)
- Section 83.1 of the CTA applies (redirection of payments for certain electricity corporations)

Yes No

- Was the corporation inactive throughout the taxation year?
- Has the corporation's Federal T2 Return been filed with the Canada Revenue Agency?

Are you requesting a refund due to:

- the Carry-back of a Loss?
- an Overpayment?
- a Specified Refundable Tax Credit?
- Are you a member of a Partnership or Joint Venture?

Complete if applicable

Ontario Retail Sales Tax Vendor Permit no. (Use head office no.)

82097143

Ontario Employer Health Tax Account no. (Use head office no.)

111195452

Specify major business activity

DISTRIBUTION OF ELE

Allocation – If you carry on a business through a permanent establishment in a jurisdiction outside Ontario, you may allocate that portion of taxable income deemed earned in that jurisdiction to that jurisdiction (s.39) (Int.B. 3008).

DOLLARS ONLY

Net Income (loss) for Ontario purposes (per reconciliation schedule, page 15)	- - - - -	±	From	690	38,017,164
Subtract: Charitable donations	- - - - -	-		1	67,292
Subtract: Gifts to Her Majesty in right of Canada or a province and gifts of cultural property (Attach schedule 2)	- - - - -	-		2	
Subtract: Taxable dividends deductible, per federal Schedule 3	- - - - -	-		3	
Subtract: Ontario political contributions (Attach Schedule 2A) (Int.B. 3002R)	- - - - -	-		4	
Subtract: Federal Part VI.1 tax	x 3	-		5	
Subtract: Prior years' losses applied – Non-capital losses	- - - - -	-	From	704	
	From 715				
Net capital losses (page 16)	x inclusion rate	50.000000%	=	714	
Farm losses	- - - - -	-	From	724	
Restricted farm losses	- - - - -	-	From	734	
Limited partnership losses	- - - - -	-	From	754	
Taxable Income (Non-capital loss)	- - - - -	=		10	37,949,872
Addition to taxable income for unused foreign tax deduction for federal purposes	- - - - -	+		11	
Adjusted Taxable Income	10 + 11 (if 10 is negative, enter 11)	=		20	37,949,872

Taxable Income

From 10 (or 20 if applicable)	37,949,872	x 30	100.0000%	x 12.5%	x 33	÷ 73	366	= + 29
			Ontario Allocation					
From 10 (or 20 if applicable)	37,949,872	x 30	100.0000%	x 14%	x 34	÷ 73	366	= + 32
			Ontario Allocation					5,312,982
Income Tax Payable (before deduction of tax credits)					29 + 32			= 40
								5,312,982

Number of Days in Taxation Year

Days after Dec. 31, 2002 and before Jan. 1, 2004	Total Days
33	366
Days after Dec. 31, 2003	Total Days
34	366

Incentive Deduction for Small Business Corporations (IDSBC) (s.41)

If this section is not completed, the IDSBC will be denied.

Did you claim the federal Small Business Deduction (fed.s.125(1)) in the taxation year or would you have claimed the federal Small Business Deduction had the provisions of fed.s.125(5.1) not been applicable in the taxation year? Yes No

* Income from active business carried on in Canada for federal purposes (fed.s.125(1)(a))	- - - - -	50	38,017,164
Federal taxable income, less adjustment for foreign tax credit (fed.s.125(1)(b))	+ 51	37,949,872	
Add: Losses of other years deducted for federal purposes (fed.s.111)	+ 52		
Subtract: Losses of other years deducted for Ontario purposes (s.34)	- 53		
	=	37,949,872	54 37,949,872
Federal Business limit (line 410 of the T2 Return) for the year before the application of fed.s.125(5.1)	- - - - -	55	400,000

Ontario Business Limit Calculation

320,000 x	31	÷ **	366	= + 46								
400,000 x	34	÷ **	366	= + 47								
Business Limit for Ontario purposes	46 + 47	=	44	500,000								
		x	48	100.0000%								
		=	45	500,000								
Income eligible for the IDSBC	- - - - -	From	30	100.0000%	x	56	500,000	=	60	500,000		
			***Ontario Allocation					Least of	50	54	or	45

Percentage of Federal Business limit (from T2 Schedule 23). Enter 100% if not associated.

* Note: Modified by s.41(6) and (7) for corporations that are members of a partnership. (Refer to Guide.)
 ** Note: Adjust accordingly for a floating taxation year and use 366 for a leap year.
 *** Note: Ontario Allocation for IDSBC purposes may differ from 30 if Taxable Income is allocated to foreign jurisdictions. See special rules (s.41(4)).

continued on Page 5

Income Tax *continued from Page 4*

		Number of Days in Taxation Year			
Calculation of IDSBC Rate	7 %	X	Days after Dec. 31, 2002 and before Jan. 1, 2004: <input type="text" value="31"/> ÷ Total Days: <input type="text" value="366"/>	=	+ <input type="text" value="89"/>
	8.5 %	X	Days after Dec. 31, 2003: <input type="text" value="34"/> ÷ Total Days: <input type="text" value="366"/>	=	+ <input type="text" value="90"/> 8,500
IDSBC Rate for Taxation Year	<input type="text" value="89"/> + <input type="text" value="90"/>			=	<input type="text" value="78"/> 8,500
Claim	From <input type="text" value="60"/> 500,000	X	From <input type="text" value="78"/> 8,500 %	=	<input type="text" value="70"/> 42,500

Corporations claiming the IDSBC must complete the Surtax section below if the corporation's taxable income (or if associated, the associated group's taxable income) is greater than the amount **500,000** in below.

Surtax on Canadian-controlled Private Corporations (s.41.1)

Applies if you have claimed the Incentive Deduction for Small Business Corporations.

Associated Corporation - The Taxable Income of associated corporations is the taxable income for the taxation year ending on or before the date of this corporation's taxation year end.

*Taxable Income of the corporation From (or if applicable) + **37,949,872**

If you are a member of an associated group (X) (Yes)

Name of associated corporation (Canadian & foreign) <i>(if insufficient space, attach schedule)</i>	Ontario Corporations Tax Account No. (MOF) <i>(if applicable)</i>	Taxation Year End	* Taxable Income <i>(if loss, enter nil)</i>
See schedule			+ <input type="text" value="82"/>
			+ <input type="text" value="83"/>
			+ <input type="text" value="84"/>
Aggregate Taxable Income	<input type="text" value="80"/> + <input type="text" value="82"/> + <input type="text" value="83"/> + <input type="text" value="84"/> , etc.		= <input type="text" value="85"/> 37,949,872

		Number of Days in Taxation Year			
320,000 X		Days after Dec. 31, 2002 and before Jan. 1, 2004: <input type="text" value="31"/> ÷ Total Days: <input type="text" value="366"/>	=	+ <input type="text" value="115"/>	
	400,000 X		Days after Dec. 31, 2003: <input type="text" value="34"/> ÷ Total Days: <input type="text" value="366"/>	=	+ <input type="text" value="116"/>
		<input type="text" value="115"/> + <input type="text" value="116"/>	=	<input type="text" value="231"/>	
					- <input type="text" value="114"/> 500,000
(If negative, enter nil)					= <input type="text" value="86"/> 37,449,872

		Number of Days in Taxation Year			
Calculation of Specified Rate for Surtax	4.6670 %	X	Days after Dec. 31, 2002: <input type="text" value="38"/> ÷ Total Days: <input type="text" value="366"/>	=	+ <input type="text" value="97"/> 4,250
	From <input type="text" value="86"/> 37,449,872	X	From <input type="text" value="97"/> 4,250 %	=	<input type="text" value="87"/> 1,591,620
	From <input type="text" value="87"/> 1,591,620	X	From <input type="text" value="60"/> 500,000 ÷ From <input type="text" value="114"/> 500,000	=	<input type="text" value="88"/> 1,591,620
Surtax Lesser of	<input type="text" value="70"/> or <input type="text" value="88"/>			=	<input type="text" value="100"/> 42,500

* **Note: Short Taxation Years** – Special rules apply where the taxation year is less than 51 weeks for the corporation and/or any corporation associated with it.

continued on Page 6

Additional Deduction for Credit Unions (s.51(4)) (Attach schedule 17)

110

Manufacturing and Processing Profits Credit (M&P) (s.43)

Applies to Eligible Canadian Profits from manufacturing and processing, farming, mining, logging and fishing carried on in Canada, as determined by regulations.

Eligible Canadian Profits from mining are the "resource profits from the mining operations", as determined for Ontario depletion purposes, after deducting depletion and resource allowances but excluding amounts from sale of Canadian resource property, rentals or royalties. If you are claiming this credit, attach a copy of Ontario schedule 27.

The whole of the active business income qualifies as Eligible Canadian Profits if: a) your active business income from sources other than manufacturing and processing, mining, farming, logging or fishing is 20% or less of the total active business income and b) the total active business income is \$250,000 or less.

Eligible Canadian Profits 120
Subtract: Income eligible for the Incentive Deduction for Small Business Corporations (IDSBC) 56 500,000

Add: Adjustment for Surtax on Canadian-controlled private corporations
From 100 42,500 / From 30 100.0000% / From 78 8.5000% = 121 500,000
*Ontario Allocation

Lesser of 56 or 121 122 500,000

120 - 56 + 122 = 130

Taxable Income 10 37,949,872

Subtract: Income eligible for the Incentive Deduction for Small Business Corporations (IDSBC) 56 500,000

Add: Adjustments for Surtax on Canadian-controlled private corporations 122 500,000

Subtract: Taxable Income 10 37,949,872 X Allocation % to jurisdictions outside Canada 140

Subtract: Amount by which Canadian and foreign investment income exceeds net capital losses 141

10 - 56 + 122 - 140 - 141 = 142 37,949,872

Claim

143 X From 30 100.0000% X 1.5% X 33 366 = 154
Lesser of 130 or 142 Ontario Allocation

143 X From 30 100.0000% X 2% X 34 366 = 156
Lesser of 130 or 142 Ontario Allocation

M&P claim for taxation year 154 + 156 = 160

* Note: Ontario Allocation for M&P Credit purposes may differ from 30 if Taxable Income is allocated to foreign jurisdictions. See special rules (s.43(1))

Manufacturing and Processing Profits Credit for Electrical Generating Corporations

161

Manufacturing and Processing Profits Credit for Corporations that Produce and Sell Steam for uses other than the Generation of Electricity

162

Credit for Foreign Taxes Paid (s.40)

Applies if you paid tax to a jurisdiction outside Canada on foreign investment income (Int.B. 3001R). (Attach schedule)

170

Credit for Investment in Small Business Development Corporations (SBDC)

Applies if you have an unapplied, previously approved credit from prior years' investments in new issues of equity shares in Small Business Development Corporations. Any unused portion may be carried forward indefinitely and applied to reduce subsequent years' income taxes. (Refer to the former Small Business Development Corporations Act)

Eligible Credit 175 Credit Claimed 180

Subtotal of Income Tax 40 - 70 + 100 - 110 - 160 - 161 - 162 - 170 - 180 = 190 5,312,982

continued on Page 7

Hydro Ottawa Limited

1800113

2008-12-31

DOLLARS ONLY

Income Tax continued from Page 6

Specified Tax Credits (Refer to Guide)

Ontario Innovation Tax Credit (OITC) (s.43.3) Applies to scientific research and experimental development in Ontario.

Eligible Credit From 5620 OITC Claim Form (Attach original Claim Form) + 191

Co-operative Education Tax Credit (CETC) (s.43.4) Applies to employment of eligible students.

Eligible Credit From 5798 CT23 Schedule 113 (Attach Schedule 113) + 192

Ontario Film & Television Tax Credit (OFTTC) (s.43.5)

Applies to qualifying Ontario labour expenditures for eligible Canadian content film and television productions. Name of Production 204

Eligible Credit From 5850 of the Certificate of Eligibility issued by the Ontario Media Development Corporation (OMDC) (Attach the original Certificate of Eligibility) + 193

Graduate Transitions Tax Credit (GTTT) (s.43.6)

Applies to employment of eligible unemployed post secondary graduates, for employment commencing prior to July 6, 2004 and expenditures incurred prior to January 1, 2005. No. of Graduates From 6596 194

Eligible Credit From 6598 CT23 Schedule 115 (Attach Schedule 115) + 195

Ontario Book Publishing Tax Credit (OBPTC) (s.43.7)

Applies to qualifying expenditures in respect of eligible literary works by eligible Canadian authors.

Eligible Credit From 6900 OBPTC Claim Form (Attach both the original Claim Form and the Certificate of Eligibility) + 196

Ontario Computer Animation and Special Effects Tax Credit (OCASE) (s.43.8)

Applies to labour relating to computer animation and special effects on an eligible production.

Eligible Credit From 6700 of the Certificate of Eligibility issued by the Ontario Media Development Corporation (OMDC) (Attach the original Certificate of Eligibility) + 197

Ontario Business-Research Institute Tax Credit (OBRITC) (s.43.9)

Applies to qualifying R&D expenditures under an eligible research institute contract.

Eligible Credit From 7100 OBRITC Claim Form (Attach original Claim Form) + 198

Ontario Production Services Tax Credit (OPSTC) (s.43.10)

Applies to qualifying Ontario labour expenditures for eligible productions where the OFTTC has not been claimed.

Eligible Credit From 7300 of the Certificate of Eligibility issued by the Ontario Media Development Corporation (OMDC) (Attach the original Certificate of Eligibility) + 199

Ontario Interactive Digital Media Tax Credit (OIDMTC) (s.43.11)

Applies to qualifying labour expenditures of eligible products for the taxation year.

Eligible Credit From 7400 of the Certificate of Eligibility issued by the Ontario Media Development Corporation (OMDC) (Attach the original Certificate of Eligibility) + 200

Ontario Sound Recording Tax Credit (OSRTC) (s.43.12)

Applies to qualifying expenditures in respect of eligible Canadian sound recordings.

Eligible Credit From 7500 OSRTC Claim Form (Attach both the original Claim Form and the Certificate of Eligibility) + 201

Apprenticeship Training Tax Credit (ATTC) (s.43.13)

Applies to employment of eligible apprentices.

Eligible Credit From 5898 CT23 Schedule 114 (Attach Schedule 114) No. of Apprentices From 5896 202 24 + 203 83,200

Other (specify) + 203.1

Total Specified Tax Credits 191 + 192 + 193 + 195 + 196 + 197 + 198 + 199 + 200 + 201 + 203 + 203.1 = 220 83,200

Specified Tax Credits Applied to reduce Income Tax = 225 83,200

Income Tax 190 - 225 OR Enter NIL if reporting Non-Capital Loss (amount cannot be negative) = 230 5,229,782

To determine if the Corporate Minimum Tax (CMT) is applicable to your Corporation, see Determination of Applicability section for the CMT on Page 8. If CMT is not applicable, transfer amount in 230 to Income Tax in Summary section on Page 17.

OR

If CMT is not applicable for the current taxation year but your corporation has CMT Credit Carryovers that you want to apply to reduce income tax otherwise payable, then proceed to and complete the Application of CMT Credit Carryovers section part B, on Page 8.

Corporate Minimum Tax (CMT)

DOLLARS ONLY

Total Assets of the corporation + 240 642,089,000 .
 Total Revenue of the corporation + 241 692,894,000 .

The above amounts include the corporation's and associated corporations' share of any partnership(s) / joint venture(s) total assets and total revenue.

If you are a member of an associated group (X) 242 (Yes)

Name of associated corporation (Canadian & foreign) (if insufficient space attach schedule)	Ontario Corporations Tax Account No. (MOF) (if applicable)	Taxation Year End	Total Assets	Total Revenue
See schedule			+ 243 570,218,402 .	+ 244 72,884,554 .
			+ 245 .	+ 246 .
			+ 247 .	+ 248 .
Aggregate Total Assets	240 + 243 + 245 + 247, etc.		= 249 1,212,307,402 .	
Aggregate Total Revenue	241 + 244 + 246 + 248, etc.			= 250 765,778,554 .

Determination of Applicability

Applies if either Total Assets 249 exceeds \$5,000,000 or Total Revenue 250 exceeds \$10,000,000.

Short Taxation Years – Special rules apply for determining total revenue where the taxation year of the corporation or any associated corporation or any fiscal period of any partnership(s) / joint venture(s) of which the corporation or associated corporation is a member, is less than 51 weeks.

Associated Corporation – The total assets or total revenue of associated corporations is the total assets or total revenue for the taxation year ending on or before the date of the claiming corporation's taxation year end.

If CMT is applicable to current taxation year, complete section **Calculation: CMT** below and **Corporate Minimum Tax Schedule 101**.

Calculation: CMT (Attach Schedule 101.)

Gross CMT Payable - - CMT Base From Schedule 101 2136 34,258,000 . X From 30 100.0000 % X 4 % = 276 1,370,320 .
If negative, enter zero Ontario Allocation

Subtract: Foreign Tax Credit for CMT purposes (Attach Schedule) - - - - - 277 .

Subtract: Income Tax - - - - - From 190 5,312,982 .

Net CMT Payable (If negative, enter Nil on Page 17.) - - - - - = 280 -3,942,662 .

If 280 is less than zero and you do not have a CMT credit carryover, transfer 230 from Page 7 to Income Tax Summary, on Page 17.

If 280 is less than zero and you have a CMT credit carryover, complete A & B below.

If 280 is greater than or equal to zero, transfer 230 to Page 17 and transfer 280 to Page 17, and to Part 4 of Schedule 101: Continuity of CMT Credit Carryovers.

CMT Credit Carryover available From Schedule 101 - - - - - From 2333 .

Application of CMT Credit Carryovers

A. Income Tax (before deduction of specified credits) - - - - - + From 190 5,312,982 .
 Gross CMT Payable - - - - - + From 276 1,370,320 .
 Subtract: Foreign Tax Credit for CMT purposes - - - - - - From 277 .
 If 276 - 277 is negative, enter NIL in 290 = 1,370,320 .
Income Tax eligible for CMT Credit - - - - - = 300 3,942,662 .

B. Income Tax (after deduction of specified credits) - - - - - + From 230 5,229,782 .
 Subtract: CMT credit used to reduce income taxes - - - - - - 310 .
Income Tax - - - - - = 320 5,229,782 .
Transfer to page 17

If A & B apply, 310 cannot exceed the lesser of 230, 300 and your CMT credit carryover available 2333 .

If only B applies, 310 cannot exceed the lesser of 230 and your CMT credit carryover available 2333 .

Hydro Ottawa Limited

1800113

2008-12-31

DOLLARS ONLY

Capital Tax (Refer to Guide and Int.B. 3011R)

If your corporation is a Financial Institution (s.58(2)), complete lines 480 and 430 on page 10 then proceed to page 13.

If your corporation is not a member of an associated group and/or partnership and the Gross Revenue and Total Assets as calculated on page 10 in 480 and 430 are both \$3,000,000 or less, your corporation is exempt from Capital Tax for the taxation year, except for a branch of a non-resident corporation. A corporation that meets these criteria should disregard all other Capital Tax items (including the calculation of Taxable Capital). Enter NIL in 550 on page 12 and complete the return from that point. All other corporations must compute their Taxable Capital in order to determine their Capital Tax payable.

Members of a partnership (limited or general) or a joint venture, must attach all financial statements of each partnership or joint venture of which they are a member. The Paid-up Capital of each corporate partner must include its share of liabilities that would otherwise be included if the partnership were a corporation. If Investment Allowance is claimed, Total Assets must be

adjusted by adding the corporation's share of the partnership's Total Assets and by deducting investments in the partnership as it appears on the corporation's balance sheet, in addition to any other required adjustments (s.61(5)). Special rules apply to limited partnerships (Int.B. 3017R).

Any Assets and liabilities of a corporation that are being utilized in a joint venture must be included along with the corporation's other Assets and liabilities when calculating its Taxable Paid-up Capital.

Special rules and rates apply to Non-Resident corporations (s.63, s.64 and s.69(3)).

Paid-up Capital of Non-resident: Paid-up capital employed in Canada of a non-resident subject to tax by virtue of s.2(2)(a) or 2(2)(b), and whose business is not carried on solely in Canada is deemed to be the greater of (1) taxable Income in Canada divided by 8 percent or (2) total assets in Canada minus certain indebtedness in accordance with the provisions of s.63(1)(a) (Int.B. 3010).

Paid-up Capital

Paid-up capital stock (Int.B. 3012R and 3015R)	- - - - -	+ 350	167,081,000 .
Retained earnings (if deficit, deduct) (Int.B. 3012R)	- - - - -	± 351	56,826,000 .
Capital and other surpluses, excluding appraisal surplus (Int.B.3012R)	- - - - -	+ 352	_____ .
Loans and advances (Attach schedule) (Int.B. 3013R)	- - - - -	+ 353	318,585,370 .
Bank loans (Int.B. 3013R)	- - - - -	+ 354	_____ .
Bankers acceptances (Int.B. 3013R)	- - - - -	+ 355	_____ .
Bonds and debentures payable (Int.B. 3013R)	- - - - -	+ 356	_____ .
Mortgages payable (Int.B. 3013R)	- - - - -	+ 357	_____ .
Lien notes payable (Int.B. 3013R)	- - - - -	+ 358	_____ .
Deferred credits (including income tax reserves, and deferred revenue where it would also be included in paid-up capital for the purposes of the large corporations tax) (Int.B. 3013R)	- - - - -	+ 359	5,400,733 .
Contingent, investment, inventory and similar reserves (Int.B. 3012R)	- - - - -	+ 360	_____ .
Other reserves not allowed as deductions for income tax purposes (Attach schedule) (Int.B. 3012R)	- - - - -	+ 361	_____ .
Share of partnership(s) or joint venture(s) paid-up capital (Attach schedule(s)) (Int.B. 3017R)	- - - - -	+ 362	_____ .
Subtotal	- - - - -	= 370	547,893,103 .
Subtract: Amounts deducted for income tax purposes in excess of amounts booked (Retain calculations. Do not submit.) (Int.B. 3012R)	- - - - -	- 371	8,043,120 .
Deductible R & D expenditures and ONTTI costs deferred for income tax if not already deducted for book purposes (Int.B. 3015R)	- - - - -	- 372	_____ .
Total Paid-up Capital	- - - - -	= 380	539,849,983 .
Subtract: Deferred mining exploration and development expenses (s.62(1)(d)) (Int.B. 3015R)	- - - - -	- 381	_____ .
Electrical Generating Corporations Only – All amounts with respect to electrical generating assets, except to the extent that they have been deducted by the corporation in computing its income for income tax purposes for the current or any prior taxation year, that are deductible by the corporation under clause 11(10)(a) of the Corporations Tax Act, and the assets are used both in generating electricity from a renewable or alternative energy source and are qualifying property as prescribed by regulation	- - - - -	- 382	_____ .
Net Paid-up Capital	- - - - -	= 390	539,849,983 .

Eligible Investments (Refer to Guide and Int.B. 3015R)

Attach computations and list of corporation names and investment amounts. Short-term investments (bankers acceptances, commercial paper, etc.) are eligible for the allowance only if issued for a term of and held for 120 days or more prior to the year end of the investor corporation.

Bonds, lien notes and similar obligations, (similar obligations, e.g. stripped interest coupons, applies to taxation years ending after October 30, 1998)	- - - - -	+ 402	_____ .
Mortgages due from other corporations	- - - - -	+ 403	_____ .
Shares in other corporations (certain restrictions apply) (Refer to Guide)	- - - - -	+ 404	_____ .
Loans and advances to unrelated corporations	- - - - -	+ 405	44,387 .
Eligible loans and advances to related corporations (certain restrictions apply) (Refer to Guide)	- - - - -	+ 406	169,951 .
Share of partnership(s) or joint venture(s) eligible investments (Attach schedule)	- - - - -	+ 407	_____ .
Total Eligible Investments	- - - - -	= 410	214,338 .

continued on Page 10

		DOLLARS ONLY	
Total Assets (Int.B. 3015R)			
Total Assets per balance sheet	- - - - -	+ 420	642,089,000.
Mortgages or other liabilities deducted from assets	- - - - -	+ 421	
Share of partnership(s)/joint venture(s) total assets (<i>Attach schedule</i>)	- - - - -	+ 422	
Subtract: Investment in partnership(s)/joint venture(s)	- - - - -	- 423	
Total Assets as adjusted	- - - - -	= 430	642,089,000.
Amounts in 360 and 361 (if deducted from assets)	- - - - -	+ 440	
Subtract: Amounts in 371, 372 and 381	- - - - -	- 441	8,043,120.
Subtract: Appraisal surplus if booked	- - - - -	- 442	
Add or Subtract: Other adjustments (specify on an attached schedule)	- - - - -	± 443	
Total Assets	- - - - -	= 450	634,045,880.

Investment Allowance (410 ÷ 450) × 390	- - - - -	Not to exceed 410	= 460	182,495.
Taxable Capital 390 - 460	- - - - -		= 470	539,667,488.

Gross Revenue (as adjusted to include the share of any partnership(s)/joint venture(s) Gross Revenue)	- - -	480	692,894,000.
Total Assets (as adjusted)	- - - - -	From 430	642,089,000.

Calculation of Capital Tax for all Corporations except Financial Institutions

Note: This version (2007) of the CT23 may only be used for a taxation year that commenced after December 31, 2004. Financial Institutions use calculations on page 13.

- Important:** If the corporation is a family farm corporation, family fishing corporation or a credit union that is not a Financial Institution, complete only Section A below.
- OR** If the corporation is **not** a member of an associated group and/or partnership, complete Section B below, then review only the Capital Tax calculations in Section C on page 11, selecting and completing the one specific subsection (e.g. C3) that applies to the corporation.
 - OR** If the corporation is a member of an associated group and/or partnership, complete Section B below and Section D on page 11, and if applicable, complete Section E or Section F on page 12. Note: if the corporation is a member of a connected partnership, please refer to the CT23 Guide for additional instructions before completing the Capital Tax section.

SECTION A

This section applies only if the corporation is a family farm corporation, a family fishing corporation or a credit union that is not a Financial Institution (Int.B. 3018). Enter NIL in 550 on page 12 and complete the return from that point.

SECTION B

B1. Calculation of Taxable Capital Deduction (TCD)

		Number of Days in Taxation Year		
		Days after Dec. 31, 2004 and before Jan. 1, 2006	Total Days	
7,500,000	×	36	÷ 73	366
				= + 501
10,000,000	×	37	÷ 73	366
				= + 502
12,500,000	×	38	÷ 73	366
				= + 504
15,000,000	×	39	366 ÷ 73	366
				= + 505
				15,000,000.
Taxable Capital Deduction (TCD)		501	+	502
		504	+	505
		=	503	15,000,000.

B2. This section applies to corporations to calculate the prorated capital tax rate.

Calculation of Capital Tax Rate

		Number of Days in Taxation Year		
		Days before Jan. 1, 2007	Total Days	
0.3 %	×	556	÷ 73	366
				= + 511
0.225 %	×	557	366 ÷ 73	366
				= + 512
				0.2250 %
Capital Tax Rate		511	+	512
		=	516	0.2250 %

continued on Page 11

Capital Tax Calculation *continued from Page 10***SECTION C**

This section applies if the corporation is **not** a member of an associated group and/or partnership.

C1. If and on page 10 are both \$3,000,000 or less, enter NIL in on page 12 and complete the return from that point.

C2. If Taxable Capital in is **equal to or less than the TCD** in , enter NIL in on page 12 and complete the return from that point.

C3. If Taxable Capital in **exceeds the TCD** in , complete the following calculation and transfer the amount from to on page 12, and complete the return from that point.

+	From <input type="text" value="470"/>																	
-	From <input type="text" value="503"/>																	
=	<input type="text" value="471"/>			X	From <input type="text" value="30"/>	<input type="text" value="100.0000"/> %	X	From <input type="text" value="516"/>	<input type="text" value="0.2250"/> %	X	<input type="text" value="555"/>	<input type="text" value="366"/>						
						Ontario Allocation			Capital Tax Rate			Days in taxation year 366 (366 if leap year)						
																		= + <input type="text" value="523"/>
																		Transfer to <input type="text" value="543"/> on page 12 and complete the return from that point If floating taxation year, refer to Guide.

SECTION D

This section applies **ONLY** to a corporation that is a member of an associated group (excluding Financial Institutions and corporations exempt from Capital Tax) and/or partnership. You must check either or and complete this section before you can calculate your Capital Tax Calculation under either Section E or Section F.

D1. (X if applicable)

All corporations that you are associated with do **not** have a permanent establishment in Canada.

If Taxable Capital on page 10 is equal to or less than the TCD on page 10, enter NIL in on page 12 and complete the return from that point.

If Taxable Capital on page 10 exceeds the TCD on page 10, proceed to **Section E**, enter the TCD amount in in Section E, and complete Section E and the return from that point.

D2. (X if applicable)

One or more of the corporations that you are associated with **maintains** a permanent establishment in Canada.

You and your associated group may continue to allocate the TCD by completing the Calculation below. Or, the associated group **may file an election** under subsection 69(2.1) of the *Corporations Tax Act*, whereby total assets are used to allocate the TCD among the associated group. Once a ss.69(2.1) election is filed, all members of the group will then be required to file in accordance with the election and allocate a portion (portion is henceforth referred to as **Net Deduction**) of the capital tax effect relating to the TCD to each corporation in the group on the basis of the ratio that each corporation's total assets multiplied by its Ontario allocation is to the total assets of the group.

The total asset amounts and Ontario allocation percentages to be used for this calculation must be taken from each corporation's financial information from its last taxation year ending in the immediately preceding calendar year.

In addition, although each corporation in the associated group may deduct its Net Deduction amount as apportioned by the total asset formula, the group may, at the group's option, reallocate the group's total Net Deduction among the group on what ever basis the corporate group wishes, as long as the total of the reallocated amounts does not exceed the group's total Net Deduction amount originally calculated for the associated group.

D2. Calculation is on next page

continued on Page 12

Capital Tax Calculation *continued from Page 11*

DOLLARS ONLY

D2. Calculation Do not complete this calculation if ss.69(2.1) election is filed

Taxable Capital From **470** on page 10 - - - - - + From **470** _____

Determine aggregate taxable capital of an associated group (excluding financial institutions and corporations exempt from capital tax) and/or partnership having a permanent establishment in Canada

Names of associated corporations (excluding Financial Institutions and corporations exempt from Capital Tax) having a permanent establishment in Canada (if insufficient space, attach schedule)	Ontario Corporations Tax Account No. (MOF) (if applicable)	Taxation Year End	Taxable Capital
_____	_____	_____	+ 531 _____
_____	_____	_____	+ 532 _____
_____	_____	_____	+ 533 _____
Aggregate Taxable Capital 470 + 531 + 532 + 533 , etc.			= 540 _____

If **540** above is equal to or less than the TCD **503** on page 10, the corporation's Capital Tax for the taxation year, is NIL.

Enter NIL in **523** in section E below, as applicable.

If **540** above is greater than the TCD **503** on page 10, the corporation must compute its share of the TCD below in order to calculate its Capital Tax for the taxation year under Section E below.

From **470** _____ ÷ From **540** _____ × From **503** _____ = **541** _____
 Transfer to **542** in Section E below

Ss.69(2.1) Election Filed

591 (X if applicable) **Election filed** Attach a copy of Schedule 591 with this CT23 Return. Proceed to **Section F** below.

SECTION E

This section applies if the corporation is a member of an associated group and/or partnership whose total aggregate Taxable Capital **540** above, exceeds the TCD **503** on page 10.

Complete the following calculation and transfer the amount from **523** to **543**, and complete the return from that point.

+ From **470** _____
 - **542** _____
 = **471** _____ × From **30** $\frac{100.0000}{100}$ % × From **518** $\frac{0.2250}{100}$ % × $\frac{555}{366} \times \frac{366}{366}$ = + **523** _____
 Ontario Allocation Capital Tax Rate * 366 (366 if leap year)
 Total Capital Tax for the taxation year
 Transfer to **543** and complete the return from that point

SECTION F

This section applies if a corporation is a member of an associated group and the associated group has filed a ss.69(2.1) election

+ From **470** **539,667,488** × From **30** $\frac{100.0000}{100}$ % × From **518** $\frac{0.2250}{100}$ % - - - - - = + **561** **1,214,252** _____
 Ontario Allocation Capital Tax Rate
 - Capital tax deduction from **995** relating to your corporation's Capital Tax deduction, on Schedule 591 - - - - - = **562** **1,180,502** _____
 Total Capital Tax for the taxation year
Capital Tax - - - - - **562** **1,180,502** × $\frac{555}{366} \times \frac{366}{366}$ = **563** **1,180,502** _____
 Days in taxation year * 366 (366 if leap year)
 Transfer to **543** and complete the return from that point

* If floating taxation year, refer to Guide.

Capital Tax before application of specified credits		= 543 1,180,502 _____
Subtract: Specified Tax Credits applied to reduce capital tax payable (Refer to Guide)		= 546 _____
Capital Tax 543 - 546 (amount cannot be negative)		= 550 1,180,502 _____ Transfer to Page 17

continued on Page 13

Capital Tax continued from Page 12

Calculation of Capital Tax for Financial Institutions

1.1 Credit Unions only

For taxation years commencing after May 4, 1999 enter NIL in 550 on page 12, and complete the return from that point.

1.2 Other than Credit Unions

(Retain details of calculations for amounts in boxes 565 and 570. Do not submit with this tax return.)

565 _____ x 567 _____ % x From 30 _____ 100.0000 % x $\frac{555}{366}$ $\frac{366}{366}$ = + 569 _____

Lesser of adjusted Taxable Paid Up Capital and Basic Capital Amount in accordance with Division B.1
 Capital Tax Rate (1) (Refer to Guide)
 Ontario Allocation * 366 (366 if leap year)

570 _____ x 571 _____ % x From 30 _____ 100.0000 % x $\frac{555}{366}$ $\frac{366}{366}$ = + 574 _____

Adjusted Taxable Paid Up Capital in accordance with Division B.1 in excess of Basic Capital Amount
 Capital Tax Rate (2) (Refer to Guide)
 Ontario Allocation * 366 (366 if leap year)

Capital Tax for Financial Institutions – other than Credit Unions (before Section 2) 569 + 574 = 575 _____

* If floating taxation year, refer to Guide.

2. Small Business Investment Tax Credit

(Retain details of eligible investment calculation and, if claiming an investment in CSBIF, retain the original letter approving the credit issued in accordance with the Community Small Business Investment Fund Act. Do not submit with this tax return.)

Allowable Credit for Eligible Investments - - - - - 585 _____

Financial Institutions: Claiming a tax credit for investment in Community Small Business Investment Fund (CSBIF)? (X) Yes

Capital Tax - Financial Institutions 575 - 585 = 586 _____
 Transfer to 543 on Page 12

Premium Tax (s.74.2 & 74.3) (Refer to Guide)

(1) Uninsured Benefits Arrangements - - - - - 587 _____ x 2 % = 588 _____
Applies to Ontario-related uninsured benefits arrangements.

(2) Unlicensed Insurance (enter premium tax payable in 588 and attach a detailed schedule of calculations. If subject to tax under (1) above, add both taxes together and enter total tax in 588.)
Applies to Insurance Brokers and other persons placing insurance for persons resident or property situated in Ontario with unlicensed insurers.

Deduct: Specified Tax Credits applied to reduce premium tax (Refer to Guide) - - - - - 589 _____

Premium Tax 588 - 589 = 590 _____
 Transfer to page 17

Reconcile net income (loss) for federal income tax purposes with net income (loss) for Ontario purposes if amounts differ

Net Income (loss) for federal income tax purposes, per federal T2 Schedule 1 - - - - - ± **600** 38,017,164.
Transfer to Page 15

Add:

Federal capital cost allowance	- - - - -	+ 601	40,389,095.
Federal cumulative eligible capital deduction	- - - - -	+ 602	101,708.
Ontario taxable capital gain	- - - - -	+ 603	.
Federal non-allowable reserves. Balance beginning of year	- - - - -	+ 604	7,177,000.
Federal allowable reserves. Balance end of year	- - - - -	+ 605	3,047,144.
Ontario non-allowable reserves. Balance end of year	- - - - -	+ 606	5,356,521.
Ontario allowable reserves. Balance beginning of year	- - - - -	+ 607	7,947,000.
Federal exploration expenses (e.g. CEDE, CEE, CDE, COGPE)	- - - - -	+ 608	.
Federal resource allowance (Refer to Guide)	- - - - -	+ 609	.
Federal depletion allowance	- - - - -	+ 610	.
Federal foreign exploration and development expenses	- - - - -	+ 611	.
Crown charges, royalties, rentals, etc. deducted for Federal purposes (Refer to Guide)	- - - - -	+ 617	.
Management fees, rents, royalties and similar payments to non-arms' length non-residents ▼			

Number of Days in Taxation Year

Days after Dec. 31, 2002 and before Jan. 1, 2004 Total Days
612 × 5 / 12.5 × **33** + **73** = **366** =+ **633**

Days after Dec. 31, 2003 Total Days
612 × 5 / 14 × **34** + **73** = **366** =+ **634**

Total add-back amount for Management fees, etc. **633** + **634** = **613**

Federal Scientific Research Expenses claimed in year from line **460** of fed. form T661 excluding any negative amount in **473** from Ont. CT23 Schedule 161 - - - - - + **615**

Add any negative amount in **473** from Ont. CT23 Schedule 161 - - - - - + **616**

Federal allowable business investment loss - - - - - + **620**

Total of other items not allowed by Ontario but allowed federally (Attach schedule) - - - - - + **614**

Total of Additions **601** to **611** + **617** + **613** + **615** + **616** + **620** + **614** - - - = **64,018,468.** ▶ **640** 64,018,468.
Transfer to Page 15

Deduct:

Ontario capital cost allowance (excludes amounts deducted under 675)	- - - - -	+ 650	40,389,095.
Ontario cumulative eligible capital deduction	- - - - -	+ 651	101,708.
Federal taxable capital gain	- - - - -	+ 652	.
Ontario non-allowable reserves. Balance beginning of year	- - - - -	+ 653	7,177,000.
Ontario allowable reserves. Balance end of year	- - - - -	+ 654	3,047,144.
Federal non-allowable reserves. Balance end of year	- - - - -	+ 655	5,356,521.
Federal allowable reserves. Balance beginning of year	- - - - -	+ 656	7,947,000.
Ontario exploration expenses (e.g. CEDE, CEE, CDE, COGPE) (Retain calculations. Do not submit.)	- - - - -	+ 657	.
Ontario depletion allowance	- - - - -	+ 658	.
Ontario resource allowance (Refer to Guide)	- - - - -	+ 659	.
Ontario current cost adjustment (Attach schedule)	- - - - -	+ 661	.
CCA on assets used to generate electricity from natural gas, alternative or renewable resources.	- - - - -	+ 675	.

Subtotal of deductions for this page **650** to **659** + **661** + **675** - - - - - **681** 64,018,468.
Transfer to Page 15

continued on Page 15

Reconcile net income (loss) for federal income tax purposes with net income (loss) for Ontario purposes if amounts differ

continued from Page 14

Net Income (loss) for federal income tax purposes, per federal Schedule 1	From ±	600	38,017,164.
Total of Additions on page 14	From =	640	64,018,468.
Sub Total of deductions on page 14	From =	681	64,018,468.

Deduct:

Ontario New Technology Tax Incentive (ONTTI) Gross-up
 (Applies only to those corporations whose Ontario allocation is less than 100% in the current taxation year.)

Capital Cost Allowance (Ontario) (CCA) on prescribed qualifying intellectual property deducted in the current taxation year

ONTTI Gross-up deduction calculation:

Gross-up of CCA

$$\left[\begin{array}{l} \text{From } 662 \\ \times \\ \text{From } 30 \end{array} \right] \times \frac{100}{100.0000} = 663$$

Ontario Allocation

Workplace Child Care Tax Incentive (WCCT)
 (Applies to eligible expenditures incurred prior to January 1, 2005.)

Qualifying expenditures: $\left[\begin{array}{l} 665 \\ \times \\ \text{From } 30 \end{array} \right] \times 30\% \times \frac{100}{100.0000} = 666$

Ontario allocation

Workplace Accessibility Tax Incentive (WATI)
 (Applies to eligible expenditures incurred prior to January 1, 2005.)

Qualifying expenditures: $\left[\begin{array}{l} 667 \\ \times \\ \text{From } 30 \end{array} \right] \times 100\% \times \frac{100}{100.0000} = 668$

Ontario allocation

Number of Employees accommodated: 669

Ontario School Bus Safety Tax Incentive (OSBSTI)
 (Applies to the eligible acquisition of school buses purchased after May 4, 1999 and before January 1, 2006.) (Refer to Guide)

Qualifying expenditures: $\left[\begin{array}{l} 670 \\ \times \\ \text{From } 30 \end{array} \right] \times 30\% \times \frac{100}{100.0000} = 671$

Ontario allocation

Educational Technology Tax Incentive (ETTI)
 (Applies to eligible expenditures incurred prior to January 1, 2005.)

Qualifying expenditures: $\left[\begin{array}{l} 672 \\ \times \\ \text{From } 30 \end{array} \right] \times 15\% \times \frac{100}{100.0000} = 673$

Ontario allocation

Ontario allowable business investment loss + 678

Ontario Scientific Research Expenses claimed in year in 477 from Ont. CT23 Schedule 161 + 679

Amount added to income federally for an amount that was negative on federal form T661, line 454 or 455 (if filed after June 30, 2003) + 677

Total of other deductions allowed by Ontario (Attach schedule) + 664

Total of Deductions 681 + 663 + 666 + 668 + 671 + 673 + 678 + 679 + 677 + 664 = 64,018,468. 680 64,018,468.

Net income (loss) for Ontario Purposes 600 + 640 - 680 = 690 38,017,164.

Transfer to Page 4

DOLLARS ONLY

Continuity of Losses Carried Forward

	Non-Capital Losses (1)	Total Capital Losses	Farm Losses	Restricted Farm Losses	Listed Personal Property Losses	Limited Partnership Losses (6)
Balance at Beginning of Year	700 (2)	710 (2)	720 (2)	730	740	750
Add:						
Current year's losses (7)	701	711	721	731	741	751
Losses from predecessor corporations (3)	702	712	722	732		752
Subtotal	703	713	723	733	743	753
Subtract:						
Utilized during the year to reduce taxable income	704 (2)	715 (2) (4)	724 (2)	734 (2) (4)	744 (4)	754 (4)
Expired during the year	705		725	735	745	
Carried back to prior years to reduce taxable income (5)	706 (2) to Page 17	716 (2) to Page 17	726 (2) to Page 17	736 (2) to Page 17	746	
Subtotal	707	717	727	737	747	757
Balance at End of Year	709 (8)	719	729	739	749	759

Analysis of Balance at End of Year by Year of Origin

Year of Origin (oldest year first) year month day	Non-Capital Losses	Non-Capital Losses of Predecessor Corporations	Total Capital Losses from Listed Personal Property only	Farm Losses	Restricted Farm Losses
800 9th preceding taxation year 2000-09-30	817 (9)	860 (9)		850	870
801 8th preceding taxation year 2001-09-30	818 (9)	861 (9)		851	871
802 7th preceding taxation year 2001-12-31	819 (9)	862 (9)		852	872
803 6th preceding taxation year 2002-12-31	820	830	840	853	873
804 5th preceding taxation year 2003-12-31	821	831	841	854	874
805 4th preceding taxation year 2004-12-31	822	832	842	855	875
806 3rd preceding taxation year 2005-12-31	823	833	843	856	876
807 2nd preceding taxation year 2006-12-31	824	834	844	857	877
808 1st preceding taxation year 2007-12-31	825	835	845	858	878
809 Current taxation year 2008-12-31	826	836	846	859	879
Total	829	839	849	869	889

Notes:

- (1) Non-capital losses include allowable business investment losses, fed s.111(8)(b), as made applicable by s.34.
- (2) Where acquisition of control of the corporation has occurred, the utilization of losses can be restricted. See fed.s.111(4) through 111(5.5), as made applicable by s.34.
- (3) Includes losses on amalgamation (fed.s.87(2.1) and s.87(2.11)) and/or wind-up (fed.s.88(1.1) and 88(1.2)), as made applicable by s.34.
- (4) To the extent of applicable gains/income/at-risk amount only.
- (5) Generally a three year carry-back applies. See fed.s.111(1) and fed.s.41(2)(b), as made applicable by s.34.
- (6) Where a limited partner has limited partnership losses, attach loss calculations for each partnership.
- (7) Include amount from 11 if taxable income is adjusted to claim unused foreign tax credit for federal purposes.
- (8) Amount in 709 must equal total of 829 + 839.
- (9) Include non-capital losses incurred in taxation years ending after March 22, 2004.

Hydro Ottawa Limited

1800113

2008-12-31

DOLLARS ONLY

Request for Loss Carry-Back (s.80(16))

Applies to corporations requesting a reassessment of the return of one or more previous taxation years under s.80(16) with respect to one or more types of losses carried back.

- If, after applying a loss carry-back to one or more previous years, there is a balance of loss available to carry forward to a future year, it is the corporation's responsibility to claim such a balance for those years following the year of loss within the limitations of fed.s.111, as made applicable by s.34.
- Where control of a corporation has been acquired by a person or group of persons, certain restrictions apply to the carry-forward and carry-back provisions of losses under fed.s.111(4) through 111(5.5), as made applicable by s.34.
- Refunds arising from the loss carry-back adjustment may be applied by the Minister of Finance to amounts owing under any Act administered by the Ministry of Finance.

- Any late filing penalty applicable to the return for which the loss is being applied will not be reduced by the loss carry-back.
- The application of a loss carry-back will be available for interest calculation purposes on the day that is the latest of the following:
 - 1) the first day of the taxation year after the loss year,
 - 2) the day on which the corporation's return for the loss year is delivered to the Minister, or
 - 3) the day on which the Minister receives a request in writing from the corporation to reassess the particular taxation year to take into account the deduction of the loss.
- If a loss is being carried back to a predecessor corporation, enter the predecessor corporation's account number and taxation year end in the spaces provided under Application of Losses below.

Application of Losses

	Non-Capital Losses	Total Capital Losses	Farm Losses	Restricted Farm Losses
Total amount of loss	910	920	930	940
Deduct: Loss to be carried back to preceding taxation years and applied to reduce taxable income				
Predecessor Ontario Corporation's Tax Account No. (MOF)	911	921	931	941
Taxation Year Ending year month day				
i) 3 rd preceding	912	922	932	942
ii) 2 nd preceding	913	923	933	943
iii) 1 st preceding	914	924	934	944
Total loss to be carried back	From 706	From 716	From 726	From 736
Balance of loss available for carry-forward	919	929	939	949

Summary

Income Tax	- - - - - +	From 230 or 320	5,229,782
Corporate Minimum Tax	- - - - - +	From 280	
Capital Tax	- - - - - +	From 550	1,180,502
Premium Tax	- - - - - +	From 590	
Total Tax Payable	- - - - - =	950	6,410,284
Subtract: Payments	- - - - - -	960	6,956,283
Capital Gains Refund (s.48)	- - - - - -	965	
Qualifying Environmental Trust Tax Credit (Refer to Guide)	- - - - - -	985	
Specified Tax Credits (Refer to Guide)	- - - - - -	955	
Other, specify	- - - - - -		
Balance	- - - - - =	970	-545,999
If payment due	- - - - - Enclosed *	990	
If overpayment: Refund (Refer to Guide)	- - - - - =	975	545,999
Apply to	year month day	980	

* Make your cheque (drawn on a Canadian financial institution) or a money order in Canadian funds, payable to the Minister of Finance and print your Ontario Corporation's Tax Account No. (MOF) on the back of cheque or money order. (Refer to Guide for other payment methods.)

Certification

I am an authorized signing officer of the corporation. I certify that this CT23 return, including all schedules and statements filed with or as part of this CT23 return, has been examined by me and is a true, correct and complete return and that the information is in agreement with the books and records of the corporation. I further certify that the financial statements accurately reflect the financial position and operating results of the corporation as required under section 75 of the Corporations Tax Act. The method of computing income for this taxation year is consistent with that of the previous year, except as specifically disclosed in a statement attached.

Name (please print) _____
 Mike Grue
 Title _____
 Treasurer
 Full Residence Address _____

Signature _____ Date June 22/09

Note: Section 76 of the Corporations Tax Act provides penalties for making false or misleading statements or omissions.

Attached Schedule with Total

Deferred credits (including income tax reserves, and deferred revenue where it would also be included in paid-up capital for the purposes of the large corporations)

Title Deferred Credits

Description	Amount
Deferred Revenue	510,294 | 00
Employee Future Benefits	4,890,439 | 00
Total	5,400,733 | 00

Attached Schedule with Total

Amounts deducted for income tax purposes in excess of amounts booked (Retain calculations. Do not submit.) (Int.B. 3012R)

Title Line 371

Description	Amount
Cumulative CCA	248,434,452 00
Cumulative Depreciation	-219,479,786 00
Net Regulatory asset	54,160 00
Cumulative CEC amount	742,279 00
Cumulative CCA on FMV bump	-21,707,985 00
Total	8,043,120 00

**Corporate Minimum Tax (CMT)
CT23 Schedule 101**

Corporation's Legal Name Hydro Ottawa Limited	Ontario Corporations Tax Account No. (MOR) 1800113	Taxation Year End 2008-12-31
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Part 1: Calculation of CMT Base

Banks – Net income/loss as per report accepted by Superintendent of Financial Institutions (SFI) under the Bank Act (Canada), adjusted so consolidation/equity methods are not used.

Life Insurance corporations – Net income/loss before Special Additional Tax as determined under s.57.1(2)(c) or (d)

Net Income/Loss (unconsolidated, determined in accordance with GAAP) ± 2100 21,788,000.

Subtract (to the extent reflected in net income/loss):

Provision for recovery of income taxes / benefit of current income taxes	+	2101	
Provision for deferred income taxes (credits) / benefit of future income taxes	+	2102	
Equity income from corporations	+	2103	
Share of partnership(s)/joint venture(s) income	+	2104	
Dividends received/receivable deductible under fed. s.112	+	2105	
Dividends received/receivable deductible under fed. s.113	+	2106	
Dividends received/receivable deductible under fed. s.83(2)	+	2107	
Dividends received/receivable deductible under fed. s.138(6)	+	2108	

Federal Part VI.1 tax paid on dividends declared and paid, under fed. s.191.1(1) x 3 + 2109

Subtotal = - 2110

Add (to extent reflected in net income/loss):

Provision for current taxes / cost of current income taxes	+	2111	12,470,000.
Provision for deferred income taxes (debits) / cost of future income taxes	+	2112	
Equity losses from corporations	+	2113	
Share of partnership(s)/joint venture(s) losses	+	2114	
Dividends that have been deducted to arrive at net income per Financial Statements s.57.4(1.1) (excluding dividends under fed. s.137(4.1))	+	2115	

Subtotal = 12,470,000. + 2116 12,470,000.

Add/Subtract:

Amounts relating to s.57.9 election/regulations for disposals etc. of property, occurring before March 22, 2007, for current/prior years

** Fed.s.85	+	2117		or -	2118	
** Fed.s.85.1	+	2119		or -	2120	
** Fed.s.97	+	2121		or -	2122	
** Amounts relating to amalgamations (fed.s.87) as prescribed in regulations for current/prior years	+	2123		or -	2124	
** Amounts relating to wind-ups (fed.s.88) as prescribed in regulations for current/prior years	+	2125		or -	2126	
** Amounts relating to s.57.10 election/regulations for replacement re fed.s.13(4), 14(6) and 44 for current/prior years	+	2127		or -	2128	

Interest allowable under ss.20(1)(c) or (d) of ITA to the extent not otherwise deducted in determining CMT adjusted net income - 2150

Capital gains on eligible donations of publicly-listed securities and ecologically sensitive land made after May 1, 2006 (to the extent reflected in net income/loss) - 2155

Subtotal (Additions) = + 2129

Subtotal (Subtractions) = - 2130

** Other adjustments ± 2131

Subtotal ± 2100 - 2110 + 2116 + 2129 - 2130 ± 2131 = 2132 34,258,000.

** Share of partnership(s)/joint venture(s) adjusted net income/loss ± 2133

Adjusted net income (loss) (if loss, transfer to 2202 in Part 2: Continuity of CMT Losses Carried Forward.) = 2134 34,258,000.

Deduct: * CMT losses: pre-1994 Loss + From 2210

* CMT losses: other eligible losses + 2211

..... = - 2135

* CMT losses applied cannot exceed adjusted net income or increase a loss

** Retain calculations. Do not submit with this schedule.

CMT Base = 2136 34,258,000.

Transfer to CMT Base on Page 8 of the CT23 or Page 6 of the CT8

**Corporate Minimum Tax (CMT)
CT23 Schedule 101**

Corporation's Legal Name Hydro Ottawa Limited	Ontario Corporations Tax Account No. (MOR) 1800113	Taxation Year End 2008-12-31
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Part 2: Continuity of CMT Losses Carried Forward

Balance at Beginning of year NOTES (1), (2) + 2201 []

Add: Current year's losses + 2202 []
 Losses from predecessor corporations on amalgamation that occurred before March 22, 2007 NOTE (3) + 2203 []
 Losses from predecessor corporations on wind-up completed before March 22, 2007 NOTE (3) + 2204 []
 Amalgamation (X) 2205 Yes Wind-up (X) 2206 Yes

Subtotal = [] + 2207 []

Adjustments (attach schedule) ± 2208 []

CMT losses available 2201 + 2207 ± 2208 = 2209 []

Subtract: Pre-1994 loss utilized during the year to reduce adjusted net income + 2210 []
 Other eligible losses utilized during the year to reduce adjusted net income NOTE (4) + 2211 []
 Losses expired during the year + 2212 []

Subtotal = [] - 2213 []

Balances at End of Year NOTE (5) 2209 - 2213 = 2214 []

Notes:

- (1) Pre-1994 CMT loss (see s.57.1(1)) should be included in the balance at beginning of the year. Attach schedule showing computation of pre-1994 CMT loss.
- (2) Where acquisition of control of the corporation has occurred, the utilization of CMT losses can be restricted. (see s.57.5(3) and s.57.5(7))
- (3) Include and indicate whether CMT losses are a result of an amalgamation that occurred before March 22, 2007, to which fed.s.87 applies and/or a wind-up completed before March 22, 2007, to which fed.s.88(1) applies (see s.57.5(8) and s.57.5(9)). The continuation of CMT losses no longer applies for amalgamations and wind-ups that occur after March 21, 2007.
- (4) CMT losses must be used to the extent of the lesser of the adjusted net income 2134 and CMT losses available 2209 .
- (5) Amount in 2214 must equal sum of 2270 + 2290 .
- (6) Include the lesser of the total investment losses of a predecessor corporation from an investment in another predecessor corporation that is controlled by the first predecessor corporation, and the total unused CMT losses of the other predecessor corporation.
- (7) Include the lesser of the total investment losses of the parent corporation from its investment in the subsidiary corporation, and the total unused CMT losses of the subsidiary corporation.

Part 3: Analysis of CMT Losses Year End Balance by Year of Origin

For a pre-1994 loss, use the date of the last taxation year end before your corporation's first taxation year commencing after 1993.

	Year of Origin (oldest year first) year month day	CMT Losses of Corporation	CMT Losses of Predecessor Corporations
2240	9th preceding taxation year 2000-09-30	2260	2280
2241	8th preceding taxation year 2001-09-30	2261	2281
2242	7th preceding taxation year 2001-12-31	2262	2282
2243	6th preceding taxation year 2002-12-31	2263	2283
2244	5th preceding taxation year 2003-12-31	2264	2284
2245	4th preceding taxation year 2004-12-31	2265	2285
2246	3rd preceding taxation year 2005-12-31	2266	2286
2247	2nd preceding taxation year 2006-12-31	2267	2287
2248	1st preceding taxation year 2007-12-31	2268	2288
2249	Current taxation year 2008-12-31	2269	2289
Totals		2270	2290

The sum of amounts 2270 + 2290
must equal amount in 2214 .

**Corporate Minimum Tax (CMT)
CT23 Schedule 101**

Corporation's Legal Name Hydro Ottawa Limited	Ontario Corporations Tax Account No. (MOR) 1800113	Taxation Year End 2008-12-31
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Part 4: Continuity of CMT Credit Carryovers

Balance at Beginning of year NOTE (1) + 2301

Add: Current year's CMT Credit (280 on page 8 of the CT23
or 347 on page 6 of the CT8. If negative, enter NIL) + From 280 or 347

Gross Special Additional Tax NOTE (2) 312 on page 5 of CT8.
(Life Insurance corporations only.
Others enter NIL.) + From 312

Subtract Income Tax
(190 on page 6 of the CT23 or
page 4 of the CT8) - From 190

Subtotal (If negative, enter NIL) = 2305

Current year's CMT credit (If negative, enter NIL) 280 or 347 - 2305 = + 2310

CMT Credit Carryovers from predecessor corporations NOTE (3) + 2325

Amalgamation (X) 2315 Yes Wind-up (X) 2320 Yes

Subtotal 2301 + 2310 + 2325 = 2330

Adjustments (Attach schedule) ± 2332

CMT Credit Carryover available 2330 ± 2332 = 2333

Transfer to Page 8 of the CT23 or Page 6 of the CT8

Subtract: CMT Credit utilized during the year to reduce income tax
(310 on page 8 of the CT23 or 351 on page 6 of the CT8.) + From 310 or 351

CMT Credit expired during the year + 2334

Subtotal = - 2335

Balance at End of Year NOTE (4) 2333 - 2335 = 2336

Notes:

- (1) Where acquisition of control of the corporation has occurred, the utilization of CMT credits can be restricted. (see s.43.1(5))
- (2) The CMT credit of life insurance corporations can be restricted. (see s.43.1(3)(b))
- (3) Include and indicate whether CMT credits are a result of an amalgamation that occurred before March 22, 2007 to which fed.s.87 applies and/or a wind-up completed before March 22, 2007, to which fed.s.88(1) applies. (see s.43.1(4))
- (4) Amount in 2336 must equal sum of 2370 + 2390 .

Part 5: Analysis of CMT Credit Carryovers Year End Balance by Year of Origin

	Year of Origin (oldest year first) year month day	CMT Credit Carryovers of Corporation	CMT Credit Carryovers of Predecessor Corporation(s)
2340	9th preceding taxation year 2000-09-30	2360	2380
2341	8th preceding taxation year 2001-09-30	2361	2381
2342	7th preceding taxation year 2001-12-31	2362	2382
2343	6th preceding taxation year 2002-12-31	2363	2383
2344	5th preceding taxation year 2003-12-31	2364	2384
2345	4th preceding taxation year 2004-12-31	2365	2385
2346	3rd preceding taxation year 2005-12-31	2366	2386
2347	2nd preceding taxation year 2006-12-31	2367	2387
2348	1st preceding taxation year 2007-12-31	2368	2388
2349	Current taxation year 2008-12-31	2369	2389
Totals		2370	2390

The sum of amounts 2370 + 2390
must equal amount in 2336 .

**Corporate Minimum Tax (CMT)
CT23 Schedule 101 – Supporting Schedule**

Corporation's Legal Name Hydro Ottawa Limited	Ontario Corporations Tax Account No. (MOR) 1800113	Taxation Year End 2008-12-31
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CMT Losses Carried Forward Workchart

(i) Continuity of Pre-1994 CMT Losses

	Corporation's Pre-1994 Loss	Predecessors' Pre-1994 Loss	
		Amalgamation	Wind-Up
Date of the last tax year end before the corp's 1st tax year commencing after 1993			
Pre-1994 Loss (per schedule)			
Less: Claimed in prior taxation years commencing after 1993			
Pre-1994 Loss available for the current year			
Less: Deducted in the current year			
(max. = adj. net income for the year)			
Expired after 10 years			
Pre-1994 Loss Carryforward			

**(ii) Continuity of Other Eligible CMT Losses – Filing Corporation
(for losses occurring in tax years commencing after 1993)**

	Year of Origin YYYY/MM/DD	Opening Balance	Adjustment	Deduction	Expired	Closing Balance
10th Prior Year	1999-09-30					
9th Prior Year	2000-09-30					
8th Prior Year	2001-09-30					
7th Prior Year	2001-12-31					
6th Prior Year	2002-12-31					
5th Prior Year	2003-12-31					
4th Prior Year	2004-12-31					
3rd Prior Year	2005-12-31					
2nd Prior Year	2006-12-31					
1st Prior Year	2007-12-31					
Total						

Predecessor Corporations Only – Amalgamation

Indicate the amounts of eligible CMT losses from predecessor corporations. Do not include these amounts in the 'opening balance' of the Filing Corporation.

Year of Origin YYYY/MM/DD	Opening Balance	Add	Adjustment	Deduction	Expired	Closing Balance
1999-09-30						
2000-09-30						
2001-09-30						
2001-12-31						
2002-12-31						
2003-12-31						
2004-12-31						
2005-12-31						
2006-12-31						
2007-12-31						
Total						

**Corporate Minimum Tax (CMT)
CT23 Schedule 101 – Supporting Schedule**

Corporation's Legal Name Hydro Ottawa Limited	Ontario Corporations Tax Account No. (MOR) 1800113	Taxation Year End 2008-12-31
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CMT Losses Carried Forward Workchart (continued)

Predecessor Corporations Only – Wind-Up

Indicate the amounts of eligible CMT losses from predecessor corporations. Do not include these amounts in the 'opening balance' of the Filing Corporation.

Year of Origin YYYY/MM/DD	Opening Balance	Add	Adjustment	Deduction	Expired	Closing Balance
1999-09-30						
2000-09-30						
2001-09-30						
2001-12-31						
2002-12-31						
2003-12-31						
2004-12-31						
2005-12-31						
2006-12-31						
2007-12-31						
Total						

**Corporate Minimum Tax (CMT)
CT23 Schedule 101 – Supporting Schedule**

Corporation's Legal Name Hydro Ottawa Limited	Ontario Corporations Tax Account No. (MOR) 1800113	Taxation Year End 2008-12-31
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CMT Credit Carryovers Workchart

Filing Corporation

	Year of Origin YYYY/MM/DD	Opening Balance	Adjustment	Deduction	Expired	Closing Balance
10th Prior Year	1999-09-30					
9th Prior Year	2000-09-30					
8th Prior Year	2001-09-30					
7th Prior Year	2001-12-31					
6th Prior Year	2002-12-31					
5th Prior Year	2003-12-31					
4th Prior Year	2004-12-31					
3rd Prior Year	2005-12-31					
2nd Prior Year	2006-12-31					
1st Prior Year	2007-12-31					
Total						

Predecessor Corporations Only – Amalgamation

Indicate the amounts of CMT credit carryovers from predecessor corporations. Do not include these amounts in the 'opening balance' of the Filing Corporation.

Year of Origin YYYY/MM/DD	Opening Balance	Add	Adjustment	Deduction	Expired	Closing Balance
1999-09-30						
2000-09-30						
2001-09-30						
2001-12-31						
2002-12-31						
2003-12-31						
2004-12-31						
2005-12-31						
2006-12-31						
2007-12-31						
Total						

Predecessor Corporations Only – Wind-Up

Indicate the amounts of CMT credit carryovers from predecessor corporations. Do not include these amounts in the 'opening balance' of the Filing Corporation.

Year of Origin YYYY/MM/DD	Opening Balance	Add	Adjustment	Deduction	Expired	Closing Balance
1999-09-30						
2000-09-30						
2001-09-30						
2001-12-31						
2002-12-31						
2003-12-31						
2004-12-31						
2005-12-31						
2006-12-31						
2007-12-31						
Total						



Ontario

Ministry of Revenue
Corporations Tax
33 King Street West
PO Box 620
Oshawa ON L1H 8E9

Surtax on Canadian-Controlled Private Corporations

Corporation's Legal Name Hydro Ottawa Limited	Ontario Corporations Tax Account No. (MOF) 1800113	Taxation Year End 2008-12-31
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Name of Associated Corporation (Canadian and Foreign)	Corporations Tax Number	Taxation Year End	Taxation Income (if loss, enter nil)
Hydro Ottawa Holding Inc.	1800112	2008-12-31	+
Energy Ottawa Inc.	1800073	2008-12-31	+
Telecom Ottawa Holding Inc.	1800371	2008-12-31	+
PowerTrail Inc.	4399428	2008-12-31	+
			+
			+
			+
			+
			+
			+
			+
			+
			+
			+
			+
			+
			+
			+
			+
			+
			+
			+
			+
Total			
<i>Transfer to 85 of the CT23</i>			=



Ontario

Ministry of Revenue
 Corporations Tax
 33 King Street West
 PO Box 620
 Oshawa ON L1H 8E9

Corporate Minimum Tax - Associated Corporations

Corporation's Legal Name Hydro Ottawa Limited	Ontario Corporations Tax Account No. (MOF) 1800113	Taxation Year End 2008-12-31
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Name of Associated Corporation (Canadian and Foreign)	Corporations Tax Number	Taxation Year End	Total Assets	Total Revenue
Hydro Ottawa Holding Inc.	1800112	2008-12-31	+ 496,263,000	+ 38,217,000
Energy Ottawa Inc.	1800073	2008-12-31	+ 36,616,000	+ 10,078,000
Telecom Ottawa Holding Inc.	1800371	2008-12-31	+ 27,231,402	+ 22,418,554
PowerTrail Inc.	4399428	2008-12-31	+ 10,108,000	+ 2,171,000
			+	+
			+	+
			+	+
			+	+
			+	+
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			+	+

Totals = 570,218,402 = 72,884,554
 Transfer to 249 of the CT23 Transfer to 250 of the CT23



Corporation's Legal Name	Ontario Corporations Tax Account No. (MOF)	Taxation Year End
Hydro Ottawa Limited	1800113	2008-12-31

Loans or Advances Credited or Advanced to Corporation (includes accounts payable to related parties outstanding at the taxation year end for 120 days or more, and accounts payable to non-related parties outstanding for 365 days or more at the taxation year end)	
Customer Deposits	+ 24,257,256
Notes Payable	+ 282,185,000
Tender Deposits	+ 50,101
Key Deposits	+ 27,000
A/P to related parties >120 days	+ 9,987
A/P to non-related parties > 365 days	+ 56,026
Interco advances- Parent Co.	+ 12,000,000
	+
	+
	+
	+
	+
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Total	= 318,585,370
Transfer to <input type="text" value="353"/> of the CT23	



Ministry of Revenue
Corporations Tax
33 King Street West
PO Box 620
Oshawa ON L1H 8E9

Ontario Charitable Donations and Gifts
Schedule 2

Corporation's Legal Name Hydro Ottawa Limited	Ontario Corporations Tax Account No. (MOR) 1800113	Taxation Year End 2008-12-31
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- For use by a corporation to claim any of the following:
 - Charitable donations;
 - Gifts to Her Majesty in right of Ontario, to Ontario crown agencies, or to Ontario Crown foundations;
 - Gifts to Canada or a province;
 - Gifts of certified cultural property; or
 - Gifts of certified ecologically sensitive land.
- The donations and gifts are eligible for a five year carry-forward.
- Use this schedule to show a credit transfer following an amalgamation or wind-up of subsidiary as described under subsection 87(1) and 88(1) of the federal *Income Tax Act* (Canada).
- For donations and gifts made after March 22, 2004, subsection 34(1.1) of the *Corporations Tax Act* parallels subsection 110.1(1.2) of the *Income Tax Act* and provides as follows:
 - where a particular corporation has undergone a change of control, for taxation years that end on or after the change of control, no corporation can claim a deduction for a gift made by a particular corporation to a qualified donee before the change of control;
 - if a particular corporation makes a gift to a qualified donee pursuant to an arrangement under which both the gift and the change 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.
- For instructions on calculating additional deductions for eligible medical gifts made after March 18, 2007, please see the Revised Guide to the 2007 CT23 Corporations Tax and Annual Return. The deduction may be claimed in box **664** of Ontario Schedule 1.
- File one completed copy of this schedule with your CT23.

Part 1 – Charitable Donations

Charitable Donations at end of preceding taxation year	+		A
Deduct: Donations expired after 5 taxation years	-		B
Charitable donations at beginning of taxation year	=		C
Add: Donations transferred on amalgamation or wind-up of subsidiary	+		D
Total current year charitable donations made	+	67,292	E
Subtotal D + E	=	67,292	F
Deduct: Adjustment for an acquisition of control (for donations made after March 22, 2004)	-		G
Total donations available C + F – G	=	67,292	H
Deduct: Amount applied against taxable income (amount U, Part 2)	-	67,292	U
Charitable donations closing balance	=		I

Part 2 – Maximum Deduction Calculation for Donations

Ontario net income for tax purposes multiplied by 75%	=	28,512,873	J
<i>Note: For credit unions the Ontario net income for tax purposes is the amount before the deduction of payments pursuant to allocations in proportion to borrowing and bonus interest.</i>			
Ontario taxable capital gains arising in respect of gifts of capital property	+		K
Ontario taxable capital gain in respect of deemed gifts of non-qualifying securities per subsection 40(1.01) ITA	+		L
Add the lesser of:			
1. The amount of the recapture of capital cost allowance in respect of charitable gifts			M
2. The lesser of:			
2a. Proceeds of dispositions less outlays and expenses			N
2b. The capital cost			O
The lesser of N and O	▶		P
The lesser of M and P	+		Q
Subtotal K + L + Q	=		R
25% X			S
Maximum deduction allowable J + S	=	28,512,873	T
Claim for charitable donations (not exceeding the lesser of H from Part 1, T and net income for tax purposes)		67,292	U

Enter in **1** of the CT23

Corporation's Legal Name Hydro Ottawa Limited	Ontario Corporations Tax Account No. (MOR) 1800113	Taxation Year End 2008-12-31
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Part 3 – Gifts to Her Majesty in right of Ontario

For use by a corporation claiming gifts to Her Majesty in right of Ontario, to Ontario Crown Agencies, or to Ontario Crown Foundations.

Gifts to Ontario Crown Agency or Ontario Crown Foundation at end of the preceding taxation year +	
Deduct: Gifts expired after 5 years -	
Gifts to Ontario Crown Agency or Ontario Crown Foundation at the beginning of the taxation year =	
Add: Gifts transferred on amalgamation or wind-up of a subsidiary +	
Total current year gifts +	
Subtotal =	
Deduct: Adjustment for an acquisition of control (for gifts made after March 22, 2004) -	
Total gifts available =	
Deduct: Amount applied against taxable income <input type="text" value="2"/> of the CT23 -	
Gifts to Ontario Crown Agency or Ontario Crown Foundation closing balance =	

Foundation Name	Date of Donation	Amount \$
Total gifts to Her Majesty in right of Ontario =	

Part 4 – Maximum Deduction Calculation for Gifts to Her Majesty in Right of Ontario

Deduction is the lesser of:

1. Ontario Net Income before deductions of gifts after deducting charitable donations and gifts to Her Majesty in right of Canada or a province other than Ontario	<input type="text" value="37,949,872"/>	V
2. Lesser of:			
2a. Ontario Net Income for the taxation year	<input type="text" value="38,017,164"/>	W
2b. Gifts made in the taxation year or any of the five preceding taxation years to Her Majesty in Right of Ontario, an Ontario Crown Agency or an Ontario Crown Foundation	<input type="text" value="X"/>	X
The lesser of W and X	<input type="text" value="Y"/>	Y
Maximum deduction allowable the lesser of V and Y	<input type="text" value="Z"/>	Z

Transfer to of the CT23

Part 5 – Gifts to Canada or a province other than Ontario

Gifts to Canada or a province other than Ontario at the end of the preceding year +	
Deduct: Gifts to Canada or a province other than Ontario expired after five taxation years -	
Gifts to Canada or a province other than Ontario at the beginning of the taxation year =	
Add: Gifts to Canada or a province other than Ontario transferred on amalgamation or wind-up of a subsidiary +	
Total current year Gifts to Canada or a province other than Ontario (Not applicable for gifts made after February 18, 1997, unless a written agreement was made before this date.) +	
Subtotal =	
Deduct: Adjustment for an acquisition of control (for gifts made after March 22, 2004) -	
Total gifts to Canada or a province other than Ontario available =	
Deduct: Amount applied against taxable income -	
Gifts to Canada or a province other than Ontario closing balance =	

Corporation's Legal Name Hydro Ottawa Limited	Ontario Corporations Tax Account No. (MOR) 1800113	Taxation Year End 2008-12-31
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Part 6 – Gifts of certified cultural property

Gifts of certified cultural property at the end of the preceding taxation year +	
Deduct: Gifts of certified cultural property expired after five years -	
Gifts of certified cultural property at the beginning of the taxation year =	
Add: Gifts of certified cultural property transferred on amalgamation or wind-up of a subsidiary +	
Total current year gifts of certified cultural property +	
Subtotal =	
Deduct: Adjustment for an acquisition of control (for gifts made after March 22, 2004) -	
Total gifts of certified cultural property available =	
Deduct: Amount applied against taxable income -	
Gifts of certified cultural property closing balance =	

Part 7 – Gifts of certified ecologically sensitive land

Gifts of certified ecologically sensitive land at the end of the preceding taxation year +	
Deduct: Gifts of certified ecologically sensitive land expired after five years -	
Gifts of certified ecologically sensitive land at the beginning of the taxation year =	
Add: Gifts of certified ecologically sensitive land transferred on amalgamation or wind-up of a subsidiary +	
Total current year gifts of certified ecologically sensitive land +	
Subtotal =	
Deduct: Adjustment for an acquisition of control (for gifts made after March 22, 2004) -	
Total gifts of certified ecologically sensitive land available =	
Deduct: Amount applied against taxable income -	
Gifts of certified ecologically sensitive land closing balance =	

Part 8 – Analysis of balance by year of origin

Year of origin	Charitable donations	Gifts to Her Majesty in right of Ontario	Gifts to Canada or a province other than Ontario	Gifts of certified cultural property	Gifts of certified ecologically sensitive land
2007-12-31					
2006-12-31					
2005-12-31					
2004-12-31					
2003-12-31					
2002-12-31					
Totals					



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Ontario Capital Cost Allowance Schedule 8

Corporation's Legal Name: **Hydro Ottawa Limited** Ontario Corporations Tax Account No. (MOF): **1800113** Taxation Year End: **2008-12-31**

Is the corporation electing under regulation 1101(5q)? 1 Yes 2 No

1	2	3	4	5	6	7	8	9	10	11	12	13
Class number	Ontario undepreciated capital cost at the beginning of the year (undepreciated capital cost at the end of the prior year's CCA schedule)	Cost of acquisitions during the year (new property must be available for use) See note 1 below	Net adjustments (show negative amounts in brackets)	Proceeds of dispositions during the year (amount not to exceed the capital cost)	Ontario undepreciated capital cost (column 2 plus column 3 or minus column 4 minus column 5)	50% rule (1/2 of the amount, if any, by which the net cost of acquisitions exceeds column 5) See note 2 below	Reduced undepreciated capital cost (column 6 minus column 7)	CCA rate %	Recapture of capital cost allowance	Terminal loss	Ontario capital cost allowance (column 8 multiplied by column 9; or a lower amount)	Ontario undepreciated capital cost at the end of the year (column 6 minus column 12)
1	272,586,358			0	272,586,358		272,586,358	4	0	0	10,903,454	261,682,904
1	1,962,126	6,130,795		72,494	8,020,427	3,029,151	4,991,276	6	0	0	299,477	7,720,950
2	89,107,550			0	89,107,550		89,107,550	6	0	0	5,346,453	83,761,097
3	13,852,592			0	13,852,592		13,852,592	5	0	0	692,630	13,159,962
8	9,216,558	1,369,618		23	10,586,153	684,798	9,901,355	20	0	0	1,980,271	8,605,882
10	7,326,313	1,823,694		222,098	8,927,909	800,798	8,127,111	30	0	0	2,438,133	6,489,776
12	3,177,092	3,284,145		0	6,461,237	1,642,073	4,819,164	100	0	0	4,819,164	1,642,073
42	794,730			0	794,730		794,730	12	0	0	95,368	699,362
45	1,716,873			0	1,716,873		1,716,873	45	0	0	772,593	944,280
See schedule	120,524,937	53,219,579			173,744,516	26,609,790	147,134,726				13,041,552	160,702,964
Totals	520,265,129	65,827,831		294,615	585,798,345	32,766,610	553,031,735				40,389,095	545,409,250

Note 1. 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) of the *Income Tax Act* (Canada).

Note 2. The net cost of acquisitions is the cost of acquisitions plus or minus certain adjustments from column 4.

Note 3. If the taxation year is shorter than 365 days, prorate the CCA claim.

Note 4. Ontario recapture should be included in net income after deducting the federal recapture and the Ontario terminal loss is deducted from net income after including the federal terminal loss.

Enter in boxes **650** **650** **650** on the CT23.

Ontario Capital Cost Allowance Schedule 8

Corporation's Legal Name Hydro Ottawa Limited	Ontario Corporations Tax Account No. (MOF) 1800113	Taxation Year End 2008-12-31
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1 Class number	2 Ontario undepreciated capital cost at the beginning of the year (undepreciated capital cost at the end of the prior year's CCA schedule)	3 Cost of acquisitions during the year (new property must be available for use) See note 1 below	4 Net adjustments (show negative amounts in brackets)	5 Proceeds of dispositions during the year (amount not to exceed the capital cost)	6 Ontario undepreciated capital cost (column 2 plus column 3 or minus column 4 minus column 5)	7 50% rule (1/2 of the amount, if any, by which the net cost of acquisitions exceeds column 5) See note 2 below	8 Reduced undepreciated capital cost (column 6 minus column 7)	9 CCA rate %	10 Recapture of capital cost allowance	11 Terminal loss	12 Ontario capital cost allowance (column 8 multiplied by column 9; or a lower amount)	13 Ontario undepreciated capital cost at the end of the year (column 6 minus column 12)
50	2,320,365	766,821		0	3,087,186	383,411	2,703,775	55	0	0	1,487,076	1,600,110
47	118,204,572	52,452,758		0	170,657,330	26,226,379	144,430,951	8	0	0	11,554,476	159,102,854
Totals	120,524,937	53,219,579			173,744,516	26,609,790	147,134,726				13,041,552	160,702,964



Ontario

Ministry of Revenue
Corporations Tax
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Ontario Cumulative Eligible Capital Deduction

Schedule 10 Page 1 of 2

For taxation years 2002 and later

Corporation's Legal Name Hydro Ottawa Limited	Ontario Corporations Tax Account No. (MOF) 1800113	Taxation Year End 2008-12-31
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- For use by a corporation that has eligible capital property.
- A separate cumulative eligible capital account must be kept for each business.

Part 1 – Calculation of current year deduction and carry-forward

Ontario Cumulative eligible capital – balance at end of preceding taxation year (if negative, enter zero)		= +	1,157,632	A
Add: Cost of eligible capital property acquired during the taxation year	+ 393,794			B
Other adjustments	+ _____			C
B + C	= 393,794	x 3 / 4 =	295,346	D
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	_____	x 1 / 2 = -		E
D minus E (if negative, enter zero)		=	295,346	F
Amount transferred on amalgamation or wind-up of subsidiary		+ _____		G
Subtotal A + F + G		=	1,452,978	H
Deduct: Ontario proceeds of sales (less outlays and expenses not otherwise deductible) from the disposition of all eligible capital property during the taxation year	+ _____			I
The gross amount of a reduction in respect of a forgiven debt obligation as provided for in subsection 80(7) of the Income Tax Act (Canada)	+ _____			J
Other adjustments	+ _____			K
I + J + K	= _____	x 3 / 4 = -		L
Ontario cumulative eligible capital balance H minus L		=	1,452,978	M
<i>If M is negative, enter zero at line Q and proceed to Part 2, page 2.</i>				
Cumulative eligible capital for a property no longer owned after ceasing to carry on that business				N
	From M		1,452,978	
	From N		-	
Current year deduction M minus N	= 1,452,978	x 7 % = +	101,708	O
N + O		=	101,708	P
Note: The maximum current year deduction is 7%. Any amount up to the maximum deduction of 7% may be claimed. For taxation years starting after December 21, 2000, the deduction may not exceed the maximum amount prorated for the number of days in the taxation year divided by 365 or 366 days.				
Ontario cumulative eligible capital - closing balance M minus P (if negative, enter zero)		=	1,351,270	Q

Enter amount in box 651 of the CT23

See page 2 - Part 2

**Ontario Cumulative Eligible Capital Deduction
Schedule 10 Page 2 of 2**

Corporation's Legal Name Hydro Ottawa Limited	Ontario Corporations Tax Account No. (MOF) 1800113	Taxation Year End 2008-12-31
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Part 2 – Amount to be included in income arising from disposition

Complete this part only if the amount at line M is negative.

Amount from line M above. *Show this as a positive amount; not negative.* **R**

Total cumulative eligible capital deductions from income for taxation years beginning after June 30, 1988 + **1**

Total of all amounts which reduced cumulative eligible capital in the current or prior years under subsection 80(7) of the ITA + **2**

Total of cumulative eligible capital deductions claimed for taxation years beginning before July 1, 1988 + **3**

Negative balances in the cumulative eligible capital account that were included in income for taxation years beginning before July 1, 1988 - **4**

Deduct line 4 from line 3 (if negative, enter zero) = **5**

Total lines 1 + 2 + 5 = **6**

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 1 **7**

Amounts at **Line Z** from Ontario Schedule 10 of previous taxation years ending after February 27, 2000 (This will be **Line T** in earlier versions of this schedule.) + **8**

Total lines 7 + 8 = **9**

Deduct line 9 from line 6 (if negative, enter zero) = **S**

R minus S (if negative, enter zero) = **T**

From **Line 5** x 1 / 2 = **U**

T minus U (if negative, enter zero) = **V**

From **V** x 2 / 3 = **W**

Lesser of **R** and **S** = **Z**

Amount to be included in income W + Z =



Ontario

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Ontario Continuity of Reserves
Schedule 13

Corporation's Legal Name Hydro Ottawa Limited	Ontario Corporations Tax Account No. (MOF) 1800113	Taxation Year End 2008-12-31
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For use by a corporation to provide a continuity of all reserves claimed which are allowed for tax purposes.

Part 1 – Capital gains reserves

Description of property	Ontario balance at the beginning of the year \$	Transfer on amalgamation or wind-up of subsidiary \$	Add	Deduct	Ontario balance at the end of the year \$
1					
Totals	A	B			C

The total capital gains reserve at the beginning of the taxation year A plus the total capital gains reserve transfer on amalgamation or wind-up of subsidiary B, should be entered on Schedule 6; and the total capital gains reserve at the end of the taxation year C, should also be entered on Schedule 6.

Part 2 – Other reserves

Description	Ontario balance at the beginning of the year \$	Transfer on amalgamation or wind-up of subsidiary \$	Add	Deduct	Ontario balance at the end of the year \$
Reserve for doubtful debts	1,443,000			475,768	967,232
Reserve for undelivered goods and services not rendered					
Reserve for prepaid rent					
Reserve for December 31, 1995 income					
Reserve for refundable containers					
Reserve for unpaid amounts					
Other tax reserves	6,504,000			4,424,088	2,079,912
Totals	D 7,947,000	E		4,899,856	F 3,047,144

The amount from D plus the amount from E should be entered in 607 of the CT23.

The amount from F should be entered in 654 of the CT23.

Part 3 – Continuity of non-deductible reserves

Reserve	Ontario opening balance	Transfers	Ontario additions	Ontario deductions	Other adjustments	Ontario closing balance
Regulatory Liabilities	5,234,000			1,907,000		3,327,000
Allowance for Doubtful Debts	1,943,000		86,521			2,029,521
Reserves from Part 2						
Totals	7,177,000		86,521	1,907,000		5,356,521

Enter in box 653 of the CT23

Enter in box 606 of the CT23



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2008

Capital Tax Election of Associated Group Agreement for Allocation of Taxable Capital Deduction (TCD)

CT23 SCHEDULE 591

Corporation's Legal Name Hydro Ottawa Limited	Ontario Corporations Tax Account No. (MOF) 1800113	Taxation Year End 2008-12-31
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The following associated group of corporations includes all the corporations in this associated group (excluding financial institutions and corporations exempt from capital tax) having a permanent establishment in Canada and are hereby making an election under subsection 69(2.1) of the *Corporation Tax Act* to allocate the tax effect of the group's taxable capital deduction (TCD) as calculated in section B1 on page 10 of the CT23 for all taxation years which end in the 2008 calendar year, based on each corporation's total assets and Ontario allocation factor from each corporation's last taxation year ending in the 2007 calendar year.

Applies to taxation years ending in the 2008 calendar year.

Corporation having a permanent establishment in Canada	Last taxation year ending in 2007 calendar year	Ontario Allocation A	Total Assets T	Net Deduction A x TE x (T+X) ND	Allocation of Net Deduction AND
Corporation Tax Account Number (if applicable) 1800113	YEAR MONTH DAY 2007-12-31	100.0000	642,079,000	17,521	995 33,750
Corporation Name Hydro Ottawa Limited					
Tax Effect (TE) of Taxable Capital Deduction From CT23, Page 10, Section B: TCD <input type="text" value="503"/> 15,000,000 x Capital Tax Rate <input type="text" value="516"/> 0.225 = TE 33,750					
Corporation Tax Account Number (if applicable) 1800112	YEAR MONTH DAY 2007-12-31	100.0000	510,751,000	13,937	995
Corporation Name Hydro Ottawa Holding Inc.					
Tax Effect (TE) of Taxable Capital Deduction From CT23, Page 10, Section B: TCD <input type="text" value="503"/> 15,000,000 x Capital Tax Rate <input type="text" value="516"/> 0.225 = TE 33,750					
Corporation Tax Account Number (if applicable) 1800073	YEAR MONTH DAY 2007-12-31	100.0000	38,362,000	1,047	995
Corporation Name Energy Ottawa Inc.					
Tax Effect (TE) of Taxable Capital Deduction From CT23, Page 10, Section B: TCD <input type="text" value="503"/> 15,000,000 x Capital Tax Rate <input type="text" value="516"/> 0.225 = TE 33,750					
Corporation Tax Account Number (if applicable) See Schedule	YEAR MONTH DAY		45,618,162	1,245	995
Corporation Name					
Tax Effect (TE) of Taxable Capital Deduction From CT23, Page 10, Section B: TCD <input type="text" value="503"/> x Capital Tax Rate <input type="text" value="516"/> = TE					

If insufficient space, attach list.

Total Assets of Associated Group having permanent establishments in Canada	X	1,236,810,162	<input type="text" value="959"/>
Total Net Deductions of Associated Group having permanent establishments in Canada	... TND	33,750	<input type="text" value="994"/>
Total Allocated Net Deductions of Associated Group having permanent establishments in Canada	TAND	33,750	

2008

Capital Tax Election of Associated Group Agreement for Allocation of Taxable Capital Deduction (TCD)

CT23 SCHEDULE 591

Corporation's Legal Name Hydro Ottawa Limited		Ontario Corporations Tax Account No. (MOF) 1800113	Taxation Year End 2008-12-31		
Corporation having a permanent establishment in Canada	Last taxation year ending in 2007 calendar year	Ontario Allocation A	Total Assets T	Net Deduction A x TE x (T+X) ND	Allocation of Net Deduction AND
Corporation Tax Account Number (if applicable) 1800371	YEAR MONTH DAY 2007-12-31	100.0000	35,142,162	959	995
Corporation Name Telecom Ottawa Holding Inc.					
Tax Effect (TE) of Taxable Capital Deduction From CT23, Page 10, Section B:					
TCD <input type="text" value="503"/> 15,000,000 x Capital Tax Rate <input type="text" value="516"/> 0.225 = TE 33,750					
Corporation Tax Account Number (if applicable) 4399428	YEAR MONTH DAY 2007-12-31	100.0000	10,476,000	286	995
Corporation Name PowerTrail Inc.					
Tax Effect (TE) of Taxable Capital Deduction From CT23, Page 10, Section B:					
TCD <input type="text" value="503"/> 15,000,000 x Capital Tax Rate <input type="text" value="516"/> 0.225 = TE 33,750					
Total Assets of Associated Group having permanent establishments in Canada		X	45,618,162	<input type="text" value="959"/>	
Total Net Deductions of Associated Group having permanent establishments in Canada			TND	1,245	<input type="text" value="994"/>
Total Allocated Net Deductions of Associated Group having permanent establishments in Canada			TAND		

Corporate Taxpayer Summary

Corporate information

Corporation's name	Hydro Ottawa Limited														
Taxation Year	2008-01-01 to 2008-12-31														
Jurisdiction	Ontario														
BC	AB	SK	MB	ON	QC	NB	NS	NO	PE	NL	XO	YT	NT	NU	OC
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Corporation is associated	Y														
Corporation is related	Y														
Number of associated corporations	4														
Type of corporation	Canadian-Controlled Private Corporation														
Total amount due (refund) federal and provincial*	-545,999														

* The amounts displayed on lines "Total amount due (refund) federal and provincial" are all listed in the help. Press F1 to consult the context-sensitive help.

Summary of federal information

Net income			38,017,164
Taxable income			37,949,872
Donations			67,292
Calculation of income from an active business carried on in Canada			38,017,164
Dividends paid			14,000,000
Balance of the low rate income pool at the end of the previous year			
Balance of the low rate income pool at the end of the year			
Balance of the general rate income pool at the end of the previous year			50,132,837
Balance of the general rate income pool at the end of the year			75,938,750
Part I tax (base amount)			14,420,951
Surtax			
Credits against part I tax	Summary of tax	Refunds/credits	
Small business deduction	Part I	ITC refund	
M&P deduction	Part I.3	Dividends refund	
Foreign tax credit	Part IV	Instalments	7,374,454
Political contributions	Part III.1	Surtax credit	
Investment tax credits	Other*	Other*	
Abatement/Other*	Provincial or territorial tax		
		Balance due/refund (-)	

* The amounts displayed on lines "Other" are all listed in the Help. Press F1 to consult the context-sensitive help.

Summary of federal carryforward/carryback information

Carryback amounts	
Investment tax credits	
Non-capital loss	
Capital loss	
Farm loss	
Restricted farm loss	
Surtax credit	
Part I tax credit (Schedule 42)	
Federal foreign non-business income tax credit	
Carryforward balances	
RDTOH	
Charitable donations	
Gifts to Canada, a province or a territory	

Summary of federal carryforward/carryback information (continued)

Gifts of certified cultural property	
Gifts of certified ecologically sensitive land	
Gifts of medicine	
Investment tax credits	
Non-capital losses	
Capital/L.P.P. losses	
Farm losses	
Restricted farm losses	
Current year's balance of SR&ED expenditures (T661)	
Foreign business tax credit	
Unused surtax credit (Schedule 37)	
Capital dividend amount	225,385
Part I tax credit (Schedule 42)	
Cumulative eligible capital	1,351,270
Capital gains reserves	
Financial statement reserve	5,356,521
Other reserves	3,047,144
Balance of patronage dividends	
Continuity of exemption of accumulated income	

Summary of provincial information – provincial income tax payable

	Ontario (CT-23)	Québec (CO-17)	Alberta (AT1)
Net income	38,017,164		
Taxable income	37,949,872		
% Allocation	100.00		
Attributed taxable income	37,949,872		
Surtax	42,500	N/A	N/A
Tax payable before deduction*	5,312,982		
Deductions and credits	125,700		
Net tax payable	5,229,782		
Attributed taxable capital	539,667,488		N/A
Capital tax payable**	1,180,502		N/A
Total tax payable***	6,410,284		
Instalments and refundable credits	6,956,283		
Balance due/Refund (-)	-545,999		

* For Québec, this includes special taxes.

** For Québec, this includes compensation tax and registration fee.

*** For Ontario, this includes corporate minimum tax and premium tax.

	British Columbia	Saskatchewan	Manitoba
% Allocation			
Attributed taxable income			
Tax payable before deduction*			
Deductions and credits			
Tax payable or refundable credit			
Attributed taxable capital			
Capital tax payable**			
Instalments and refundable credits			
Balance due/Refund (-)			

* For British Columbia, this includes the Logging Tax Payable.

** For Manitoba, this includes the Outstanding Balance Excluding Instalments.

Summary of provincial information – provincial income tax payable (continued)

	Newfoundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick
% Allocation				
Attributed taxable income				
Tax payable before deduction				
Deductions and credits				
Tax payable or refundable credit				
Attributed taxable capital				
Capital tax payable				
Instalments and refundable credits				
Balance due/Refund (-)*				
* Only applies in the case of bank, a loan corporation or a trust corporation.				
		Yukon	Northwest Territories	Nunavut
% Allocation				
Attributed taxable income				
Tax payable before deduction				
Deductions and credits				
Tax payable or refundable credit				

Summary of provincial carryforward amounts

	Ontario	Québec	Alberta
Non-capital losses			
Net capital/L.P.P. losses			
Farm losses			
Restricted farm losses			
Donations			
Capital gains reserves			
Financial statement reserves	5,356,521	5,356,521	5,356,521
Other reserves	3,047,144	3,047,144	3,047,144
Eligible capital	1,351,270	1,351,270	1,351,270

Other carryforward amounts

Ontario

Continuity of other eligible CMT losses – Filing Corporation – OCMT101			
Predecessor corporations only – Amalgamation – OCMT101			
Predecessor corporations only – Wind-up – OCMT101			
CMT credit carryovers workchart – Filing Corporation – OCMT101			
CMT credit carryovers workchart – Predecessor corporations only – Amalgamation			
CMT credit carryovers workchart – Wind-up – OCMT101			
Ontario current taxation year closing balance in pool of deductible SR&ED expenditures – O161			
Continuity Schedule for Federal ITC relating to SR&ED Expenditures for the Preceding Taxation Year – O161			
Continuity Schedule for the Amount of Federal ITC from SR&ED Expenditures relating to QORD for the Preceding Taxation Year – O161			

Québec

R&D expenditures not deducted at the end of the year – RD-222			
Tax credit for fees and dues paid to a research consortium – RD-1029.8.9.03			
Foreign non-business income tax credits – CO-17S.39			
Non-refundable tax credit for resources – 1029.8.36.EM			
Investment Tax Credit – CO-1029.8.36.IN			
Development work expenses – FM220.3			
Excess development work expenses – FM220.3			
Balance of patronage dividends – CO-786			

Alberta

Unclaimed SR&ED expenditure pool deduction balance – A16			
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British Columbia

Scientific research and experimental development – Schedule 425			
Manufacturing and processing – Schedule 426			

Manitoba

Research and development – Schedule 380			
Manufacturing investment – Schedule 381			
Co-op education and apprenticeship – Schedule 384			
Odour control – Schedule 385			
Community enterprise investment – Schedule 387			

Saskatchewan

Royalty tax rebate – Schedule 400			
Manufacturing and processing investment – Schedule 402			
Research and development – Schedule 403			

Newfoundland and Labrador

Direct equity tax – Schedule 303			
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Prince Edward Island

Investment – Schedule 321			
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Nova Scotia

Energy efficiency tax credit – Schedule 342			
Manufacturing and processing investment – Schedule 344			

New Brunswick

Research and development – Schedule 360			
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Nunavut

Investment – Schedule 480			
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Five Year Comparative Summary

	Current year	1st prior year	2nd prior year	3rd prior year	4th prior year
Federal information (T2)					
Taxation year end	2008-12-31	2007-12-31	2006-12-31	2005-12-31	2004-12-31
Net income	38,017,164	39,117,133	31,225,931	20,974,079	9,622,357
Taxable income	37,949,872	39,027,318	31,158,031	3,855,343	
Active business income	38,017,164	39,117,133	31,193,481	20,974,079	9,588,638
Dividends paid	14,000,000	22,000,000			
LRIP – end of the previous year					
LRIP – end of the year					
GRIP – end of the previous year	50,132,837	23,594,261			
GRIP – end of the year	75,938,750	50,132,837	23,594,261		
Donations	67,292	89,815	67,900	36,101	
Balance due/refund (-)					

Federal taxes					
Part I before surtax	7,374,454	8,163,737	11,840,052	809,622	
Surtax		437,106	348,970	43,180	
Part I.3				646,332	760,999
Part IV					
Part I & Surtax	7,374,454	8,600,843	6,896,591	852,802	
Part III.1					
Other*					

* The amounts displayed on lines "Other" are all listed in the help. Press F1 to consult the context-sensitive help.

Credits against part I tax					
Small business deduction					
M&P deduction					
Foreign tax credit					
Political contribution					
Investment tax credit	25,771	32,000			
Abatement/other*	7,020,726	6,634,644	5,294,594	655,408	

* The amounts displayed on lines "Other" are all listed in the help. Press F1 to consult the context-sensitive help.

Refunds/credits					
ITC refund					
Dividend refund		8,653			
Instalments	7,374,454	8,592,190	6,896,591	1,499,134	760,999
Surtax credit				43,180	
Other*					

* The amounts displayed on lines "Other" are all listed in the help. Press F1 to consult the context-sensitive help.

Ontario

Taxation year end	2008-12-31	2007-12-31	2006-12-31	2005-12-31	2004-12-31
Net income	38,017,164	39,117,133			
Taxable income	37,949,872	39,027,318			
% Allocation	100.00	100.00			
Attributed taxable income	37,949,872	39,027,318	31,158,031	3,855,343	
Surtax	42,500	34,000	34,000	34,000	
Income tax payable before deduction	5,312,982	5,463,825	4,362,124	539,748	
Income tax deductions /credits	125,700	112,490	64,000	34,000	
Net income tax payable	5,229,782	5,385,335	4,071,474	539,748	
Taxable capital	539,667,488	536,547,024	518,586,321	427,128,476	428,881,175
Capital tax payable	1,180,502	1,179,106	1,525,758	1,258,885	1,271,644
Total tax payable*	6,410,284	6,564,441	5,597,232	2,059,283	1,271,644
Instalments and refundable credits	6,956,283	6,602,171	5,666,232	2,394,159	
Balance due/refund**	-545,999	-37,730	-69,000	-334,876	-241,966

* For taxation years ending before January 1, 2009, this includes the corporate minimum tax and the premium tax. For taxation years ending after December 31, 2008, this includes the corporate minimum tax, the Crown royalties' additional tax, the transitional tax debit, the recaptured research and development tax credit and the special additional tax debit on life insurance corporations.

** For taxation years ending after December 31, 2008, the Balance due/Refund is included in the federal Balance due/refund.



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CAPITAL STRUCTURE and COST of CAPITAL

1.0 CAPITAL STRUCTURE

Hydro Ottawa Limited (“Hydro Ottawa”) has used the Ontario Energy Board’s (the “Board”) deemed capital structure of 56% long-term debt, 4% short-term debt and 40% common equity for the purpose of this cost of service application. This is consistent with the structure set out in the *Report of the Board on Cost of Capital and 2nd Generation Incentive Regulation for Ontario’s Electricity Distributors* (“Board Report on CoC and IRM”) dated December 20, 2006 and it is also consistent with Hydro Ottawa’s past and current practices. Hydro Ottawa targets a debt:equity range of 60:40 for its actual total debt to equity capital structure by maintaining an appropriate level of debt and/or issuing dividends to Hydro Ottawa Holding Inc. (the “Holding Company”).

As required in the Update to Chapter 2 of the Filing Requirements for Transmission and Distribution Applications, May 27, 2009, Appendix 2-O has been completed and is included as Attachment AB.

Hydro Ottawa does not have any scheduled debt retirement or buy back of shares in its forecast.

Hydro Ottawa has forecast a new debt issuance to the Holding Company in 2011 in the amount of \$15M driven primarily by its ongoing capital program requirements and to maintain the actual capital structure in close proximity to the deemed.



1 **2.0 COST OF DEBT**

2
3 Hydro Ottawa receives its financing through the Holding Company. All external debt is
4 managed by the Holding Company on behalf of its affiliates to achieve favourable market
5 rates and to maintain a strong credit rating at the parent company level. The cost of debt
6 is passed onto Hydro Ottawa on the same terms as the parent when external financing
7 secured by the Holding Company is targeted for Hydro Ottawa, or, in the absence of
8 external financing, the deemed rates as set by the Board that are in effect at the time of
9 the financing transaction. Consistent with current and past practice, amortized issuance
10 costs and ten basis points for administration is included in the debt rate.

11
12 **2.1 Short Term Debt**

13
14 The Holding Company maintains short term credit facilities to support the liquidity needs
15 of Hydro Ottawa. These facilities are to cover periodic working capital deficiencies,
16 bridge financing requirements until long term debt is warranted and to post the required
17 prudentials with the Independent Electricity System Operator. Terms and conditions of
18 short term borrowings are governed by the “Credit Agreement” filed as part of the credit
19 agreements in Attachment AC.

20
21 For the purposes of the cost of service application test year, Hydro Ottawa has used a
22 forecast of 2.17% for the short term debt rate based on the deemed short term debt rate
23 for 2010 cost of service applications of 2.07% as communicated in the February 24,
24 2010 letter from the Board plus ten basis points in expectation of higher interest rates. It
25 is recognized that this rate will be updated at the time of the rate decision to reflect the
26 current rate in effect as per the calculations and terms outlined in the December 11,
27 2009 “*Report of the Board on the Cost of Capital for Ontario’s Regulated Utilities*”.



1 **2.2 Long Term Debt**

2

3 Hydro Ottawa currently has \$312,185k of long term debt in the form of promissory notes
4 issued to the Holding Company at a weighted cost of 5.315% compared to the 5.258%
5 rate approved in the 2008 Electricity Distribution Rate Application. As noted in section
6 1.0, a \$15M increase in long term debt has been forecast for the 2011 test year bringing
7 the weighted cost of long term debt to 5.351% compared to the Board 2010 deemed rate
8 of 5.87%. A summary of the notes and the weighted average cost calculation is shown
9 in Table 1.

10

11

Table 1 – Weighted Average Cost of Long Term Debt

Description	Date of Issuance	Principal (\$000's)	Interest Rate (%)	Weighted Debt Rate Cost
Promissory Note to Hydro Ottawa Holding Inc.	July 1, 2005	\$ 200,000	5.140%	3.142%
Promissory Note to Hydro Ottawa Holding Inc.	July 1, 2005	32,185	5.900%	0.580%
Promissory Note to Hydro Ottawa Holding Inc.	December 20, 2006	50,000	5.318%	0.813%
Promissory Note to Hydro Ottawa Holding Inc.	December 21, 2009	15,000	5.85%	0.268%
Promissory Note to Hydro Ottawa Holding Inc.	April 1, 2010	15,000	5.97%	0.274%
Promissory Note to Hydro Ottawa Holding Inc.	January 1, 2011	15,000	5.97%	0.274%
		<u>\$ 327,185</u>		<u>5.351%</u>

12

13 **2.3 Preference Shares**

14

15 Hydro Ottawa does not currently have any preference shares issued nor has it forecast
16 for any issuance for the test year.

17

18



1 **2.4 Common Equity**

2

3 For the purposes of the Cost of Service Application test year, Hydro Ottawa has used
4 the deemed return on equity for 2010 cost of service applications of 9.85% as
5 communicated in the February 24, 2010 letter from the Board. It is recognized that this
6 rate will be updated at the time of the rate decision to reflect the current rate in effect as
7 per the calculations and terms outlined in the December 11, 2009 "*Report of the Board*
8 *on the Cost of Capital for Ontario's Regulated Utilities*". The use of the deemed rate is
9 consistent with Hydro Ottawa's current and past practices of following the return on
10 equity rate set by the Board.



Capitalization and Cost of Capital

Historical Year - 2007				
	Capitalization Ratio		Cost Rate	Return
	(%)	(\$ 000)	(%)	(\$ 000)
Long Term Debt	56.47%	\$ 282,185	5.26% ¹	\$ 14,837
Short Term Debt	0.29%	\$ 1,433	5.93%	\$ 85
Total Debt	56.75%	\$ 283,618		\$ 14,922
Common Equity	43.25%	\$ 216,119	8.62%	\$ 18,639
Total	100.00%	\$ 499,737	6.72%	\$ 33,561

Historical Year - 2008 (APPROVED)				
	Capitalization Ratio		Cost Rate	Return
	(%)	(\$ 000)	(%)	(\$ 000)
Long Term Debt	56.00%	\$ 325,788	5.26%	\$ 17,136
Short Term Debt	4.00%	\$ 23,271	4.93%	\$ 1,147
Total Debt	60.00%	\$ 349,059		\$ 18,284
Common Equity	40.00%	\$ 232,706	8.81%	\$ 20,501
Total	100.00%	\$ 581,765	6.67%	\$ 38,785

Historical Year - 2008 (ACTUAL)				
	Capitalization Ratio		Cost Rate	Return
	(%)	(\$ 000)	(%)	(\$ 000)
Long Term Debt	55.09%	\$ 282,185	5.27% ²	\$ 14,878
Short Term Debt	1.19%	\$ 6,110	4.39%	\$ 268
Total Debt	56.29%	\$ 288,295		\$ 15,146
Common Equity	43.71%	\$ 223,907	9.73%	\$ 21,788
Total	100.00%	\$ 512,202	7.21%	\$ 36,934

1. See Table 1 for calculation of Long Term Debt rate
 2. See Table 2 for calculation of Long Term Debt rate



Capitalization and Cost of Capital

Historical Year - 2009				
	Capitalization Ratio		Cost Rate	Return
	(%)	(\$ 000)	(%)	(\$ 000)
Long Term Debt	52.68%	\$ 282,596	5.26% ³	\$ 14,861
Short Term Debt (1)	2.04%	\$ 10,944	6.51%	\$ 713
Total Debt	54.72%	\$ 293,540		\$ 15,574
Common Equity	45.28%	\$ 242,887	10.70%	\$ 25,980
Total	100.00%	\$ 536,427	7.75%	\$ 41,554

Notes

1. Includes Credit Facility Availability Costs

Bridge Year - 2010				
	Capitalization Ratio		Cost Rate	Return
	(%)	(\$ 000)	(%)	(\$ 000)
Long Term Debt	54.18%	\$ 307,253	5.31% ⁴	\$ 16,317
Short Term Debt (1)	1.41%	\$ 8,000	4.20%	\$ 336
Total Debt	55.59%	\$ 315,253		\$ 16,653
Common Equity	44.41%	\$ 251,872	9.13%	\$ 22,985
Total	100.00%	\$ 567,125	6.99%	\$ 39,638

Notes

1. Includes Credit Facility Availability Costs

Test Year - 2011				
	Capitalization Ratio		Cost Rate	Return
	(%)	(\$ 000)	(%)	(\$ 000)
Long Term Debt	56.00%	\$ 353,685	5.35% ⁵	\$ 18,926
Short Term Debt	4.00%	\$ 25,263	2.17%	\$ 548
Total Debt	60.00%	\$ 378,948		\$ 19,474
Common Equity	40.00%	\$ 252,632	9.85%	\$ 24,884
Total	100.00%	\$ 631,580	7.02%	\$ 44,358

3. See Table 3 for calculation of Long Term Debt rate

4. See Table 4 for calculation of Long Term Debt rate

5. See Table 5 for calculation of Long Term Debt rate



Capitalization and Cost of Capital

Table 1
Historical Year - 2007

Description	Issue Date	Principal (\$)	Coupon Rate	Effective Days	Carrying Cost (\$)
\$200 million promissory note	July 1, 2005	200,000,000	5.140%	365	10,280,000
\$32.2 million promissory note	July 1, 2005	32,185,000	5.900%	365	1,898,915
\$50 million promissory note	Dec. 20, 2006	50,000,000	5.318%	365	2,659,000
Avg Monthly Debt Outstanding		282,185,000	5.258%		14,837,915

Table 2
Historical Year - 2008

Description	Issue Date	Principal (\$)	Coupon Rate	Effective Days	Carrying Cost (\$)
\$200 million promissory note	July 1, 2005	200,000,000	5.140%	366	10,308,164
\$32.2 million promissory note	July 1, 2005	32,185,000	5.900%	366	1,904,118
\$50 million promissory note	Dec. 20, 2006	50,000,000	5.318%	366	2,666,285
Avg Monthly Debt Outstanding		282,185,000	5.273%		14,878,567

Table 3
Historical Year - 2009

Description	Issue Date	Principal (\$)	Coupon Rate	Effective Days	Carrying Cost (\$)
\$200 million promissory note	July 1, 2005	200,000,000	5.140%	365	10,280,000
\$32.2 million promissory note	July 1, 2005	32,185,000	5.900%	365	1,898,915
\$50 million promissory note	Dec. 20, 2006	50,000,000	5.318%	365	2,659,000
\$15 million grid promissory note	Dec. 21, 2009	15,000,000	5.850%	10	24,041
Avg Monthly Debt Outstanding		282,595,959	5.259%		14,861,956



Capitalization and Cost of Capital

Table 4
Bridge Year - 2010

Description	Issue Date	Principal (\$)	Coupon Rate	Effective Days	Carrying Cost (\$)
\$200 million promissory note	July 1, 2005	200,000,000	5.140%	365	10,280,000
\$32.2 million promissory note	July 1, 2005	32,185,000	5.900%	365	1,898,915
\$50 million promissory note	Dec. 20, 2006	50,000,000	5.318%	365	2,659,000
\$15 million grid promissory note	Dec. 21, 2009	15,000,000	5.850%	365	877,500
\$15 million grid promissory note	April 30, 2010	15,000,000	5.970%	245	601,089
Avg Monthly Debt Outstanding		307,253,493	5.310%		16,316,504

Table 5
Test Year - 2011

Description	Issue Date	Principal (\$)	Coupon Rate	Effective Days	Carrying Cost (\$)
\$200 million promissory note	July 1, 2005	200,000,000	5.140%	365	10,280,000
\$32.2 million promissory note	July 1, 2005	32,185,000	5.900%	365	1,898,915
\$50 million promissory note	Dec. 20, 2006	50,000,000	5.318%	365	2,659,000
\$15 million grid promissory note	Dec. 21, 2009	15,000,000	5.850%	365	877,500
\$15 million grid promissory note	April 30, 2010	15,000,000	5.970%	365	895,500
\$15 million grid promissory note	Jan. 1, 2011	15,000,000	5.970%	365	895,500
Avg Monthly Debt Outstanding		327,185,000	5.351%		17,506,415

DEMAND PROMISSORY NOTE

Principal: \$50,000,000 lawful money of Canada	Made and delivered at Ottawa on this 20th day of December, 2006
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As consideration for the transfer of funds by **Hydro Ottawa Holding Inc.** necessary to support the capital asset management plan of **Hydro Ottawa Limited**, a corporation incorporated pursuant to the laws of the Province of Ontario, in the amount of fifty million dollars (\$50,000,000), **Hydro Ottawa Limited**, hereby unconditionally promises to pay to or to the order of **Hydro Ottawa Holding Inc.** on demand at Ottawa, Canada the principal amount of fifty million, dollars (\$50,000,000) (the "Principal Amount") in lawful money of Canada and interest thereon upon the terms and subject to the conditions set forth below:

1. INTEREST RATE

The rate of interest payable on the Principal Amount or the amount remaining unpaid from time to time on this Demand Promissory Note shall be 5.318% per annum.

2. TERMS OF PAYMENT

The interest payable hereunder shall be payable on the first day of each month, both before and after demand, default and judgment. **Hydro Ottawa Limited** shall pay to **Hydro Ottawa Holding Inc.**, on demand, interest on overdue interest at the rate described in section 1 hereof compounded on each date for the payment of interest on this Demand Promissory Note before and after judgment.

3. PREPAYMENT

Hydro Ottawa Limited may, at any time, without penalty, repay in whole or in part the Principal Amount or the amount remaining unpaid from time to time on this Demand Promissory Note and interest owing under this Demand Promissory Note. Any prepayment shall be applied first to interest until it has been paid in full and then to the Principal Amount.

4. SUBORDINATION

The obligation of **Hydro Ottawa Limited** to pay the Principal Amount or the amount remaining unpaid from time to time on this Demand Promissory Note, together with interest thereon in accordance with and pursuant to this Demand Promissory Note and all present are subordinated and postponed to the obligations of **Hydro Ottawa Limited** to a third party for the payment in full of any secured

indebtedness and all security interests granted to secure such obligations of **Hydro Ottawa Limited**.

5. **CONVERSION**

This Demand Promissory Note is convertible into fully paid and non-assessable Class A shares of **Hydro Ottawa Limited** as more specifically provided for in Schedule "A" attached hereto, which Schedule forms part of this Demand Promissory Note.

6. **WAIVER OF NOTICE IN EVENT OF DEFAULT**

Hydro Ottawa Limited hereby waives presentment, protest and notice of any kind in the enforcement of this Demand Promissory Note. **Hydro Ottawa Limited** further agrees to pay all costs of collection, including legal fees on a solicitor and client basis, in case the Principal Amount, or the amount remaining unpaid from time to time on this Demand Promissory Note, or any payment of interest thereon is not made when due.

7. **RIGHTS AND REMEDIES IN EVENT OF DEFAULT**

The rights and remedies of **Hydro Ottawa Holding Inc.** under this Demand Promissory Note which it may have at law or in equity against **Hydro Ottawa Limited** shall be distinct, separate and cumulative, and shall not be deemed inconsistent with one another, and none of the said rights, whether or not exercised by **Hydro Ottawa Holding Inc.**, shall be deemed to be to the exclusion of any other, and any one or more of said rights and remedies may be exercised at the same time. The obligations of **Hydro Ottawa Limited** under this Demand Promissory Note shall continue until the entire debt evidenced hereby is paid, notwithstanding any court action or actions taken by **Hydro Ottawa Holding Inc.** which may be brought to recover any amounts due and payable under this Demand Promissory Note. No delay or failure by **Hydro Ottawa Holding Inc.** in the enforcement of any covenant, promise or agreement of **Hydro Ottawa Limited** hereunder shall constitute or be deemed to constitute a waiver of such right. Any waivers of **Hydro Ottawa Holding Inc.** shall only occur and be valid when set forth in writing by **Hydro Ottawa Holding Inc.** No waiver of any event of default shall discharge or release any person at any time liable for the payment of this Demand Promissory Note from such liability. No single or partial exercise of any of **Hydro Ottawa Holding Inc.**'s powers hereunder shall preclude other and further exercise thereof or the exercise of any other power.

8. **ASSIGNMENT**


This Demand Promissory Note may not be assigned by **Hydro Ottawa Limited** without the written consent of **Hydro Ottawa Holding Inc.**

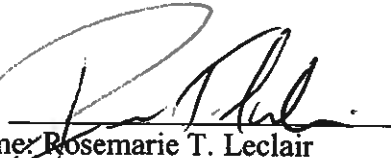
9. **GOVERNING LAW**

This Demand Promissory Note shall be governed by the laws of the Province of Ontario and the laws of Canada applicable therein.

IN WITNESS WHEREOF **Hydro Ottawa Limited** has duly executed this Demand Promissory Note on the date first appearing above.

HYDRO OTTAWA LIMITED

Per: 
Name: Wojciech Zielonka
Title: Chief Financial Officer

Per: 
Name: Rosemarie T. Leclair
Title: President & Chief Executive Officer

SCHEDULE "A"
CONVERSION RIGHTS

1. At any time and from time to time after the date hereof, Hydro Ottawa Holding Inc. shall have the right to convert any or all of the Principal Amount owing or outstanding from time to time under this Demand Promissory Note into fully paid and non-assessable Class A shares of Hydro Ottawa Limited at a conversion rate equal to one (1) Class A share for each \$1.00 of the Principal Amount so converted. Such conversion will take effect upon the surrender of this Demand Promissory Note accompanied by a written instrument of surrender signed by Hydro Ottawa Holding Inc. notifying Hydro Ottawa Limited as to the exercise of the right of conversion and specifying the amount of principal hereunder in respect of which this Demand Promissory Note is converted.
2. As promptly as practicable after the surrender of this Demand Promissory Note for conversion, but in any event no later than one (1) month after such surrender, Hydro Ottawa Limited shall issue to Hydro Ottawa Holding Inc. a certificate representing the number of fully paid and non-assessable Class A shares into which all or any portion of the Principal Amount hereunder has been converted and, in the event that any amount remains outstanding hereunder after giving effect to such conversion, Hydro Ottawa Holding Inc. shall issue a new promissory note, in form and substance identical to this Demand Promissory Note, in principal amount equal to the amount of such unconverted principal and interest.
3. The conversion of this Demand Promissory Note shall be deemed to have been made at the close of business on the date on which this Demand Promissory Note is surrendered for conversion, and Hydro Ottawa Holding Inc. shall be treated as having become the holder of record of such shares at such time.
4. If Hydro Ottawa Limited at any time subdivides or consolidates the shares issuable upon conversion, Hydro Ottawa Holding Inc. shall thereafter be entitled on conversion to receive the shares to which it was before such subdivision or consolidation entitled, as subdivided or consolidated, and the conversion rate of the Principal Amount shall be adjusted accordingly. Any such adjustment shall become effective on the date and at the time that such subdivision or consolidation becomes effective.
5. In case of:
 - a. Any reclassification or change of shares issuable upon conversion;
 - b. Any consolidation, merger or amalgamation of Hydro Ottawa Limited with or into another corporation or corporations;
 - c. The sale of all or substantially all of the properties and assets of Hydro Ottawa Limited to any other corporation or corporations; or
 - d. The sale of all or substantially all of the properties and assets of Hydro Ottawa Limited to another person or persons in exchange for securities in or of such other person or persons or any affiliate thereof;

Hydro Ottawa Holding Inc. shall have the right thereafter to convert the Principal Amount of this Demand Promissory Note (or any portion thereof) into the kind and amount of shares or other securities and property (or the applicable portion thereof) receivable on such reclassification, change, consolidation, merger, amalgamation or sale that Hydro Ottawa Holding Inc. would have been entitled to receive thereupon had Hydro Ottawa Holding Inc. been the registered holder of the number of shares into which the Principal Amount under this Demand Promissory Note might have been converted immediately prior thereto. The provisions of this section shall similarly apply to successive reclassifications and changes of shares into successive consolidations, mergers, amalgamations and sales.

DEMAND PROMISSORY NOTE

Principal: \$32,185,000 lawful money of Canada	Made and delivered at Ottawa on this 1st day of July, 2005
---	---

As partial consideration for the assumption by **Hydro Ottawa Holding Inc.** of thirty two million, one hundred and eighty five thousand dollars (\$32,185,000) of the obligations pursuant to the promissory note dated December 31, 2004 with the principal amount of two hundred and thirty-two million, one hundred and eighty-five thousand dollars (\$232,185,000) owing by **Hydro Ottawa Limited**, a corporation incorporated pursuant to the laws of the Province of Ontario hereby unconditionally promises to pay to or to the order of **Hydro Ottawa Holding Inc.** on demand at Ottawa, Canada the principal amount of thirty two million, one hundred and eighty five thousand dollars (\$32,185,000) (the "Principal Amount") in lawful money of Canada and interest thereon upon the terms and subject to the conditions set forth below:

1. **INTEREST RATE**

The rate of interest payable on the Principal Amount or the amount remaining unpaid from time to time on this Demand Promissory Note shall be 5.9% per annum.

2. **TERMS OF PAYMENT**

The interest payable hereunder shall be payable on the first day of each month, both before and after demand, default and judgment. **Hydro Ottawa Limited** shall pay to **Hydro Ottawa Holding Inc.**, on demand, interest on overdue interest at the rate described in section 1 hereof compounded on each date for the payment of interest on this Demand Promissory Note before and after judgment.

3. **PREPAYMENT**

Hydro Ottawa Limited may, at any time, without penalty, repay in whole or in part the Principal Amount or the amount remaining unpaid from time to time on this Demand Promissory Note and interest owing under this Demand Promissory Note. Any prepayment shall be applied first to interest until it has been paid in full and then to the Principal Amount.

4. **SUBORDINATION**

The obligation of **Hydro Ottawa Limited** to pay the Principal Amount or the amount remaining unpaid from time to time on this Demand Promissory Note, together with interest thereon in accordance with and pursuant to this Demand Promissory Note and all present are subordinated and postponed to the obligations

of **Hydro Ottawa Limited** to a third party for the payment in full of any secured indebtedness and all security interests granted to secure such obligations of **Hydro Ottawa Limited**.

5. **CONVERSION**

This Demand Promissory Note is convertible into fully paid and non-assessable Class A shares of **Hydro Ottawa Limited** as more specifically provided for in Schedule "A" attached hereto, which Schedule forms part of this Demand Promissory Note.

6. **WAIVER OF NOTICE IN EVENT OF DEFAULT**

Hydro Ottawa Limited hereby waives presentment, protest and notice of any kind in the enforcement of this Demand Promissory Note. **Hydro Ottawa Limited** further agrees to pay all costs of collection, including legal fees on a solicitor and client basis, in case the Principal Amount, or the amount remaining unpaid from time to time on this Demand Promissory Note, or any payment of interest thereon is not made when due.

7. **RIGHTS AND REMEDIES IN EVENT OF DEFAULT**

The rights and remedies of **Hydro Ottawa Holding Inc.** under this Demand Promissory Note which it may have at law or in equity against **Hydro Ottawa Limited** shall be distinct, separate and cumulative, and shall not be deemed inconsistent with one another, and none of the said rights, whether or not exercised by **Hydro Ottawa Holding Inc.**, shall be deemed to be to the exclusion of any other, and any one or more of said rights and remedies may be exercised at the same time. The obligations of **Hydro Ottawa Limited** under this Demand Promissory Note shall continue until the entire debt evidenced hereby is paid, notwithstanding any court action or actions taken by **Hydro Ottawa Holding Inc.** which may be brought to recover any amounts due and payable under this Demand Promissory Note. No delay or failure by **Hydro Ottawa Holding Inc.** in the enforcement of any covenant, promise or agreement of **Hydro Ottawa Limited** hereunder shall constitute or be deemed to constitute a waiver of such right. Any waivers of **Hydro Ottawa Holding Inc.** shall only occur and be valid when set forth in writing by **Hydro Ottawa Holding Inc.** No waiver of any event of default shall discharge or release any person at any time liable for the payment of this Demand Promissory Note from such liability. No single or partial exercise of any of **Hydro Ottawa Holding Inc.**'s powers hereunder shall preclude other and further exercise thereof or the exercise of any other power.

8. **BALANCE OF CONSIDERATION**

As consideration for the remaining balance of two hundred million dollars (\$200,000,000) owing on the Demand Promissory Note dated December 31, 2004, **Hydro Ottawa Limited** has issued a further interest bearing Demand Promissory Note dated **July 1st, 2005**.

9. **ASSIGNMENT**

This Demand Promissory Note may not be assigned by **Hydro Ottawa Limited** without the written consent of **Hydro Ottawa Holding Inc.**

10. **GOVERNING LAW**

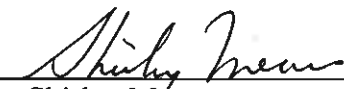
This Demand Promissory Note shall be governed by the laws of the Province of Ontario and the laws of Canada applicable therein.

11. **CANCELLATION OF PREVIOUS NOTE**

This interest bearing Demand Promissory Note in the amount of thirty-two million, one hundred and eighty-five thousand dollars (\$32,185,000) and the interest bearing Demand Promissory Note in the amount of in the amount of two hundred million dollars (\$200,000,000), dated **July 1st 2005** replace the Demand Promissory Note dated **December 31, 2004** in the amount of two hundred and thirty two million, one hundred and eighty five thousand (\$232,185,000) made between **Hydro Ottawa Limited** and **Hydro Ottawa Holding Inc.**

IN WITNESS WHEREOF Hydro Ottawa Limited has duly executed this Demand Promissory Note on the date first appearing above.

HYDRO OTTAWA LIMITED

Per: 
Name: Shirley Mears
Title: Senior Vice President & Chief
Financial Officer

Per: 
Name: Mike Grue
Title: Treasurer

SCHEDULE "A"
CONVERSION RIGHTS

1. At any time and from time to time after the date hereof, Hydro Ottawa Holding Inc. shall have the right to convert any or all of the Principal Amount owing or outstanding from time to time under this Demand Promissory Note into fully paid and non-assessable Class A shares of Hydro Ottawa Limited at a conversion rate equal to one (1) Class A share for each \$1.00 of the Principal Amount so converted. Such conversion will take effect upon the surrender of this Demand Promissory Note accompanied by a written instrument of surrender signed by Hydro Ottawa Holding Inc. notifying Hydro Ottawa Limited as to the exercise of the right of conversion and specifying the amount of principal hereunder in respect of which this Demand Promissory Note is converted.
2. As promptly as practicable after the surrender of this Demand Promissory Note for conversion, but in any event no later than one (1) month after such surrender, Hydro Ottawa Limited shall issue to Hydro Ottawa Holding Inc. a certificate representing the number of fully paid and non-assessable Class A shares into which all or any portion of the Principal Amount hereunder has been converted and, in the event that any amount remains outstanding hereunder after giving effect to such conversion, Hydro Ottawa Holding Inc. shall issue a new promissory note, in form and substance identical to this Demand Promissory Note, in principal amount equal to the amount of such unconverted principal and interest.
3. The conversion of this Demand Promissory Note shall be deemed to have been made at the close of business on the date on which this Demand Promissory Note is surrendered for conversion, and Hydro Ottawa Holding Inc. shall be treated as having become the holder of record of such shares at such time.
4. If Hydro Ottawa Limited at any time subdivides or consolidates the shares issuable upon conversion, Hydro Ottawa Holding Inc. shall thereafter be entitled on conversion to receive the shares to which it was before such subdivision or consolidation entitled, as subdivided or consolidated, and the conversion rate of the Principal Amount shall be adjusted accordingly. Any such adjustment shall become effective on the date and at the time that such subdivision or consolidation becomes effective.
5. In case of:
 - a. Any reclassification or change of shares issuable upon conversion;
 - b. Any consolidation, merger or amalgamation of Hydro Ottawa Limited with or into another corporation or corporations;
 - c. The sale of all or substantially all of the properties and assets of Hydro Ottawa Limited to any other corporation or corporations; or
 - d. The sale of all or substantially all of the properties and assets of Hydro Ottawa Limited to another person or persons in exchange for securities in or of such other person or persons or any affiliate thereof;

Hydro Ottawa Holding Inc. shall have the right thereafter to convert the Principal Amount of this Demand Promissory Note (or any portion thereof) into the kind and amount of shares or other securities and property (or the applicable portion thereof) receivable on such reclassification, change, consolidation, merger, amalgamation or sale that Hydro Ottawa Holding Inc. would have been entitled to receive thereupon had Hydro Ottawa Holding Inc. been the registered holder of the number of shares into which the Principal Amount under this Demand Promissory Note might have been converted immediately prior thereto. The provisions of this section shall similarly apply to successive reclassifications and changes of shares into successive consolidations, mergers, amalgamations and sales.

DEMAND PROMISSORY NOTE

Principal: \$200,000,000 lawful money of Canada	Made and delivered at Ottawa on this 1st day of July, 2005
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As partial consideration for the assumption by **Hydro Ottawa Holding Inc.** of two hundred million (\$200,000,000) of the obligations pursuant to the promissory note dated December 31, 2004, with the principal amount of two hundred and thirty-two million, one hundred and eighty-five thousand dollars (\$232,185,000) owing by **Hydro Ottawa Limited**, a corporation incorporated pursuant to the laws of the Province of Ontario, hereby unconditionally promises to pay to or to the order of **Hydro Ottawa Holding Inc.** on demand at Ottawa, Canada the principal amount of two hundred million dollars (\$200,000,000) (the "Principal Amount") in lawful money of Canada and interest thereon upon the terms and subject to the conditions set forth below.

1. **INTEREST RATE**

The rate of interest payable on the Principal Amount or the amount remaining unpaid from time to time on this Demand Promissory Note shall be 5.14% per annum.

2. **TERMS OF PAYMENT**

The interest payable hereunder shall be payable on the first day of each month, both before and after demand, default and judgment. **Hydro Ottawa Limited** shall pay to **Hydro Ottawa Holding Inc.**, on demand, interest on overdue interest at the rate described in section 1 hereof compounded on each date for the payment of interest on this Demand Promissory Note before and after judgment.

3. **PREPAYMENT**

Hydro Ottawa Limited may, at any time, without penalty, repay in whole or in part the Principal Amount or the amount remaining unpaid from time to time on this Demand Promissory Note and interest owing under this Demand Promissory Note. Any prepayment shall be applied first to interest until it has been paid in full and then to the Principal Amount.

4. **SUBORDINATION**

The obligation of **Hydro Ottawa Limited** to pay the Principal Amount or the amount remaining unpaid from time to time on this Demand Promissory Note, together with interest thereon in accordance with and pursuant to this Demand Promissory Note and all present are subordinated and postponed to the obligations of **Hydro Ottawa Limited** to a third party for the payment in full of any secured

indebtedness and all security interests granted to secure such obligations of **Hydro Ottawa Limited**.

5. **CONVERSION**

This Demand Promissory Note is convertible into fully paid and non-assessable Class A shares of **Hydro Ottawa Limited** as more specifically provided for in Schedule "A" attached hereto, which Schedule forms part of this Demand Promissory Note.

6. **WAIVER OF NOTICE IN EVENT OF DEFAULT**

Hydro Ottawa Limited hereby waives presentment, protest and notice of any kind in the enforcement of this Demand Promissory Note. **Hydro Ottawa Limited** further agrees to pay all costs of collection, including legal fees on a solicitor and client basis, in case the Principal Amount, or the amount remaining unpaid from time to time on this Demand Promissory Note, or any payment of interest thereon is not made when due.

7. **RIGHTS AND REMEDIES IN EVENT OF DEFAULT**

The rights and remedies of **Hydro Ottawa Holding Inc.** under this Demand Promissory Note which it may have at law or in equity against **Hydro Ottawa Limited** shall be distinct, separate and cumulative, and shall not be deemed inconsistent with one another, and none of the said rights, whether or not exercised by **Hydro Ottawa Holding Inc.**, shall be deemed to be to the exclusion of any other, and any one or more of said rights and remedies may be exercised at the same time. The obligations of **Hydro Ottawa Limited** under this Demand Promissory Note shall continue until the entire debt evidenced hereby is paid, notwithstanding any court action or actions taken by **Hydro Ottawa Holding Inc.** which may be brought to recover any amounts due and payable under this Demand Promissory Note. No delay or failure by **Hydro Ottawa Holding Inc.** in the enforcement of any covenant, promise or agreement of **Hydro Ottawa Limited** hereunder shall constitute or be deemed to constitute a waiver of such right. Any waivers of **Hydro Ottawa Holding Inc.** shall only occur and be valid when set forth in writing by **Hydro Ottawa Holding Inc.** No waiver of any event of default shall discharge or release any person at any time liable for the payment of this Demand Promissory Note from such liability. No single or partial exercise of any of **Hydro Ottawa Holding Inc.**'s powers hereunder shall preclude other and further exercise thereof or the exercise of any other power.

8. **BALANCE OF CONSIDERATION**

As consideration for the remaining balance of thirty two million, one hundred and eighty five thousand dollars (\$32, 185,000) owing under the Demand Promissory Note dated December 31, 2004, **Hydro Ottawa Limited** has issued a further interest bearing Demand Promissory Note dated **July 1st, 2005**.

9. **ASSIGNMENT**

This Demand Promissory Note may not be assigned by **Hydro Ottawa Limited** without the written consent of **Hydro Ottawa Holding Inc.**

10. **GOVERNING LAW**


This Demand Promissory Note shall be governed by the laws of the Province of Ontario and the laws of Canada applicable therein.


11. **CANCELLATION OF PREVIOUS NOTE**

This interest bearing Demand Promissory Note in the amount of two hundred million dollars (\$200,000,000) and the interest bearing Demand Promissory Note in the amount of thirty two million, one hundred and eighty five thousand dollars (\$32,185,000), dated **July 1st 2005** replace the Demand Promissory Note dated **December 31, 2004** in the amount of two hundred and thirty two million, one hundred and eighty five thousand (\$232,185,000) made between **Hydro Ottawa Limited** and **Hydro Ottawa Holding Inc.**

IN WITNESS WHEREOF Hydro Ottawa Limited has duly executed this Demand Promissory Note on the date first appearing above.

HYDRO OTTAWA LIMITED

Per: 
Name: Shirley Mears
Title: Senior Vice President & Chief
Financial Officer

Per: 
Name: Mike Grue
Title: Treasurer

SCHEDULE "A"**CONVERSION RIGHTS**

1. At any time and from time to time after the date hereof, Hydro Ottawa Holding Inc. shall have the right to convert any or all of the Principal Amount owing or outstanding from time to time under this Demand Promissory Note into fully paid and non-assessable Class A shares of Hydro Ottawa Limited at a conversion rate equal to one (1) Class A share for each \$1.00 of the Principal Amount so converted. Such conversion will take effect upon the surrender of this Demand Promissory Note accompanied by a written instrument of surrender signed by Hydro Ottawa Holding Inc. notifying Hydro Ottawa Limited as to the exercise of the right of conversion and specifying the amount of principal hereunder in respect of which this Demand Promissory Note is converted.
2. As promptly as practicable after the surrender of this Demand Promissory Note for conversion, but in any event no later than one (1) month after such surrender, Hydro Ottawa Limited shall issue to Hydro Ottawa Holding Inc. a certificate representing the number of fully paid and non-assessable Class A shares into which all or any portion of the Principal Amount hereunder has been converted and, in the event that any amount remains outstanding hereunder after giving effect to such conversion, Hydro Ottawa Holding Inc. shall issue a new promissory note, in form and substance identical to this Demand Promissory Note, in principal amount equal to the amount of such unconverted principal and interest.
3. The conversion of this Demand Promissory Note shall be deemed to have been made at the close of business on the date on which this Demand Promissory Note is surrendered for conversion, and Hydro Ottawa Holding Inc. shall be treated as having become the holder of record of such shares at such time.
4. If Hydro Ottawa Limited at any time subdivides or consolidates the shares issuable upon conversion, Hydro Ottawa Holding Inc. shall thereafter be entitled on conversion to receive the shares to which it was before such subdivision or consolidation entitled, as subdivided or consolidated, and the conversion rate of the Principal Amount shall be adjusted accordingly. Any such adjustment shall become effective on the date and at the time that such subdivision or consolidation becomes effective.
5. In case of:
 - a. Any reclassification or change of shares issuable upon conversion;
 - b. Any consolidation, merger or amalgamation of Hydro Ottawa Limited with or into another corporation or corporations;
 - c. The sale of all or substantially all of the properties and assets of Hydro Ottawa Limited to any other corporation or corporations; or
 - d. The sale of all or substantially all of the properties and assets of Hydro Ottawa Limited to another person or persons in exchange for securities in or of such other person or persons or any affiliate thereof;

Hydro Ottawa Holding Inc. shall have the right thereafter to convert the Principal Amount of this Demand Promissory Note (or any portion thereof) into the kind and amount of shares or other securities and property (or the applicable portion thereof) receivable on such reclassification, change, consolidation, merger, amalgamation or sale that Hydro Ottawa Holding Inc. would have been entitled to receive thereupon had Hydro Ottawa Holding Inc. been the registered holder of the number of shares into which the Principal Amount under this Demand Promissory Note might have been converted immediately prior thereto. The provisions of this section shall similarly apply to successive reclassifications and changes of shares into successive consolidations, mergers, amalgamations and sales.

GRID PROMISSORY NOTE

Effective the 1st day of January 2009.

As consideration for the transfer of funds by Hydro Ottawa Holding Inc. to Hydro Ottawa Limited, **Hydro Ottawa Limited**, (the "Borrower"), a corporation incorporated pursuant to the laws of the Province of Ontario, hereby unconditionally promises to pay to or to the order of **Hydro Ottawa Holding Inc.** (the "Lender") at Ottawa, Canada the principal amount advanced under this grid promissory note (the "Principal") together with interest at a rate specified below ("Interest") on the amount of Principal from time to time outstanding in lawful money of Canada upon the terms and subject to the conditions set forth below.

This Note is a negotiable instrument.

The following are the terms and conditions of the Note:

1. PRINCIPAL

- (1) The total amount authorized will not exceed \$75,000,000.00 CDN.
- (2) Advances of Principal may be made in tranches to meet business requirements.
- (3) The liability of the Borrower and of any guarantor of the Borrower ("Guarantor") or endorser in respect of Principal shall not exceed the outstanding amount of Principal.
- (4) Advances shall be deemed conclusively to have been made to and for the benefit of the Borrower when,
 - (a) deposited or credited to the account of the Borrower by the Lender; or
 - (b) made in accordance with the instructions of the Borrower.
- (5) All advances of Principal under this Note shall be evidenced by endorsement upon the grid attached to this Note as Schedule A (the "Grid").
- (6) The Lender's Chief Financial Officer, President and Chief Executive Officer and Treasurer are authorized to endorse the Grid, including any continuation Grid that may be attached to this Note, the date and amount of each advance and together with the unpaid balance of the Principal and each endorsement shall be prima facie evidence of the amounts so advanced and the balance of principal outstanding under this Note.

2. INTEREST RATE

- (1) Interest shall be payable upon the amounts advanced under this Note at a fixed rate of interest payable monthly in arrears on a mutually agreed date. The rate established for long term debt will be based on either of two methods:
- a) If available, the actual cost of external long term debt, including issuance costs, issued to a 3rd party of which the proceeds, in part or total, flow through to Hydro Ottawa Limited or;
 - b) An estimated “deemed interest rate” which will be based on the underlying methodology outlined in the Ontario Energy Board’s “Report of the Board” on the Cost of Capital for Ontario’s Regulated Utilities EB-2009-0084 dated December 11, 2009. The rate will be determined from available information at the time of the advancement using indicative rates as provided to Hydro Ottawa Limited. The rate will also include estimated issuance costs that would be associated with an issuance. The rate that is in effect when the advance was made will be used for the duration of the advance as per the Term and Payment section. .
 - c) All changes to interest rates under this Note shall be evidenced by endorsement upon the Grid attached as Schedule A.

3. ADMINISTRATIVE FEE

An administrative charge will be added to the rate of interest charged on Long Term Debt advances at the rate of 0.10% per annum.

4. TERM AND REPAYMENT

- (1) The Principal and any accrued and outstanding Interest payable under this Note shall be payable in full on February 9, 2015 unless otherwise agreed by **Hydro Ottawa Holding Inc. and Hydro Ottawa Limited**.
- (2) **Hydro Ottawa Limited** may, at any time, repay the full Principal amount outstanding from time to time on this Note. In addition to any other amount then payable by the Borrower pursuant to the terms hereof (including, without limitation, accrued interest) in respect to the repayment, the Borrower shall pay to the Lender an amount equal to three months simple interest on the full Principal amount being repaid.
- (3) **Hydro Ottawa Holding Inc.** may require that **Hydro Ottawa Limited** repay the Principal and Interest payable within 30 days following a change of control of **Hydro Ottawa Limited**. For the purpose of this sub-section control means with respect to **Hydro Ottawa Limited** at any time (i) holding, as owner or other beneficiary – other than solely as beneficiary of an unrealized security interest – directly or indirectly, securities or ownership interests of **Hydro Ottawa Limited**

carrying votes or ownership interests sufficient to elect or appoint the majority of individuals who are responsible for the supervision or management or **Hydro Ottawa Limited**, or (ii) the exercise of de facto control of **Hydro Ottawa Limited**, whether direct or indirect and whether through the ownership of securities or ownership interests, by contract, trust or otherwise.

5. SUBORDINATION

The obligation of **Hydro Ottawa Limited** to pay the Principal Amount or the amount remaining unpaid from time to time on this Grid Promissory Note are subordinated and postponed to the obligations of **Hydro Ottawa Limited** to a third party for the payment in full of any secured indebtedness and all security interests granted to secure such obligations of **Hydro Ottawa Limited**.

a. WAIVER OF NOTICE IN EVENT OF DEFAULT

Hydro Ottawa Limited hereby waives presentment, protest and notice of any kind in the enforcement of this Grid Promissory Note. **Hydro Ottawa Limited** further agrees to pay all costs of collection, including legal fees on a solicitor and client basis, in case the Principal Amount, or the amount remaining unpaid from time to time on this Grid Promissory Note, is not made when due.

b. RIGHTS AND REMEDIES IN EVENT OF DEFAULT

The rights and remedies of **Hydro Ottawa Holding Inc.** under this Grid Promissory Note which it may have at law or in equity against **Hydro Ottawa Limited** shall be distinct, separate and cumulative, and shall not be deemed inconsistent with one another, and none of the said rights, whether or not exercised by **Hydro Ottawa Holding Inc.**, shall be deemed to be to the exclusion of any other, and any one or more of said rights and remedies may be exercised at the same time. The obligations of **Hydro Ottawa Limited** under this Grid Promissory Note shall continue until the entire debt evidenced hereby is paid, notwithstanding any court action or actions taken by **Hydro Ottawa Holding Inc.** which may be brought to recover any amounts due and payable under this Grid Promissory Note. No delay or failure by **Hydro Ottawa Holding Inc.** in the enforcement of any covenant, promise or agreement of **Hydro Ottawa Limited** hereunder shall constitute or be deemed to constitute a waiver of such right. Any waivers of **Hydro Ottawa Holding Inc.** shall only occur and be valid when set forth in writing by **Hydro Ottawa Holding Inc.** No waiver of any event of default shall discharge or release any person at any time liable for the payment of this Grid Promissory Note from such liability. No single or partial

exercise of any of **Hydro Ottawa Holding Inc.**'s powers hereunder shall preclude other and further exercise thereof or the exercise of any other power.

c. **ASSIGNMENT**

This Grid Promissory Note may not be assigned by **Hydro Ottawa Holding Inc.** or **Hydro Ottawa Limited.**

d. **GOVERNING LAW**

This Grid Promissory Note shall be governed by the laws of the Province of Ontario and the laws of Canada applicable therein.

IN WITNESS WHEREOF Hydro Ottawa Limited has duly executed this Grid Promissory Note on the date first appearing above.

HYDRO OTTAWA LIMITED

Per: 

Name: Rosemarie T. Leclair

Title: President and Chief Executive Officer

Per: 

Name: Alan Hoverd

Title: Chief Financial Officer

CREDIT AGREEMENT

THIS AGREEMENT is made as of the 1st day of January 2009.

BETWEEN:

**HYDRO OTTAWA HOLDING INC./SOCIÉTÉ DE PORTEFEUILLE
D'HYDRO OTTAWA INC.**

(hereinafter also referred to as the "Lender")

- and -

HYDRO OTTAWA LIMITED

(hereinafter also referred to as the "Borrower")

WHEREAS, the Lender has agreed to make available to the Borrower certain credits on the terms and conditions set out in this agreement.

NOW THEREFORE, in consideration of the covenants and agreements herein contained, the Parties agree as follows

1. **Definition**

Whenever used in this Agreement, unless there is something inconsistent in the subject matter or context, the following words and terms shall have the meaning as set out below:

- (a) "Agreement" means this agreement, including any schedules and all instruments supplementing or amending or confirming this agreement;
- (b) "Bank of Nova Scotia Credit Agreement" means an agreement between The Bank of Nova Scotia and Hydro Ottawa Holding Inc. evidenced by the most recent Commitment Letter;
- (c) "Drawdown" means a borrowing of funds under the facility, a conversion or a rollover, as the context requires;
- (d) "Event of Default" means any of the events described in section 7;
- (e) "Fixed Term Loan" means an interest-bearing loan having a term of not less than 7 days and not more than 180 days having a rate of interest determined on the bases set out in this Agreement;
- (f) "Permitted Encumbrance" means any of the following:

- (i) purchase money security interests, capital leases and other encumbrances not exceeding in an aggregate amount of \$5,000,000;
- (ii) liens for taxes, payments in lieu of taxes, assessments, government charges or claims not yet due or for which instalments have been paid based on reasonable estimates pending final assessments, or if due, the validity of which is being contested in good faith, on in respect of which appropriate provision is made in consolidated financial statements of the Borrower;
- (iii) a lien or deposit under workers' compensation, social security or similar legislation or deposits to secure public or statutory obligations;
- (iv) a lien or deposit of cash or securities in connection with contracts, bids, tenders, leases or expropriation proceedings or to secure surety and appeal bonds not exceeding an aggregate amount of \$1,000,000 at any time;
- (v) a lien or privilege imposed by law, such as a builder's, carrier's, warehousemen's, landlord's mechanic's, supplier's or other similar liens and public, statutory and other like obligations incurred in the ordinary course of business;
- (vi) a lien or right of distress reserved in or exercisable under any lease, for rent or for compliance with the terms of the lease;
- (vii) undetermined or inchoate liens, rights of distress, privileges and charges incidental to current operations which have not at such time been filed or exercised or which relate to obligations not due or payable, or if due, the validity of which is being contested diligently and in good faith by appropriate proceedings;
- (viii) reservations, limitations, provisos and conditions expressed in any original grants from the Crown or other grants of real or immovable property, or interests therein, which do not materially affect the use of the affected land for the purpose for which it is being used;
- (ix) title defects, encroachments or irregularities or other matters relating to title which in the aggregate do not materially impair the use of the affected property for the purpose for which it is used;
- (x) zoning, land use and building restrictions, by-laws, regulations and ordinances of federal, provincial, state, municipal and other governmental authorities, licences, easements, rights-of-way, rights in the nature of easements (including, without limiting the generality of the foregoing, licences, easements, rights-of-way and rights in the nature of easements for railways, sidewalks, public ways, sewers, drains, gas, steam and water mains or electric light and power, or telephone and telegraph conduits, poles, wires and cables) which do not materially impair the use of the affected land for the purpose for which it is being used;
- (xi) any right reserved to or vested in any municipality or governmental or other public authority by the terms of any lease, licence, franchise, grant or permit acquired by that person or by any statutory provision to terminate any lease, licence, franchise, grant or permit, or to require annual or other payments as a condition for the continuance thereof;

- (xii) security given to a public utility or any municipality or governmental authority when required by such utility or authority in connection with the operations of that person in the ordinary course of business;
 - (xiii) security for costs of litigation where required by law; and
 - (xiv) attachments, judgements and other similar encumbrances arising in connection with court proceedings; provided that the encumbrances are in existence for less than 30 days after their creation or the execution or other enforcement of the encumbrances is effectively stayed or the claims so secured are being actively contested in good faith and by proper legal proceedings;
- (g) "Prime Rate" means, at any time, the rate of interest expressed as an annual rate, established by The Bank of Nova Scotia Agreement from time to time as its reference "interest rate / fee" to determine the interest rates it will charge for loans in Canadian dollars; and
- (h) "Prime Rate Advance" means an interest-bearing loan having a term not more than 180 days, for which the principal may be drawdown and upon which interest is calculated daily at the Prime Rate and repayable determined on the bases set out in this Agreement;

2. **The Credit Facilities**

- (1) Upon the terms and subject to the conditions herein set forth, the Lender establishes in favour of the Borrower the following credit facility to be available to the Borrower in accordance with the provisions of this Agreement. The facility shall consist of a revolving demand facility of up to a maximum principal amount available within the Bank of Nova Scotia Credit Agreement.
- (2) The total amount authorized for this credit facility is \$90,000,000.00 CDN.
- (3) The Borrower may avail the credit facility by way of direct advances through Prime Rate Advances. Changes in the Prime Rate shall cause an immediate adjustment to the interest rate applicable to an advance without the necessity of notice to the Borrower. The principal amounts of any Prime Rate Advances shall be repayable at any time on demand of the Lender and may be repaid by the Borrower at any time prior to such demand.
- (4) The Borrower may avail the credit facility by way of Fixed Term Loans.
- (5) The rate of interest on Fixed Term Loans shall be the Banker's Acceptance Fee charged pursuant to The Bank of Nova Scotia Credit Agreement, plus the Bankers Acceptance rate applicable to the date of the Drawdown as evidenced by a Bankers

Acceptance drawn by Hydro Ottawa Holding Inc. on that date, otherwise The Bank of Canada "Bankers Acceptances – 1 Month" rate will be used as posted on that date.

- (6) Interest on loans and advances will be calculated on a daily basis and payable in arrears on a mutually agreed date.
- (7) The Borrower may increase or decrease advances made by Prime Rate Advances or by Fixed Term Loan by making drawdowns, repayments or further drawdowns of the amount of advances that have been repaid. The Borrower may also convert a Prime Rate Advance to a Fixed Term Loan by notice to the Lender.
- (8) On the date of maturity, the Borrower shall repay to the Lender the principal amount of Prime Rate Advances and Fixed Term Loans. The Borrower may request from the Lender and the Lender, in its sole discretion, may grant an extension of the maturity date of any Primary Rate Advances or Fixed Term Loans for a further period not to exceed 180 days.
- (9) The Borrower may avail the credit facility by way of Standby Letters of Credit / Letters of Guarantee. The charge will be made pursuant to the Bank of Nova Scotia Credit Agreement "Commission" fee and will be payable upon issuance.

3. **Administrative Fee**

An administrative charge will be added to the rate of interest charged on Prime Rate Advances and Fixed Term Loans, payable to the Lender at the rate of 0.10% per annum.

4. **Commitment Fee and Standby Fees**

The Borrower shall pay a proportionate share of the commitment fee and standby fees payable per the terms of the Bank of Nova Scotia Credit Agreement.

5. **Evidence of Indebtedness**

The Lender shall open and maintain books of account evidencing all advances and all other amounts owing by the Borrower to the Lender hereunder. The information entered in the foregoing accounts shall constitute *prima facie* evidence of the obligations of the Borrower to the Lender and, in the absence of manifest error, are conclusive evidence of the advances made, repayments on account thereof and the indebtedness of the Borrower to the Lender. Upon request of the Borrower, the Lender shall advise the Borrower of entries made on the books of account.

6. General Conditions

The following conditions will apply until all debts and liabilities of the Borrower availed under the Credit Facilities have been discharged in full:

- (a) The Borrower shall not encumber its assets in any manner other than by Permitted Encumbrances;
- (b) The Borrower may not incur, assume or permit any debt to remain outstanding other than debt under this Agreement, other than:
 - (i) debt incurred from the Lender;
 - (ii) debt incurred in respect of purchase money security interests;
 - (iii) capital leases; and
 - (iv) other debt permitted by the Lender.
- (c) The business activities of the Borrower shall be restricted to those permitted pursuant to section 73 of the *Ontario Energy Board Act, 1998*, so long as those restrictions on business activities continue to apply to the Borrower;
- (d) The Borrower shall make due and timely payment of the obligations required to be paid by it hereunder;
- (e) The Borrower shall provide notice to the Lender of any Event of Default;
- (f) The Lender shall be under no obligation to provide a Prime Rate Advance, a Fixed Term Loan, or a Standby Letter of Credit / Letters of Guarantee following an Event of Default.

7. Events of Default

- (1) The following shall constitute Events of Default for the purposes of this Agreement:
 - (a) The Borrower encumbering assets other than by Permitted Encumbrances;
 - (b) The Borrower fails to pay interest, principal or other amounts owing pursuant to this Agreement
 - (c) The Borrower is in breach of any conditions of this Agreement;

- (d) Any actions by the Borrower which cause the Lender to be in default of its obligations under the Bank of Nova Scotia Credit Agreement;
- (e) The Borrower is bankrupt, insolvent or liquidation proceedings or any other proceedings for the relief of creditors are instituted by or against the Borrower and are not dismissed within 60 days of such institution.

(2) Upon the occurrence of an Event of Default, at the option of the Lender, all amounts of Principal and Interest shall become immediately due and payable. The occurrence of an Event of Default shall relieve the Lender of all obligations to provide any further advances or loans to the Borrower.

8. **Indemnification**

The Borrower shall indemnify the Lender from any loss or expense incurred by the Lender as a result of any failure by the Borrower to fulfill its obligations under this Agreement, expense any loss or expense arising from the negligence or wilful misconduct of the Lender.

9. **Early Termination**

In the event of any change in control of the Borrower, the Lender may require that the Borrower pay the Principal and Interest payable within 30 days following a change of control of the Borrower. For the purpose of this sub-section control means with respect to the Borrower at any time (i) holding, as owner or other beneficiary – other than solely as beneficiary of an unrealized security interest – directly or indirectly, securities or ownership interests of the Borrower carrying votes or ownership interests sufficient to elect or appoint the majority of individuals who are responsible for the supervision or management of the Borrower, or (ii) the exercise of de facto control of the Borrower, whether direct or indirect and whether through the ownership of securities or ownership interests, by contract, trust or otherwise.

10. **Termination**

Unless otherwise extended by agreement of the parties, this facility shall terminate the date the Bank of Nova Scotia Credit Agreement is no longer in force. Prior to the termination of the facility, the Borrower shall pay to the Lender the Principal outstanding and any Interest payable.

11. **Notice**

Any demand, notice or communication to be made or given pursuant to this Agreement shall be in writing and may be made or given by personal delivery, by mail, by electronic mail addressed to the respective parties as follows:

To the Borrower:

Hydro Ottawa Limited
3025 Albion Road North
Ottawa, Ontario
K1G 3S4

Attention: Treasurer

Telephone: 613-738-5499 ext. 319

Electronic Mail: mikegrue@hydroottawa.com

To the Lender:

Hydro Ottawa Holding Inc.
3025 Albion Road North
Ottawa, Ontario
K1G 3S4

Attention: Treasurer

Telephone: 613-738-5499 ext. 319

Electronic mail: mikegrue@hydroottawa.com

Either party may from time to time notify the other party of any change to its address, telephone number or electronic mail contact.

12. Successors and Assigns

This Agreement shall be binding upon and enure to the benefit of the Lender, the Borrower and their successors and assigns, except that the Borrower shall not assign any rights or obligations with respect to this Agreement without the prior written consent of the Lender, which consent may be withheld or refused for any reason. The Lender may assign its rights and obligations with respect to this Agreement upon notice to the Borrower.

13. Governing Law


This Agreement shall be governed by and construed in accordance with the laws of the Province of Ontario and the laws of Canada applicable therein.

14. Severability

Any provision of this Agreement which is prohibited or unenforceable in any jurisdiction shall not invalidate the remaining provisions hereof and any such prohibition or unenforceability in any jurisdiction shall not invalidate or render unenforceable such provision in any other jurisdiction.

IN WITNESS WHEREOF the parties hereto have executed this Agreement.

**HYDRO OTTAWA HOLDING INC./
SOCIÉTÉ DE PORTEFEUILLE D'HYDRO
OTTAWA INC.**

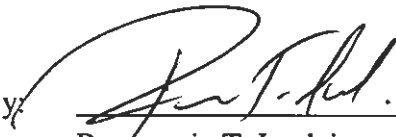
By: 

Rosemarie T. Leclair
President and Chief Executive Officer

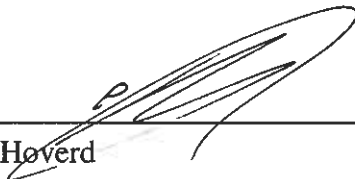
By: 

Alan Hoyerd
Chief Financial Officer

HYDRO OTTAWA LIMITED

By: 

Rosemarie T. Leclair
President and Chief Executive Officer

By: 

Alan Hoyerd
Chief Financial Officer



CALCULATION OF REVENUE DEFICIENCY/SUFFICIENCY

1.0 INTRODUCTION

This Exhibit provides a summary of the revenue required by Hydro Ottawa Limited (“Hydro Ottawa”) in 2011 in order to continue delivering electricity safely and reliably. Hydro Ottawa’s total Service Revenue Requirement is offset by revenues obtained by sources other than distribution rates, i.e. other revenue. The calculation of the revenue deficiency/sufficiency does not include the recovery of Deferral and Variance Accounts (Exhibit I1-1-2) nor Low Voltage Charges (Exhibit H1-3-2). As directed in the Update to Chapter 2 of the Filing Requirements for Transmission and Distribution Applications, May 27, 2009, costs and revenues related to the cost of power are kept separate from the determination of the distribution revenue sufficiency/deficiency.

The revenue deficiency/sufficiency for 2011 was calculated using the following inputs:

- 2010 approved rates, not including the Smart Meter rate adder, the Rate Rider for Tax Change nor the Lost Revenue Adjustment Mechanism Recovery/Shared Savings Mechanism Recovery Rate Rider,
- 2011 load forecast and forecast of customers and connections, as developed using the methodology described in Exhibit C1-1-1,
- The 2010 forecasted revenue from the Smart Meter Adder, and
- The 2011 base revenue requirement calculated as shown in Table 1 below (details provided in the model attached in Exhibit H1-2-1).

The revenue deficiency/sufficiency was then determined by calculating what the revenue would have been with 2010 rates and the forecasted 2011 load and customer numbers. For comparison purposes, the revenue from the 2010 Smart Meter Adder was included.



1

Table 1 – Revenue Sufficiency/Deficiency

	\$000
Return on Rate Base	\$44,358
Distribution Expenses (including amortization)	64,766
Amortization	47,450
Payment in Lieu of Taxes	9,555
Service Revenue Requirement	166,129
Less Revenue Offsets	7,927
Base Revenue Requirement	158,202
2011 Load at 2010 Rates plus Smart Meter Adder	146,491
Revenue Deficiency	(\$11,711)

2

3 Table 2 provides a summary of the drivers of the identified revenue deficiency in 2011,
4 how much each driver contributes and the Exhibit(s) that provide further details.



1 **Table 2 – Drivers of Revenue Deficiency**

CAUSE	Impact on Revenue Requirement \$000	Reference
Increase in Amortization Expense	\$4,588	B4-1-1 B4-1-2 B4-2-1 B4-2-2 B4-3-1 B4-3-2 B4-4-1 B4-4-2 B4-5-1 B4-5-2 D6-1-1
Increase in Revenue Offsets	(255)	C2-1-5
Increase in Operation, Maintenance & Administration (“OM&A”) Expenses	4,055	D3-1-1 D3-1-2 D3-1-3 D3-1-4
Increase in Return on Capital	6,726	B3-1-1 B4-1-1 B4-1-2 B4-2-1 B4-2-2 B4-3-1 B4-3-2 B4-4-1 B4-4-2 B4-5-1 B4-5-2 E1-1-1
Change in Payment in Lieu of Taxes	(2,072)	D7-1-1 D7-2-1
Load Growth	(1,330)	C1-1-1
Total Deficiency	\$11,711	

2
 3
 4
 5
 6



1 The main contributions to the increase in the revenue requirement are as follows.

2

- 3 • Increase in amortization expense as a result of additions to the rate base in
4 2009-2011 and the half-year of 2008 not included in 2008 rates.
- 5 • A forecasted increase in Revenue Offsets reduces the revenue deficiency by
6 \$255k.
- 7 • The increase for OM&A is largely due to workforce planning and the continuation
8 of Hydro Ottawa's apprenticeship program as discussed in Exhibit D1-5-2.
9 Labour contracts and material prices have also increased since 2008, at greater
10 than the inflation rates allowed in 2009 and 2010 3GIRM. Exhibits D3-1-1 to D3-
11 1-4 provide a detailed analysis of the OM&A cost changes between 2008 and
12 2011.
- 13 • An increase in the Return on Capital as a result of continued investment in the
14 distribution infrastructure results in a forecast growth in the year-end NBV of
15 assets between 2008 and 2011 of \$78.6M. This includes investments related to
16 the Asset Management Plan, capacity planning and new distribution plant due to
17 customer demand, general plant purchases and the installation of Smart Meters.
18 In addition the increase in the Cost of Capital from 6.55% to 7.02% has also
19 contributed to the deficiency.
- 20 • The decrease in Payment in Lieu of Taxes is primarily a result of the decreases
21 in the tax rates.
- 22 • The revenue deficiency is decreased by the impact of the forecasted load growth.



COST ALLOCATION STUDY

1.0 INTRODUCTION

Hydro Ottawa Limited ("Hydro Ottawa") filed its initial Cost Allocation Study for 2006 following the Ontario Energy Board's (the "Board") prescribed methodology as set out in the Board's *Directions on Cost Allocation Methodology for Electricity Distributors* (EB-2005-0317) issued on September 29, 2006 (the "Board Directions"). The 2006 Cost Allocation Study was used as the basis for the rate design proposed in Hydro Ottawa's 2008 Electricity Distribution Rate ("EDR") Application (EB-2007-0713). The approved Settlement for EB-2007-0713 stated the following with respect to Cost Allocation:

"The Application, for obvious reasons, does not reflect the following Report of the Board: Application of Cost Allocation for Electricity Distributors dated November 28, 2007 (the "Cost Allocation Report"). The Board established ranges for the revenue-to-cost ratios for each rate class in the Cost Allocation Report. The parties agreed that it was appropriate for the transformer ownership credits to be allocated only to those customer classes that receive the credits. Furthermore, the Settlement Package would result in each class falling within its range with the exception of Sentinel Lights. The Sentinel Light class is *de minimus*: 95 lights that have been grandfathered and that will not be replaced when they fail.

There are two adjustments that are required to bring the revenue-to-cost ratios within the Board's ranges. One is a decrease in the revenue requirement for the Large Use and the Unmetered Scattered Load classes and the other, an increase in the revenue requirement for the Residential and Street Lighting classes."



1 **2.0 REVENUE TO COST RATIOS**

2
3 The following table presents the revenue-to-cost ratios as per the Settlement and the
4 ranges as per the Cost Allocation Report. Note that no Range was provided for the
5 Standby class.

6
7 **Table 1 – 2008 Revenue-to-Cost Ratios**

Class	Revenue to Cost %	Cost Allocation Report
Residential	94%	85% – 115%
General Service < 50 kW	112%	80% - 120%
General Service 50 to 1,499 kW	100%	80% - 180%
General Service 1,500 to 4,999 kW	151%	80% - 180%
Large Use	114%	85% - 115%
Street lighting	71%	70% - 120%
Sentinel Lights	34%	70% - 120%
Unmetered Scattered Load	119%	80% - 120%
Standby	100%	N/A

8
9 Hydro Ottawa engaged the services of Elenchus Research Associated Inc. to update the
10 cost allocation model for this Rate Application in accordance with the policies reflected in
11 the Cost Allocation Report. A copy of their report is provided in Attachment AD and an
12 updated cost allocation model is provided as Attachment AE. Attachment AF provides
13 the information requested in Appendix 2-P of the Update to Chapter 2 of the Filing
14 Requirements for Transmission and Distribution Applications, May 27, 2009.

15
16 Hydro Ottawa has treated the Transformer Ownership Credit in the same manner as was
17 agreed upon for the Settlement of EB-2007-0713, i.e. it was allocated only to those
18 customer classes that receive the credit. The resulting revenue-to-cost ratios from the
19 updated cost allocation model are shown in Table 2.

20



1

Table 2 – Proposed 2011 Revenue-to-Cost Ratios

Class	Revenue to Cost %	Cost Allocation Report
Residential	98%	85% – 115%
General Service < 50 kW	111%	80% - 120%
General Service 50 to 1,499 kW	95%	80% - 180%
General Service 1,500 to 4,999 kW	120%	80% - 180%
Large Use	109%	85% - 115%
Street lighting	71%	70% - 120%
Sentinel Lights	36%	70% - 120%
Unmetered Scattered Load	118%	80% - 120%
Standby	76%	N/A

2

3 As per the Board Directions, Hydro Ottawa has created a single separate rate class for
 4 those customers with load displacement generation greater than 500 kW. For 2011,
 5 there are forecasted to be four customers in this rate class; two of which are actually in
 6 the General Service > 50 < 1,499 kW class and two of which are actually in the General
 7 Service > 1,500 < 4,999 kW class. In order to do the cost allocation for this notional
 8 class it is necessary to forecast their individual loads and the operation of their
 9 generators. This was difficult to do as there is little experience with the application of
 10 standby rates.

11

12 If the revenue and expenses for the three classes, General Service > 50 < 1,499 kW
 13 class, General Service > 1,500 < 4,999 kW class and Standby are combined, the
 14 revenue to cost ratio is a very acceptable 99% as shown in Table 3.

15

16

Table 3 – Revenue-to Cost Ratio for Combined Classes

	GS>50<1,499 kW	GS >1,500<4,999 kW	Standby	Total
Revenue	\$ 36,885,826	\$ 8,826,735	\$712,148	\$46,424,709
Expense	\$ 38,658,919	\$ 7,369,432	\$939,475	\$46,967,826
	95.41%	119.77%	75.80%	98.84%

17



1 As a result, Hydro Ottawa is proposing that no changes be made to the revenue
2 collected from each class. In addition, Hydro Ottawa will not adjust the Sentinel Light
3 class as this class is slowly being phased out.

4
5
6 **3.0 MONTHLY FIXED SERVICE CHARGES**

7
8 Table 4 below shows the Fixed Monthly Service Charges that Hydro Ottawa is proposing
9 for 2011 and the minimum and maximums produced by the updated cost allocation
10 model.

11 **Table 4 – Monthly Service Charges (“MSC”)**

Class	Proposed Monthly Service Charge \$	Lower Bound for MSC \$	Upper Bound for MSC \$
Residential	9.67	6.85	19.46
General Service < 50 kW	16.71	12.32	32.82
General Service 50 to 1,499 kW	284.49	65.70	114.91
General Service 1,500 to 4,999 kW	4,574.50	225.72	521.02
Large Use	16,613.44	217.64	384.13
Street lighting	0.56	0.01	9.34
Sentinel Lights	2.14	0.18	11.07
Unmetered Scattered Load	4.57	0.06	9.33
Standby	122.34	244.16	363.04

12
13 For the Residential, General Service < 50 kW, Street lighting, Sentinel Lights and
14 Unmetered Scatter Load classes, Hydro Ottawa’s proposed rate is well within the
15 minimum and maximum. For the General Service 50 to 1,499 kW, General Service
16 1,500 to 4,999 kW and Large Use classes the proposed rates are above the upper
17 bound calculated by the model. The Cost Allocation Report stated that distributors that
18 have Monthly Service Charges that are above the upper bound are not required to
19 make changes to their current MSC to bring it to or below this level at this time. As a
20 result, Hydro Ottawa is not proposing any changes to the Monthly Service Charges as
21 calculated by the Electricity Distribution Rate model in Exhibit H1-2-1. Note that the



- 1 Standby Charge is actually an administrative charge that is in addition to the Monthly
- 2 Fixed Service Charge, which is the reason that it falls below the Lower Bound.

Hydro Ottawa Limited 2011 Cost Allocation Study

**A Report Prepared by
Elenchus Research Associates Inc.**

**On Behalf of
Hydro Ottawa Limited**

June 2010



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1 INTRODUCTION

2 Hydro Ottawa Limited (“Hydro Ottawa”) has prepared its 2011 EDR Application as a
3 cost of service rate application based on a forward test year. The relevant filing
4 requirements for this Application are set out in Chapter 2 of the May 27, 2009 update to
5 the document entitled *Ontario Energy Board, Filing Requirements for Transmission and*
6 *Distribution Applications* (“Filing Requirements”).

7 Section 2.8 of the Filing Requirements sets out the expectations of the Board with
8 respect to Exhibit 7: Cost Allocation. The Filing Requirements state:

9 *A completed cost allocation study using the Board approved methodology must be*
10 *filed whether the applicant proposes to use it or not. This filing must*

- 11 • *reflect future loads and cost and be supported by appropriate explanations;*
- 12 • *be corrected for transformer ownership allowance ..., and*
- 13 • *be presented in the form of an Excel spreadsheet.*¹

14 The Filing Requirements also state that:

15 *The Board expects the filings made by the applicant will follow the cost allocation*
16 *policies reflected in the Board’s report of November 28, 2007, Application of Cost*
17 *Allocation for Electricity Distributors (EB-2007-0667).*

18 Hydro Ottawa asked Elenchus Research Associated (Elenchus)² to assist it by
19 preparing an appropriate cost allocation study for its 2011 cost of service rate
20 application. In addressing this issue, Elenchus was guided by the Filing Requirements
21 and the November 28, 2007 *Report of the Board, Application of Cost Allocation for*
22 *Electricity Distributors* (EB-2007-0667) (“CA Application Report”) which “sets out the
23 Board’s policies in relation to specific cost allocation matters for electricity distributors”.³

¹ *Ontario Energy Board, Chapter 2 of the Filing Requirements for Transmission and Distribution Applications, May 27, 2009, p. 19.*

² John Todd, President of Elenchus Research Associates, was the lead consultant for the development and implementation of the methodology used by Hydro Ottawa and documented in this report. John Todd’s curriculum vitae is available at www.elenchus.ca.

³ Ontario Energy Board, *Report of the Board, Application of Cost Allocation for Electricity Distributors* (EB-2007-0667), November 28, 2007, page 1.

1 The CA Application Report observes at page 2 that:

2 *The Board is cognizant of factors that currently limit or otherwise affect the ability or*
 3 *desirability of moving immediately to a cost allocation framework that might, from a*
 4 *theoretical perspective, be considered the ideal. These influencing factors include*
 5 *data quality issues and limited modelling experience, and are discussed in greater*
 6 *detail in section 2.3 of this Report.*

7 The “influencing factors” discussed in section 2.3 of the report are:

8 • **Quality of the data:** The Board notes “that accounting and load data can be
 9 improved.” (p. 5)

10 • **Limited modelling experience:** The Board observed that “the cost allocation
 11 model is complex, and the data required for the model was not always readily
 12 available for modelling.” (p. 6)

13 • **Status of current rate classes:** The Board points out that “Any changes in
 14 customer classification or load data could have a significant impact on future cost
 15 allocation studies” (p. 6).

16 • **Managing the movement of rates closer to allocated costs:** The Board notes:

17 *The Board considers it appropriate to avoid premature movement of rates in*
 18 *circumstances where subsequent applications of the model or changes in*
 19 *circumstances could lead to a directionally different movement. Rate*
 20 *instability of this nature is confusing to consumers, frustrates their energy cost*
 21 *planning and undermines their confidence in the rate making process. (p. 6)*

22 In utilizing the Board’s cost allocation model for Hydro Ottawa’s 2011 cost allocation
 23 study, Elenchus has been cognizant of these “influencing factors” as they apply to
 24 Hydro Ottawa.

25 **1.1 PURPOSE OF THE COST ALLOCATION STUDY**

26 In the context of a cost of service rate application based on a 2011 forward test year,
 27 the primary purpose of the cost allocation study (“CA Study”) is to determine the
 28 proportion of a distributor’s total revenue requirement that is the “responsibility” of each
 29 rate class.

1 In addition, cost allocation studies provide revenue to cost ratios for each customer
 2 class that can be examined to ensure that they generally fall within the Board-specified
 3 ranges (or move toward those ranges where appropriate to mitigate rate impacts) and
 4 generally are not moving away from 100%.

5 Conceptually, the desired results can be achieved in either of two ways.

- 6 • **Prospective Year CA Study:** A cost allocation study for the 2011 test year can
 7 be based on an allocation of the 2011 test year costs (i.e., the 2011 forecast
 8 revenue requirement) to the various customer classes using allocators that are
 9 based on the forecast class loads (kW and kWh) by class, customer counts, etc.
 10 By definition, this approach will result in a total revenue to cost ratio at proposed
 11 rates of 100%. Assuming there is a revenue deficiency for the test year, the total
 12 revenue to cost ratio at current rates will be somewhat below 100%.
- 13 • **Historic Year CA Study:** As an alternative, an historic year cost allocation study
 14 can be prepared that determines the proportion of costs allocated to each class
 15 for the most recent historic year. In the case, the CA Study will rely on actual
 16 costs, weather adjusted loads, customer counts, etc. that are not affected by
 17 forecast errors. Assuming the costs and loads are relatively stable so that the
 18 proportionate cost responsibility of each rate class in the historic year is a
 19 reasonable proxy for the 2011 test year cost responsibility, the resulting
 20 proportionate cost responsibilities can be used to allocate the 2011 revenue
 21 requirement to the various classes.

22 The Hydro Ottawa CA Study uses the first of these methods in order to ensure
 23 compliance with the Board's direction in the Filing Requirements that the CA Study
 24 should "reflect future loads and cost". Relying on a Prospective Year CA Study is also
 25 appropriate at this time since the Ontario economy has suffered over the past two years
 26 and, as a result, many distributors have experienced significant changes in the load
 27 profiles of their customer classes. These changes could have a significant impact on the
 28 allocation of costs to the classes and the resulting revenue to cost ratios. This approach
 29 implicitly assumes that the economic recovery may be slow and, as a result, the relative

1 loads of customer classes are more likely to reflect 2011 loads than 2009 loads during
2 the next IRM cycle.

3 **1.2 HYDRO OTTAWA'S 2008 COST ALLOCATION STUDY**

4 Hydro Ottawa filed its 2006 Cost Allocation Information Filing ("2006 CAIF") in support
5 of its 2008 rebasing application in September 2007. Hydro Ottawa's 2006 CAIF relied
6 on the Board's 2006 Cost Allocation Model ("CA Model") and was prepared in
7 accordance with the September 29, 2006 Board report entitled *Cost Allocation: Board*
8 *Directions on Cost Allocation Methodology for Electricity Distributors* ("the Directions"),
9 the subsequent (November 15, 2006) *Cost Allocation Informational Filing Guidelines for*
10 *Electricity Distributors* ("the Guidelines"), and the *Cost Allocation Review: User*
11 *Instruction for the Cost Allocation Model for Electricity Distributors* ("the Instructions").
12 During the course of that 2008 COS proceeding, the model was modified by removing
13 the transformer ownership allowance, a change that has now been incorporated into the
14 OEB Filing Requirements.

15 **1.3 STRUCTURE OF THE REPORT**

16 The remainder of this report is divided into three additional sections. Section 2 provides
17 an overview of the Hydro Ottawa CA Study, explaining each of the model runs (or
18 version of the CA model) included in the study, as well as the load and cost information
19 used for each run. Section 3 explains the methodology used to develop the 2011 Hydro
20 Ottawa model by documenting each step taken in completing the model. Section 4
21 summarizes the results of the Hydro Ottawa CA Study, showing the class revenue
22 requirements and revenue to cost ratios generated by each version of the CA models.

1 **2 OVERVIEW OF THE HYDRO OTTAWA 2011 CA STUDY**

2 **2.1 MODELS RUNS INCLUDED IN THE HYDRO OTTAWA COST ALLOCATION**
 3 **STUDY**

4 Section 2.8.3 of the updated Filing Requirements specifies that “three sets of revenue to
 5 cost ratios for each customer class” must be provided based on:

- 6 • “the initial cost allocation model” which is the 2006 CAIF;
- 7 • “the initial cost allocation model revised with the adjusted transformer ownership
 8 allowance” which is the 2006 CAIF, adjusted in accordance with section 2.8.2 of
 9 the updated Filing Requirements; and
- 10 • “the updated cost allocation model” which is the appropriate 2011 model.

11 In Hydro Ottawa’s case, the most recent version of the CAIF on record is based on
 12 2004 information and is adjusted for the transformer ownership allowance. Hence, the
 13 current Hydro Ottawa Cost Allocation Study (“CA Study”) consists of only two versions
 14 of the OEB’s cost allocation model. For clarity, the following designations are used.

- 15 • **HOL-2008: Hydro Ottawa 2008 Model:** The Hydro Ottawa CAIF as filed in 2008,
 16 with the corrected treatment of the Transformer Ownership Allowance.
- 17 • **HOL-2011: Hydro Ottawa 2011 Model:** The 2008 CA with the corrected
 18 treatment of the Transformer Ownership Allowance and 2011 loads, costs, and
 19 revenues.

20 **2.2 LOAD AND CUSTOMER INFORMATION**

21 The updated Filing Requirements specify that “the updated model must be consistent
 22 with the load forecast and costs in the test year ... If updated load profiles are not
 23 available, the load profiles of the classes may be the same as those used in the
 24 information filing scaled to match the load forecast.” (Section 2.8.1, pp. 19-20)

25 The Hydro Ottawa 2011 model has been prepared using the following load and load
 26 profile information:

- 1 • **Annual Loads (kW and kWh, as appropriate) and customer counts:** The
2 2011 load forecast and customer counts by class being used by Hydro Ottawa in
3 its application were also used for the 2011 CA models.
- 4 • **Hourly load profile:** The hourly load profiles prepared by Hydro One for the
5 2006 CAIF were used for all classes except GS > 1500 kW < 5000 kW, and
6 Large Use > 5MW. Updating of the hourly load profiles for these classes was
7 necessary because of the small number of customers in these classes.
8 Furthermore, actual 2009 hourly load data are available for these classes (all
9 customers have interval meters) and the hourly load data does not require
10 weather adjustment, making it a straightforward task to determine the updated
11 hourly load shape of these classes in a manner that is consistent with the Hydro
12 One methodology.

13 The hourly load profiles provided by Hydro One for all of the remaining classes for the
14 2006 model were considered to be appropriate for use in the 2011 models for the
15 following reasons.

- 16 1. Elenchus explored alternatives for updating the hourly load profiles by rate class
17 comparable to the estimated load profiles that Hydro One prepared for the LDCs for
18 their 2006 CA Models. Hydro One advised that they no longer have the capacity to
19 produce a significant number of LDC-specific hourly load profiles. As far as Elenchus
20 is aware, no other entity has the necessary information and models to produce
21 comparable quality hourly load profiles for Ontario LDCs. It therefore was not
22 practical for distributors to update their hourly load profiles by class except in
23 exceptional circumstances.
- 24 2. There would be little point in investing in updated load profiles without also investing
25 in updated saturation surveys for the residential class in each service area. These
26 are expensive and time consuming to undertake as they involve a survey of a
27 statistically significant sample of customers.
- 28 3. With the widespread rollout of smart meters and the collection of smart meter data,
29 Ontario distributors will have better hourly load profile by class data than the Hydro
30 One estimates. Unless there is evidence of a significant change in circumstances,

1 investing in new hourly load profile by class estimates would be a questionable use
 2 of ratepayer funds when superior hourly load profile information will be available in
 3 the next few years at minimal incremental cost.

4 4. Both time-of-use commodity pricing and changes to the design of distribution rates
 5 can be expected to alter the hourly load profiles of the affected classes.

6 5. The 2006 hourly load profiles were based on 2004 actual loads and updated hourly
 7 load profiles would be based on 2009 actual loads. An update of the hourly load
 8 profiles after 5 years (2004 to 2009) can be expected to produce changes in cost
 9 responsibility that are small relative to the tolerances that are necessary given the
 10 imprecision of the allocated costs based on the 2006 CA Model methodology. (The
 11 revenue-to-cost ratio bands set out in the CA Application Report appear to recognize
 12 the lack of precision in cost allocation studies at this time.)

13 6. The remaining classes do not include customers large enough, or with sufficiently
 14 variable demand to individually impact the load profile in a meaningful way.

15 **2.3 COST INFORMATION**

16 As noted earlier, Elenchus’s preferred methodology for preparing 2011 cost allocation
 17 models is to use the prospective 2011 test year as the basis for the CA Study, assuming
 18 appropriate expense and asset information is available for the 2011 test year. In the
 19 case of Hydro Ottawa, the financial information for the forecast year has been prepared
 20 at the USoA level consistent with the level of detail embedded in the OEB’s cost
 21 allocation model.⁴

⁴ Some information (i.e., meter counts and some amortization detail) that is used in the Board’s CA Model is not explicitly forecasted for the test year. These values were estimated using scaling factors based on prior year ratios. For example, the ratio of meters to customers was assumed to be constant. The portion of the total costs accounted for in this manner was too small for any plausible estimation errors to have a significant impact on the test year revenue to cost ratios.

1 **3 HYDRO OTTAWA COST ALLOCATION STUDY METHODOLOGY**

2 This section documents Elenchus’s methodology for the Hydro Ottawa Cost Allocation
3 Study which includes the 2008 model and the 2011 CA Model.

4 The 2008 CA Model (HOL-2008) is an unaltered version of the model that was filed with
5 the Board in 2007 and subsequently corrected for transformer ownership allowance
6 during the proceeding, so no further correction is provided.

7 **3.1 2011 HYDRO OTTAWA CA MODEL**

8 **3.1.1 HOURLY LOAD PROFILE (HONI FILE)**

9 For the Hydro Ottawa CA Model, HONI provided data files with three worksheets that
10 were used as input to the 2006 CAIF:

- 11 • **Data Summary:** actual and weather normalized monthly kWh by class,
12 disaggregated by weather sensitive and non-weather sensitive load for relevant
13 classes.
- 14 • **Hourly Load Shape by Class:** GWh by class for each hour in 2004.
- 15 • **Input to Cost Allocation Model:** The 1CP, 4CP, 12CP, 1NCP, 4NCP, 12NCP
16 allocators are derived from the hourly load profiles.

17 The Hydro Ottawa hourly load shapes derived by Hydro One for the 2006 CAIF were
18 not updated. However, the demand allocators derived by Hydro One for the 2006 CAIF
19 were revised to reflect changes in the relative loads for the classes from 2004 to 2011.
20 This was done by scaling the hourly load profiles of each class on the Hourly Load
21 Shape by Class worksheet of the HONI file to levels consistent with the 2011 load
22 forecast while maintaining the hourly load shapes.

23 **3.1.2 DEMAND ALLOCATORS (HONI FILE)**

24 The demand allocators used in the HOL-2011 CA Model were derived using the same
25 methodology as Hydro One used for the 2006 file; however, they were re-determined

1 using the forecast 2011 hourly load profiles resulting from the preceding step. Using the
 2 2011 hourly load profiles by class, the 12 monthly coincident and non-coincident peaks
 3 for the rate classes were determined on the Hourly Load Shape by Rate Class
 4 worksheet. The allocators were then derived as follows.

- 5 • The 1, 4 and 12 NCP values for each class were calculated by selecting the peak
 6 in the year (1 NCP), summing the four highest monthly peaks (4 NCP) and
 7 summing the 12 monthly peaks for each class (12 NCP), respectively.
- 8 • The total 1, 4 and 12 NCP values are the totals of the corresponding class NCP
 9 values.
- 10 • The 1, 4 and 12 CP values for each class were derived by identifying the hour in
 11 each month when the coincident peak occurred and then selecting the peak in
 12 the year (1 CP), adding the demands during the four highest coincident peak
 13 hours (4 CP) and summing the demand for each class during the 12 monthly
 14 coincident peak hours (12 CP), respectively.
- 15 • The total 1, 4 and 12 CP values are the totals of the corresponding class CP
 16 values, which are the values used to identify the relevant coincident peak hours.

17 **3.1.3 2011 DEMAND DATA (HOL-2011 MODEL)**

18 The demand allocators derived in the updated Hydro One file as described in the
 19 preceding section were input at the appropriate cells at sheet I8 Demand Data of the
 20 2011 Hydro Ottawa CA Model. However, the Line Transformer and Secondary 1NCP,
 21 4NCP and 12NCP values (rows 57-58, 63-64, 69-70) for GS > 50 are not equal to the
 22 full class NCP values since not all GS>50 customers use these facilities. The Line
 23 Transformer and Secondary 1NCP, 4NCP and 12NCP values were therefore
 24 determined from the full load data NCP values using the ratio of values in the 2008 CA
 25 Model.

1 **3.1.4 2011 CUSTOMER DATA (HOL-2011 MODEL)**

2 The 30 year weather normalized kWh by rate class which was an input from the Hydro
3 One file at Sheet I6 Customer Data row 27 in the 2008 CA model was replaced with the
4 2011 load forecast in the 2011 CA Model.

5 In addition, the demand data (kW and kWh) in rows 21, 22, 25, and 56 of Sheet I6
6 Customer Data were replaced with the forecasted values. Row 23 was scaled by the
7 percentage change in row 22.

8 The 2011 Distribution Revenue in row 29 was derived using the forecast demand (kW
9 and kWh) and customer counts by rate class and the existing 2009 rates.

10 **3.1.5 2011 REVENUE TO COST RATIOS**

11 Since Hydro Ottawa is proposing to set rates that recover its full revenue requirement,
12 the total revenue to cost ratio at proposed rates will be 100% in 2011. The 2011 total
13 revenue to cost ratio at current rates is less than 100% by the amount of the required
14 rate increase. The revenue to cost ratios of the classes reflect the costs allocated to the
15 classes based on the OEB CA Model methodology and the revenues that would be
16 generated at current rates given the forecast demand (kW and kWh) and customer
17 counts by rate class for 2011.

1 **4 SUMMARY OF REVENUE TO COST RATIOS**

2 The class revenue-to-cost ratios as determined in the Hydro Ottawa cost allocation
 3 models are shown in Table 7, below.

4 **Table 7: Revenue to Cost Ratios**

Customer Class	HOL-2008	HOL-2011	HOL-2011 Scaled to 100%	Board Target Range
Residential	92.11	90.54	98.03	85-115
GS < 50 kW	111.76	102.78	111.29	80-120
GS > 50 kW < 1500 kW	101.79	88.12	95.41	80-180
GS > 1500 kW < 5000 kW	155.13	110.61	119.77	80-120
Large Use > 5MW	130.40	100.52	108.85	85-115
Sentinel Lighting	35.74	33.16	35.90	70-120
Street Lighting	57.72	65.82	71.27	70-120
USL	137.11	108.66	117.66	80-120
Back-up / Standby Power	98.28	70.00	75.80	
Total	100.00	92.35	100.00	

5
 6 Note that the total revenue to cost ratio for HOL-2011 is less than 100% because it
 7 represents the revenue to cost ratios for 2011 at current rates. At proposed rate the
 8 total revenue to cost ratio would be 100%. In addition, Hydro Ottawa's proposed rates
 9 for 2011 will alter the relative revenue to cost ratios of the classes.

10 The HOL-2011 ratios (at current rates) reflect the impact of changes in throughput by
 11 class as well as changes in costs from 2008 through the 2011 forecast test year.

1 Table 8 presents the revenue responsibility (i.e., allocation of the total revenue
 2 requirement to the rate classes) in each of the models. This revenue responsibility is
 3 presented in both dollar and percentage terms.

4 **Table 8: Revenue Responsibility by Rate Class**

Customer Class	HOL-2008		HOL-2011	
	\$	%	\$	%
Residential	90,239,666	57.59	94,133,384	56.27
GS < 50 kW	18,423,880	11.76	19,129,211	11.43
GS > 50 kW < 1500 kW	34,981,943	22.32	38,658,919	23.11
GS > 1500 kW < 5000 kW	6,084,426	3.88	7,369,432	4.40
Large Use > 5MW	4,054,569	2.59	5,486,432	3.28
Sentinel Lighting	12,795	0.01	11,117	0.01
Street Lighting	954,153	0.61	1,127,515	0.67
USL	485,788	0.31	445,766	0.27
Back-up / Standby Power	1,458,537	0.93	939,475	0.56
Total	156,695,758	100.00	167,300,900	100.00

5



Ontario Energy Board

2011 COST ALLOCATION INFORMATION FILING

Sheet 1 Utility Information Sheet

Name of LDC:

License Number:

EDR 2006 EB Number:

**Cost Allocation
EB Number:**

← drop-down menu

Date of Submission:

Version: 1.2

Contact Information

Name:

Title:

Phone Number:

E-Mail Address:



2011 COST ALLOCATION INFORMATION FILING
Hydro Ottawa Limited
EB-2005-0381

Sheet 12 Class Selection - Second Run

Instructions:

Step 1: Please input your existing classes

Step 2: If this is your first run, select "First Run" in the drop-down menu below

Step 3: After all classes have been entered, Click the "Update" button in row E41

Click for Drop-Down
 Menu →

If desired, provide a summary of this run
 (40 characters max.)

Second Run

		Utility's Class Definition	Current
1	Residential		YES
2	GS <50		YES
3	GS>50-Regular	GS>50 kW < 1,499 kW	YES
4	GS> 50-TOU	GS>1,500 kW < 4,999 kW	YES
5	GS >50-Intermediate		NO
6	Large Use >5MW		YES
7	Street Light		YES
8	Sentinel		YES
9	Unmetered Scattered Load		YES
10	Embedded Distributor		NO
11	Back-up/Standby Power		YES
12	Rate Class 1		NO
13	Rate class 2		NO
14	Rate class 3		NO
15	Rate class 4		NO
16	Rate class 5		NO
17	Rate class 6		NO
18	Rate class 7		NO
19	Rate class 8		NO
20	Rate class 9		NO

Update



2011 COST ALLOCATION INFORMATION FILING
Hydro Ottawa Limited
EB-2005-0381

Sheet I3 Trial Balance Data - Second Run

Instructions:

Step 1: Copy 2006 EDR Trial Balance values (Sheet 2-4, Column P17 to P446) to Column D21 of this worksheet. Use the Edit - Paste Special - Values function.

Step 2: Enter the amounts needed to be reclassified to column F.

Step 3: Enter Target Net Income from approved EDR (Sheet 4-1, cell F23)

Step 4: Enter PILs from approved EDR (Sheet 4-2, cell E15)

Step 5: Enter Interest from approved EDR (Sheet 4-1, cell F21)

Step 6: Enter specific service charges offset from approved EDR (Sheet 5-5, cell D19)

Step 7: Enter Transformation Ownership Allowance Credit from approved EDR (Sheet 6-3, cell R120)

Step 8: Enter Low Voltage Wheeling Adjustment Credit from approved EDR (Sheet ADJ 3, cell F46)

Step 9: Enter Revenue Requirement from approved EDR (Sheet 5-1, cell F22)

Step 10: Enter Total Rate Base from approved EDR (Sheet 3-1, cell F21)

Step 11: Enter Directly Allocated amounts into column G.

Approved Target Net Income (\$)	\$24,884,250		
Approved PILs (\$)	\$9,555,063		
Approved Interest (\$)	\$19,473,884		
Approved Specific Service Charges (\$)	\$3,707,794		
Approved Transformer Ownership Allowance (\$)			
Approved Low Voltage Wheeling Adjustment (\$)	\$0		
Approved Revenue Requirement (\$)	\$166,129,299	From this Sheet	Differences?
Revenue Requirement to be Used in this model (\$)	\$166,129,299	\$166,129,299	Rev Req Matches
Approved Rate Base (\$)	\$631,579,950		
Rate Base to be Used in this model (\$)	\$631,579,950	\$631,579,950	Rate Base Matches

Uniform System of Accounts - Detail Accounts

USoA Account #	Accounts	Financial Statement (EDR Sheet 2.4, Column P)	Model Adjustments	Reclassify accounts	Direct Allocation	Reclassified Balance
1005	Cash	\$0				\$0
1010	Cash Advances and Working Funds	\$0				\$0
1020	Interest Special Deposits	\$0				\$0
1030	Dividend Special Deposits	\$0				\$0
1040	Other Special Deposits	\$0				\$0
1060	Term Deposits	\$0				\$0
1070	Current Investments	\$0				\$0
1100	Customer Accounts Receivable	\$0				\$0
1102	Accounts Receivable - Services	\$0				\$0
1104	Accounts Receivable - Recoverable Work	\$0				\$0
1105	Accounts Receivable - Merchandise, Jobbing, etc.	\$0				\$0
1110	Other Accounts Receivable	\$0				\$0
1120	Accrued Utility Revenues	\$0				\$0
1130	Accumulated Provision for Uncollectible Accounts--Credit	\$0				\$0
1140	Interest and Dividends Receivable	\$0				\$0
1150	Rents Receivable	\$0				\$0
1170	Notes Receivable	\$0				\$0
1180	Prepayments	\$0				\$0
1190	Miscellaneous Current and Accrued Assets	\$0				\$0
1200	Accounts Receivable from Associated Companies	\$0				\$0
1210	Notes Receivable from Associated Companies	\$0				\$0
1305	Fuel Stock	\$0				\$0
1330	Plant Materials and Operating Supplies	\$0				\$0

1340	Merchandise	\$0		\$0
1350	Other Materials and Supplies	\$0		\$0
1405	Long Term Investments in Non-Associated Companies	\$0		\$0
1408	Long Term Receivable - Street Lighting Transfer	\$0		\$0
1410	Other Special or Collateral Funds	\$0		\$0
1415	Sinking Funds	\$0		\$0
1425	Unamortized Debt Expense	\$0		\$0
1445	Unamortized Discount on Long-Term Debt--Debit	\$0		\$0
1455	Unamortized Deferred Foreign Currency Translation Gains and Losses	\$0		\$0
1460	Other Non-Current Assets	\$0		\$0
1465	O.M.E.R.S. Past Service Costs	\$0		\$0
1470	Past Service Costs - Employee Future Benefits	\$0		\$0
1475	Past Service Costs - Other Pension Plans	\$0		\$0
1480	Portfolio Investments - Associated Companies	\$0		\$0
1485	Investment in Associated Companies - Significant Influence	\$0		\$0
1490	Investment in Subsidiary Companies	\$0		\$0
1505	Unrecovered Plant and Regulatory Study Costs	\$0		\$0
1508	Other Regulatory Assets	\$0		\$0
1510	Preliminary Survey and Investigation Charges	\$0		\$0
1515	Emission Allowance Inventory	\$0		\$0
1516	Emission Allowances Withheld	\$0		\$0
1518	RCVARetail	\$0		\$0
1520	Power Purchase Variance Account	\$0		\$0
1525	Miscellaneous Deferred Debits	\$0		\$0
1530	Deferred Losses from Disposition of Utility Plant	\$0		\$0
1540	Unamortized Loss on Reacquired Debt	\$0		\$0
1545	Development Charge Deposits/ Receivables	\$0		\$0
1548	RCVASTR	\$0		\$0
1556	Smart Meters - O&M Variance	\$0		\$0
1560	Deferred Development Costs	\$0		\$0
1562	Deferred Payments in Lieu of Taxes	\$0		\$0
1563	Account 1563 - Deferred PILs Contra Account	\$0		\$0
1565	Conservation and Demand Management Expenditures and Recoveries	\$0		\$0
1570	Qualifying Transition Costs	\$0		\$0
1571	Pre-market Opening Energy Variance	\$0		\$0
1572	Extraordinary Event Costs	\$0		\$0
1574	Deferred Rate Impact Amounts	\$0		\$0
1580	RSVAWMS	\$0		\$0
1582	RSVAONE-TIME	\$0		\$0
1584	RSVANW	\$0		\$0
1586	RSVACN	\$0		\$0
1588	RSVAPOWER	\$0		\$0
1590	Recovery of Regulatory Asset Balances	\$0		\$0
1605	Electric Plant in Service - Control Account	\$0		\$0
1606	Organization	\$0		\$0
1608	Franchises and Consents	\$0		\$0
1610	Miscellaneous Intangible Plant	\$0		\$0
1615	Land	\$0		\$0
1616	Land Rights	\$0		\$0
1620	Buildings and Fixtures	\$0		\$0
1630	Leasehold Improvements	\$0		\$0
1635	Boiler Plant Equipment	\$0		\$0
1640	Engines and Engine-Driven Generators	\$0		\$0
1645	Turbogenerator Units	\$0		\$0
1650	Reservoirs, Dams and Waterways	\$0		\$0
1655	Water Wheels, Turbines and Generators	\$0		\$0
1660	Roads, Railroads and Bridges	\$0		\$0
1665	Fuel Holders, Producers and Accessories	\$0		\$0
1670	Prime Movers	\$0		\$0
1675	Generators	\$0		\$0
1680	Accessory Electric Equipment	\$0		\$0
1685	Miscellaneous Power Plant Equipment	\$0		\$0
1705	Land	\$0		\$0
1706	Land Rights	\$0		\$0
1708	Buildings and Fixtures	\$0		\$0
1710	Leasehold Improvements	\$0		\$0
1715	Station Equipment	\$0		\$0
1720	Towers and Fixtures	\$0		\$0
1725	Poles and Fixtures	\$0		\$0
1730	Overhead Conductors and Devices	\$0		\$0
1735	Underground Conduit	\$0		\$0
1740	Underground Conductors and Devices	\$0		\$0
1745	Roads and Trails	\$0		\$0
1805	Land	\$3,769,535		\$3,769,535
1806	Land Rights	\$2,707,541		\$2,707,541
1808	Buildings and Fixtures	\$19,897,926		\$19,897,926
1810	Leasehold Improvements	\$0		\$0
1815	Transformer Station Equipment - Normally Primary above 50 kV	\$70,599,483		\$70,599,483
1820	Distribution Station Equipment - Normally Primary below 50 kV	\$68,366,890		\$68,366,890
1825	Storage Battery Equipment	\$0		\$0
1830	Poles, Towers and Fixtures	\$125,755,014		\$125,755,014

1835	Overhead Conductors and Devices	\$70,099,302		\$70,099,302
1840	Underground Conduit	\$175,989,030		\$175,989,030
1845	Underground Conductors and Devices	\$166,155,419		\$166,155,419
1850	Line Transformers	\$143,762,923		\$143,762,923
1855	Services	\$106,447,367		\$106,447,367
1860	Meters	\$108,556,217		\$108,556,217
1865	Other Installations on Customer's Premises	\$0		\$0
1870	Leased Property on Customer Premises	\$0		\$0
1875	Street Lighting and Signal Systems	\$0		\$0
1905	Land	\$2,681,550		\$2,681,550
1906	Land Rights	\$131,740		\$131,740
1908	Buildings and Fixtures	\$50,493,081		\$50,493,081
1910	Leasehold Improvements	\$0		\$0
1915	Office Furniture and Equipment	\$4,552,473		\$4,552,473
1920	Computer Equipment - Hardware	\$12,929,726		\$12,929,726
1925	Computer Software	\$64,449,924		\$64,449,924
1930	Transportation Equipment	\$24,910,816		\$24,910,816
1935	Stores Equipment	\$482,844		\$482,844
1940	Tools, Shop and Garage Equipment	\$7,370,855		\$7,370,855
1945	Measurement and Testing Equipment	\$791,915		\$791,915
1950	Power Operated Equipment	\$0		\$0
1955	Communication Equipment	\$2,037,370		\$2,037,370
1960	Miscellaneous Equipment	\$270,396		\$270,396
1965	Water Heater Rental Units	\$0		\$0
1970	Load Management Controls - Customer Premises	\$1,088,405		\$1,088,405
1975	Load Management Controls - Utility Premises	\$71,915		\$71,915
1980	System Supervisory Equipment	\$12,057,718		\$12,057,718
1985	Sentinel Lighting Rental Units	\$0		\$0
1990	Other Tangible Property	\$0		\$0
1995	Contributions and Grants - Credit	(\$181,843,010)		(\$181,843,010)
2005	Property Under Capital Leases	\$0		\$0
2010	Electric Plant Purchased or Sold	\$0		\$0
2020	Experimental Electric Plant Unclassified	\$0		\$0
2030	Electric Plant and Equipment Leased to Others	\$0		\$0
2040	Electric Plant Held for Future Use	\$0		\$0
2050	Completed Construction Not Classified--Electric	\$0		\$0
2055	Construction Work in Progress--Electric	\$0		\$0
2060	Electric Plant Acquisition Adjustment	\$0		\$0
2065	Other Electric Plant Adjustment	\$0		\$0
2070	Other Utility Plant	\$0		\$0
2075	Non-Utility Property Owned or Under Capital Leases	\$0		\$0
2105	Accum. Amortization of Electric Utility Plant - Property, Plant, & Equipment	(\$527,172,271)		(\$527,172,271)
2120	Accumulated Amortization of Electric Utility Plant - Intangibles			\$0
2140	Accumulated Amortization of Electric Plant Acquisition Adjustment			\$0
2160	Accumulated Amortization of Other Utility Plant			\$0
2180	Accumulated Amortization of Non-Utility Property			\$0
2205	Accounts Payable			\$0
2208	Customer Credit Balances			\$0
2210	Current Portion of Customer Deposits			\$0
2215	Dividends Declared			\$0
2220	Miscellaneous Current and Accrued Liabilities			\$0
2225	Notes and Loans Payable			\$0
2240	Accounts Payable to Associated Companies			\$0
2242	Notes Payable to Associated Companies			\$0
2250	Debt Retirement Charges (DRC) Payable			\$0
2252	Transmission Charges Payable			\$0
2254	Electrical Safety Authority Fees Payable			\$0
2256	Independent Market Operator Fees and Penalties Payable			\$0
2260	Current Portion of Long Term Debt			\$0
2262	Ontario Hydro Debt - Current Portion			\$0
2264	Pensions and Employee Benefits - Current Portion			\$0
2268	Accrued Interest on Long Term Debt			\$0
2270	Matured Long Term Debt			\$0
2272	Matured Interest on Long Term Debt			\$0
2285	Obligations Under Capital Leases--Current			\$0
2290	Commodity Taxes			\$0
2292	Payroll Deductions / Expenses Payable			\$0
2294	Accrual for Taxes, Payments in Lieu of Taxes, Etc.			\$0
2296	Future Income Taxes - Current			\$0
2305	Accumulated Provision for Injuries and Damages			\$0
2306	Employee Future Benefits			\$0
2308	Other Pensions - Past Service Liability			\$0
2310	Vested Sick Leave Liability			\$0
2315	Accumulated Provision for Rate Refunds			\$0
2320	Other Miscellaneous Non-Current Liabilities			\$0
2325	Obligations Under Capital Lease--Non-Current			\$0
2330	Development Charge Fund			\$0
2335	Long Term Customer Deposits			\$0
2340	Collateral Funds Liability			\$0
2345	Unamortized Premium on Long Term Debt			\$0
2348	O.M.E.R.S. - Past Service Liability - Long Term Portion			\$0
2350	Future Income Tax - Non-Current			\$0

2405	Other Regulatory Liabilities				\$0
2410	Deferred Gains from Disposition of Utility Plant				\$0
2415	Unamortized Gain on Reacquired Debt				\$0
2425	Other Deferred Credits				\$0
2435	Accrued Rate-Payer Benefit				\$0
2505	Debentures Outstanding - Long Term Portion				\$0
2510	Debenture Advances				\$0
2515	Reacquired Bonds				\$0
2520	Other Long Term Debt				\$0
2525	Term Bank Loans - Long Term Portion				\$0
2530	Ontario Hydro Debt Outstanding - Long Term Portion				\$0
2550	Advances from Associated Companies				\$0
3005	Common Shares Issued				\$0
3008	Preference Shares Issued				\$0
3010	Contributed Surplus				\$0
3020	Donations Received				\$0
3022	Development Charges Transferred to Equity				\$0
3026	Capital Stock Held in Treasury				\$0
3030	Miscellaneous Paid-In Capital				\$0
3035	Installments Received on Capital Stock				\$0
3040	Appropriated Retained Earnings				\$0
3045	Unappropriated Retained Earnings				\$0
3046	Balance Transferred From Income		\$0	\$0	(\$24,884,250)
3047	Appropriations of Retained Earnings - Current Period				\$0
3048	Dividends Payable-Preference Shares				\$0
3049	Dividends Payable-Common Shares				\$0
3055	Adjustment to Retained Earnings				\$0
3065	Unappropriated Undistributed Subsidiary Earnings				\$0
4006	Residential Energy Sales				\$0
4010	Commercial Energy Sales				\$0
4015	Industrial Energy Sales				\$0
4020	Energy Sales to Large Users				\$0
4025	Street Lighting Energy Sales				\$0
4030	Sentinel Lighting Energy Sales				\$0
4035	General Energy Sales				\$0
4040	Other Energy Sales to Public Authorities				\$0
4045	Energy Sales to Railroads and Railways				\$0
4050	Revenue Adjustment				\$0
4055	Energy Sales for Resale				\$0
4060	Interdepartmental Energy Sales				\$0
4062	Billed WMS				\$0
4064	Billed-One-Time				\$0
4066	Billed NW				\$0
4068	Billed CN				\$0
4080	Distribution Services Revenue		\$0		(\$146,577,475)
4082	Retail Services Revenues	(\$341,000)			(\$341,000)
4084	Service Transaction Requests (STR) Revenues	(\$10,400)			(\$10,400)
4090	Electric Services Incidental to Energy Sales	(\$802,546)			(\$802,546)
4105	Transmission Charges Revenue	\$0			\$0
4110	Transmission Services Revenue	\$0			\$0
4205	Interdepartmental Rents	\$0			\$0
4210	Rent from Electric Property	\$0			\$0
4215	Other Utility Operating Income	\$0			\$0
4220	Other Electric Revenues	\$0			\$0
4225	Late Payment Charges	(\$1,400,000)			(\$1,400,000)
4230	Sales of Water and Water Power	\$0			\$0
4235	Miscellaneous Service Revenues	(\$3,707,794)	\$3,707,794		(\$3,707,794)
4240	Provision for Rate Refunds	\$0			\$0
4245	Government Assistance Directly Credited to Income	\$0			\$0
4305	Regulatory Debits	\$0			\$0
4310	Regulatory Credits	\$0			\$0
4315	Revenues from Electric Plant Leased to Others	(\$821,000)			(\$821,000)
4320	Expenses of Electric Plant Leased to Others	\$0			\$0
4325	Revenues from Merchandise, Jobbing, Etc.	(\$3,000,000)			(\$3,000,000)
4330	Costs and Expenses of Merchandising, Jobbing, Etc.	\$2,316,470			\$2,316,470
4335	Profits and Losses from Financial Instrument Hedges	\$0			\$0
4340	Profits and Losses from Financial Instrument Investments	\$0			\$0
4345	Gains from Disposition of Future Use Utility Plant	\$0			\$0
4350	Losses from Disposition of Future Use Utility Plant	\$0			\$0
4355	Gain on Disposition of Utility and Other Property	(\$103,020)			(\$103,020)
4360	Loss on Disposition of Utility and Other Property	\$0			\$0
4365	Gains from Disposition of Allowances for Emission	\$0			\$0
4370	Losses from Disposition of Allowances for Emission	\$0			\$0
4375	Revenues from Non-Utility Operations	\$0			\$0
4380	Expenses of Non-Utility Operations	\$0			\$0
4385	Non-Utility Rental Income	\$0			\$0
4390	Miscellaneous Non-Operating Income	\$0			\$0
4395	Rate-Payer Benefit Including Interest	\$0			\$0
4398	Foreign Exchange Gains and Losses, Including Amortization	\$0			\$0
4405	Interest and Dividend Income	(\$58,000)	\$0		(\$58,000)
4415	Equity in Earnings of Subsidiary Companies	\$0			\$0
4505	Operation Supervision and Engineering	\$0			\$0
4510	Fuel	\$0			\$0
4515	Steam Expense	\$0			\$0
4520	Steam From Other Sources	\$0			\$0

4525	Steam Transferred--Credit	\$0		\$0
4530	Electric Expense	\$0		\$0
4535	Water For Power	\$0		\$0
4540	Water Power Taxes	\$0		\$0
4545	Hydraulic Expenses	\$0		\$0
4550	Generation Expense	\$0		\$0
4555	Miscellaneous Power Generation Expenses	\$0		\$0
4560	Rents	\$0		\$0
4565	Allowances for Emissions	\$0		\$0
4605	Maintenance Supervision and Engineering	\$0		\$0
4610	Maintenance of Structures	\$0		\$0
4615	Maintenance of Boiler Plant	\$0		\$0
4620	Maintenance of Electric Plant	\$0		\$0
4625	Maintenance of Reservoirs, Dams and Waterways	\$0		\$0
4630	Maintenance of Water Wheels, Turbines and Generators	\$0		\$0
4635	Maintenance of Generating and Electric Plant	\$0		\$0
4640	Maintenance of Miscellaneous Power Generation Plant	\$0		\$0
4705	Power Purchased	\$603,090,617		\$603,090,617
4708	Charges-WMS	\$0		\$0
4710	Cost of Power Adjustments	\$0		\$0
4712	Charges-One-Time	\$0		\$0
4714	Charges-NW	\$0		\$0
4715	System Control and Load Dispatching	\$0		\$0
4716	Charges-CN	\$0		\$0
4720	Other Expenses	\$0		\$0
4725	Competition Transition Expense	\$0		\$0
4730	Rural Rate Assistance Expense	\$0		\$0
4805	Operation Supervision and Engineering	\$0		\$0
4810	Load Dispatching	\$0		\$0
4815	Station Buildings and Fixtures Expenses	\$0		\$0
4820	Transformer Station Equipment - Operating Labour	\$0		\$0
4825	Transformer Station Equipment - Operating Supplies and Expense	\$0		\$0
4830	Overhead Line Expenses	\$0		\$0
4835	Underground Line Expenses	\$0		\$0
4840	Transmission of Electricity by Others	\$0		\$0
4845	Miscellaneous Transmission Expense	\$0		\$0
4850	Rents	\$0		\$0
4905	Maintenance Supervision and Engineering	\$0		\$0
4910	Maintenance of Transformer Station Buildings and Fixtures	\$0		\$0
4916	Maintenance of Transformer Station Equipment	\$0		\$0
4930	Maintenance of Towers, Poles and Fixtures	\$0		\$0
4935	Maintenance of Overhead Conductors and Devices	\$0		\$0
4940	Maintenance of Overhead Lines - Right of Way	\$0		\$0
4945	Maintenance of Overhead Lines - Roads and Trails Repairs	\$0		\$0
4950	Maintenance of Overhead Lines - Snow Removal from Roads and Trails	\$0		\$0
4960	Maintenance of Underground Lines	\$0		\$0
4965	Maintenance of Miscellaneous Transmission Plant	\$0		\$0
5005	Operation Supervision and Engineering	\$0		\$0
5010	Load Dispatching	\$2,290,007		\$2,290,007
5012	Station Buildings and Fixtures Expense	\$690,955		\$690,955
5014	Transformer Station Equipment - Operation Labour	\$102,177		\$102,177
5015	Transformer Station Equipment - Operation Supplies and Expenses	\$21,804		\$21,804
5016	Distribution Station Equipment - Operation Labour	\$330,426		\$330,426
5017	Distribution Station Equipment - Operation Supplies and Expenses	\$187,470		\$187,470
5020	Overhead Distribution Lines and Feeders - Operation Labour	\$829,978		\$829,978
5025	Overhead Distribution Lines & Feeders - Operation Supplies and Expenses	\$2,430,131		\$2,430,131
5030	Overhead Subtransmission Feeders - Operation	\$0		\$0
5035	Overhead Distribution Transformers- Operation	\$2,131	\$0	\$2,131
5040	Underground Distribution Lines and Feeders - Operation Labour	\$787,810		\$787,810
5045	Underground Distribution Lines & Feeders - Operation Supplies & Expenses	\$1,740,310		\$1,740,310
5050	Underground Subtransmission Feeders - Operation	\$0		\$0
5055	Underground Distribution Transformers - Operation	\$19,208	\$0	\$19,208
5060	Street Lighting and Signal System Expense	\$0		\$0
5065	Meter Expense	\$3,352,547		\$3,352,547
5070	Customer Premises - Operation Labour	\$0		\$0
5075	Customer Premises - Materials and Expenses	\$0		\$0
5085	Miscellaneous Distribution Expense	\$2,484,483		\$2,484,483
5090	Underground Distribution Lines and Feeders - Rental Paid	\$0		\$0
5095	Overhead Distribution Lines and Feeders - Rental Paid	\$0		\$0
5096	Other Rent	\$0		\$0
5105	Maintenance Supervision and Engineering	\$0		\$0
5110	Maintenance of Buildings and Fixtures - Distribution Stations	\$0		\$0

5112	Maintenance of Transformer Station Equipment	\$344,063			\$344,063
5114	Maintenance of Distribution Station Equipment	\$1,287,135			\$1,287,135
5120	Maintenance of Poles, Towers and Fixtures	\$348,779			\$348,779
5125	Maintenance of Overhead Conductors and Devices	\$754,245			\$754,245
5130	Maintenance of Overhead Services	\$801,575			\$801,575
5135	Overhead Distribution Lines and Feeders - Right of Way	\$0			\$0
5145	Maintenance of Underground Conduit	\$171,830			\$171,830
5150	Maintenance of Underground Conductors and Devices	\$732,898			\$732,898
5155	Maintenance of Underground Services	\$449,782			\$449,782
5160	Maintenance of Line Transformers	\$506,000	\$0		\$506,000
5165	Maintenance of Street Lighting and Signal Systems	\$0			\$0
5170	Sentinel Lights - Labour	\$0			\$0
5172	Sentinel Lights - Materials and Expenses	\$0			\$0
5175	Maintenance of Meters	\$689,734			\$689,734
5178	Customer Installations Expenses- Leased Property	\$0			\$0
5185	Water Heater Rentals - Labour	\$0			\$0
5186	Water Heater Rentals - Materials and Expenses	\$0			\$0
5190	Water Heater Controls - Labour	\$0			\$0
5192	Water Heater Controls - Materials and Expenses	\$0			\$0
5195	Maintenance of Other Installations on Customer Premises	\$0			\$0
5205	Purchase of Transmission and System Services	\$0			\$0
5210	Transmission Charges	\$0			\$0
5215	Transmission Charges Recovered	\$0			\$0
5305	Supervision	\$0			\$0
5310	Meter Reading Expense	\$291,212			\$291,212
5315	Customer Billing	\$7,073,022			\$7,073,022
5320	Collecting	\$1,943,436			\$1,943,436
5325	Collecting- Cash Over and Short	\$0			\$0
5330	Collection Charges	\$0			\$0
5335	Bad Debt Expense	\$1,533,060			\$1,533,060
5340	Miscellaneous Customer Accounts Expenses	\$0			\$0
5405	Supervision	\$0			\$0
5410	Community Relations - Sundry	\$5,905,497			\$5,905,497
5415	Energy Conservation	\$501,641			\$501,641
5420	Community Safety Program	\$0			\$0
5425	Miscellaneous Customer Service and Informational Expenses	\$0			\$0
5505	Supervision	\$199,923			\$199,923
5510	Demonstrating and Selling Expense	\$0			\$0
5515	Advertising Expense	\$0			\$0
5520	Miscellaneous Sales Expense	\$0			\$0
5605	Executive Salaries and Expenses	\$2,230,022			\$2,230,022
5610	Management Salaries and Expenses	\$5,804,604			\$5,804,604
5615	General Administrative Salaries and Expenses	\$2,679,969			\$2,679,969
5620	Office Supplies and Expenses	\$4,061,460			\$4,061,460
5625	Administrative Expense Transferred Credit	(\$1,931,338)			(\$1,931,338)
5630	Outside Services Employed	\$569,018			\$569,018
5635	Property Insurance	\$780,070			\$780,070
5640	Injuries and Damages	\$626,883			\$626,883
5645	Employee Pensions and Benefits	\$728,000			\$728,000
5650	Franchise Requirements	\$0			\$0
5655	Regulatory Expenses	\$1,419,756			\$1,419,756
5660	General Advertising Expenses	\$0			\$0
5665	Miscellaneous General Expenses	\$2,517,516	\$0		\$2,517,516
5670	Rent	\$0			\$0
5675	Maintenance of General Plant	\$4,625,549			\$4,625,549
5680	Electrical Safety Authority Fees	\$0			\$0
5685	Independent Market Operator Fees and Penalties	\$0			\$0
5705	Amortization Expense - Property, Plant, and Equipment	\$47,449,596			\$47,449,596
5710	Amortization of Limited Term Electric Plant				\$0
5715	Amortization of Intangibles and Other Electric Plant				\$0
5720	Amortization of Electric Plant Acquisition Adjustments				\$0
5725	Miscellaneous Amortization				\$0
5730	Amortization of Unrecovered Plant and Regulatory Study Costs				\$0
5735	Amortization of Deferred Development Costs				\$0
5740	Amortization of Deferred Charges				\$0
6005	Interest on Long Term Debt		\$0	\$0	\$19,473,884
6010	Amortization of Debt Discount and Expense				\$0
6015	Amortization of Premium on Debt Credit				\$0
6020	Amortization of Loss on Reacquired Debt				\$0
6025	Amortization of Gain on Reacquired Debt--Credit				\$0
6030	Interest on Debt to Associated Companies				\$0
6035	Other Interest Expense				\$0
6040	Allowance for Borrowed Funds Used During Construction--Credit				\$0
6042	Allowance For Other Funds Used During Construction				\$0
6045	Interest Expense on Capital Lease Obligations				\$0
6105	Taxes Other Than Income Taxes	\$1,800,217			\$1,800,217
6110	Income Taxes	\$0	\$0	\$0	\$9,555,063
6115	Provision for Future Income Taxes	\$0			\$0

6205	Donations	\$51,510			\$51,510
6210	Life Insurance				\$0
6215	Penalties				\$0
6225	Other Deductions				\$0
6305	Extraordinary Income				\$0
6310	Extraordinary Deductions				\$0
6315	Income Taxes, Extraordinary Items				\$0
6405	Discontinues Operations - Income/ Gains				\$0
6410	Discontinued Operations - Deductions/ Losses				\$0
6415	Income Taxes, Discontinued Operations				\$0

\$0



Reclassification Equals to Zero.
 O.K. to Proceed.

Asset Accounts Directly Allocated	\$0
Income Statement Accounts Directly Allocated	\$0

Grouped Accounts as per 2006 EDR	Financial Statement (EDR Sheet 2.4, Column P)	Reclassified Balance
Land and Buildings	\$29,188,292	\$29,188,292
TS Primary Above 50	\$70,599,483	\$70,599,483
DS	\$68,366,890	\$68,366,890
Poles, Wires	\$537,998,765	\$537,998,765
Line Transformers	\$143,762,923	\$143,762,923
Services and Meters	\$215,003,584	\$215,003,584
General Plant	\$50,493,081	\$50,493,081
Equipment	\$40,416,669	\$40,416,669
IT Assets	\$77,379,650	\$77,379,650
CDM Expenditures and Recoveries	\$0	\$0
Other Distribution Assets	\$13,218,039	\$13,218,039
Contributions and Grants	(\$181,843,010)	(\$181,843,010)
Accumulated Amortization	(\$527,172,271)	(\$527,172,271)
Non-Distribution Asset	\$0	\$0
Unclassified Asset	\$0	\$0
Liability	\$0	\$0
Equity	\$0	(\$24,884,250)
Sales of Electricity	\$0	\$0
Distribution Services Revenue	\$0	(\$146,577,475)
Late Payment Charges	(\$1,400,000)	(\$1,400,000)
Specific Service Charges	(\$3,707,794)	(\$3,707,794)
Other Distribution Revenue	(\$1,153,946)	(\$1,153,946)
Other Revenue - Unclassified	\$0	\$0
Other Income & Deductions	(\$1,665,550)	(\$1,665,550)
Power Supply Expenses (Working Capital)	\$603,090,617	\$603,090,617
Other Power Supply Expenses	\$0	\$0
Operation (Working Capital)	\$15,269,440	\$15,269,440
Maintenance (Working Capital)	\$6,086,040	\$6,086,040
Billing and Collection (Working Capital)	\$9,307,670	\$9,307,670
Community Relations (Working Capital)	\$5,905,497	\$5,905,497
Community Relations - CDM (Working Capital)	\$501,641	\$501,641
Administrative and General Expenses (Working Capital)	\$23,331,438	\$23,331,438
Insurance Expense (Working Capital)	\$780,070	\$780,070
Bad Debt Expense (Working Capital)	\$1,533,060	\$1,533,060
Advertising Expenses	\$0	\$0
Charitable Contributions	\$51,510	\$51,510
Amortization of Assets	\$47,449,596	\$47,449,596
Other Amortization - Unclassified	\$0	\$0
Interest Expense - Unclassified	\$0	\$19,473,884
Income Tax Expense - Unclassified	\$0	\$9,555,063
Other Distribution Expenses	\$2,000,140	\$2,000,140
Non-Distribution Expenses	\$0	\$0
Unclassified Expenses	\$0	\$0
Total	\$1,244,791,526	\$1,102,358,747



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Sheet I4 Break Out Worksheet - Second Run

Instructions:

This is an input sheet for the Break Out of Distribution Assets, Contributed Capital, Amortization, and Amortization Expenses.

****Please see Handbook for detailed instructions****

Enter Net Fixed Assets from approved EDR, Sheet 3-1, cell F12	\$537,412,096
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RATE BASE AND DISTRIBUTION ASSETS		BALANCE SHEET ITEMS									5705
Account	Description	Break out Functions	BREAK OUT (%)	BREAK OUT (\$)	After BO	Contributed Capital - 1995	Accumulated Depreciation - 2105 Capital Contribution	Accumulated Depreciation - 2105 Fixed Assets Only	Accumulated Depreciation - 2120	Asset net of Accumulated Depreciation and Contributed Capital	Amortization Expense - Property, Plant, and Equipment
1565	Conservation and Demand Management	\$0		-	-					-	
1805	Land	\$3,769,535		(\$3,769,535)	-						
1805-1	Land Station >50 kV		5.80%	\$218,633	218,633					218,633	
1805-2	Land Station <50 kV		94.20%	\$3,550,902	3,550,902					3,550,902	
1806	Land Rights	\$2,707,541		(\$2,707,541)	-			\$0			
1806-1	Land Rights Station >50 kV		0.00%	\$0	-					-	
1806-2	Land Rights Station <50 kV		100.00%	\$2,707,541	2,707,541			(\$930,374)		1,777,167	\$45,938
1808	Buildings and Fixtures	\$19,897,926		(\$19,897,926)	-	\$0	\$0				
1808-1	Buildings and Fixtures > 50 kV		14.00%	\$2,785,710	2,785,710			(\$548,694)		2,237,016	\$60,080
1808-2	Buildings and Fixtures < 50 kV		86.00%	\$17,112,217	17,112,217			(\$3,412,807)		13,699,410	\$369,064
1810	Leasehold Improvements	\$0		\$0	-						
1810-1	Leasehold Improvements >50 kV		0.00%	\$0	-					-	
1810-2	Leasehold Improvements <50 kV		100.00%	\$0	-					-	
1815	Transformer Station Equipment - Normally Primary above 50 kV	\$70,599,483		\$0	70,599,483	(\$806,172)	\$151,582	(\$12,993,346)		56,951,547	\$1,786,298
1820	Distribution Station Equipment - Normally Primary below 50 kV	\$68,366,890		(\$68,366,890)	-					-	
1820-1	Distribution Station Equipment - Normally Primary below 50 kV (Bulk)		0.00%	\$0	-					-	
1820-2	Distribution Station Equipment - Normally Primary below 50 kV Primary)		100.00%	\$68,366,890	68,366,890	(\$1,161,037)	\$148,033	(\$30,816,689)		36,537,197	\$1,972,362
1820-3	Distribution Station Equipment - Normally Primary below 50 kV (Wholesale Meters)		0.00%	\$0	-					-	
1825	Storage Battery Equipment	\$0		\$0	-						
1825-1	Storage Battery Equipment > 50 kV		0.00%	\$0	-					-	
1825-2	Storage Battery Equipment <50 kV		100.00%	\$0	-					-	



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Sheet I4 Break Out Worksheet - Second Run

Instructions:

This is an input sheet for the Break Out of Distribution Assets, Contributed Capital, Amortization, and Amortization Expenses.

****Please see Handbook for detailed instructions****

Enter Net Fixed Assets from approved EDR, Sheet 3-1, cell F12	\$537,412,096
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RATE BASE AND DISTRIBUTION ASSETS		BALANCE SHEET ITEMS									5705
		Break out Functions	BREAK OUT (%)	BREAK OUT (\$)	After BO	Contributed Capital - 1995	Accumulated Depreciation - 2105 Capital Contribution	Accumulated Depreciation - 2105 Fixed Assets Only	Accumulated Depreciation - 2120	Asset net of Accumulated Depreciation and Contributed Capital	
1830	Poles, Towers and Fixtures	\$125,755,014		(\$125,755,014)	-						
1830-3	Poles, Towers and Fixtures - Subtransmission Bulk Delivery		0.00%	\$0	-					-	
1830-4	Poles, Towers and Fixtures - Primary		70.00%	\$88,028,510	88,028,510	(\$5,837,613)	\$811,149	(\$45,123,366)		37,878,679	\$3,133,283
1830-5	Poles, Towers and Fixtures - Secondary		30.00%	\$37,726,504	37,726,504	(\$2,501,834)	\$347,635	(\$19,338,585)		16,233,720	\$1,342,835
1835	Overhead Conductors and Devices	\$70,099,302		(\$70,099,302)	-						
1835-3	Overhead Conductors and Devices - Subtransmission Bulk Delivery		0.00%	\$0	-					-	
1835-4	Overhead Conductors and Devices - Primary		100.00%	\$70,099,302	70,099,302	(\$22,808,000)	\$7,507,771	(\$25,059,451)		29,739,622	\$1,853,127
1835-5	Overhead Conductors and Devices - Secondary		0.00%	\$0	-					-	
1840	Underground Conduit	\$175,989,030		(\$175,989,030)	-						
1840-3	Underground Conduit - Bulk Delivery		0.00%	\$0	-					-	
1840-4	Underground Conduit - Primary		71.00%	\$124,952,212	124,952,212	(\$19,520,213)	\$3,514,165	(\$71,457,964)		37,488,200	\$3,537,753
1840-5	Underground Conduit - Secondary		29.00%	\$51,036,819	51,036,819	(\$7,973,045)	\$1,435,363	(\$29,187,056)		15,312,082	\$1,444,998
1845	Underground Conductors and Devices	\$166,155,419		(\$166,155,419)	-						
1845-3	Underground Conductors and Devices - Bulk Delivery		0.00%	\$0	-					-	
1845-4	Underground Conductors and Devices - Primary		100.00%	\$166,155,419	166,155,419	(\$34,828,732)	\$5,539,015	(\$76,051,210)		60,814,493	\$4,744,501
1845-5	Underground Conductors and Devices - Secondary		0.00%	\$0	-					-	
1850	Line Transformers	\$143,762,923		\$0	143,762,923	(\$36,994,610)	\$5,997,314	(\$69,918,614)		42,847,014	\$3,260,505
1855	Services	\$106,447,367		\$0	106,447,367	(\$38,246,319)	\$7,165,073	(\$32,984,721)		42,381,400	\$2,658,724



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Sheet I4 Break Out Worksheet - Second Run

Instructions:

This is an input sheet for the Break Out of Distribution Assets, Contributed Capital, Amortization, and Amortization Expenses.

****Please see Handbook for detailed instructions****

Enter Net Fixed Assets from approved EDR, Sheet 3-1, cell F12	\$537,412,096
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RATE BASE AND DISTRIBUTION ASSETS		BALANCE SHEET ITEMS									5705
		Break out Functions	BREAK OUT (%)	BREAK OUT (\$)	After BO	Contributed Capital - 1995	Accumulated Depreciation - 2105 Capital Contribution	Accumulated Depreciation - 2105 Fixed Assets Only	Accumulated Depreciation - 2120	Asset net of Accumulated Depreciation and Contributed Capital	
1860	Meters	\$108,556,217		\$0	108,556,217	(\$4,660,680)	\$717,607	(\$50,014,325)		54,598,819	\$6,602,872
	Total	\$1,062,106,648		\$0	\$1,062,106,648	(\$175,338,254)	\$33,334,708	(\$467,837,202)	\$0	452,265,900	\$32,812,341
	SUB TOTAL from I3	\$1,062,106,648									

5705



Ontario

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Sheet I4 Break Out Worksheet - Second Run

Instructions:

This is an input sheet for the Break Out of Distribution Assets, Contributed Capital, Amortization, and Amortization Expenses.

****Please see Handbook for detailed instructions****

Enter Net Fixed Assets from approved EDR, Sheet 3-1, cell F12	\$537,412,096
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RATE BASE AND DISTRIBUTION ASSETS		BALANCE SHEET ITEMS									5705
		Break out Functions	BREAK OUT (%)	BREAK OUT (\$)	After BO	Contributed Capital - 1995	Accumulated Depreciation - 2105 Capital Contribution	Accumulated Depreciation - 2105 Fixed Assets Only	Accumulated Depreciation - 2120	Asset net of Accumulated Depreciation and Contributed Capital	
Account	Description										
	Grand Total	\$1,246,427,377		\$0	\$1,246,427,377	(\$181,843,010)	\$39,114,567	(\$566,286,839)	\$0	\$537,412,095	\$47,449,596



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Sheet I4 Bre

Instructions:

This is an input sheet for the Break Out
 **Please see Handbook for detailed instr

Enter Net Fixed Assets from **approved EDR**,
 Sheet 3-1, cell F12

RATE BASE AND DISTRIBUTION ASSETS		EXPENSE ITEMS		
		5710	5715	5720
Account	Description	Amortization of Limited Term Electric Plant	Amortization of Intangibles and Other Electric Plant	Amortization of Electric Plant Acquisition Adjustments
1565	Conservation and Demand Management			
1805	Land			
1805-1	Land Station >50 kV			
1805-2	Land Station <50 kV			
1806	Land Rights			
1806-1	Land Rights Station >50 kV			
1806-2	Land Rights Station <50 kV			
1808	Buildings and Fixtures			
1808-1	Buildings and Fixtures > 50 kV			
1808-2	Buildings and Fixtures < 50 KV			
1810	Leasehold Improvements			
1810-1	Leasehold Improvements >50 kV			
1810-2	Leasehold Improvements <50 kV			
1815	Transformer Station Equipment - Normally Primary above 50 kV			
1820	Distribution Station Equipment - Normally Primary below 50 kV			
1820-1	Distribution Station Equipment - Normally Primary below 50 kV (Bulk)			
1820-2	Distribution Station Equipment - Normally Primary below 50 kV (Primary)			
1820-3	Distribution Station Equipment - Normally Primary below 50 kV (Wholesale Meters)			
1825	Storage Battery Equipment			
1825-1	Storage Battery Equipment > 50 kV			
1825-2	Storage Battery Equipment <50 kV			



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Sheet 14 Break

Instructions:

This is an input sheet for the Break Out
 **Please see Handbook for detailed instructions

Enter Net Fixed Assets from **approved EDR**,
 Sheet 3-1, cell F12

RATE BASE AND DISTRIBUTION ASSETS		EXPENSE ITEMS		
		5710	5715	5720
Account	Description	Amortization of Limited Term Electric Plant	Amortization of Intangibles and Other Electric Plant	Amortization of Electric Plant Acquisition Adjustments
1830	Poles, Towers and Fixtures			
1830-3	Poles, Towers and Fixtures - Subtransmission Bulk Delivery			
1830-4	Poles, Towers and Fixtures - Primary			
1830-5	Poles, Towers and Fixtures - Secondary			
1835	Overhead Conductors and Devices			
1835-3	Overhead Conductors and Devices - Subtransmission Bulk Delivery			
1835-4	Overhead Conductors and Devices - Primary			
1835-5	Overhead Conductors and Devices - Secondary			
1840	Underground Conduit			
1840-3	Underground Conduit - Bulk Delivery			
1840-4	Underground Conduit - Primary			
1840-5	Underground Conduit - Secondary			
1845	Underground Conductors and Devices			
1845-3	Underground Conductors and Devices - Bulk Delivery			
1845-4	Underground Conductors and Devices - Primary			
1845-5	Underground Conductors and Devices - Secondary			
1850	Line Transformers			
1855	Services			



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Sheet I4 Break

Instructions:

This is an input sheet for the Break Out of
 **Please see Handbook for detailed instructions

Enter Net Fixed Assets from **approved** EDR,
 Sheet 3-1, cell F12

RATE BASE AND DISTRIBUTION ASSETS		EXPENSE ITEMS		
		5710	5715	5720
Account	Description	Amortization of Limited Term Electric Plant	Amortization of Intangibles and Other Electric Plant	Amortization of Electric Plant Acquisition Adjustments
1860	Meters			
	Total	\$0	\$0	\$0
SUB TOTAL from I3				
		5710	5715	5720



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Sheet I4 Break

Instructions:

This is an input sheet for the Break Out
 **Please see Handbook for detailed instructions

Enter Net Fixed Assets from **approved EDR**,
 Sheet 3-1, cell F12

RATE BASE AND DISTRIBUTION ASSETS		EXPENSE ITEMS		
		5710	5715	5720
Account	Description	Amortization of Limited Term Electric Plant	Amortization of Intangibles and Other Electric Plant	Amortization of Electric Plant Acquisition Adjustments
General Plant		Amortization of Limited Term Electric Plant	Amortization of Intangibles and Other Electric Plant	Amortization of Electric Plant Acquisition Adjustments
1905	Land			
1906	Land Rights			
1908	Buildings and Fixtures			
1910	Leasehold Improvements			
1915	Office Furniture and Equipment			
1920	Computer Equipment - Hardware			
1925	Computer Software			
1930	Transportation Equipment			
1935	Stores Equipment			
1940	Tools, Shop and Garage Equipment			
1945	Measurement and Testing Equipment			
1950	Power Operated Equipment			
1955	Communication Equipment			
1960	Miscellaneous Equipment			
1970	Load Management Controls - Customer Premises			
1975	Load Management Controls - Utility Premises			
1980	System Supervisory Equipment			
1990	Other Tangible Property			
2005	Property Under Capital Leases			
2010	Electric Plant Purchased or Sold			
Total		\$0	\$0	\$0
SUB TOTAL from I3				
I3 Directly Allocated				



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Sheet I4 Break

Instructions:

This is an input sheet for the Break Out
 **Please see Handbook for detailed instructions

Enter Net Fixed Assets from **approved** EDR,
 Sheet 3-1, cell F12

RATE BASE AND DISTRIBUTION ASSETS		EXPENSE ITEMS		
		5710	5715	5720
Account	Description	Amortization of Limited Term Electric Plant	Amortization of Intangibles and Other Electric Plant	Amortization of Electric Plant Acquisition Adjustments
	Grand Total	\$0	\$0	\$0



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Sheet I4 Break

Instructions:
 This is an input sheet for the Break Out of
 **Please see Handbook for detailed instructions

Enter Net Fixed Assets from **approved** EDR,
 Sheet 3-1, cell F12

RATE BASE AND DISTRIBUTION ASSETS		EXPENSE ITEMS		
		5710	5715	5720
Account	Description	Amortization of Limited Term Electric Plant	Amortization of Intangibles and Other Electric Plant	Amortization of Electric Plant Acquisition Adjustments
To be Prorated				
1995	Contributed Capital - 1995			
2105	Accumulated Depreciation - 2105			
2120	Accumulated Depreciation - 2120			
Total				
Net Assets				
Amortization Expenses				
5705	Amortization Expense - Property, Plant, and Equipment	Balanced		
5710	Amortization of Limited Term Electric Plant	\$0	Balanced	
5715	Amortization of Intangibles and Other Electric Plant		\$0	Balanced
5720	Amortization of Electric Plant Acquisition Adjustments			\$0
Total Amortization Expense				Balanced



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Sheet 15 Miscellaneous Data Worksheet - Second Run

kMs of Roads in Service Area Where Distribution Lines Exist

Deemed Equity Component of Rate Base (%)

1	2	3	4	6	7	8	9	11
Residential	GS <50	GS>50 kW < 1,499 kW	GS>1,500 kW < 4,999 kW	Large Use >5MW	Street Light	Sentinel	Unmetered Scattered Load	Back-up/Standby Power

Instructions (Cont'd):
Step 3: Insert Approved Monthly Service Charge (Please refer to Approved EDR Sheet 8-5 column W)
Step 4: Insert Smart Meter Adder Included in Approved Monthly Service Charge (Please refer to Approved EDR Sheet 8-5 column T)

\$10.20	\$16.41	\$252.44	\$4,033.75	\$14,645.14	\$0.49	\$1.89	\$4.03	\$107.83
1.68	1.68	1.68	1.68	1.68				1.68



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Sheet I6 Customer Data Worksheet - Second Run

Total kWhs	7,546,494,919
------------	---------------

Total kW	10,781,987
----------	------------

Total Approved Distribution Revenue (\$)	\$146,577,475
--	---------------

		1	2	3	4	6	7	8	9	11	
	ID	Total	Residential	GS <50	GS>50 kW < 1,499 kW	GS>1,500 kW < 4,999 kW	Large Use >5MW	Street Light	Sentinel	Unmetered Scattered Load	Back-up/Standby Power
Billing Data											
kWh from approved EDR model, Sheet 7-1, Col M	CEN	7,546,494,919	2,229,674,945	756,993,599	3,002,209,934	787,344,031	645,268,861	38,922,344	79,553	17,001,652	69,000,000
kW from approved EDR model, Sheet 7-1, Col S	CDEM	10,781,987	-	-	7,529,413	1,690,025	1,197,001	118,127	221		247,200
kW, included in CDEM, from customers with line transformer allowance from approved EDR model, Sheet 6-3, Col P		2,602,258			1,857,818	326,969	326,742				90,728
Optional - kWh, included in CEN, from customers that receive a line transformation allowance on a kWh basis. In most cases this will not be applicable and will be left blank.		-									
KWh excluding KWh from Wholesale Market Participants	CEN EWMP	7,546,494,919	2,229,674,945	756,993,599	3,002,209,934	787,344,031	645,268,861	38,922,344	79,553	17,001,652	69,000,000
kWh - 30 year weather normalized amount		7,546,494,919	2,229,674,945	756,993,599	3,002,209,934	787,344,031	645,268,861	38,922,344	79,553	17,001,652	69,000,000
Requested Distribution Rev	CREV	\$146,577,475	\$79,941,445	\$18,642,635	\$32,717,486	\$7,992,570	\$5,427,585	\$728,863	\$3,458	\$478,004	\$645,429
Bad Debt 3 Year Historical Average from Approved EDR Model	BDHA	\$2,000,008	\$1,354,005	\$422,002	\$150,001	\$74,000	\$0	\$0	\$0	\$0	\$0
Late Payment 3 Year Historical Average	LPHA	\$1,600,000	\$897,600	\$246,400	\$366,400	\$70,400	\$19,200				
Weighting Factor - Services			1.0	2.0	10.0	10.0	30.0	1.0	1.0	1.0	10.0
Weighting Factor - Billings			1.0	2.0	7.0	7.0	15.0	1.0	0.1	5.0	7.0
Number of Bills	CNB	1,838,466	1,656,234	141,324	39,156	768	144	180	492	120	48
Number of Connections (Unmetered)	CCON	6,578						3,643	82	2,853	
Total Number of Customer from Approved EDR, Sheet 7-1, Col H excluding connections	CCA	303,033	276,039	23,554	3,263	64	12	15	82		4

Bulk Customer Base	CCB	-											
Primary Customer Base	CCP	303,033	276,039	23,554	3,263	64	12	15	82				4
Line Transformer Customer Base	CCLT	302,953	276,039	23,554	3,263			15	82				
Secondary Customer Base	CCS	299,690	276,039	23,554				15	82				
Weighted - Services	CWCS	329,725	276,039	47,108	-	-	-	3,643	82	2,853			-
Weighted Meter -Capital	CWMC	49,034,152	36,041,988	6,663,115	5,537,938	640,000	120,000	-	-	-	-	-	31,111
Weighted Meter Reading	CWMR	9,550,079	7,327,157	1,046,574	1,035,830	112,422	21,862	-	-	-	-	-	6,235
Weighted Bills	CWNB	2,221,675	1,656,234	282,648	274,092	5,376	2,160	180	49	600			336
Data Mismatch Analysis													
Revenue with 30 year weather normalized kWh		145,454,042	79,941,445	18,642,635	32,717,486	7,992,570	5,427,585	728,863	3,458				-

Weather Normalized Data from Hydro

	Total	Residential	GS <50	GS>50 kW < 1,499 kW	GS>1,500 kW < 4,999 kW	Large Use >5MW	Street Light	Sentinel	Unmetered Scattered Load	Back-up/Standby Power
kWh - 30 year weather normalized amount	7,546,494,919	2,229,674,945	756,993,599	3,002,209,934	787,344,031	645,268,861	38,922,344	79,553	17,001,652	69,000,000
2006 EDR Distribution Loss Factor		1.0380	1.0380	1.0380	1.0380	1.0380	1.0380	1.0380	1.0380	1.0380

Bad Debt Data from EDR 2006

Sheet ADJ5 rows 26 - 32, column E
 Sheet ADJ5 rows 26 - 32, column F
 Sheet ADJ5 rows 26 - 32, column G

2,000,008	1,354,005	422,002	150,001	74,000	-	-	-	-	-	-
	67.70%	21.10%	7.50%	3.70%						

Large Use >5MW			Street Light			Sentinel			Unmetered Scattered Load			Back-up/Standby Power			TOTAL	
2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Weighted Metering Costs	Weighted Average Costs	Number of Meters	Weighted Metering Costs	Weighted Average Costs	Number of Meters	Weighted Metering Costs	Weighted Average Costs	Number of Meters	Weighted Metering Costs	Weighted Average Costs	Number of Meters	Weighted Metering Costs	Weighted Average Costs	Number of Meters	Weighted Metering Costs	Weighted Average Costs
	0%			0%			0%			0%			0%			100%
	76.59			-			-			-			76.59			1.24
120000	10000	0	0	-	0	0	-	0	0	-	3.111111111	31111.11111	10000	302935.1111	49034152.08	161.8635486
0			0			0			0				0	20,592	1812106.977	
0			0			0			0				0	0	0	
0			0			0			0				0	0	0	
0			0			0			0				0	0	0	
0			0			0			0				0	9,432	3593756.327	
0			0			0			0				0	266,875	35761239.73	
0			0			0			0				0	2,817	1073092.395	
0			0			0			0				0	0	0	
0			0			0			0				0	0	0	
120000			0			0		0	0		3	31111.11111		526	5255956.378	
0			0			0			0				0	0	0	
0			0			0			0				0	2,694	1538000.279	
0			0			0			0				0	0	0	
0			0			0			0				0	0	0	



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Sheet I7.2 Meter Reading Worksheet - Second Run

Weighting Factors based on Contractor Pricing

Description		1			2			3			4			Units
		Residential			GS <50			GS>50 kW < 1,499 kW			GS>1,500 kW < 4,999 kW			
		Units	Weighted Factor	Weighted Average Costs	Units	Weighted Factor	Weighted Average Costs	Units	Weighted Factor	Weighted Average Costs	Units	Weighted Factor	Weighted Average Costs	
	Allocation Percentage	76.72%			10.96%			10.85%			1.18%			
	Weighted Factor	1.00			3.69			72.26			76.96			
	Cost Relative to Residential Average Cost	1.00			3.69			72.26			76.96			
	Total	3,376,649	7,327,157	2.17	130,822	1,046,574	8.00	6,606	1,035,830	156.80	673	112,422	167.00	131
	Factor													
Residential - Urban - Outside	1.00	2,734,486	2,734,486		0			0			0			
Residential - Urban - Outside with other services	1.00		0		0			0			0			
Residential - Urban - Inside	6.00	549,701	3,298,206		0			0			0			
Residential - Urban - Inside - with other services	1.00		0		0			0			0			
Residential - Rural - Outside	14.00	92,462	1,294,465		0			0			0			
Residential - Rural - Outside with other services	2.00		0		0			0			0			
LDC Specific 1			0		0			0			0			
LDC Specific 2			0		0			0			0			
GS - Walking	8.00		0		130,822	1,046,574					0			
GS - Walking - with other services	3.00		0		0			0			0			
GS - Vehicle with other services --- TOU Read	14.00		0		0			441	6,168		0			
GS - Vehicle with other services	3.00		0		0			0			0			
LDC Specific 3			0		0			0			0			
LDC Specific 4	0.00		0		0			0			0			
Interval	167.00		0		0			6,166	1,029,663		673	112,422		131
LDC Specific 5			0		0			0			0			
LDC Specific 6			0		0			0			0			

6		7			8			9			11			TOTAL		
Large Use >5MW		Street Light			Sentinel			Unmetered Scattered Load			Back-up/Standby Power			TOTAL		
Weighted Factor	Weighted Average Costs	Units	Weighted Factor	Weighted Average Costs	Units	Weighted Factor	Weighted Average Costs	Units	Weighted Factor	Weighted Average Costs	Units	Weighted Factor	Weighted Average Costs	Units	Weighted Factor	Weighted Average Costs
0.23%			0.00%			0.00%			0.00%			0.07%			100.00%	
76.96			0.00			0.00			0.00			76.96			307.83	
21,862	167.00	-	-	0	-	-	0	-	-	0	37	6,235	167.00	3,514,918	9,550,079	668
0		0	0	0	0	0	0	0	0	0	0	0	0	2,734,486	2,734,486	
0		0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0		0	0	0	0	0	0	0	0	0	0	0	0	549,701	3,298,206	
0		0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0		0	0	0	0	0	0	0	0	0	0	0	0	92,462	1,294,465	
0		0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0		0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0		0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0		0	0	0	0	0	0	0	0	0	0	0	0	130,822	1,046,574	
0		0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0		0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0		0	0	0	0	0	0	0	0	0	0	0	0	441	6,168	
0		0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0		0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0		0	0	0	0	0	0	0	0	0	0	0	0	-	-	
21,862		0	0	0	0	0	0	0	0	0	37	6,235		7,007	1,170,181	
0		0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0		0	0	0	0	0	0	0	0	0	0	0	0	-	-	

	A	B	C	D	E	F	G	I	J	K	L	N
55	Classification NCP from Load Data Provider	DNCP1	1,569,572	528,921	164,903	583,923	143,392	113,198	13,805	26	2,126	19,279
56	Primary NCP	PNCP1	1,569,572	528,921	164,903	583,923	143,392	113,198	13,805	26	2,126	19,279
57	Line Transformer NCP	LTNCP1	1,345,464	528,921	164,903	508,013	63,092	53,203	13,805	26	2,126	11,374
58	Secondary NCP	SNCP1	1,001,742	528,921	164,903	291,962	-	-	13,805	26	2,126	-
59												
60	4 NCP											
61	Classification NCP from Load Data Provider	DNCP4	6,128,744	2,086,119	633,134	2,288,503	551,769	433,573	52,934	100	8,357	74,255
62	Primary NCP	PNCP4	6,128,744	2,086,119	633,134	2,288,503	551,769	433,573	52,934	100	8,357	74,255
63	Line Transformer NCP	LTNCP4	5,300,914	2,086,119	633,134	2,029,902	242,779	203,779	52,934	100	8,357	43,811
64	Secondary NCP	SNCP4	3,924,895	2,086,119	633,134	1,144,251	-	-	52,934	100	8,357	-
65												
66	12 NCP											
67	Classification NCP from Load Data Provider	DNCP12	16,765,155	5,731,408	1,673,763	6,320,094	1,528,060	1,168,365	126,777	237	23,904	192,549
68	Primary NCP	PNCP12	16,765,155	5,731,408	1,673,763	6,320,094	1,528,060	1,168,365	126,777	237	23,904	192,549
69	Line Transformer NCP	LTNCP12	14,389,651	5,731,408	1,673,763	5,498,481	672,346	549,131	126,777	237	23,904	113,604
70	Secondary NCP	SNCP12	10,716,135	5,731,408	1,673,763	3,160,047	-	-	126,777	237	23,904	-



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Sheet 01 Revenue to Cost Summary Worksheet - Second Run

Class Revenue, Cost Analysis, and Return on Rate Base

		Total	1	2	3	4	6	7	8	9	11
			Residential	GS <50	GS>50 kW < 1,499 kW	GS>1,500 kW < 4,999 kW	Large Use >5MW	Street Light	Sentinel	Unmetered Scattered Load	Back-up/Standby Power
Rate Base Assets											
crev	Distribution Revenue (sale)	\$146,577,475	\$79,941,445	\$18,642,635	\$32,717,486	\$7,992,570	\$5,427,585	\$728,863	\$3,458	\$478,004	\$645,429
mi	Miscellaneous Revenue (mi)	\$7,927,290	\$5,283,670	\$1,018,116	\$1,347,100	\$159,045	\$87,211	\$13,282	\$228	\$6,386	\$12,250
	Total Revenue	\$154,504,764	\$85,225,115	\$19,660,752	\$34,064,586	\$8,151,616	\$5,514,796	\$742,145	\$3,686	\$484,390	\$657,679
	Expenses										
di	Distribution Costs (di)	\$17,313,199	\$8,755,539	\$1,853,741	\$4,621,140	\$965,495	\$758,951	\$163,030	\$1,522	\$62,031	\$131,750
cu	Customer Related Costs (cu)	\$14,883,011	\$10,954,210	\$2,051,783	\$1,715,478	\$134,730	\$19,325	\$731	\$200	\$2,435	\$4,118
ad	General and Administration (ad)	\$32,570,296	\$19,726,734	\$3,923,391	\$6,553,341	\$1,154,864	\$824,829	\$172,994	\$1,801	\$68,240	\$144,103
dep	Depreciation and Amortization (dep)	\$47,449,596	\$26,409,184	\$5,344,557	\$11,118,059	\$2,140,912	\$1,624,000	\$373,569	\$3,685	\$148,860	\$286,769
INPUT	PILs (INPUT)	\$9,555,063	\$5,013,446	\$1,055,539	\$2,447,922	\$491,541	\$376,822	\$73,939	\$693	\$29,101	\$66,060
INT	Interest	\$19,473,884	\$10,217,753	\$2,151,261	\$4,989,035	\$1,001,794	\$767,990	\$150,693	\$1,412	\$59,310	\$134,635
	Total Expenses	\$141,245,048	\$81,076,866	\$16,380,272	\$31,444,976	\$5,889,336	\$4,371,918	\$934,955	\$9,312	\$369,977	\$767,435
	Direct Allocation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NI	Allocated Net Income (NI)	\$24,884,250	\$13,056,518	\$2,748,939	\$6,375,123	\$1,280,120	\$981,358	\$192,559	\$1,805	\$75,788	\$172,040
	TOC				\$838,820	\$199,976	\$132,806				
	Revenue Requirement (includes NI)	\$167,300,900	\$94,133,384	\$19,129,211	\$38,658,919	\$7,369,432	\$5,486,082	\$1,127,515	\$11,117	\$445,766	\$939,475
	Revenue Requirement Input Does Not Equal Output										
	Rate Base Calculation										
	Net Assets										
dp	Distribution Plant - Gross	\$1,062,106,648	\$575,320,359	\$117,688,039	\$260,332,780	\$50,337,469	\$38,845,859	\$9,044,587	\$88,507	\$3,579,875	\$6,869,175
gp	General Plant - Gross	\$184,320,729	\$99,952,270	\$20,466,950	\$44,830,967	\$8,842,445	\$6,826,001	\$1,541,680	\$15,839	\$639,891	\$1,204,686
accum dep	Accumulated Depreciation	(\$527,172,271)	(\$285,239,554)	(\$58,288,994)	(\$130,224,651)	(\$24,674,984)	(\$19,035,485)	(\$4,570,334)	(\$42,538)	(\$1,722,786)	(\$3,372,944)
co	Capital Contribution	(\$181,843,010)	(\$108,561,127)	(\$20,449,997)	(\$38,363,124)	(\$7,154,301)	(\$5,647,160)	(\$1,804,035)	(\$21,694)	(\$823,946)	(\$1,017,625)
	Total Net Plant	\$537,412,095	\$283,471,947	\$59,415,998	\$136,575,971	\$27,350,628	\$20,989,215	\$4,211,897	\$40,114	\$1,673,033	\$3,683,292
	Directly Allocated Net Fixed Assets	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
COP	Cost of Power (COP)	\$603,090,617	\$178,188,159	\$60,496,395	\$239,926,570	\$62,921,900	\$51,567,728	\$3,110,543	\$6,358	\$1,358,715	\$5,514,249
	OM&A Expenses	\$64,766,506	\$39,436,483	\$7,828,915	\$12,889,960	\$2,255,088	\$1,603,105	\$336,754	\$3,522	\$132,706	\$279,971
	Directly Allocated Expenses	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Subtotal	\$667,857,123	\$217,624,643	\$68,325,310	\$252,816,530	\$65,176,988	\$53,170,833	\$3,447,297	\$9,880	\$1,491,421	\$5,794,220
	Working Capital	\$94,167,854	\$30,685,075	\$9,633,869	\$35,647,131	\$9,189,955	\$7,497,087	\$486,069	\$1,393	\$210,290	\$816,985
	Total Rate Base	\$631,579,950	\$314,157,022	\$69,049,867	\$172,223,102	\$36,540,584	\$28,486,303	\$4,697,966	\$41,507	\$1,883,324	\$4,500,277
	Rate Base Input equals Output										
	Equity Component of Rate Base	\$252,631,980	\$125,662,809	\$27,619,947	\$68,889,241	\$14,616,233	\$11,394,521	\$1,879,186	\$16,603	\$753,330	\$1,800,111
	Net Income on Allocated Assets	\$13,259,717	\$4,148,249	\$3,280,480	\$2,619,610	\$2,262,280	\$1,142,878	(\$192,810)	(\$5,626)	\$114,412	(\$109,756)
	Net Income on Direct Allocation Assets	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Net Income	\$13,259,717	\$4,148,249	\$3,280,480	\$2,619,610	\$2,262,280	\$1,142,878	(\$192,810)	(\$5,626)	\$114,412	(\$109,756)
	RATIOS ANALYSIS										
	REVENUE TO EXPENSES %	92.35%	90.54%	102.78%	88.12%	110.61%	100.52%	65.82%	33.16%	108.66%	70.00%
	EXISTING REVENUE MINUS ALLOCATED COSTS	(\$12,796,136)	(\$8,908,269)	\$531,541	(\$4,594,333)	\$782,184	\$28,714	(\$385,370)	(\$7,431)	\$38,624	(\$281,796)
	RETURN ON EQUITY COMPONENT OF RATE BASE	5.25%	3.30%	11.88%	3.80%	15.48%	10.03%	-10.26%	-33.89%	15.19%	-6.10%
	Adjusted Revenue	\$167,300,900	\$92,283,487	\$21,289,062	\$36,885,826	\$8,826,735	\$5,971,534	\$803,610	\$3,991	\$524,507	\$712,148
	Adjusted Revenue to Expenses %	100%	98.03%	111.29%	95.41%	119.77%	108.85%	71.27%	35.90%	117.66%	75.80%
	Adjusted Revenue Minus Allocated Costs	\$0	(\$1,849,897)	\$2,159,851	(\$1,773,093)	\$1,457,303	\$485,452	(\$323,905)	(\$7,125)	\$78,741	(\$227,327)



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Sheet O2 Monthly Fixed Charge Min. & Max. Worksheet - Second Run

Output sheet showing minimum and maximum level for Monthly Fixed Charge

Summary

	1	2	3	4	6	7	8	9	11
	Residential	GS <50	GS>50 kW < 1,499 kW	GS>1,500 kW < 4,999 kW	Large Use >5MW	Street Light	Sentinel	Unmetered Scattered Load	Back-up/Standby Power
Customer Unit Cost per month - Avoided Cost	\$6.85	\$12.32	\$65.70	\$225.72	\$217.64	\$0.01	\$0.18	\$0.06	\$244.16
Customer Unit Cost per month - Directly Related	\$10.49	\$19.81	\$115.66	\$376.86	\$404.69	\$0.03	\$0.39	\$0.14	\$370.24
Customer Unit Cost per month - Minimum System with PLCC Adjustment	\$19.46	\$32.82	\$114.91	\$521.02	\$384.13	\$9.34	\$11.07	\$9.33	\$363.04
Fixed Charge per approved 2006 EDR	\$10.20	\$16.41	\$252.44	\$4,033.75	\$14,645.14	\$0.49	\$1.89	\$4.03	\$107.83

Information to be Used to Allocate PILs, ROD, ROE and A&G

	1	2	3	4	6	7	8	9	11	
Total	Residential	GS <50	GS>50 kW < 1,499 kW	GS>1,500 kW < 4,999 kW	Large Use >5MW	Street Light	Sentinel	Unmetered Scattered Load	Back-up/Standby Power	
General Plant - Gross Assets	\$184,320,729	\$99,952,270	\$20,466,950	\$44,830,967	\$8,842,445	\$6,826,001	\$1,541,680	\$15,839	\$639,891	\$1,204,686
General Plant - Accumulated Depreciation	(\$99,174,533)	(\$53,779,734)	(\$11,012,328)	(\$24,121,488)	(\$4,757,714)	(\$3,672,758)	(\$829,507)	(\$8,522)	(\$344,296)	(\$648,186)
General Plant - Net Fixed Assets	\$85,146,195	\$46,172,536	\$9,454,623	\$20,709,479	\$4,084,731	\$3,153,243	\$712,173	\$7,317	\$295,595	\$556,500
General Plant - Depreciation	\$14,637,255	\$7,937,397	\$1,625,319	\$3,560,111	\$702,195	\$542,066	\$122,428	\$1,258	\$50,815	\$95,666
Total Net Fixed Assets Excluding General Plant	\$452,265,900	\$237,299,411	\$49,961,376	\$115,866,492	\$23,265,898	\$17,835,972	\$3,499,724	\$32,797	\$1,377,438	\$3,126,792
Total Administration and General Expense	\$32,570,296	\$19,726,734	\$3,923,391	\$6,553,341	\$1,154,864	\$824,829	\$172,994	\$1,801	\$68,240	\$144,103
Total O&M	\$32,196,210	\$19,709,750	\$3,905,524	\$6,336,619	\$1,100,224	\$778,276	\$163,760	\$1,721	\$64,466	\$135,869

Scenario 1

Accounts included in Avoided Costs Plus General Administration Allocation

USoA Account #	Accounts	Total	1 Residential	2 GS <50	3 GS>50 kW < 1,499 kW	4 GS>1,500 kW < 4,999 kW	6 Large Use >5MW	7 Street Light	8 Sentinel	9 Unmetered Scattered Load	11 Back-up/Standby Power
1860	Distribution Plant Meters	\$108,556,217	\$79,792,996	\$14,751,404	\$12,260,385	\$1,416,890	\$265,667	\$0	\$0	\$0	\$68,877
	Accumulated Amortization										
	Accum. Amortization of Electric Utility Plant - Meters only	(\$53,957,398)	(\$39,660,764)	(\$7,332,121)	(\$6,093,971)	(\$704,259)	(\$132,049)	\$0	\$0	\$0	(\$34,235)
	Meter Net Fixed Assets	\$54,598,819	\$40,132,232	\$7,419,282	\$6,166,413	\$712,631	\$133,618	\$0	\$0	\$0	\$34,642
	Misc Revenue										
4082	Retail Services Revenues	(\$341,000)	(\$254,212)	(\$43,383)	(\$42,070)	(\$825)	(\$332)	(\$28)	(\$8)	(\$92)	(\$52)
4084	Service Transaction Requests (STR) Revenues	(\$10,400)	(\$7,753)	(\$1,323)	(\$1,283)	(\$25)	(\$10)	(\$1)	(\$0)	(\$3)	(\$2)
4090	Electric Services Incidental to Energy Sales	(\$802,546)	(\$598,289)	(\$102,102)	(\$99,012)	(\$1,942)	(\$780)	(\$65)	(\$18)	(\$217)	(\$121)
4220	Other Electric Revenues	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4225	Late Payment Charges	(\$1,400,000)	(\$785,400)	(\$215,600)	(\$320,600)	(\$61,600)	(\$16,800)	\$0	\$0	\$0	\$0
	Sub-total	(\$2,553,946)	(\$1,645,654)	(\$362,408)	(\$462,064)	(\$64,392)	(\$17,922)	(\$93)	(\$26)	(\$312)	(\$175)
	Operation										
5065	Meter Expense	\$3,352,547	\$2,464,251	\$455,568	\$378,638	\$43,758	\$8,205	\$0	\$0	\$0	\$2,127
5070	Customer Premises - Operation Labour	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5075	Customer Premises - Materials and Expenses	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Sub-total	\$3,352,547	\$2,464,251	\$455,568	\$378,638	\$43,758	\$8,205	\$0	\$0	\$0	\$2,127
	Maintenance										
5175	Maintenance of Meters	\$689,734	\$506,981	\$93,726	\$77,899	\$9,002	\$1,688	\$0	\$0	\$0	\$438
	Billing and Collection										
5310	Meter Reading Expense	\$291,212	\$223,428	\$31,913	\$31,586	\$3,428	\$667	\$0	\$0	\$0	\$190
5315	Customer Billing	\$7,073,022	\$5,272,859	\$899,850	\$872,611	\$17,115	\$6,877	\$573	\$157	\$1,910	\$1,070
5320	Collecting	\$1,943,436	\$1,448,810	\$247,250	\$239,765	\$4,703	\$1,889	\$157	\$43	\$525	\$294
5325	Collecting- Cash Over and Short	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5330	Collection Charges	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Sub-total	\$9,307,670	\$6,945,097	\$1,179,013	\$1,143,962	\$25,246	\$9,433	\$731	\$200	\$2,435	\$1,554
	Total Operation, Maintenance and Billing	\$13,349,951	\$9,916,329	\$1,728,308	\$1,600,499	\$78,006	\$19,325	\$731	\$200	\$2,435	\$4,118

Amortization Expense - Meters	\$6,602,872	\$4,853,365	\$897,246	\$745,731	\$86,182	\$16,159	\$0	\$0	\$0	\$4,189
Allocated PILs	\$967,930	\$709,773	\$131,805	\$110,524	\$12,807	\$2,399	\$0	\$0	\$0	\$621
Allocated Debt Return	\$1,972,708	\$1,446,567	\$268,628	\$225,255	\$26,102	\$4,889	\$0	\$0	\$0	\$1,266
Allocated Equity Return	\$2,520,779	\$1,848,462	\$343,260	\$287,837	\$33,354	\$6,247	\$0	\$0	\$0	\$1,618
Total	\$22,860,294	\$17,128,842	\$3,006,839	\$2,506,882	\$172,059	\$31,098	\$637	\$174	\$2,123	\$11,639

Scenario 2

Accounts included in Directly Related Customer Costs Plus General Administration Allocation

USoA Account #	Accounts	Total	1 Residential	2 GS <50	3 GS>50 kW < 1,499 kW	4 GS>1,500 kW < 4,999 kW	6 Large Use >5MW	7 Street Light	8 Sentinel	9 Unmetered Scattered Load	11 Back-up/Standby Power
1860	Distribution Plant										
	Meters	\$108,556,217	\$79,792,996	\$14,751,404	\$12,260,385	\$1,416,890	\$265,667	\$0	\$0	\$0	\$68,877
	Accumulated Amortization										
	Accum. Amortization of Electric Utility Plant - Meters only	(\$53,957,398)	(\$39,660,764)	(\$7,332,121)	(\$6,093,971)	(\$704,259)	(\$132,049)	\$0	\$0	\$0	(\$34,235)
	Meter Net Fixed Assets	\$54,598,819	\$40,132,232	\$7,419,282	\$6,166,413	\$712,631	\$133,618	\$0	\$0	\$0	\$34,642
	Allocated General Plant Net Fixed Assets	\$10,469,805	\$7,808,730	\$1,404,015	\$1,102,158	\$125,115	\$23,623	\$0	\$0	\$0	\$6,165
	Meter Net Fixed Assets Including General Plant	\$65,068,624	\$47,940,962	\$8,823,297	\$7,268,572	\$837,745	\$157,241	\$0	\$0	\$0	\$40,807
	Misc Revenue										
4082	Retail Services Revenues	(\$341,000)	(\$254,212)	(\$43,383)	(\$42,070)	(\$825)	(\$332)	(\$28)	(\$8)	(\$92)	(\$52)
4084	Service Transaction Requests (STR) Revenues	(\$10,400)	(\$7,753)	(\$1,323)	(\$1,283)	(\$25)	(\$10)	(\$1)	(\$0)	(\$3)	(\$2)
4090	Electric Services Incidental to Energy Sales	(\$802,546)	(\$598,289)	(\$102,102)	(\$99,012)	(\$1,942)	(\$780)	(\$65)	(\$18)	(\$217)	(\$121)
4220	Other Electric Revenues	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4225	Late Payment Charges	(\$1,400,000)	(\$785,400)	(\$215,600)	(\$320,200)	(\$61,600)	(\$16,800)	\$0	\$0	\$0	\$0
	Sub-total	(\$2,553,946)	(\$1,645,654)	(\$362,408)	(\$462,964)	(\$64,392)	(\$17,922)	(\$93)	(\$26)	(\$312)	(\$175)
	Operation										
5065	Meter Expense	\$3,352,547	\$2,464,251	\$455,568	\$378,638	\$43,758	\$8,205	\$0	\$0	\$0	\$2,127
5070	Customer Premises - Operation Labour	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5075	Customer Premises - Materials and Expenses	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Sub-total	\$3,352,547	\$2,464,251	\$455,568	\$378,638	\$43,758	\$8,205	\$0	\$0	\$0	\$2,127
5175	Maintenance										
	Maintenance of Meters	\$689,734	\$506,981	\$93,726	\$77,899	\$9,002	\$1,688	\$0	\$0	\$0	\$438
	Billing and Collection										
5310	Meter Reading Expense	\$291,212	\$223,428	\$31,913	\$31,586	\$3,428	\$667	\$0	\$0	\$0	\$190
5315	Customer Billing	\$7,073,022	\$5,272,859	\$899,850	\$872,611	\$17,115	\$6,877	\$573	\$157	\$1,910	\$1,070
5320	Collecting	\$1,943,436	\$1,448,810	\$247,250	\$239,765	\$4,703	\$1,889	\$157	\$43	\$525	\$294
5325	Collecting- Cash Over and Short	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5330	Collection Charges	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Sub-total	\$9,307,670	\$6,945,097	\$1,179,013	\$1,143,962	\$25,246	\$9,433	\$731	\$200	\$2,435	\$1,554
	Total Operation, Maintenance and Billing	\$13,349,951	\$9,916,329	\$1,728,308	\$1,600,499	\$78,006	\$19,325	\$731	\$200	\$2,435	\$4,118
	Amortization Expense - Meters	\$6,602,872	\$4,853,365	\$897,246	\$745,731	\$86,182	\$16,159	\$0	\$0	\$0	\$4,189
	Amortization Expense - General Plant assigned to Meters	\$1,799,836	\$1,342,378	\$241,360	\$189,469	\$21,508	\$4,061	\$0	\$0	\$0	\$1,060
	Admin and General	\$13,426,614	\$9,924,874	\$1,736,214	\$1,655,239	\$81,880	\$20,481	\$772	\$209	\$2,578	\$4,368
	Allocated PILs	\$1,153,514	\$847,877	\$156,748	\$130,278	\$15,056	\$2,823	\$0	\$0	\$0	\$732
	Allocated Debt Return	\$2,350,942	\$1,728,033	\$319,463	\$265,516	\$30,685	\$5,753	\$0	\$0	\$0	\$1,492
	Allocated Equity Return	\$3,004,097	\$2,208,127	\$408,218	\$339,284	\$39,210	\$7,352	\$0	\$0	\$0	\$1,906
	Total	\$39,133,881	\$29,175,328	\$5,125,149	\$4,463,052	\$288,135	\$58,033	\$1,409	\$383	\$4,701	\$17,691

Scenario 3

Minimum System Customer Costs Adjusted for PLCC - High Limit Fixed Customer Charge

USoA Account #	Accounts	Total	1 Residential	2 GS <50	3 GS>50 kW < 1,499 kW	4 GS>1,500 kW < 4,999 kW	6 Large Use >5MW	7 Street Light	8 Sentinel	9 Unmetered Scattered Load	11 Back-up/Standby Power
1565	Conservation and Demand Management Expenditures and Recoveries	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1830	Poles, Towers and Fixtures	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Poles, Towers and Fixtures - Subtransmission Bulk Delivery	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1830-3	Poles, Towers and Fixtures - Primary	\$30,809,978	\$27,477,774	\$2,344,638	\$324,809	\$6,371	\$1,195	\$362,635	\$8,163	\$283,996	\$398
1830-5	Poles, Towers and Fixtures - Secondary	\$13,204,276	\$11,904,770	\$1,015,816	\$0	\$0	\$0	\$157,112	\$3,536	\$123,042	\$0
1835	Overhead Conductors and Devices	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Overhead Conductors and Devices - Subtransmission Bulk Delivery	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1835-3	Overhead Conductors and Devices - Primary	\$24,534,756	\$21,881,238	\$1,867,094	\$258,654	\$5,073	\$951	\$288,776	\$6,500	\$226,153	\$317
1835-5	Overhead Conductors and Devices - Secondary	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1840	Underground Conduit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1840-3	Underground Conduit - Bulk Delivery	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1840-4	Underground Conduit - Primary	\$43,733,274	\$39,003,371	\$3,328,100	\$461,051	\$9,043	\$1,696	\$514,743	\$11,586	\$403,119	\$565
1840-5	Underground Conduit - Secondary	\$17,862,887	\$16,104,900	\$1,374,207	\$0	\$0	\$0	\$212,543	\$4,784	\$166,452	\$0

1845	Underground Conductors and Devices	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1845-3	Underground Conductors and Devices - Bulk Delivery	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1845-4	Underground Conductors and Devices - Primary	\$58,154,397	\$51,864,799	\$4,425,547	\$613,083	\$12,025	\$2,255	\$684,481	\$15,407	\$536,048	\$752
1845-5	Underground Conductors and Devices - Secondary	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1850	Line Transformers	\$43,128,877	\$38,474,285	\$3,282,954	\$454,797	\$0	\$0	\$507,761	\$11,429	\$397,651	\$0
1855	Services	\$106,447,367	\$89,115,550	\$15,208,196	\$0	\$0	\$0	\$1,176,095	\$26,473	\$921,053	\$0
1860	Meters	\$108,556,217	\$79,792,996	\$14,751,404	\$12,260,385	\$1,416,890	\$265,667	\$0	\$0	\$0	\$68,877
	Sub-total	\$446,432,029	\$375,619,683	\$47,597,956	\$14,372,778	\$1,449,401	\$271,763	\$3,904,146	\$67,878	\$3,057,516	\$70,909
	Accumulated Amortization										
	Accum. Amortization of Electric Utility Plant -Line Transformers, Services and Meters	(\$267,484,328)	(\$226,793,714)	(\$27,876,470)	(\$7,458,599)	(\$724,763)	(\$135,893)	(\$2,469,670)	(\$55,590)	(\$1,934,112)	(\$35,516)
	Customer Related Net Fixed Assets	\$178,947,702	\$148,825,968	\$19,721,486	\$6,914,179	\$724,639	\$136,870	\$1,434,476	\$32,289	\$1,123,404	\$35,392
	Allocated General Plant Net Fixed Assets	\$34,623,425	\$28,957,815	\$3,732,067	\$1,235,811	\$127,223	\$24,021	\$291,907	\$7,204	\$241,080	\$6,299
	Customer Related NFA Including General Plant	\$213,571,127	\$177,783,783	\$23,453,553	\$8,149,989	\$851,862	\$159,890	\$1,726,383	\$39,492	\$1,364,484	\$41,691
	Misc Revenue										
4082	Retail Services Revenues	(\$341,000)	(\$254,212)	(\$43,383)	(\$42,070)	(\$825)	(\$332)	(\$28)	(\$8)	(\$92)	(\$52)
4084	Service Transaction Requests (STR) Revenues	(\$10,400)	(\$1,323)	(\$1,283)	(\$1,283)	(\$25)	(\$10)	(\$1)	(\$0)	(\$3)	(\$2)
4090	Electric Services Incidental to Energy Sales	(\$802,546)	(\$598,289)	(\$102,102)	(\$99,012)	(\$1,942)	(\$780)	(\$65)	(\$18)	(\$217)	(\$121)
4220	Other Electric Revenues	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4225	Late Payment Charges	(\$1,400,000)	(\$785,400)	(\$215,600)	(\$320,600)	(\$61,600)	(\$16,800)	\$0	\$0	\$0	\$0
4235	Miscellaneous Service Revenues	(\$3,707,794)	(\$2,764,119)	(\$471,716)	(\$457,437)	(\$8,972)	(\$3,605)	(\$300)	(\$82)	(\$1,001)	(\$561)
	Sub-total	(\$6,261,740)	(\$4,409,773)	(\$834,125)	(\$920,401)	(\$73,964)	(\$21,527)	(\$394)	(\$108)	(\$1,313)	(\$735)
	Operating and Maintenance										
5005	Operation Supervision and Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5010	Load Dispatching	\$801,502	\$701,754	\$77,918	\$5,011	\$77	\$14	\$9,261	\$208	\$7,253	\$5
5020	Overhead Distribution Lines and Feeders - Operation Labour	\$290,492	\$259,619	\$22,153	\$2,473	\$48	\$9	\$3,426	\$77	\$2,683	\$3
5025	Overhead Distribution Lines & Feeders - Operation Supplies and Expenses	\$850,546	\$760,152	\$64,863	\$7,240	\$142	\$27	\$10,032	\$226	\$7,857	\$9
5035	Overhead Distribution Transformers- Operation	\$639	\$570	\$49	\$7	\$0	\$0	\$8	\$0	\$6	\$0
5040	Underground Distribution Lines and Feeders - Operation Labour	\$275,734	\$246,313	\$21,017	\$2,473	\$49	\$9	\$3,251	\$73	\$2,546	\$3
5045	Underground Distribution Lines & Feeders - Operation Supplies & Expenses	\$609,109	\$544,116	\$46,429	\$5,464	\$107	\$20	\$7,181	\$162	\$5,624	\$7
5055	Underground Distribution Transformers - Operation	\$5,762	\$5,141	\$439	\$61	\$0	\$0	\$68	\$2	\$53	\$0
5065	Meter Expense	\$3,352,547	\$2,464,251	\$455,568	\$378,638	\$43,758	\$8,205	\$0	\$0	\$0	\$2,127
5070	Customer Premises - Operation Labour	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5075	Customer Premises - Materials and Expenses	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5085	Miscellaneous Distribution Expense	\$869,569	\$761,350	\$84,535	\$5,437	\$84	\$16	\$10,048	\$226	\$7,869	\$5
5090	Underground Distribution Lines and Feeders - Rental Paid	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5095	Overhead Distribution Lines and Feeders - Rental Paid	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5096	Other Rent	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5105	Maintenance Supervision and Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5120	Maintenance of Poles, Towers and Fixtures	\$122,073	\$109,227	\$9,320	\$901	\$18	\$3	\$1,442	\$32	\$1,129	\$1
5125	Maintenance of Overhead Conductors and Devices	\$253,986	\$235,435	\$20,089	\$2,783	\$55	\$10	\$3,107	\$70	\$2,433	\$3
5130	Maintenance of Overhead Services	\$801,575	\$671,022	\$114,521	\$0	\$0	\$0	\$8,856	\$199	\$6,936	\$0
5135	Overhead Distribution Lines and Feeders - Right of Way	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5145	Maintenance of Underground Conduit	\$60,140	\$53,806	\$4,591	\$450	\$9	\$2	\$710	\$16	\$556	\$1
5150	Maintenance of Underground Conductors and Devices	\$256,514	\$228,771	\$19,521	\$2,704	\$53	\$10	\$3,019	\$68	\$2,364	\$3
5155	Maintenance of Underground Services	\$449,782	\$376,548	\$64,261	\$0	\$0	\$0	\$4,969	\$112	\$3,892	\$0
5160	Maintenance of Line Transformers	\$151,600	\$135,417	\$11,555	\$1,601	\$0	\$0	\$1,787	\$40	\$1,400	\$0
5175	Maintenance of Meters	\$689,734	\$506,981	\$93,726	\$77,899	\$9,002	\$1,688	\$0	\$0	\$0	\$438
	Sub-total	\$9,851,504	\$8,060,513	\$1,110,555	\$493,140	\$53,401	\$10,013	\$67,165	\$1,512	\$52,600	\$2,605
	Billing and Collection										
5305	Supervision	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5310	Meter Reading Expense	\$291,212	\$223,428	\$31,913	\$31,586	\$3,428	\$667	\$0	\$0	\$0	\$190
5315	Customer Billing	\$7,073,022	\$5,272,859	\$899,850	\$872,611	\$17,115	\$6,877	\$573	\$157	\$1,910	\$1,070
5320	Collecting	\$1,943,436	\$1,448,810	\$247,250	\$239,765	\$4,703	\$1,889	\$157	\$43	\$525	\$294
5325	Collecting- Cash Over and Short	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5330	Collection Charges	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5335	Bad Debt Expense	\$1,533,060	\$1,037,882	\$323,476	\$114,980	\$56,723	\$0	\$0	\$0	\$0	\$0
5340	Miscellaneous Customer Accounts Expenses	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Sub-total	\$10,840,730	\$7,982,978	\$1,602,469	\$1,268,942	\$81,969	\$9,433	\$731	\$200	\$2,435	\$1,554
	Sub Total Operating, Maintenance and Billing	\$20,692,234	\$16,043,491	\$2,613,044	\$1,752,081	\$135,371	\$19,446	\$67,896	\$1,711	\$55,035	\$4,159
	Amortization Expense - Customer Related	\$15,859,522	\$12,973,259	\$1,780,031	\$805,005	\$87,142	\$16,339	\$107,162	\$2,412	\$83,923	\$4,249
	Amortization Expense - General Plant assigned to Meters	\$5,952,020	\$4,978,060	\$641,570	\$212,445	\$21,871	\$4,129	\$50,181	\$1,238	\$41,443	\$1,083
	Admin and General	\$20,793,204	\$16,057,316	\$2,624,998	\$1,812,005	\$142,094	\$20,609	\$71,724	\$1,791	\$58,257	\$4,411
	Allocated PILs	\$3,780,644	\$3,144,260	\$416,658	\$146,076	\$15,310	\$2,871	\$30,306	\$682	\$23,734	\$748
	Allocated Debt Return	\$7,705,217	\$6,408,220	\$849,177	\$297,714	\$31,202	\$5,850	\$61,766	\$1,390	\$48,372	\$1,524
	Allocated Equity Return	\$9,845,932	\$8,188,596	\$1,085,101	\$380,427	\$39,871	\$7,476	\$78,927	\$1,777	\$61,811	\$1,947
	PLCC Adjustment for Line Transformer	\$837,191	\$747,109	\$63,545	\$8,756	\$0	\$0	\$9,941	\$0	\$7,840	\$0

PLCC Adjustment for Primary Costs	\$3,077,323	\$2,744,951	\$233,665	\$32,404	\$638	\$120	\$36,638	\$0	\$28,867	\$40
PLCC Adjustment for Secondary Costs	\$1,126,145	\$1,010,045	\$78,026	\$10,481	\$0	\$0	\$12,590	\$0	\$15,004	\$0
Total	\$73,326,374	\$58,881,324	\$8,801,218	\$4,433,712	\$398,856	\$55,073	\$408,400	\$10,894	\$319,552	\$17,345

Below: Grouping to avoid disclosure

Scenario 1

Accounts included in AVOIDED COSTS PLUS GENERAL ADMINISTRATION ALLOCATION

Accounts	Total	Residential	GS <50	GS>50 kW < 1,499 kW	GS>1,500 kW < 4,999 kW	Large Use >5MW	Street Light	Sentinel	Unmetered Scattered Load	Back-up/Standby Power
Distribution Plant										
CWMC	\$ 108,556,217	\$ 79,792,996	\$ 14,751,404	\$ 12,260,385	\$ 1,416,890	\$ 265,667	\$ -	\$ -	\$ -	\$ 68,877
Accumulated Amortization										
Accum. Amortization of Electric Utility Plant - Meters only	\$ (53,957,398)	\$ (39,660,764)	\$ (7,332,121)	\$ (6,093,971)	\$ (704,259)	\$ (132,049)	\$ -	\$ -	\$ -	\$ (34,235)
Meter Net Fixed Assets	\$ 54,598,819	\$ 40,132,232	\$ 7,419,282	\$ 6,166,413	\$ 712,631	\$ 133,618	\$ -	\$ -	\$ -	\$ 34,642
Misc Revenue										
CWNB	\$ (1,153,946)	\$ (860,254)	\$ (146,808)	\$ (142,364)	\$ (2,792)	\$ (1,122)	\$ (93)	\$ (26)	\$ (312)	\$ (175)
NFA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
LPHA	\$ (1,400,000)	\$ (785,400)	\$ (215,600)	\$ (320,600)	\$ (61,600)	\$ (16,800)	\$ -	\$ -	\$ -	\$ -
Sub-total	\$ (2,553,946)	\$ (1,645,654)	\$ (362,408)	\$ (462,964)	\$ (64,392)	\$ (17,922)	\$ (93)	\$ (26)	\$ (312)	\$ (175)
Operation										
CWMC	\$ 3,352,547	\$ 2,464,251	\$ 455,568	\$ 378,638	\$ 43,758	\$ 8,205	\$ -	\$ -	\$ -	\$ 2,127
CCA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Sub-total	\$ 3,352,547	\$ 2,464,251	\$ 455,568	\$ 378,638	\$ 43,758	\$ 8,205	\$ -	\$ -	\$ -	\$ 2,127
Maintenance										
1860	\$ 689,734	\$ 506,981	\$ 93,726	\$ 77,899	\$ 9,002	\$ 1,688	\$ -	\$ -	\$ -	\$ 438
Billing and Collection										
CWMR	\$ 291,212	\$ 223,428	\$ 31,913	\$ 31,586	\$ 3,428	\$ 667	\$ -	\$ -	\$ -	\$ 190
CWNB	\$ 9,016,458	\$ 6,721,668	\$ 1,147,100	\$ 1,112,376	\$ 21,818	\$ 8,766	\$ 731	\$ 200	\$ 2,435	\$ 1,364
Sub-total	\$ 9,307,670	\$ 6,945,097	\$ 1,179,013	\$ 1,143,962	\$ 25,246	\$ 9,433	\$ 731	\$ 200	\$ 2,435	\$ 1,554
Total Operation, Maintenance and Billing	\$ 13,349,951	\$ 9,916,329	\$ 1,728,308	\$ 1,600,499	\$ 78,006	\$ 19,325	\$ 731	\$ 200	\$ 2,435	\$ 4,118
Amortization Expense - Meters	\$ 6,602,872	\$ 4,853,365	\$ 897,246	\$ 745,731	\$ 86,182	\$ 16,159	\$ -	\$ -	\$ -	\$ 4,189
Allocated Pile	\$ 967,930	\$ 709,773	\$ 131,805	\$ 110,524	\$ 12,807	\$ 2,399	\$ -	\$ -	\$ -	\$ 621
Allocated Debt Return	\$ 1,972,708	\$ 1,446,567	\$ 268,628	\$ 225,255	\$ 26,102	\$ 4,889	\$ -	\$ -	\$ -	\$ 1,266
Allocated Equity Return	\$ 2,520,779	\$ 1,848,462	\$ 343,260	\$ 287,837	\$ 33,354	\$ 6,247	\$ -	\$ -	\$ -	\$ 1,618
Total	\$ 22,860,294	\$ 17,128,842	\$ 3,006,839	\$ 2,506,882	\$ 172,059	\$ 31,098	\$ 637	\$ 174	\$ 2,123	\$ 11,639

Scenario 2

Accounts included in DIRECTLY RELATED CUSTOMER COSTS PLUS GENERAL ADMINISTRATION ALLOCATION

Accounts	Total	Residential	GS <50	GS>50 kW < 1,499 kW	GS>1,500 kW < 4,999 kW	Large Use >5MW	Street Light	Sentinel	Unmetered Scattered Load	Back-up/Standby Power
Distribution Plant										
CWMC	\$ 108,556,217	\$ 79,792,996	\$ 14,751,404	\$ 12,260,385	\$ 1,416,890	\$ 265,667	\$ -	\$ -	\$ -	\$ 68,877
Accumulated Amortization										
Accum. Amortization of Electric Utility Plant - Meters only	\$ (53,957,398)	\$ (39,660,764)	\$ (7,332,121)	\$ (6,093,971)	\$ (704,259)	\$ (132,049)	\$ -	\$ -	\$ -	\$ (34,235)
Meter Net Fixed Assets	\$ 54,598,819	\$ 40,132,232	\$ 7,419,282	\$ 6,166,413	\$ 712,631	\$ 133,618	\$ -	\$ -	\$ -	\$ 34,642
Allocated General Plant Net Fixed Assets	\$ 10,469,805	\$ 7,808,730	\$ 1,404,015	\$ 1,102,158	\$ 125,115	\$ 23,623	\$ -	\$ -	\$ -	\$ 6,165
Meter Net Fixed Assets Including General Plant	\$ 65,068,624	\$ 47,940,962	\$ 8,823,297	\$ 7,268,572	\$ 837,745	\$ 157,241	\$ -	\$ -	\$ -	\$ 40,807
Misc Revenue										
CWNB	\$ (1,153,946)	\$ (860,254)	\$ (146,808)	\$ (142,364)	\$ (2,792)	\$ (1,122)	\$ (93)	\$ (26)	\$ (312)	\$ (175)
NFA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
LPHA	\$ (1,400,000)	\$ (785,400)	\$ (215,600)	\$ (320,600)	\$ (61,600)	\$ (16,800)	\$ -	\$ -	\$ -	\$ -
Sub-total	\$ (2,553,946)	\$ (1,645,654)	\$ (362,408)	\$ (462,964)	\$ (64,392)	\$ (17,922)	\$ (93)	\$ (26)	\$ (312)	\$ (175)
Operation										
CWMC	\$ 3,352,547	\$ 2,464,251	\$ 455,568	\$ 378,638	\$ 43,758	\$ 8,205	\$ -	\$ -	\$ -	\$ 2,127
CCA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Sub-total	\$ 3,352,547	\$ 2,464,251	\$ 455,568	\$ 378,638	\$ 43,758	\$ 8,205	\$ -	\$ -	\$ -	\$ 2,127
Maintenance										
1860	\$ 689,734	\$ 506,981	\$ 93,726	\$ 77,899	\$ 9,002	\$ 1,688	\$ -	\$ -	\$ -	\$ 438
Billing and Collection										
CWMR	\$ 291,212	\$ 223,428	\$ 31,913	\$ 31,586	\$ 3,428	\$ 667	\$ -	\$ -	\$ -	\$ 190
CWNB	\$ 9,016,458	\$ 6,721,668	\$ 1,147,100	\$ 1,112,376	\$ 21,818	\$ 8,766	\$ 731	\$ 200	\$ 2,435	\$ 1,364

Sub-total	\$ 9,307,670	\$ 6,945,097	\$ 1,179,013	\$ 1,143,962	\$ 25,246	\$ 9,433	\$ 731	\$ 200	\$ 2,435	\$ 1,554
Total Operation, Maintenance and Billing	\$ 13,349,951	\$ 9,916,329	\$ 1,728,308	\$ 1,600,499	\$ 78,006	\$ 19,325	\$ 731	\$ 200	\$ 2,435	\$ 4,118
Amortization Expense - Meters	\$ 6,602,872	\$ 4,853,365	\$ 897,246	\$ 745,731	\$ 86,182	\$ 16,159	\$ -	\$ -	\$ -	\$ 4,189
Amortization Expense - General Plant assigned to Meters	\$ 1,799,836	\$ 1,342,378	\$ 241,360	\$ 189,469	\$ 21,508	\$ 4,061	\$ -	\$ -	\$ -	\$ 1,060
Admin and General	\$ 13,426,614	\$ 9,924,874	\$ 1,736,214	\$ 1,655,239	\$ 81,880	\$ 20,481	\$ 772	\$ 209	\$ 2,578	\$ 4,368
Allocated PILs	\$ 1,153,514	\$ 847,877	\$ 156,748	\$ 130,278	\$ 15,056	\$ 2,823	\$ -	\$ -	\$ -	\$ 732
Allocated Debt Return	\$ 2,350,942	\$ 1,728,033	\$ 319,463	\$ 265,516	\$ 30,685	\$ 5,753	\$ -	\$ -	\$ -	\$ 1,492
Allocated Equity Return	\$ 3,004,097	\$ 2,208,127	\$ 408,218	\$ 339,284	\$ 39,210	\$ 7,352	\$ -	\$ -	\$ -	\$ 1,906
Total	\$ 39,133,881	\$ 29,175,328	\$ 5,125,149	\$ 4,463,052	\$ 288,135	\$ 58,033	\$ 1,409	\$ 383	\$ 4,701	\$ 17,691

Scenario 3

Minimum System Customer Costs Adjusted for PLCC - High Limit Fixed Customer Charge

USoA Account #	Accounts	Total	Residential	GS <50	GS>50 kW < 1,499 kW	GS>1,500 kW < 4,999 kW	Large Use >5MW	Street Light	Sentinel	Unmetered Scattered Load	Back-up/Standby Power
Distribution Plant											
	CDMPP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Poles, Towers and Fixtures	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	BCP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	PNCP	\$ 157,232,405	\$ 140,227,181	\$ 11,965,378	\$ 1,657,597	\$ 32,512	\$ 6,096	\$ 1,850,636	\$ 41,656	\$ 1,449,317	\$ 2,032
	SNCP	\$ 31,067,163	\$ 28,009,670	\$ 2,900,024	\$ -	\$ -	\$ -	\$ 369,655	\$ 8,321	\$ 289,494	\$ -
	Overhead Conductors and Devices	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	LTNCP	\$ 43,128,877	\$ 38,474,285	\$ 3,282,954	\$ 454,797	\$ -	\$ -	\$ 507,761	\$ 11,429	\$ 397,651	\$ -
	CWCS	\$ 106,447,367	\$ 89,115,550	\$ 15,208,196	\$ -	\$ -	\$ -	\$ 1,176,095	\$ 26,473	\$ 921,053	\$ -
	CZWMC	\$ 103,556,217	\$ 73,792,996	\$ 14,751,404	\$ 12,260,385	\$ 1,416,890	\$ 265,667	\$ -	\$ -	\$ -	\$ 68,877
	Sub-total	\$ 446,432,029	\$ 375,619,683	\$ 47,597,956	\$ 14,372,778	\$ 1,449,401	\$ 271,763	\$ 3,904,146	\$ 87,878	\$ 3,057,516	\$ 70,909
Accumulated Amortization											
	Accum. Amortization of Electric Utility Plant -Line Transformers, Services and Meters	\$ (267,484,328)	\$ (226,793,714)	\$ (27,876,470)	\$ (7,458,599)	\$ (724,763)	\$ (135,893)	\$ (2,469,670)	\$ (55,590)	\$ (1,934,112)	\$ (35,516)
	Customer Related Net Fixed Assets	\$ 178,947,702	\$ 148,825,968	\$ 19,721,486	\$ 6,914,179	\$ 724,639	\$ 135,870	\$ 1,434,476	\$ 32,289	\$ 1,123,404	\$ 35,392
	Allocated General Plant Net Fixed Assets	\$ 34,623,425	\$ 28,957,815	\$ 3,732,067	\$ 1,235,811	\$ 127,223	\$ 24,021	\$ 291,907	\$ 7,204	\$ 241,080	\$ 6,299
	Customer Related NFA Including General Plant	\$ 213,571,127	\$ 177,783,783	\$ 23,453,553	\$ 8,149,989	\$ 851,862	\$ 159,890	\$ 1,726,383	\$ 39,492	\$ 1,364,484	\$ 41,691
Misc Revenue											
	CWNB	\$ (4,861,740)	\$ (3,624,373)	\$ (618,525)	\$ (599,801)	\$ (11,764)	\$ (4,727)	\$ (394)	\$ (108)	\$ (1,313)	\$ (735)
	NFA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	LPHA	\$ (1,400,000)	\$ (785,400)	\$ (215,600)	\$ (320,600)	\$ (61,600)	\$ (16,800)	\$ -	\$ -	\$ -	\$ -
	Sub-total	\$ (6,261,740)	\$ (4,409,773)	\$ (834,125)	\$ (920,401)	\$ (73,364)	\$ (21,527)	\$ (394)	\$ (108)	\$ (1,313)	\$ (735)
Operating and Maintenance											
	1815-1855	\$ 1,671,072	\$ 1,463,104	\$ 162,453	\$ 10,448	\$ 161	\$ 30	\$ 19,309	\$ 435	\$ 15,122	\$ 10
	1830 & 1835	\$ 1,141,038	\$ 1,019,771	\$ 87,016	\$ 9,712	\$ 190	\$ 36	\$ 13,458	\$ 303	\$ 10,540	\$ 12
	1850	\$ 158,202	\$ 141,128	\$ 12,042	\$ 1,668	\$ -	\$ -	\$ 1,863	\$ 42	\$ 1,459	\$ -
	1840 & 1845	\$ 884,842	\$ 790,429	\$ 67,446	\$ 7,937	\$ 156	\$ 29	\$ 10,432	\$ 235	\$ 8,169	\$ 10
	CWMC	\$ 3,352,547	\$ 2,464,251	\$ 455,568	\$ 378,638	\$ 43,758	\$ 8,205	\$ -	\$ -	\$ -	\$ 2,127
	CCA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	O&M	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	1830	\$ 122,073	\$ 109,227	\$ 9,320	\$ 901	\$ 18	\$ 3	\$ 1,442	\$ 32	\$ 1,129	\$ 1
	1835	\$ 263,986	\$ 235,435	\$ 20,089	\$ 2,783	\$ 55	\$ 10	\$ 3,107	\$ 70	\$ 2,433	\$ 3
	1855	\$ 1,251,356	\$ 1,047,610	\$ 178,782	\$ -	\$ -	\$ -	\$ 13,826	\$ 311	\$ 10,828	\$ -
	1840	\$ 60,140	\$ 53,806	\$ 4,591	\$ 450	\$ 9	\$ 2	\$ 710	\$ 16	\$ 556	\$ 1
	1845	\$ 256,514	\$ 228,771	\$ 19,521	\$ 2,704	\$ 53	\$ 10	\$ 3,019	\$ 68	\$ 2,364	\$ 3
	1860	\$ 689,734	\$ 506,991	\$ 93,726	\$ 77,999	\$ 9,002	\$ 1,688	\$ -	\$ -	\$ -	\$ 438
	Sub-total	\$ 9,851,504	\$ 8,060,513	\$ 1,110,555	\$ 493,140	\$ 53,401	\$ 10,013	\$ 67,165	\$ 1,512	\$ 52,600	\$ 2,605
Billing and Collection											
	CWNB	\$ 9,016,458	\$ 6,721,668	\$ 1,147,100	\$ 1,112,376	\$ 21,818	\$ 8,766	\$ 731	\$ 200	\$ 2,435	\$ 1,364
	CWMR	\$ 291,212	\$ 223,428	\$ 31,913	\$ 31,586	\$ 3,428	\$ 667	\$ -	\$ -	\$ -	\$ 190
	BDHA	\$ 1,533,060	\$ 1,037,882	\$ 323,478	\$ 114,980	\$ 56,723	\$ -	\$ -	\$ -	\$ -	\$ -
	Sub-total	\$ 10,840,730	\$ 7,982,978	\$ 1,502,489	\$ 1,258,942	\$ 81,969	\$ 9,433	\$ 731	\$ 200	\$ 2,435	\$ 1,554
	Sub Total Operating, Maintenance and Billing	\$ 20,692,234	\$ 16,043,491	\$ 2,613,044	\$ 1,752,061	\$ 135,371	\$ 19,446	\$ 67,896	\$ 1,711	\$ 55,035	\$ 4,159
Amortization Expense - Customer Related											
	Amortization Expense - General Plant assigned to Meters	\$ 15,859,522	\$ 12,973,259	\$ 1,780,031	\$ 805,005	\$ 87,142	\$ 16,339	\$ 107,162	\$ 2,412	\$ 83,923	\$ 4,249
	Admin and General	\$ 5,952,020	\$ 4,978,060	\$ 641,570	\$ 212,445	\$ 21,871	\$ 4,129	\$ 50,181	\$ 1,238	\$ 41,443	\$ 1,083
	Allocated PILs	\$ 20,793,204	\$ 16,057,316	\$ 2,624,998	\$ 1,812,005	\$ 142,094	\$ 20,609	\$ 171,724	\$ 1,791	\$ 58,257	\$ 4,411
	Allocated Debt Return	\$ 3,780,644	\$ 3,144,260	\$ 416,658	\$ 146,076	\$ 15,310	\$ 2,871	\$ 30,306	\$ 682	\$ 23,734	\$ 748
	Allocated Equity Return	\$ 7,705,217	\$ 6,408,220	\$ 849,177	\$ 297,714	\$ 31,202	\$ 5,850	\$ 61,766	\$ 1,390	\$ 48,372	\$ 1,524
	PLCC Adjustment for Line Transformer	\$ 837,191	\$ 747,109	\$ 63,545	\$ 8,756	\$ -	\$ -	\$ 9,941	\$ -	\$ 7,840	\$ -
	PLCC Adjustment for Primary Costs	\$ 3,077,323	\$ 2,744,951	\$ 233,665	\$ 32,404	\$ 638	\$ 120	\$ 36,638	\$ -	\$ 28,867	\$ 40
	PLCC Adjustment for Secondary Costs	\$ 1,126,145	\$ 1,010,045	\$ 78,026	\$ 10,481	\$ -	\$ -	\$ 12,590	\$ -	\$ 15,004	\$ -
	Total	\$ 73,326,374	\$ 58,881,324	\$ 8,801,218	\$ 4,433,712	\$ 398,856	\$ 55,073	\$ 408,400	\$ 10,894	\$ 319,552	\$ 17,345



2011 COST ALLOCATION INFORMATION FILING
Hydro Ottawa Limited
EB-2005-0381

Sheet O2.1 Line Transformer Worksheet - Second Run

Line Transformers Demand Unit Cost for PLCC
 Adjustment to Customer Related Cost
 Allocation by rate classification

Description	Total	1	2	3	4	5	6	7	8	9	10	11
		Residential	GS <50	GS>50 kW < 1,499 kW	GS>1,500 kW < 4,999 kW	GS >50-Intermediate	Large Use >5MW	Street Light	Sentinel	Unmetered Scattered Load	Embedded Distributor	Back-up/Standby Power
Depreciation on Acct 1850 Line Transformers	\$2,282,354	\$780,971	\$282,785	\$961,544	\$115,298	\$0	\$96,777	\$22,371	\$0	\$1,801	\$0	\$20,806
Depreciation on General Plant Assigned to Line Transformers	\$956,327	\$343,283	\$120,892	\$388,249	\$45,730	\$0	\$38,651	\$10,284	\$0	\$873	\$0	\$8,365
Acct 5035 - Overhead Distribution Transformers- Operation	\$1,492	\$511	\$185	\$629	\$75	\$0	\$63	\$15	\$0	\$1	\$0	\$14
Acct 5055 - Underground Distribution Transformers - Operation	\$13,446	\$4,601	\$1,666	\$5,665	\$679	\$0	\$570	\$132	\$0	\$11	\$0	\$123
Acct 5160 - Maintenance of Line Transformers	\$354,200	\$121,200	\$43,886	\$149,223	\$17,893	\$0	\$15,019	\$3,472	\$0	\$280	\$0	\$3,229
Allocation of General Expenses	\$529,967	\$181,343	\$65,663	\$223,273	\$26,773	\$0	\$22,472	\$5,195	\$0	\$418	\$0	\$4,831
Admin and General Assigned to Line Transformers	\$377,062	\$126,420	\$45,946	\$160,835	\$19,574	\$0	\$16,588	\$3,822	\$0	\$308	\$0	\$3,569
PL's on Line Transformers	\$633,663	\$216,826	\$78,511	\$266,959	\$32,011	\$0	\$26,869	\$6,211	\$0	\$500	\$0	\$5,777
Debt Return on Line Transformers	\$1,291,449	\$441,906	\$160,011	\$544,081	\$65,241	\$0	\$54,760	\$12,658	\$0	\$1,019	\$0	\$11,773
Equity Return on Line Transformers	\$1,650,248	\$564,679	\$204,467	\$695,242	\$83,366	\$0	\$69,974	\$16,175	\$0	\$1,302	\$0	\$15,044
Total	\$8,090,209	\$2,781,738	\$1,004,010	\$3,395,699	\$406,640	\$0	\$341,745	\$80,333	\$0	\$6,513	\$0	\$73,530
Line Tranformer NCP	4,805,851	1,644,457	595,447	2,024,681	242,779	0	203,779	47,105	0	3,792	0	43,811
PLCC Amount	495,063	441,662	37,686	5,221	0	0	0	5,829	100	4,565	0	0
Adjustment to Customer Related Cost for PLCC	\$837,191	\$747,109	\$63,545	\$8,756	\$0	\$0	\$0	\$9,941	\$0	\$7,840	\$0	\$0
General Plant - Gross Assets	\$184,320,729	\$99,952,270	\$20,466,950	\$44,830,967	\$8,842,445	\$0	\$6,826,001	\$1,541,680	\$15,839	\$639,891	\$0	\$1,204,686
General Plant - Accumulated Depreciation	(\$99,174,533)	(\$53,779,734)	(\$11,012,328)	(\$24,121,488)	(\$4,757,714)	\$0	(\$3,672,758)	(\$829,507)	(\$8,522)	(\$344,296)	\$0	(\$648,186)
General Plant - Net Fixed Assets	\$85,146,195	\$46,172,536	\$9,454,623	\$20,709,479	\$4,084,731	\$0	\$3,153,243	\$712,173	\$7,317	\$295,595	\$0	\$556,500
General Plant - Depreciation	\$14,637,255	\$7,937,397	\$1,625,319	\$3,560,111	\$702,195	\$0	\$542,066	\$122,428	\$1,258	\$50,815	\$0	\$95,666
Total Net Fixed Assets Excluding General Plant	\$452,265,900	\$237,299,411	\$49,961,376	\$115,866,492	\$23,265,898	\$0	\$17,835,972	\$3,499,724	\$32,797	\$1,377,438	\$0	\$3,126,792
Total Administration and General Expense	\$32,570,296	\$19,726,734	\$3,923,391	\$6,553,341	\$1,154,864	\$0	\$824,829	\$172,994	\$1,801	\$68,240	\$0	\$144,103
Total O&M	\$32,196,210	\$19,709,750	\$3,905,524	\$6,336,619	\$1,100,224	\$0	\$778,276	\$163,760	\$1,721	\$64,466	\$0	\$135,869
Line Transformer Rate Base												
Acct 1850 - Line Transformers - Gross Assets	\$100,634,046	\$34,434,764	\$12,468,606	\$42,396,629	\$5,083,759	\$0	\$4,267,119	\$986,370	\$0	\$79,411	\$0	\$917,388
Line Transformers - Accumulated Depreciation	(\$70,641,136)	(\$24,171,848)	(\$8,752,470)	(\$29,760,764)	(\$3,568,598)	\$0	(\$2,995,349)	(\$692,393)	\$0	(\$55,744)	\$0	(\$643,970)
Line Transformers - Net Fixed Assets	\$29,992,910	\$10,262,916	\$3,716,136	\$12,635,865	\$1,515,160	\$0	\$1,271,770	\$293,977	\$0	\$23,668	\$0	\$273,418
General Plant Assigned to Line Transformers - NFA	\$5,563,038	\$1,996,907	\$703,236	\$2,258,480	\$266,013	\$0	\$224,838	\$59,823	\$0	\$5,079	\$0	\$48,662
Line Transformer Net Fixed Assets Including General Plant	\$35,555,947	\$12,259,823	\$4,419,372	\$14,894,346	\$1,781,173	\$0	\$1,496,607	\$353,800	\$0	\$28,747	\$0	\$322,080
General Expenses												
Acct 5005 - Operation Supervision and Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Acct 5010 - Load Dispatching	\$1,488,505	\$482,128	\$170,492	\$594,965	\$117,636	\$0	\$92,918	\$12,744	\$1	\$1,226	\$0	\$16,394
Acct 5085 - Miscellaneous Distribution Expense	\$1,614,914	\$523,072	\$184,971	\$645,492	\$127,626	\$0	\$100,809	\$13,826	\$1	\$1,330	\$0	\$17,787
Acct 5105 - Maintenance Supervision and Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$3,103,419	\$1,005,199	\$355,464	\$1,240,457	\$245,262	\$0	\$193,727	\$26,570	\$2	\$2,555	\$0	\$34,181
Acct 1850 - Line Transformers - Gross Assets	\$100,634,046	\$34,434,764	\$12,468,606	\$42,396,629	\$5,083,759	\$0	\$4,267,119	\$986,370	\$0	\$79,411	\$0	\$917,388
Acct 1815 - 1855	\$589,299,617	\$190,874,503	\$67,498,042	\$235,547,009	\$46,572,168	\$0	\$36,786,328	\$5,045,341	\$458	\$485,190	\$0	\$6,490,577



2011 COST ALLOCATION INFORMATION FILING
Hydro Ottawa Limited
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Sheet O2.3 Secondary Cost PLCC Adjustment Worksheet - Second Run

Secondary Conductors and Poles Cost Pool Demand Unit Cost for PLCC Adjustment to Customer Related Cost

Allocation by Rate Classification

Description	Total	1	2	3	4	5	6	7	8	9	10	11
		Residential	GS <50	GS>50 kW < 1,499 kW	GS>1,500 kW < 4,999 kW	GS >50-Intermediate	Large Use >5MW	Street Light	Sentinel	Unmetered Scattered Load	Embedded Distributor	Back-up/Standby Power
Depreciation on Acct 1830-5 Secondary Poles, Towers & Fixtures	\$872,843	\$417,855	\$151,302	\$290,753	\$0	\$0	\$0	\$11,969	\$0	\$964	\$0	\$0
Depreciation on Acct 1835-5 Secondary Overhead Conductors	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Depreciation on Acct 1840-5 Secondary Underground Conduit	\$1,444,998	\$905,620	\$201,721	\$312,873	\$0	\$0	\$0	\$18,898	\$135	\$5,750	\$0	\$0
Depreciation on Acct 1845-5 Secondary Underground Conductors	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Depreciation on General Plant Assigned to Secondary C&P	\$664,511	\$328,341	\$115,630	\$209,869	\$0	\$0	\$0	\$9,836	\$0	\$835	\$0	\$0
Secondary C&P Operations and Maintenance	\$831,643	\$396,479	\$143,563	\$279,330	\$0	\$0	\$0	\$11,357	\$0	\$914	\$0	\$0
Allocation of General Expenses	\$303,844	\$145,459	\$52,670	\$101,214	\$0	\$0	\$0	\$4,167	\$0	\$335	\$0	\$0
Admin and General Assigned to Primary C&P	\$842,889	\$396,821	\$144,219	\$288,884	\$0	\$0	\$0	\$11,997	\$0	\$968	\$0	\$0
PLs on Secondary C&P	\$433,206	\$207,388	\$75,094	\$144,305	\$0	\$0	\$0	\$5,941	\$0	\$478	\$0	\$0
Debt Return on Secondary C&P	\$882,904	\$422,671	\$153,047	\$294,105	\$0	\$0	\$0	\$12,107	\$0	\$975	\$0	\$0
Equity Return on Secondary C&P	\$1,128,199	\$540,101	\$195,567	\$375,815	\$0	\$0	\$0	\$15,471	\$0	\$1,246	\$0	\$0
Total	\$7,405,039	\$3,760,736	\$1,232,812	\$2,297,148	\$0	\$0	\$0	\$101,743	\$135	\$12,465	\$0	\$0
Secondary NCP	3,435,052	1,644,457	595,447	1,144,251	0	0	0	47,105	0	3,792	0	0
PLCC Amount	495,063	441,662	37,686	5,221	0	0	0	5,829	100	4,565	0	0
Adjustment to Customer Related Cost for PLCC	\$1,126,145	\$1,010,045	\$78,026	\$10,481	\$0	\$0	\$0	\$12,590	\$0	\$15,004	\$0	\$0
General Plant - Gross Assets	\$184,320,729	\$99,952,270	\$20,466,950	\$44,830,967	\$8,842,445	\$0	\$6,826,001	\$1,541,680	\$15,839	\$639,891	\$0	\$1,204,686
General Plant - Accumulated Depreciation	(\$99,174,533)	(\$53,779,734)	(\$11,012,328)	(\$24,121,488)	(\$4,757,714)	\$0	(\$3,672,758)	(\$829,507)	(\$8,522)	(\$344,296)	\$0	(\$648,186)
General Plant - Net Fixed Assets	\$85,146,195	\$46,172,536	\$9,454,623	\$20,709,479	\$4,084,731	\$0	\$3,153,243	\$712,173	\$7,317	\$295,595	\$0	\$556,500
General Plant - Depreciation	\$14,637,255	\$7,937,397	\$1,625,319	\$3,560,111	\$702,195	\$0	\$542,066	\$122,428	\$1,258	\$50,815	\$0	\$95,666
Total Net Fixed Assets Excluding General Plant	\$452,265,900	\$237,299,411	\$49,961,376	\$115,866,492	\$23,265,898	\$0	\$17,835,972	\$3,499,724	\$32,797	\$1,377,438	\$0	\$3,126,792
Total Administration and General Expense	\$32,570,296	\$19,726,734	\$3,923,391	\$6,553,341	\$1,154,864	\$0	\$824,829	\$172,994	\$1,801	\$68,240	\$0	\$144,103
Total O&M	\$32,196,210	\$19,709,750	\$3,905,524	\$6,336,619	\$1,100,224	\$0	\$778,276	\$163,760	\$1,721	\$64,466	\$0	\$135,869
Secondary Conductors and Poles Gross Plant												
Acct 1830-5 Secondary Poles, Towers & Fixtures	\$24,522,228	\$11,739,483	\$4,250,791	\$8,168,607	\$0	\$0	\$0	\$336,273	\$0	\$27,073	\$0	\$0
Acct 1835-5 Secondary Overhead Conductors	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Acct 1840-5 Secondary Underground Conduit	\$33,173,932	\$15,881,299	\$5,750,516	\$11,050,579	\$0	\$0	\$0	\$454,914	\$0	\$36,624	\$0	\$0
Acct 1845-5 Secondary Underground Conductors	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal	\$57,696,160	\$27,620,782	\$10,001,307	\$19,219,186	\$0	\$0	\$0	\$791,186	\$0	\$63,697	\$0	\$0
Secondary Conductors and Poles Accumulated Depreciation												
Acct 1830-5 Secondary Poles, Towers & Fixtures	(\$13,970,310)	(\$6,687,982)	(\$2,421,675)	(\$4,653,654)	\$0	\$0	\$0	(\$191,575)	\$0	(\$15,423)	\$0	\$0
Acct 1835-5 Secondary Overhead Conductors	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Acct 1840-5 Secondary Underground Conduit	(\$23,221,079)	(\$11,116,587)	(\$4,025,244)	(\$7,735,181)	\$0	\$0	\$0	(\$318,430)	\$0	(\$25,636)	\$0	\$0
Acct 1845-5 Secondary Underground Conductors	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal	(\$37,191,389)	(\$17,804,569)	(\$6,446,920)	(\$12,388,836)	\$0	\$0	\$0	(\$510,005)	\$0	(\$41,060)	\$0	\$0
Secondary Conductor & Poles - Net Fixed Assets	\$20,504,771	\$9,816,213	\$3,554,388	\$6,830,351	\$0	\$0	\$0	\$281,182	\$0	\$22,638	\$0	\$0
General Plant Assigned to Secondary C&P - NFA	\$3,865,522	\$1,909,990	\$672,627	\$1,220,828	\$0	\$0	\$0	\$57,219	\$0	\$4,858	\$0	\$0
Secondary C&P Net Fixed Assets Including General Plant	\$24,370,293	\$11,726,203	\$4,227,015	\$8,051,178	\$0	\$0	\$0	\$338,400	\$0	\$27,496	\$0	\$0
Acct 1830-3 Bulk Poles, Towers & Fixtures	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Acct 1835-3 Bulk Overhead Conductors	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Acct 1840-3 Bulk Underground Conduit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Acct 1845-3 Bulk Underground Conductors	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Acct 1830-4 Primary Poles, Towers & Fixtures	\$57,218,531	\$16,702,320	\$6,047,802	\$23,190,703	\$5,603,138	\$0	\$4,403,493	\$478,431	\$0	\$38,518	\$0	\$754,125
Acct 1835-4 Primary Overhead Conductors	\$45,564,546	\$13,900,475	\$4,816,016	\$18,467,337	\$4,461,919	\$0	\$3,506,612	\$380,987	\$0	\$30,673	\$0	\$600,528
Acct 1840-4 Primary Underground Conduit	\$81,218,937	\$23,708,135	\$8,584,563	\$32,918,082	\$7,953,384	\$0	\$6,250,546	\$679,110	\$0	\$54,674	\$0	\$1,070,444

Acct 1845-4 Primary Underground Conductors	\$108,001,023	\$31,525,934	\$11,415,338	\$43,772,876	\$10,576,026	\$0	\$8,311,674	\$903,048	\$0	\$72,703	\$0	\$1,423,424
Subtotal	\$292,003,037	\$85,236,864	\$30,863,719	\$118,348,997	\$28,594,466	\$0	\$22,472,325	\$2,441,576	\$0	\$196,568	\$0	\$3,848,522
Operations and Maintenance												
Acct 5020 Overhead Distribution Lines & Feeders - Labour	\$539,486	\$176,893	\$64,052	\$211,152	\$42,653	\$0	\$33,521	\$5,067	\$0	\$408	\$0	\$5,741
Acct 5025 Overhead Distribution Lines & Feeders - Other	\$1,579,585	\$517,932	\$187,540	\$618,242	\$124,886	\$0	\$98,147	\$14,836	\$0	\$1,194	\$0	\$16,808
Acct 5040 Underground Distribution Lines & Feeders - Labour	\$512,077	\$163,748	\$59,292	\$202,031	\$42,665	\$0	\$33,530	\$4,690	\$0	\$378	\$0	\$5,742
Acct 5045 Underground Distribution Lines & Feeders - Other	\$1,131,202	\$361,727	\$130,979	\$446,295	\$94,249	\$0	\$74,070	\$10,362	\$0	\$834	\$0	\$12,685
Acct 5090 Underground Distribution Lines & Feeders - Rental Paid	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Acct 5095 Overhead Distribution Lines & Feeders - Rental Paid	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Acct 5120 Maintenance of Poles, Towers & Fixtures	\$226,706	\$78,883	\$28,563	\$96,974	\$15,540	\$0	\$12,213	\$2,260	\$0	\$182	\$0	\$2,092
Acct 5125 Maintenance of Overhead Conductors & Devices	\$490,259	\$143,109	\$51,819	\$198,702	\$48,009	\$0	\$37,730	\$4,099	\$0	\$330	\$0	\$6,461
Acct 5135 Overhead Distribution Lines & Feeders - Right of Way	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Acct 5145 Maintenance of Underground Conduit	\$111,689	\$38,654	\$13,996	\$42,929	\$7,765	\$0	\$6,103	\$1,107	\$0	\$89	\$0	\$1,045
Acct 5150 Maintenance of Underground Conductors & Devices	\$476,384	\$139,058	\$50,352	\$193,079	\$46,650	\$0	\$36,662	\$3,983	\$0	\$321	\$0	\$6,279
Total	\$5,067,388	\$1,620,003	\$586,592	\$1,999,404	\$422,418	\$0	\$331,977	\$46,404	\$0	\$3,736	\$0	\$56,853
General Expenses												
Acct 5005 - Operation Supervision and Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Acct 5010 - Load Dispatching	\$1,488,505	\$482,128	\$170,492	\$594,965	\$117,636	\$0	\$92,918	\$12,744	\$1	\$1,226	\$0	\$16,394
Acct 5085 - Miscellaneous Distribution Expense	\$1,614,914	\$523,072	\$184,971	\$645,492	\$127,626	\$0	\$100,809	\$13,826	\$1	\$1,330	\$0	\$17,787
Acct 5105 - Maintenance Supervision and Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$3,103,419	\$1,005,199	\$355,464	\$1,240,457	\$245,262	\$0	\$193,727	\$26,570	\$2	\$2,555	\$0	\$34,181
Secondary Conductors and Poles Gross Assets	\$57,696,160	\$27,620,782	\$10,001,307	\$19,219,186	\$0	\$0	\$0	\$791,186	\$0	\$63,697	\$0	\$0
Acct 1815 - 1855	\$589,299,617	\$190,874,503	\$67,498,042	\$235,547,009	\$46,572,168	\$0	\$36,786,328	\$5,045,341	\$458	\$485,190	\$0	\$6,490,577



2011 COST ALLOCATION INFORMATION FILING
Hydro Ottawa Limited
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Sheet O3.1 Line Transformers Unit Cost Worksheet - Second Run

ALLOCATION BY RATE CLASSIFICATION

Description	Total	1	2	3	4	6	7	8	9	11
		Residential	GS <50	GS>50 kW < 1,499 kW	GS>1,500 kW < 4,999 kW	Large Use >5MW	Street Light	Sentinel	Unmetered Scattered Load	Back-up/Standby Power
Depreciation on Acct 1850 Line Transformers	\$3,260,505	\$1,653,558	\$357,241	\$971,859	\$115,298	\$96,777	\$33,887	\$259	\$10,820	\$20,806
Depreciation on General Plant Assigned to Line Transformers	\$1,385,672	\$726,836	\$152,722	\$392,414	\$45,730	\$38,651	\$15,578	\$131	\$5,245	\$8,365
Acct 5035 - Overhead Distribution Transformers- Operation	\$2,131	\$1,081	\$234	\$635	\$75	\$63	\$22	\$0	\$7	\$14
Acct 5055 - Underground Distribution Transformers - Operation	\$19,208	\$9,741	\$2,105	\$5,725	\$679	\$570	\$200	\$2	\$64	\$123
Acct 5160 - Maintenance of Line Transformers	\$506,000	\$256,617	\$55,441	\$150,824	\$17,893	\$15,019	\$5,259	\$40	\$1,679	\$3,229
Allocation of General Expenses	\$740,774	\$369,758	\$81,300	\$225,546	\$26,771	\$22,472	\$7,660	\$57	\$2,380	\$4,831
Admin and General Assigned to Line Transformers	\$535,690	\$267,670	\$58,043	\$162,560	\$19,574	\$16,589	\$5,790	\$44	\$1,852	\$3,569
PILs on Line Transformers	\$905,233	\$459,087	\$99,183	\$269,823	\$32,011	\$26,869	\$9,408	\$72	\$3,004	\$5,777
Debt Return on Line Transformers	\$1,844,927	\$935,651	\$202,142	\$549,918	\$65,241	\$54,760	\$19,174	\$147	\$6,122	\$11,773
Equity Return on Line Transformers	\$2,357,498	\$1,195,600	\$258,302	\$702,700	\$83,366	\$69,974	\$24,502	\$187	\$7,823	\$15,044
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$11,557,640	\$5,875,599	\$1,266,711	\$3,432,003	\$406,638	\$341,745	\$121,478	\$938	\$38,997	\$73,530
Billed kW without Line Transformer Allowance		0	0	5,671,595	1,363,056	870,259	118,127	221	0	156,472
Billed kWh without Line Transformer Allowance		2,229,674,945	756,993,599	3,002,209,934	787,344,031	645,268,861	38,922,344	79,553	17,001,652	69,000,000
Line Transformation Unit Cost (\$/kW)		\$0.0000	\$0.0000	\$0.6051	\$0.2983	\$0.3927	\$1.0284	\$4.2454	\$0.0000	\$0.4699
Line Transformation Unit Cost (\$/kWh)		\$0.0026	\$0.0017	\$0.0011	\$0.0005	\$0.0005	\$0.0031	\$0.0118	\$0.0023	\$0.0011
General Plant - Gross Assets	\$184,320,729	\$99,952,270	\$20,466,950	\$44,830,967	\$8,842,445	\$6,826,001	\$1,541,680	\$15,839	\$639,891	\$1,204,686
General Plant - Accumulated Depreciation	(\$99,174,533)	(\$53,779,734)	(\$11,012,328)	(\$24,121,488)	(\$4,757,714)	(\$3,672,758)	(\$829,507)	(\$8,522)	(\$344,296)	(\$648,186)
General Plant - Net Fixed Assets	\$85,146,195	\$46,172,536	\$9,454,623	\$20,709,479	\$4,084,731	\$3,153,243	\$712,173	\$7,317	\$295,595	\$556,500
General Plant - Depreciation	\$14,637,255	\$7,937,397	\$1,625,319	\$3,560,111	\$702,195	\$542,066	\$122,428	\$1,258	\$50,815	\$95,666
Total Net Fixed Assets Excluding General Plant	\$452,265,900	\$237,299,411	\$49,961,376	\$115,866,492	\$23,265,898	\$17,835,972	\$3,499,724	\$32,797	\$1,377,438	\$3,126,792
Total Administration and General Expense	\$32,570,296	\$19,726,734	\$3,923,391	\$6,553,341	\$1,154,864	\$824,829	\$172,994	\$1,801	\$68,240	\$144,103
Total O&M	\$32,196,210	\$19,709,750	\$3,905,524	\$6,336,619	\$1,100,224	\$778,276	\$163,760	\$1,721	\$64,466	\$135,869
Line Transformer Rate Base										
Acct 1850 - Line Transformers - Gross Assets	\$143,762,923	\$72,909,049	\$15,751,560	\$42,851,426	\$5,083,759	\$4,267,119	\$1,494,131	\$11,429	\$477,062	\$917,388
Line Transformers - Accumulated Depreciation	(\$100,915,909)	(\$51,179,281)	(\$11,056,975)	(\$30,080,013)	(\$3,568,598)	(\$2,995,349)	(\$1,048,821)	(\$8,023)	(\$334,879)	(\$643,970)
Line Transformers - Net Fixed Assets	\$42,847,014	\$21,729,769	\$4,694,585	\$12,771,413	\$1,515,160	\$1,271,770	\$445,310	\$3,406	\$142,183	\$273,418
General Plant Assigned to Line Transformers - NFA	\$8,060,577	\$4,228,070	\$888,397	\$2,282,707	\$266,013	\$224,838	\$90,618	\$760	\$30,512	\$48,662
Line Transformer Net Fixed Assets Including General Plant	\$50,907,591	\$25,957,839	\$5,582,982	\$15,054,120	\$1,781,173	\$1,496,607	\$535,928	\$4,166	\$172,695	\$322,080
General Expenses										
Acct 5005 - Operation Supervision and Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Acct 5010 - Load Dispatching	\$2,290,007	\$1,183,882	\$248,410	\$599,976	\$117,713	\$92,933	\$22,005	\$210	\$8,479	\$16,399
Acct 5085 - Miscellaneous Distribution Expense	\$2,484,483	\$1,284,422	\$269,506	\$650,929	\$127,710	\$100,825	\$23,874	\$227	\$9,199	\$17,792
Acct 5105 - Maintenance Supervision and Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$4,774,490	\$2,468,304	\$517,917	\$1,250,905	\$245,423	\$193,757	\$45,879	\$437	\$17,677	\$34,191
Acct 1850 - Line Transformers - Gross Assets	\$143,762,923	\$72,909,049	\$15,751,560	\$42,851,426	\$5,083,759	\$4,267,119	\$1,494,131	\$11,429	\$477,062	\$917,388
Acct 1815 - 1855	\$927,175,429	\$486,701,190	\$100,344,595	\$237,659,402	\$46,604,680	\$36,792,424	\$8,949,487	\$88,336	\$3,542,706	\$6,492,609



2011 COST ALLOCATION INFORMATION FILING
Hydro Ottawa Limited
EB-2005-0381

Sheet O3.2 Substation Transformers Unit Cost Worksheet - Second Run

ALLOCATION BY RATE CLASSIFICATION

Description	Allocation by Rate Classification									
	Total	1 Residential	2 GS <50	3 GS>50 kW < 1,499 kW	4 GS>1,500 kW < 4,999 kW	6 Large Use >5MW	7 Street Light	8 Sentinel	9 Unmetered Scattered Load	11 Back-up/Standby Power
Depreciation on Acct 1820-2 Distribution Station Equipment	\$1,972,362	\$575,741	\$208,472	\$799,400	\$193,144	\$151,791	\$16,492	\$0	\$1,328	\$25,995
Depreciation on Acct 1825-2 Storage Battery Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Depreciation on Acct 1805-2 Land Station <50 kV	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Depreciation on Acct 1806-2 Land Rights Station <50 kV	\$45,938	\$15,373	\$4,515	\$18,136	\$4,034	\$3,114	\$166	\$0	\$65	\$536
Depreciation on Acct 1808-2 Buildings and Fixtures < 50 kV	\$369,064	\$123,504	\$36,270	\$145,708	\$32,406	\$25,016	\$1,331	\$2	\$520	\$4,305
Depreciation on Acct 1810-2 Leasehold Improvements <50 kV	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Depreciation on General Plant Assigned to Substation Transformers	(\$403,625)	(\$97,799)	(\$48,613)	(\$165,505)	(\$43,648)	(\$35,250)	(\$6,910)	\$5	\$199	(\$6,044)
Acct 5012 - Station Buildings and Fixtures Expense	\$690,955	\$231,222	\$67,905	\$272,793	\$60,670	\$46,835	\$2,491	\$4	\$974	\$8,061
Acct 5016 - Distribution Station Equipment - Labour	\$330,426	\$96,453	\$34,925	\$133,922	\$32,357	\$25,429	\$2,763	\$0	\$222	\$4,355
Acct 5017 - Distribution Station Equipment - Other	\$187,470	\$54,723	\$19,815	\$75,982	\$18,358	\$14,428	\$1,568	\$0	\$126	\$2,471
Acct 5114 - Maintenance of Distribution Station Equipment	\$1,287,135	\$375,720	\$136,046	\$521,677	\$126,043	\$99,057	\$10,762	\$0	\$866	\$16,964
Allocation of General Expenses	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Admin and General Assigned to Substation Transformers	\$1,850,830	\$527,350	\$191,658	\$756,601	\$185,536	\$147,223	\$15,944	\$0	\$1,286	\$25,232
PILs on Substation Transformers	(\$270,474)	(\$51,772)	(\$1,571)	(\$113,842)	(\$30,554)	(\$24,504)	(\$4,173)	\$3	\$114	(\$4,173)
Debt Return on Substation Transformers	(\$551,244)	(\$125,998)	(\$64,344)	(\$232,018)	(\$62,271)	(\$49,942)	(\$8,506)	\$5	\$232	(\$8,506)
Equity Return on Substation Transformers	(\$704,394)	(\$160,873)	(\$82,220)	(\$296,479)	(\$79,571)	(\$63,817)	(\$10,869)	\$7	\$296	(\$10,869)
Total	\$4,804,443	\$1,553,746	\$472,857	\$1,916,314	\$436,505	\$339,380	\$21,058	\$27	\$6,229	\$58,328
Billed kW without Substation Transformer Allowance	0	0	0	7,529,413	1,690,025	1,197,001	118,127	221	0	247,200
Billed kWh without Substation Transformer Allowance	2,229,674,945	756,993,599	3,002,209,934	787,344,031	645,268,861	38,922,344	79,553	17,001,652	69,000,000	
Substation Transformation Unit Cost (\$/kW)	\$0.0000	\$0.0000	\$0.2545	\$0.2583	\$0.2835	\$0.1783	\$0.1203	\$0.0000	\$0.2360	
Substation Transformation Unit Cost (\$/kWh)	\$0.0007	\$0.0006	\$0.0006	\$0.0006	\$0.0005	\$0.0005	\$0.0005	\$0.0003	\$0.0004	\$0.0008
General Plant - Gross Assets	\$184,320,729	\$99,952,270	\$20,466,950	\$44,830,967	\$8,842,445	\$6,826,001	\$1,541,680	\$15,839	\$639,891	\$1,204,686
General Plant - Accumulated Depreciation	(\$99,174,533)	(\$53,779,734)	(\$11,012,328)	(\$24,121,488)	(\$4,757,714)	(\$3,672,758)	(\$829,507)	(\$8,522)	(\$344,296)	(\$648,186)
General Plant - Net Fixed Assets	\$85,146,195	\$46,172,536	\$9,454,623	\$20,709,479	\$4,084,731	\$3,153,243	\$712,173	\$7,317	\$295,595	\$556,500
General Plant - Depreciation	\$14,637,255	\$7,937,397	\$1,625,319	\$3,560,111	\$702,195	\$542,066	\$122,428	\$1,258	\$50,815	\$95,666
Total Net Fixed Assets Excluding General Plant	\$452,265,900	\$237,299,411	\$49,961,376	\$115,866,492	\$23,265,898	\$17,835,972	\$3,499,724	\$32,797	\$1,377,438	\$3,126,792
Total Administration and General Expense	\$32,570,296	\$19,726,734	\$3,923,391	\$6,553,341	\$1,154,864	\$824,829	\$172,994	\$1,801	\$68,240	\$144,103
Total O&M	\$32,196,210	\$19,709,750	\$3,905,524	\$6,336,619	\$1,100,224	\$778,276	\$163,760	\$1,721	\$64,466	\$135,869
Substation Transformer Rate Base Gross Plant										
Acct 1820-2 Distribution Station Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Acct 1825-2 Storage Battery Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Acct 1805-2 Land Station <50 kV	\$3,550,902	\$1,188,280	\$348,970	\$1,401,915	\$311,793	\$240,690	\$12,803	\$23	\$5,004	\$41,425
Acct 1806-2 Land Rights Station <50 kV	\$2,707,541	\$906,056	\$266,087	\$1,068,952	\$237,740	\$183,524	\$9,763	\$18	\$3,816	\$31,586
Acct 1808-2 Buildings and Fixtures < 50 kV	\$17,112,217	\$5,726,459	\$1,681,727	\$6,755,995	\$1,502,565	\$1,159,912	\$61,701	\$111	\$24,115	\$199,630
Acct 1810-2 Leasehold Improvements <50 kV	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal	\$23,370,660	\$7,820,794	\$2,296,785	\$9,226,862	\$2,052,098	\$1,584,126	\$84,267	\$151	\$32,935	\$272,641
Substation Transformers - Accumulated Depreciation										
Acct 1820-2 Distribution Station Equipment	(\$31,829,693)	(\$9,291,216)	(\$3,364,289)	(\$12,900,593)	(\$3,116,930)	(\$2,449,588)	(\$266,143)	\$0	(\$21,427)	(\$419,507)
Acct 1825-2 Storage Battery Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Acct 1805-2 Land Station <50 kV	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Acct 1806-2 Land Rights Station <50 kV	(\$930,374)	(\$311,342)	(\$91,434)	(\$367,317)	(\$81,693)	(\$63,063)	(\$3,355)	(\$6)	(\$1,311)	(\$10,854)
Acct 1808-2 Buildings and Fixtures < 50 kV	(\$3,412,807)	(\$1,142,067)	(\$335,398)	(\$1,347,395)	(\$299,667)	(\$231,329)	(\$12,306)	(\$22)	(\$4,809)	(\$39,814)
Acct 1810-2 Leasehold Improvements <50 kV	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal	(\$36,172,874)	(\$10,744,625)	(\$3,791,122)	(\$14,615,304)	(\$3,498,290)	(\$2,743,981)	(\$281,803)	(\$28)	(\$27,547)	(\$470,174)
Substation Transformers - Net Fixed Assets	(\$12,802,215)	(\$2,923,830)	(\$1,494,337)	(\$5,388,442)	(\$1,446,192)	(\$1,159,855)	(\$197,536)	\$123	\$5,388	(\$197,533)
General Plant Assigned to Substation Transformers - NFA	(\$2,347,924)	(\$568,904)	(\$282,786)	(\$963,107)	(\$253,904)	(\$205,052)	(\$40,197)	\$28	\$1,156	(\$35,157)
Substation Transformer NFA Including General Plant	(\$15,150,138)	(\$3,492,734)	(\$1,777,123)	(\$6,351,548)	(\$1,700,096)	(\$1,364,907)	(\$237,733)	\$151	\$6,544	(\$232,690)
General Expenses										
Acct 5005 - Operation Supervision and Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Acct 5010 - Load Dispatching	\$2,290,007	\$1,183,892	\$248,410	\$599,976	\$117,713	\$92,933	\$22,005	\$210	\$8,479	\$16,399
Acct 5085 - Miscellaneous Distribution Expense	\$2,484,483	\$1,284,422	\$269,506	\$650,929	\$127,710	\$100,825	\$23,874	\$227	\$9,199	\$17,792
Acct 5105 - Maintenance Supervision and Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$4,774,490	\$2,468,304	\$517,917	\$1,250,905	\$245,423	\$193,757	\$45,879	\$437	\$17,677	\$34,191
Acct 1820-2 Distribution Station Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Acct 1825-2 Storage Battery Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Acct 1815 - 1855	\$927,175,429	\$486,701,190	\$100,344,595	\$237,659,402	\$46,604,680	\$36,792,424	\$8,949,487	\$88,336	\$3,542,706	\$6,492,609

Acct 1830-5 Secondary Poles, Towers & Fixtures	\$37,726,504	\$23,644,253	\$5,266,608	\$8,168,607	\$0	\$0	\$493,385	\$3,536	\$150,115	\$0
Acct 1835-5 Secondary Overhead Conductors	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Acct 1840-5 Secondary Underground Conduit	\$51,036,819	\$31,986,199	\$7,124,723	\$11,050,579	\$0	\$0	\$667,456	\$4,784	\$203,077	\$0
Acct 1845-5 Secondary Underground Conductors	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal	\$88,763,323	\$55,630,452	\$12,391,331	\$19,219,186	\$0	\$0	\$1,160,841	\$8,321	\$353,191	\$0
Operations and Maintenance										
Acct 5020 Overhead Distribution Lines & Feeders - Labour	\$829,978	\$436,512	\$86,205	\$213,624	\$42,701	\$33,530	\$8,493	\$77	\$3,091	\$5,744
Acct 5025 Overhead Distribution Lines & Feeders - Other	\$2,430,131	\$1,278,084	\$252,402	\$625,481	\$125,028	\$98,174	\$24,868	\$226	\$9,051	\$16,817
Acct 5040 Underground Distribution Lines & Feeders - Labour	\$787,810	\$410,060	\$80,310	\$204,504	\$42,714	\$33,540	\$7,941	\$73	\$2,923	\$5,745
Acct 5045 Underground Distribution Lines & Feeders - Other	\$1,740,310	\$905,843	\$177,408	\$451,759	\$94,357	\$74,091	\$17,542	\$162	\$6,458	\$12,692
Acct 5090 Underground Distribution Lines & Feeders - Rental Paid	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Acct 5095 Overhead Distribution Lines & Feeders - Rental Paid	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Acct 5120 Maintenance of Poles, Towers & Fixtures	\$348,779	\$188,109	\$37,883	\$87,875	\$15,558	\$12,216	\$3,701	\$32	\$1,311	\$2,093
Acct 5125 Maintenance of Overhead Conductors & Devices	\$754,245	\$378,543	\$71,908	\$201,485	\$48,063	\$37,740	\$7,206	\$70	\$2,763	\$6,465
Acct 5135 Overhead Distribution Lines & Feeders - Right of Way	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Acct 5145 Maintenance of Underground Conduit	\$171,830	\$92,460	\$18,587	\$43,380	\$7,774	\$6,104	\$1,817	\$16	\$645	\$1,046
Acct 5150 Maintenance of Underground Conductors & Devices	\$732,898	\$367,830	\$69,873	\$195,783	\$46,703	\$36,672	\$7,002	\$68	\$2,685	\$6,282
Total	\$7,795,981	\$4,057,441	\$794,576	\$2,023,892	\$422,898	\$332,067	\$78,572	\$724	\$28,928	\$56,883
General Expenses										
Acct 5005 - Operation Supervision and Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Acct 5010 - Load Dispatching	\$2,290,007	\$1,183,882	\$248,410	\$599,976	\$117,713	\$92,933	\$22,005	\$210	\$8,479	\$16,399
Acct 5085 - Miscellaneous Distribution Expense	\$2,484,483	\$1,284,422	\$269,506	\$650,929	\$127,710	\$100,825	\$23,874	\$227	\$9,199	\$17,792
Acct 5105 - Maintenance Supervision and Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$4,774,490	\$2,468,304	\$517,917	\$1,250,905	\$245,423	\$193,757	\$45,879	\$437	\$17,677	\$34,191
Primary Conductors and Poles Gross Assets	\$449,235,442	\$225,464,045	\$42,829,097	\$120,006,594	\$28,626,978	\$22,478,421	\$4,292,212	\$41,656	\$1,645,885	\$3,850,554
Acct 1815 - 1855	\$927,175,429	\$486,701,190	\$100,344,595	\$237,659,402	\$46,604,680	\$36,792,424	\$8,949,487	\$88,336	\$3,542,706	\$6,492,609

Grouping of Operation and Maintenance	Total	Residential	GS <50	GS>50 kW < 1,499 kW	GS>1,500 kW < 4,999 kW	Large Use >5MW	Street Light	Sentinel	Unmetered Scattered Load	Back-up/Standby Power
1830	\$ 348,779	\$ 188,109	\$ 37,883	\$ 87,875	\$ 15,558	\$ 12,216	\$ 3,701	\$ 32	\$ 1,311	\$ 2,093
1835	\$ 754,245	\$ 378,543	\$ 71,908	\$ 201,485	\$ 48,063	\$ 37,740	\$ 7,206	\$ 70	\$ 2,763	\$ 6,465
1840	\$ 171,830	\$ 92,460	\$ 18,587	\$ 43,380	\$ 7,774	\$ 6,104	\$ 1,817	\$ 16	\$ 645	\$ 1,046
1845	\$ 732,898	\$ 367,830	\$ 69,873	\$ 195,783	\$ 46,703	\$ 36,672	\$ 7,002	\$ 68	\$ 2,685	\$ 6,282
1830 & 1835	\$ 3,260,109	\$ 1,714,596	\$ 338,607	\$ 839,106	\$ 167,729	\$ 131,704	\$ 33,361	\$ 303	\$ 12,142	\$ 22,561
1840 & 1845	\$ 2,528,121	\$ 1,315,903	\$ 257,717	\$ 656,263	\$ 137,070	\$ 107,630	\$ 25,484	\$ 235	\$ 9,381	\$ 18,437
Total	\$ 7,795,981	\$ 4,057,441	\$ 794,576	\$ 2,023,892	\$ 422,898	\$ 332,067	\$ 78,572	\$ 724	\$ 28,928	\$ 56,883

Subtotal	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Acct 1830-4 Primary Poles, Towers & Fixtures	\$88,028,510	\$44,180,094	\$8,392,440	\$23,515,512	\$5,609,509	\$4,404,688	\$841,067	\$8,163	\$322,514	\$754,523
Acct 1835-4 Primary Overhead Conductors	\$70,099,302	\$35,181,712	\$6,683,110	\$18,725,990	\$4,466,992	\$3,507,563	\$669,762	\$6,500	\$256,826	\$600,846
Acct 1840-4 Primary Underground Conduit	\$124,952,212	\$62,711,506	\$11,912,663	\$33,379,132	\$7,962,427	\$6,252,241	\$1,193,854	\$11,586	\$457,793	\$1,071,009
Acct 1845-4 Primary Underground Conductors	\$166,155,419	\$83,390,733	\$15,840,884	\$44,385,959	\$10,588,051	\$8,313,929	\$1,587,529	\$15,407	\$608,751	\$1,424,176
Subtotal	\$449,235,442	\$225,464,045	\$42,829,097	\$120,006,594	\$28,626,978	\$22,478,421	\$4,292,212	\$41,656	\$1,645,885	\$3,850,554
Operations and Maintenance										
Acct 5020 Overhead Distribution Lines & Feeders - Labour	\$829,978	\$436,512	\$86,205	\$213,624	\$42,701	\$33,530	\$8,493	\$77	\$3,091	\$5,744
Acct 5025 Overhead Distribution Lines & Feeders - Other	\$2,430,131	\$1,278,084	\$252,402	\$625,481	\$125,028	\$98,174	\$24,868	\$226	\$9,051	\$16,817
Acct 5040 Underground Distribution Lines & Feeders - Labour	\$787,810	\$410,060	\$80,310	\$204,504	\$42,714	\$33,540	\$7,941	\$73	\$2,923	\$5,745
Acct 5045 Underground Distribution Lines & Feeders - Other	\$1,740,310	\$905,843	\$177,408	\$451,759	\$94,357	\$74,091	\$17,542	\$162	\$6,458	\$12,692
Acct 5090 Underground Distribution Lines & Feeders - Rental Paid	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Acct 5095 Overhead Distribution Lines & Feeders - Rental Paid	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Acct 5120 Maintenance of Poles, Towers & Fixtures	\$348,779	\$188,109	\$37,883	\$87,875	\$15,558	\$12,216	\$3,701	\$32	\$1,311	\$2,093
Acct 5125 Maintenance of Overhead Conductors & Devices	\$754,245	\$378,543	\$71,908	\$201,485	\$48,063	\$37,740	\$7,206	\$70	\$2,763	\$6,465
Acct 5135 Overhead Distribution Lines & Feeders - Right of Way	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Acct 5145 Maintenance of Underground Conduit	\$171,830	\$92,460	\$18,587	\$43,380	\$7,774	\$6,104	\$1,817	\$16	\$645	\$1,046
Acct 5150 Maintenance of Underground Conductors & Devices	\$732,898	\$367,830	\$69,873	\$195,783	\$46,703	\$36,672	\$7,002	\$68	\$2,685	\$6,282
Total	\$7,795,981	\$4,057,441	\$794,576	\$2,023,892	\$422,898	\$332,067	\$78,572	\$724	\$28,928	\$56,883
General Expenses										
Acct 5005 - Operation Supervision and Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Acct 5010 - Load Dispatching	\$2,290,007	\$1,183,882	\$248,410	\$599,976	\$117,713	\$92,933	\$22,005	\$210	\$8,479	\$16,399
Acct 5085 - Miscellaneous Distribution Expense	\$2,484,483	\$1,284,422	\$269,506	\$650,929	\$127,710	\$100,825	\$23,874	\$227	\$9,199	\$17,792
Acct 5105 - Maintenance Supervision and Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$4,774,490	\$2,468,304	\$517,917	\$1,250,905	\$245,423	\$193,757	\$45,879	\$437	\$17,677	\$34,191
Secondary Conductors and Poles Gross Assets	\$88,763,323	\$55,630,452	\$12,391,331	\$19,219,186	\$0	\$0	\$1,160,841	\$8,321	\$353,191	\$0
Acct 1815 - 1855	\$927,175,429	\$486,701,190	\$100,344,595	\$237,659,402	\$46,604,680	\$36,792,424	\$8,949,487	\$88,336	\$3,542,706	\$6,492,609

Grouping of Operation and Maintenance	Total	Residential	GS <50	GS>50 kW < 1,499 kW	GS>1,500 kW < 4,999 kW	Large Use >5MW	Street Light	Sentinel	Unmetered Scattered Load	Back-up/Standby Power
1830	\$ 348,779	\$ 188,109	\$ 37,883	\$ 87,875	\$ 15,558	\$ 12,216	\$ 3,701	\$ 32	\$ 1,311	\$ 2,093
1835	\$ 754,245	\$ 378,543	\$ 71,908	\$ 201,485	\$ 48,063	\$ 37,740	\$ 7,206	\$ 70	\$ 2,763	\$ 6,465
1840	\$ 171,830	\$ 92,460	\$ 18,587	\$ 43,380	\$ 7,774	\$ 6,104	\$ 1,817	\$ 16	\$ 645	\$ 1,046
1845	\$ 732,898	\$ 367,830	\$ 69,873	\$ 195,783	\$ 46,703	\$ 36,672	\$ 7,002	\$ 68	\$ 2,685	\$ 6,282
1830 & 1835	\$ 3,260,109	\$ 1,714,596	\$ 338,607	\$ 839,106	\$ 167,729	\$ 131,704	\$ 33,361	\$ 303	\$ 12,142	\$ 22,561
1840 & 1845	\$ 2,528,121	\$ 1,315,903	\$ 257,717	\$ 656,263	\$ 137,070	\$ 107,630	\$ 25,484	\$ 235	\$ 9,381	\$ 18,437
Total	\$ 7,795,981	\$ 4,057,441	\$ 794,576	\$ 2,023,892	\$ 422,898	\$ 332,067	\$ 78,572	\$ 724	\$ 28,928	\$ 56,883



2011 COST ALLOCATION INFORMATION FILING
Hydro Ottawa Limited
EB-2005-0381

Sheet 03.5 USL Metering Credit Worksheet - Second Run

ALLOCATION BY RATE CLASSIFICATION

<u>Description</u>	GS <50
Depreciation on Acct 1860 Metering	\$897,246
Depreciation on General Plant Assigned to Metering	\$241,360
Acct 5065 - Meter expense	\$455,568
Acct 5070 & 5075 - Customer Premises	\$0
Acct 5175 - Meter Maintenance	\$93,726
Acct 5310 - Meter Reading	\$31,913
Admin and General Assigned to Metering	\$583,867
PILs on Metering	\$156,748
Debt Return on Metering	\$319,463
Equity Return on Metering	\$408,218
Total	\$3,188,110
Number of Customers	23,554
Metering Unit Cost (\$/Customer/Month)	\$11.28
General Plant - Gross Assets	\$20,466,950
General Plant - Accumulated Depreciation	(\$11,012,328)
General Plant - Net Fixed Assets	\$9,454,623
General Plant - Depreciation	\$1,625,319
Total Net Fixed Assets Excluding General Plant	\$49,961,376
Total Administration and General Expense	\$3,923,391
Total O&M	\$3,905,524
Metering Rate Base	
Acct 1860 - Metering - Gross Assets	\$14,751,404
Metering - Accumulated Depreciation	(\$7,332,121)
Metering - Net Fixed Assets	\$7,419,282
General Plant Assigned to Metering - NFA	\$1,404,015
Metering Net Fixed Assets Including General Plant	\$8,823,297



2011 COST ALLOCATION INFORMATION FILING
Hydro Ottawa Limited
EB-2005-0381

Sheet 04 Summary of Allocators by Class & Accounts - Second Run

ALLOCATION BY RATE CLASSIFICATION

USoA Account #	Accounts	O1 Grouping	Total	1 Residential	2 GS <50	3 GS>50 kW < 1,499 kW	4 GS>1,500 kW < 4,999 kW	6 Large Use >5MW	7 Street Light	8 Sentinel	9 Unmetered Scattered Load	11 Back-up/Standby Power
1565	Conservation and Demand Management Expenditures and Recoveries	dp	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1608	Franchises and Consents	gp	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1805	Land	dp	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1805-1	Land Station >50 kV	dp	\$218,633	\$73,164	\$21,486	\$86,318	\$19,197	\$14,820	\$788	\$1	\$308	\$2,551
1805-2	Land Station <50 kV	dp	\$3,550,902	\$1,188,280	\$348,970	\$1,401,915	\$311,793	\$240,690	\$12,803	\$23	\$5,004	\$41,425
1806	Land Rights	dp	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1806-1	Land Rights Station >50 kV	dp	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1806-2	Land Rights Station <50 kV	dp	\$2,707,541	\$906,056	\$266,087	\$1,068,952	\$237,740	\$183,524	\$9,763	\$18	\$3,816	\$31,586
1808	Buildings and Fixtures	dp	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1808-1	Buildings and Fixtures > 50 kV	dp	\$2,785,710	\$932,214	\$273,770	\$1,099,813	\$244,604	\$188,823	\$10,044	\$18	\$3,926	\$32,498
1808-2	Buildings and Fixtures < 50 kV	dp	\$17,112,217	\$5,726,459	\$1,681,727	\$6,755,995	\$1,502,565	\$1,159,912	\$61,701	\$111	\$24,115	\$199,630
1810	Leasehold Improvements	dp	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1810-1	Leasehold Improvements >50 kV	dp	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1810-2	Leasehold Improvements <50 kV	dp	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1815	Transformer Station Equipment - Normally Primary above 50 kV	dp	\$70,599,483	\$23,625,523	\$6,938,264	\$27,873,056	\$6,199,099	\$4,785,421	\$254,560	\$458	\$99,492	\$823,610
1820	Distribution Station Equipment - Normally Primary below 50 kV	dp	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1820-1	Distribution Station Equipment - Normally Primary below 50 kV (Bulk)	dp	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1820-2	Distribution Station Equipment - Normally Primary below 50 kV (Primary)	dp	\$68,366,890	\$19,956,571	\$7,226,146	\$27,709,140	\$6,694,844	\$5,261,462	\$571,648	\$0	\$46,023	\$901,057
1820-3	Distribution Station Equipment - Normally Primary below 50 kV (Wholesale Meters)	dp	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1825	Storage Battery Equipment	dp	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1825-1	Storage Battery Equipment > 50 kV	dp	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1825-2	Storage Battery Equipment <50 kV	dp	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1830	Poles, Towers and Fixtures	dp	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1830-3	Poles, Towers and Fixtures - Subtransmission Bulk Delivery	dp	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1830-4	Poles, Towers and Fixtures - Primary	dp	\$88,028,510	\$44,180,094	\$8,392,440	\$23,515,512	\$5,609,509	\$4,404,688	\$841,067	\$8,163	\$322,514	\$754,523
1830-5	Poles, Towers and Fixtures - Secondary	dp	\$37,726,504	\$23,644,253	\$5,266,608	\$8,168,607	\$0	\$0	\$493,385	\$3,536	\$150,115	\$0
1835	Overhead Conductors and Devices	dp	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1835-3	Overhead Conductors and Devices - Subtransmission Bulk Delivery	dp	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1835-4	Overhead Conductors and Devices - Primary	dp	\$70,099,302	\$35,181,712	\$6,683,110	\$18,725,990	\$4,466,992	\$3,507,563	\$669,762	\$6,500	\$256,826	\$600,846
1835-5	Overhead Conductors and Devices - Secondary	dp	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1840	Underground Conduit	dp	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1840-3	Underground Conduit - Bulk Delivery	dp	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1840-4	Underground Conduit - Primary	dp	\$124,952,212	\$62,711,506	\$11,912,663	\$33,379,132	\$7,962,427	\$6,252,241	\$1,193,854	\$11,586	\$457,793	\$1,071,009
1840-5	Underground Conduit - Secondary	dp	\$51,036,819	\$31,986,199	\$7,124,723	\$11,050,579	\$0	\$0	\$667,456	\$4,784	\$203,077	\$0
1845	Underground Conductors and Devices	dp	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1845-3	Underground Conductors and Devices - Bulk Delivery	dp	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1845-4	Underground Conductors and Devices - Primary	dp	\$166,155,419	\$83,390,733	\$15,840,884	\$44,385,959	\$10,588,051	\$8,313,929	\$1,587,529	\$15,407	\$608,751	\$1,424,176
1845-5	Underground Conductors and Devices - Secondary	dp	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1850	Line Transformers	dp	\$143,762,923	\$72,909,049	\$15,751,560	\$42,851,426	\$5,083,759	\$4,267,119	\$1,494,131	\$11,429	\$477,062	\$917,388
1855	Services	dp	\$106,447,367	\$89,115,550	\$15,208,196	\$0	\$0	\$0	\$1,176,095	\$26,473	\$921,053	\$0
1860	Meters	dp	\$108,556,217	\$79,792,996	\$14,751,404	\$12,260,385	\$1,416,890	\$265,667	\$0	\$0	\$0	\$68,877
1905	Land	gp	\$2,681,550	\$1,454,134	\$297,759	\$652,214	\$128,642	\$99,307	\$22,429	\$230	\$9,309	\$17,526
1906	Land Rights	gp	\$131,740	\$71,439	\$14,628	\$32,042	\$6,320	\$4,879	\$1,102	\$11	\$457	\$861
1908	Buildings and Fixtures	gp	\$50,493,081	\$27,381,066	\$5,606,745	\$12,281,058	\$2,422,312	\$1,869,924	\$422,330	\$4,339	\$175,293	\$330,013
1910	Leasehold Improvements	gp	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1915	Office Furniture and Equipment	gp	\$4,552,473	\$2,468,686	\$505,506	\$1,107,264	\$218,396	\$168,593	\$38,077	\$391	\$15,804	\$29,754
1920	Computer Equipment - Hardware	gp	\$12,929,726	\$7,011,449	\$1,435,715	\$3,144,801	\$620,280	\$478,830	\$108,146	\$1,111	\$44,887	\$84,506
1925	Computer Software	gp	\$64,449,924	\$34,949,494	\$7,156,511	\$15,675,678	\$3,091,866	\$2,386,792	\$539,067	\$5,538	\$223,746	\$421,233
1930	Transportation Equipment	gp	\$24,910,816	\$13,508,479	\$2,766,094	\$6,058,873	\$1,195,050	\$922,529	\$208,357	\$2,141	\$86,481	\$162,812
1935	Stores Equipment	gp	\$482,844	\$261,834	\$53,615	\$117,439	\$23,164	\$17,881	\$4,039	\$41	\$1,676	\$3,156

1940	Tools, Shop and Garage Equipment	gp	\$7,370,855	\$3,997,020	\$818,459	\$1,792,759	\$353,603	\$272,967	\$61,651	\$633	\$25,589	\$48,175
1945	Measurement and Testing Equipment	gp	\$791,915	\$429,435	\$87,934	\$192,612	\$37,991	\$29,327	\$6,624	\$68	\$2,749	\$5,176
1950	Power Operated Equipment	gp	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1955	Communication Equipment	gp	\$2,037,370	\$1,104,812	\$226,229	\$495,534	\$97,739	\$75,450	\$17,041	\$175	\$7,073	\$13,316
1960	Miscellaneous Equipment	gp	\$270,396	\$146,629	\$30,025	\$65,767	\$12,972	\$10,014	\$2,262	\$23	\$939	\$1,767
1970	Load Management Controls - Customer Premises	gp	\$1,088,405	\$590,214	\$120,856	\$264,725	\$52,214	\$40,307	\$9,104	\$94	\$3,779	\$7,114
1975	Load Management Controls - Utility Premises	gp	\$71,915	\$38,998	\$7,985	\$17,491	\$3,450	\$2,663	\$602	\$6	\$250	\$470
1980	System Supervisory Equipment	gp	\$12,057,718	\$6,538,583	\$1,338,888	\$2,932,710	\$578,447	\$446,537	\$100,852	\$1,036	\$41,860	\$78,807
1990	Other Tangible Property	gp	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1995	Contributions and Grants - Credit	co	(\$181,843,010)	(\$106,561,127)	(\$20,449,997)	(\$38,363,124)	(\$7,154,301)	(\$5,647,160)	(\$1,804,035)	(\$21,694)	(\$823,946)	(\$1,017,625)
2005	Property Under Capital Leases	gp	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	Electric Plant Purchased or Sold	gp	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2105	Accum. Amortization of Electric Utility Plant - Property, Plant, & Equipment	accum dep	(\$527,172,271)	(\$285,239,554)	(\$58,288,994)	(\$130,224,651)	(\$24,674,984)	(\$19,035,485)	(\$4,570,334)	(\$42,538)	(\$1,722,786)	(\$3,372,944)
2120	Accumulated Amortization of Electric Utility Plant - Intangibles	accum dep	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3046	Balance Transferred From Income	NI	(\$24,884,250)	(\$13,056,518)	(\$2,748,939)	(\$6,375,123)	(\$1,280,120)	(\$981,358)	(\$192,559)	(\$1,805)	(\$75,788)	(\$172,040)
4080	Distribution Services Revenue	CREV	(\$146,577,475)	(\$79,941,445)	(\$18,642,635)	(\$32,717,486)	(\$7,992,570)	(\$5,427,585)	(\$728,863)	(\$3,458)	(\$478,004)	(\$645,429)
4082	Retail Services Revenues	mi	(\$341,000)	(\$254,212)	(\$43,383)	(\$42,070)	(\$825)	(\$332)	(\$28)	(\$8)	(\$92)	(\$52)
4084	Service Transaction Requests (STR) Revenues	mi	(\$10,400)	(\$7,753)	(\$1,323)	(\$1,283)	(\$25)	(\$10)	(\$1)	(\$0)	(\$3)	(\$2)
4090	Electric Services Incidental to Energy Sales	mi	(\$802,546)	(\$598,289)	(\$102,102)	(\$99,012)	(\$1,942)	(\$780)	(\$65)	(\$18)	(\$217)	(\$121)
4205	Interdepartmental Rents	mi	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4210	Rent from Electric Property	mi	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4215	Other Utility Operating Income	mi	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4220	Other Electric Revenues	mi	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4225	Late Payment Charges	mi	(\$1,400,000)	(\$785,400)	(\$215,600)	(\$320,600)	(\$61,600)	(\$16,800)	\$0	\$0	\$0	\$0
4235	Miscellaneous Service Revenues	mi	(\$3,707,794)	(\$2,764,119)	(\$471,716)	(\$457,437)	(\$8,972)	(\$3,605)	(\$300)	(\$82)	(\$1,001)	(\$561)
4240	Provision for Rate Refunds	mi	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4245	Government Assistance Directly Credited to Income	mi	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4305	Regulatory Debits	mi	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4310	Regulatory Credits	mi	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4315	Revenues from Electric Plant Leased to Others	mi	(\$821,000)	(\$430,770)	(\$90,695)	(\$210,333)	(\$42,235)	(\$32,378)	(\$6,353)	(\$60)	(\$2,500)	(\$5,676)
4320	Expenses of Electric Plant Leased to Others	mi	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4325	Revenues from Merchandise, Jobbing, Etc.	mi	(\$3,000,000)	(\$1,574,070)	(\$331,407)	(\$768,573)	(\$154,329)	(\$118,311)	(\$23,215)	(\$218)	(\$9,137)	(\$20,741)
4330	Costs and Expenses of Merchandising, Jobbing, Etc.	mi	\$2,316,470	\$1,215,429	\$255,898	\$593,459	\$119,166	\$91,354	\$17,925	\$168	\$7,055	\$16,015
4335	Profits and Losses from Financial Instrument Hedges	mi	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4340	Profits and Losses from Financial Instrument Investments	mi	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4345	Gains from Disposition of Future Use Utility Plant	mi	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4350	Losses from Disposition of Future Use Utility Plant	mi	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4355	Gain on Disposition of Utility and Other Property	mi	(\$103,020)	(\$54,054)	(\$11,381)	(\$26,393)	(\$5,300)	(\$4,063)	(\$797)	(\$7)	(\$314)	(\$712)
4360	Loss on Disposition of Utility and Other Property	mi	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4365	Gains from Disposition of Allowances for Emission	mi	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4370	Losses from Disposition of Allowances for Emission	mi	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4390	Miscellaneous Non-Operating Income	mi	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4395	Rate-Payer Benefit Including Interest	mi	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4398	Foreign Exchange Gains and Losses, Including Amortization	mi	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4405	Interest and Dividend Income	mi	(\$58,000)	(\$30,432)	(\$6,407)	(\$14,859)	(\$2,984)	(\$2,287)	(\$449)	(\$4)	(\$177)	(\$401)
4415	Equity in Earnings of Subsidiary Companies	mi	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4705	Power Purchased	cop	\$603,090,617	\$178,188,159	\$60,496,395	\$239,926,570	\$62,921,900	\$51,567,728	\$3,110,543	\$6,358	\$1,358,715	\$5,514,249
4708	Charges-WMS	cop	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4710	Cost of Power Adjustments	cop	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4712	Charges-One-Time	cop	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4714	Charges-NW	cop	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4715	System Control and Load Dispatching	cop	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4716	Charges-CN	cop	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4730	Rural Rate Assistance Expense	cop	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5005	Operation Supervision and Engineering	di	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5010	Load Dispatching	di	\$2,290,007	\$1,183,882	\$248,410	\$599,976	\$117,713	\$92,933	\$22,005	\$210	\$8,479	\$16,399
5012	Station Buildings and Fixtures Expense	di	\$690,955	\$231,222	\$67,905	\$272,793	\$60,670	\$46,835	\$2,491	\$4	\$974	\$8,061
5014	Transformer Station Equipment - Operation Labour	di	\$102,177	\$34,193	\$10,042	\$40,340	\$8,972	\$6,926	\$368	\$1	\$144	\$1,192
5015	Transformer Station Equipment - Operation Supplies and Expenses	di	\$21,804	\$7,297	\$2,143	\$8,609	\$1,915	\$1,478	\$79	\$0	\$31	\$254

5655	Regulatory Expenses	ad	\$1,419,756	\$869,141	\$172,222	\$279,426	\$48,517	\$34,320	\$7,221	\$76	\$2,843	\$5,991
5660	General Advertising Expenses	ad	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5665	Miscellaneous General Expenses	ad	\$2,517,516	\$1,541,163	\$305,384	\$495,479	\$86,030	\$60,856	\$12,805	\$135	\$5,041	\$10,624
5670	Rent	ad	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5675	Maintenance of General Plant	ad	\$4,625,549	\$2,831,651	\$561,097	\$910,366	\$158,067	\$111,813	\$23,527	\$247	\$9,262	\$19,520
5680	Electrical Safety Authority Fees	ad	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5685	Independent Market Operator Fees and Penalties	cop	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5705	Amortization Expense - Property, Plant, and Equipment	dep	\$47,449,596	\$26,409,184	\$5,344,557	\$11,118,059	\$2,140,912	\$1,624,000	\$373,569	\$3,685	\$148,860	\$286,769
5710	Amortization of Limited Term Electric Plant	dep	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5715	Amortization of Intangibles and Other Electric Plant	dep	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5720	Amortization of Electric Plant Acquisition Adjustments	dep	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5730	Amortization of Unrecovered Plant and Regulatory Study Costs	dep	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5735	Amortization of Deferred Development Costs	dep	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5740	Amortization of Deferred Charges	dep	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6005	Interest on Long Term Debt	INT	\$19,473,884	\$10,217,753	\$2,151,261	\$4,989,035	\$1,001,794	\$767,990	\$150,693	\$1,412	\$59,310	\$134,635
6105	Taxes Other Than Income Taxes	ad	\$1,800,217	\$944,556	\$198,868	\$461,200	\$92,609	\$70,995	\$13,930	\$131	\$5,483	\$12,446
6110	Income Taxes	Inn	\$9,555,063	\$5,013,446	\$1,055,539	\$2,447,922	\$491,541	\$376,822	\$73,939	\$693	\$29,101	\$66,060
6205	Donations	ad	\$51,510	\$31,533	\$6,248	\$10,138	\$1,760	\$1,245	\$262	\$3	\$103	\$217
6210	Life Insurance	ad	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6215	Penalties	ad	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6225	Other Deductions	ad	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

\$1,102,358,746 \$444,455,339 \$113,882,974 \$367,507,808 \$86,730,129 \$70,432,706 \$7,322,691 \$50,293 \$2,841,548 \$9,135,256
\$1,102,358,746

Grouping by Allocator	Total	Residential	GS <50	GS>50 kW < 1,499 kW	GS>1,500 kW < 4,999 kW	Large Use >5MW	Street Light	Sentinel	Unmetered Scattered Load	Back-up/Standby Power
1808	\$ 690,955	\$ 231,222	\$ 67,905	\$ 272,793	\$ 60,670	\$ 46,835	\$ 2,491	\$ 4	\$ 974	\$ 8,061
1815	\$ 468,045	\$ 156,627	\$ 45,998	\$ 184,787	\$ 41,097	\$ 31,725	\$ 1,688	\$ 3	\$ 660	\$ 5,460
1820	\$ 1,805,031	\$ 526,896	\$ 190,786	\$ 731,580	\$ 176,758	\$ 138,914	\$ 15,093	\$ -	\$ 1,215	\$ 23,790
1830	\$ 348,779	\$ 188,109	\$ 37,883	\$ 87,875	\$ 15,558	\$ 12,216	\$ 3,701	\$ 32	\$ 1,311	\$ 2,093
1835	\$ 754,245	\$ 378,543	\$ 71,908	\$ 201,485	\$ 48,063	\$ 37,740	\$ 7,206	\$ 70	\$ 2,763	\$ 6,465
1840	\$ 171,830	\$ 92,460	\$ 18,587	\$ 43,380	\$ 7,774	\$ 6,104	\$ 1,817	\$ 16	\$ 645	\$ 1,046
1845	\$ 732,898	\$ 367,830	\$ 69,873	\$ 195,783	\$ 46,703	\$ 36,672	\$ 7,002	\$ 68	\$ 2,685	\$ 6,282
1850	\$ 527,340	\$ 267,439	\$ 57,779	\$ 157,184	\$ 18,648	\$ 15,652	\$ 5,481	\$ 42	\$ 1,750	\$ 3,365
1855	\$ 1,251,356	\$ 1,047,610	\$ 178,782	\$ -	\$ -	\$ -	\$ 13,826	\$ 311	\$ 10,828	\$ -
1860	\$ 689,734	\$ 506,981	\$ 93,726	\$ 77,899	\$ 9,002	\$ 1,688	\$ -	\$ -	\$ -	\$ 438
1815-1855	\$ 4,774,490	\$ 2,468,304	\$ 517,917	\$ 1,250,905	\$ 245,423	\$ 193,757	\$ 45,879	\$ 437	\$ 17,677	\$ 34,191
1830 & 1835	\$ 3,260,109	\$ 1,714,596	\$ 338,607	\$ 839,106	\$ 167,729	\$ 131,704	\$ 33,361	\$ 303	\$ 12,142	\$ 22,561
1840 & 1845	\$ 2,528,121	\$ 1,315,903	\$ 257,717	\$ 656,263	\$ 137,070	\$ 107,630	\$ 25,484	\$ 235	\$ 9,381	\$ 18,437
BCP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
BDHA	\$ 1,533,060	\$ 1,037,882	\$ 323,476	\$ 114,980	\$ 56,723	\$ -	\$ -	\$ -	\$ -	\$ -
Break Out	\$ 661,565,686	\$ 365,391,498	\$ 73,394,434	\$ 157,469,716	\$ 29,688,373	\$ 23,058,644	\$ 6,000,800	\$ 60,548	\$ 2,397,872	\$ 4,103,801
CCA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
CDMPP	\$ 501,641	\$ 307,093	\$ 60,851	\$ 98,729	\$ 17,142	\$ 12,126	\$ 2,552	\$ 27	\$ 1,004	\$ 2,117
CEN	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
CEN EWMP	\$ 603,090,617	\$ 178,188,159	\$ 60,496,395	\$ 239,926,570	\$ 62,921,900	\$ 51,567,728	\$ 3,110,543	\$ 6,358	\$ 1,358,715	\$ 5,514,249
CREV	\$ 146,577,475	\$ 79,941,445	\$ 18,642,635	\$ 32,717,486	\$ 7,992,570	\$ 5,427,585	\$ 728,863	\$ 3,458	\$ 478,004	\$ 645,429
CWCS	\$ 106,447,367	\$ 89,115,550	\$ 15,208,196	\$ -	\$ -	\$ -	\$ 1,176,095	\$ 26,473	\$ 921,053	\$ -
CWMC	\$ 111,908,764	\$ 82,257,247	\$ 15,206,972	\$ 12,639,023	\$ 1,460,647	\$ 273,871	\$ -	\$ -	\$ -	\$ 71,004
CWWR	\$ 291,212	\$ 223,428	\$ 31,913	\$ 31,586	\$ 3,428	\$ 667	\$ -	\$ -	\$ -	\$ 190
CWNB	\$ 4,154,718	\$ 3,097,296	\$ 528,575	\$ 512,575	\$ 10,054	\$ 4,039	\$ 337	\$ 92	\$ 1,122	\$ 628
DCP	\$ 23,370,660	\$ 7,820,794	\$ 2,296,785	\$ 9,226,862	\$ 2,052,098	\$ 1,584,126	\$ 84,267	\$ 151	\$ 32,935	\$ 272,641
LPHA	\$ 1,400,000	\$ 785,400	\$ 215,600	\$ 320,600	\$ 61,600	\$ 16,800	\$ -	\$ -	\$ -	\$ -

LTNCP	\$	143,762,923	\$	72,909,049	\$	15,751,560	\$	42,851,426	\$	5,083,759	\$	4,267,119	\$	1,494,131	\$	11,429	\$	477,062	\$	917,388
NFA	\$	4,279,364	\$	2,245,340	\$	472,737	\$	1,096,335	\$	220,143	\$	168,765	\$	33,115	\$	310	\$	13,033	\$	29,586
NFA ECC	\$	185,100,799	\$	100,375,282	\$	20,553,569	\$	45,020,697	\$	8,879,867	\$	6,854,889	\$	1,548,204	\$	15,906	\$	642,599	\$	1,209,784
O&M	\$	29,488,368	\$	18,052,074	\$	3,577,053	\$	5,803,681	\$	1,007,691	\$	712,820	\$	149,987	\$	1,577	\$	59,044	\$	124,441
PNCP	\$	517,602,333	\$	245,420,616	\$	50,055,243	\$	147,715,734	\$	35,321,822	\$	27,739,884	\$	4,863,860	\$	41,656	\$	1,691,908	\$	4,751,611
SNCP	\$	88,763,323	\$	55,630,452	\$	12,391,331	\$	19,219,186	\$	-	\$	-	\$	1,160,841	\$	8,321	\$	353,191	\$	-
TCP	\$	73,603,826	\$	24,630,901	\$	7,233,520	\$	29,059,187	\$	6,462,900	\$	4,989,064	\$	265,393	\$	477	\$	103,726	\$	858,659
Total	\$	1,102,358,746	\$	444,455,339	\$	113,882,974	\$	367,507,808	\$	86,730,129	\$	70,432,706	\$	7,322,691	\$	50,293	\$	2,841,548	\$	9,135,256



2011 COST ALLOCATION INFORMATION FILING

Hydro Ottawa Limited

EB-2005-0381

Sheet 05 Details of Allocators by Class and Account Worksheet - Second Run

Uniform System of Accounts - Detail Accounts

USoA Account #	Accounts	Reclassified Balance	Financial Statement Asset Break Out includes Acc Dep and Contributed Capital	Adjusted TB	Categorization					Allocation - Demand Related						
					Demand	Customer	Total	1	2	3	Residential	GS <50	GS >50 kW < 1,499 kW			
1565	Conservation and Demand Management Expenditures and Recoveries	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1608	Franchises and Consents	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1805	Land	\$3,769,535	(\$3,769,535)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1805-1	Land Station >50 kV	\$0	\$218,633	\$218,633	\$218,633	\$0	\$218,633	\$73,164	\$21,486	\$86,318						
1805-2	Land Station <50 kV	\$0	\$3,550,902	\$3,550,902	\$3,550,902	\$0	\$3,550,902	\$1,188,280	\$348,970	\$1,401,915						
1806	Land Rights	\$2,707,541	(\$2,707,541)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1806-1	Land Rights Station >50 kV	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1806-2	Land Rights Station <50 kV	\$0	\$2,707,541	\$2,707,541	\$2,707,541	\$0	\$2,707,541	\$906,056	\$266,087	\$1,068,952						
1808	Buildings and Fixtures	\$19,897,926	(\$19,897,926)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1808-1	Buildings and Fixtures > 50 kV	\$0	\$2,785,710	\$2,785,710	\$2,785,710	\$0	\$2,785,710	\$932,214	\$273,770	\$1,099,813						
1808-2	Buildings and Fixtures < 50 kV	\$0	\$17,112,217	\$17,112,217	\$17,112,217	\$0	\$17,112,217	\$5,726,459	\$1,681,727	\$6,755,995						
1810	Leasehold Improvements	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1810-1	Leasehold Improvements >50 kV	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1810-2	Leasehold Improvements <50 kV	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1815	Transformer Station Equipment - Normally Primary above 50 kV	\$70,599,483	\$0	\$70,599,483	\$70,599,483	\$0	\$70,599,483	\$23,625,523	\$6,938,264	\$27,873,056						
1820	Distribution Station Equipment - Normally Primary below 50 kV	\$68,366,890	(\$68,366,890)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1820-1	Distribution Station Equipment - Normally Primary below 50 kV (Bulk)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1820-2	Distribution Station Equipment - Normally Primary below 50 kV (Primary)	\$0	\$68,366,890	\$68,366,890	\$68,366,890	\$0	\$68,366,890	\$19,956,571	\$7,226,146	\$27,709,140						
1820-3	Distribution Station Equipment - Normally Primary below 50 kV (Wholesale Meters)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1825	Storage Battery Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1825-1	Storage Battery Equipment > 50 kV	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1825-2	Storage Battery Equipment <50 kV	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1830	Poles, Towers and Fixtures	\$125,755,014	(\$125,755,014)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1830-3	Poles, Towers and Fixtures - Subtransmission Bulk Delivery	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1830-4	Poles, Towers and Fixtures - Primary	\$0	\$88,028,510	\$88,028,510	\$57,218,531	\$30,809,978	\$88,028,510	\$16,702,320	\$6,047,802	\$23,190,703						
1830-5	Poles, Towers and Fixtures - Secondary	\$0	\$37,726,504	\$37,726,504	\$24,522,228	\$13,204,276	\$37,726,504	\$11,739,483	\$4,250,791	\$8,168,607						
1835	Overhead Conductors and Devices	\$70,099,302	(\$70,099,302)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1835-3	Overhead Conductors and Devices - Subtransmission Bulk Delivery	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1835-4	Overhead Conductors and Devices - Primary	\$0	\$70,099,302	\$70,099,302	\$45,564,546	\$24,534,756	\$70,099,302	\$13,300,475	\$4,816,016	\$18,467,337						
1835-5	Overhead Conductors and Devices - Secondary	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1840	Underground Conduit	\$175,989,030	(\$175,989,030)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1840-3	Underground Conduit - Bulk Delivery	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1840-4	Underground Conduit - Primary	\$0	\$124,952,212	\$124,952,212	\$81,218,937	\$43,733,274	\$124,952,212	\$23,708,135	\$8,584,563	\$32,918,082						

5715	Amortization of Intangibles and Other Electric Plant	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5720	Amortization of Electric Plant Acquisition Adjustments	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5730	Amortization of Unrecovered Plant and Regulatory Study Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5735	Amortization of Deferred Development Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5740	Amortization of Deferred Charges	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
6005	Interest on Long Term Debt	\$19,473,884	\$19,473,884	\$0	\$0	\$0	\$0	\$0	\$0	
6105	Taxes Other Than Income Taxes	\$1,800,217	\$1,800,217	\$0	\$0	\$0	\$0	\$0	\$0	
6110	Income Taxes	\$9,555,063	\$9,555,063	\$0	\$0	\$0	\$0	\$0	\$0	
6205	Donations	\$51,510	\$51,510	\$0	\$0	\$0	\$0	\$0	\$0	
6210	Life Insurance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
6215	Penalties	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
6225	Other Deductions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
		\$1,102,358,747	\$0	\$1,102,358,747	\$627,178,594	\$467,124,263	\$1,094,302,857	\$97,638,229	\$33,471,577	\$120,289,794

O5 Summary		O4 Summary	
\$325,403,601	\$251,624,806	\$1,102,358,746	\$1,102,358,746
(\$0)		\$1	
		\$1,102,358,747	

Grouping by Allocator	Adjusted TB	Demand	Customer	Total	Residential	GS <50	GS>50 kW < 1,499 kW	GS>1,500 kW < 4,999 kW	GS >50-Intermediate
1808	\$ 690,955.44	\$ 690,955.44	\$ -	\$ 690,955.44	\$ 231,222.42	\$ 67,904.62	\$ 272,792.93	\$ 60,670.44	\$ -
1815	\$ 468,045.05	\$ 468,045.05	\$ -	\$ 468,045.05	\$ 156,627.34	\$ 45,997.79	\$ 184,786.71	\$ 41,097.44	\$ -
1820	\$ 1,805,030.68	\$ 1,805,030.68	\$ -	\$ 1,805,030.68	\$ 526,895.73	\$ 190,785.55	\$ 731,579.96	\$ 176,758.06	\$ -
1830	\$ 348,778.85	\$ 226,706.25	\$ 122,072.60	\$ 348,778.85	\$ 78,882.74	\$ 28,562.93	\$ 86,974.38	\$ 15,540.18	\$ -
1835	\$ 754,244.92	\$ 490,259.20	\$ 263,985.72	\$ 754,244.92	\$ 143,108.64	\$ 51,818.72	\$ 198,702.33	\$ 48,008.75	\$ -
1840	\$ 171,829.56	\$ 111,689.21	\$ 60,140.35	\$ 171,829.56	\$ 38,653.74	\$ 13,996.27	\$ 42,929.47	\$ 7,765.41	\$ -
1845	\$ 732,897.87	\$ 476,383.62	\$ 256,514.25	\$ 732,897.87	\$ 139,058.30	\$ 50,352.11	\$ 193,078.55	\$ 46,649.98	\$ -
1850	\$ 527,339.82	\$ 369,137.87	\$ 158,201.95	\$ 527,339.82	\$ 126,310.89	\$ 45,736.36	\$ 155,515.97	\$ 18,647.84	\$ -
1855	\$ 1,251,356.43	\$ -	\$ 1,251,356.43	\$ 1,251,356.43	\$ -	\$ -	\$ -	\$ -	\$ -
1860	\$ 689,733.79	\$ -	\$ 689,733.79	\$ 689,733.79	\$ -	\$ -	\$ -	\$ -	\$ -
1815-1855	\$ 4,774,490.30	\$ 3,103,418.70	\$ 1,671,071.61	\$ 4,774,490.30	\$ 1,005,199.20	\$ 355,463.81	\$ 1,240,457.27	\$ 245,262.23	\$ -
1830 & 1835	\$ 3,260,109.10	\$ 2,119,070.92	\$ 1,141,038.19	\$ 3,260,109.10	\$ 694,824.52	\$ 251,591.48	\$ 829,393.55	\$ 167,538.74	\$ -
1840 & 1845	\$ 2,528,120.66	\$ 1,643,278.43	\$ 884,842.23	\$ 2,528,120.66	\$ 525,474.64	\$ 190,270.98	\$ 648,326.15	\$ 136,914.64	\$ -
BCP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
BDHA	\$ 1,533,060.00	\$ -	\$ 1,533,060.00	\$ 1,533,060.00	\$ -	\$ -	\$ -	\$ -	\$ -
Break Out	\$ (661,565,684.50)	\$ -	\$ -	\$ -	#####	\$ (37,910,986.00)	\$ (130,254,745.28)	\$ (24,995,232.77)	\$ -
CCA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
CDMPP	\$ 501,641.13	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
CEN	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
CEN EWMP	\$ 603,090,617.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
CREV	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
CWCS	\$ 106,447,367.32	\$ -	\$ 106,447,367.32	\$ 106,447,367.32	\$ -	\$ -	\$ -	\$ -	\$ -
CWMC	\$ 111,908,764.29	\$ -	\$ 111,908,764.29	\$ 111,908,764.29	\$ -	\$ -	\$ -	\$ -	\$ -
CWMR	\$ 291,212.04	\$ -	\$ 291,212.04	\$ 291,212.04	\$ -	\$ -	\$ -	\$ -	\$ -
CWNB	\$ 4,154,717.97	\$ -	\$ 9,016,457.79	\$ 9,016,457.79	\$ -	\$ -	\$ -	\$ -	\$ -
DCP	\$ 23,370,659.56	\$ 23,370,659.56	\$ -	\$ 23,370,659.56	\$ 7,820,794.49	\$ 2,296,784.54	\$ 9,226,862.41	\$ 2,052,097.75	\$ -
LPHA	\$ (1,400,000.04)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
LTNCP	\$ 143,762,922.94	\$ 100,634,046.06	\$ 43,128,876.88	\$ 143,762,922.94	\$ 34,434,763.94	\$ 12,468,606.19	\$ 42,396,628.97	\$ 5,083,758.70	\$ -
NFA	\$ 4,279,364.10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
NFA ECC	\$ 185,100,798.92	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
O&M	\$ 29,488,367.68	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
PNCP	\$ 517,602,332.58	\$ 360,369,927.79	\$ 157,232,404.78	\$ 517,602,332.58	\$ 105,193,434.42	\$ 38,089,864.93	\$ 146,058,137.08	\$ 35,289,310.31	\$ -
SNCP	\$ 88,763,322.91	\$ 57,696,159.89	\$ 31,067,163.02	\$ 88,763,322.91	\$ 27,620,782.48	\$ 10,001,307.40	\$ 19,219,186.44	\$ -	\$ -
TCP	\$ 73,603,825.52	\$ 73,603,825.52	\$ -	\$ 73,603,825.52	\$ 24,630,900.62	\$ 7,233,519.79	\$ 29,059,187.20	\$ 6,462,900.40	\$ -
Total	\$ 1,248,936,222	\$ 627,178,594	\$ 467,124,263	\$ 1,094,302,857	\$ 97,638,229	\$ 33,471,577	\$ 120,289,794	\$ 24,857,688	\$ -

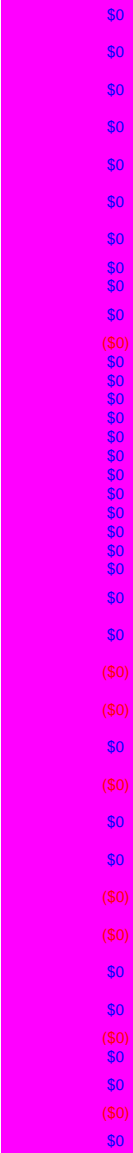
Allocation -
 Customer Related


4	6	7	8	9	11	1	2	3	4	6	7	
GS>1,500 kW < 4,999 kW	Large Use >5MW	Street Light	Sentinel	Unmetered Scattered Load	Back- up/Standby Power	Total - Demand	Residential	GS <50	GS>50 kW < 1,499 kW	GS>1,500 kW < 4,999 kW	Large Use >5MW	Street Light
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$19,197	\$14,820	\$788	\$1	\$308	\$2,551	\$218,633	\$0	\$0	\$0	\$0	\$0	\$0
\$311,793	\$240,690	\$12,803	\$23	\$5,004	\$41,425	\$3,550,902	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$237,740	\$183,524	\$9,763	\$18	\$3,816	\$31,586	\$2,707,541	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$244,604	\$188,823	\$10,044	\$18	\$3,926	\$32,498	\$2,785,710	\$0	\$0	\$0	\$0	\$0	\$0
\$1,502,565	\$1,159,912	\$61,701	\$111	\$24,115	\$199,630	\$17,112,217	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$6,199,099	\$4,785,421	\$254,560	\$458	\$99,492	\$823,610	\$70,599,483	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$6,694,844	\$5,261,462	\$571,648	\$0	\$46,023	\$901,057	\$68,366,890	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$5,603,138	\$4,403,493	\$478,431	\$0	\$38,518	\$754,125	\$57,218,531	\$27,477,774	\$2,344,638	\$324,809	\$6,371	\$1,195	\$362,635
\$0	\$0	\$336,273	\$0	\$27,073	\$0	\$24,522,228	\$11,904,770	\$1,015,816	\$0	\$0	\$0	\$157,112
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$4,461,919	\$3,506,612	\$380,987	\$0	\$30,673	\$600,528	\$45,564,546	\$21,881,238	\$1,867,094	\$258,654	\$5,073	\$951	\$288,776
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$7,953,384	\$6,250,546	\$679,110	\$0	\$54,674	\$1,070,444	\$81,218,937	\$39,003,371	\$3,328,100	\$461,051	\$9,043	\$1,696	\$514,743

\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
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\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$24,857,688	\$19,524,529	\$2,305,093	\$533	\$277,587	\$3,409,963	\$301,774,993	\$177,842,718	\$24,114,561	\$9,471,265	\$947,151	\$171,654	\$1,609,533	

Large Use >5MW	Sentinel	Unmetered Scattered Load	Embedded Distributor	Back-up/Standby Power	Rate class 2	GS <50	GS>50 kW < 1,499 kW	GS>1,500 kW < 4,999 kW	GS >50-Intermediate	Large Use >5MW	Sentinel	Unmetered Scattered Load
\$ 46,834.80	\$ 4.48	\$ 973.72	\$ -	\$ 8,060.65	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
\$ 31,725.34	\$ 3.03	\$ 659.59	\$ -	\$ 5,460.19	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
\$ 138,913.75	\$ -	\$ 1,215.09	\$ -	\$ 23,789.82	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
\$ 12,213.00	\$ -	\$ 181.91	\$ -	\$ 2,091.55	\$ -	\$ 9,320.15	\$ 900.85	\$ 17.67	\$ -	\$ 3.31	\$ 32.45	\$ 1,128.91
\$ 37,729.96	\$ -	\$ 330.03	\$ -	\$ 6,461.48	\$ -	\$ 20,089.30	\$ 2,783.03	\$ 54.59	\$ -	\$ 10.23	\$ 69.94	\$ 2,433.34
\$ 6,102.82	\$ -	\$ 89.14	\$ -	\$ 1,045.14	\$ -	\$ 4,591.17	\$ 450.15	\$ 8.83	\$ -	\$ 1.66	\$ 15.98	\$ 556.11
\$ 36,662.11	\$ -	\$ 320.69	\$ -	\$ 6,278.61	\$ -	\$ 19,520.72	\$ 2,704.26	\$ 53.04	\$ -	\$ 9.95	\$ 67.96	\$ 2,364.47
\$ 15,652.31	\$ -	\$ 291.29	\$ -	\$ 3,365.09	\$ -	\$ 12,042.27	\$ 1,668.25	\$ -	\$ -	\$ -	\$ 41.92	\$ 1,458.63
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 178,782.01	\$ -	\$ -	\$ -	\$ -	\$ 311.20	\$ 10,827.57
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 93,726.01	\$ 77,898.82	\$ 9,002.49	\$ -	\$ 1,687.97	\$ -	\$ -
\$ 193,727.22	\$ 2.41	\$ 2,555.15	\$ -	\$ 34,181.22	\$ -	\$ 162,453.00	\$ 10,447.51	\$ 160.80	\$ -	\$ 30.15	\$ 434.63	\$ 15,121.91
\$ 131,668.31	\$ -	\$ 1,602.36	\$ -	\$ 22,548.99	\$ -	\$ 87,015.58	\$ 9,712.08	\$ 190.49	\$ -	\$ 35.72	\$ 302.93	\$ 10,539.84
\$ 107,600.90	\$ -	\$ 1,211.82	\$ -	\$ 18,427.30	\$ -	\$ 67,446.12	\$ 7,936.82	\$ 155.67	\$ -	\$ 29.19	\$ 234.80	\$ 8,169.47
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 323,475.66	\$ 114,979.50	\$ 56,723.22	\$ -	\$ -	\$ -	\$ -
\$ (19,808,397.66)	\$ (105.49)	\$ (254,202.28)	\$ -	\$ (3,520,014.16)	\$ -	\$ (26,096,439.05)	\$ (6,653,594.18)	\$ (637,620.94)	\$ -	\$ (119,553.93)	\$ (53,177.52)	\$ (1,850,188.75)
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 15,208,196.47	\$ -	\$ -	\$ -	\$ -	\$ 26,472.62	\$ 921,053.42
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 15,206,971.87	\$ 12,639,022.68	\$ 1,460,647.45	\$ -	\$ 273,871.40	\$ -	\$ -
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 31,913.34	\$ 31,585.73	\$ 3,428.10	\$ -	\$ 666.64	\$ -	\$ -
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,147,100.06	\$ 1,112,376.35	\$ 21,817.99	\$ -	\$ 8,766.15	\$ 199.67	\$ 2,435.04
\$ 1,584,125.61	\$ 151.45	\$ 32,934.88	\$ -	\$ 272,641.04	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
\$ 4,267,119.01	\$ -	\$ 79,411.19	\$ -	\$ 917,387.92	\$ -	\$ 3,282,953.93	\$ 454,796.58	\$ -	\$ -	\$ -	\$ 11,429.15	\$ 397,650.83
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
\$ 27,733,787.90	\$ -	\$ 242,590.17	\$ -	\$ 4,749,578.82	\$ -	\$ 11,965,378.18	\$ 1,657,596.54	\$ 32,511.85	\$ -	\$ 6,095.97	\$ 41,655.81	\$ 1,449,317.48
\$ -	\$ -	\$ 63,697.23	\$ -	\$ -	\$ -	\$ 2,390,023.74	\$ -	\$ -	\$ -	\$ -	\$ 8,320.54	\$ 289,493.83
\$ 4,989,063.52	\$ 476.98	\$ 103,725.50	\$ -	\$ 858,658.83	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
\$ 19,524,529	\$ 533	\$ 277,587	\$ -	\$ 3,409,963	\$ -	\$ 24,114,561	\$ 9,471,265	\$ 947,151	\$ -	\$ 171,654	\$ 36,412	\$ 1,262,362

\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
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\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(\$103,020)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
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\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(\$58,000)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(\$0)
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$178,188,159	\$60,496,395	\$239,926,570	\$62,921,900	\$51,567,728	\$3,110,543	\$6,358	\$1,358,715	\$5,514,249	\$603,090,617	\$0
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
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\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0



	A	B	C	D	E	F	G	I	J	K	L	N
1	 2012 COST ALLOCATION INFORMATION FILING Hydro Ottawa Limited EL 5-0381											
2												
3												
4												
5	Sheet 06 Composite Allocator Detail Worksheet - Second Run											
7												
8	Details: Output Sheet Details How Various Composite Allocators are Derived											
9												
10												
11												
12	Demand Allocators can be found in columns C to AG											
13	Customer Allocators can be found in columns AJ to BN											
14												
20												
21												
22												
23												
24	Composite allocators											
25	Rate Base											
26												
27	1565	Conservation and Demand Management	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
28												
29	1805-1	Land Station >50 kV	\$73,164	\$21,486	\$86,318	\$19,197	\$14,820	\$788	\$1	\$308	\$2,551	
30	1805-2	Land Station <50 kV	\$1,188,280	\$348,970	\$1,401,915	\$311,793	\$240,690	\$12,803	\$23	\$5,004	\$41,425	
31	1805	Total	\$3,769,535	\$1,261,443	\$370,456	\$1,488,233	\$330,990	\$255,509	\$13,592	\$24	\$5,312	\$43,975
32												
33	1806-1	Land Rights Station >50 kV	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
34	1806-2	Land Rights Station <50 kV	\$906,056	\$266,087	\$1,068,952	\$237,740	\$183,524	\$9,763	\$18	\$3,816	\$31,586	
35	1806	Total	\$2,707,541	\$906,056	\$266,087	\$1,068,952	\$237,740	\$183,524	\$9,763	\$18	\$3,816	\$31,586
36												
37	1808-1	Buildings and Fixtures > 50 kV	\$932,214	\$273,770	\$1,099,813	\$244,604	\$188,823	\$10,044	\$18	\$3,926	\$32,498	
38	1808-2	Buildings and Fixtures < 50 KV	\$5,726,459	\$1,681,727	\$6,755,995	\$1,502,565	\$1,159,912	\$61,701	\$111	\$24,115	\$199,630	
39	1808	Total	\$19,897,926	\$6,658,674	\$1,955,497	\$7,855,809	\$1,747,169	\$1,348,735	\$71,746	\$129	\$28,041	\$232,128
40												
41	1810-1	Leasehold Improvements >50 kV	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
42	1810-2	Leasehold Improvements <50 kV	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
43	1810	Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
44												
45	1815	Transformer Station Equipment - Normally Primary above 50 kV	\$70,599,483	\$23,625,523	\$6,938,264	\$27,873,056	\$6,199,099	\$4,785,421	\$254,560	\$458	\$99,492	\$823,610
46												
47	1820-1	Distribution Station Equipment - Normally Primary below 50 kV (Bulk)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
48	1820-2	Distribution Station Equipment - Normally Primary below 50 kV (Primary)	\$68,366,890	\$19,956,571	\$7,226,146	\$27,709,140	\$6,694,844	\$5,261,462	\$571,648	\$0	\$46,023	\$901,057
49	1820-3	Distribution Station Equipment - Normally Primary below 50 kV (Wholesale Meters)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
50	1820	Total	\$68,366,890	\$19,956,571	\$7,226,146	\$27,709,140	\$6,694,844	\$5,261,462	\$571,648	\$0	\$46,023	\$901,057
51												
52	1815 & 1820	Total	\$138,966,373	\$43,582,093	\$14,164,410	\$55,582,196	\$12,893,943	\$10,046,884	\$826,208	\$458	\$145,514	\$1,724,668
53												
54	1825-1	Storage Battery Equipment > 50 kV	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
55	1825-2	Storage Battery Equipment <50 kV	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
56	1825	Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
57												
58	1830-3	Poles, Towers and Fixtures - Subtransmission Bulk Delivery	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
59	1830-4	Poles, Towers and Fixtures - Primary	\$16,702,320	\$6,047,802	\$23,190,703	\$5,603,138	\$4,403,493	\$478,431	\$0	\$38,518	\$754,125	

	A	B	C	D	E	F	G	I	J	K	L	N
60	1830-5	Poles, Towers and Fixtures - Secondary		\$11,739,483	\$4,250,791	\$8,168,607	\$0	\$0	\$336,273	\$0	\$27,073	\$0
61	1830	Total	\$81,740,759	\$28,441,803	\$10,298,594	\$31,359,310	\$5,603,138	\$4,403,493	\$814,704	\$0	\$65,591	\$754,125
62												
63	1835-3	Overhead Conductors and Devices - Subtransmission Bulk Delivery		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
64	1835-4	Overhead Conductors and Devices - Primary		\$13,300,475	\$4,816,016	\$18,467,337	\$4,461,919	\$3,506,612	\$380,987	\$0	\$30,673	\$600,528
65	1835-5	Overhead Conductors and Devices - Secondary		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
66	1835	Total	\$45,564,546	\$13,300,475	\$4,816,016	\$18,467,337	\$4,461,919	\$3,506,612	\$380,987	\$0	\$30,673	\$600,528
67												
68	1830 & 1835	Total	\$127,305,305	\$41,742,278	\$15,114,610	\$49,826,647	\$10,065,057	\$7,910,105	\$1,195,691	\$0	\$96,263	\$1,354,653
69												
70	1840-3	Underground Conduit - Bulk Delivery		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
71	1840-4	Underground Conduit - Primary		\$23,708,135	\$8,584,563	\$32,918,082	\$7,953,384	\$6,250,546	\$679,110	\$0	\$54,674	\$1,070,444
72	1840-5	Underground Conduit - Secondary		\$15,881,299	\$5,750,516	\$11,050,579	\$0	\$0	\$454,914	\$0	\$36,624	\$0
73	1840	Total	\$114,392,870	\$39,589,434	\$14,335,079	\$43,968,661	\$7,953,384	\$6,250,546	\$1,134,024	\$0	\$91,299	\$1,070,444
74												
75	1845-3	Underground Conductors and Devices - Bulk Delivery		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
76	1845-4	Underground Conductors and Devices - Primary		\$31,525,934	\$11,415,338	\$43,772,876	\$10,576,026	\$8,311,674	\$903,048	\$0	\$72,703	\$1,423,424
77	1845-5	Underground Conductors and Devices - Secondary		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
78	1845	Total	\$108,001,023	\$31,525,934	\$11,415,338	\$43,772,876	\$10,576,026	\$8,311,674	\$903,048	\$0	\$72,703	\$1,423,424
79												
80	1840 & 1845	Total	\$222,393,892	\$71,115,368	\$25,750,417	\$87,741,537	\$18,529,409	\$14,562,220	\$2,037,071	\$0	\$164,002	\$2,493,868
81												
82	1850	Line Transformers	\$100,634,046	\$34,434,764	\$12,468,606	\$42,396,629	\$5,083,759	\$4,267,119	\$986,370	\$0	\$79,411	\$917,388
83												
84	1815- 1850	Total	\$589,299,617	\$190,874,503	\$67,498,042	\$235,547,009	\$46,572,168	\$36,786,328	\$5,045,341	\$458	\$485,190	\$6,490,577
85												
86	1855	Services	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
87												
88	1815- 1855	Total	\$589,299,617	\$190,874,503	\$67,498,042	\$235,547,009	\$46,572,168	\$36,786,328	\$5,045,341	\$458	\$485,190	\$6,490,577
89												
90	1860	Meters	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
91												
92	1815-1860	Total	\$589,299,617	\$190,874,503	\$67,498,042	\$235,547,009	\$46,572,168	\$36,786,328	\$5,045,341	\$458	\$485,190	\$6,490,577
93												
94	1565-1860	Total	\$615,674,619	\$199,700,676	\$70,090,083	\$245,960,002	\$48,888,067	\$38,574,096	\$5,140,441	\$628	\$522,359	\$6,798,267
95												
96		Total Demand And Customer	\$1,062,106,648	\$575,320,359	\$117,688,039	\$260,332,780	\$50,337,469	\$38,845,859	\$9,044,587	\$88,507	\$3,579,875	\$6,869,175
97		Accum Depreciation - NFA	(\$609,840,748)	(\$338,020,948)	(\$67,726,663)	(\$144,466,288)	(\$27,071,571)	(\$21,009,887)	(\$5,544,863)	(\$55,710)	(\$2,202,436)	(\$3,742,383)
98		Accum Depreciation - NFA ECC	(\$434,502,494)	(\$234,987,178)	(\$47,998,954)	(\$107,685,267)	(\$20,229,324)	(\$15,603,619)	(\$3,795,234)	(\$34,574)	(\$1,401,072)	(\$2,767,272)
99	NFA	Net Fixed Assets	\$452,265,900	\$237,299,411	\$49,961,376	\$115,866,492	\$23,265,898	\$17,835,972	\$3,499,724	\$32,797	\$1,377,438	\$3,126,792
100	NFA ECC	Net Fixed Assets Excluding Capital Contribution	\$627,604,154	\$340,333,181	\$69,689,085	\$152,647,513	\$30,108,145	\$23,242,240	\$5,249,353	\$53,932	\$2,178,802	\$4,101,903
101												
102												
103	Operating and Maintenance		Allocate all the costs to the O and M expenses before using it as a composite allocator.									
104												
105	Accounts											
106	5005	Operation Supervision and Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
107	5010	Load Dispatching	\$1,488,505	\$482,128	\$170,492	\$594,965	\$117,636	\$92,918	\$12,744	\$1	\$1,226	\$16,394
108	5012	Station Buildings and Fixtures Expense	\$690,955	\$231,222	\$67,905	\$272,793	\$60,670	\$46,835	\$2,491	\$4	\$974	\$8,061
109	5014	Transformer Station Equipment - Operation Labour	\$102,177	\$34,193	\$10,042	\$40,340	\$8,972	\$6,926	\$368	\$1	\$144	\$1,192
110	5015	Transformer Station Equipment - Operation Supplies and Expenses	\$21,804	\$7,297	\$2,143	\$8,609	\$1,915	\$1,478	\$79	\$0	\$31	\$254
111	5016	Distribution Station Equipment - Operation Labour	\$330,426	\$96,453	\$34,925	\$133,922	\$32,357	\$25,429	\$2,763	\$0	\$222	\$4,355
112	5017	Distribution Station Equipment - Operation Supplies and Expenses	\$187,470	\$54,723	\$19,815	\$75,982	\$18,358	\$14,428	\$1,568	\$0	\$126	\$2,471

	A	B	C	D	E	F	G	I	J	K	L	N
113	5020	Overhead Distribution Lines and Feeders - Operation Labour	\$539,486	\$176,893	\$64,052	\$211,152	\$42,653	\$33,521	\$5,067	\$0	\$408	\$5,741
114	5025	Overhead Distribution Lines & Feeders - Operation Supplies and Expenses	\$1,579,585	\$517,932	\$187,540	\$618,242	\$124,886	\$98,147	\$14,836	\$0	\$1,194	\$16,808
115	5030	Overhead Subtransmission Feeders - Operation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
116	5035	Overhead Distribution Transformers- Operation	\$1,492	\$511	\$185	\$629	\$75	\$63	\$15	\$0	\$1	\$14
117	5040	Underground Distribution Lines and Feeders - Operation Labour	\$512,077	\$163,748	\$59,292	\$202,031	\$42,665	\$33,530	\$4,690	\$0	\$378	\$5,742
118	5045	Underground Distribution Lines & Feeders - Operation Supplies & Expenses	\$1,131,202	\$361,727	\$130,979	\$446,295	\$94,249	\$74,070	\$10,362	\$0	\$834	\$12,685
119	5050	Underground Subtransmission Feeders - Operation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
120	5055	Underground Distribution Transformers - Operation	\$13,446	\$4,601	\$1,666	\$5,665	\$679	\$570	\$132	\$0	\$11	\$123
121	5065	Meter Expense	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
122	5070	Customer Premises - Operation Labour	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
123	5075	Customer Premises - Materials and Expenses	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
124	5085	Miscellaneous Distribution Expense	\$1,614,914	\$523,072	\$184,971	\$645,492	\$127,626	\$100,809	\$13,826	\$1	\$1,330	\$17,787
125	5090	Underground Distribution Lines and Feeders - Rental Paid	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
126	5095	Overhead Distribution Lines and Feeders - Rental Paid	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
127	5096	Other Rent	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
128	5105	Maintenance Supervision and Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
129	5110	Maintenance of Buildings and Fixtures - Distribution Stations	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
130	5112	Maintenance of Transformer Station Equipment	\$344,063	\$115,138	\$33,813	\$135,838	\$30,211	\$23,322	\$1,241	\$2	\$485	\$4,014
131	5114	Maintenance of Distribution Station Equipment	\$1,287,135	\$375,720	\$136,046	\$521,677	\$126,043	\$99,057	\$10,762	\$0	\$866	\$16,964
132	5120	Maintenance of Poles, Towers and Fixtures	\$226,706	\$78,883	\$28,563	\$86,974	\$15,540	\$12,213	\$2,260	\$0	\$182	\$2,092
133	5125	Maintenance of Overhead Conductors and Devices	\$490,259	\$143,109	\$51,819	\$198,702	\$48,009	\$37,730	\$4,099	\$0	\$330	\$6,461
134	5130	Maintenance of Overhead Services	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
135	5135	Overhead Distribution Lines and Feeders - Right of Way	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
136	5145	Maintenance of Underground Conduit	\$111,689	\$38,654	\$13,996	\$42,929	\$7,765	\$6,103	\$1,107	\$0	\$89	\$1,045
137	5150	Maintenance of Underground Conductors and Devices	\$476,384	\$139,058	\$50,352	\$193,079	\$46,650	\$36,662	\$3,983	\$0	\$321	\$6,279
138	5155	Maintenance of Underground Services	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
139	5160	Maintenance of Line Transformers	\$354,200	\$121,200	\$43,886	\$149,223	\$17,893	\$15,019	\$3,472	\$0	\$280	\$3,229
140	5175	Maintenance of Meters	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
141	5305	Supervision	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
142	5310	Meter Reading Expense	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
143	5315	Customer Billing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
144	5320	Collecting	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
145	5325	Collecting- Cash Over and Short	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
146	5330	Collection Charges	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
147	5335	Bad Debt Expense	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
148	5340	Miscellaneous Customer Accounts Expenses	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
149												
150	O&M DC	Total	\$11,503,975	\$3,666,258	\$1,292,481	\$4,584,537	\$964,854	\$758,831	\$95,864	\$10	\$9,431	\$131,710
151												
152	O&M	Total Demand and Customer	\$32,196,210	\$19,709,750	\$3,905,524	\$6,336,619	\$1,100,224	\$778,276	\$163,760	\$1,721	\$64,466	\$135,869
153												
154												
155	Accounts											
156	4705	Power Purchased	\$603,090,617	\$178,188,159	\$60,496,395	\$239,926,570	\$62,921,900	\$51,567,728	\$3,110,543	\$6,358	\$1,358,715	\$5,514,249

	A	B	C	D	E	F	G	I	J	K	L	N
198	5145	Maintenance of Underground Conduit	\$171,830	\$92,460	\$18,587	\$43,380	\$7,774	\$6,104	\$1,817	\$16	\$645	\$1,046
199	5150	Maintenance of Underground Conductors and Devices	\$732,898	\$367,830	\$69,873	\$195,783	\$46,703	\$36,672	\$7,002	\$68	\$2,685	\$6,282
200	5155	Maintenance of Underground Services	\$449,782	\$376,548	\$64,261	\$0	\$0	\$0	\$4,969	\$112	\$3,892	\$0
201	5160	Maintenance of Line Transformers	\$506,000	\$256,617	\$55,441	\$150,824	\$17,893	\$15,019	\$5,259	\$40	\$1,679	\$3,229
202	5175	Maintenance of Meters	\$689,734	\$506,981	\$93,726	\$77,899	\$9,002	\$1,688	\$0	\$0	\$0	\$438
203	5305	Supervision	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
204	5310	Meter Reading Expense	\$291,212	\$223,428	\$31,913	\$31,586	\$3,428	\$667	\$0	\$0	\$0	\$190
205	5315	Customer Billing	\$7,073,022	\$5,272,859	\$899,850	\$872,611	\$17,115	\$6,877	\$573	\$157	\$1,910	\$1,070
206	5320	Collecting	\$1,943,436	\$1,448,810	\$247,250	\$239,765	\$4,703	\$1,889	\$157	\$43	\$525	\$294
207	5325	Collecting- Cash Over and Short	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
208	5330	Collection Charges	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
209	5335	Bad Debt Expense	\$1,533,060	\$1,037,882	\$323,476	\$114,980	\$56,723	\$0	\$0	\$0	\$0	\$0
210	5340	Miscellaneous Customer Accounts Expenses	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
211	5405	Supervision	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
212	5410	Community Relations - Sundry	\$5,905,497	\$3,615,204	\$716,360	\$1,162,276	\$201,805	\$142,753	\$30,037	\$316	\$11,825	\$24,921
213	5415	Energy Conservation	\$501,641	\$307,093	\$60,851	\$98,729	\$17,142	\$12,126	\$2,552	\$27	\$1,004	\$2,117
214	5420	Community Safety Program	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
215	5425	Miscellaneous Customer Service and Informational Expenses	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
216	5505	Supervision	\$199,923	\$122,388	\$24,251	\$39,347	\$6,832	\$4,833	\$1,017	\$11	\$400	\$844
217	5510	Demonstrating and Selling Expense	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
218	5515	Advertising Expense	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
219	5520	Miscellaneous Sales Expense	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
220	5605	Executive Salaries and Expenses	\$2,230,022	\$1,365,166	\$270,510	\$438,896	\$76,205	\$53,906	\$11,343	\$119	\$4,465	\$9,411
221	5610	Management Salaries and Expenses	\$5,804,604	\$3,553,440	\$704,121	\$1,142,419	\$198,358	\$140,314	\$29,524	\$310	\$11,622	\$24,496
222	5615	General Administrative Salaries and Expenses	\$2,679,969	\$1,640,613	\$325,091	\$527,452	\$91,581	\$64,783	\$13,631	\$143	\$5,366	\$11,310
223	5620	Office Supplies and Expenses	\$4,061,460	\$2,486,328	\$492,671	\$799,346	\$138,790	\$98,177	\$20,658	\$217	\$8,132	\$17,139
224	5625	Administrative Expense Transferred Credit	(\$1,931,338)	(\$1,182,319)	(\$234,279)	(\$380,112)	(\$65,999)	(\$46,686)	(\$9,823)	(\$103)	(\$3,867)	(\$8,150)
225	5630	Outside Services Employed	\$569,018	\$348,339	\$69,024	\$111,990	\$19,445	\$13,755	\$2,894	\$30	\$1,139	\$2,401
226	5635	Property Insurance	\$780,070	\$423,011	\$86,619	\$189,731	\$37,422	\$28,889	\$6,525	\$67	\$2,708	\$5,098
227	5640	Injuries and Damages	\$626,883	\$383,763	\$76,043	\$123,378	\$21,422	\$15,154	\$3,189	\$34	\$1,255	\$2,645
228	5645	Employee Pensions and Benefits	\$728,000	\$445,664	\$88,309	\$143,280	\$24,878	\$17,598	\$3,703	\$39	\$1,458	\$3,072
229	5650	Franchise Requirements	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
230	5655	Regulatory Expenses	\$1,419,756	\$869,141	\$172,222	\$279,426	\$48,517	\$34,320	\$7,221	\$76	\$2,843	\$5,991
231	5660	General Advertising Expenses	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
232	5665	Miscellaneous General Expenses	\$2,517,516	\$1,541,163	\$305,384	\$495,479	\$86,030	\$60,856	\$12,805	\$135	\$5,041	\$10,624
233	5670	Rent	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
234	5675	Maintenance of General Plant	\$4,625,549	\$2,831,651	\$561,097	\$910,366	\$158,067	\$111,813	\$23,527	\$247	\$9,262	\$19,520
235	5680	Electrical Safety Authority Fees	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
236	6105	Taxes Other Than Income Taxes	\$1,800,217	\$944,556	\$198,868	\$461,200	\$92,609	\$70,995	\$13,930	\$131	\$5,483	\$12,446
237	6205	Donations	\$51,510	\$31,533	\$6,248	\$10,138	\$1,760	\$1,245	\$262	\$3	\$103	\$217
238	6210	Life Insurance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
239	6215	Penalties	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
240	6225	Other Deductions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
241												
242		OM&A Expenses	\$64,766,506	\$39,436,483	\$7,828,915	\$12,889,960	\$2,255,088	\$1,603,105	\$336,754	\$3,522	\$132,706	\$279,971
243												
244												
245												
246												
247		Demand Allocators										
248		Grouping of Operating and Maintenance Distribution Costs (lines 106 - 148)	Demand Total	Residential	GS <50	GS>50 kW < 1,499 kW	GS>1,500 kW < 4,999 kW	Large Use >5MW	Street Light	Sentinel	Unmetered Scattered Load	Back-up/Standby Power
249												
250		1808	\$ 690,955	\$ 231,222	\$ 67,905	\$ 272,793	\$ 60,670	\$ 46,835	\$ 2,491	\$ 4	\$ 974	\$ 8,061
251		1815	\$ 468,045	\$ 156,627	\$ 45,998	\$ 184,787	\$ 41,097	\$ 31,725	\$ 1,688	\$ 3	\$ 660	\$ 5,460
252		1820	\$ 1,805,031	\$ 526,896	\$ 190,786	\$ 731,580	\$ 176,758	\$ 138,914	\$ 15,093	\$ -	\$ 1,215	\$ 23,790
253		1830	\$ 226,706	\$ 78,883	\$ 28,563	\$ 86,974	\$ 15,540	\$ 12,213	\$ 2,260	\$ -	\$ 182	\$ 2,092
254		1835	\$ 490,259	\$ 143,109	\$ 51,819	\$ 198,702	\$ 48,009	\$ 37,730	\$ 4,099	\$ -	\$ 330	\$ 6,461
255		1840	\$ 111,689	\$ 38,654	\$ 13,996	\$ 42,929	\$ 7,765	\$ 6,103	\$ 1,107	\$ -	\$ 89	\$ 1,045
256		1845	\$ 476,384	\$ 139,058	\$ 50,352	\$ 193,079	\$ 46,650	\$ 36,662	\$ 3,983	\$ -	\$ 321	\$ 6,279

	A	B	C	D	E	F	G	I	J	K	L	N
323		SNCP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
324		TCP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
325												
326		Total	\$ 64,766,506	\$ 39,436,483	\$ 7,828,915	\$ 12,889,960	\$ 2,255,088	\$ 1,603,105	\$ 336,754	\$ 3,522	\$ 132,706	\$ 279,971



	X	Y	Z	AA	AB	AD	AE	AF	AG	AI	AS
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
20	Customer Allocators										
21	Customer Allocators										
22	1	2	3	4	6	7	8	9	11		
23	Customer Total	Residential	GS <50	GS>50 kW < 1,499 kW	GS>1,500 kW < 4,999 kW	Large Use >5MW	Street Light	Sentinel	Unmetered Scattered Load	Back-up/Standby Power	Total
24											
25											
26											
27	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
28											
29	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
30	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
31	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,769,535
32											
33	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
34	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
35	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,707,541
36											
37	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
38	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
39	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$19,897,926
40											
41	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
42	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
43	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
44											
45	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$70,599,483
46											
47	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
48	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$68,366,890
49	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
50	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$68,366,890
51											
52	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$138,966,373
53											
54	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
55	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
56	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
57											
58	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
59	\$30,809,978	\$27,477,774	\$2,344,638	\$324,809	\$6,371	\$1,195	\$362,635	\$8,163	\$283,996	\$398	\$30,809,978

	X	Y	Z	AA	AB	AD	AE	AF	AG	AI	AS
198	\$171,830										
199	\$732,898										
200	\$449,782										
201	\$506,000										
202	\$689,734										
203	\$0										
204	\$291,212										
205	\$7,073,022										
206	\$1,943,436										
207	\$0										
208	\$0										
209	\$1,533,060										
210	\$0										
211	\$0										
212	\$5,905,497										
213	\$501,641										
214	\$0										
215	\$0										
216	\$199,923										
217	\$0										
218	\$0										
219	\$0										
220	\$2,230,022										
221	\$5,804,604										
222	\$2,679,969										
223	\$4,061,460										
224	(\$1,931,338)										
225	\$569,018										
226	\$780,070										
227	\$626,883										
228	\$728,000										
229	\$0										
230	\$1,419,756										
231	\$0										
232	\$2,517,516										
233	\$0										
234	\$4,625,549										
235	\$0										
236	\$1,800,217										
237	\$51,510										
238	\$0										
239	\$0										
240	\$0										
241											
242	\$64,766,506										
243											
244											
245											
246											
247		Customer Allocators									
Customer Total	Residential	GS <50	GS>50 kW < 1,499 kW	GS>1,500 kW < 4,999 kW	Large Use >5MW	Street Light	Sentinel	Unmetered Scattered Load	Back- up/Standby Power	Total	
248											
249											
250	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
251	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
252	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
253	\$ 119,465	\$ 109,227	\$ 9,320	\$ 901	\$ 18	\$ 3	\$ 1,442	\$ 32	\$ 1,129	\$ 1	
254	\$ 258,362	\$ 235,435	\$ 20,089	\$ 2,783	\$ 55	\$ 10	\$ 3,107	\$ 70	\$ 2,433	\$ 3	
255	\$ 58,856	\$ 53,806	\$ 4,591	\$ 450	\$ 9	\$ 2	\$ 710	\$ 16	\$ 556	\$ 1	
256	\$ 251,049	\$ 228,771	\$ 19,521	\$ 2,704	\$ 53	\$ 10	\$ 3,019	\$ 68	\$ 2,364	\$ 3	

USoA A/C #	Accounts	Categorization		
		Demand	Customer	Customer Component
	Distribution Plant			
1805	Land	DCP		0%
1805-1	Land Station >50 kV	TCP		0%
1805-2	Land Station <50 kV	DCP		0%
1806	Land Rights	DCP		0%
1806-1	Land Rights Station >50 kV	TCP		0%
1806-2	Land Rights Station <50 kV	DCP		0%
1808	Buildings and Fixtures	DCP		0%
1808-1	Buildings and Fixtures > 50 kV	TCP		0%
1808-2	Buildings and Fixtures < 50 kV	DCP		0%
1810	Leasehold Improvements	DCP		0%
1810-1	Leasehold Improvements >50 kV	TCP		0%
1810-2	Leasehold Improvements <50 kV	DCP		0%
1815	Transformer Station Equipment - Normally Primary above 50 kV	TCP		0%
1820	Distribution Station Equipment - Normally Primary below 50 kV	DCP		0%
1820-1	Distribution Station Equipment - Normally Primary below 50 kV (Bulk)	DCP		0%
1820-2	Distribution Station Equipment - Normally Primary below 50 kV (Primary)	PNCP		0%
1820-3	Distribution Station Equipment - Normally Primary below 50 kV (Wholesale Meters)		CEN	100%
1825	Storage Battery Equipment	DCP		0%
1825-1	Storage Battery Equipment > 50 kV	TCP		0%
1825-2	Storage Battery Equipment <50 kV	DCP		0%
1830	Poles, Towers and Fixtures	DNCP	CCA	35%
1830-3	Poles, Towers and Fixtures - Subtransmission Bulk Delivery	BCP		0%
1830-4	Poles, Towers and Fixtures - Primary	PNCP	CCP	35%
1830-5	Poles, Towers and Fixtures - Secondary	SNCP	CCS	35%
1835	Overhead Conductors and Devices	DNCP	CCA	35%
1835-3	Overhead Conductors and Devices - Subtransmission Bulk Delivery	BCP		0%
1835-4	Overhead Conductors and Devices - Primary	PNCP	CCP	35%
1835-5	Overhead Conductors and Devices - Secondary	SNCP	CCS	35%
1840	Underground Conduit	DNCP	CCA	35%
1840-3	Underground Conduit - Bulk Delivery	BCP		0%
1840-4	Underground Conduit - Primary	PNCP	CCP	35%
1840-5	Underground Conduit - Secondary	SNCP	CCS	35%
1845	Underground Conductors and Devices	DNCP	CCA	35%
1845-3	Underground Conductors and Devices - Bulk Delivery	BCP		0%
1845-4	Underground Conductors and Devices - Primary	PNCP	CCP	35%

1845-5	Underground Conductors and Devices - Secondary	SNCP	CCS	35%
1850	Line Transformers	LTNCP	CCLT	30%
1855	Services		CWCS	100%
1860	Meters		CWMC	100%
1565	Conservation and Demand Management Expenditures and Recoveries		CDMPP	100%
	Accumulated Amortization			
2105	Accum. Amortization of Electric Utility Plant - Property, Plant, & Equipment	See I4 BO Assets		
	Operation			
5005	Operation Supervision and Engineering	1815-1855 D	1815-1855 C	35%
5010	Load Dispatching	1815-1855 D	1815-1855 C	35%
5012	Station Buildings and Fixtures Expense	1808 D		0%
5014	Transformer Station Equipment - Operation Labour	1815 D		0%
5015	Transformer Station Equipment - Operation Supplies and Expenses	1815 D		0%
5016	Distribution Station Equipment - Operation Labour	1820 D		0%
5017	Distribution Station Equipment - Operation Supplies and Expenses	1820 D		0%
5020	Overhead Distribution Lines and Feeders - Operation Labour	1830 & 1835 D	1830 & 1835 C	35%
5025	Overhead Distribution Lines & Feeders - Operation Supplies and Expenses	1830 & 1835 D	1830 & 1835 C	35%
5030	Overhead Subtransmission Feeders - Operation	1830 & 1835 D		0%
5035	Overhead Distribution Transformers- Operation	1850 D	1850 C	30%
5040	Underground Distribution Lines and Feeders - Operation Labour	1840 & 1845 D	1840 & 1845 C	35%
5045	Underground Distribution Lines & Feeders - Operation Supplies & Expenses	1840 & 1845 D	1840 & 1845 C	35%
5050	Underground Subtransmission Feeders - Operation	1840 & 1845 D		0%
5055	Underground Distribution Transformers - Operation	1850 D	1850 C	30%
5065	Meter Expense		CWMC	100%
5070	Customer Premises - Operation Labour		CCA	100%
5075	Customer Premises - Materials and Expenses		CCA	100%
5085	Miscellaneous Distribution Expense	1815-1855 D	1815-1855 C	35%
5090	Underground Distribution Lines and Feeders - Rental Paid	1840 & 1845 D	1840 & 1845 C	35%
5095	Overhead Distribution Lines and Feeders - Rental Paid	1830 & 1835 D	1830 & 1835 C	35%
	Maintenance			

5105	Maintenance Supervision and Engineering	1815-1855 D	1815-1855 C	35%
5110	Maintenance of Buildings and Fixtures - Distribution Stations	1808 D		0%
5112	Maintenance of Transformer Station Equipment	1815 D		0%
5114	Maintenance of Distribution Station Equipment	1820 D		0%
5120	Maintenance of Poles, Towers and Fixtures	1830 D	1830 C	35%
5125	Maintenance of Overhead Conductors and Devices	1835 D	1835 C	35%
5130	Maintenance of Overhead Services		1855 C	100%
5135	Overhead Distribution Lines and Feeders - Right of Way	1830 & 1835 D	1830 & 1835 C	35%
5145	Maintenance of Underground Conduit	1840 D	1840 C	35%
5150	Maintenance of Underground Conductors and Devices	1845 D	1845 C	35%
5155	Maintenance of Underground Services		1855 C	100%
5160	Maintenance of Line Transformers	1850 D	1850 C	30%
5175	Maintenance of Meters		1860 C	100%

	A	B	C	D	E	F	G	I	J	K	L	N
1	NO BIDDING COST ALLOCATION INFORMATION FILING											
2												
3	1.B. 5-0381											
4												
5	Sheet E2 Allocator Worksheet - Second Run											
7	<div style="border: 1px solid black; padding: 5px;"> Details: The worksheet below details how allocators are derived. </div>											
14				1	2	3	4	6	7	8	9	11
15	Explanation	ID and Factors	Total	Residential	GS <50	GS>50 kW < 1,499 kW	GS>1,500 kW < 4,999 kW	Large Use >5MW	Street Light	Sentinel	Unmetered Scattered Load	Back-up/Standby Power
17	Demand Allocators											
19	1 cp											
20	Transformation CP	TCP1	100.00%	32.86%	11.66%	39.73%	8.12%	6.37%	0.00%	0.00%	0.11%	1.15%
21	Bulk Delivery (SubTransmission) CP	BCP1	-	0	0	0	0	0	0	0	0	0
22	Distribution CP (Total System)	DCP1	100.00%	32.86%	11.66%	39.73%	8.12%	6.37%	0.00%	0.00%	0.11%	1.15%
24	4 cp											
25	Transformation CP	TCP4	100.00%	34.08%	10.82%	39.25%	8.11%	6.31%	0.17%	0.00%	0.12%	1.14%
26	Bulk Delivery (SubTransmission) CP	BCP4	-	0	0	0	0	0	0	0	0	0
27	Distribution CP (Total System)	DCP4	100.00%	34.08%	10.82%	39.25%	8.11%	6.31%	0.17%	0.00%	0.12%	1.14%
29	12 cp											
30	Transformation CP	TCP12	100.00%	33.46%	9.83%	39.48%	8.78%	6.78%	0.36%	0.00%	0.14%	1.17%
31	Bulk Delivery (SubTransmission) CP	BCP12	-	0	0	0	0	0	0	0	0	0
32	Distribution CP (Total System)	DCP12	100.00%	33.46%	9.83%	39.48%	8.78%	6.78%	0.36%	0.00%	0.14%	1.17%
34	NON CO_INCIDENT PEAK											
35	1 NCP											
36	Distribution NCP (Total System)	DNCP1	100.00%	33.70%	10.51%	37.20%	9.14%	7.21%	0.88%	0.00%	0.14%	1.23%
37	Primary NCP	PNCP1	100.00%	28.95%	10.75%	40.30%	9.92%	7.83%	0.85%	0.00%	0.07%	1.33%
38	Line Transformer NCP	LTNCP1	100.00%	34.26%	12.73%	41.48%	5.16%	4.35%	1.01%	0.00%	0.08%	0.93%

	A	B	C	D	E	F	G	I	J	K	L	N
39	Secondary NCP	SNCP1	100.00%	47.60%	17.68%	33.20%	0.00%	0.00%	1.40%	0.00%	0.11%	0.00%
40												
41	4 NCP											
42	Distribution NCP (Total System)	DNCP4	100.00%	34.04%	10.33%	37.34%	9.00%	7.07%	0.86%	0.00%	0.14%	1.21%
43	Primary NCP	PNCP4	100.00%	29.19%	10.57%	40.53%	9.79%	7.70%	0.84%	0.00%	0.07%	1.32%
44	Line Transformer NCP	LTNCP4	100.00%	34.22%	12.39%	42.13%	5.05%	4.24%	0.98%	0.00%	0.08%	0.91%
45	Secondary NCP	SNCP4	100.00%	47.87%	17.33%	33.31%	0.00%	0.00%	1.37%	0.00%	0.11%	0.00%
46												
47	12 NCP											
48	Distribution NCP (Total System)	DNCP12	100.00%	34.19%	9.98%	37.70%	9.11%	6.97%	0.76%	0.00%	0.14%	1.15%
49	Primary NCP	PNCP12	100.00%	28.84%	10.21%	41.26%	10.00%	7.65%	0.72%	0.00%	0.07%	1.26%
50	Line Transformer NCP	LTNCP12	100.00%	34.15%	12.09%	42.49%	5.21%	4.26%	0.85%	0.00%	0.08%	0.88%
51	Secondary NCP	SNCP12	100.00%	47.65%	16.88%	34.17%	0.00%	0.00%	1.18%	0.00%	0.11%	0.00%
52												
53	Demand Allocators - Composite											
54												
55	DEMAND 1815-1855	1815-1855 D	100.00%	32.39%	11.45%	39.97%	7.90%	6.24%	0.86%	0.00%	0.08%	1.10%
56	DEMAND 1808	1808 D	100.00%	33.46%	9.83%	39.48%	8.78%	6.78%	0.36%	0.00%	0.14%	1.17%
57	DEMAND 1815	1815 D	100.00%	33.46%	9.83%	39.48%	8.78%	6.78%	0.36%	0.00%	0.14%	1.17%
58	DEMAND 1820	1820 D	100.00%	29.19%	10.57%	40.53%	9.79%	7.70%	0.84%	0.00%	0.07%	1.32%
		1815 & 1820										
59	DEMAND 1815 & 1820	D	100.00%	31.36%	10.19%	40.00%	9.28%	7.23%	0.59%	0.00%	0.10%	1.24%
60	DEMAND 1830	1830 D	100.00%	34.80%	12.60%	38.36%	6.85%	5.39%	1.00%	0.00%	0.08%	0.92%
61	DEMAND 1835	1835 D	100.00%	29.19%	10.57%	40.53%	9.79%	7.70%	0.84%	0.00%	0.07%	1.32%
		1830 & 1835										
62	DEMAND 1830 & 1835	D	100.00%	32.79%	11.87%	39.14%	7.91%	6.21%	0.94%	0.00%	0.08%	1.06%
63	DEMAND 1840	1840 D	100.00%	34.61%	12.53%	38.44%	6.95%	5.46%	0.99%	0.00%	0.08%	0.94%
64	DEMAND 1845	1845 D	100.00%	29.19%	10.57%	40.53%	9.79%	7.70%	0.84%	0.00%	0.07%	1.32%
		1840 & 1845										
65	DEMAND 1840 & 1845	D	100.00%	31.98%	11.58%	39.45%	8.33%	6.55%	0.92%	0.00%	0.07%	1.12%
66	DEMAND 1850	1850 D	100.00%	34.22%	12.39%	42.13%	5.05%	4.24%	0.98%	0.00%	0.08%	0.91%
67	DEMAND 1855	1855 D	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
68	DEMAND 1860	1860 D	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
69												
70	CUSTOMER ALLOCATORS											
71												
72	Billing Data											
73	kWh	CEN	100.00%	29.55%	10.03%	39.78%	10.43%	8.55%	0.52%	0.00%	0.23%	0.91%
74	kW	CDEM	100.00%	0.00%	0.00%	69.83%	15.67%	11.10%	1.10%	0.00%	0.00%	2.29%
75	kWh - Excl WMP	CEN EWMP	100.00%	29.55%	10.03%	39.78%	10.43%	8.55%	0.52%	0.00%	0.23%	0.91%
76												
77	Dollar Billed (per 2006 EDR)	CREV	100.00%	54.54%	12.72%	22.32%	5.45%	3.70%	0.50%	0.00%	0.33%	0.44%
78	Bad Debt 3 Year Historical Average	BDHA	100.00%	67.70%	21.10%	7.50%	3.70%	0.00%	0.00%	0.00%	0.00%	0.00%

	A	B	C	D	E	F	G	I	J	K	L	N
79	Late Payment 3 Year Historical Average	LPHA	100.00%	56.10%	15.40%	22.90%	4.40%	1.20%	0.00%	0.00%	0.00%	0.00%
80												
81	Number of Bills	CNB	100.00%	90.09%	7.69%	2.13%	0.04%	0.01%	0.01%	0.03%	0.01%	0.00%
82	Number of Connections (Unmetered)	CCON	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	55.38%	1.25%	43.37%	0.00%
83												
85												
86	Total Number of Customer	CCA	100.00%	89.18%	7.61%	1.05%	0.02%	0.00%	1.18%	0.03%	0.92%	0.00%
87	Subtransmission Customer Base	CCB	-	0	0	0	0	0	0	0	0	0
88	Primary Feeder Customer Base	CCP	100.00%	89.18%	7.61%	1.05%	0.02%	0.00%	1.18%	0.03%	0.92%	0.00%
89	Line Transformer Customer Base	CCLT	100.00%	89.21%	7.61%	1.05%	0.00%	0.00%	1.18%	0.03%	0.92%	0.00%
90	Secondary Feeder Customer Base	CCS	100.00%	90.16%	7.69%	0.00%	0.00%	0.00%	1.19%	0.03%	0.93%	0.00%
91												
92	Weighted - Services	CWCS	100.00%	83.72%	14.29%	0.00%	0.00%	0.00%	1.10%	0.02%	0.87%	0.00%
93	Weighted Meter -Capital	CWMC	100.00%	73.50%	13.59%	11.29%	1.31%	0.24%	0.00%	0.00%	0.00%	0.06%
94	Weighted Meter Reading	CWMR	100.00%	76.72%	10.96%	10.85%	1.18%	0.23%	0.00%	0.00%	0.00%	0.07%
95	Weighted Bills	CWNB	100.00%	74.55%	12.72%	12.34%	0.24%	0.10%	0.01%	0.00%	0.03%	0.02%
96												
97	CUSTOMER ALLOCATORS - Composite											
98												
99	CUSTOMER 1815-1855	1815-1855 C	100.00%	87.55%	9.72%	0.63%	0.01%	0.00%	1.16%	0.03%	0.90%	0.00%
100	CUSTOMER 1808	1808 C	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
101	CUSTOMER 1815	1815 C	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
102	CUSTOMER 1820	1820 C	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
		1815 & 1820										
103	CUSTOMER 1815 & 1820	C	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
104	CUSTOMER 1830	1830 C	100.00%	89.48%	7.63%	0.74%	0.01%	0.00%	1.18%	0.03%	0.92%	0.00%
105	CUSTOMER 1835	1835 C	100.00%	89.18%	7.61%	1.05%	0.02%	0.00%	1.18%	0.03%	0.92%	0.00%
		1830 & 1835										
106	CUSTOMER 1830 & 1835	C	100.00%	89.37%	7.63%	0.85%	0.02%	0.00%	1.18%	0.03%	0.92%	0.00%
107	CUSTOMER 1840	1840 C	100.00%	89.47%	7.63%	0.75%	0.01%	0.00%	1.18%	0.03%	0.92%	0.00%
108	CUSTOMER 1845	1845 C	100.00%	89.18%	7.61%	1.05%	0.02%	0.00%	1.18%	0.03%	0.92%	0.00%
		1840 & 1845										
109	CUSTOMER 1840 & 1845	C	100.00%	89.33%	7.62%	0.90%	0.02%	0.00%	1.18%	0.03%	0.92%	0.00%
110	CUSTOMER 1850	1850 C	100.00%	89.21%	7.61%	1.05%	0.00%	0.00%	1.18%	0.03%	0.92%	0.00%
111	CUSTOMER 1855	1855 C	100.00%	83.72%	14.29%	0.00%	0.00%	0.00%	1.10%	0.02%	0.87%	0.00%
112	CUSTOMER 1860	1860 C	100.00%	73.50%	13.59%	11.29%	1.31%	0.24%	0.00%	0.00%	0.00%	0.06%
113												
114	Composite Allocators											
115	Net Fixed Assets	NFA	100.00%	52.47%	11.05%	25.62%	5.14%	3.94%	0.77%	0.01%	0.30%	0.69%
	Net Fixed Assets Excluding Capital											
116	Contribution	NFA ECC	100.00%	54.23%	11.10%	24.32%	4.80%	3.70%	0.84%	0.01%	0.35%	0.65%

	A	B	C	D	E	F	H	I	J	K	M
1	2012 COST ALLOCATION INFORMATION FILING										
2	Hydro Ottawa Limited										
3	El. No. 15-0381										
4											
5	Sheet E3 Demand Allocator Worksheet - Second Run										
7											
8	Instructions:										
9	Input sheet for Demand Allocators.										
10											
11											
12											
13	PLCC WATTS										
14	400										
15											
16			1	2	3	4	6	7	8	9	11
17	Customer Classes	Total	Residential	GS <50	GS>50 kW < 1,499 kW	GS>1,500 kW < 4,999 kW	Large Use >5MW	Street Light	Sentinel	Unmetered Scattered Load	Back-up/Standby Power
18											
19	CCA	309,514	276,039	23,554	3,263	64	12	3,643	82	2,853	4
20	CCB	-	0	0	0	0	0	0	0	0	0
21	CCP	309,514	276,039	23,554	3,263	64	12	3,643	82	2,853	4
22	CCLT	309,434	276,039	23,554	3,263	0	0	3,643	82	2,853	0
23	CCS	306,171	276,039	23,554	0	0	0	3,643	82	2,853	0
24											
25	PLCC-CCA	123,806	110,416	9,422	1,305	26	5	1,457	33	1,141	2
26	PLCC-CCB	-	0	0	0	0	0	0	0	0	0
27	PLCC-CCP	123,806	110,416	9,422	1,305	26	5	1,457	33	1,141	2
28	PLCC-CCLT	123,774	110,416	9,422	1,305	0	0	1,457	33	1,141	0
29	PLCC-CCS	122,468	110,416	9,422	0	0	0	1,457	33	1,141	0
30											
31											
32	1NCP										
33	DNCP1	1,569,572	528,921	164,903	583,923	143,392	113,198	13,805	26	2,126	19,279
34	PNCP1	1,569,572	528,921	164,903	583,923	143,392	113,198	13,805	26	2,126	19,279
35	LTNCP1	1,345,464	528,921	164,903	508,013	63,092	53,203	13,805	26	2,126	11,374
36	SNCP1	1,001,742	528,921	164,903	291,962	0	0	13,805	26	2,126	0
37											
38	PLCC - 1NCP										
39	DNCP1A	1,569,572	528,921	164,903	583,923	143,392	113,198	13,805	26	2,126	19,279
40	PNCP1A	1,445,773	418,505	155,481	582,618	143,366	113,193	12,348	0	985	19,277
41	LTNCP1A	1,221,697	418,505	155,481	506,708	63,092	53,203	12,348	0	985	11,374
42	SNCP1A	879,281	418,505	155,481	291,962	0	0	12,348	0	985	0
43											
44	4 NCP										
45											
46	DNCP4	6,128,744	2,086,119	633,134	2,288,503	551,769	433,573	52,934	100	8,357	74,255
47	PNCP4	6,128,744	2,086,119	633,134	2,288,503	551,769	433,573	52,934	100	8,357	74,255
48	LTNCP4	5,300,914	2,086,119	633,134	2,029,902	242,779	203,779	52,934	100	8,357	43,811
49	SNCP4	3,924,895	2,086,119	633,134	1,144,251	0	0	52,934	100	8,357	0
50											
51	PLCC - 4NCP										
52	DNCP4A	6,128,744	2,086,119	633,134	2,288,503	551,769	433,573	52,934	100	8,357	74,255
53	PNCP4A	5,633,553	1,644,457	595,447	2,283,282	551,667	433,554	47,105	0	3,792	74,249
54	LTNCP4A	4,805,851	1,644,457	595,447	2,024,681	242,779	203,779	47,105	0	3,792	43,811
55	SNCP4A	3,435,052	1,644,457	595,447	1,144,251	0	0	47,105	0	3,792	0
56											
57	12NCP										
58											
59	DNCP12	16,765,155	5,731,408	1,673,763	6,320,094	1,528,060	1,168,365	126,777	237	23,904	192,549
60	PNCP12	16,765,155	5,731,408	1,673,763	6,320,094	1,528,060	1,168,365	126,777	237	23,904	192,549
61	LTNCP12	14,389,651	5,731,408	1,673,763	5,498,481	672,346	549,131	126,777	237	23,904	113,604
62	SNCP12	10,716,135	5,731,408	1,673,763	3,160,047	0	0	126,777	237	23,904	0
63											
64	PLCC - 12NCP										
65	DNCP12A	16,765,155	5,731,408	1,673,763	6,320,094	1,528,060	1,168,365	126,777	237	23,904	192,549
66	PNCP12A	15,279,645	4,406,421	1,560,704	6,304,431	1,527,753	1,168,307	109,290	0	10,209	192,530
67	LTNCP12A	12,904,525	4,406,421	1,560,704	5,482,819	672,346	549,131	109,290	0	10,209	113,604
68	SNCP12A	9,246,671	4,406,421	1,560,704	3,160,047	0	0	109,290	0	10,209	0



2011 COST ALLOCATION INFORMATION FILING
Hydro Ottawa Limited
EB-2005-0381

Sheet E4 Trial Balance Allocation Detail Worksheet - Second Run

Details:
 The worksheet below details how costs are treated, categorized, and grouped.

This sheet shows what accounts are included in the COSS, and how they are grouped into working capital and rate base. It shows how accounts are categorized in the customer and demand related costs. It will then show how the categorized costs are allocated to customer and demand related components. It will also show how Miscellaneous Revenue and General Plant and Administration costs are allocated. Finally, it will show how costs are being grouped together for presentation purposes.

Uniform System of Accounts - Detail Accounts:	USoA Account #	Accounts	Explanations	Grouping for Sheet O1 Revenue to Cost	Demand Grouping Indicator	Classification and Allocation			Allocation Demand Related	Allocation Customer Related	Allocation A&G Related	Allocation Misc Related	cp	ncp	non-demand	FINAL
						Demand	Customer	Joint								
	1565	Conservation and Demand Management Expenditures and Recoveries	CDM Expenditures and Recoveries	dp						O&M						
	1608	Franchises and Consents	Other Distribution Assets	gp							NFA ECC					
	1805	Land		dp	DDCP											
	1805-1	Land Station >50 kV		dp	TCP	TCP12			TCP12				TCP12			TCP12
	1805-2	Land Station <50 kV		dp	DCP	DCP12			DCP12				DCP12			DCP12
	1806	Land Rights		dp	DDCP											
	1806-1	Land Rights Station >50 kV		dp	TCP	TCP12			TCP12				TCP12			TCP12
	1806-2	Land Rights Station <50 kV		dp	DCP	DCP12			DCP12				DCP12			DCP12
	1808	Buildings and Fixtures		dp	DDCP											
	1808-1	Buildings and Fixtures > 50 kV		dp	TCP	TCP12			TCP12				TCP12			TCP12
	1808-2	Buildings and Fixtures < 50 KV		dp	DCP	DCP12			DCP12				DCP12			DCP12
	1810	Leasehold Improvements		dp	DDCP											
	1810-1	Leasehold Improvements >50 kV		dp	TCP	TCP12			TCP12				TCP12			TCP12
	1810-2	Leasehold Improvements <50 kV		dp	DCP	DCP12			DCP12				DCP12			DCP12
	1815	Transformer Station Equipment - Normally Primary above 50 kV		dp	TCP	TCP12			TCP12				TCP12			TCP12
	1820	Distribution Station Equipment - Normally Primary below 50 kV		dp	DCP	DCP12			DCP12				DCP12			DCP12
	1820-1	Distribution Station Equipment - Normally Primary below 50 kV (Bulk)		dp	DCP	DCP12			DCP12				DCP12			DCP12
	1820-2	Distribution Station Equipment - Normally Primary below 50 kV (Primary)		dp	PNCP	PNCP4			PNCP4				PNCP4			PNCP4
	1820-3	Distribution Station Equipment - Normally Primary below 50 kV (Wholesale Meters)		dp					CEN				CEN			

Uniform System of Accounts - Detail Accounts:	USoA Account #	Accounts	Explanations	Grouping for Sheet O1 Revenue to Cost	Demand Grouping Indicator	Classification and Allocation			Allocation Demand Related Demand ID	Allocation Customer Related Customer ID	Allocation A&G Related A & G ID	Allocation Misc Related Misc ID	cp	ncp	non-demand	FINAL
						Demand	Customer	Joint								
4305	Regulatory Debits	Other Income & Deductions	mi								NFA					
4310	Regulatory Credits	Other Income & Deductions	mi								NFA					
4315	Revenues from Electric Plant Leased to Others	Other Income & Deductions	mi								NFA					
4320	Expenses of Electric Plant Leased to Others	Other Income & Deductions	mi								NFA					
4325	Revenues from Merchandise, Jobbing, Etc.	Other Income & Deductions	mi								NFA					
4330	Costs and Expenses of Merchandising, Jobbing, Etc.	Other Income & Deductions	mi								NFA					
4335	Profits and Losses from Financial Instrument Hedges	Other Income & Deductions	mi								NFA					
4340	Profits and Losses from Financial Instrument Investments	Other Income & Deductions	mi								NFA					
4345	Gains from Disposition of Future Use Utility Plant	Other Income & Deductions	mi								NFA					
4350	Losses from Disposition of Future Use Utility Plant	Other Income & Deductions	mi								NFA					
4355	Gain on Disposition of Utility and Other Property	Other Income & Deductions	mi								NFA					
4360	Loss on Disposition of Utility and Other Property	Other Income & Deductions	mi								NFA					
4365	Gains from Disposition of Allowances for Emission	Other Income & Deductions	mi								NFA					
4370	Losses from Disposition of Allowances for Emission	Other Income & Deductions	mi								NFA					
4390	Miscellaneous Non-Operating Income	Other Income & Deductions	mi								NFA					
4395	Rate-Payer Benefit Including Interest	Other Income & Deductions	mi								NFA					
4398	Foreign Exchange Gains and Losses, Including Amortization	Other Income & Deductions	mi								NFA					
4405	Interest and Dividend Income	Other Income & Deductions	mi								NFA					
4415	Equity in Earnings of Subsidiary Companies	Other Income & Deductions	mi								NFA					
4705	Power Purchased	Power Supply Expenses (Working Capital)	cop								CEN EWMP					
4708	Charges-WMS	Power Supply Expenses (Working Capital)	cop								CEN EWMP					
4710	Cost of Power Adjustments	Power Supply Expenses (Working Capital)	cop								CEN EWMP					
4712	Charges-One-Time	Power Supply Expenses (Working Capital)	cop								CEN EWMP					
4714	Charges-NW	Power Supply Expenses (Working Capital)	cop								CEN					

Uniform System of Accounts - Detail Accounts:	USoA Account #	Accounts	Explanations	Grouping for Sheet O1 Revenue to Cost	Demand Grouping Indicator	Classification and Allocation			Demand ID	Customer ID	Allocation Demand Related	Allocation Customer Related	Allocation A&G Related	Allocation Misc Related	cp	ncp	non-demand	FINAL
						Demand	Customer	Joint										
	4715	System Control and Load Dispatching	Other Power Supply Expenses	cop								CEN EWMP						
	4716	Charges-CN	Power Supply Expenses (Working Capital)	cop								CEN						
	4730	Rural Rate Assistance Expense	Power Supply Expenses (Working Capital)	cop								CEN EWMP						
	5005	Operation Supervision and Engineering	Operation (Working Capital)	di	1815-1855 D	1815-1855 C	1815-1855 C	x	1815-1855 D	1815-1855 C						1815-1855 D	1815-1855 D	
	5010	Load Dispatching	Operation (Working Capital)	di	1815-1855 D	1815-1855 C	1815-1855 C	x	1815-1855 D	1815-1855 C						1815-1855 D	1815-1855 D	
	5012	Station Buildings and Fixtures Expense	Operation (Working Capital)	di	1808 D	1808 D	1808 C		1808 D	1808 C						1808 D	1808 D	
	5014	Transformer Station Equipment - Operation Labour	Operation (Working Capital)	di	1815 D	1815 D	1815 C		1815 D	1815 C						1815 D	1815 D	
	5015	Transformer Station Equipment - Operation Supplies and Expenses	Operation (Working Capital)	di	1815 D	1815 D	1815 C		1815 D	1815 C						1815 D	1815 D	
	5016	Distribution Station Equipment - Operation Labour	Operation (Working Capital)	di	1820 D	1820 D	1820 C		1820 D	1820 C						1820 D	1820 D	
	5017	Distribution Station Equipment - Operation Supplies and Expenses	Operation (Working Capital)	di	1820 D	1820 D	1820 C		1820 D	1820 C						1820 D	1820 D	
	5020	Overhead Distribution Lines and Feeders - Operation Labour	Operation (Working Capital)	di	830 & 1835 D	830 & 1835 C	830 & 1835 C	x	830 & 1835 D	830 & 1835 C						830 & 1835 D	830 & 1835 D	
	5025	Overhead Distribution Lines & Feeders - Operation Supplies and Expenses	Operation (Working Capital)	di	830 & 1835 D	830 & 1835 C	830 & 1835 C	x	830 & 1835 D	830 & 1835 C						830 & 1835 D	830 & 1835 D	
	5030	Overhead Subtransmission Feeders - Operation	Operation (Working Capital)	di	830 & 1835 D	830 & 1835 C	830 & 1835 C		830 & 1835 D	830 & 1835 C						830 & 1835 D	830 & 1835 D	
	5035	Overhead Distribution Transformers - Operation	Operation (Working Capital)	di	1850 D	1850 D	1850 C	x	1850 D	1850 C						1850 D	1850 D	
	5040	Underground Distribution Lines and Feeders - Operation Labour	Operation (Working Capital)	di	840 & 1845 D	840 & 1845 C	840 & 1845 C	x	840 & 1845 D	840 & 1845 C						840 & 1845 D	840 & 1845 D	
	5045	Underground Distribution Lines & Feeders - Operation Supplies & Expenses	Operation (Working Capital)	di	840 & 1845 D	840 & 1845 C	840 & 1845 C	x	840 & 1845 D	840 & 1845 C						840 & 1845 D	840 & 1845 D	
	5050	Underground Subtransmission Feeders - Operation	Operation (Working Capital)	di	840 & 1845 D	840 & 1845 C	840 & 1845 C		840 & 1845 D	840 & 1845 C						840 & 1845 D	840 & 1845 D	
	5055	Underground Distribution Transformers - Operation	Operation (Working Capital)	di	1850 D	1850 D	1850 C	x	1850 D	1850 C						1850 D	1850 D	
	5065	Meter Expense	Operation (Working Capital)	cu			CWMC			CWMC								
	5070	Customer Premises - Operation Labour	Operation (Working Capital)	cu			CCA			CCA								
	5075	Customer Premises - Materials and Expenses	Operation (Working Capital)	cu			CCA			CCA								
	5085	Miscellaneous Distribution Expense	Operation (Working Capital)	di	1815-1855 D	1815-1855 C	1815-1855 C	x	1815-1855 D	1815-1855 C						1815-1855 D	1815-1855 D	

Uniform System of Accounts - Detail Accounts:	Accounts	Explanations	Grouping for Sheet O1 Revenue to Cost	Demand Grouping Indicator	Classification and Allocation			Allocation Demand Related	Allocation Customer Related	Allocation A&G Related	Allocation Misc Related					
					Demand	Customer	Joint	Demand ID	Customer ID	A & G ID	Misc ID	cp	ncp	non-demand	FINAL	
5090	Underground Distribution Lines and Feeders - Rental Paid	Operation (Working Capital)	di	840 & 1845	840 & 1845	840 & 1845 C	x	840 & 1845	840 & 1845 C				1840 & 1845 D	1840 & 1845 D		
5095	Overhead Distribution Lines and Feeders - Rental Paid	Operation (Working Capital)	di	830 & 1835	830 & 1835	830 & 1835 C	x	830 & 1835	830 & 1835 C				1830 & 1835 D	1830 & 1835 D		
5096	Other Rent	Operation (Working Capital)	di							O&M						
5105	Maintenance Supervision and Engineering	Maintenance (Working Capital)	di	1815-1855 D	1815-1855 D	1815-1855 C	x	1815-1855 D	1815-1855 C				1815-1855 D	1815-1855 D		
5110	Maintenance of Buildings and Fixtures - Distribution Stations	Maintenance (Working Capital)	di	1808 D	1808 D	1808 C		1808 D	1808 C				1808 D	1808 D		
5112	Maintenance of Transformer Station Equipment	Maintenance (Working Capital)	di	1815 D	1815 D	1815 C		1815 D	1815 C				1815 D	1815 D		
5114	Maintenance of Distribution Station Equipment	Maintenance (Working Capital)	di	1820 D	1820 D	1820 C		1820 D	1820 C				1820 D	1820 D		
5120	Maintenance of Poles, Towers and Fixtures	Maintenance (Working Capital)	di	1830 D	1830 D	1830 C	x	1830 D	1830 C				1830 D	1830 D		
5125	Maintenance of Overhead Conductors and Devices	Maintenance (Working Capital)	di	1835 D	1835 D	1835 C	x	1835 D	1835 C				1835 D	1835 D		
5130	Maintenance of Overhead Services	Maintenance (Working Capital)	di	1855 D	1855 D	1855 C		1855 D	1855 C				1855 D	1855 D		
5135	Overhead Distribution Lines and Feeders - Right of Way	Maintenance (Working Capital)	di	830 & 1835	830 & 1835	830 & 1835 C	x	830 & 1835	830 & 1835 C				1830 & 1835 D	1830 & 1835 D		
5145	Maintenance of Underground Conduit	Maintenance (Working Capital)	di	1840 D	1840 D	1840 C	x	1840 D	1840 C				1840 D	1840 D		
5150	Maintenance of Underground Conductors and Devices	Maintenance (Working Capital)	di	1845 D	1845 D	1845 C	x	1845 D	1845 C				1845 D	1845 D		
5155	Maintenance of Underground Services	Maintenance (Working Capital)	di	1855 D	1855 D	1855 C		1855 D	1855 C				1855 D	1855 D		
5160	Maintenance of Line Transformers	Maintenance (Working Capital)	di	1850 D	1850 D	1850 C	x	1850 D	1850 C				1850 D	1850 D		
5175	Maintenance of Meters	Maintenance (Working Capital)	cu	1860 D	1860 D	1860 C		1860 D	1860 C				1860 D	1860 D		
5305	Supervision	Billing and Collection (Working Capital)	cu			CWNB			CWNB							
5310	Meter Reading Expense	Billing and Collection (Working Capital)	cu			CWNR			CWNR							
5315	Customer Billing	Billing and Collection (Working Capital)	cu			CWNB			CWNB							
5320	Collecting	Billing and Collection (Working Capital)	cu			CWNB			CWNB							
5325	Collecting- Cash Over and Short	Billing and Collection (Working Capital)	cu			CWNB			CWNB							
5330	Collection Charges	Billing and Collection (Working Capital)	cu			CWNB			CWNB							
5335	Bad Debt Expense	Bad Debt Expense (Working Capital)	cu			BDHA			BDHA							



2011 COST ALLOCATION INFORMATION FILING
Hydro Ottawa Limited
EB-2005-0381

Sheet E5 Reconciliation Worksheet - Second Run

Details:

The worksheet below shows reconciliation of costs included and excluded in the Trial Balance.

USoA Account #	Accounts	Financial Statement	Financial Statement - Asset Break Out includes Acc Dep and Contributed Capital	Adjusted TB	Excluded from COSS	Excluded	Included	Balance in O5	Difference	Balance in O4 Summary	Difference
1565	Conservation and Demand Management Expenditures and Recoveries	\$0		\$0		\$0	\$0	\$0	\$0	\$0	\$0
1608	Franchises and Consents	\$0		\$0		\$0	\$0	\$0	\$0	\$0	\$0
1805	Land		\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0
1805-1	Land Station >50 kV		\$218,633	\$218,633		\$0	\$218,633	\$218,633	\$0	\$218,633	\$0
1805-2	Land Station <50 kV		\$3,550,902	\$3,550,902		\$0	\$3,550,902	\$3,550,902	\$0	\$3,550,902	\$0
1806	Land Rights		\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0
1806-1	Land Rights Station >50 kV		\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0
1806-2	Land Rights Station <50 kV		\$2,707,541	\$2,707,541		\$0	\$2,707,541	\$2,707,541	\$0	\$2,707,541	\$0
1808	Buildings and Fixtures		\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0
1808-1	Buildings and Fixtures > 50 kV		\$2,785,710	\$2,785,710		\$0	\$2,785,710	\$2,785,710	\$0	\$2,785,710	\$0
1808-2	Buildings and Fixtures < 50 kV		\$17,112,217	\$17,112,217		\$0	\$17,112,217	\$17,112,217	\$0	\$17,112,217	\$0
1810	Leasehold Improvements		\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0
1810-1	Leasehold Improvements >50 kV		\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0
1810-2	Leasehold Improvements <50 kV		\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0
1815	Transformer Station Equipment - Normally Primary above 50 kV		\$70,599,483	\$70,599,483		\$0	\$70,599,483	\$70,599,483	\$0	\$70,599,483	\$0
1820	Distribution Station Equipment - Normally Primary below 50 kV		\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0
1820-1	Distribution Station Equipment - Normally Primary below 50 kV (Bulk)		\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0
1820-2	Distribution Station Equipment - Normally Primary below 50 kV (Primary)		\$68,366,890	\$68,366,890		\$0	\$68,366,890	\$68,366,890	\$0	\$68,366,890	\$0
1820-3	Distribution Station Equipment - Normally Primary below 50 kV (Wholesale Meters)		\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0
1825	Storage Battery Equipment		\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0
1825-1	Storage Battery Equipment > 50 kV		\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0
1825-2	Storage Battery Equipment <50 kV		\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0
1830	Poles, Towers and Fixtures		\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0
1830-3	Poles, Towers and Fixtures - Subtransmission Bulk Delivery		\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0
1830-4	Poles, Towers and Fixtures - Primary		\$88,028,510	\$88,028,510		\$0	\$88,028,510	\$88,028,510	\$0	\$88,028,510	\$0
1830-5	Poles, Towers and Fixtures - Secondary		\$37,726,504	\$37,726,504		\$0	\$37,726,504	\$37,726,504	\$0	\$37,726,504	\$0
1835	Overhead Conductors and Devices		\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0
1835-3	Overhead Conductors and Devices - Subtransmission Bulk Delivery		\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0
1835-4	Overhead Conductors and Devices - Primary		\$70,099,302	\$70,099,302		\$0	\$70,099,302	\$70,099,302	\$0	\$70,099,302	\$0
1835-5	Overhead Conductors and Devices - Secondary		\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0
1840	Underground Conduit		\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0
1840-3	Underground Conduit - Bulk Delivery		\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0
1840-4	Underground Conduit - Primary		\$124,952,212	\$124,952,212		\$0	\$124,952,212	\$124,952,212	\$0	\$124,952,212	\$0
1840-5	Underground Conduit - Secondary		\$51,036,819	\$51,036,819		\$0	\$51,036,819	\$51,036,819	\$0	\$51,036,819	\$0
1845	Underground Conductors and Devices		\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0

5095	Overhead Distribution Lines and Feeders - Rental Paid	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5096	Other Rent	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5105	Maintenance Supervision and Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5110	Maintenance of Buildings and Fixtures - Distribution Stations	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5112	Maintenance of Transformer Station Equipment	\$344,063	\$344,063	\$0	\$344,063	\$344,063	\$0	\$344,063	\$0
5114	Maintenance of Distribution Station Equipment	\$1,287,135	\$1,287,135	\$0	\$1,287,135	\$1,287,135	\$0	\$1,287,135	\$0
5120	Maintenance of Poles, Towers and Fixtures	\$348,779	\$348,779	\$0	\$348,779	\$348,779	\$0	\$348,779	\$0
5125	Maintenance of Overhead Conductors and Devices	\$754,245	\$754,245	\$0	\$754,245	\$754,245	\$0	\$754,245	\$0
5130	Maintenance of Overhead Services	\$801,575	\$801,575	\$0	\$801,575	\$801,575	\$0	\$801,575	\$0
5135	Overhead Distribution Lines and Feeders - Right of Way	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5145	Maintenance of Underground Conduit	\$171,830	\$171,830	\$0	\$171,830	\$171,830	\$0	\$171,830	\$0
5150	Maintenance of Underground Conductors and Devices	\$732,898	\$732,898	\$0	\$732,898	\$732,898	\$0	\$732,898	\$0
5155	Maintenance of Underground Services	\$449,782	\$449,782	\$0	\$449,782	\$449,782	\$0	\$449,782	\$0
5160	Maintenance of Line Transformers	\$506,000	\$506,000	\$0	\$506,000	\$506,000	\$0	\$506,000	\$0
5175	Maintenance of Meters	\$689,734	\$689,734	\$0	\$689,734	\$689,734	\$0	\$689,734	\$0
5305	Supervision	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5310	Meter Reading Expense	\$291,212	\$291,212	\$0	\$291,212	\$291,212	\$0	\$291,212	\$0
5315	Customer Billing	\$7,073,022	\$7,073,022	\$0	\$7,073,022	\$7,073,022	\$0	\$7,073,022	\$0
5320	Collecting	\$1,943,436	\$1,943,436	\$0	\$1,943,436	\$1,943,436	\$0	\$1,943,436	\$0
5325	Collecting- Cash Over and Short	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5330	Collection Charges	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5335	Bad Debt Expense	\$1,533,060	\$1,533,060	\$0	\$1,533,060	\$1,533,060	\$0	\$1,533,060	\$0
5340	Miscellaneous Customer Accounts Expenses	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5405	Supervision	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5410	Community Relations - Sundry	\$5,905,497	\$5,905,497	\$0	\$5,905,497	\$5,905,497	\$0	\$5,905,497	\$0
5415	Energy Conservation	\$501,641	\$501,641	\$0	\$501,641	\$501,641	\$0	\$501,641	\$0
5420	Community Safety Program	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5425	Miscellaneous Customer Service and Informational Expenses	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5505	Supervision	\$199,923	\$199,923	\$0	\$199,923	\$199,923	\$0	\$199,923	\$0
5510	Demonstrating and Selling Expense	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5515	Advertising Expense	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5520	Miscellaneous Sales Expense	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5605	Executive Salaries and Expenses	\$2,230,022	\$2,230,022	\$0	\$2,230,022	\$2,230,022	\$0	\$2,230,022	\$0
5610	Management Salaries and Expenses	\$5,804,604	\$5,804,604	\$0	\$5,804,604	\$5,804,604	\$0	\$5,804,604	\$0
5615	General Administrative Salaries and Expenses	\$2,679,969	\$2,679,969	\$0	\$2,679,969	\$2,679,969	\$0	\$2,679,969	\$0
5620	Office Supplies and Expenses	\$4,061,460	\$4,061,460	\$0	\$4,061,460	\$4,061,460	\$0	\$4,061,460	\$0
5625	Administrative Expense Transferred Credit	(\$1,931,338)	(\$1,931,338)	\$0	(\$1,931,338)	(\$1,931,338)	\$0	(\$1,931,338)	\$0
5630	Outside Services Employed	\$569,018	\$569,018	\$0	\$569,018	\$569,018	\$0	\$569,018	\$0
5635	Property Insurance	\$780,070	\$780,070	\$0	\$780,070	\$780,070	\$0	\$780,070	\$0
5640	Injuries and Damages	\$626,883	\$626,883	\$0	\$626,883	\$626,883	\$0	\$626,883	\$0
5645	Employee Pensions and Benefits	\$728,000	\$728,000	\$0	\$728,000	\$728,000	\$0	\$728,000	\$0
5650	Franchise Requirements	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5655	Regulatory Expenses	\$1,419,756	\$1,419,756	\$0	\$1,419,756	\$1,419,756	\$0	\$1,419,756	\$0
5660	General Advertising Expenses	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5665	Miscellaneous General Expenses	\$2,517,516	\$2,517,516	\$0	\$2,517,516	\$2,517,516	\$0	\$2,517,516	\$0
5670	Rent	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5675	Maintenance of General Plant	\$4,625,549	\$4,625,549	\$0	\$4,625,549	\$4,625,549	\$0	\$4,625,549	\$0
5680	Electrical Safety Authority Fees	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5685	Independent Market Operator Fees and Penalties	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5705	Amortization Expense - Property, Plant, and Equipment	\$47,449,596	\$47,449,596	\$0	\$47,449,596	\$47,449,596	\$0	\$47,449,596	\$1

5710	Amortization of Limited Term Electric Plant	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5715	Amortization of Intangibles and Other Electric Plant	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5720	Amortization of Electric Plant Acquisition Adjustments	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5730	Amortization of Unrecovered Plant and Regulatory Study Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5735	Amortization of Deferred Development Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5740	Amortization of Deferred Charges	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6005	Interest on Long Term Debt	\$19,473,884	\$19,473,884	\$0	\$19,473,884	\$19,473,884	\$0	\$19,473,884	\$0	\$0
6105	Taxes Other Than Income Taxes	\$1,800,217	\$1,800,217	\$0	\$1,800,217	\$1,800,217	\$0	\$1,800,217	\$0	\$0
6110	Income Taxes	\$9,555,063	\$9,555,063	\$0	\$9,555,063	\$9,555,063	\$0	\$9,555,063	\$0	\$0
6205	Donations	\$51,510	\$51,510	\$0	\$51,510	\$51,510	\$0	\$51,510	\$0	\$0
6210	Life Insurance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6215	Penalties	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6225	Other Deductions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total		(\$144,068,630)	\$1,246,427,377	\$1,102,358,747	\$0	\$1,102,358,747	\$1,102,358,747	\$0	\$1,102,358,746	\$1
	Control				\$1,102,358,747					

Grouping by Allocator

	Adjusted TB	Excluded from COSS	Excluded	Included	Balance in O5	Difference	Balance in O4 Summary	Difference
1808	\$ 690,955	\$ -	\$ -	\$ 690,955	\$ 690,955	\$ -	\$ 690,955	\$ -
1815	\$ 468,045	\$ -	\$ -	\$ 468,045	\$ 468,045	\$ -	\$ 468,045	\$ -
1820	\$ 1,805,031	\$ -	\$ -	\$ 1,805,031	\$ 1,805,031	\$ -	\$ 1,805,031	\$ -
1830	\$ 348,779	\$ -	\$ -	\$ 348,779	\$ 348,779	\$ -	\$ 348,779	\$ -
1835	\$ 754,245	\$ -	\$ -	\$ 754,245	\$ 754,245	\$ -	\$ 754,245	\$ -
1840	\$ 171,830	\$ -	\$ -	\$ 171,830	\$ 171,830	\$ -	\$ 171,830	\$ -
1845	\$ 732,898	\$ -	\$ -	\$ 732,898	\$ 732,898	\$ -	\$ 732,898	\$ -
1850	\$ 527,340	\$ -	\$ -	\$ 527,340	\$ 527,340	\$ -	\$ 527,340	\$ -
1855	\$ 1,251,356	\$ -	\$ -	\$ 1,251,356	\$ 1,251,356	\$ -	\$ 1,251,356	\$ -
1860	\$ 689,734	\$ -	\$ -	\$ 689,734	\$ 689,734	\$ -	\$ 689,734	\$ -
1815-1855	\$ 4,774,490	\$ -	\$ -	\$ 4,774,490	\$ 4,774,490	\$ -	\$ 4,774,490	\$ -
1830 & 1835	\$ 3,260,109	\$ -	\$ -	\$ 3,260,109	\$ 3,260,109	\$ -	\$ 3,260,109	\$ -
1840 & 1845	\$ 2,528,121	\$ -	\$ -	\$ 2,528,121	\$ 2,528,121	\$ -	\$ 2,528,121	\$ -
BCP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
BDHA	\$ 1,533,060	\$ -	\$ -	\$ 1,533,060	\$ 1,533,060	\$ -	\$ 1,533,060	\$ -
Break Out	\$ (661,565,684)	\$ -	\$ -	\$ (661,565,684)	\$ (661,565,684)	\$ -	\$ (661,565,686)	\$ 1
CCA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
CDMPP	\$ 501,641	\$ -	\$ -	\$ 501,641	\$ 501,641	\$ -	\$ 501,641	\$ -
CEN	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
CEN EWMP	\$ 603,090,617	\$ -	\$ -	\$ 603,090,617	\$ 603,090,617	\$ -	\$ 603,090,617	\$ -
CREV	\$ (146,577,475)	\$ -	\$ -	\$ (146,577,475)	\$ (146,577,475)	\$ -	\$ (146,577,475)	\$ -
CWCS	\$ 106,447,367	\$ -	\$ -	\$ 106,447,367	\$ 106,447,367	\$ -	\$ 106,447,367	\$ -
CWMC	\$ 111,908,764	\$ -	\$ -	\$ 111,908,764	\$ 111,908,764	\$ -	\$ 111,908,764	\$ -
CWMP	\$ 291,212	\$ -	\$ -	\$ 291,212	\$ 291,212	\$ -	\$ 291,212	\$ -
CWNB	\$ 4,154,718	\$ -	\$ -	\$ 4,154,718	\$ 4,154,718	\$ -	\$ 4,154,718	\$ -
DCP	\$ 23,370,660	\$ -	\$ -	\$ 23,370,660	\$ 23,370,660	\$ -	\$ 23,370,660	\$ -
LPHA	\$ (1,400,000)	\$ -	\$ -	\$ (1,400,000)	\$ (1,400,000)	\$ -	\$ (1,400,000)	\$ -
LTNCP	\$ 143,762,923	\$ -	\$ -	\$ 143,762,923	\$ 143,762,923	\$ -	\$ 143,762,923	\$ -
NFA	\$ 4,279,364	\$ -	\$ -	\$ 4,279,364	\$ 4,279,364	\$ -	\$ 4,279,364	\$ -
NFA ECC	\$ 185,100,799	\$ -	\$ -	\$ 185,100,799	\$ 185,100,799	\$ -	\$ 185,100,799	\$ -
O&M	\$ 29,488,368	\$ -	\$ -	\$ 29,488,368	\$ 29,488,368	\$ -	\$ 29,488,368	\$ -
PNCP	\$ 517,602,333	\$ -	\$ -	\$ 517,602,333	\$ 517,602,333	\$ -	\$ 517,602,333	\$ -
SNCP	\$ 88,763,323	\$ -	\$ -	\$ 88,763,323	\$ 88,763,323	\$ -	\$ 88,763,323	\$ -
TCP	\$ 73,603,826	\$ -	\$ -	\$ 73,603,826	\$ 73,603,826	\$ -	\$ 73,603,826	\$ -
Total	\$ 1,102,358,747	\$ -	\$ -	\$ 1,102,358,747	\$ 1,102,358,747	\$ -	\$ 1,102,358,746	\$ 1



2011 COST
Hydro Ottawa Limited
EB-2005-0381

Sheet E5 Reconciliation Worksheet - Second Run

If you have completed the Cost Allocation filing model and prepared to submit your findings to the Ontario Energy Board, please note that you have 2 saving options.

OPTION #1 - Detailed

- Step 1: Save this file as "LDCName_Detailed_CA_model_RUN#.xls"
- Step 2: Printout sheets I2, I4, and O1

OPTION #2 - Rolled Up

- Step 1: Save this file as "LDCName_Detailed_CA_model_RUN#.xls"
- Step 2: **Click on the Option 2 Button**
- Step 3: **Save this file as "LDCName_RolledUp_CA_model_RUN#.xls"**
- Step 4: Printout sheets I2, I4, and O1

OPTION 2

Appendix 2-P Cost Allocation

Revenue to Cost Ratio (%)

Customer Class	(1) From Cost Allocation Model	(2) Column 1 Revised (Transformer Ownership Allowance)	(3) Proposed for Test Year	(4) Board Target Range
Residential	98.03	98.03	98	85 – 115
GS < 50 kW	111.29	111.29	111	80 – 120
GS > 50 < 1,499 kW	95.41	95.41	95	80 – 180
GS > 1,500 < 4,999 kW	119.77	119.77	120	80 – 180
Large User	108.85	108.85	109	85 – 115
Street Lights	71.27	71.27	71	70 – 120
Sentinel Lights	35.90	35.90	36	70 – 120
USL	117.66%	117.66%	118	80 – 120

Test Year Revenue Impacts

Customer Class	Current Revenue (2009) \$000	Test Year Revenue Assuming Current Revenue to Cost Ratios	Test Year Revenue Assuming Proposed Revenue to Cost Ratios
Residential	\$73,688	\$84,384	\$84,384
GS < 50 kW	17,569	20,612	20,612
GS > 50 < 1,499 kW	31,626	37,171	37,171
GS > 1,500 < 4,999 kW	8,284	9,472	9,472
Large User	5,093	6,157	6,157
Street Lights	688	827	827
Sentinel Lights	4	4	4
USL	533	542	542



1
2
3
4
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CURRENT RATE SCHEDULE

Hydro Ottawa Limited's current Tariff of Rates and Charges for the 2010 rate year is attached (Attachment AG). The Decision for EB-2009-0231 was issued by the Ontario Energy Board on April 1, 2010 and a Revised Rate Order was issued April 29, 2010.

Hydro Ottawa Limited
TARIFF OF RATES AND CHARGES
Effective and Implementation Date May 1, 2010
except for the microFIT Generator Class effective date of September 21, 2009

**This schedule supersedes and replaces all previously
approved schedules of Rates, Charges and Loss Factors**

EB-2009-0231

RESIDENTIAL SERVICE CLASSIFICATION

This classification includes accounts taking electricity at 120/240 volts single phase where the electricity is used exclusively in a separately metered living accommodation. Customers shall be residing in single-dwelling units that consist of a detached house or one unit of a semi-detached, duplex, triplex or quadruplex house, with a residential zoning. Separately metered dwellings within a town house complex or apartment building also qualify as residential customers. Further servicing details are available in the distributor's Conditions of Service.

APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Board, and amendments thereto as approved by the Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges or assessments that are required by law to be charged by a distributor and that are not subject to Board approval, such as the Debt Retirement Charge, charges for Ministry of Energy and Infrastructure Conservation and Renewable Energy Program, the Provincial Benefit and any applicable taxes.

MONTHLY RATES AND CHARGES – Delivery Component

Service Charge	\$	8.52
Smart Meter Funding Adder	\$	1.68
Distribution Volumetric Rate	\$/kWh	0.0207
Low Voltage Service Rate	\$/kWh	0.0002
Rate Rider for Tax Change – effective until April 30, 2011	\$/kWh	(0.0002)
Lost Revenue Adjustment Mechanism (LRAM) Recovery/Shared Savings Mechanism (SSM) Recovery Rate Rider – effective until April 30, 2011	\$/kWh	0.0001
Retail Transmission Rate – Network Service Rate	\$/kWh	0.0065
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kWh	0.0044

MONTHLY RATES AND CHARGES – Regulatory Component

Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

Hydro Ottawa Limited
TARIFF OF RATES AND CHARGES
Effective and Implementation Date May 1, 2010
except for the microFIT Generator Class effective date of September 21, 2009

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EB-2009-0231

GENERAL SERVICE LESS THAN 50 kW SERVICE CLASSIFICATION

This classification refers to non residential accounts taking electricity at 750 volts or less whose monthly average peak demand is less than, or is forecast to be less than 50 kW. Further servicing details are available in the distributor's Conditions of Service.

APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

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MONTHLY RATES AND CHARGES – Delivery Component

Service Charge	\$	14.73
Smart Meter Funding Adder	\$	1.68
Distribution Volumetric Rate	\$/kWh	0.0185
Low Voltage Service Rate	\$/kWh	0.0002
Rate Rider for Tax Change – effective until April 30, 2011	\$/kWh	(0.0002)
Retail Transmission Rate – Network Service Rate	\$/kWh	0.0059
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kWh	0.0041

MONTHLY RATES AND CHARGES – Regulatory Component

Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

Hydro Ottawa Limited
TARIFF OF RATES AND CHARGES
Effective and Implementation Date May 1, 2010
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EB-2009-0231

GENERAL SERVICE 50 to 1,499 kW SERVICE CLASSIFICATION

This classification refers to non residential accounts whose monthly average peak demand is equal to or greater than, or is forecast to be equal to or greater than, 50 kW but less than 1,500 kW. Further servicing details are available in the distributor's Conditions of Service.

APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Board, and amendments thereto as approved by the Board, or as specified herein.

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MONTHLY RATES AND CHARGES – Delivery Component

Service Charge	\$	250.76
Smart Meter Funding Adder	\$	1.68
Distribution Volumetric Rate	\$/kW	3.0325
Low Voltage Service Rate	\$/kW	0.0756
Rate Rider for Tax Change – effective until April 30, 2011	\$/kW	(0.0297)
Retail Transmission Rate – Network Service Rate	\$/kW	2.4405
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kW	1.6704

MONTHLY RATES AND CHARGES – Regulatory Component

Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

Hydro Ottawa Limited
TARIFF OF RATES AND CHARGES
Effective and Implementation Date May 1, 2010
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EB-2009-0231

GENERAL SERVICE 1,500 to 4,999 kW SERVICE CLASSIFICATION

This classification refers to non residential accounts whose monthly average peak demand is equal to or greater than, or is forecast to be equal to or greater than 1,500 kW but less than 5,000 kW. Further servicing details are available in the distributor's Conditions of Service.

APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

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It should be noted that this schedule does not list any charges or assessments that are required by law to be charged by a distributor and that are not subject to Board approval, such as the Debt Retirement Charge, charges for Ministry of Energy and Infrastructure Conservation and Renewable Energy Program, the Provincial Benefit and any applicable taxes.

MONTHLY RATES AND CHARGES – Delivery Component

Service Charge	\$	4,032.07
Smart Meter Funding Adder	\$	1.68
Distribution Volumetric Rate	\$/kW	2.8962
Low Voltage Service Rate	\$/kW	0.0808
Rate Rider for Tax Change – effective until April 30, 2011	\$/kW	(0.0348)
Retail Transmission Rate – Network Service Rate	\$/kW	2.5342
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kW	1.7851

MONTHLY RATES AND CHARGES – Regulatory Component

Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

Hydro Ottawa Limited
TARIFF OF RATES AND CHARGES
Effective and Implementation Date May 1, 2010
except for the microFIT Generator Class effective date of September 21, 2009

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EB-2009-0231

LARGE USE SERVICE CLASSIFICATION

This classification refers to an account whose monthly average peak demand is equal to or greater than, or is forecast to be equal to or greater than 5,000 kW. Further servicing details are available in the distributor's Conditions of Service.

APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Board, and amendments thereto as approved by the Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges or assessments that are required by law to be charged by a distributor and that are not subject to Board approval, such as the Debt Retirement Charge, charges for Ministry of Energy and Infrastructure Conservation and Renewable Energy Program, the Provincial Benefit and any applicable taxes.

MONTHLY RATES AND CHARGES – Delivery Component

Service Charge	\$	14,643.46
Smart Meter Funding Adder	\$	1.68
Distribution Volumetric Rate	\$/kW	2.7725
Low Voltage Service Rate	\$/kW	0.0910
Rate Rider for Tax Change – effective until April 30, 2011	\$/kW	(0.0301)
Retail Transmission Rate – Network Service Rate	\$/kW	2.8092
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kW	2.0103

MONTHLY RATES AND CHARGES – Regulatory Component

Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

Hydro Ottawa Limited
TARIFF OF RATES AND CHARGES
Effective and Implementation Date May 1, 2010
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EB-2009-0231

UNMETERED SCATTERED LOAD SERVICE CLASSIFICATION

This classification includes accounts taking electricity at 120/240 volts single phase whose monthly average peak demand is less than, or is forecast to be less than, 50 kW and the consumption is unmetered. These connections include cable TV power packs, bus shelters, telephone booths, traffic lights, railway crossings, etc. The customer will provide detailed manufacturer information/documentation with regard to electrical demand/consumption of the proposed unmetered load. Qualification for this classification is at the discretion of Hydro Ottawa as defined in its Conditions of Service.

APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Board, and amendments thereto as approved by the Board, or as specified herein.

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It should be noted that this schedule does not list any charges or assessments that are required by law to be charged by a distributor and that are not subject to Board approval, such as the Debt Retirement Charge, charges for Ministry of Energy and Infrastructure Conservation and Renewable Energy Program, the Provincial Benefit and any applicable taxes.

MONTHLY RATES AND CHARGES – Delivery Component

Service Charge (per connection)	\$	4.03
Distribution Volumetric Rate	\$/kWh	0.0200
Low Voltage Service Rate	\$/kWh	0.0002
Rate Rider for Tax Change – effective until April 30, 2011	\$/kWh	(0.0002)
Retail Transmission Rate – Network Service Rate	\$/kWh	0.0059
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kWh	0.0041

MONTHLY RATES AND CHARGES – Regulatory Component

Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

Hydro Ottawa Limited
TARIFF OF RATES AND CHARGES
Effective and Implementation Date May 1, 2010
except for the microFIT Generator Class effective date of September 21, 2009

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EB-2009-0231

STANDBY POWER SERVICE CLASSIFICATION

This classification refers to an account that has Load Displacement Generation equal to or greater than 500 kW and requires the distributor to provide back-up service. Further servicing details are available in the distributor's Conditions of Service.

APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Board, and amendments thereto as approved by the Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

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MONTHLY RATES AND CHARGES – APPROVED ON AN INTERIM BASIS

Service Charge	\$	107.83
Standby Charge – for a month where standby power is not provided. The charge is applied to the contracted amount (e.g. nameplate rating of generation facility):		
General Service 50 to 1,499 kW customer	\$/kW	1.4390
General Service 1,500 to 4,999 kW customer	\$/kW	1.3200
General Service Large Use customer	\$/kW	1.4648
Rate Rider for Tax Change – effective until April 30, 2011:		
General Service 50 to 1,499 kW customer	\$/kW	(0.0115)
General Service 1,500 to 4,999 kW customer	\$/kW	(0.0093)
General Service Large Use customer	\$/kW	(0.0118)

Hydro Ottawa Limited
TARIFF OF RATES AND CHARGES
Effective and Implementation Date May 1, 2010
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EB-2009-0231

SENTINEL LIGHTING SERVICE CLASSIFICATION

This classification refers to accounts that are an unmetered lighting load supplied to a sentinel light. Further servicing details are available in the distributor's Conditions of Service.

APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

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MONTHLY RATES AND CHARGES – Delivery Component

Service Charge (per connection)	\$	1.89
Distribution Volumetric Rate	\$/kW	7.2304
Low Voltage Service Rate	\$/kW	0.0574
Rate Rider for Tax Change – effective until April 30, 2011	\$/kW	(0.1062)
Retail Transmission Rate – Network Service Rate	\$/kW	1.8108
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kW	1.2668

MONTHLY RATES AND CHARGES – Regulatory Component

Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

Hydro Ottawa Limited
TARIFF OF RATES AND CHARGES
Effective and Implementation Date May 1, 2010
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EB-2009-0231

STREET LIGHTING SERVICE CLASSIFICATION

This classification refers to an account for roadway lighting with a Municipality, Regional Municipality, Ministry of Transportation and private roadway lighting controlled by photocells. The consumption for these customers is based on the calculated connected load times the required lighting times established in the approved OEB street lighting load shape template. Further servicing details are available in the distributor's Conditions of Service.

APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

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MONTHLY RATES AND CHARGES – Delivery Component

Service Charge (per connection)	\$	0.49
Distribution Volumetric Rate	\$/kW	3.4501
Low Voltage Service Rate	\$/kW	0.0561
Rate Rider for Tax Change – effective until April 30, 2011	\$/kW	(0.0409)
Retail Transmission Rate – Network Service Rate	\$/kW	1.8016
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kW	1.2409

MONTHLY RATES AND CHARGES – Regulatory Component

Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

Hydro Ottawa Limited
TARIFF OF RATES AND CHARGES
Effective and Implementation Date May 1, 2010
except for the microFIT Generator Class effective date of September 21, 2009

**This schedule supersedes and replaces all previously
approved schedules of Rates, Charges and Loss Factors**

EB-2009-0231

microFIT GENERATOR SERVICE CLASSIFICATION

This classification applies to an electricity generation facility contracted under the Ontario Power Authority's microFIT program and connected to the distributor's distribution system. Further servicing details are available in the distributor's Conditions of Service.

APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Board, and amendments thereto as approved by the Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges or assessments that are required by law to be charged by a distributor and that are not subject to Board approval, such as the Debt Retirement Charge, charges for Ministry of Energy and Infrastructure Conservation and Renewable Energy Program, the Provincial Benefit and any applicable taxes.

MONTHLY RATES AND CHARGES – Delivery Component – effective September 21, 2009

Service Charge	\$	5.25
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Hydro Ottawa Limited
TARIFF OF RATES AND CHARGES
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EB-2009-0231

ALLOWANCES

Transformer Allowance for Ownership - per kW of billing demand/month	\$	(0.45)
Primary Metering Allowance for transformer losses – applied to measured demand and energy	%	(1.00)

SPECIFIC SERVICE CHARGES**APPLICATION**

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

No charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Board, and amendments thereto as approved by the Board, or as specified herein.

It should be noted that this schedule does not list any charges or assessments that are required by law to be charged by a distributor and that are not subject to Board approval, such as the Debt Retirement Charge, charges for Ministry of Energy and Infrastructure Conservation and Renewable Energy Program, the Provincial Benefit and any applicable taxes.

Customer Administration

Arrears Certificate	\$	15.00
Duplicate invoices for previous billing	\$	15.00
Request for other billing information	\$	15.00
Credit reference/credit check (plus credit agency costs)	\$	15.00
Unprocessed Payment Charge (plus bank charges)	\$	15.00
Account set up charge/change of occupancy charge (plus credit agency costs if applicable)	\$	30.00

Non-Payment of Account

Late Payment - per month	%	1.50
Late Payment - per annum	%	19.56
Collection of account charge – no disconnection	\$	30.00
Disconnect/Reconnect at meter – during regular hours	\$	65.00
Disconnect/Reconnect at Meter - after regular hours	\$	185.00
Disconnect/Reconnect at Pole – during regular hours	\$	185.00
Disconnect/Reconnect at Pole – after regular hours	\$	415.00

Temporary Service install & remove – overhead – no transformer	\$	500.00
Specific Charge for Access to the Power Poles – per pole/year	\$	22.35
Dry core transformer distribution charge		As per Attached Table

Hydro Ottawa Limited

TARIFF OF RATES AND CHARGES

Effective and Implementation Date May 1, 2010

except for the microFIT Generator Class effective date of September 21, 2009

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EB-2009-0231

RETAIL SERVICE CHARGES (if applicable)

APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Board, and amendments thereto as approved by the Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges or assessments that are required by law to be charged by a distributor and that are not subject to Board approval, such as the Debt Retirement Charge, charges for Ministry of Energy and Infrastructure Conservation and Renewable Energy Program, the Provincial Benefit and any applicable taxes.

Retail Service Charges refer to services provided by a distributor to retailers or customers related to the supply of competitive electricity

One-time charge, per retailer, to establish the service agreement between the distributor and the retailer	\$	100.00
Monthly Fixed Charge, per retailer	\$	20.00
Monthly Variable Charge, per customer, per retailer	\$/cust.	0.50
Distributor-consolidated billing charge, per customer, per retailer	\$/cust.	0.30
Retailer-consolidated billing credit, per customer, per retailer	\$/cust.	(0.30)
Service Transaction Requests (STR)		
Request fee, per request, applied to the requesting party	\$	0.25
Processing fee, per request, applied to the requesting party	\$	0.50
Request for customer information as outlined in Section 10.6.3 and Chapter 11 of the Retail Settlement Code directly to retailers and customers, if not delivered electronically through the Electronic Business Transaction (EBT) system, applied to the requesting party		
Up to twice a year		no charge
More than twice a year, per request (plus incremental delivery costs)	\$	2.00

LOSS FACTORS

If the distributor is not capable of prorating changed loss factors jointly with distribution rates, the revised loss factors will be implemented upon the first subsequent billing for each billing cycle.

Total Loss Factor – Secondary Metered Customer < 5,000 kW	1.0344
Total Loss Factor – Secondary Metered Customer > 5,000 kW	1.0170
Total Loss Factor – Primary Metered Customer < 5,000 kW	1.0240
Total Loss Factor – Primary Metered Customer > 5,000 kW	1.0069

Hydro Ottawa Limited
TARIFF OF RATES AND CHARGES
Effective and Implementation Date May 1, 2010
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EB-2009-0231

Dry Core Transformer Charges

Transformers	No Load Loss (W)	Load Loss (W)	Cost of Transmission per kW	Cost of Energy and Wholesale Market per kWh	Total Monthly cost of power	Cost of Distribution per kW	Total
Rates			\$3.6049	\$0.0751		\$3.1561	
25 KVA 1 PH	150	900	\$0.58	\$6.83	\$7.41	\$0.51	\$7.92
37.5 KVA 1 PH	200	1200	\$0.77	\$9.11	\$9.88	\$0.68	\$10.55
50 KVA 1 PH	250	1600	\$0.98	\$11.45	\$12.44	\$0.86	\$13.30
75 KVA 1 PH	350	1900	\$1.31	\$15.79	\$17.10	\$1.15	\$18.25
100 KVA 1 PH	400	2600	\$1.58	\$18.36	\$19.94	\$1.39	\$21.33
150 KVA 1 PH	525	3500	\$2.10	\$24.16	\$26.25	\$1.83	\$28.09
167 KVA 1 PH	650	4400	\$2.61	\$29.96	\$32.56	\$2.28	\$34.85
200 KVA 1 PH	696	4700	\$2.79	\$32.07	\$34.86	\$2.44	\$37.30
225 KVA 1 PH	748	5050	\$3.00	\$34.46	\$37.46	\$2.62	\$40.09
250 KVA 1 PH	800	5400	\$3.21	\$36.86	\$40.06	\$2.81	\$42.87
*15 KVA 3 PH	125	650	\$0.46	\$5.62	\$6.08	\$0.41	\$6.49
*45 KVA 3 PH	300	1800	\$1.16	\$13.66	\$14.82	\$1.01	\$15.83
*75 KVA 3 PH	400	2400	\$1.54	\$18.21	\$19.76	\$1.35	\$21.11
*112.5 KVA 3 PH	600	3400	\$2.28	\$27.17	\$29.45	\$1.99	\$31.44
*150 KVA 3 PH	700	4500	\$2.76	\$32.09	\$34.85	\$2.42	\$37.27
*225 KVA 3 PH	900	5300	\$3.46	\$40.90	\$44.36	\$3.03	\$47.38
*300 KVA 3 PH	1100	6300	\$4.19	\$49.86	\$54.05	\$3.67	\$57.72
*500 KVA 3 PH	1500	9700	\$5.93	\$68.80	\$74.73	\$5.19	\$79.92
*750 KVA 3 PH	2100	12000	\$7.99	\$95.17	\$103.16	\$7.00	\$110.16
*1000 KVA 3 PH	2600	15000	\$9.93	\$117.93	\$127.85	\$8.69	\$136.54
*1500 KVA 3 PH	4000	22000	\$15.06	\$180.64	\$195.70	\$13.19	\$208.89
*2000 KVA 3 PH	4800	24000	\$17.61	\$215.01	\$232.63	\$15.42	\$248.04
*2500 KVA 3 PH	5700	26000	\$20.43	\$253.50	\$273.93	\$17.89	\$291.82

No Load and Load Losses from CSA standard C802-94 Maximum losses for distribution power and dry-type transformers commercial use

Average load factor = 0.46 average loss factor = 0.2489

* For non-preferred KVA ratings no load and load losses are interpolated as per CSA standard



RATE DESIGN

1.0 INTRODUCTION

This Exhibit explains how the proposed rates have been designed in order to collect the requested revenue requirement in 2011. The 2010 Tariff of Rates and Charges is provided in Exhibit H1-1-1. Exhibit H1-5-1 contains the proposed Tariff of Rates and Charges for January 1, 2011 and Exhibit H1-6-1 contains tables showing the bill impacts for typical customers of all classes.

Hydro Ottawa Limited ("Hydro Ottawa") is requesting approval of a Base Revenue Requirement of \$158,202,009 and Transformer Ownership Credit of \$1,171,603 for total revenue for distribution rates of \$159,373,612. It is proposed that this revenue be collected from the customer classes in the same percentage as the current rates. Table 1 provides the calculation of revenue per rate class using the proposed rates and the forecasted 2011 load and customers/connections.

Table 1 – Revenue per Rate Class

Class	Proposed 2011 Revenue for Distribution Rates \$000	%
Residential	\$84,384	53%
General Service < 50 kW	20,612	13
General Service 50 to 1,499 kW	37,172	23
General Service 1,500 to 4,999 kW	9,472	6
Large Use	6,158	4
Unmetered Scattered Load	542	0.3
Sentinel Lighting	4	0.003
Street Lighting	827	0.5
Standby 50 to 1,499 kW	50	0.03
Standby 1,500 to 4,999 kW	132	0.08
Standby Large Use	0	0
TOTAL ¹	\$159,353	100%

¹ Total does not equal revenue requirement due to rounding of rates.



1 Hydro Ottawa has determined the proposed 2011 rates by multiplying both the 2010
2 approved Monthly Service Charge (not including the Smart Meter Adder, if applicable)
3 and the Distribution Volumetric Rate by the identified revenue deficiency. A modified
4 version of the 2006 Electricity Distribution Rate (“EDR”) Model was used for this
5 purpose; a copy of which is included as Attachment AH. The results are shown in
6 Tables 2 and 3.

7 **Table 2 – Service Charge**

	2010 \$/month	2011 \$/month
Residential	8.52	9.67
General Service < 50 kW	14.73	16.71
General Service 50 to 1,499 kW	250.76	284.49
General Service 1,500 to 4,999 kW	4,032.07	4,574.50
Large Use	14,643.46	16,613.44
Unmetered Scattered Load	4.03	4.57
Sentinel Lights	1.89	2.14
Street Lights	0.49	0.56
Standby	107.83	122.34

8
9 Note that the province-wide fixed monthly charge of \$5.25 per month for all electricity
10 distributors related to the microFIT Generator rate class, which was approved by the
11 Ontario Energy Board (the “Board”) on March 17, 2010, has not been included in the
12 EDR Model. Hydro Ottawa considers that the revenue received from this charge will not
13 be material in 2011 due to the small number of microFIT customers.

14
15 **Table 3 – Distribution Volumetric Rate**

	2010 \$/kWh or \$/kW	2011 \$/kWh or \$/kW
Residential	0.0207	0.0235
General Service < 50 kW	0.0185	0.0210
General Service 50 to 1,499 kW	3.0325	3.4405
General Service 1,500 to 4,999 kW	2.8962	3.2858
Large Use	2.7725	3.1455
Unmetered Scattered Load	0.0200	0.0227
Sentinel Lights	7.2304	8.2031
Street Lights	3.4501	3.9142
Standby 50 to 1,499 kW	1.4390	1.6326
Standby 1,500 to 4,999 kW	1.3200	1.4976
Standby Large Use	1.4648	1.6619



1 As discussed in Exhibit G1-1-1, Hydro Ottawa has not made any adjustments to the
 2 rates as a result of the cost allocation study.

3
 4

5 **2.0 FIXED/VARIABLE PROPORTION**

6

7 Table 4 provides the current fixed/variable proportion for each rate class, based on 2009
 8 actual sales, not including the Smart Meter Adder.

9

10 **Table 4 – 2009 Actual Fixed/Variable Split**

	Fixed \$000	%	Variable \$000	%	Total \$000	%
RESIDENTIAL	\$27,151	37	\$46,538	63	\$73,688	53
GENERAL SERVICE < 50KW	4,096	23	13,472	77	17,569	13
GENERAL SERVICE 50 – 1,499 KW	9,811	31	21,815	69	31,626	23
GENERAL SERVICE 1,500-4,999 KW	3,199	39	5,084	61	8,284	6
LARGE USE	1,922	38	3,171	62	5,093	4
STREET LIGHTING	299	43	389	57	688	0.5
UNMETERED SCATTERED LOADS	139	26	3 94	74	533	0.5
TOTAL	\$46,617	34%	\$90,863	66%	\$137,480	100%

11

12 Hydro Ottawa is proposing to basically keep the same fixed/variable split as in 2009 as
 13 shown in Table 5.

14

15 **Table 5 – 2011 Forecast Fixed/Variable Split**

	Fixed \$000	%	Variable \$000	%	Total \$000
RESIDENTIAL	\$32,019	38%	\$52,365	62%	\$84,384
GENERAL SERVICE < 50KW	4,723	23%	15,888	77%	20,612
GENERAL SERVICE 50 – 1,499 KW	11,146	30%	26,025	70%	37,171
GENERAL SERVICE 1,500-4,999 KW	3,600	38%	5,872	62%	9,472
LARGE USE	2,392	39%	3,765	61%	6,157
STREETLIGHTING	365	44%	462	56%	827
UNMETERED SCATTERED LOAD	157	29%	386	71%	542
TOTAL¹	\$54,402	34%	\$104,763	66%	\$159,165

16

¹ Columns do not sum to total due to absence of Sentinel Lights and Standby classes.



2-1 TRIAL BALANCE DATA (Input)

Enter account data consistent with the audited books of account.
 (Enter adjustments on subsequent sheets.)

Account Number	Account Description		2010 Total	2011 Total
		\$	\$	\$

DETAILED INPUT:

1005	Cash			ok	1005	Cash
1010	Cash Advances and Working Funds			ok	1010	Cash Advances and Working Funds
1020	Interest Special Deposits			ok	1020	Interest Special Deposits
1030	Dividend Special Deposits			ok	1030	Dividend Special Deposits
1040	Other Special Deposits			ok	1040	Other Special Deposits
1060	Term Deposits			ok	1060	Term Deposits
1070	Current Investments			ok	1070	Current Investments
1100	Customer Accounts Receivable			ok	1100	Customer Accounts Receivable
1102	Accounts Receivable - Services			ok	1102	Accounts Receivable - Services
1104	Accounts Receivable - Recoverable Work			ok	1104	Accounts Receivable - Recoverable Work
1105	Accounts Receivable - Merchandise, Jobbing, etc.			ok	1105	Accounts Receivable - Merchandise, Jobbing, etc.
1110	Other Accounts Receivable			ok	1110	Other Accounts Receivable
1120	Accrued Utility Revenues			ok	1120	Accrued Utility Revenues
1130	Accumulated Provision for Uncollectible Accounts--Credit			ok	1130	Accumulated Provision for Uncollectible Accounts--Credit
1140	Interest and Dividends Receivable			ok	1140	Interest and Dividends Receivable
1150	Rents Receivable			ok	1150	Rents Receivable
1170	Notes Receivable			ok	1170	Notes Receivable
1180	Prepayments			ok	1180	Prepayments
1190	Miscellaneous Current and Accrued Assets			ok	1190	Miscellaneous Current and Accrued Assets
1200	Accounts Receivable from Associated Companies			ok	1200	Accounts Receivable from Associated Companies
1210	Notes Receivable from Associated Companies			ok	1210	Notes Receivable from Associated Companies
1305	Fuel Stock			ok	1305	Fuel Stock
1330	Plant Materials and Operating Supplies			ok	1330	Plant Materials and Operating Supplies
1340	Merchandise			ok	1340	Merchandise
1350	Other Materials and Supplies			ok	1350	Other Materials and Supplies
1405	Long Term Investments in Non-Associated Companies			ok	1405	Long Term Investments in Non-Associated Companies
1408	Long Term Receivable - Street Lighting Transfer			ok	1408	Long Term Receivable - Street Lighting Transfer
1410	Other Special or Collateral Funds			ok	1410	Other Special or Collateral Funds
1415	Sinking Funds			ok	1415	Sinking Funds
1425	Unamortized Debt Expense			ok	1425	Unamortized Debt Expense
1445	Unamortized Discount on Long-Term Debt--Debit			ok	1445	Unamortized Discount on Long-Term Debt--Debit
1455	Unamortized Deferred Foreign Currency Translation Gains and Losses			ok	1455	Unamortized Deferred Foreign Currency Translation Gains and Losses
1460	Other Non-Current Assets			ok	1460	Other Non-Current Assets
1465	O.M.E.R.S. Past Service Costs			ok	1465	O.M.E.R.S. Past Service Costs
1470	Past Service Costs - Employee Future Benefits			ok	1470	Past Service Costs - Employee Future Benefits
1475	Past Service Costs - Other Pension Plans			ok	1475	Past Service Costs - Other Pension Plans
1480	Portfolio Investments - Associated Companies			ok	1480	Portfolio Investments - Associated Companies
1485	Investment in Associated Companies - Significant Influence			ok	1485	Investment in Associated Companies - Significant Influence
1490	Investment in Subsidiary Companies			ok	1490	Investment in Subsidiary Companies
1505	Unrecovered Plant and Regulatory Study Costs			ok	1505	Unrecovered Plant and Regulatory Study Costs
1508	Other Regulatory Assets			ok	1508	Other Regulatory Assets
1510	Preliminary Survey and Investigation Charges			ok	1510	Preliminary Survey and Investigation Charges
1515	Emission Allowance Inventory			ok	1515	Emission Allowance Inventory
1516	Emission Allowances Withheld			ok	1516	Emission Allowances Withheld
1518	RCVARetail			ok	1518	RCVARetail
1520	Power Purchase Variance Account			ok	1520	Power Purchase Variance Account
1525	Miscellaneous Deferred Debits			ok	1525	Miscellaneous Deferred Debits
1530	Deferred Losses from Disposition of Utility Plant			ok	1530	Deferred Losses from Disposition of Utility Plant
1540	Unamortized Loss on Reacquired Debt			ok	1540	Unamortized Loss on Reacquired Debt
1545	Development Charge Deposits/ Receivables			ok	1545	Development Charge Deposits/ Receivables
1548	RCVASTR			ok	1548	RCVASTR
1550	LV Charges					
1555	Smart Meters - Capital and Recovery					
1556	Smart Meters - O&M Variance					
1560	Deferred Development Costs			ok	1560	Deferred Development Costs
1562	Deferred Payments in Lieu of Taxes			ok	1562	Deferred Payments in Lieu of Taxes
1563	Account 1563 - Deferred PILs Contra Account			ok	1563	Account 1563 - Deferred PILs Contra Account
1565	1565-Conservation and Demand Management Expenditures and Recoveries			ok	1565	CDM Assets
1570	Qualifying Transition Costs			ok	1570	Qualifying Transition Costs



2-1 TRIAL BALANCE DATA (Input)				
Enter account data consistent with the audited books of account. (Enter adjustments on subsequent sheets.)				
Account Number	Account Description	2010 Total	2011 Total	
		\$	\$	\$
1571	Pre-market Opening Energy Variance			ok 1571 Pre-market Opening Energy Variance
1572	Extraordinary Event Costs			ok 1572 Extraordinary Event Costs
1574	Deferred Rate Impact Amounts			ok 1574 Deferred Rate Impact Amounts
1580	RSVAWMS			ok 1580 RSVAWMS
1582	RSVAONE-TIME			ok 1582 RSVAONE-TIME
1584	RSVANW			ok 1584 RSVANW
1586	RSVACN			ok 1586 RSVACN
1588	RSVAPOWER			ok 1588 RSVAPOWER
1590	1590-Recovery of regulatory asset balances			ok 1590 Recovery of Regulatory Asset Balances
1605	Electric Plant in Service - Control Account			ok 1605 Electric Plant in Service - Control Account
1606	Organization			ok 1606 Organization
1608	Franchises and Consents			ok 1608 Franchises and Consents
1610	Miscellaneous Intangible Plant			ok 1610 Miscellaneous Intangible Plant
1615	Land			ok 1615 Land
1616	Land Rights			ok 1616 Land Rights
1620	Buildings and Fixtures			ok 1620 Buildings and Fixtures
1630	Leasehold Improvements			ok 1630 Leasehold Improvements
1635	Boiler Plant Equipment			ok 1635 Boiler Plant Equipment
1640	Engines and Engine-Driven Generators			ok 1640 Engines and Engine-Driven Generators
1645	Turbogenerator Units			ok 1645 Turbogenerator Units
1650	Reservoirs, Dams and Waterways			ok 1650 Reservoirs, Dams and Waterways
1655	Water Wheels, Turbines and Generators			ok 1655 Water Wheels, Turbines and Generators
1660	Roads, Railroads and Bridges			ok 1660 Roads, Railroads and Bridges
1665	Fuel Holders, Producers and Accessories			ok 1665 Fuel Holders, Producers and Accessories
1670	Prime Movers			ok 1670 Prime Movers
1675	Generators			ok 1675 Generators
1680	Accessory Electric Equipment			ok 1680 Accessory Electric Equipment
1685	Miscellaneous Power Plant Equipment			ok 1685 Miscellaneous Power Plant Equipment
1705	Land			ok 1705 Land
1706	Land Rights			ok 1706 Land Rights
1708	Buildings and Fixtures			ok 1708 Buildings and Fixtures
1710	Leasehold Improvements			ok 1710 Leasehold Improvements
1715	Station Equipment			ok 1715 Station Equipment
1720	Towers and Fixtures			ok 1720 Towers and Fixtures
1725	Poles and Fixtures			ok 1725 Poles and Fixtures
1730	Overhead Conductors and Devices			ok 1730 Overhead Conductors and Devices
1735	Underground Conduit			ok 1735 Underground Conduit
1740	Underground Conductors and Devices			ok 1740 Underground Conductors and Devices
1745	Roads and Trails			ok 1745 Roads and Trails
1805	Land	\$3,769,535	\$3,769,535	ok 1805 Land
1806	Land Rights	\$2,707,541	\$2,707,541	ok 1806 Land Rights
1808	Buildings and Fixtures	\$19,094,387	\$20,701,466	ok 1808 Buildings and Fixtures
1810	Leasehold Improvements	\$0	\$0	ok 1810 Leasehold Improvements
1815	Transformer Station Equipment - Normally Primary above 50 kV	\$65,718,912	\$75,480,054	ok 1815 Transformer Station Equipment - Normally Primary above 50 kV
1820	Distribution Station Equipment - Normally Primary below 50 kV	\$66,159,391	\$70,574,990	ok 1820 Distribution Station Equipment - Normally Primary below 50 kV
1825	Storage Battery Equipment	\$0	\$0	ok 1825 Storage Battery Equipment
1830	Poles, Towers and Fixtures	\$121,583,515	\$129,926,512	ok 1830 Poles, Towers and Fixtures
1835	Overhead Conductors and Devices	\$67,374,174	\$72,824,430	ok 1835 Overhead Conductors and Devices
1840	Underground Conduit	\$171,670,358	\$180,307,702	ok 1840 Underground Conduit
1845	Underground Conductors and Devices	\$160,738,419	\$171,572,419	ok 1845 Underground Conductors and Devices
1850	Line Transformers	\$139,281,262	\$148,244,584	ok 1850 Line Transformers
1855	Services	\$101,731,820	\$111,162,914	ok 1855 Services
1860	Meters	\$107,324,699	\$109,787,736	ok 1860 Meters
1865	Other Installations on Customer's Premises	\$0	\$0	ok 1865 Other Installations on Customer's Premises
1870	Leased Property on Customer Premises	\$0	\$0	ok 1870 Leased Property on Customer Premises
1875	Street Lighting and Signal Systems	\$0	\$0	ok 1875 Street Lighting and Signal Systems
1905	Land	\$863,045	\$4,500,056	ok 1905 Land
1906	Land Rights	\$131,740	\$131,740	ok 1906 Land Rights
1908	Buildings and Fixtures	\$49,915,440	\$51,070,722	ok 1908 Buildings and Fixtures
1910	Leasehold Improvements	\$0	\$0	ok 1910 Leasehold Improvements
1915	Office Furniture and Equipment	\$4,455,228	\$4,649,718	ok 1915 Office Furniture and Equipment
1920	Computer Equipment - Hardware	\$11,985,143	\$13,874,308	ok 1920 Computer Equipment - Hardware



2-1 TRIAL BALANCE DATA (Input)					
Enter account data consistent with the audited books of account. (Enter adjustments on subsequent sheets.)					
Account Number	Account Description	2010 Total	2011 Total		
		\$	\$		
1925	Computer Software	\$62,596,462	\$66,303,387	ok	1925 Computer Software
1930	Transportation Equipment	\$23,779,330	\$26,042,303	ok	1930 Transportation Equipment
1935	Stores Equipment	\$482,844	\$482,844	ok	1935 Stores Equipment
1940	Tools, Shop and Garage Equipment	\$7,066,903	\$7,674,807	ok	1940 Tools, Shop and Garage Equipment
1945	Measurement and Testing Equipment	\$791,915	\$791,915	ok	1945 Measurement and Testing Equipment
1950	Power Operated Equipment	\$0	\$0	ok	1950 Power Operated Equipment
1955	Communication Equipment	\$1,609,512	\$2,465,228	ok	1955 Communication Equipment
1960	Miscellaneous Equipment	\$204,882	\$335,911	ok	1960 Miscellaneous Equipment
1965	Water Heater Rental Units	\$0	\$0	ok	1965 Water Heater Rental Units
1970	Load Management Controls - Customer Premises	\$1,038,999	\$1,137,812	ok	1970 Load Management Controls - Customer Premises
1975	Load Management Controls - Utility Premises	\$71,915	\$71,915	ok	1975 Load Management Controls - Utility Premises
1980	System Supervisory Equipment	\$11,026,530	\$13,088,907	ok	1980 System Supervisory Equipment
1985	Sentinel Lighting Rental Units	\$0	\$0	ok	1985 Sentinel Lighting Rental Units
1990	Other Tangible Property	\$0	\$0	ok	1990 Other Tangible Property
1995	Contributions and Grants - Credit	(\$173,557,916)	(\$190,128,104)	ok	1995 Contributions and Grants - Credit
2005	Property Under Capital Leases			ok	2005 Property Under Capital Leases
2010	Electric Plant Purchased or Sold			ok	2010 Electric Plant Purchased or Sold
2020	Experimental Electric Plant Unclassified			ok	2020 Experimental Electric Plant Unclassified
2030	Electric Plant and Equipment Leased to Others			ok	2030 Electric Plant and Equipment Leased to Others
2040	Electric Plant Held for Future Use			ok	2040 Electric Plant Held for Future Use
2050	Completed Construction Not Classified--Electric			ok	2050 Completed Construction Not Classified--Electric
2055	Construction Work in Progress--Electric			ok	2055 Construction Work in Progress--Electric
2060	Electric Plant Acquisition Adjustment			ok	2060 Electric Plant Acquisition Adjustment
2065	Other Electric Plant Adjustment			ok	2065 Other Electric Plant Adjustment
2070	Other Utility Plant			ok	2070 Other Utility Plant
2075	Non-Utility Property Owned or Under Capital Leases			ok	2075 Non-Utility Property Owned or Under Capital Leases
2105	Accumulated Amortization of Electric Utility Plant - Property, Plant, and Equipment	(\$503,447,473)	(\$550,897,069)	ok	2105 Accum. Amortization of Electric Utility Plant - Property, Plant, & Equipment
2120	Accumulated Amortization of Electric Utility Plant - Intangibles			ok	2120 Accumulated Amortization of Electric Utility Plant - Intangibles
2140	Accumulated Amortization of Electric Plant Acquisition Adjustment			ok	2140 Accumulated Amortization of Electric Plant Acquisition Adjustment
2160	Accumulated Amortization of Other Utility Plant			ok	2160 Accumulated Amortization of Other Utility Plant
2180	Accumulated Amortization of Non-Utility Property	(\$1,061,702)	(\$1,115,374)	ok	2180 Accumulated Amortization of Non-Utility Property
2205	Accounts Payable			ok	2205 Accounts Payable
2208	Customer Credit Balances			ok	2208 Customer Credit Balances
2210	Current Portion of Customer Deposits			ok	2210 Current Portion of Customer Deposits
2215	Dividends Declared			ok	2215 Dividends Declared
2220	Miscellaneous Current and Accrued Liabilities			ok	2220 Miscellaneous Current and Accrued Liabilities
2225	Notes and Loans Payable			ok	2225 Notes and Loans Payable
2240	Accounts Payable to Associated Companies			ok	2240 Accounts Payable to Associated Companies
2242	Notes Payable to Associated Companies			ok	2242 Notes Payable to Associated Companies
2250	Debt Retirement Charges(DRG) Payable			ok	2250 Debt Retirement Charges(DRG) Payable
2252	Transmission Charges Payable			ok	2252 Transmission Charges Payable
2254	Electrical Safety Authority Fees Payable			ok	2254 Electrical Safety Authority Fees Payable
2256	Independent Market Operator Fees and Penalties Payable			ok	2256 Independent Market Operator Fees and Penalties Payable
2260	Current Portion of Long Term Debt			ok	2260 Current Portion of Long Term Debt
2262	Ontario Hydro Debt - Current Portion			ok	2262 Ontario Hydro Debt - Current Portion
2264	Pensions and Employee Benefits - Current Portion			ok	2264 Pensions and Employee Benefits - Current Portion
2268	Accrued Interest on Long Term Debt			ok	2268 Accrued Interest on Long Term Debt
2270	Matured Long Term Debt			ok	2270 Matured Long Term Debt
2272	Matured Interest on Long Term Debt			ok	2272 Matured Interest on Long Term Debt
2285	Obligations Under Capital Leases--Current			ok	2285 Obligations Under Capital Leases--Current
2290	Commodity Taxes			ok	2290 Commodity Taxes
2292	Payroll Deductions / Expenses Payable			ok	2292 Payroll Deductions / Expenses Payable
2294	Accrual for Taxes, Payments in Lieu of Taxes, Etc.			ok	2294 Accrual for Taxes, Payments in Lieu of Taxes, Etc.
2296	Future Income Taxes - Current			ok	2296 Future Income Taxes - Current
2305	Accumulated Provision for Injuries and Damages			ok	2305 Accumulated Provision for Injuries and Damages
2306	Employee Future Benefits			ok	2306 Employee Future Benefits
2308	Other Pensions - Past Service Liability			ok	2308 Other Pensions - Past Service Liability
2310	Vested Sick Leave Liability			ok	2310 Vested Sick Leave Liability
2315	Accumulated Provision for Rate Refunds			ok	2315 Accumulated Provision for Rate Refunds
2320	Other Miscellaneous Non-Current Liabilities			ok	2320 Other Miscellaneous Non-Current Liabilities
2325	Obligations Under Capital Lease--Non-Current			ok	2325 Obligations Under Capital Lease--Non-Current
2330	Development Charge Fund			ok	2330 Development Charge Fund



2011 EDR Model

2-1 TRIAL BALANCE DATA (Input)				
Enter account data consistent with the audited books of account. (Enter adjustments on subsequent sheets.)				
Account Number	Account Description	2010 Total	2011 Total	
		\$	\$	\$
2335	Long Term Customer Deposits			ok 2335 Long Term Customer Deposits
2340	Collateral Funds Liability			ok 2340 Collateral Funds Liability
2345	Unamortized Premium on Long Term Debt			ok 2345 Unamortized Premium on Long Term Debt
2348	O.M.E.R.S. - Past Service Liability - Long Term Portion			ok 2348 O.M.E.R.S. - Past Service Liability - Long Term Portion
2350	Future Income Tax - Non-Current			ok 2350 Future Income Tax - Non-Current
2405	Other Regulatory Liabilities			ok 2405 Other Regulatory Liabilities
2410	Deferred Gains from Disposition of Utility Plant			ok 2410 Deferred Gains from Disposition of Utility Plant
2415	Unamortized Gain on Reacquired Debt			ok 2415 Unamortized Gain on Reacquired Debt
2425	Other Deferred Credits			ok 2425 Other Deferred Credits
2435	Accrued Rate-Payer Benefit			ok 2435 Accrued Rate-Payer Benefit
2505	Debentures Outstanding - Long Term Portion			ok 2505 Debentures Outstanding - Long Term Portion
2510	Debenture Advances			ok 2510 Debenture Advances
2515	Reacquired Bonds			ok 2515 Reacquired Bonds
2520	Other Long Term Debt			ok 2520 Other Long Term Debt
2525	Term Bank Loans - Long Term Portion			ok 2525 Term Bank Loans - Long Term Portion
2530	Ontario Hydro Debt Outstanding - Long Term Portion			ok 2530 Ontario Hydro Debt Outstanding - Long Term Portion
2550	Advances from Associated Companies			ok 2550 Advances from Associated Companies
3005	Common Shares Issued			ok 3005 Common Shares Issued
3008	Preference Shares Issued			ok 3008 Preference Shares Issued
3010	Contributed Surplus			ok 3010 Contributed Surplus
3020	Donations Received			ok 3020 Donations Received
3022	Development Charges Transferred to Equity			ok 3022 Development Charges Transferred to Equity
3026	Capital Stock Held in Treasury			ok 3026 Capital Stock Held in Treasury
3030	Miscellaneous Paid-In Capital			ok 3030 Miscellaneous Paid-In Capital
3035	Installments Received on Capital Stock			ok 3035 Installments Received on Capital Stock
3040	Appropriated Retained Earnings			ok 3040 Appropriated Retained Earnings
3045	Unappropriated Retained Earnings			ok 3045 Unappropriated Retained Earnings
3046	Balance Transferred From Income			ok 3046 Balance Transferred From Income
3047	Appropriations of Retained Earnings - Current Period			ok 3047 Appropriations of Retained Earnings - Current Period
3048	Dividends Payable-Preference Shares			ok 3048 Dividends Payable-Preference Shares
3049	Dividends Payable-Common Shares			ok 3049 Dividends Payable-Common Shares
3055	Adjustment to Retained Earnings			ok 3055 Adjustment to Retained Earnings
3065	Unappropriated Undistributed Subsidiary Earnings			ok 3065 Unappropriated Undistributed Subsidiary Earnings
4006	Residential Energy Sales			ok 4006 Residential Energy Sales
4010	Commercial Energy Sales			ok 4010 Commercial Energy Sales
4015	Industrial Energy Sales			ok 4015 Industrial Energy Sales
4020	Energy Sales to Large Users			ok 4020 Energy Sales to Large Users
4025	Street Lighting Energy Sales			ok 4025 Street Lighting Energy Sales
4030	Sentinel Lighting Energy Sales			ok 4030 Sentinel Lighting Energy Sales
4035	General Energy Sales			ok 4035 General Energy Sales
4040	Other Energy Sales to Public Authorities			ok 4040 Other Energy Sales to Public Authorities
4045	Energy Sales to Railroads and Railways			ok 4045 Energy Sales to Railroads and Railways
4050	Revenue Adjustment			ok 4050 Revenue Adjustment
4055	Energy Sales for Resale			ok 4055 Energy Sales for Resale
4060	Interdepartmental Energy Sales			ok 4060 Interdepartmental Energy Sales
4062	Billed WMS			ok 4062 Billed WMS
4064	4064-Billed One-Time			ok 4064 Billed-One-Time
4066	Billed NW			ok 4066 Billed NW
4068	Billed CN			ok 4068 Billed CN
4080	Distribution Services Revenue		(\$802,546)	ok 4080 Distribution Services Revenue
4082	Retail Services Revenues		(\$341,000)	ok 4082 Retail Services Revenues
4084	Service Transaction Requests (STR) Revenues		(\$10,400)	ok 4084 Service Transaction Requests (STR) Revenues
4090	Electric Services Incidental to Energy Sales			ok 4090 Electric Services Incidental to Energy Sales
4105	Transmission Charges Revenue			ok 4105 Transmission Charges Revenue
4110	Transmission Services Revenue			ok 4110 Transmission Services Revenue
4205	Interdepartmental Rents			ok 4205 Interdepartmental Rents
4210	Rent from Electric Property			ok 4210 Rent from Electric Property
4215	Other Utility Operating Income			ok 4215 Other Utility Operating Income
4220	Other Electric Revenues			ok 4220 Other Electric Revenues
4225	Late Payment Charges		(\$1,400,000)	ok 4225 Late Payment Charges
4230	Sales of Water and Water Power			ok 4230 Sales of Water and Water Power
4235	Miscellaneous Service Revenues		(\$3,707,794)	ok 4235 Miscellaneous Service Revenues



2011 EDR Model

2-1 TRIAL BALANCE DATA (Input)				
Enter account data consistent with the audited books of account. (Enter adjustments on subsequent sheets.)				
Account Number	Account Description	2010 Total	2011 Total	
		\$	\$	\$
4240	Provision for Rate Refunds			ok 4240 Provision for Rate Refunds
4245	Government Assistance Directly Credited to Income			ok 4245 Government Assistance Directly Credited to Income
4305	Regulatory Debits			ok 4305 Regulatory Debits
4310	Regulatory Credits			ok 4310 Regulatory Credits
4315	Revenues from Electric Plant Leased to Others		(\$821,000)	ok 4315 Revenues from Electric Plant Leased to Others
4320	Expenses of Electric Plant Leased to Others			ok 4320 Expenses of Electric Plant Leased to Others
4325	Revenues from Merchandise, Jobbing, Etc.		(\$3,000,000)	ok 4325 Revenues from Merchandise, Jobbing, Etc.
4330	Costs and Expenses of Merchandising, Jobbing, Etc.		\$2,316,470	ok 4330 Costs and Expenses of Merchandising, Jobbing, Etc.
4335	Profits and Losses from Financial Instrument Hedges			ok 4335 Profits and Losses from Financial Instrument Hedges
4340	Profits and Losses from Financial Instrument Investments			ok 4340 Profits and Losses from Financial Instrument Investments
4345	Gains from Disposition of Future Use Utility Plant			ok 4345 Gains from Disposition of Future Use Utility Plant
4350	Losses from Disposition of Future Use Utility Plant			ok 4350 Losses from Disposition of Future Use Utility Plant
4355	Gain on Disposition of Utility and Other Property		(\$103,020)	ok 4355 Gain on Disposition of Utility and Other Property
4360	Loss on Disposition of Utility and Other Property			ok 4360 Loss on Disposition of Utility and Other Property
4365	Gains from Disposition of Allowances for Emission			ok 4365 Gains from Disposition of Allowances for Emission
4370	Losses from Disposition of Allowances for Emission			ok 4370 Losses from Disposition of Allowances for Emission
4375	Revenues from Non-Utility Operations			ok 4375 Revenues from Non-Utility Operations
4380	Expenses of Non-Utility Operations			ok 4380 Expenses of Non-Utility Operations
4385	Non-Utility Rental Income			ok 4385 Non-Utility Rental Income
4390	Miscellaneous Non-Operating Income			ok 4390 Miscellaneous Non-Operating Income
4395	Rate-Payer Benefit Including Interest			ok 4395 Rate-Payer Benefit Including Interest
4398	Foreign Exchange Gains and Losses, Including Amortization			ok 4398 Foreign Exchange Gains and Losses, Including Amortization
4405	Interest and Dividend Income		(\$58,000)	ok 4405 Interest and Dividend Income
4415	Equity in Earnings of Subsidiary Companies			ok 4415 Equity in Earnings of Subsidiary Companies
4505	Operation Supervision and Engineering			ok 4505 Operation Supervision and Engineering
4510	Fuel			ok 4510 Fuel
4515	Steam Expense			ok 4515 Steam Expense
4520	Steam From Other Sources			ok 4520 Steam From Other Sources
4525	Steam Transferred-Credit			ok 4525 Steam Transferred-Credit
4530	Electric Expense			ok 4530 Electric Expense
4535	Water For Power			ok 4535 Water For Power
4540	Water Power Taxes			ok 4540 Water Power Taxes
4545	Hydraulic Expenses			ok 4545 Hydraulic Expenses
4550	Generation Expense			ok 4550 Generation Expense
4555	Miscellaneous Power Generation Expenses			ok 4555 Miscellaneous Power Generation Expenses
4560	Rents			ok 4560 Rents
4565	Allowances for Emissions			ok 4565 Allowances for Emissions
4605	Maintenance Supervision and Engineering			ok 4605 Maintenance Supervision and Engineering
4610	Maintenance of Structures			ok 4610 Maintenance of Structures
4615	Maintenance of Boiler Plant			ok 4615 Maintenance of Boiler Plant
4620	Maintenance of Electric Plant			ok 4620 Maintenance of Electric Plant
4625	Maintenance of Reservoirs, Dams and Waterways			ok 4625 Maintenance of Reservoirs, Dams and Waterways
4630	Maintenance of Water Wheels, Turbines and Generators			ok 4630 Maintenance of Water Wheels, Turbines and Generators
4635	Maintenance of Generating and Electric Plant			ok 4635 Maintenance of Generating and Electric Plant
4640	Maintenance of Miscellaneous Power Generation Plant			ok 4640 Maintenance of Miscellaneous Power Generation Plant
4705	Power Purchased		\$603,090,617	ok 4705 Power Purchased
4708	Charges-WMS			ok 4708 Charges-WMS
4710	Cost of Power Adjustments			ok 4710 Cost of Power Adjustments
4712	Charges-One-Time			ok 4712 Charges-One-Time
4714	Charges-NW			ok 4714 Charges-NW
4715	System Control and Load Dispatching			ok 4715 System Control and Load Dispatching
4716	Charges-CN			ok 4716 Charges-CN
4720	Other Expenses			ok 4720 Other Expenses
4725	Competition Transition Expense			ok 4725 Competition Transition Expense
4730	Rural Rate Assistance Expense			ok 4730 Rural Rate Assistance Expense
4805	Operation Supervision and Engineering			ok 4805 Operation Supervision and Engineering
4810	Load Dispatching			ok 4810 Load Dispatching
4815	Station Buildings and Fixtures Expenses			ok 4815 Station Buildings and Fixtures Expenses
4820	Transformer Station Equipment - Operating Labour			ok 4820 Transformer Station Equipment - Operating Labour
4825	Transformer Station Equipment - Operating Supplies and Expense			ok 4825 Transformer Station Equipment - Operating Supplies and Expense
4830	Overhead Line Expenses			ok 4830 Overhead Line Expenses
4835	Underground Line Expenses			ok 4835 Underground Line Expenses



2-1 TRIAL BALANCE DATA (Input)				
Enter account data consistent with the audited books of account. (Enter adjustments on subsequent sheets.)				
Account Number	Account Description	2010 Total	2011 Total	
		\$	\$	\$
4840	Transmission of Electricity by Others			ok 4840 Transmission of Electricity by Others
4845	Miscellaneous Transmission Expense			ok 4845 Miscellaneous Transmission Expense
4850	Rents			ok 4850 Rents
4905	Maintenance Supervision and Engineering			ok 4905 Maintenance Supervision and Engineering
4910	Maintenance of Transformer Station Buildings and Fixtures			ok 4910 Maintenance of Transformer Station Buildings and Fixtures
4916	Maintenance of Transformer Station Equipment			ok 4916 Maintenance of Transformer Station Equipment
4930	Maintenance of Towers, Poles and Fixtures			ok 4930 Maintenance of Towers, Poles and Fixtures
4935	Maintenance of Overhead Conductors and Devices			ok 4935 Maintenance of Overhead Conductors and Devices
4940	Maintenance of Overhead Lines - Right of Way			ok 4940 Maintenance of Overhead Lines - Right of Way
4945	Maintenance of Overhead Lines - Roads and Trails Repairs			ok 4945 Maintenance of Overhead Lines - Roads and Trails Repairs
4950	Maintenance of Overhead Lines - Snow Removal from Roads and Trails			ok 4950 Maintenance of Overhead Lines - Snow Removal from Roads and Trails
4960	Maintenance of Underground Lines			ok 4960 Maintenance of Underground Lines
4965	Maintenance of Miscellaneous Transmission Plant			ok 4965 Maintenance of Miscellaneous Transmission Plant
5005	Operation Supervision and Engineering			ok 5005 Operation Supervision and Engineering
5010	Load Dispatching	\$2,290,007		ok 5010 Load Dispatching
5012	Station Buildings and Fixtures Expense	\$690,955		ok 5012 Station Buildings and Fixtures Expense
5014	Transformer Station Equipment - Operation Labour	\$102,177		ok 5014 Transformer Station Equipment - Operation Labour
5015	Transformer Station Equipment - Operation Supplies and Expenses	\$21,804		ok 5015 Transformer Station Equipment - Operation Supplies and Expenses
5016	Distribution Station Equipment - Operation Labour	\$330,426		ok 5016 Distribution Station Equipment - Operation Labour
5017	Distribution Station Equipment - Operation Supplies and Expenses	\$187,470		ok 5017 Distribution Station Equipment - Operation Supplies and Expenses
5020	Overhead Distribution Lines and Feeders - Operation Labour	\$829,978		ok 5020 Overhead Distribution Lines and Feeders - Operation Labour
5025	Overhead Distribution Lines and Feeders - Operation Supplies and Expenses	\$2,430,131		ok 5025 Overhead Distribution Lines & Feeders - Operation Supplies and Expenses
5030	Overhead Subtransmission Feeders - Operation			ok 5030 Overhead Subtransmission Feeders - Operation
5035	Overhead Distribution Transformers- Operation	\$2,131		ok 5035 Overhead Distribution Transformers- Operation
5040	Underground Distribution Lines and Feeders - Operation Labour	\$787,810		ok 5040 Underground Distribution Lines and Feeders - Operation Labour
5045	Underground Distribution Lines and Feeders - Operation Supplies and Expenses	\$1,740,310		ok 5045 Underground Distribution Lines & Feeders - Operation Supplies & Expenses
5050	Underground Subtransmission Feeders - Operation			ok 5050 Underground Subtransmission Feeders - Operation
5055	Underground Distribution Transformers - Operation	\$19,208		ok 5055 Underground Distribution Transformers - Operation
5060	Street Lighting and Signal System Expense			ok 5060 Street Lighting and Signal System Expense
5065	Meter Expense	\$3,352,547		ok 5065 Meter Expense
5070	Customer Premises - Operation Labour			ok 5070 Customer Premises - Operation Labour
5075	Customer Premises - Materials and Expenses			ok 5075 Customer Premises - Materials and Expenses
5085	Miscellaneous Distribution Expense	\$2,484,483		ok 5085 Miscellaneous Distribution Expense
5090	Underground Distribution Lines and Feeders - Rental Paid			ok 5090 Underground Distribution Lines and Feeders - Rental Paid
5095	Overhead Distribution Lines and Feeders - Rental Paid			ok 5095 Overhead Distribution Lines and Feeders - Rental Paid
5096	Other Rent			ok 5096 Other Rent
5105	Maintenance Supervision and Engineering			ok 5105 Maintenance Supervision and Engineering
5110	Maintenance of Buildings and Fixtures - Distribution Stations			ok 5110 Maintenance of Buildings and Fixtures - Distribution Stations
5112	Maintenance of Transformer Station Equipment	\$344,063		ok 5112 Maintenance of Transformer Station Equipment
5114	Maintenance of Distribution Station Equipment	\$1,287,135		ok 5114 Maintenance of Distribution Station Equipment
5120	Maintenance of Poles, Towers and Fixtures	\$348,779		ok 5120 Maintenance of Poles, Towers and Fixtures
5125	Maintenance of Overhead Conductors and Devices	\$754,245		ok 5125 Maintenance of Overhead Conductors and Devices
5130	Maintenance of Overhead Services	\$801,575		ok 5130 Maintenance of Overhead Services
5135	Overhead Distribution Lines and Feeders - Right of Way			ok 5135 Overhead Distribution Lines and Feeders - Right of Way
5145	Maintenance of Underground Conduit	\$171,830		ok 5145 Maintenance of Underground Conduit
5150	Maintenance of Underground Conductors and Devices	\$732,898		ok 5150 Maintenance of Underground Conductors and Devices
5155	Maintenance of Underground Services	\$449,782		ok 5155 Maintenance of Underground Services
5160	Maintenance of Line Transformers	\$506,000		ok 5160 Maintenance of Line Transformers
5165	Maintenance of Street Lighting and Signal Systems			ok 5165 Maintenance of Street Lighting and Signal Systems
5170	Sentinel Lights - Labour			ok 5170 Sentinel Lights - Labour
5172	Sentinel Lights - Materials and Expenses			ok 5172 Sentinel Lights - Materials and Expenses
5175	Maintenance of Meters	\$689,734		ok 5175 Maintenance of Meters
5178	Customer Installations Expenses- Leased Property			ok 5178 Customer Installations Expenses- Leased Property
5185	Water Heater Rentals - Labour			ok 5185 Water Heater Rentals - Labour
5186	Water Heater Rentals - Materials and Expenses			ok 5186 Water Heater Rentals - Materials and Expenses
5190	Water Heater Controls - Labour			ok 5190 Water Heater Controls - Labour
5192	Water Heater Controls - Materials and Expenses			ok 5192 Water Heater Controls - Materials and Expenses
5195	Maintenance of Other Installations on Customer Premises			ok 5195 Maintenance of Other Installations on Customer Premises
5205	Purchase of Transmission and System Services			ok 5205 Purchase of Transmission and System Services
5210	Transmission Charges			ok 5210 Transmission Charges
5215	Transmission Charges Recovered			ok 5215 Transmission Charges Recovered
5305	Supervision			ok 5305 Supervision



2-1 TRIAL BALANCE DATA (Input)							
Enter account data consistent with the audited books of account. (Enter adjustments on subsequent sheets.)							
Account Number	Account Description		2010 Total	2011 Total			
		\$	\$	\$			
5310	Meter Reading Expense			\$291,212	ok	5310	Meter Reading Expense
5315	Customer Billing			\$7,073,022	ok	5315	Customer Billing
5320	Collecting			\$1,943,436	ok	5320	Collecting
5325	Collecting- Cash Over and Short				ok	5325	Collecting- Cash Over and Short
5330	Collection Charges				ok	5330	Collection Charges
5335	Bad Debt Expense			\$1,533,060	ok	5335	Bad Debt Expense
5340	Miscellaneous Customer Accounts Expenses				ok	5340	Miscellaneous Customer Accounts Expenses
5405	Supervision				ok	5405	Supervision
5410	Community Relations - Sundry			\$5,905,497	ok	5410	Community Relations - Sundry
5415	Energy Conservation			\$501,641	ok	5415	Energy Conservation
5420	Community Safety Program				ok	5420	Community Safety Program
5425	Miscellaneous Customer Service and Informational Expenses				ok	5425	Miscellaneous Customer Service and Informational Expenses
5505	Supervision			\$199,923	ok	5505	Supervision
5510	Demonstrating and Selling Expense				ok	5510	Demonstrating and Selling Expense
5515	Advertising Expense				ok	5515	Advertising Expense
5520	Miscellaneous Sales Expense				ok	5520	Miscellaneous Sales Expense
5605	Executive Salaries and Expenses			\$2,230,022	ok	5605	Executive Salaries and Expenses
5610	Management Salaries and Expenses			\$5,804,604	ok	5610	Management Salaries and Expenses
5615	General Administrative Salaries and Expenses			\$2,679,969	ok	5615	General Administrative Salaries and Expenses
5620	Office Supplies and Expenses			\$4,061,460	ok	5620	Office Supplies and Expenses
5625	Administrative Expense Transferred?Credit			(\$1,931,338)	ok	5625	Administrative Expense Transferred Credit
5630	Outside Services Employed			\$569,018	ok	5630	Outside Services Employed
5635	Property Insurance			\$780,070	ok	5635	Property Insurance
5640	Injuries and Damages			\$626,883	ok	5640	Injuries and Damages
5645	Employee Pensions and Benefits			\$728,000	ok	5645	Employee Pensions and Benefits
5650	Franchise Requirements				ok	5650	Franchise Requirements
5655	Regulatory Expenses			\$1,419,756	ok	5655	Regulatory Expenses
5660	General Advertising Expenses				ok	5660	General Advertising Expenses
5665	Miscellaneous General Expenses			\$2,517,516	ok	5665	Miscellaneous General Expenses
5670	Rent				ok	5670	Rent
5675	Maintenance of General Plant			\$4,625,549	ok	5675	Maintenance of General Plant
5680	Electrical Safety Authority Fees				ok	5680	Electrical Safety Authority Fees
5685	Independent Market Operator Fees and Penalties				ok	5685	Independent Market Operator Fees and Penalties
5705	Amortization Expense ? Property, Plant, and Equipment			\$47,449,596	ok	5705	Amortization Expense - Property, Plant, and Equipment
5710	Amortization of Limited Term Electric Plant				ok	5710	Amortization of Limited Term Electric Plant
5715	Amortization of Intangibles and Other Electric Plant				ok	5715	Amortization of Intangibles and Other Electric Plant
5720	Amortization of Electric Plant Acquisition Adjustments				ok	5720	Amortization of Electric Plant Acquisition Adjustments
5725	Miscellaneous Amortization			\$53,672	ok	5725	Miscellaneous Amortization
5730	Amortization of Unrecovered Plant and Regulatory Study Costs				ok	5730	Amortization of Unrecovered Plant and Regulatory Study Costs
5735	Amortization of Deferred Development Costs				ok	5735	Amortization of Deferred Development Costs
5740	Amortization of Deferred Charges				ok	5740	Amortization of Deferred Charges
6005	Interest on Long Term Debt				ok	6005	Interest on Long Term Debt
6010	Amortization of Debt Discount and Expense				ok	6010	Amortization of Debt Discount and Expense
6015	Amortization of Premium on Debt?Credit				ok	6015	Amortization of Premium on Debt Credit
6020	Amortization of Loss on Reacquired Debt				ok	6020	Amortization of Loss on Reacquired Debt
6025	Amortization of Gain on Reacquired Debt--Credit				ok	6025	Amortization of Gain on Reacquired Debt--Credit
6030	Interest on Debt to Associated Companies				ok	6030	Interest on Debt to Associated Companies
6035	Other Interest Expense				ok	6035	Other Interest Expense
6040	Allowance for Borrowed Funds Used During Construction--Credit				ok	6040	Allowance for Borrowed Funds Used During Construction--Credit
6042	Allowance For Other Funds Used During Construction				ok	6042	Allowance For Other Funds Used During Construction
6045	Interest Expense on Capital Lease Obligations				ok	6045	Interest Expense on Capital Lease Obligations
6105	Taxes Other Than Income Taxes			\$1,800,217	ok	6105	Taxes Other Than Income Taxes
6110	Income Taxes				ok	6110	Income Taxes
6115	Provision for Future Income Taxes				ok	6115	Provision for Future Income Taxes
6205	Donations			\$51,510	ok	6205	Donations
6210	Life Insurance				ok	6210	Life Insurance
6215	Penalties				ok	6215	Penalties
6225	Other Deductions				ok	6225	Other Deductions
6305	Extraordinary Income				ok	6305	Extraordinary Income
6310	Extraordinary Deductions				ok	6310	Extraordinary Deductions
6315	Income Taxes, Extraordinary Items				ok	6315	Income Taxes, Extraordinary Items
6405	Discontinues Operations - Income/ Gains				ok	6405	Discontinues Operations - Income/ Gains



2-2 UNADJUSTED ACCOUNTING DATA

All adjustment are entered on subsequent sheets.

Account Number	Account Description	2010	2011	Grouping for Minimum Reporting (Note that Groups are not sequential blocks of accounts. Use "Show Groups" to highlight.)
		Total	Total	
		\$	\$	\$
DETAILED ACCOUNTS:				
1005	Cash	0	0	0 Unclassified Asset
1010	Cash Advances and Working Funds	0	0	0 Unclassified Asset
1020	Interest Special Deposits	0	0	0 Unclassified Asset
1030	Dividend Special Deposits	0	0	0 Unclassified Asset
1040	Other Special Deposits	0	0	0 Unclassified Asset
1060	Term Deposits	0	0	0 Unclassified Asset
1070	Current Investments	0	0	0 Unclassified Asset
1100	Customer Accounts Receivable	0	0	0 Unclassified Asset
1102	Accounts Receivable - Services	0	0	0 Unclassified Asset
1104	Accounts Receivable - Recoverable Work	0	0	0 Unclassified Asset
1105	Accounts Receivable - Merchandise, Jobbing, etc.	0	0	0 Unclassified Asset
1110	Other Accounts Receivable	0	0	0 Unclassified Asset
1120	Accrued Utility Revenues	0	0	0 Unclassified Asset
1130	Accumulated Provision for Uncollectible Accounts--Credit	0	0	0 Unclassified Asset
1140	Interest and Dividends Receivable	0	0	0 Unclassified Asset
1150	Rents Receivable	0	0	0 Unclassified Asset
1170	Notes Receivable	0	0	0 Unclassified Asset
1180	Prepayments	0	0	0 Unclassified Asset
1190	Miscellaneous Current and Accrued Assets	0	0	0 Unclassified Asset
1200	Accounts Receivable from Associated Companies	0	0	0 Unclassified Asset
1210	Notes Receivable from Associated Companies	0	0	0 Unclassified Asset
1305	Fuel Stock	0	0	0 Unclassified Asset
1330	Plant Materials and Operating Supplies	0	0	0 Unclassified Asset
1340	Merchandise	0	0	0 Unclassified Asset
1350	Other Materials and Supplies	0	0	0 Unclassified Asset
1405	Long Term Investments in Non-Associated Companies	0	0	0 Unclassified Asset
1408	Long Term Receivable - Street Lighting Transfer	0	0	0 Unclassified Asset
1410	Other Special or Collateral Funds	0	0	0 Unclassified Asset
1415	Sinking Funds	0	0	0 Unclassified Asset
1425	Unamortized Debt Expense	0	0	0 Unclassified Asset
1445	Unamortized Discount on Long-Term Debt--Debit	0	0	0 Unclassified Asset
1455	Unamortized Deferred Foreign Currency Translation Gains and Losses	0	0	0 Unclassified Asset
1460	Other Non-Current Assets	0	0	0 Unclassified Asset
1465	O.M.E.R.S. Past Service Costs	0	0	0 Unclassified Asset
1470	Past Service Costs - Employee Future Benefits	0	0	0 Unclassified Asset
1475	Past Service Costs - Other Pension Plans	0	0	0 Unclassified Asset
1480	Portfolio Investments - Associated Companies	0	0	0 Unclassified Asset
1485	Investment in Associated Companies - Significant Influence	0	0	0 Unclassified Asset
1490	Investment in Subsidiary Companies	0	0	0 Unclassified Asset
1505	Unrecovered Plant and Regulatory Study Costs	0	0	0 Unclassified Asset
1508	Other Regulatory Assets	0	0	0 Unclassified Asset
1510	Preliminary Survey and Investigation Charges	0	0	0 Unclassified Asset
1515	Emission Allowance Inventory	0	0	0 Unclassified Asset
1516	Emission Allowances Withheld	0	0	0 Unclassified Asset
1518	RCVAREtail	0	0	0 Unclassified Asset
1520	Power Purchase Variance Account	0	0	0 Unclassified Asset
1525	Miscellaneous Deferred Debits	0	0	0 Unclassified Asset
1530	Deferred Losses from Disposition of Utility Plant	0	0	0 Unclassified Asset
1540	Unamortized Loss on Reacquired Debt	0	0	0 Unclassified Asset
1545	Development Charge Deposits/ Receivables	0	0	0 Unclassified Asset
1548	RCVASTR	0	0	0 Unclassified Asset
1560	Deferred Development Costs	0	0	0 Unclassified Asset
1562	Deferred Payments in Lieu of Taxes	0	0	0 Unclassified Asset
1563	Account 1563 - Deferred PILs Contra Account	0	0	0 Unclassified Asset
1565	Conservation and Demand Management Expenditures and Recoveries	0	0	0 CDM Expenditures and Recoveries
1570	Qualifying Transition Costs	0	0	0 Unclassified Asset
1571	Pre-market Opening Energy Variance	0	0	0 Unclassified Asset
1572	Extraordinary Event Costs	0	0	0 Unclassified Asset
1574	Deferred Rate Impact Amounts	0	0	0 Unclassified Asset
1580	RSVAWMS	0	0	0 Unclassified Asset
1582	RSVAONE-TIME	0	0	0 Unclassified Asset
1584	RSVANW	0	0	0 Unclassified Asset
1586	RSVACN	0	0	0 Unclassified Asset
1588	RSVAPOWER	0	0	0 Unclassified Asset
1590	Recovery of Regulatory Asset Balances	0	0	0 Unclassified Asset



2-2 UNADJUSTED ACCOUNTING DATA

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Account Number	Account Description	2010		2011		Grouping for Minimum Reporting (Note that Groups are not sequential blocks of accounts. Use "Show Groups" to highlight.)
		Total	Total	Total	Total	
		\$	\$	\$	\$	
1605	Electric Plant in Service - Control Account	0	0	0	0	Unclassified Asset
1606	Organization	0	0	0	0	Non-Distribution Asset
1608	Franchises and Consents	0	0	0	0	Other Distribution Assets
1610	Miscellaneous Intangible Plant	0	0	0	0	Non-Distribution Asset
1615	Land	0	0	0	0	Non-Distribution Asset
1616	Land Rights	0	0	0	0	Non-Distribution Asset
1620	Buildings and Fixtures	0	0	0	0	Non-Distribution Asset
1630	Leasehold Improvements	0	0	0	0	Non-Distribution Asset
1635	Boiler Plant Equipment	0	0	0	0	Non-Distribution Asset
1640	Engines and Engine-Driven Generators	0	0	0	0	Non-Distribution Asset
1645	Turbogenerator Units	0	0	0	0	Non-Distribution Asset
1650	Reservoirs, Dams and Waterways	0	0	0	0	Non-Distribution Asset
1655	Water Wheels, Turbines and Generators	0	0	0	0	Non-Distribution Asset
1660	Roads, Railroads and Bridges	0	0	0	0	Non-Distribution Asset
1665	Fuel Holders, Producers and Accessories	0	0	0	0	Non-Distribution Asset
1670	Prime Movers	0	0	0	0	Non-Distribution Asset
1675	Generators	0	0	0	0	Non-Distribution Asset
1680	Accessory Electric Equipment	0	0	0	0	Non-Distribution Asset
1685	Miscellaneous Power Plant Equipment	0	0	0	0	Non-Distribution Asset
1705	Land	0	0	0	0	Non-Distribution Asset
1706	Land Rights	0	0	0	0	Non-Distribution Asset
1708	Buildings and Fixtures	0	0	0	0	Non-Distribution Asset
1710	Leasehold Improvements	0	0	0	0	Non-Distribution Asset
1715	Station Equipment	0	0	0	0	Non-Distribution Asset
1720	Towers and Fixtures	0	0	0	0	Non-Distribution Asset
1725	Poles and Fixtures	0	0	0	0	Non-Distribution Asset
1730	Overhead Conductors and Devices	0	0	0	0	Non-Distribution Asset
1735	Underground Conduit	0	0	0	0	Non-Distribution Asset
1740	Underground Conductors and Devices	0	0	0	0	Non-Distribution Asset
1745	Roads and Trails	0	0	0	0	Non-Distribution Asset
1805	Land	0	3,769,535	3,769,535	3,769,535	Land and Buildings
1806	Land Rights	0	2,707,541	2,707,541	2,707,541	Land and Buildings
1808	Buildings and Fixtures	0	19,094,387	20,701,466	20,701,466	Land and Buildings
1810	Leasehold Improvements	0	0	0	0	Land and Buildings
1815	Transformer Station Equipment - Normally Primary above 50 kV	0	65,718,912	75,480,054	75,480,054	TS Primary Above 50
1820	Distribution Station Equipment - Normally Primary below 50 kV	0	66,159,391	70,574,390	70,574,390	DS
1825	Storage Battery Equipment	0	0	0	0	Other Distribution Assets
1830	Poles, Towers and Fixtures	0	121,583,515	129,926,512	129,926,512	Poles, Wires
1835	Overhead Conductors and Devices	0	67,374,174	72,824,430	72,824,430	Poles, Wires
1840	Underground Conduit	0	171,670,358	180,307,702	180,307,702	Poles, Wires
1845	Underground Conductors and Devices	0	160,738,419	171,572,419	171,572,419	Poles, Wires
1850	Line Transformers	0	139,281,262	148,244,584	148,244,584	Line Transformers
1855	Services	0	101,731,820	111,162,914	111,162,914	Services and Meters
1860	Meters	0	107,324,699	109,787,736	109,787,736	Services and Meters
1865	Other Installations on Customer's Premises	0	0	0	0	Non-Distribution Asset
1870	Leased Property on Customer Premises	0	0	0	0	Non-Distribution Asset
1875	Street Lighting and Signal Systems	0	0	0	0	Non-Distribution Asset
1905	Land	0	863,045	4,500,056	4,500,056	Land and Buildings
1906	Land Rights	0	131,740	131,740	131,740	Land and Buildings
1908	Buildings and Fixtures	0	49,915,440	51,070,722	51,070,722	General Plant
1910	Leasehold Improvements	0	0	0	0	General Plant
1915	Office Furniture and Equipment	0	4,455,228	4,649,718	4,649,718	Equipment
1920	Computer Equipment - Hardware	0	11,985,143	13,874,308	13,874,308	IT Assets
1925	Computer Software	0	62,596,462	66,303,387	66,303,387	IT Assets
1930	Transportation Equipment	0	23,779,330	26,042,303	26,042,303	Equipment
1935	Stores Equipment	0	482,844	482,844	482,844	Equipment
1940	Tools, Shop and Garage Equipment	0	7,066,903	7,674,807	7,674,807	Equipment
1945	Measurement and Testing Equipment	0	791,915	791,915	791,915	Equipment
1950	Power Operated Equipment	0	0	0	0	Equipment
1955	Communication Equipment	0	1,609,512	2,465,228	2,465,228	Equipment
1960	Miscellaneous Equipment	0	204,882	335,911	335,911	Equipment
1965	Water Heater Rental Units	0	0	0	0	Non-Distribution Asset
1970	Load Management Controls - Customer Premises	0	1,038,999	1,137,812	1,137,812	Other Distribution Assets
1975	Load Management Controls - Utility Premises	0	71,915	71,915	71,915	Other Distribution Assets
1980	System Supervisory Equipment	0	11,026,530	13,088,907	13,088,907	Other Distribution Assets
1985	Sentinel Lighting Rental Units	0	0	0	0	Non-Distribution Asset
1990	Other Tangible Property	0	0	0	0	Other Distribution Assets
1995	Contributions and Grants - Credit	0	-173,557,916	-190,128,104	-190,128,104	Contributions and Grants



2-2 UNADJUSTED ACCOUNTING DATA

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Account Number	Account Description	2010			2011			Grouping for Minimum Reporting (Note that Groups are not sequential blocks of accounts. Use "Show Groups" to highlight.)
		Total	Total	Total	Total	Total	Total	
		\$	\$	\$	\$	\$	\$	
2005	Property Under Capital Leases	0	0	0	0	0	0 Other Distribution Assets	
2010	Electric Plant Purchased or Sold	0	0	0	0	0	0 Other Distribution Assets	
2020	Experimental Electric Plant Unclassified	0	0	0	0	0	0 Non-Distribution Asset	
2030	Electric Plant and Equipment Leased to Others	0	0	0	0	0	0 Non-Distribution Asset	
2040	Electric Plant Held for Future Use	0	0	0	0	0	0 Non-Distribution Asset	
2050	Completed Construction Not Classified--Electric	0	0	0	0	0	0 Other Distribution Assets	
2055	Construction Work in Progress--Electric	0	0	0	0	0	0 Non-Distribution Asset	
2060	Electric Plant Acquisition Adjustment	0	0	0	0	0	0 Unclassified Asset	
2065	Other Electric Plant Adjustment	0	0	0	0	0	0 Non-Distribution Asset	
2070	Other Utility Plant	0	0	0	0	0	0 Non-Distribution Asset	
2075	Non-Utility Property Owned or Under Capital Leases	0	0	0	0	0	0 Non-Distribution Asset	
2105	Accum. Amortization of Electric Utility Plant - Property, Plant, & Equipment	0	-503,447,473	-550,897,069	0	0	Accumulated Amortization	
2120	Accumulated Amortization of Electric Utility Plant - Intangibles	0	0	0	0	0	0 Accumulated Amortization	
2140	Accumulated Amortization of Electric Plant Acquisition Adjustment	0	0	0	0	0	0 Unclassified Asset	
2160	Accumulated Amortization of Other Utility Plant	0	0	0	0	0	0 Non-Distribution Asset	
2180	Accumulated Amortization of Non-Utility Property	0	-1,061,702	-1,115,374	0	0	0 Non-Distribution Asset	
2205	Accounts Payable	0	0	0	0	0	0 Liability	
2208	Customer Credit Balances	0	0	0	0	0	0 Liability	
2210	Current Portion of Customer Deposits	0	0	0	0	0	0 Liability	
2215	Dividends Declared	0	0	0	0	0	0 Liability	
2220	Miscellaneous Current and Accrued Liabilities	0	0	0	0	0	0 Liability	
2225	Notes and Loans Payable	0	0	0	0	0	0 Liability	
2240	Accounts Payable to Associated Companies	0	0	0	0	0	0 Liability	
2242	Notes Payable to Associated Companies	0	0	0	0	0	0 Liability	
2250	Debt Retirement Charges(DRC) Payable	0	0	0	0	0	0 Liability	
2252	Transmission Charges Payable	0	0	0	0	0	0 Liability	
2254	Electrical Safety Authority Fees Payable	0	0	0	0	0	0 Liability	
2256	Independent Market Operator Fees and Penalties Payable	0	0	0	0	0	0 Liability	
2260	Current Portion of Long Term Debt	0	0	0	0	0	0 Liability	
2262	Ontario Hydro Debt - Current Portion	0	0	0	0	0	0 Liability	
2264	Pensions and Employee Benefits - Current Portion	0	0	0	0	0	0 Liability	
2268	Accrued Interest on Long Term Debt	0	0	0	0	0	0 Liability	
2270	Matured Long Term Debt	0	0	0	0	0	0 Liability	
2272	Matured Interest on Long Term Debt	0	0	0	0	0	0 Liability	
2285	Obligations Under Capital Leases--Current	0	0	0	0	0	0 Liability	
2290	Commodity Taxes	0	0	0	0	0	0 Liability	
2292	Payroll Deductions / Expenses Payable	0	0	0	0	0	0 Liability	
2294	Accrual for Taxes, Payments in Lieu of Taxes, Etc.	0	0	0	0	0	0 Liability	
2296	Future Income Taxes - Current	0	0	0	0	0	0 Liability	
2305	Accumulated Provision for Injuries and Damages	0	0	0	0	0	0 Liability	
2306	Employee Future Benefits	0	0	0	0	0	0 Liability	
2308	Other Pensions - Past Service Liability	0	0	0	0	0	0 Liability	
2310	Vested Sick Leave Liability	0	0	0	0	0	0 Liability	
2315	Accumulated Provision for Rate Refunds	0	0	0	0	0	0 Liability	
2320	Other Miscellaneous Non-Current Liabilities	0	0	0	0	0	0 Liability	
2325	Obligations Under Capital Lease--Non-Current	0	0	0	0	0	0 Liability	
2330	Development Charge Fund	0	0	0	0	0	0 Liability	
2335	Long Term Customer Deposits	0	0	0	0	0	0 Liability	
2340	Collateral Funds Liability	0	0	0	0	0	0 Liability	
2345	Unamortized Premium on Long Term Debt	0	0	0	0	0	0 Liability	
2348	O.M.E.R.S. - Past Service Liability - Long Term Portion	0	0	0	0	0	0 Liability	
2350	Future Income Tax - Non-Current	0	0	0	0	0	0 Liability	
2405	Other Regulatory Liabilities	0	0	0	0	0	0 Liability	
2410	Deferred Gains from Disposition of Utility Plant	0	0	0	0	0	0 Liability	
2415	Unamortized Gain on Reacquired Debt	0	0	0	0	0	0 Liability	
2425	Other Deferred Credits	0	0	0	0	0	0 Liability	
2435	Accrued Rate-Payer Benefit	0	0	0	0	0	0 Liability	
2505	Debentures Outstanding - Long Term Portion	0	0	0	0	0	0 Liability	
2510	Debenture Advances	0	0	0	0	0	0 Liability	
2515	Reacquired Bonds	0	0	0	0	0	0 Liability	
2520	Other Long Term Debt	0	0	0	0	0	0 Liability	
2525	Term Bank Loans - Long Term Portion	0	0	0	0	0	0 Liability	
2530	Ontario Hydro Debt Outstanding - Long Term Portion	0	0	0	0	0	0 Liability	
2550	Advances from Associated Companies	0	0	0	0	0	0 Liability	
3005	Common Shares Issued	0	0	0	0	0	0 Equity	
3008	Preference Shares Issued	0	0	0	0	0	0 Equity	
3010	Contributed Surplus	0	0	0	0	0	0 Equity	
3020	Donations Received	0	0	0	0	0	0 Equity	



2-2 UNADJUSTED ACCOUNTING DATA

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Account Number	Account Description	2010		2011		Grouping for Minimum Reporting (Note that Groups are not sequential blocks of accounts. Use "Show Groups" to highlight.)
		Total	Total	Total	Total	
		\$	\$	\$	\$	
3022	Development Charges Transferred to Equity	0	0	0	0	Equity
3026	Capital Stock Held in Treasury	0	0	0	0	Equity
3030	Miscellaneous Paid-In Capital	0	0	0	0	Equity
3035	Installments Received on Capital Stock	0	0	0	0	Equity
3040	Appropriated Retained Earnings	0	0	0	0	Equity
3045	Unappropriated Retained Earnings	0	0	0	0	Equity
3046	Balance Transferred From Income	0	0	0	0	Equity
3047	Appropriations of Retained Earnings - Current Period	0	0	0	0	Equity
3048	Dividends Payable-Preference Shares	0	0	0	0	Equity
3049	Dividends Payable-Common Shares	0	0	0	0	Equity
3055	Adjustment to Retained Earnings	0	0	0	0	Equity
3065	Unappropriated Undistributed Subsidiary Earnings	0	0	0	0	Equity
4006	Residential Energy Sales	0	0	0	0	Sales of Electricity
4010	Commercial Energy Sales	0	0	0	0	Sales of Electricity
4015	Industrial Energy Sales	0	0	0	0	Sales of Electricity
4020	Energy Sales to Large Users	0	0	0	0	Sales of Electricity
4025	Street Lighting Energy Sales	0	0	0	0	Sales of Electricity
4030	Sentinel Lighting Energy Sales	0	0	0	0	Sales of Electricity
4035	General Energy Sales	0	0	0	0	Sales of Electricity
4040	Other Energy Sales to Public Authorities	0	0	0	0	Sales of Electricity
4045	Energy Sales to Railroads and Railways	0	0	0	0	Sales of Electricity
4050	Revenue Adjustment	0	0	0	0	Sales of Electricity
4055	Energy Sales for Resale	0	0	0	0	Sales of Electricity
4060	Interdepartmental Energy Sales	0	0	0	0	Sales of Electricity
4062	Billed WMS	0	0	0	0	Sales of Electricity
4064	Billed-One-Time	0	0	0	0	Sales of Electricity
4066	Billed NW	0	0	0	0	Sales of Electricity
4068	Billed CN	0	0	0	0	Sales of Electricity
4080	Distribution Services Revenue	0	0	-802,546	0	Distribution Services Revenue
4082	Retail Services Revenues	0	0	-341,000	0	Other Distribution Revenue
4084	Service Transaction Requests (STR) Revenues	0	0	-10,400	0	Other Distribution Revenue
4090	Electric Services Incidental to Energy Sales	0	0	0	0	Other Distribution Revenue
4105	Transmission Charges Revenue	0	0	0	0	Other Revenue - Unclassified
4110	Transmission Services Revenue	0	0	0	0	Other Revenue - Unclassified
4205	Interdepartmental Rents	0	0	0	0	Other Distribution Revenue
4210	Rent from Electric Property	0	0	0	0	Other Distribution Revenue
4215	Other Utility Operating Income	0	0	0	0	Other Distribution Revenue
4220	Other Electric Revenues	0	0	0	0	Other Distribution Revenue
4225	Late Payment Charges	0	0	-1,400,000	0	Late Payment Charges
4230	Sales of Water and Water Power	0	0	0	0	Other Revenue - Unclassified
4235	Miscellaneous Service Revenues	0	0	-3,707,794	0	Specific Service Charges
4240	Provision for Rate Refunds	0	0	0	0	Other Distribution Revenue
4245	Government Assistance Directly Credited to Income	0	0	0	0	Other Distribution Revenue
4305	Regulatory Debits	0	0	0	0	Other Income & Deductions
4310	Regulatory Credits	0	0	0	0	Other Income & Deductions
4315	Revenues from Electric Plant Leased to Others	0	0	-821,000	0	Other Income & Deductions
4320	Expenses of Electric Plant Leased to Others	0	0	0	0	Other Income & Deductions
4325	Revenues from Merchandise, Jobbing, Etc.	0	0	-3,000,000	0	Other Income & Deductions
4330	Costs and Expenses of Merchandising, Jobbing, Etc.	0	0	2,316,470	0	Other Income & Deductions
4335	Profits and Losses from Financial Instrument Hedges	0	0	0	0	Other Income & Deductions
4340	Profits and Losses from Financial Instrument Investments	0	0	0	0	Other Income & Deductions
4345	Gains from Disposition of Future Use Utility Plant	0	0	0	0	Other Income & Deductions
4350	Losses from Disposition of Future Use Utility Plant	0	0	0	0	Other Income & Deductions
4355	Gain on Disposition of Utility and Other Property	0	0	-103,020	0	Other Income & Deductions
4360	Loss on Disposition of Utility and Other Property	0	0	0	0	Other Income & Deductions
4365	Gains from Disposition of Allowances for Emission	0	0	0	0	Other Income & Deductions
4370	Losses from Disposition of Allowances for Emission	0	0	0	0	Other Income & Deductions
4375	Revenues from Non-Utility Operations	0	0	0	0	Other Revenue - Unclassified
4380	Expenses of Non-Utility Operations	0	0	0	0	Other Revenue - Unclassified
4385	Non-Utility Rental Income	0	0	0	0	Other Revenue - Unclassified
4390	Miscellaneous Non-Operating Income	0	0	0	0	Other Income & Deductions
4395	Rate-Payer Benefit Including Interest	0	0	0	0	Other Income & Deductions
4398	Foreign Exchange Gains and Losses, Including Amortization	0	0	0	0	Other Income & Deductions
4405	Interest and Dividend Income	0	0	-58,000	0	Other Income & Deductions
4415	Equity in Earnings of Subsidiary Companies	0	0	0	0	Other Income & Deductions
4505	Operation Supervision and Engineering	0	0	0	0	Non-Distribution Expenses
4510	Fuel	0	0	0	0	Non-Distribution Expenses
4515	Steam Expense	0	0	0	0	Non-Distribution Expenses



2-2 UNADJUSTED ACCOUNTING DATA

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		Total	Total	Total	Total	
		\$	\$	\$	\$	
4520	Steam From Other Sources	0	0	0	0	Non-Distribution Expenses
4525	Steam Transferred--Credit	0	0	0	0	Non-Distribution Expenses
4530	Electric Expense	0	0	0	0	Non-Distribution Expenses
4535	Water For Power	0	0	0	0	Non-Distribution Expenses
4540	Water Power Taxes	0	0	0	0	Non-Distribution Expenses
4545	Hydraulic Expenses	0	0	0	0	Non-Distribution Expenses
4550	Generation Expense	0	0	0	0	Non-Distribution Expenses
4555	Miscellaneous Power Generation Expenses	0	0	0	0	Non-Distribution Expenses
4560	Rents	0	0	0	0	Non-Distribution Expenses
4565	Allowances for Emissions	0	0	0	0	Non-Distribution Expenses
4605	Maintenance Supervision and Engineering	0	0	0	0	Non-Distribution Expenses
4610	Maintenance of Structures	0	0	0	0	Non-Distribution Expenses
4615	Maintenance of Boiler Plant	0	0	0	0	Non-Distribution Expenses
4620	Maintenance of Electric Plant	0	0	0	0	Non-Distribution Expenses
4625	Maintenance of Reservoirs, Dams and Waterways	0	0	0	0	Non-Distribution Expenses
4630	Maintenance of Water Wheels, Turbines and Generators	0	0	0	0	Non-Distribution Expenses
4635	Maintenance of Generating and Electric Plant	0	0	0	0	Non-Distribution Expenses
4640	Maintenance of Miscellaneous Power Generation Plant	0	0	0	0	Non-Distribution Expenses
4705	Power Purchased	0	0	603,090,617	0	Power Supply Expenses (Working Capital)
4708	Charges-WMS	0	0	0	0	Power Supply Expenses (Working Capital)
4710	Cost of Power Adjustments	0	0	0	0	Power Supply Expenses (Working Capital)
4712	Charges-One-Time	0	0	0	0	Power Supply Expenses (Working Capital)
4714	Charges-NW	0	0	0	0	Power Supply Expenses (Working Capital)
4715	System Control and Load Dispatching	0	0	0	0	Other Power Supply Expenses
4716	Charges-CN	0	0	0	0	Power Supply Expenses (Working Capital)
4720	Other Expenses	0	0	0	0	Other Power Supply Expenses
4725	Competition Transition Expense	0	0	0	0	Other Power Supply Expenses
4730	Rural Rate Assistance Expense	0	0	0	0	Power Supply Expenses (Working Capital)
4805	Operation Supervision and Engineering	0	0	0	0	Non-Distribution Expenses
4810	Load Dispatching	0	0	0	0	Non-Distribution Expenses
4815	Station Buildings and Fixtures Expenses	0	0	0	0	Non-Distribution Expenses
4820	Transformer Station Equipment - Operating Labour	0	0	0	0	Non-Distribution Expenses
4825	Transformer Station Equipment - Operating Supplies and Expense	0	0	0	0	Non-Distribution Expenses
4830	Overhead Line Expenses	0	0	0	0	Non-Distribution Expenses
4835	Underground Line Expenses	0	0	0	0	Non-Distribution Expenses
4840	Transmission of Electricity by Others	0	0	0	0	Non-Distribution Expenses
4845	Miscellaneous Transmission Expense	0	0	0	0	Non-Distribution Expenses
4850	Rents	0	0	0	0	Non-Distribution Expenses
4905	Maintenance Supervision and Engineering	0	0	0	0	Non-Distribution Expenses
4910	Maintenance of Transformer Station Buildings and Fixtures	0	0	0	0	Non-Distribution Expenses
4916	Maintenance of Transformer Station Equipment	0	0	0	0	Non-Distribution Expenses
4930	Maintenance of Towers, Poles and Fixtures	0	0	0	0	Non-Distribution Expenses
4935	Maintenance of Overhead Conductors and Devices	0	0	0	0	Non-Distribution Expenses
4940	Maintenance of Overhead Lines - Right of Way	0	0	0	0	Non-Distribution Expenses
4945	Maintenance of Overhead Lines - Roads and Trails Repairs	0	0	0	0	Non-Distribution Expenses
4950	Maintenance of Overhead Lines - Snow Removal from Roads and Trails	0	0	0	0	Non-Distribution Expenses
4960	Maintenance of Underground Lines	0	0	0	0	Non-Distribution Expenses
4965	Maintenance of Miscellaneous Transmission Plant	0	0	0	0	Non-Distribution Expenses
5005	Operation Supervision and Engineering	0	0	0	0	Operation (Working Capital)
5010	Load Dispatching	0	0	2,290,007	0	Operation (Working Capital)
5012	Station Buildings and Fixtures Expense	0	0	690,955	0	Operation (Working Capital)
5014	Transformer Station Equipment - Operation Labour	0	0	102,177	0	Operation (Working Capital)
5015	Transformer Station Equipment - Operation Supplies and Expenses	0	0	21,804	0	Operation (Working Capital)
5016	Distribution Station Equipment - Operation Labour	0	0	330,426	0	Operation (Working Capital)
5017	Distribution Station Equipment - Operation Supplies and Expenses	0	0	187,470	0	Operation (Working Capital)
5020	Overhead Distribution Lines and Feeders - Operation Labour	0	0	829,978	0	Operation (Working Capital)
5025	Overhead Distribution Lines & Feeders - Operation Supplies and Expenses	0	0	2,430,131	0	Operation (Working Capital)
5030	Overhead Subtransmission Feeders - Operation	0	0	0	0	Operation (Working Capital)
5035	Overhead Distribution Transformers - Operation	0	0	2,131	0	Operation (Working Capital)
5040	Underground Distribution Lines and Feeders - Operation Labour	0	0	787,810	0	Operation (Working Capital)
5045	Underground Distribution Lines & Feeders - Operation Supplies & Expenses	0	0	1,740,310	0	Operation (Working Capital)
5050	Underground Subtransmission Feeders - Operation	0	0	0	0	Operation (Working Capital)
5055	Underground Distribution Transformers - Operation	0	0	19,208	0	Operation (Working Capital)
5060	Street Lighting and Signal System Expense	0	0	0	0	Non-Distribution Expenses
5065	Meter Expense	0	0	3,352,547	0	Operation (Working Capital)
5070	Customer Premises - Operation Labour	0	0	0	0	Operation (Working Capital)
5075	Customer Premises - Materials and Expenses	0	0	0	0	Operation (Working Capital)
5085	Miscellaneous Distribution Expense	0	0	2,484,483	0	Operation (Working Capital)



2-2 UNADJUSTED ACCOUNTING DATA

All adjustment are entered on subsequent sheets.

Account Number	Account Description	2010		2011		Grouping for Minimum Reporting (Note that Groups are not sequential blocks of accounts. Use "Show Groups" to highlight.)
		Total	Total	Total	Total	
		\$	\$	\$	\$	
5090	Underground Distribution Lines and Feeders - Rental Paid	0	0	0	0	0 Operation (Working Capital)
5095	Overhead Distribution Lines and Feeders - Rental Paid	0	0	0	0	0 Operation (Working Capital)
5096	Other Rent	0	0	0	0	0 Operation (Working Capital)
5105	Maintenance Supervision and Engineering	0	0	0	0	0 Maintenance (Working Capital)
5110	Maintenance of Buildings and Fixtures - Distribution Stations	0	0	0	0	0 Maintenance (Working Capital)
5112	Maintenance of Transformer Station Equipment	0	0	344,063	344,063	Maintenance (Working Capital)
5114	Maintenance of Distribution Station Equipment	0	0	1,287,135	1,287,135	Maintenance (Working Capital)
5120	Maintenance of Poles, Towers and Fixtures	0	0	348,779	348,779	Maintenance (Working Capital)
5125	Maintenance of Overhead Conductors and Devices	0	0	754,245	754,245	Maintenance (Working Capital)
5130	Maintenance of Overhead Services	0	0	801,575	801,575	Maintenance (Working Capital)
5135	Overhead Distribution Lines and Feeders - Right of Way	0	0	0	0	0 Maintenance (Working Capital)
5145	Maintenance of Underground Conduit	0	0	171,830	171,830	Maintenance (Working Capital)
5150	Maintenance of Underground Conductors and Devices	0	0	732,898	732,898	Maintenance (Working Capital)
5155	Maintenance of Underground Services	0	0	449,782	449,782	Maintenance (Working Capital)
5160	Maintenance of Line Transformers	0	0	506,000	506,000	Maintenance (Working Capital)
5165	Maintenance of Street Lighting and Signal Systems	0	0	0	0	0 Non-Distribution Expenses
5170	Sentinel Lights - Labour	0	0	0	0	0 Non-Distribution Expenses
5172	Sentinel Lights - Materials and Expenses	0	0	0	0	0 Non-Distribution Expenses
5175	Maintenance of Meters	0	0	689,734	689,734	Maintenance (Working Capital)
5178	Customer Installations Expenses- Leased Property	0	0	0	0	0 Non-Distribution Expenses
5185	Water Heater Rentals - Labour	0	0	0	0	0 Non-Distribution Expenses
5186	Water Heater Rentals - Materials and Expenses	0	0	0	0	0 Non-Distribution Expenses
5190	Water Heater Controls - Labour	0	0	0	0	0 Non-Distribution Expenses
5192	Water Heater Controls - Materials and Expenses	0	0	0	0	0 Non-Distribution Expenses
5195	Maintenance of Other Installations on Customer Premises	0	0	0	0	0 Non-Distribution Expenses
5205	Purchase of Transmission and System Services	0	0	0	0	0 Other Power Supply Expenses
5210	Transmission Charges	0	0	0	0	0 Other Power Supply Expenses
5215	Transmission Charges Recovered	0	0	0	0	0 Other Power Supply Expenses
5305	Supervision	0	0	0	0	0 Billing and Collection (Working Capital)
5310	Meter Reading Expense	0	0	291,212	291,212	Billing and Collection (Working Capital)
5315	Customer Billing	0	0	7,073,022	7,073,022	Billing and Collection (Working Capital)
5320	Collecting	0	0	1,943,436	1,943,436	Billing and Collection (Working Capital)
5325	Collecting - Cash Over and Short	0	0	0	0	0 Billing and Collection (Working Capital)
5330	Collection Charges	0	0	0	0	0 Billing and Collection (Working Capital)
5335	Bad Debt Expense	0	0	1,533,060	1,533,060	Bad Debt Expense (Working Capital)
5340	Miscellaneous Customer Accounts Expenses	0	0	0	0	0 Billing and Collection (Working Capital)
5405	Supervision	0	0	0	0	0 Community Relations (Working Capital)
5410	Community Relations - Sundry	0	0	5,905,497	5,905,497	Community Relations (Working Capital)
5415	Energy Conservation	0	0	501,641	501,641	Community Relations - CDM (Working Capital)
5420	Community Safety Program	0	0	0	0	0 Community Relations (Working Capital)
5425	Miscellaneous Customer Service and Informational Expenses	0	0	0	0	0 Community Relations (Working Capital)
5505	Supervision	0	0	199,923	199,923	Other Distribution Expenses
5510	Demonstrating and Selling Expense	0	0	0	0	0 Other Distribution Expenses
5515	Advertising Expense	0	0	0	0	0 Advertising Expenses
5520	Miscellaneous Sales Expense	0	0	0	0	0 Other Distribution Expenses
5605	Executive Salaries and Expenses	0	0	2,230,022	2,230,022	Administrative and General Expenses (Working Capital)
5610	Management Salaries and Expenses	0	0	5,804,604	5,804,604	Administrative and General Expenses (Working Capital)
5615	General Administrative Salaries and Expenses	0	0	2,679,969	2,679,969	Administrative and General Expenses (Working Capital)
5620	Office Supplies and Expenses	0	0	4,061,460	4,061,460	Administrative and General Expenses (Working Capital)
5625	Administrative Expense Transferred Credit	0	0	-1,931,338	-1,931,338	Administrative and General Expenses (Working Capital)
5630	Outside Services Employed	0	0	569,018	569,018	Administrative and General Expenses (Working Capital)
5635	Property Insurance	0	0	780,070	780,070	Insurance Expense (Working Capital)
5640	Injuries and Damages	0	0	626,883	626,883	Administrative and General Expenses (Working Capital)
5645	Employee Pensions and Benefits	0	0	728,000	728,000	Administrative and General Expenses (Working Capital)
5650	Franchise Requirements	0	0	0	0	0 Administrative and General Expenses (Working Capital)
5655	Regulatory Expenses	0	0	1,419,756	1,419,756	Administrative and General Expenses (Working Capital)
5660	General Advertising Expenses	0	0	0	0	0 Advertising Expenses
5665	Miscellaneous General Expenses	0	0	2,517,516	2,517,516	Administrative and General Expenses (Working Capital)
5670	Rent	0	0	0	0	0 Administrative and General Expenses (Working Capital)
5675	Maintenance of General Plant	0	0	4,625,549	4,625,549	Administrative and General Expenses (Working Capital)
5680	Electrical Safety Authority Fees	0	0	0	0	0 Administrative and General Expenses (Working Capital)
5685	Independent Market Operator Fees and Penalties	0	0	0	0	0 Power Supply Expenses (Working Capital)
5705	Amortization Expense - Property, Plant, and Equipment	0	0	47,449,596	47,449,596	Amortization of Assets
5710	Amortization of Limited Term Electric Plant	0	0	0	0	0 Amortization of Assets
5715	Amortization of Intangibles and Other Electric Plant	0	0	0	0	0 Amortization of Assets
5720	Amortization of Electric Plant Acquisition Adjustments	0	0	0	0	0 Other Amortization - Unclassified
5725	Miscellaneous Amortization	0	0	53,672	53,672	Other Amortization - Unclassified
5730	Amortization of Unrecovered Plant and Regulatory Study Costs	0	0	0	0	0 Amortization of Assets



2-2 UNADJUSTED ACCOUNTING DATA

All adjustment are entered on subsequent sheets.

Account Number	Account Description	2010		2011		Grouping for Minimum Reporting (Note that Groups are not sequential blocks of accounts. Use "Show Groups" to highlight.)
		Total	Total	Total	Total	
		\$	\$	\$	\$	
5735	Amortization of Deferred Development Costs	0	0	0	0	Amortization of Assets
5740	Amortization of Deferred Charges	0	0	0	0	Amortization of Assets
6005	Interest on Long Term Debt	0	0	0	0	Interest Expense - Unclassified
6010	Amortization of Debt Discount and Expense	0	0	0	0	Interest Expense - Unclassified
6015	Amortization of Premium on Debt Credit	0	0	0	0	Interest Expense - Unclassified
6020	Amortization of Loss on Reacquired Debt	0	0	0	0	Interest Expense - Unclassified
6025	Amortization of Gain on Reacquired Debt--Credit	0	0	0	0	Interest Expense - Unclassified
6030	Interest on Debt to Associated Companies	0	0	0	0	Interest Expense - Unclassified
6035	Other Interest Expense	0	0	0	0	Interest Expense - Unclassified
6040	Allowance for Borrowed Funds Used During Construction--Credit	0	0	0	0	Interest Expense - Unclassified
6042	Allowance For Other Funds Used During Construction	0	0	0	0	Interest Expense - Unclassified
6045	Interest Expense on Capital Lease Obligations	0	0	0	0	Interest Expense - Unclassified
6105	Taxes Other Than Income Taxes	0	0	1,800,217	0	Other Distribution Expenses
6110	Income Taxes	0	0	0	0	Income Tax Expense - Unclassified
6115	Provision for Future Income Taxes	0	0	0	0	Income Tax Expense - Unclassified
6205	Donations	0	0	51,510	0	Charitable Contributions
6210	Life Insurance	0	0	0	0	Insurance Expense (Working Capital)
6215	Penalties	0	0	0	0	Other Distribution Expenses
6225	Other Deductions	0	0	0	0	Other Distribution Expenses
6305	Extraordinary Income	0	0	0	0	Unclassified Expenses
6310	Extraordinary Deductions	0	0	0	0	Unclassified Expenses
6315	Income Taxes, Extraordinary Items	0	0	0	0	Unclassified Expenses
6405	Discontinues Operations - Income/ Gains	0	0	0	0	Unclassified Expenses
6410	Discontinued Operations - Deductions/ Losses	0	0	0	0	Unclassified Expenses
6415	Income Taxes, Discontinued Operations	0	0	0	0	Unclassified Expenses
	Total (\$) Value	0	525,106,809	1,254,973,409		

**GROUPED INPUT FOR CALCULATIONS:
(Minimum Reporting Requirement)**

Land and Buildings	0	26,566,247	31,810,338	1805, 1806, 1808, 1810, 1905, 1906
TS Primary Above 50	0	65,718,912	75,480,054	1815
DS	0	66,159,391	70,574,390	1820
Poles, Wires	0	521,366,467	554,631,063	1830, 1835, 1840, 1845
Line Transformers	0	139,281,262	148,244,584	1850
Services and Meters	0	209,056,519	220,950,650	1855, 1860
General Plant	0	49,915,440	51,070,722	1908, 1910
Equipment	0	38,390,613	42,442,725	1915, 1930, 1935, 1940, 1945, 1950, 1955, 1960
IT Assets	0	74,581,605	80,177,695	1920, 1925
CDM Expenditures and Recoveries	0	0	0	1565 (new account)
Other Distribution Assets	0	12,137,444	14,298,634	1608, 1825, 1970, 1975, 1980, 1990, 2005, 2010, 2050
Contributions and Grants	0	-173,557,916	-190,128,104	1995
Accumulated Amortization	0	-503,447,473	-550,897,069	2105, 2120
<i>Non-Distribution Asset</i>	0	-1,061,702	-1,115,374	1606, 1610, 1615, 1616, 1620, 1630, 1635, 1640, 1645, 1650, 1655, 1660, 1665, 1670, 1675, 1680, 1685, 1705, 1706, 1708, 1710, 1715, 1720, 1725, 1730, 1735, 1740, 1745, 1865, 1870, 1875, 1965, 1985, 2020, 2030, 2040, 2055, 2065, 2070, 2075, 2160, 2180
<i>Unclassified Asset</i>	0	0	0	1005, 1010, 1020, 1030, 1040, 1060, 1070, 1100, 1102, 1104, 1105, 1110, 1120, 1130, 1140, 1150, 1170, 1180, 1190, 1200, 1210, 1305, 1330, 1340, 1350, 1405, 1408, 1410, 1415, 1425, 1445, 1455, 1460, 1465, 1470, 1475, 1480, 1485, 1490, 1505, 1508, 1510, 1515, 1516, 1518, 1520, 1525, 1530, 1540, 1545, 1548, 1560, 1562, 1563, 1570, 1571, 1572, 1574, 1580, 1582, 1584, 1586, 1588, 1605, 2060, 2140
<i>Liability</i>	0	0	0	2205, 2208, 2210, 2215, 2220, 2225, 2240, 2242, 2250, 2252, 2254, 2256, 2260, 2262, 2264, 2268, 2270, 2272, 2285, 2290, 2292, 2294, 2296, 2305, 2306, 2308, 2310, 2315, 2320, 2325, 2330, 2335, 2340, 2345, 2348, 2350, 2405, 2410, 2415, 2425, 2435, 2505, 2510, 2515, 2520, 2525, 2530, 2550
<i>Equity</i>	0	0	0	3005, 3008, 3010, 3020, 3022, 3026, 3030, 3035, 3040, 3045, 3046, 3047, 3048, 3049, 3055, 3065
<i>Sales of Electricity</i>	0	0	0	4006, 4010, 4015, 4020, 4025, 4030, 4035, 4040, 4045, 4050, 4055, 4060, 4062, 4064 (new account), 4066, 4068
<i>Distribution Services Revenue</i>	0	0	-802,546	4080
<i>Late Payment Charges</i>	0	0	-1,400,000	4225
<i>Specific Service Charges</i>	0	0	-3,707,794	4235
<i>Other Distribution Revenue</i>	0	0	-351,400	4082, 4084, 4090, 4205, 4210, 4215, 4220, 4240, 4245
<i>Other Revenue - Unclassified</i>	0	0	0	4105, 4110, 4230, 4375, 4380, 4385
<i>Other Income & Deductions</i>	0	0	-1,665,550	4305, 4310, 4315, 4320, 4325, 4330, 4335, 4340, 4345, 4350, 4355, 4360, 4365, 4370, 4390, 4395, 4398, 4405, 4415



2-2 UNADJUSTED ACCOUNTING DATA

All adjustment are entered on subsequent sheets.

Account Number	Account Description	2010 Total	2011 Total	Grouping for Minimum Reporting											
				(Note that Groups are not sequential blocks of accounts. Use "Show Groups" to highlight.)											
		\$	\$	\$											
Power Supply Expenses (Working Capital)		0	0	603,090,617	4705, 4708, 4710, 4712, 4714, 4716, 4730, 5685										
<i>Other Power Supply Expenses</i>		0	0	0	4715, 4720, 4725, 5205, 5210, 5215										
Operation (Working Capital)		0	0	15,269,440	5005, 5010, 5012, 5014, 5015, 5016, 5017, 5020, 5025, 5030, 5035, 5040,										
					5045, 5050, 5055, 5065, 5070, 5075, 5085, 5090, 5095, 5096										
Maintenance (Working Capital)		0	0	6,086,040	5105, 5110, 5112, 5114, 5120, 5125, 5130, 5135, 5145, 5150, 5155, 5160,										
					5175										
Billing and Collection (Working Capital)		0	0	9,307,670	5305, 5310, 5315, 5320, 5325, 5330, 5340										
Community Relations (Working Capital)		0	0	5,905,497	5405, 5410, 5420, 5425										
Community Relations - CDM (Working Capital)		0	0	501,641	5415										
Administrative and General Expenses (Working Capital)		0	0	23,331,438	5605, 5610, 5615, 5620, 5625, 5630, 5640, 5645, 5650, 5655, 5665, 5670,										
					5675, 5680										
Insurance Expense (Working Capital)		0	0	780,070	5635, 6210										
Bad Debt Expense (Working Capital)		0	0	1,533,060	5335										
Advertising Expenses		0	0	0	5515, 5660										
Charitable Contributions		0	0	51,510	6205										
Amortization of Assets		0	0	47,449,596	5705, 5710, 5715, 5730, 5735, 5740										
<i>Other Amortization - Unclassified</i>		0	0	53,672	5720, 5725										
<i>Interest Expense - Unclassified</i>		0	0	0	6005, 6010, 6015, 6020, 6025, 6030, 6035, 6040, 6042, 6045										
<i>Income Tax Expense - Unclassified</i>		0	0	0	6110, 6115										
Other Distribution Expenses		0	0	2,000,140	5505, 5510, 5520, 6105, 6215, 6225										
<i>Non-Distribution Expenses</i>		0	0	0	4505, 4510, 4515, 4520, 4525, 4530, 4535, 4540, 4545, 4550, 4555, 4560,										
					4565, 4605, 4610, 4615, 4620, 4625, 4630, 4635, 4640, 4805, 4810, 4815,										
					4820, 4825, 4830, 4835, 4840, 4845, 4850, 4905, 4910, 4946, 4930, 4935,										
					4940, 4945, 4950, 4960, 4965, 5060, 5165, 5170, 5172, 5178, 5185, 5190,										
					5192, 5195										
Unclassified Expenses		0	0	0	6305, 6310, 6315, 6405, 6410, 6415										
		0	525,106,809	1,254,973,409	Total										

SUMMARY FINANCIAL INFORMATION

(Before Adjustments)

DISTRIBUTION ASSETS:

Land and Buildings	0	26,566,247	31,810,338
TS Primary Above 50	0	65,718,912	75,480,054
DS	0	66,159,391	70,574,390
Poles, Wires	0	521,366,467	554,631,063
Line Transformers	0	139,281,262	148,244,584
Services and Meters	0	209,056,519	220,950,650
General Plant	0	49,915,440	51,070,722
Equipment	0	38,390,613	42,442,725
IT Assets	0	74,581,605	80,177,695
CDM Assets	0	0	0
Other Distribution Assets	0	12,137,444	14,298,634
Contributions and Grants	0	-173,557,916	-190,128,104
TOTAL DISTRIBUTION ASSETS	0	1,029,615,983	1,099,552,751

NET FIXED DISTRIBUTION ASSETS:

Total Distribution Assets (as above) - LESS:			
Accumulated Amortization	0	-503,447,473	-550,897,069
NET FIXED DISTRIBUTION ASSETS	0	526,168,510	548,655,681

NET SALES REVENUE

Sales of Electricity	0	0	0
Power Supply Expenses (Working Capital)	0	0	603,090,617
SALES OF ELECTRICITY NET OF COST OF POWER	0	0	603,090,617

DISTRIBUTION REVENUE

Distribution Services Revenue	0	0	-802,546
Late Payment Charges	0	0	-1,400,000



2-2 UNADJUSTED ACCOUNTING DATA

All adjustment are entered on subsequent sheets.

Account Number	Account Description	2010		2011		Grouping for Minimum Reporting (Note that Groups are not sequential blocks of accounts. Use "Show Groups" to highlight.)
		Total	Total	Total	Total	
		\$	\$	\$	\$	
	Specific Service Charges	0	0	-3,707,794		
	Other Distribution Revenue	0	0	-351,400		
	TOTAL DISTRIBUTION REVENUE	0	0	-6,261,740		
DISTRIBUTION EXPENSES (before PILS):						
	Operation (Working Capital)	0	0	15,269,440		
	Maintenance (Working Capital)	0	0	6,086,040		
	Billing and Collection (Working Capital)	0	0	9,307,670		
	Community Relations (Working Capital)	0	0	5,905,497		
	Community Relations - CDM (Working Capital)	0	0	501,641		
	Smart Metering Operating			0		
	Administrative and General Expenses (Working Capital)	0	0	23,331,438		
	Insurance Expense (Working Capital)	0	0	780,070		
	Bad Debt Expense (Working Capital)	0	0	1,533,060		
	Advertising Expenses	0	0	0		
	Charitable Contributions	0	0	51,510		
	Amortization of Assets	0	0	47,449,596		
	Other Distribution Expenses	0	0	2,000,140		
	TOTAL DISTRIBUTION EXPENSES (before PILS)	0	0	112,216,102		
WORKING CAPITAL CALCULATION						
Cost of Power						
	Power Supply Expenses (Working Capital)	0	0	603,090,617		
	TOTAL COST OF POWER	0	0	603,090,617		
Expenses						
	Operation (Working Capital)	0	0	15,269,440		
	Maintenance (Working Capital)	0	0	6,086,040		
	Billing and Collection (Working Capital)	0	0	9,307,670		
	Community Relations (Working Capital)	0	0	5,905,497		
	Community Relations - CDM (Working Capital)	0	0	501,641		
	Smart Meter Operation			0		
	Administrative and General Expenses (Working Capital)	0	0	23,331,438		
	Insurance Expense (Working Capital)	0	0	780,070		
	Bad Debt Expense (Working Capital)	0	0	1,533,060		
	Advertising Expenses	0	0	0		
	Charitable Contributions	0	0	51,510		
	Other Distribution Expenses	0	0	2,000,140		
	TOTAL EXPENSES	0	0	64,766,506		



2-4 ADJUSTED ACCOUNTING DATA

prepares and calculates the adjusted amounts to be used in rate calculations.

Acct. No.	Account Description	2011 Distribution (As per Application)	Adjustments	Accounts as Adjusted - Application	Board Adjustment	Board Adjustment	2011 Accounts as Adjusted for 2011 Rate Calculation	Grouping for Minimum Reporting
		(from INPUT 2)	enter amount of the adjustment		+	-	(enter as a negative amount)	
		\$		\$	\$	\$	\$	
DETAILED ACCOUNTS:								
1005	Cash	0		0			0	Unclassified Asset
1010	Cash Advances and Working Funds	0		0			0	Unclassified Asset
1020	Interest Special Deposits	0		0			0	Unclassified Asset
1030	Dividend Special Deposits	0		0			0	Unclassified Asset
1040	Other Special Deposits	0		0			0	Unclassified Asset
1060	Term Deposits	0		0			0	Unclassified Asset
1070	Current Investments	0		0			0	Unclassified Asset
1100	Customer Accounts Receivable	0		0			0	Unclassified Asset
1102	Accounts Receivable - Services	0		0			0	Unclassified Asset
1104	Accounts Receivable - Recoverable Work	0		0			0	Unclassified Asset
1105	Accounts Receivable - Merchandise, Jobbing, etc.	0		0			0	Unclassified Asset
1110	Other Accounts Receivable	0		0			0	Unclassified Asset
1120	Accrued Utility Revenues	0		0			0	Unclassified Asset
1130	Accumulated Provision for Uncollectible Accounts--Credit	0		0			0	Unclassified Asset
1140	Interest and Dividends Receivable	0		0			0	Unclassified Asset
1150	Rents Receivable	0		0			0	Unclassified Asset
1170	Notes Receivable	0		0			0	Unclassified Asset
1180	Prepayments	0		0			0	Unclassified Asset
1190	Miscellaneous Current and Accrued Assets	0		0			0	Unclassified Asset
1200	Accounts Receivable from Associated Companies	0		0			0	Unclassified Asset
1210	Notes Receivable from Associated Companies	0		0			0	Unclassified Asset
1305	Fuel Stock	0		0			0	Unclassified Asset
1330	Plant Materials and Operating Supplies	0		0			0	Unclassified Asset
1340	Merchandise	0		0			0	Unclassified Asset
1350	Other Materials and Supplies	0		0			0	Unclassified Asset
1405	Long Term Investments in Non-Associated Companies	0		0			0	Unclassified Asset
1408	Long Term Receivable - Street Lighting Transfer	0		0			0	Unclassified Asset
1410	Other Special or Collateral Funds	0		0			0	Unclassified Asset
1415	Sinking Funds	0		0			0	Unclassified Asset
1425	Unamortized Debt Expense	0		0			0	Unclassified Asset
1445	Unamortized Discount on Long-Term Debt--Debit	0		0			0	Unclassified Asset
1455	Unamortized Deferred Foreign Currency Translation Gains and Losses	0		0			0	Unclassified Asset
1460	Other Non-Current Assets	0		0			0	Unclassified Asset
1465	O.M.E.R.S. Past Service Costs	0		0			0	Unclassified Asset
1470	Past Service Costs - Employee Future Benefits	0		0			0	Unclassified Asset
1475	Past Service Costs - Other Pension Plans	0		0			0	Unclassified Asset
1480	Portfolio Investments - Associated Companies	0		0			0	Unclassified Asset
1485	Investment in Associated Companies - Significant Influence	0		0			0	Unclassified Asset
1490	Investment in Subsidiary Companies	0		0			0	Unclassified Asset
1505	Unrecovered Plant and Regulatory Study Costs	0		0			0	Unclassified Asset
1508	Other Regulatory Assets	0		0			0	Unclassified Asset
1510	Preliminary Survey and Investigation Charges	0		0			0	Unclassified Asset
1515	Emission Allowance Inventory	0		0			0	Unclassified Asset
1516	Emission Allowances Withheld	0		0			0	Unclassified Asset
1518	RCVARetail	0		0			0	Unclassified Asset
1520	Power Purchase Variance Account	0		0			0	Unclassified Asset
1525	Miscellaneous Deferred Debits	0		0			0	Unclassified Asset
1530	Deferred Losses from Disposition of Utility Plant	0		0			0	Unclassified Asset
1540	Unamortized Loss on Reacquired Debt	0		0			0	Unclassified Asset
1545	Development Charge Deposits/ Receivables	0		0			0	Unclassified Asset
1548	RCVASTR	0		0			0	Unclassified Asset
1560	Deferred Development Costs	0		0			0	Unclassified Asset
1562	Deferred Payments in Lieu of Taxes	0		0			0	Unclassified Asset
1563	Account 1563 - Deferred PILs Contra Account	0		0			0	Unclassified Asset
1565	Conservation and Demand Management Expenditures and Recoveries	0		0			0	CDM Expenditures and Recoveries
1570	Qualifying Transition Costs	0		0			0	Unclassified Asset
1571	Pre-market Opening Energy Variance	0		0			0	Unclassified Asset
1572	Extraordinary Event Costs	0		0			0	Unclassified Asset
1574	Deferred Rate Impact Amounts	0		0			0	Unclassified Asset
1580	RSVAWMS	0		0			0	Unclassified Asset



2-4 ADJUSTED ACCOUNTING DATA

... sheets and calculates the adjusted amounts to be used in rate calculations.

Acct. No.	Account Description	2011	Adjustments	Accounts as	Board	Board Adjustment	2011 Accounts as	Grouping for Minimum Reporting
		Distribution (As per Application)	enter amount of the adjustment	Adjusted - Application	Adjustment	Adjustment	Adjusted for 2011 Rate Calculation	
		(from INPUT 2)			+	-	[and average of 05/06 for dist. assets & wkg. cap. allow. calc.]	
		\$		\$	\$	\$	\$	
1582	RSVAONE-TIME	0		0			0	Unclassified Asset
1584	RSVANW	0		0			0	Unclassified Asset
1586	RSVACN	0		0			0	Unclassified Asset
1588	RSVAPOWER	0		0			0	Unclassified Asset
1590	Recovery of Regulatory Asset Balances	0		0			0	Unclassified Asset
1605	Electric Plant in Service - Control Account Organization	0		0			0	Unclassified Asset
1606		0		0			0	Non-Distribution Asset
1608	Franchises and Consents	0		0			0	Other Distribution Assets
1610	Miscellaneous Intangible Plant	0		0			0	Non-Distribution Asset
1615	Land	0		0			0	Non-Distribution Asset
1616	Land Rights	0		0			0	Non-Distribution Asset
1620	Buildings and Fixtures	0		0			0	Non-Distribution Asset
1630	Leasehold Improvements	0		0			0	Non-Distribution Asset
1635	Boiler Plant Equipment	0		0			0	Non-Distribution Asset
1640	Engines and Engine-Driven Generators	0		0			0	Non-Distribution Asset
1645	Turbogenerator Units	0		0			0	Non-Distribution Asset
1650	Reservoirs, Dams and Waterways	0		0			0	Non-Distribution Asset
1655	Water Wheels, Turbines and Generators	0		0			0	Non-Distribution Asset
1660	Roads, Railroads and Bridges	0		0			0	Non-Distribution Asset
1665	Fuel Holders, Producers and Accessories	0		0			0	Non-Distribution Asset
1670	Prime Movers	0		0			0	Non-Distribution Asset
1675	Generators	0		0			0	Non-Distribution Asset
1680	Accessory Electric Equipment	0		0			0	Non-Distribution Asset
1685	Miscellaneous Power Plant Equipment	0		0			0	Non-Distribution Asset
1705	Land	0		0			0	Non-Distribution Asset
1706	Land Rights	0		0			0	Non-Distribution Asset
1708	Buildings and Fixtures	0		0			0	Non-Distribution Asset
1710	Leasehold Improvements	0		0			0	Non-Distribution Asset
1715	Station Equipment	0		0			0	Non-Distribution Asset
1720	Towers and Fixtures	0		0			0	Non-Distribution Asset
1725	Poles and Fixtures	0		0			0	Non-Distribution Asset
1730	Overhead Conductors and Devices	0		0			0	Non-Distribution Asset
1735	Underground Conduit	0		0			0	Non-Distribution Asset
1740	Underground Conductors and Devices	0		0			0	Non-Distribution Asset
1745	Roads and Trails	0		0			0	Non-Distribution Asset
1805	Land	3,769,535		3,769,535			3,769,535	Land and Buildings
1806	Land Rights	2,707,541		2,707,541			2,707,541	Land and Buildings
1808	Buildings and Fixtures	20,701,466		20,701,466			19,897,926	Land and Buildings
1810	Leasehold Improvements	0		0			0	Land and Buildings
1815	Transformer Station Equipment - Normally Primary above 50 kV	75,480,054		75,480,054			70,599,483	TS Primary Above 50
1820	Distribution Station Equipment - Normally Primary below 50 kV	70,574,390		70,574,390			68,366,890	DS
1825	Storage Battery Equipment	0		0			0	Other Distribution Assets
1830	Poles, Towers and Fixtures	129,926,512		129,926,512			125,755,014	Poles, Wires
1835	Overhead Conductors and Devices	72,824,430		72,824,430			70,099,302	Poles, Wires
1840	Underground Conduit	180,307,702		180,307,702			175,989,030	Poles, Wires
1845	Underground Conductors and Devices	171,572,419		171,572,419			166,155,419	Poles, Wires
1850	Line Transformers	148,244,584		148,244,584			143,762,923	Line Transformers
1855	Services	111,162,914		111,162,914			106,447,367	Services and Meters
1860	Meters	109,787,736		109,787,736			108,556,217	Services and Meters
1865	Other Installations on Customer's Premises	0		0			0	Non-Distribution Asset
1870	Leased Property on Customer Premises	0		0			0	Non-Distribution Asset
1875	Street Lighting and Signal Systems	0		0			0	Non-Distribution Asset
1905	Land	4,500,056		4,500,056			2,681,550	Land and Buildings
1906	Land Rights	131,740		131,740			131,740	Land and Buildings
1908	Buildings and Fixtures	51,070,722		51,070,722			50,493,081	General Plant
1910	Leasehold Improvements	0		0			0	General Plant
1915	Office Furniture and Equipment	4,649,718		4,649,718			4,552,473	Equipment
1920	Computer Equipment - Hardware	13,874,308		13,874,308			12,929,726	IT Assets
1925	Computer Software	66,303,387		66,303,387			64,449,924	IT Assets
1930	Transportation Equipment	26,042,303		26,042,303			24,910,816	Equipment
1935	Stores Equipment	482,844		482,844			482,844	Equipment
1940	Tools, Shop and Garage Equipment	7,674,807		7,674,807			7,370,855	Equipment



2-4 ADJUSTED ACCOUNTING DATA

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Acct. No.	Account Description	2011	Adjustments	Accounts as	Board	Board Adjustment	2011 Accounts as	Grouping for Minimum Reporting
		Distribution (As per Application)	enter amount of the adjustment	Adjusted - Application	Adjustment	Adjustment	Adjusted for 2011 Rate Calculation	
		(from INPUT 2)			+	-	[and average of 05/06 for dist. assets & wkg. cap. allow. calc.]	
		\$		\$	\$	\$	\$	
1945	Measurement and Testing Equipment	791,915		791,915			791,915	Equipment
1950	Power Operated Equipment	0		0			0	Equipment
1955	Communication Equipment	2,465,228		2,465,228			2,037,370	Equipment
1960	Miscellaneous Equipment	335,911		335,911			270,396	Equipment
1965	Water Heater Rental Units	0		0			0	Non-Distribution Asset
1970	Load Management Controls - Customer Premises	1,137,812		1,137,812			1,088,405	Other Distribution Assets
1975	Load Management Controls - Utility Premises	71,915		71,915			71,915	Other Distribution Assets
1980	System Supervisory Equipment	13,088,907		13,088,907			12,057,718	Other Distribution Assets
1985	Sentinel Lighting Rental Units	0		0			0	Non-Distribution Asset
1990	Other Tangible Property	0		0			0	Other Distribution Assets
1995	Contributions and Grants - Credit	-190,128,104		-190,128,104			-181,843,010	Contributions and Grants
2005	Property Under Capital Leases	0		0			0	Other Distribution Assets
2010	Electric Plant Purchased or Sold	0		0			0	Other Distribution Assets
2020	Experimental Electric Plant Unclassified	0		0			0	Non-Distribution Asset
2030	Electric Plant and Equipment Leased to Others	0		0			0	Non-Distribution Asset
2040	Electric Plant Held for Future Use	0		0			0	Non-Distribution Asset
2050	Completed Construction Not Classified - Electric	0		0			0	Other Distribution Assets
2055	Construction Work in Progress - Electric	0		0			0	Non-Distribution Asset
2060	Electric Plant Acquisition Adjustment	0		0			0	Unclassified Asset
2065	Other Electric Plant Adjustment	0		0			0	Non-Distribution Asset
2070	Other Utility Plant	0		0			0	Non-Distribution Asset
2075	Non-Utility Property Owned or Under Capital Leases	0		0			0	Non-Distribution Asset
2105	Accum. Amortization of Electric Utility Plant - Property, Plant, & Equip	-550,897,069		-550,897,069			-527,172,271	Accumulated Amortization
2120	Accumulated Amortization of Electric Utility Plant - Intangibles	0		0			0	Accumulated Amortization
2140	Accumulated Amortization of Electric Plant Acquisition Adjustment	0		0			0	Unclassified Asset
2160	Accumulated Amortization of Other Utility Plant	0		0			0	Non-Distribution Asset
2180	Accumulated Amortization of Non-Utility Property	0		0			0	Non-Distribution Asset
2205	Accounts Payable	0		0			0	Liability
2210	Customer Credit Balances	0		0			0	Liability
2215	Current Portion of Customer Deposits	0		0			0	Liability
2220	Dividends Declared	0		0			0	Liability
2225	Miscellaneous Current and Accrued Liabilities	0		0			0	Liability
2230	Notes and Loans Payable	0		0			0	Liability
2235	Accounts Payable to Associated Companies	0		0			0	Liability
2240	Notes Payable to Associated Companies	0		0			0	Liability
2245	Debt Retirement Charges (DRC) Payable	0		0			0	Liability
2250	Transmission Charges Payable	0		0			0	Liability
2255	Electrical Safety Authority Fees Payable	0		0			0	Liability
2260	Independent Market Operator Fees and Penalties Payable	0		0			0	Liability
2265	Current Portion of Long Term Debt	0		0			0	Liability
2270	Current Portion of Debt - Current Portion	0		0			0	Liability
2275	Pensions and Employer Benefits - Current Portion	0		0			0	Liability
2280	Accrued Interest on Long Term Debt	0		0			0	Liability
2285	Matured Long Term Debt	0		0			0	Liability
2290	Matured Interest on Long Term Debt	0		0			0	Liability
2295	Obligations Under Capital Leases - Current	0		0			0	Liability
2300	Commodity Taxes	0		0			0	Liability
2305	Payroll Deductions / Expenses Payable	0		0			0	Liability
2310	Accrued Interest on Long Term Debt	0		0			0	Liability
2315	Accrued Interest on Long Term Debt	0		0			0	Liability
2320	Future Income Taxes - Current	0		0			0	Liability
2325	Accumulated Provision for Injuries and Damages	0		0			0	Liability
2330	Employee Future Benefits	0		0			0	Liability
2335	Other Pensions - Past Service Liability	0		0			0	Liability
2340	Vested Sick Leave Liability	0		0			0	Liability
2345	Accumulated Provision for Rate Refunds	0		0			0	Liability
2350	Other Miscellaneous Non-Current Liabilities	0		0			0	Liability
2355	Obligations Under Capital Lease - Non-Current	0		0			0	Liability
2360	Development Charge Fund	0		0			0	Liability
2365	Long Term Customer Deposits	0		0			0	Liability
2370	Collateral Funds Liability	0		0			0	Liability
2375	Unamortized Premium on Long Term Debt	0		0			0	Liability
2380	O.M.E.R.S. - Past Service Liability - Long Term Portion	0		0			0	Liability



2-4 ADJUSTED ACCOUNTING DATA

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Acct. No.	Account Description	2011 Distribution (As per Application)	Adjustments	Accounts as Adjusted - Application	Board Adjustment	Board Adjustment	2011 Accounts as Adjusted for 2011 Rate Calculation	Grouping for Minimum Reporting
		(from INPUT 2)	enter amount of the adjustment		+	-	(and average of 05/06 for dist. assets & wkg. cap. allow. calc.)	
		\$		\$	\$	\$	\$	
2350	Future Income Tax - Non-Current	0	0	0	0	0	0	Liability
2405	Other Regulatory Liabilities	0	0	0	0	0	0	Liability
2410	Deferred Gains from Disposition of Utility Plant	0	0	0	0	0	0	Liability
2415	Unamortized Gain on Recaptured Debt	0	0	0	0	0	0	Liability
2425	Other Deferred Credits	0	0	0	0	0	0	Liability
2435	Accrued Rate Payer Benefit	0	0	0	0	0	0	Liability
2505	Debt Issues Outstanding - Long Term Portion	0	0	0	0	0	0	Liability
2510	Debt Issue Advances	0	0	0	0	0	0	Liability
2515	Repurchased Bonds	0	0	0	0	0	0	Liability
2520	Other Long Term Debt	0	0	0	0	0	0	Liability
2525	Term Bank Loans - Long Term Portion	0	0	0	0	0	0	Liability
2530	Ontario Hydro Debt Outstanding - Long Term Portion	0	0	0	0	0	0	Liability
2550	Advances from Associated Companies	0	0	0	0	0	0	Liability
3005	Common Shares Issued	0	0	0	0	0	0	Equity
3008	Preference Shares Issued	0	0	0	0	0	0	Equity
3010	Contributed Surplus	0	0	0	0	0	0	Equity
3020	Donations Received	0	0	0	0	0	0	Equity
3022	Development Charges Transferred to Equity	0	0	0	0	0	0	Equity
3026	Capital Stock Held in Treasury	0	0	0	0	0	0	Equity
3030	Miscellaneous Paid-In Capital	0	0	0	0	0	0	Equity
3035	Installments Received on Capital Stock	0	0	0	0	0	0	Equity
3040	Appropriated Retained Earnings	0	0	0	0	0	0	Equity
3045	Unappropriated Retained Earnings	0	0	0	0	0	0	Equity
3046	Balance Transferred From Income	0	0	0	0	0	0	Equity
3047	Appropriations of Retained Earnings - Current Period	0	0	0	0	0	0	Equity
3048	Dividends Payable-Preference Shares	0	0	0	0	0	0	Equity
3049	Dividends Payable-Common Shares	0	0	0	0	0	0	Equity
3055	Adjustment to Retained Earnings	0	0	0	0	0	0	Equity
3065	Unappropriated Undistributed Subsidiary Earnings	0	0	0	0	0	0	Equity
4006	Residential Energy Sales	0	0	0	0	0	0	Sales of Electricity
4010	Commercial Energy Sales	0	0	0	0	0	0	Sales of Electricity
4015	Industrial Energy Sales	0	0	0	0	0	0	Sales of Electricity
4020	Energy Sales to Large Users	0	0	0	0	0	0	Sales of Electricity
4025	Street Lighting Energy Sales	0	0	0	0	0	0	Sales of Electricity
4030	Sentinel Lighting Energy Sales	0	0	0	0	0	0	Sales of Electricity
4035	General Energy Sales	0	0	0	0	0	0	Sales of Electricity
4040	Other Energy Sales to Public Authorities	0	0	0	0	0	0	Sales of Electricity
4045	Energy Sales to Railroads and Railways	0	0	0	0	0	0	Sales of Electricity
4050	Revenue Adjustment	0	0	0	0	0	0	Sales of Electricity
4055	Energy Sales for Resale	0	0	0	0	0	0	Sales of Electricity
4060	Interdepartmental Energy Sales	0	0	0	0	0	0	Sales of Electricity
4062	Billed WMS	0	0	0	0	0	0	Sales of Electricity
4064	Billed One-Time	0	0	0	0	0	0	Sales of Electricity
4066	Billed NW	0	0	0	0	0	0	Sales of Electricity
4068	Billed CN	0	0	0	0	0	0	Sales of Electricity
4080	Distribution Services Revenue	-802,546		-802,546		-802,546		Distribution Services Revenue
4082	Retail Services Revenues	-341,000		-341,000		-341,000		Other Distribution Revenue
4084	Service Transaction Requests (STR) Revenues	-10,400		-10,400		-10,400		Other Distribution Revenue
4090	Electric Services Incidental to Energy Sales	0		0		0		Other Distribution Revenue
4105	Transmission Charges Revenue	0		0		0		Other Revenue - Unclassified
4110	Transmission Services Revenue	0		0		0		Other Revenue - Unclassified
4205	Interdepartmental Rents	0		0		0		Other Distribution Revenue
4210	Rent from Electric Property	0		0		0		Other Distribution Revenue
4215	Other Utility Operating Income	0		0		0		Other Distribution Revenue
4220	Other Electric Revenues	0		0		0		Other Distribution Revenue
4225	Late Payment Charges	-1,400,000		-1,400,000		-1,400,000		Late Payment Charges
4230	Sales of Water and Water Power	0		0		0		Other Revenue - Unclassified
4235	Miscellaneous Service Revenues	-3,707,794		-3,707,794		-3,707,794		Specific Service Charges
4240	Provision for Rate Refunds	0		0		0		Other Distribution Revenue
4245	Government Assistance Directly Credited to Income	0		0		0		Other Distribution Revenue
4305	Regulatory Debits	0		0		0		Other Income & Deductions
4310	Regulatory Credits	0		0		0		Other Income & Deductions



2-4 ADJUSTED ACCOUNTING DATA

sheets and calculates the adjusted amounts to be used in rate calculations.

Acct. No.	Account Description	2011 Distribution (As per Application)	Adjustments	Accounts as Adjusted - Application	Board Adjustment	Board Adjustment	2011 Accounts as Adjusted for 2011 Rate Calculation	Grouping for Minimum Reporting
		(from INPUT 2)	enter amount of the adjustment		+	-	[and average of 05/06 for dist. assets & wkg. cap. allow. calc.]	
		\$		\$	\$	\$	\$	
4315	Revenues from Electric Plant Leased to Others	-821,000		-821,000			-821,000	Other Income & Deductions
4320	Expenses of Electric Plant Leased to Others	0		0			0	Other Income & Deductions
4325	Revenues from Merchandise, Jobbing, Etc.	-3,000,000		-3,000,000			-3,000,000	Other Income & Deductions
4330	Costs and Expenses of Merchandising, Jobbing, Etc.	2,316,470		2,316,470			2,316,470	Other Income & Deductions
4335	Profits and Losses from Financial Instrument Hedges	0		0			0	Other Income & Deductions
4340	Profits and Losses from Financial Instrument Investments	0		0			0	Other Income & Deductions
4345	Gains from Disposition of Future Use Utility Plant	0		0			0	Other Income & Deductions
4350	Losses from Disposition of Future Use Utility Plant	0		0			0	Other Income & Deductions
4355	Gain on Disposition of Utility and Other Property	-103,020		-103,020			-103,020	Other Income & Deductions
4360	Loss on Disposition of Utility and Other Property	0		0			0	Other Income & Deductions
4365	Gains from Disposition of Allowances for Emission	0		0			0	Other Income & Deductions
4370	Losses from Disposition of Allowances for Emission	0		0			0	Other Income & Deductions
4375	Revenues from Non-Utility Operations	0		0			0	Other Revenue - Unclassified
4380	Expenses of Non-Utility Operations	0		0			0	Other Revenue - Unclassified
4385	Non-Utility Rental Income	0		0			0	Other Revenue - Unclassified
4390	Miscellaneous Non-Operating Income	0		0			0	Other Income & Deductions
4395	Rate-Payer Benefit Including Interest	0		0			0	Other Income & Deductions
4398	Foreign Exchange Gains and Losses, Including Amortization	0		0			0	Other Income & Deductions
4405	Interest and Dividend Income	-58,000		-58,000			-58,000	Other Income & Deductions
4415	Equity in Earnings of Subsidiary Companies	0		0			0	Other Income & Deductions
4505	Operation Supervision and Engineering	0		0			0	Non-Distribution Expenses
4510	Fuel	0		0			0	Non-Distribution Expenses
4515	Steam Expense	0		0			0	Non-Distribution Expenses
4520	Steam From Other Sources	0		0			0	Non-Distribution Expenses
4525	Steam Transferred--Credit	0		0			0	Non-Distribution Expenses
4530	Electric Expense	0		0			0	Non-Distribution Expenses
4535	Water For Power	0		0			0	Non-Distribution Expenses
4540	Water Power Taxes	0		0			0	Non-Distribution Expenses
4545	Hydraulic Expenses	0		0			0	Non-Distribution Expenses
4550	Generation Expense	0		0			0	Non-Distribution Expenses
4555	Miscellaneous Power Generation Expenses	0		0			0	Non-Distribution Expenses
4560	Rents	0		0			0	Non-Distribution Expenses
4565	Allowances for Emissions	0		0			0	Non-Distribution Expenses
4605	Maintenance Supervision and Engineering	0		0			0	Non-Distribution Expenses
4610	Maintenance of Structures	0		0			0	Non-Distribution Expenses
4615	Maintenance of Boiler Plant	0		0			0	Non-Distribution Expenses
4620	Maintenance of Electric Plant	0		0			0	Non-Distribution Expenses
4625	Maintenance of Reservoirs, Dams and Waterways	0		0			0	Non-Distribution Expenses
4630	Maintenance of Water Wheels, Turbines and Generators	0		0			0	Non-Distribution Expenses
4635	Maintenance of Generating and Electric Plant	0		0			0	Non-Distribution Expenses
4640	Maintenance of Miscellaneous Power Generation Plant	0		0			0	Non-Distribution Expenses
4705	Power Purchases	603,090,617		603,090,617			603,090,617	Power Supply Expenses (Working Capital)
4708	Charges-WMS	0		0			0	Power Supply Expenses (Working Capital)
4710	Cost of Power Adjustments	0		0			0	Power Supply Expenses (Working Capital)
4712	Charges-One-Time	0		0			0	Power Supply Expenses (Working Capital)
4714	Charges-NW	0		0			0	Power Supply Expenses (Working Capital)
4715	System Control and Load Dispatching	0		0			0	Other Power Supply Expenses
4716	Charges-CN	0		0			0	Power Supply Expenses (Working Capital)
4720	Other Expenses	0		0			0	Other Power Supply Expenses
4725	Competition Transition Expense	0		0			0	Other Power Supply Expenses
4730	Rural Rate Assistance Expense	0		0			0	Other Power Supply Expenses (Working Capital)
4805	Operation Supervision and Engineering	0		0			0	Non-Distribution Expenses
4810	Load Dispatching	0		0			0	Non-Distribution Expenses
4815	Station Buildings and Fixtures Expenses	0		0			0	Non-Distribution Expenses
4820	Transformer Station Equipment - Operating Labour	0		0			0	Non-Distribution Expenses
4825	Transformer Station Equipment - Operating Supplies and Expense	0		0			0	Non-Distribution Expenses
4830	Overhead Line Expenses	0		0			0	Non-Distribution Expenses
4835	Underground Line Expenses	0		0			0	Non-Distribution Expenses
4840	Transmission of Electricity by Others	0		0			0	Non-Distribution Expenses
4845	Miscellaneous Transmission Expense	0		0			0	Non-Distribution Expenses
4850	Rents	0		0			0	Non-Distribution Expenses
4905	Maintenance Supervision and Engineering	0		0			0	Non-Distribution Expenses



2-4 ADJUSTED ACCOUNTING DATA

... sheets and calculates the adjusted amounts to be used in rate calculations.

Acct. No.	Account Description	2011 Distribution (As per Application)	Adjustments	Accounts as Adjusted - Application	Board Adjustment	Board Adjustment	2011 Accounts as Adjusted for 2011 Rate Calculation	Grouping for Minimum Reporting
		(from INPUT 2)	enter amount of the adjustment		+	-	[and average of 05/06 for dist. assets & wkg. cap. allow. calc.]	
		\$		\$	\$	\$	\$	
4910	Maintenance of Transformer Station Buildings and Fixtures	0		0			0	Non-Distribution Expenses
4916	Maintenance of Transformer Station Equipment	0		0			0	Non-Distribution Expenses
4930	Maintenance of Towers, Poles and Fixtures	0		0			0	Non-Distribution Expenses
4935	Maintenance of Overhead Conductors and Devices	0		0			0	Non-Distribution Expenses
4940	Maintenance of Overhead Lines - Right of Way	0		0			0	Non-Distribution Expenses
4945	Maintenance of Overhead Lines - Roads and Trails Repairs	0		0			0	Non-Distribution Expenses
4950	Maintenance of Overhead Lines - Snow Removal from Roads and Tra	0		0			0	Non-Distribution Expenses
4960	Maintenance of Underground Lines	0		0			0	Non-Distribution Expenses
4965	Maintenance of Miscellaneous Transmission Plant	0		0			0	Non-Distribution Expenses
5005	Operation Supervision and Engineering	0		0			0	Operation (Working Capital)
5010	Load Dispatching	2,290,007		2,290,007			2,290,007	Operation (Working Capital)
5012	Station Buildings and Fixtures Expense	690,955		690,955			690,955	Operation (Working Capital)
5014	Transformer Station Equipment - Operation Labour	102,177		102,177			102,177	Operation (Working Capital)
5015	Transformer Station Equipment - Operation Supplies and Expenses	21,804		21,804			21,804	Operation (Working Capital)
5016	Distribution Station Equipment - Operation Labour	330,426		330,426			330,426	Operation (Working Capital)
5017	Distribution Station Equipment - Operation Supplies and Expenses	187,470		187,470			187,470	Operation (Working Capital)
5020	Overhead Distribution Lines and Feeders - Operation Labour	829,978		829,978			829,978	Operation (Working Capital)
5025	Overhead Distribution Lines & Feeders - Operation Supplies and Expe	2,430,131		2,430,131			2,430,131	Operation (Working Capital)
5030	Overhead Subtransmission Feeders - Operation	0		0			0	Operation (Working Capital)
5035	Overhead Distribution Transformers- Operation	2,131		2,131			2,131	Operation (Working Capital)
5040	Underground Distribution Lines and Feeders - Operation Labour	787,810		787,810			787,810	Operation (Working Capital)
5045	Underground Distribution Lines & Feeders - Operation Supplies & Exp	1,740,310		1,740,310			1,740,310	Operation (Working Capital)
5050	Underground Subtransmission Feeders - Operation	0		0			0	Operation (Working Capital)
5055	Underground Distribution Transformers - Operation	19,208		19,208			19,208	Operation (Working Capital)
5060	Street Lighting and Signal System Expense	0		0			0	Non-Distribution Expenses
5065	Meter Expense	3,352,547		3,352,547			3,352,547	Operation (Working Capital)
5070	Customer Premises - Operation Labour	0		0			0	Operation (Working Capital)
5075	Customer Premises - Materials and Expenses	0		0			0	Operation (Working Capital)
5085	Miscellaneous Distribution Expense	2,484,483		2,484,483			2,484,483	Operation (Working Capital)
5090	Underground Distribution Lines and Feeders - Rental Paid	0		0			0	Operation (Working Capital)
5095	Overhead Distribution Lines and Feeders - Rental Paid	0		0			0	Operation (Working Capital)
5096	Other Rent	0		0			0	Operation (Working Capital)
5105	Maintenance Supervision and Engineering	0		0			0	Maintenance (Working Capital)
5110	Maintenance of Buildings and Fixtures - Distribution Stations	0		0			0	Maintenance (Working Capital)
5112	Maintenance of Transformer Station Equipment	344,063		344,063			344,063	Maintenance (Working Capital)
5114	Maintenance of Distribution Station Equipment	1,287,135		1,287,135			1,287,135	Maintenance (Working Capital)
5120	Maintenance of Poles, Towers and Fixtures	348,779		348,779			348,779	Maintenance (Working Capital)
5125	Maintenance of Overhead Conductors and Devices	754,245		754,245			754,245	Maintenance (Working Capital)
5130	Maintenance of Overhead Services	801,575		801,575			801,575	Maintenance (Working Capital)
5135	Overhead Distribution Lines and Feeders - Right of Way	0		0			0	Maintenance (Working Capital)
5145	Maintenance of Underground Conduit	171,830		171,830			171,830	Maintenance (Working Capital)
5150	Maintenance of Underground Conductors and Devices	732,898		732,898			732,898	Maintenance (Working Capital)
5155	Maintenance of Underground Services	449,782		449,782			449,782	Maintenance (Working Capital)
5160	Maintenance of Line Transformers	506,000		506,000			506,000	Maintenance (Working Capital)
5165	Maintenance of Street Lighting and Signal Systems	0		0			0	Non-Distribution Expenses
5170	Sentinel Lights - Labour	0		0			0	Non-Distribution Expenses
5172	Sentinel Lights - Materials and Expenses	0		0			0	Non-Distribution Expenses
5175	Maintenance of Meters	689,734		689,734			689,734	Maintenance (Working Capital)
5178	Customer Installations Expenses- Leased Property	0		0			0	Non-Distribution Expenses
5185	Water Heater Rentals - Labour	0		0			0	Non-Distribution Expenses
5186	Water Heater Rentals - Materials and Expenses	0		0			0	Non-Distribution Expenses
5190	Water Heater Controls - Labour	0		0			0	Non-Distribution Expenses
5192	Water Heater Controls - Materials and Expenses	0		0			0	Non-Distribution Expenses
5195	Maintenance of Other Installations on Customer Premises	0		0			0	Non-Distribution Expenses
5205	Purchase of Transmission and System Services	0		0			0	Other Power Supply Expenses
5210	Transmission Charges	0		0			0	Other Power Supply Expenses
5215	Transmission Charges Recovered	0		0			0	Other Power Supply Expenses
5305	Supervision	0		0			0	Billing and Collection (Working Capital)
5310	Meter Reading Expense	291,212		291,212			291,212	Billing and Collection (Working Capital)
5315	Customer Billing	7,073,022		7,073,022			7,073,022	Billing and Collection (Working Capital)
5320	Collecting	1,943,436		1,943,436			1,943,436	Billing and Collection (Working Capital)
5325	Collecting- Cash Over and Short	0		0			0	Billing and Collection (Working Capital)



2-4 ADJUSTED ACCOUNTING DATA

prepares the accounts and calculates the adjusted amounts to be used in rate calculations.

Acct. No.	Account Description	2011	Adjustments	Accounts as	Board	Board Adjustment	2011 Accounts as	Grouping for Minimum Reporting
		Distribution (As per Application)	enter amount of the adjustment	Adjusted - Application	Adjustment	Adjustment	Adjusted for 2011 Rate Calculation	
		(from INPUT 2)			+	-	[and average of 05/06 for dist. assets & wkg. cap. allow. calc.]	
		\$		\$	\$	\$	\$	
5330	Collection Charges	0		0			0	Billing and Collection (Working Capital)
5335	Bad Debt Expense	1,533,060		1,533,060			1,533,060	Bad Debt Expense (Working Capital)
5340	Miscellaneous Customer Accounts Expenses	0		0			0	Billing and Collection (Working Capital)
5405	Supervision	0		0			0	Community Relations (Working Capital)
5410	Community Relations - Sundry	5,905,497		5,905,497			5,905,497	Community Relations (Working Capital)
5415	Energy Conservation	501,641		501,641			501,641	Community Relations - CDM (Working Capital)
5420	Community Safety Program	0		0			0	Community Relations (Working Capital)
5425	Miscellaneous Customer Service and Informational Expenses	0		0			0	Community Relations (Working Capital)
5505	Supervision	199,923		199,923			199,923	Other Distribution Expenses
5510	Demonstrating and Selling Expense	0		0			0	Other Distribution Expenses
5515	Advertising Expense	0		0			0	Advertising Expenses
5520	Miscellaneous Sales Expense	0		0			0	Other Distribution Expenses
5605	Executive Salaries and Expenses	2,230,022		2,230,022			2,230,022	Administrative and General Expenses (Working Capital)
5610	Management Salaries and Expenses	5,804,604		5,804,604			5,804,604	Administrative and General Expenses (Working Capital)
5615	General Administrative Salaries and Expenses	2,679,969		2,679,969			2,679,969	Administrative and General Expenses (Working Capital)
5620	Office Supplies and Expenses	4,061,460		4,061,460			4,061,460	Administrative and General Expenses (Working Capital)
5625	Administrative Expense Transferred Credit	-1,931,338		-1,931,338			-1,931,338	Administrative and General Expenses (Working Capital)
5630	Outside Services Employed	569,018		569,018			569,018	Administrative and General Expenses (Working Capital)
5635	Property Insurance	780,070		780,070			780,070	Insurance Expense (Working Capital)
5640	Injuries and Damages	626,883		626,883			626,883	Administrative and General Expenses (Working Capital)
5645	Employee Pensions and Benefits	728,000		728,000			728,000	Administrative and General Expenses (Working Capital)
5650	Franchise Requirements	0		0			0	Administrative and General Expenses (Working Capital)
5655	Regulatory Expenses	1,419,756		1,419,756			1,419,756	Administrative and General Expenses (Working Capital)
5660	General Advertising Expenses	0		0			0	Advertising Expenses
5665	Miscellaneous General Expenses	2,517,516		2,517,516			2,517,516	Administrative and General Expenses (Working Capital)
5670	Rent	0		0			0	Administrative and General Expenses (Working Capital)
5675	Maintenance of General Plant	4,625,549		4,625,549			4,625,549	Administrative and General Expenses (Working Capital)
5680	Electrical Safety Authority Fees	0		0			0	Administrative and General Expenses (Working Capital)
5685	Independent Market Operator Fees and Penalties	0		0			0	Power Supply Expenses (Working Capital)
5705	Amortization Expense - Property, Plant, and Equipment	47,449,596		47,449,596			47,449,596	Amortization of Assets
5710	Amortization of Limited Term Electric Plant	0		0			0	Amortization of Assets
5715	Amortization of Intangibles and Other Electric Plant	0		0			0	Amortization of Assets
5720	Amortization of Electric Plant Acquisition Adjustments	0		0			0	Other Amortization - Unclassified
5725	Miscellaneous Amortization	0		0			0	Other Amortization - Unclassified
5730	Amortization of Unrecovered Plant and Regulatory Study Costs	0		0			0	Amortization of Assets
5735	Amortization of Deferred Development Costs	0		0			0	Amortization of Assets
5740	Amortization of Deferred Charges	0		0			0	Amortization of Assets
6005	Interest on Long Term Debt	0		0			0	Interest Expense - Unclassified
6010	Amortization of Debt Discount and Expense	0		0			0	Interest Expense - Unclassified
6015	Amortization of Premium on Debt Credit	0		0			0	Interest Expense - Unclassified
6020	Amortization of Loss on Reacquired Debt	0		0			0	Interest Expense - Unclassified
6025	Amortization of Gain on Reacquired Debt--Credit	0		0			0	Interest Expense - Unclassified
6030	Interest on Debt to Associated Companies	0		0			0	Interest Expense - Unclassified
6035	Other Interest Expense	0		0			0	Interest Expense - Unclassified
6040	Allowance for Borrowed Funds Used During Construction--Credit	0		0			0	Interest Expense - Unclassified
6042	Allowance For Other Funds Used During Construction	0		0			0	Interest Expense - Unclassified
6045	Interest Expense on Capital Lease Obligations	0		0			0	Interest Expense - Unclassified
6105	Taxes Other Than Income Taxes	1,800,217		1,800,217			1,800,217	Other Distribution Expenses
6110	Income Taxes	0		0			0	Income Tax Expense - Unclassified
6115	Provision for Future Income Taxes	0		0			0	Income Tax Expense - Unclassified
6205	Donations	51,510		51,510			51,510	Charitable Contributions
6210	Life Insurance	0		0			0	Insurance Expense (Working Capital)
6215	Penalties	0		0			0	Other Distribution Expenses
6225	Other Deductions	0		0			0	Other Distribution Expenses
6305	Extraordinary Income	0		0			0	Unclassified Expenses
6310	Extraordinary Deductions	0		0			0	Unclassified Expenses
6315	Income Taxes, Extraordinary Items	0		0			0	Unclassified Expenses
6405	Discontinued Operations - Income/ Gains	0		0			0	Unclassified Expenses
6410	Discontinued Operations - Deductions/ Losses	0		0			0	Unclassified Expenses
6415	Income Taxes, Discontinued Operations	0		0			0	Unclassified Expenses
Total (\$) Value		1,256,035,111	0	1,256,035,111	0	0	1,244,791,526	



2-4 ADJUSTED ACCOUNTING DATA

... sheets and calculates the adjusted amounts to be used in rate calculations.

Acct. No.	Account Description	2011	Adjustments	Accounts as	Board	Board Adjustment	2011 Accounts as	Grouping for Minimum Reporting
		Distribution (As per Application)	enter amount of the adjustment	Adjusted - Application	Adjustment	-	Adjusted for 2011 Rate Calculation	
		(from INPUT 2)			+	(enter as a negative amount)	[and average of 05/06 for dist. assets & wkg. cap. allow. calc.]	
		\$		\$	\$	\$	\$	
GROUPED INPUT FOR CALCULATIONS:								
(Minimum Reporting Requirement)								
	Land and Buildings	31,810,338	0	31,810,338	0	0	29,188,292	1805, 1806, 1808, 1810, 1905, 1906
	TS Primary Above 50	75,480,054	0	75,480,054	0	0	70,599,483	1815
	DS	70,574,390	0	70,574,390	0	0	68,366,890	1820
	Poles, Wires	554,631,063	0	554,631,063	0	0	537,998,765	1830, 1835, 1840, 1845
	Line Transformers	148,244,584	0	148,244,584	0	0	143,762,923	1850
	Services and Meters	220,950,650	0	220,950,650	0	0	215,003,584	1855, 1860
	General Plant	51,070,722	0	51,070,722	0	0	50,493,081	1908, 1910
	Equipment	42,442,725	0	42,442,725	0	0	40,416,669	1915, 1930, 1935, 1940, 1945, 1950, 1955, 1960
	IT Assets	80,177,695	0	80,177,695	0	0	77,379,650	1920, 1925
	CDM Expenditures and Recoveries	-0	0	-0	0	0	0	1565 (new account)
	Other Distribution Assets	14,298,634	0	14,298,634	0	0	13,218,039	1608, 1825, 1970, 1975, 1980, 1990, 2005, 2010, 2050
	Contributions and Grants	-190,128,104	0	-190,128,104	0	0	-181,843,010	1995
	Accumulated Amortization	-550,897,069	0	-550,897,069	0	0	-527,172,271	2105, 2120
	Non-Distribution Asset	-0	0	-0	0	0	-0	1606, 1610, 1615, 1616, 1620, 1630, 1635, 1640, 1645, 1650, 1655, 1660, 1665, 1670, 1675, 1680, 1685, 1705, 1706, 1708, 1710, 1715, 1720, 1725, 1730, 1735, 1740, 1745, 1865, 1870, 1875, 1965, 1985, 2020, 2030, 2040, 2055, 2065, 2070, 2075, 2160, 2180
	Unclassified Asset	-0	0	-0	0	0	-0	1005, 1010, 1020, 1030, 1040, 1060, 1070, 1100, 1102, 1104, 1105, 1110, 1120, 1130, 1140, 1150, 1170, 1180, 1190, 1200, 1210, 1305, 1330, 1340, 1350, 1405, 1408, 1410, 1415, 1425, 1445, 1455, 1460, 1465, 1470, 1475, 1480, 1485, 1490, 1505, 1508, 1510, 1515, 1516, 1518, 1520, 1525, 1530, 1540, 1545, 1548, 1560, 1562, 1563, 1570, 1571, 1572, 1574, 1580, 1582, 1584, 1586, 1588, 1605, 2060, 2140
	Liability	-0	0	-0	0	0	-0	2205, 2208, 2210, 2215, 2220, 2225, 2240, 2242, 2250, 2252, 2254, 2256, 2260, 2262, 2264, 2268, 2270, 2272, 2285, 2290, 2292, 2294, 2296, 2305, 2306, 2308, 2310, 2315, 2320, 2325, 2330, 2335, 2340, 2345, 2348, 2350, 2405, 2410, 2415, 2425, 2435, 2505, 2510, 2515, 2520, 2525, 2530, 2550
	Equity	-0	0	-0	0	0	-0	3005, 3008, 3010, 3020, 3022, 3026, 3030, 3035, 3040, 3045, 3046, 3047, 3048, 3049, 3055, 3065
	Sales of Electricity	-0	0	-0	0	0	-0	4006, 4010, 4015, 4020, 4025, 4030, 4035, 4040, 4045, 4050, 4055, 4060, 4062, 4064 (new account), 4066, 4068
	Distribution Services Revenue	-802,546	0	-802,546	0	0	-802,546	4080
	Late Payment Charges	-1,400,000	0	-1,400,000	0	0	-1,400,000	4225
	Specific Service Charges	-3,707,794	0	-3,707,794	0	0	-3,707,794	4235
	Other Distribution Revenue	-351,400	0	-351,400	0	0	-351,400	4082, 4084, 4090, 4205, 4210, 4215, 4220, 4240, 4245
	Other Revenue - Unclassified	-0	0	-0	0	0	-0	
	Other Income & Deductions	-1,665,550	0	-1,665,550	0	0	-1,665,550	4105, 4110, 4230, 4375, 4380, 4385
	Power Supply Expenses (Working Capital)	603,090,617	0	603,090,617	0	0	603,090,617	4305, 4310, 4315, 4320, 4325, 4330, 4335, 4340, 4345, 4350, 4355, 4360, 4365, 4370, 4390, 4395, 4398, 4405, 4415
	Other Power Supply Expenses	-0	0	-0	0	0	-0	4705, 4708, 4710, 4712, 4714, 4716, 4730, 5685
	Operation (Working Capital)	15,269,440	0	15,269,440	0	0	15,269,440	4715, 4720, 4725, 5205, 5210, 5215
	Maintenance (Working Capital)	6,086,040	0	6,086,040	0	0	6,086,040	5005, 5010, 5012, 5014, 5015, 5016, 5017, 5020, 5025, 5030, 5035, 5040, 5045, 5050, 5055, 5065, 5070, 5075, 5085, 5090, 5095, 5096
	Billing and Collection (Working Capital)	9,307,670	0	9,307,670	0	0	9,307,670	5105, 5110, 5112, 5114, 5120, 5125, 5130, 5135, 5145, 5150, 5155, 5160, 5175
	Community Relations (Working Capital)	5,905,497	0	5,905,497	0	0	5,905,497	5305, 5310, 5315, 5320, 5325, 5330, 5340
	Community Relations - CDM (Working Capital)	501,641	0	501,641	0	0	501,641	5405, 5410, 5420, 5425
	Administrative and General Expenses (Working Capital)	23,331,438	0	23,331,438	0	0	23,331,438	5415
	Insurance Expense (Working Capital)	780,070	0	780,070	0	0	780,070	5605, 5610, 5615, 5620, 5625, 5630, 5640, 5645, 5650, 5655, 5665, 5670, 5675, 5680
	Bad Debt Expense (Working Capital)	1,533,060	0	1,533,060	0	0	1,533,060	5635, 6210
	Advertising Expenses	-0	0	-0	0	0	-0	5335
	Charitable Contributions	51,510	0	51,510	0	0	51,510	5515, 5660
	Amortization of Assets	47,449,596	0	47,449,596	0	0	47,449,596	6205
	Other Amortization - Unclassified	-0	0	-0	0	0	-0	5705, 5710, 5715, 5730, 5735, 5740
								5720, 5725



2-4 ADJUSTED ACCOUNTING DATA

... sheets and calculates the adjusted amounts to be used in rate calculations.

Acct. No.	Account Description	2011	Adjustments	Accounts as	Board	Board Adjustment	2011 Accounts as	Grouping for Minimum Reporting
		Distribution (As per Application)	enter amount of the adjustment	Adjusted - Application	Adjustment	-	Adjusted for 2011 Rate Calculation	
		(from INPUT 2)			+	(enter as a negative amount)	[and average of 05/06 for dist. assets & wkg. cap. allow. calc.]	
		\$		\$	\$	\$	\$	
	Interest Expense - Unclassified	-0	0	-0	0	0	-0	6005, 6010, 6015, 6020, 6025, 6030, 6035, 6040, 6042, 6045
	Income Tax Expense - Unclassified	-0	0	-0	0	0	-0	6110, 6115
	Other Distribution Expenses	2,000,140	0	2,000,140	0	0	2,000,140	5505, 5510, 5520, 6105, 6215, 6225
	Non-Distribution Expenses	-0	0	-0	0	0	-0	4505, 4510, 4515, 4520, 4525, 4530, 4535, 4540, 4545, 4550, 4555, 4560, 4565, 4605, 4610, 4615, 4620, 4625, 4630, 4635, 4640, 4805, 4810, 4815, 4820, 4825, 4830, 4835, 4840, 4845, 4850, 4905, 4910, 4946, 4930, 4935, 4940, 4945, 4950, 4960, 4965, 5060, 5165, 5170, 5172, 5178, 5185, 5190, 5192, 5195
	Unclassified Expenses	-0	0	-0	0	0	-0	6305, 6310, 6315, 6405, 6410, 6415
		1,256,035,111	0	1,256,035,111	0	0	1,244,791,525	Total

SUMMARY FINANCIAL INFORMATION

DISTRIBUTION ASSETS:					
Land and Buildings	31,810,338	0	31,810,338	0	29,188,292
TS Primary Above 50	75,480,054	0	75,480,054	0	70,599,483
DS	70,574,390	0	70,574,390	0	68,366,890
Poles, Wires	554,631,063	0	554,631,063	0	537,998,765
Line Transformers	148,244,584	0	148,244,584	0	143,762,923
Services and Meters	220,950,650	0	220,950,650	0	215,003,584
General Plant	51,070,722	0	51,070,722	0	50,493,081
Equipment	42,442,725	0	42,442,725	0	40,416,669
IT Assets	80,177,695	0	80,177,695	0	77,379,650
CDM Assets	-0	0	-0	0	0
Other Distribution Assets	14,298,634	0	14,298,634	0	13,218,039
Contributions and Grants	-190,128,104	0	-190,128,104	0	-181,843,010
TOTAL DISTRIBUTION ASSETS	1,099,552,751	0	1,099,552,751	0	1,064,584,367
NET FIXED DISTRIBUTION ASSETS:					
Total Distribution Assets (as above) - LESS:					
Accumulated Amortization	-550,897,069	0	-550,897,069	0	-527,172,271
NET FIXED DISTRIBUTION ASSETS	548,655,681	0	548,655,681	0	537,412,096
NET SALES REVENUE					
Sales of Electricity	-0	0	-0	0	-0
Power Supply Expenses (Working Capital)	603,090,617	0	603,090,617	0	603,090,617
SALES OF ELECTRICITY NET OF COST OF POWER	603,090,617	0	603,090,617	0	603,090,617
DISTRIBUTION REVENUE					
Distribution Services Revenue	-802,546	0	-802,546	0	-802,546
Late Payment Charges	-1,400,000	0	-1,400,000	0	-1,400,000
Specific Service Charges	-3,707,794	0	-3,707,794	0	-3,707,794
Other Distribution Revenue	-351,400	0	-351,400	0	-351,400
TOTAL DISTRIBUTION REVENUE	-6,261,740	0	-6,261,740	0	-6,261,740
DISTRIBUTION EXPENSES (before PILS):					
Operation (Working Capital)	15,269,440	0	15,269,440	0	15,269,440
Maintenance (Working Capital)	6,086,040	0	6,086,040	0	6,086,040
Billing and Collection (Working Capital)	9,307,670	0	9,307,670	0	9,307,670
Community Relations (Working Capital)	5,905,497	0	5,905,497	0	5,905,497



2-4 ADJUSTED ACCOUNTING DATA

prepares the adjusted accounts and calculates the adjusted amounts to be used in rate calculations.

Acct. No.	Account Description	2011 Distribution (As per Application)	Adjustments	Accounts as Adjusted - Application	Board Adjustment	Board Adjustment	2011 Accounts as Adjusted for 2011 Rate Calculation	Grouping for Minimum Reporting
		(from INPUT 2)	enter amount of the adjustment		+	- (enter as a negative amount)	[and average of 05/06 for dist. assets & wkg. cap. allow. calc.]	
		\$		\$	\$	\$	\$	
	Community Relations - CDM (Working Capital)	501,641	0	501,641	0	0	501,641	
	Smart Meter Expenses	0	0	0	0	0	0	
	Administrative and General Expenses (Working Capital)	23,331,438	0	23,331,438	0	0	23,331,438	
	Insurance Expense (Working Capital)	780,070	0	780,070	0	0	780,070	
	Bad Debt Expense (Working Capital)	1,533,060	0	1,533,060	0	0	1,533,060	
	Advertising Expenses	-0	0	-0	0	0	-0	
	Charitable Contributions	51,510	0	51,510	0	0	51,510	
	Amortization of Assets	47,449,596	0	47,449,596	0	0	47,449,596	
	Other Distribution Expenses	2,000,140	0	2,000,140	0	0	2,000,140	
	TOTAL DISTRIBUTION EXPENSES (before PILs)	112,216,102	0	112,216,102	0	0	112,216,102	to pils
PILS AMOUNT								
WORKING CAPITAL CALCULATION								
Cost of Power								
	Power Supply Expenses (Working Capital)	603,090,617	0	603,090,617	0	0	603,090,617	
	TOTAL COST OF POWER	603,090,617	0	603,090,617	0	0	603,090,617	
Expenses								
	Operation (Working Capital)	15,269,440	0	15,269,440	0	0	15,269,440	
	Maintenance (Working Capital)	6,086,040	0	6,086,040	0	0	6,086,040	
	Billing and Collection (Working Capital)	9,307,670	0	9,307,670	0	0	9,307,670	
	Community Relations (Working Capital)	5,905,497	0	5,905,497	0	0	5,905,497	
	Community Relations - CDM (Working Capital)	501,641	0	501,641	0	0	501,641	
	Smart Meter Expenses	0	0	0	0	0	0	
	Administrative and General Expenses (Working Capital)	23,331,438	0	23,331,438	0	0	23,331,438	
	Insurance Expense (Working Capital)	780,070	0	780,070	0	0	780,070	
	Bad Debt Expense (Working Capital)	1,533,060	0	1,533,060	0	0	1,533,060	
	Advertising Expenses	0	0	0	0	0	0	
	Charitable Contributions	51,510	0	51,510	0	0	51,510	
	Other Distribution Expenses	2,000,140	0	2,000,140	0	0	2,000,140	
	TOTAL EXPENSES	64,766,506	0	64,766,506	0	0	64,766,506	
	TOTAL FOR WORKING CAPITAL CALCULATION	667,857,123	0	667,857,123	0	0	667,857,123	



3-1 RATE BASE

9 kW

Net Fixed Assets		537,412,096
-------------------------	--	--------------------

Working Capital Allowance

Working Capital (<i>from Sheet "2-4 ADJUSTED ACCOUNTING DATA"</i>)	667,857,123	
Working Capital Allowance @ 14.1%	94,167,854	94,167,854

RATE BASE

631,579,950



3-2 COST OF CAPITAL (Input)

Cost of Capital

Deemed Debt Rate and D/E Structures

GS 1,500 to 4,999 kW	\$631,579,950
Debt Long-term Rate	0.05351
Deemed Long-term Deb	56%
Debt Short-term Rate	2.17%
Deemed Short-term Deb	4%
Deemed Equity	40%

Debt Rate (DR)

Deemed or proposed Debt Rate for Revenue Requirement calculation.	5.35%
---	-------

Return on Equity	
GS 1,500 to 4,999 kW	
Utility's	9.85%

Cost of Capital	7.02%
-----------------	-------

GS 1,500 to 4,999 kW

GS 1,500 to 4,999 kW

GS 1,500 to 4,999 kW

GS 1,500 to 4,999 kW



GS 1,500 to 4,999 kW

GS 1,500 to 4,999 kW



Schedule 5-1: Weighted Debt Cost

Schedule 5-1: Weighted Debt Cost

Long-Term Debt

No.	Description	Debt Holder	Affiliated with the LDC? (Y/N)	Issuance of Debt (Date)	Principal (\$)	Term (Years)	Actual Rate (%)	Used for Weighted Debt Rate
1	704,999 kvv							0.000%
2								0.000%
3								0.000%
Total					<u>\$ 0</u>			
Weighted Average Long-Term Debt Rate							<u>0.000%</u>	<u>5.35100%</u>



4-1 DATA for PILS MODEL

19 kW

Item	Source	\$ Amount as Adjusted
------	--------	-----------------------

Net Income before consideration of PILS

Revenue Requirement other than PILS *Sheet 5-1* 156,574,236

Distribution Expenses other than PILS and interest *Sheet 2-4* 112,216,102 [to detail](#)

(Note: "Book" interest expense and "book" income tax expense are not included in Distribution Expenses above)

44,358,134

Calculated Interest

Rate Base *Sheet 3-1* 631,579,950

x Debt Component *Sheet 3-2* 56.00%

19 kW x Debt Rate reflected in Revenue Requirement *Sheet 3-2* 5.35% 19,473,884

x Debt Component 4.00%

x Debt Rate reflected in Revenue Requirement 2.17%

Target Net Income before consideration of PILS **24,884,250**
 (= Target Net Income reflecting PILS)



4-2 OUTPUT from PILS MODEL

[kW](#)

\$

PILS Amount from PILS Model

9,555,063



5-1 SERVICE REVENUE REQUIREMENT
This sheet calculates the Revenue Requirement using adjusted information from previous sheets and brings in the income tax amount from the PILS Model.

	\$	\$
w		
<u>Rate Base</u> (from sheet 3-1)	631,579,950	
x <u>Cost of Capital</u>	7.02%	
Return on Ratebase		44,358,134
Distribution Expenses (from sheet "2-4 ADJUSTED ACCOUNTING DATA")		112,216,102
Revenue Requirement Before Income Taxes		156,574,236
Income Taxes - from PILS Model		9,555,063
SERVICE REVENUE REQUIREMENT		166,129,299



5-3 OTHER REGULATED CHARGES (Input)

Description	HANDBOOK REF.	Charge Determinant	Total \$	Comments
99 kW RETAIL SERVICES REVENUE				
Establishing Service Agreements	12.2.1	}	341,000	account 4082
Distributor-Consolidated Billing	12.2.2			
Retailer-Consolidated Billing	12.2.3			
SERVICE TRANSACTION REQUEST REVENUES	12.2.4		10,400	account 4084
RPP (formerly SSS)ADMINISTRATION CHARGE REVENUE	12.1		802,546	account 4080b
DISTRIBUTION WHEELING SERVICE REVENUE	10.7			account 4080c, if applicable in 2004
99 kW OTHER COMPONENTS OF "OTHER DISTRIBUTION REVENUE"				accounts 4090, 4205-4215, 4220, 4240-5
OTHER DISTRIBUTION REVENUE			1,153,946	



5-5 BASE REVENUE REQUIREMENT

99 kW

	<u>\$</u>	<u>\$</u>
Service Revenue Requirement <i>(from Sheet 5-1)</i>		166,129,299
LESS:		
Revenue Offsets:		
Board Approved Charges		
Specific Service Charges	3,707,794	
Late Payment Charges <i>(from Sheet 2-4 ADJUSTED ACCOUNTING DATA)</i>	1,400,000	
Other Distribution Revenue <i>(from Sheet 5-3)</i>	1,153,946	
Other Income & Deductions <i>(from Sheet 2-4 ADJUSTED ACCOUNTING DATA)</i>	1,665,550	
	<hr/>	
TOTAL REVENUE OFFSETS	7,927,290	7,927,290
Base Revenue Requirement		<hr/> 158,202,009 <hr/>
<i>(defined as SERVICE REVENUE REQUIREMENT NET OF REVENUE OFFSETS)</i>		



6-1 CUSTOMER CLASSES (Input)
Enter current and proposed customer classes

Customer Classification Current Proposed

Please update: "X" if applicable (delete if not applicable)



<u>RESIDENTIAL</u>	<u>Current</u>	<u>Proposed</u>
Regular	X	X
Time of Use		
Urban		
Suburban		
Other (specify)		
Other (specify)		
Other (specify)		
Other (specify)		
Other (specify)		
GENERAL SERVICE		X
Less than 50 kW	X	X
Less than 50 kW Time of Use		
Other < 50 kW (specify) .		
50 to 1,499 kW	X	X
1,500 to 4,999 kW	X	X
Other > 50 kW (specify) .		
Other > 50 kW (specify) .		
Other > 50 kW (specify) .		
Intermediate Use (3000 - 5000 kW)		
Large Use	X	X
Unmetered Scattered Load	X	X
Sentinel Lighting	X	X
Street Lighting	X	X
Standby GS 50 to 1,499 kW		X
Standby GS 1,500 to 4,999 kW		X
Standby Large Use		X



6-2 DEMAND, RATES (Input)

Enter customer numbers and demand data for 2008

	Number of Customers (Connections)			Demand Data - kWh			Demand Data - kW				
			2011 average			2011			2011		
			#			kWh			kW		
RESIDENTIAL											
Regular			276,039			2,229,754,498					
GENERAL SERVICE											
Less than 50 kW			23,554			756,993,599					
50 to 1,499 kW			3,265						7,564,413		
1,500 to 4,999 kW			66						1,787,025		
Large Use			12						1,197,001		
Unmetered Scattered Load			2,853			17,001,652					
Sentinel Lighting			82								
Street Lighting			54,645						118,127		
Standby GS 50 to 1,499 kW			2						28,800		
Standby GS 1,500 to 4,999 kW			2						86,400		
Standby Large Use											
TOTALS				0	0	360,530	0	0	3,003,749,748	0	10,781,767



6-2 DEMAND, RATES (Input)

Enter customer numbers and demand data for 2008

Volumetric
Rate Type

RESIDENTIAL

Regular	kWh
---------	-----

GENERAL SERVICE

Less than 50 kW	kWh
50 to 1,499 kW	kW
1,500 to 4,999 kW	kW
Large Use	kW
Unmetered Scattered Load	kWh
Sentinel Lighting	kW
Street Lighting	kW
Standby GS 50 to 1,499 kW	kW
Standby GS 1,500 to 4,999 kW	kW
Standby Large Use	kW

TOTALS



6-3 Transformer Ownership (Input)

							2011		
	kW	\$/kW	\$	kW	\$/kW	\$	kW	\$/kW	\$
RESIDENTIAL									
Regular			0.00			0.00			0.00
GENERAL SERVICE									
Less than 50 kW			0.00			0.00			0.00
50 to 1,499 kW			0.00	0		0.00	680,797	0.45	306,358.73
1,500 to 4,999 kW			0.00	0		0.00	929,253	0.45	418,163.95
Large Use			0.00	0		0.00	993,511	0.45	447,079.80
Unmetered Scattered Load			0.00			0.00			0.00
Sentinel Lighting			0.00			0.00			0.00
Street Lighting			0.00			0.00			0.00
Standby GS 50 to 1,499 kW			0.00			0.00			0.00
Standby GS 1,500 to 4,999 kW			0.00			0.00			0.00
Standby Large Use			0.00			0.00			0.00
TOTALS			0	0		0.00	2,603,561		1,171,602.47

**10-1 RATES SCHEDULE (Part 1)***Schedule of Distribution Rates and Charges
Effective May 1, 2010*

Customer Class	Item Description	Unit	Rate \$
<u>RESIDENTIAL</u>			
	Monthly Service Charge	per month	\$8.52
	Distribution Volumetric Rate	per kWh	\$0.0207
<u>GENERAL SERVICE</u>			
<u>Less than 50 kW</u>			
	Monthly Service Charge	per month	\$14.73
	Distribution Volumetric Rate	per kWh	\$0.0185
<u>GENERAL SERVICE</u>			
<u>50 to 1,499 kW</u>			
	Monthly Service Charge	per month	\$250.76
	Distribution Volumetric Rate	per kW	\$3.0325
<u>GENERAL SERVICE</u>			
<u>1,500 to 4,999 kW</u>			
	Monthly Service Charge	per month	\$4,032.07
	Distribution Volumetric Rate	per kW	\$2.8962
<u>Large Use</u>			
	Monthly Service Charge	per month	\$14,643.46
	Distribution Volumetric Rate	per kW	\$2.7725
<u>Unmetered Scattered Load</u>			
	Monthly Service Charge	per month	\$4.03
	Distribution Volumetric Rate	per kWh	\$0.0200
<u>Sentinel Lighting</u>			
	Monthly Service Charge	per month	\$1.89
	Distribution Volumetric Rate	per kW	\$7.2304
<u>Street Lighting</u>			
	Monthly Service Charge	per month	\$0.49
	Distribution Volumetric Rate	per kW	\$3.4501
<u>Standby</u>			
<u>50 to 1,499 kW</u>			
	Monthly Service Charge	per month	\$107.83
	Distribution Volumetric Rate	per kW	\$1.4390
<u>Standby</u>			
<u>1,500 to 4,999 kW</u>			
	Monthly Service Charge	per month	\$107.83
	Distribution Volumetric Rate	per kW	\$1.3200
<u>Standby</u>			
<u>Large Use</u>			
	Monthly Service Charge	per month	\$107.83
	Distribution Volumetric Rate	per kW	\$1.4648



10-4 Deficiency/Sufficiency Calculation

Volumes from 6-2			Rates from 10-1			Calculated Revenue
Number of Customers (Connections)	2011 total kWh	2011 total kW	Rate per kWh (\$)	Rate per kW (\$)	Fixed Service Charge (\$)	Full Precision \$

RESIDENTIAL

Regular	276,039	2,229,754,498	0	0.0207	0.0000	8.52	74,378,148
---------	---------	---------------	---	--------	--------	------	-------------------

GENERAL SERVICE

Less than 50 kW	23,554	756,993,599	0	0.0185	0.0000	14.73	18,167,755
50 to 1,499 kW	3,265	0	7,564,413	0.0000	3.0325	250.76	32,763,859
1,500 to 4,999 kW	66	0	1,787,025	0.0000	2.8962	4,032.07	8,368,982
Large Use	12	0	1,197,001	0.0000	2.7725	14,643.46	5,427,343
Unmetered Scattered Load	2,853	17,001,652	0	0.0200	0.0000	4.03	477,992
Sentinel Lighting	82	0	0	0.0000	7.2304	1.89	1,860
Street Lighting	54,645	0	118,127	0.0000	3.4501	0.49	728,862
Standby GS 50 to 1,499 kW	2	0	28,800	0.0000	1.4390	107.83	44,031
Standby GS 1,500 to 4,999 kW	2	0	86,400	0.0000	1.3200	107.83	116,636
Standby Large Use	0	0	0	0.0000	1.4648	107.83	0

TOTALS

140,475,468

158,202,009

**10-1 RATES SCHEDULE (Part 1)***Schedule of Distribution Rates and Charges*

Customer Class	Item Description	Unit	May 1, 2010	January 1, 2011
<u>RESIDENTIAL</u>				
	Monthly Service Charge	per month	\$8.52	\$9.67
	Distribution Volumetric Rate	per kWh	\$0.0207	\$0.0235
<u>GENERAL SERVICE</u>				
<u>Less than 50 kW</u>				
	Monthly Service Charge	per month	\$14.73	\$16.71
	Distribution Volumetric Rate	per kWh	\$0.0185	\$0.0210
<u>GENERAL SERVICE</u>				
<u>50 to 1,499 kW</u>				
	Monthly Service Charge	per month	\$250.76	\$284.49
	Distribution Volumetric Rate	per kW	\$3.0325	\$3.4405
<u>GENERAL SERVICE</u>				
<u>1,500 to 4,999 kW</u>				
	Monthly Service Charge	per month	\$4,032.07	\$4,574.50
	Distribution Volumetric Rate	per kW	\$2.8962	\$3.2858
<u>Large Use</u>				
	Monthly Service Charge	per month	\$14,643.46	\$16,613.44
	Distribution Volumetric Rate	per kW	\$2.7725	\$3.1455
<u>Unmetered Scattered Load</u>				
	Monthly Service Charge	per month	\$4.03	\$4.57
	Distribution Volumetric Rate	per kWh	\$0.0200	\$0.0227
<u>Sentinel Lighting</u>				
	Monthly Service Charge	per month	\$1.89	\$2.14
	Distribution Volumetric Rate	per kW	\$7.2304	\$8.2031
<u>Street Lighting</u>				
	Monthly Service Charge	per month	\$0.49	\$0.56
	Distribution Volumetric Rate	per kW	\$3.4501	\$3.9142
<u>Standby</u>				
<u>50 to 1,499 kW</u>				
	Monthly Service Charge	per month	\$107.83	\$122.34
	Distribution Volumetric Rate	per kW	\$1.4390	\$1.6326
<u>Standby</u>				
<u>1,500 to 4,999 kW</u>				
	Monthly Service Charge	per month	\$107.83	\$122.34
	Distribution Volumetric Rate	per kW	\$1.3200	\$1.4976
<u>Standby</u>				
<u>Large Use</u>				
	Monthly Service Charge	per month	\$107.83	\$122.34
	Distribution Volumetric Rate	per kW	\$1.4648	\$1.6619



Attachment AH - 2011 EDR Model

2011 THROUGHPUT REVENUE

	January	February	March	April	May	June	July	August	September	October	November	December	Total
RATES-Fixed Service Charge													
Residential	\$9.67	\$9.67	\$9.67	\$9.67	\$9.67	\$9.67	\$9.67	\$9.67	\$9.67	\$9.67	\$9.67	\$9.67	\$9.67
GS <50 kW	\$16.71	\$16.71	\$16.71	\$16.71	\$16.71	\$16.71	\$16.71	\$16.71	\$16.71	\$16.71	\$16.71	\$16.71	\$16.71
GS 50 to 1,499 kW	\$284.49	\$284.49	\$284.49	\$284.49	\$284.49	\$284.49	\$284.49	\$284.49	\$284.49	\$284.49	\$284.49	\$284.49	\$284.49
GS 1,500 to 4,999 kW	\$4,574.50	\$4,574.50	\$4,574.50	\$4,574.50	\$4,574.50	\$4,574.50	\$4,574.50	\$4,574.50	\$4,574.50	\$4,574.50	\$4,574.50	\$4,574.50	\$4,574.50
Large Use	\$16,613.44	\$16,613.44	\$16,613.44	\$16,613.44	\$16,613.44	\$16,613.44	\$16,613.44	\$16,613.44	\$16,613.44	\$16,613.44	\$16,613.44	\$16,613.44	\$16,613.44
Unmetered Scattered Load	\$4.57	\$4.57	\$4.57	\$4.57	\$4.57	\$4.57	\$4.57	\$4.57	\$4.57	\$4.57	\$4.57	\$4.57	\$4.57
Sentinel Lights	\$2.14	\$2.14	\$2.14	\$2.14	\$2.14	\$2.14	\$2.14	\$2.14	\$2.14	\$2.14	\$2.14	\$2.14	\$2.14
Streetlighting	\$0.56	\$0.56	\$0.56	\$0.56	\$0.56	\$0.56	\$0.56	\$0.56	\$0.56	\$0.56	\$0.56	\$0.56	\$0.56
GS 50 to 1,499 kW Standby	\$122.34	\$122.34	\$122.34	\$122.34	\$122.34	\$122.34	\$122.34	\$122.34	\$122.34	\$122.34	\$122.34	\$122.34	\$122.34
GS 1500 to 4,999 kW Standby	\$122.34	\$122.34	\$122.34	\$122.34	\$122.34	\$122.34	\$122.34	\$122.34	\$122.34	\$122.34	\$122.34	\$122.34	\$122.34
Large Use Standby	\$122.34	\$122.34	\$122.34	\$122.34	\$122.34	\$122.34	\$122.34	\$122.34	\$122.34	\$122.34	\$122.34	\$122.34	\$122.34
RATES-Variable													
Residential	\$0.0235	\$0.0235	\$0.0235	\$0.0235	\$0.0235	\$0.0235	\$0.0235	\$0.0235	\$0.0235	\$0.0235	\$0.0235	\$0.0235	\$0.0235
GS <50 kW	\$0.0210	\$0.0210	\$0.0210	\$0.0210	\$0.0210	\$0.0210	\$0.0210	\$0.0210	\$0.0210	\$0.0210	\$0.0210	\$0.0210	\$0.0210
GS 50 to 1,499 kW	\$3.4405	\$3.4405	\$3.4405	\$3.4405	\$3.4405	\$3.4405	\$3.4405	\$3.4405	\$3.4405	\$3.4405	\$3.4405	\$3.4405	\$3.4405
GS 1,500 to 4,999 kW	\$3.2858	\$3.2858	\$3.2858	\$3.2858	\$3.2858	\$3.2858	\$3.2858	\$3.2858	\$3.2858	\$3.2858	\$3.2858	\$3.2858	\$3.2858
Large Use	\$3.1455	\$3.1455	\$3.1455	\$3.1455	\$3.1455	\$3.1455	\$3.1455	\$3.1455	\$3.1455	\$3.1455	\$3.1455	\$3.1455	\$3.1455
Unmetered Scattered Load	\$0.0227	\$0.0227	\$0.0227	\$0.0227	\$0.0227	\$0.0227	\$0.0227	\$0.0227	\$0.0227	\$0.0227	\$0.0227	\$0.0227	\$0.0227
Sentinel Lights	\$8.2031	\$8.2031	\$8.2031	\$8.2031	\$8.2031	\$8.2031	\$8.2031	\$8.2031	\$8.2031	\$8.2031	\$8.2031	\$8.2031	\$8.2031
Streetlighting	\$3.9142	\$3.9142	\$3.9142	\$3.9142	\$3.9142	\$3.9142	\$3.9142	\$3.9142	\$3.9142	\$3.9142	\$3.9142	\$3.9142	\$3.9142
GS 50 to 1,499 kW Standby	\$1.6326	\$1.6326	\$1.6326	\$1.6326	\$1.6326	\$1.6326	\$1.6326	\$1.6326	\$1.6326	\$1.6326	\$1.6326	\$1.6326	\$1.6326
GS 1500 to 4,999 kW Standby	\$1.4976	\$1.4976	\$1.4976	\$1.4976	\$1.4976	\$1.4976	\$1.4976	\$1.4976	\$1.4976	\$1.4976	\$1.4976	\$1.4976	\$1.4976
Large Use Standby	\$1.6619	\$1.6619	\$1.6619	\$1.6619	\$1.6619	\$1.6619	\$1.6619	\$1.6619	\$1.6619	\$1.6619	\$1.6619	\$1.6619	\$1.6619
NO. OF CUSTOMERS/CONNECTIONS													
Residential	274,225	274,557	274,888	275,219	275,549	275,878	276,207	276,535	276,862	277,189	277,516	277,842	276,039
GS <50 kW	23,512	23,519	23,527	23,535	23,542	23,550	23,558	23,565	23,573	23,581	23,588	23,596	23,554
GS 50 to 1,499 kW	3,262	3,263	3,263	3,264	3,264	3,265	3,265	3,266	3,266	3,267	3,267	3,268	3,265
GS 1,500 to 4,999 kW	66	66	66	66	66	66	66	66	66	66	66	65	66
Large Use	12	12	12	12	12	12	12	12	12	12	12	12	12
Unmetered Scattered Load	2,853	2,853	2,853	2,853	2,853	2,853	2,853	2,853	2,853	2,853	2,853	2,853	2,853
Sentinel Lights	82	82	82	82	82	82	82	82	82	82	82	82	82
Streetlighting	54,456	54,485	54,513	54,544	54,579	54,613	54,651	54,689	54,731	54,776	54,821	54,876	54,645
GS 50 to 1,499 kW Standby	2	2	2	2	2	2	2	2	2	2	2	2	2
GS 1500 to 4,999 kW Standby	2	2	2	2	2	2	2	2	2	2	2	2	2
Large Use Standby	0	0	0	0	0	0	0	0	0	0	0	0	0
LOAD DATA - kWh													
Residential	226,442,812	202,602,572	197,614,108	164,292,484	155,969,845	176,753,946	193,830,300	192,899,652	161,001,806	164,684,967	180,012,966	213,649,041	2,229,754,498
GS <50 kW	75,063,206	67,766,306	66,947,958	57,354,826	55,522,667	59,512,725	63,186,992	63,111,728	56,894,930	57,878,817	62,033,192	71,720,253	756,993,599
GS 50 to 1,499 kW	286,784,641	255,318,816	262,223,893	230,234,737	230,395,046	242,910,210	257,658,654	257,921,403	235,163,884	236,462,183	245,932,003	278,204,464	3,019,209,934
GS 1,500 to 4,999 kW	72,350,624	64,509,531	69,514,553	64,632,085	67,960,341	71,753,743	75,960,885	76,128,513	69,910,887	67,532,703	67,125,288	71,964,878	839,344,031
Large Use	53,552,825	47,435,423	51,356,383	49,646,807	52,882,995	57,145,750	60,867,543	60,887,026	55,005,404	51,878,384	51,025,334	53,584,985	645,268,861
Unmetered Scattered Load	1,453,752	1,360,984	1,416,666	1,358,128	1,412,224	1,429,137	1,439,696	1,451,388	1,448,275	1,395,479	1,392,731	1,443,192	17,001,652
Streetlighting	4,386,609	3,844,691	3,560,026	3,181,048	2,772,617	2,590,176	1,499,052	1,641,759	2,951,641	3,681,191	4,213,032	4,600,502	38,922,344
TOTAL	720,034,468	642,838,324	652,633,587	570,700,115	566,915,735	612,095,686	654,443,121	654,041,468	582,376,827	583,513,724	611,734,546	695,167,316	7,546,494,918
LOAD DATA - kW													
GS 50 to 1,499 kW	643,350	638,287	658,921	633,272	619,057	637,990	617,501	624,640	633,867	615,197	617,616	624,715	7,564,413
GS 1,500 to 4,999 kW	142,101	141,154	138,665	141,006	147,076	153,235	158,650	162,871	164,087	150,378	150,265	137,536	1,787,025
Large Use	93,648	87,638	91,387	90,374	95,832	103,277	111,547	114,960	112,034	104,564	97,552	94,186	1,197,001
Sentinel Lights	18	18	18	18	18	18	18	18	18	18	18	18	221
Streetlighting	9,758	9,774	9,790	9,805	9,821	9,836	9,852	9,867	9,883	9,898	9,914	9,929	118,127



Attachment AH - 2011 EDR Model

2011 THROUGHPUT REVENUE

	January	February	March	April	May	June	July	August	September	October	November	December	Total
GS 50 to 1,499 kW Standby	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	28,800
GS 1500 to 4,999 kW Standby	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	86,400
Large Use Standby	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL (Non Standby)													10,666,788
DISTRIBUTION REVENUE-Fixed													
Residential	\$2,650,713	\$2,653,923	\$2,657,124	\$2,660,320	\$2,663,510	\$2,666,693	\$2,669,870	\$2,673,041	\$2,676,207	\$2,679,367	\$2,682,521	\$2,685,673	\$32,018,962
GS <50 kW	\$392,916	\$393,046	\$393,175	\$393,303	\$393,432	\$393,560	\$393,688	\$393,816	\$393,943	\$394,070	\$394,198	\$394,324	\$4,723,472
GS 50 to 1,499 kW	\$927,996	\$928,209	\$928,357	\$928,497	\$928,625	\$928,773	\$928,915	\$929,052	\$929,234	\$929,410	\$929,581	\$929,757	\$11,146,406
GS 1,500 to 4,999 kW	\$300,453	\$300,362	\$300,270	\$300,225	\$300,133	\$300,042	\$299,950	\$299,904	\$299,813	\$299,721	\$299,630	\$299,539	\$3,600,043
Large Use	\$199,361	\$199,361	\$199,361	\$199,361	\$199,361	\$199,361	\$199,361	\$199,361	\$199,361	\$199,361	\$199,361	\$199,361	\$2,392,336
Unmetered Scattered Load	\$13,043	\$13,043	\$13,043	\$13,043	\$13,043	\$13,043	\$13,043	\$13,043	\$13,043	\$13,043	\$13,043	\$13,043	\$156,519
Sentinel Lights	\$176	\$176	\$176	\$176	\$176	\$176	\$176	\$176	\$176	\$176	\$176	\$176	\$2,110
Streetlighting	\$30,273	\$30,290	\$30,305	\$30,322	\$30,341	\$30,360	\$30,381	\$30,403	\$30,426	\$30,451	\$30,476	\$30,506	\$364,536
GS 50 to 1,499 kW Standby	\$245	\$245	\$245	\$245	\$245	\$245	\$245	\$245	\$245	\$245	\$245	\$245	\$2,936
GS 1500 to 4,999 kW Standby	\$245	\$245	\$245	\$245	\$245	\$245	\$245	\$245	\$245	\$245	\$245	\$245	\$2,936
Large Use Standby	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SubTotal													\$54,410,255
DISTRIBUTION REVENUE-Variable													
Residential	\$5,317,957	\$4,758,074	\$4,640,921	\$3,858,371	\$3,662,916	\$4,151,025	\$4,552,060	\$4,530,204	\$3,781,090	\$3,867,588	\$4,227,563	\$5,017,498	\$52,365,267
GS <50 kW	\$1,575,487	\$1,422,334	\$1,405,157	\$1,203,809	\$1,165,354	\$1,249,101	\$1,326,219	\$1,324,640	\$1,194,156	\$1,214,807	\$1,302,002	\$1,505,322	\$15,888,389
GS 50 to 1,499 kW	\$2,213,420	\$2,196,001	\$2,266,994	\$2,178,747	\$2,129,841	\$2,194,980	\$2,124,488	\$2,149,050	\$2,180,795	\$2,116,563	\$2,124,885	\$2,149,310	\$26,025,074
GS 1,500 to 4,999 kW	\$466,920	\$463,809	\$455,630	\$463,321	\$483,268	\$503,502	\$521,297	\$535,167	\$539,162	\$494,115	\$493,744	\$451,920	\$5,871,853
Large Use	\$294,569	\$275,663	\$287,457	\$284,271	\$301,439	\$324,856	\$350,870	\$361,604	\$352,402	\$328,904	\$306,848	\$296,261	\$3,765,147
Unmetered Scattered Load	\$32,986	\$30,882	\$32,145	\$30,817	\$32,044	\$32,428	\$32,668	\$32,933	\$32,862	\$31,664	\$31,602	\$32,747	\$385,778
Sentinel Lights	\$151	\$151	\$151	\$151	\$151	\$151	\$151	\$151	\$151	\$151	\$151	\$151	\$1,813
Streetlighting	\$38,197	\$38,258	\$38,319	\$38,380	\$38,440	\$38,501	\$38,562	\$38,623	\$38,684	\$38,745	\$38,805	\$38,866	\$462,380
GS 50 to 1,499 kW Standby	\$3,918	\$3,918	\$3,918	\$3,918	\$3,918	\$3,918	\$3,918	\$3,918	\$3,918	\$3,918	\$3,918	\$3,918	\$47,019
GS 1500 to 4,999 kW Standby	\$10,783	\$10,783	\$10,783	\$10,783	\$10,783	\$10,783	\$10,783	\$10,783	\$10,783	\$10,783	\$10,783	\$10,783	\$129,391
Large Use Standby	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SubTotal													\$104,942,110
DISTRIBUTION REVENUE-Total													
Residential	\$7,968,670	\$7,411,997	\$7,298,046	\$6,518,691	\$6,326,426	\$6,817,718	\$7,221,930	\$7,203,244	\$6,457,297	\$6,546,955	\$6,910,084	\$7,703,171	\$84,384,229
GS <50 kW	\$1,968,403	\$1,815,379	\$1,798,332	\$1,597,113	\$1,558,786	\$1,642,661	\$1,719,907	\$1,718,455	\$1,588,100	\$1,608,878	\$1,696,200	\$1,899,647	\$20,611,860
GS 50 to 1,499 kW	\$3,141,417	\$3,124,211	\$3,195,351	\$3,107,244	\$3,058,466	\$3,123,753	\$3,053,404	\$3,078,101	\$3,110,028	\$3,045,973	\$3,054,466	\$3,079,067	\$37,171,480
GS 1,500 to 4,999 kW	\$767,373	\$764,171	\$755,900	\$763,546	\$783,401	\$803,544	\$821,247	\$835,071	\$838,975	\$793,837	\$793,374	\$751,458	\$9,471,896
Large Use	\$493,931	\$475,025	\$486,819	\$483,632	\$500,801	\$524,218	\$550,232	\$560,965	\$551,764	\$528,265	\$506,210	\$495,623	\$6,157,483
Unmetered Scattered Load	\$46,030	\$43,925	\$45,188	\$43,860	\$45,087	\$45,471	\$45,711	\$45,976	\$45,905	\$44,707	\$44,645	\$45,790	\$542,296
Sentinel Lights	\$327	\$327	\$327	\$327	\$327	\$327	\$327	\$327	\$327	\$327	\$327	\$327	\$3,923
Streetlighting	\$68,470	\$68,547	\$68,624	\$68,702	\$68,782	\$68,862	\$68,943	\$69,026	\$69,110	\$69,195	\$69,281	\$69,373	\$826,915
GS 50 to 1,499 kW Standby	\$4,163	\$4,163	\$4,163	\$4,163	\$4,163	\$4,163	\$4,163	\$4,163	\$4,163	\$4,163	\$4,163	\$4,163	\$49,955
GS 1500 to 4,999 kW Standby	\$11,027	\$11,027	\$11,027	\$11,027	\$11,027	\$11,027	\$11,027	\$11,027	\$11,027	\$11,027	\$11,027	\$11,027	\$132,327
Large Use Standby	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL	\$14,469,811	\$13,718,772	\$13,663,777	\$12,598,304	\$12,357,265	\$13,041,743	\$13,496,890	\$13,526,356	\$12,676,696	\$12,653,328	\$13,089,777	\$14,059,645	\$159,352,364
Base Revenue Requirement (withTOC)													\$159,373,612



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RETAIL TRANSMISSION SERVICE RATES

1.0 INTRODUCTION

On January 21, 2010, the Ontario Energy Board (the “Board”) issued the Revenue Requirement and Charge Determinant Order Arising from Hydro One Networks Inc.’s (“Hydro One”) EB-2008-0272 Decision with Reasons of December 16, 2009. This Order set new Transmission Rates effective January 1, 2010. These rates are shown below in Table 1.

Table 1 – Wholesale Transmission Rates, Effective January 1, 2010

	Current
Network Service Rate	\$2.93/kW
Line Connection Service Rate	\$0.73/kW
Transformation Connection Service Rate	\$1.71/kW

As part of the Board’s Decision on Hydro Ottawa Limited’s (“Hydro Ottawa”) 2010 Rates EB-2009-0231, issued on April 1, 2010, Hydro Ottawa was directed to reflect these new rates in the Retail Transmission Service Rates (“RTSR”) to be implemented on May 1, 2010. Hydro Ottawa’s revised RTSR are shown in Table 2 below.

Table 2 – Current Retail Transmission Service Rates

	Network Service Rate	Line and Transformation Connection Service Rate
Residential	\$0.0065	\$0.0044
GS < 50 kW	\$0.0059	\$0.0041
GS > 50 < 1500 kW	\$2.4405	\$1.6704
GS > 1500 < 5000 kW	\$2.5342	\$1.7851
Large Use	\$2.8092	\$2.0103
Unmetered Scattered Load	\$0.0059	\$0.0041
Street lighting	\$1.8016	\$1.2409
Sentinel lighting	\$1.8108	\$1.2668



1 **2.0 VARIANCE ACCOUNTS**

2

3 Table 3 below shows 2008 and 2009 amounts for Wholesale Network and Connection
4 costs and revenue. As can be seen, Hydro Ottawa has been over collecting for these
5 charges during the past two years.

6

7 **Table 3 – Wholesale Network and connection Costs and Retail Billing**

	2008 \$000	2009 \$000
Network – Costs	32,700	36,792
Network – Revenue	(36,621)	(37,591)
Connection – Costs	24,512	25,650
Connection - Revenue	(27,274)	(28,908)

8

9 This trend is also apparent in the balances of the two variance accounts related to Retail
10 Transmission charges. In Exhibit I1-1-1 the variance account balances for December
11 31, 2009 are reported as follows: 1584 – Retail Transmission Network Charge –
12 (\$5,627,447) and 1586 – Retail Transmission Connection Charge – (\$6,297,270). Hydro
13 Ottawa has filed to clear these December 31, 2009 variance account balances as part of
14 this rate application.

15

16

17 **3.0 REVISED RTSR**

18

19 In light of the recent trend of over collecting for Transmission Rates and the fact that
20 Hydro One's 2011 Transmission Rate Application was only filed on May 19, 2010 as this
21 application was being prepared, Hydro Ottawa is not proposing any changes to its Retail
22 Transmission Service Rates at this time. Hydro Ottawa will monitor the ongoing trend in
23 the variance accounts and developments in Hydro One's Transmission Rate Application
24 and may choose to revisit this decision in the future.



LOW VOLTAGE CHARGES

1.0 INTRODUCTION

Hydro Ottawa Limited (“Hydro Ottawa”) receives low voltage (“LV”) charges from Hydro One Networks Inc. (“Hydro One”) for a number of Shared Distribution Stations, Specific Lines and Shared Lines. The Ontario Energy Board’s (the “Board”) Decision dated March 21, 2006 (EB-2005-0529) determined that it was appropriate for an embedded Local Distribution Company (“LDC”), or an LDC with embedded distribution points (such as Hydro Ottawa), to establish and maintain a variance account for LV charges from its host LDC.

In a June 13, 2006 memo, the Board notified LDCs that Account 4750, Charges - LV and Account 4075, Billed - LV and Account 1550 – LV Variance Account had been added to the Uniform System of Accounts (“USofA”). As a result, effective May 1, 2006 Account 1550 has been used to record the net of the amounts recorded in Accounts 4750 (amount charged by Hydro One for low voltage services) and 4075 (amount customers are billed for low voltage services). In 2008 Hydro Ottawa removed the LV charges from the distribution revenue requirement and proposed that a separate charge be calculated to recover the LV charges from the customer. These separate charges were approved by the Board as part of the EB-2007-0713 Decision, issued on March 17, 2008. The current low voltage rates are shown below in Table 1.

Table 1 – Low Voltage Charges as of May 1, 2010

Class	Per	LV Charge
Residential	kWh	\$0.0002
General Service < 50 kW	kWh	\$0.0002
General Service 50 to 1,499 kW	kW	\$0.0756
General Service 1,500 to 4,999 kW	kW	\$0.0808
Large Use	kW	\$0.0910
Unmetered Scattered Load	kWh	\$0.0002
Sentinel Lights	kW	\$0.0574
Street Lighting	kW	\$0.0561



1 **2.0 PROPOSED LV CHARGES FOR 2011**

2

3 Actual LV Charges for 2008 and 2009 are shown in Table 2 below. Note that Hydro One
4 changed the structure of the Sub Transmission Rates in 2009, resulting in a decrease in
5 LV Charges and at the end of 2009 Hydro Ottawa purchased Richmond and Fallowfield
6 DSs from Hydro One, which will result in a further decrease in LV Charges going
7 forward. Hydro One has had new Sub Transmission Rates approved for May 1, 2010
8 (EB-2009-0096), which will increase LV Charges slightly.

9

10

Table 2 – LV Charges 2008 to 2011

	2008 Actual \$	2009 Actual \$	2010 Forecast \$	2011 Forecast \$
Richmond DS	\$119,635	\$68,958	0	0
Fallowfield DS	391,867	239,736	0	0
Remainder of Delivery Points	823,189	296,856	N/A	N/A
TOTAL	\$1,406,690	\$605,550	\$303,000	\$315,000

11

12 The LV charge has been allocated to the customer classes based on the class
13 percentage of Retail Transmission Connection dollars (using 2010 rates), as shown in
14 Table 3. This is the same methodology for allocation used in the 2006 Electricity
15 Distribution Rate (“EDR”) Model.



Table 3 – Calculation of LV Charge

	2010 Retail Transmission Connection Rate (\$) kWh/kW	Basis for Allocation¹ \$	Allocation %	Allocated \$	Charge Determinant kWh/kW	Rate kWh/kW
Residential	0.0044	\$9,810,920	31.67%	\$99,768	2,229,754,498	\$0.00004
General Service < 50 kW	0.0041	\$3,103,674	10.02%	\$31,561	756,993,599	\$0.00004
General Service > 50 kW < 1500 kW	1.6704	\$12,369,716	39.93%	\$125,788	7,405,242	\$0.0170
General Service > 1500 kW	1.7851	\$3,122,894	10.08%	\$31,757	1,749,423	\$0.0182
Large Use (> 5000 kW)	2.0103	\$2,355,697	7.60%	\$23,955	1,171,813	\$0.0204
Unmetered Scattered Load	0.0041	\$69,707	0.23%	\$709	17,001,652	\$0.00004
Sentinel Lighting	1.2668	\$280	0.00%	\$3	221	\$0.0129
Street Lighting	1.2409	\$143,500	0.46%	\$1,459	115,642	\$0.0126
TOTAL		\$30,976,387	100.00%	\$315,000		

¹ Basis for Allocation is the same as used for 2006 EDR Application and 2008 Rate Application



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LOSS ADJUSTMENT FACTORS

1.0 DISTRIBUTION LOSSES

Table 1 below provides losses as a percentage of purchases for the previous five years. Hydro Ottawa Limited's ("Hydro Ottawa") losses have not been greater than 5% in the past five years. Hydro Ottawa contains no distributors embedded in its area and is not an embedded distributor itself; however it does have a number of delivery points embedded in Hydro One Network Inc.'s service territory.

Table 1 – Losses as a % of Purchases for Previous Five Years

	2005	2006	2007	2008	2009
Electricity Purchases (kWh)	7,927,295,414	7,724,426,291	7,864,855,366	7,867,414,354	7,784,723,201
Electricity Sales (kWh)	7,663,197,036	7,466,330,420	7,547,945,426	7,561,763,337	7,560,846,876
Losses (kWh)	264,098,378	258,095,871	316,909,941	305,651,017	223,876,324
Losses %	3.33%	3.34%	4.03%	3.89%	2.88%

2.0 LOSS ADJUSTMENT FACTORS

Hydro Ottawa's current loss adjustment factors, which have been approved by the Ontario Energy Board (the "Board") as part of the EB-2007-0713 Decision, are shown below:

Total Loss Factor – Secondary Metered Customer < 5,000 kW	1.0344
Total Loss Factor – Secondary Metered Customer > 5,000 kW	1.0170
Total Loss Factor – Primary Metered Customer < 5,000 kW	1.0240
Total Loss Factor – Primary Metered Customer > 5,000 kW	1.0069



1 Table 2, which is the Board's Update to Chapter 2 of the Filing Requirements for
2 Transmission and Distribution Applications, May 27, 2009 Appendix 2-Q, updates the
3 calculation of the Secondary Distribution Loss Adjustment Factor for the most recent 5
4 years, 2005 to 2009.

5

6 As a result of the updated calculation in Table 2, Hydro Ottawa is requesting approval of
7 the following revised loss factors, for Secondary and Primary Metered Customers <
8 5,000 kW based on the five year average:

9

10	Total Loss Factor – Secondary Metered Customer < 5,000 kW	1.0380
11	Total Loss Factor – Secondary Metered Customer > 5,000 kW	1.0170
12	Total Loss Factor – Primary Metered Customer < 5,000 kW	1.0276
13	Total Loss Factor – Primary Metered Customer > 5,000 kW	1.0069

14

15 Despite the downward trend in Total Loss Factor shown in Table 2 from 2006 to 2009,
16 Hydro Ottawa's requested Total Loss Factor – Secondary Meter Customer < 5,000 kW is
17 increasing from 1.0344 to 1.0380. The previous value of 1.0344 was a three year
18 average of 2002 to 2004. As stated in Hydro Ottawa's 2008 Electricity Distribution Rate
19 Application (EB-2007-0713) 'Hydro Ottawa is concerned that the Loss Factor for 2004 is
20 not representative of the actual situation, due to issues related to transferring to the new
21 CIS system. When looked at in context of the proceeding and subsequent years ... it
22 becomes clear that 2004 was an aberration.' At that time, Hydro Ottawa proposed and it
23 was accepted that the Total Loss Factor not change. For 2011, the low value from 2004
24 drops out of the five year average and as a result the Total Loss Factor increases.



1

Table 2 – Determination of Loss Factors

		2005	2006	2007	2008	2009
A1	“Wholesale” MWh delivered to distributor (higher value)	7,927,295	7,724,426	7,864,855	7,867,414	7,784,723
A2	“Wholesale” MWh delivered to distributor (lower value)	7,872,971	7,671,493	7,810,959	7,813,501	7,731,377
B	Portion of “Wholesale” MWh delivered to distributor for Large Use Customer(s)	636,978	666,089	677,397	677,198	644,760
C	Net “Wholesale” MWh delivered to distributor (A ₂)-(B)	7,235,993	7,005,404	7,133,562	7,136,303	7,086,617
D	“Retail” MWh delivered by distributor	7,663,197	7,466,330	7,547,945	7,561,763	7,560,847
E	Portion of “Retail” MWh delivered by distributor for Large Use Customer(s)	630,671	659,494	670,690	670,493	638,376
F	Net “Retail” MWh delivered by distributor (D)-(E)	7,032,526	6,806,836	6,877,255	6,891,270	6,922,471
G	Loss Factor in distributor’s system [(C)/(F)]	1.0289	1.0292	1.0373	1.0356	1.0237
	Losses Upstream of Distributor’s System					
H	Supply Facility Loss Factor	1.0069	1.0069	1.0069	1.0069	1.0069
	Total Losses					
I	Total Loss Factor [(G)x(H)]	1.0360	1.0363	1.0444	1.0427	1.0308
	Total Loss Factor 5 year average			1.0380		

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DISTRIBUTION LOSS STUDIES

On July 11, 2006, Hydro Ottawa Limited (“Hydro Ottawa”) filed with the Ontario Energy Board (the “Board”) *A Plan To Reduce Line Losses by 5%* under file number EB-2005-0381. A copy is attached (Attachment A1).



HYDRO OTTAWA LIMITED
A PLAN TO REDUCE LINE LOSSES BY 5%

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1.0 Introduction

Hydro Ottawa Limited (“Hydro Ottawa”) is a distributor as defined in, and is licensed as such under, the *Ontario Energy Board Act, 1998*. Hydro Ottawa holds Electricity Distribution Licence ED-2002-0556 and was created in 2000 from the amalgamation of five municipal electric utilities: Gloucester Hydro, Goulbourn Hydro, Kanata Hydro, Nepean Hydro and Ottawa Hydro. Hydro Ottawa also provides electricity distribution in the Village of Casselman (located just outside of Ottawa), having acquired the assets of Casselman Hydro Inc. in 2002.

Hydro Ottawa’s service territory covers more than 1,104 square kilometers and serves over 280,000 residential, commercial and industrial customers. The majority of its customers are located in an urban environment however there are large rural areas with few customers.

On August 2nd, 2005 Hydro Ottawa filed an Application with the Ontario Energy Board (OEB) under section 78 of the *Ontario Energy Board Act, 1998*, c. 15 (Schedule B) as amended for Order or Orders approving or fixing just and reasonable rates for electricity to be implemented on May 1, 2006. Although a settlement was reached with intervenors and accepted by the OEB for a majority of the Application, the treatment of line losses was one of two contested issues. Evidence on these two issues was heard on January 23rd, 2006 and the OEB issued their Decision with Reasons on April 12th, 2006.

In that Decision With Reasons, the Board directed Hydro Ottawa “to file a plan to reduce its line losses by at least 5% within 90 days of this Decision. That plan should include concrete estimates of the costs of achieving this goal as well as the anticipated benefits”.

The issue with respect to line losses, which was identified by various intervenors and the Board in its report, is that provincially there is a substantial cost to losses, and with the present accounting treatment of losses there is no financial incentive for Local Distribution Companies (LDCs) to reduce their losses. Reducing line losses provincially would not only save consumers money but also free up much needed capacity. The Board chose not to change the current accounting treatment at this time, but instead chose to require two LDCs, Toronto Hydro and Hydro Ottawa, to file reports outlining their plans to reduce losses.

Distribution line losses are the difference between the amount of energy delivered to the distribution system and the amount of energy customers are billed. There are two types of losses: technical and non technical and although they cannot be eliminated totally, they can be minimized.

Technical losses are primarily due to heat dissipation resulting from current passing through conductors and from magnetic losses in transformers. Non-technical losses occur as a result of theft, metering inaccuracies, estimates used to account for unmetered loads, and estimates used for year-end accruals required to match the time period for purchases and sales.

2.0 Determination of Distribution Losses

2.1 Calculation Methodology

In order to calculate Hydro Ottawa's annual distribution losses, a standard methodology is followed: Total purchases are determined from the Independent Electricity System Operator (IESO) invoices, Hydro One Networks Inc. (HONI) invoices (for embedded distribution points) and load supplied from embedded generators. Total kilowatt hour (kWh) sales are determined from the kWhs billed for the year plus an accrual for energy consumed in the year but not yet billed, less the kWhs which were billed at the beginning of the year but were consumed in the previous year.

Most of Hydro Ottawa's customers are billed on a bi-monthly basis. Using cycle billing, approximately 7,500 meters are read each day, on average. These meter reads are stored in the Customer Information System (CIS) until pricing becomes available from the IESO 10 business days later, at which time bills can be issued to customers. With a two-month billing cycle and the additional ten days for pricing, it is the middle of March before all energy has been billed for the previous year. An estimate is made of the next bill to all customers and then this bill is prorated between the two years based on the number of days in each period. Year-end financial statements include an estimate of what is still to be billed for energy consumed to year-end (called unbilled revenue), and therefore kWh sales for the year also includes an associated estimate. As such, roughly 10% to 15% of the recorded kWh sales are estimated for each year. Even if this estimate is as accurate as 99%, this would result in an estimating tolerance within the same range as the 5% reduction in losses being targeted by Hydro Ottawa. This makes the evaluation of results for a distribution loss reduction program challenging.

As Smart Meters are deployed across Hydro Ottawa's service territory, the required estimation of kWhs will be reduced and will be totally eliminated by 2010 when all customers have Smart Meters. Hydro Ottawa will then have precise load data and loss information and therefore will have the opportunity to conduct much better analysis of system loss reduction programs.

2.2 Historical Losses

Table 2.1 show total losses for Hydro Ottawa and its predecessor utilities over the previous eleven years for which Hydro Ottawa has recorded data. The OEB's Report of the Board for the 2006 Electricity Distribution Rate (EDR) Handbook (RP-2004-0188) issued May 11th, 2005, stated "The Board has therefore concluded that 2006 will focus on identifying those distributors with high average losses and requiring them to report on those losses and provide an action plan as to how the distributor intends to reduce the level of losses. Any distributor whose 3-year average of distribution losses is higher than 5% will be required to make this report". Hydro Ottawa's 3-year average of distribution losses (distribution losses as a percent of wholesale kWh purchased) has never been higher than 3.9%.

Table 2.1
HYDRO OTTAWA
HISTORICAL DISTRIBUTION LOSSES

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Electricity purchases (kWh)	6,933,773,330	6,936,520,413	6,922,859,558	6,827,117,133	7,256,355,639	7,377,703,307	7,592,117,791	7,751,077,843	7,755,187,001	7,702,017,686	7,911,789,396
Electricity sales (kWh)	6,673,568,280	6,711,026,810	6,683,647,838	6,627,048,083	7,018,458,913	7,022,819,690	7,351,475,971	7,470,558,035	7,483,288,326	7,514,934,346	7,663,197,036
Losses (kWh)	260,205,050	225,493,603	239,211,720	200,069,050	237,896,726	354,883,617	240,641,820	280,519,808	271,898,675	187,083,340	248,592,360
Losses %	3.75%	3.25%	3.46%	2.93%	3.28%	4.81%	3.17%	3.62%	3.51%	2.43%	3.14%
Losses % 3-year average			3.49%	3.21%	3.22%	3.67%	3.75%	3.87%	3.43%	3.18%	3.03%
5% loss reduction (kWh)	13,010,253	11,274,680	11,960,586	10,003,452	11,894,836	17,744,181	12,032,091	14,025,990	13,594,934	9,354,167	12,429,618

2.3 Factors Affecting Distribution Losses

From Table 2.1 it can be seen that Hydro Ottawa's losses fluctuate from year to year. There are various reasons for this:

Weather – The magnitude of the technical losses is very much dependent on the peak load on the various components in the distribution system and this in turn is dependent on the weather. Extremes in temperature, both high and low, directly affect the peak load that Hydro Ottawa's distribution system will experience and hence the annual losses. Furthermore, non-technical losses can also be affected. As discussed in Section 2.1, Hydro Ottawa estimates the amount of energy consumed by customers to year-end but not yet scheduled to be billed by prorating an estimated bill based on the number of days of service in each of the two years. If the weather changes significantly from one year to the next (for example, a very mild December and a very cold January), the accuracy of the estimate is affected.

Accrual estimate – As discussed in Section 2.1, roughly 10% to 15% of annual kWh sales recorded in each year are based on an estimate.

Power diversion – The magnitude of energy lost due to theft varies from year to year depending on the economic climate, law enforcement activities and the prevalence of particular types of illegal activities.

Construction and Maintenance Activities – Depending on the level and location of construction and maintenance activities throughout a particular year, losses can vary. For example, if power needs to be re-routed due to construction, it may use a longer conductor run than normal, which would increase losses.

2.4 Reduction of 5%

As illustrated in Table 2.1, based on Hydro Ottawa's historical losses, a 5% reduction in losses would mean a reduction of approximately 12,000,000 kWh per year.

2.5 Comparison of Distribution Losses in the Province

Table 2.2 provides information on the loss factor for secondary metered customers < 5000 kW, approved by the OEB as part of the 2006 EDR process, for a majority of LDCs in Ontario. It is recognized that there are many factors contributing to an LDC's loss factor, some of which are not in its control. Hydro Ottawa's placement on this table as one of the best in the province is a reflection of the work that has been done in the past years to keep distribution losses as low as possible. Since many of the most cost effective strategies have already been implemented, future loss reduction strategies can be cost prohibitive for the results achieved unless other benefits are also realized. This cost/benefit analysis had to be a consideration in developing this loss reduction plan.

Table 2.2
3-YEAR DISTRIBUTION LOSS FACTORS
FOR SECONDARY METERED CUSTOMERS < 5 MW

Festival Hydro	1.0281		Grimsby	1.0502
Guelph	1.0319		West Perth	1.0502
CNP-Port Colborne	1.0322		Waterloo North	1.0505
Kitchener-Wilmot	1.0329		Barrie Hydro	1.0510
Hydro Ottawa	1.0344		Innisfill	1.0539
Peterborough	1.0350		Essex	1.0544
Milton	1.0351		Sioux Lookout	1.0547
Hydro One Brampton	1.0356		Veridian	1.0549
Halton Hills	1.0368		Greater Sudbury	1.0559
Brantford	1.0370		Norfolk	1.0560
Orilla	1.0370		Haldimand	1.0565
Kingston	1.0375		Niagara Falls	1.0572
Toronto Hydro	1.0376		Parry Sound	1.0586
North Bay	1.0387		Welland	1.0599
Enwin	1.0390		Pennisula	1.0601
PowerStream	1.0393		Whitby Hydro	1.0601
Fort Frances	1.0406		Middlesex	1.0608
Orangeville	1.0406		Grand Valley	1.0612
London Hydro	1.0421		Hawkesbury	1.0635
Tillsonburg	1.0422		Aurora	1.0639
Terrace Bay	1.0426		Midland	1.0651
Horizon	1.0428		CNP-Eastern Ontario	1.0715
Burlington	1.0429		Wellington North	1.0726
PIC	1.0430		Wasaga	1.0739
Enersource	1.0433		Cambridge and N. Dumfries	1.0743
Erie Thames	1.0433		Rideau St. Lawrence	1.0772
Woodstock Hydro	1.0440		ELK	1.0791
Bluewater	1.0446		Kenora	1.0812
Oshawa	1.0466		Atikokan	1.0817
Lakefront	1.0471		Collus	1.0838
Central Wellington	1.0472		Thunder Bay	1.0847
CNP-Fort Erie	1.0479		Wellington	1.0847
Brant County	1.0495		Tay	1.0866
Chapleau	1.0497		Gravenhurst	1.0884
Peterborough-Apshodel	1.0500		Renfrew	1.0898
Peterborough-Lakefield	1.0500		Hydro One	1.0920
Niagara on the Lake	1.0501			
Source: 2006 Electricity Distribution Rate Orders				

3.0 Evaluation of Results of Programs

As discussed in Section 2.1, the extent to which annual kWh sales are estimated each year means that the recorded distribution losses can vary significantly from year to year. Furthermore, Section 2.3 discussed various factors that can affect losses in a particular year by amounts exceeding the 5% target for the loss reduction strategy. For these reasons, it is not possible to evaluate the effectiveness of a distribution loss reduction program by reviewing the loss factor at the end of the year. Evaluation of program results should be based on an engineering analysis of each individual program within the overall strategy.

4.0 Strategies for Reducing Distribution Losses

Hydro Ottawa has initiated an Asset Management Strategy that is intended to manage existing assets based on their age, condition and criticality. The process allows ample opportunity for regulatory, financial and other objectives to be considered alongside engineering considerations, to achieve a balanced, sustainable program. Hydro Ottawa commits to including the reduction of distribution losses as one of the objectives that will be considered when assessing the replacement of conductors and transformers and any other asset that can affect distribution losses.

Although minimizing distribution losses is an ongoing component in the design, procurement, construction and operation of Hydro Ottawa's distribution system, there are a number of specific initiatives that have been considered in order to reduce losses by 5%. The decision on which initiatives will be implemented is based on feasibility, resource availability and a cost/benefit analysis. Benefits of these programs may go beyond reducing distribution losses. The strategies that were considered are as follows:

4.1 Voltage Profile Management System

Changing the voltage profile at the distribution system level can result in reduced system peaks and therefore reduced losses. This type of operation is termed Conservation Voltage Reduction (CVR). There are a number of products on the market that can be used to accomplish the voltage reduction. Hydro Ottawa has undertaken a pilot project for the installation of an automatic control system, called AdaptiVolt™, to regulate the voltage at a distribution station that has transformers with under load tap changers (ULTC). This system will reduce the distribution voltage by a small amount, while ensuring that the voltage seen by customers remains within Canadian Standards Association (CSA) voltage limits throughout the feeder length. For every 1% drop in voltage one can expect 0.5% to 1.5% load reduction depending on the load characteristics of the feeder. Hydro Ottawa will evaluate the performance of the AdaptiVolt™ system with respect to possible future installations.

Another solution for implementing Conservation Voltage Reduction at distribution stations with ULTCs would be to lower the station bus voltages by changing the regulator settings on the tapchanger controls installed at the stations. Installation of end-of-line voltage monitors that report back to the control room SCADA system could be used to measure the impact of this initiative.

4.2 System Optimization

This initiative aims at identifying opportunities to improve the delivery efficiency of the overall distribution system. Line losses in the system are influenced by the amount of load supplied on the different feeders. The ability to reconfigure the system to change how particular loads are supplied gives the system operator the opportunity to reduce system demand and energy losses. It is important to note that the optimal 'open point' for losses may not be implemented due to reliability considerations. However, if it is determined that changing the 'open point' will reduce losses and not adversely affect reliability, then crews will be dispatched to change the system configuration.

Balancing the load on 3 phase circuits can also reduce the losses from a feeder. This is most easily achieved with a distribution analysis program such as that being used by Hydro Ottawa.

4.3 Voltage Conversion

Distribution system line losses on a power system vary as the square of the line current. By changing the distribution voltage in a particular supply area to a higher level, the line current on the feeders will be reduced. If the voltage is doubled, the current is reduced by 50% and hence the line losses are reduced by 75%.

By increasing the distribution voltage from either 4 kV to 13.2 kV or 8 kV to 27.6 kV, line losses are expected to be reduced by about 90%. In addition, since the distribution transformers have to be replaced, the transformation losses will also be reduced since today's equipment is considerably more efficient than the units that were installed 20-30 years ago. Other loss savings will accrue from the removal of 13.2 kV to 4 kV station transformers from the system.

Hydro Ottawa does not expect that the loss savings alone will cost justify the voltage conversion program. However, by retiring distribution station equipment that is nearing its end of life, Hydro Ottawa will forego the costs of replacement of this equipment and the ongoing operation and maintenance costs.

4.4 Power Factor Correction

Using capacitors to improve power factor can also result in reduced line losses. By providing reactive power onto the feeder, capacitors reduce the current and therefore the losses. Capacitors also increase the voltage at the point in the system that they are installed. By raising the voltage at the end of a feeder it then becomes feasible to lower the voltage at the feeder source, i.e. the distribution station. This action will result in a lowering of the overall load on the feeder, and hence a reduction in losses.

Hydro Ottawa is planning on installing banks of capacitors on one of its 28 kV systems that has relatively long feeders. Both fixed and switched capacitor installations are contemplated to provide a greater degree of voltage control for varying load levels.

4.5 Transformer Loss Evaluation and Loading Practices

Transformer losses include no-load losses that are independent of loading and load losses that vary with loading. Reviewing the purchase specifications for transformers to

determine if greater operational efficiency can be achieved economically provides an opportunity for reducing both no-load and load losses. Hydro Ottawa's current design specifications require the use of high efficiency transformers even though this results in a higher up front capital cost. These design specifications undergo regular reviews to ensure that they encompass best practices. In addition, studying transformer loading practices to determine the optimal number of residential customers connected to a single distribution transformer and implementing the results (see Section 4.6 below) can reduce distribution losses.

4.6 Transformer Replacement and Removal

Overloaded and underloaded transformers will have proportionately higher losses than an optimally loaded transformer. An infrared (IR) scan of a distribution transformer can identify an overloaded situation that can be rectified by installing a larger size transformer. Underloaded transformers can be identified based on a review of customer loads and then can be removed as load is consolidated to one larger transformer. Underloaded transformers can occur when a previously electrically heated area converts to natural gas so that less transformation capacity is required.

4.7 Re-conductoring

Planned system sustainment programs will see the replacement over time of a large proportion of poles in Hydro Ottawa's system area. In many of the older parts of the system, the line conductor is much smaller than that called for in the current standards. Hydro Ottawa intends to study the savings associated with replacing the aged conductor in these areas so as to achieve lower system losses.

4.8 Dry Core Transformer Losses

A typical design for a high-rise building includes an upstream main transformer for the central service and multiple downstream dry-core type transformers to facilitate individual metering for consumers. Dry-core transformers have a much higher loss rating than oil filled transformers. Hydro Ottawa has charges approved as part of the 2006 EDR for the additional losses occurring as a result of these dry-core transformers. The loss amount is determined from a schedule based on the size of the dry-core transformer. Charging for the incremental losses encourages customers to ensure that they use the optimal size of dry-core transformer and hence minimize losses. Hydro Ottawa will be recording these dry-core transformer losses as part of the kWh sales.

4.9 Power Diversion Programs

The identification and elimination of instances of power diversion results in fewer non-technical losses and an improvement in the overall distribution loss factor. Hydro Ottawa works with the Ottawa Police Department and the Electrical Safety Authority to disconnect cases of power diversion and to recoup any lost revenue. When power diversion has been identified, an estimate is made of the lost energy, based on equipment at the premise. A reduction in power diversion activities will improve Hydro Ottawa's measured distribution losses however may not benefit the overall provincial grid if the power diversion activities only move to another service area. For this reason, Hydro Ottawa has not included these amounts in the calculation for the 5% distribution loss reduction.

4.10 Updating Records for Streetlight and Unmetered Scattered Load

Hydro Ottawa bills the City of Ottawa for energy consumption by streetlights based on a physical survey of the number and size of lights. By updating this survey, Hydro Ottawa achieves a more accurate reflection of the number of streetlights installed in the City.

Hydro Ottawa is in the process of metering the actual consumption of a sample number of the devices that make up the unmetered scattered load, e.g. cable amplifiers and traffic lights. The billing for these devices is currently based on an estimate and with the better data obtained from the sample there will be a more accurate estimate of the consumption.

By having more accurate measurements for unmetered load (both streetlighting and scattered) Hydro Ottawa can minimize its non-technical losses and consumers have better information on which to base conservation decisions.

4.11 Effects of Conservation and Demand Management (CDM) Programs

On December 10, 2004 Hydro Ottawa received approval to spend the third installment of its incremental market adjusted revenue requirement (MARR) on a CDM Plan. One component of that program was directly related to Distribution Loss Reduction and to date Hydro Ottawa has accomplished the following:

Voltage Profile Management System

- Pilot Program at CentrepoinTE substation
- Completed the infrastructure and propagation studies at 8.32 kV CentrepoinTE substation
- Contracted for purchase and installation of the AdaptiVolt™ system at CentrepoinTE substation

Power Factor Correction – Pilot Program

- Created the capacitor general materials specification document for the project
- Identified practical installation locations and potential installation issues
- Analyzed the Fallowfield F2 feeder for power factor correction

Hydro Ottawa's Conservation and Demand Management Residential, Commercial and Industrial Programs assist customers in reducing their energy consumption. This, in turn, reduces Hydro Ottawa's distribution losses.

5.0 Summary of Programs to be Implemented

Hydro Ottawa has reviewed the various strategies for reducing distribution losses and has developed the following comprehensive program:

5.1 Voltage Profile Management System

It is anticipated that there will be a 3% reduction in the peak load at the CentrepoinTE substation as a result of the installation of the AdaptiVolt™ system. With a peak load of 15 MW this would mean an estimated savings of 450 kW. Once the results of the

Centrepointe substation pilot have been assessed, Hydro Ottawa will determine whether to install the AdaptiVolt™ system at other stations. Hydro Ottawa has potentially 20 stations with an installed capacity of about 300 MVA where CVR systems could be deployed. Hydro Ottawa will also be investigating the use of other less expensive means for reducing distribution voltage, such as changing the regulator settings on the tapchanger controls.

5.2 System Optimization

Once Hydro Ottawa has completed installation of its Geographic Information System (GIS), system models will be set up using a Distribution System Analysis Computer Program. The software provides optimizing routines to identify where the system 'open point' switches should be located to minimize line losses. The optimal location of open points can then be determined and if there are no operational issues and reliability will not be adversely affected, switches will be installed. It is anticipated that a potential demand savings of 2 MW system wide can be achieved through the use of system optimization.

5.3 Voltage Conversion

Work will be proceeding with the conversion of the Sunnyside and Winding Way areas in 2007. The conversion of 2 MW of load will result in a distribution loss reduction of approximately 345,000 kWh. There are a number of other areas that could also be converted, however reductions in distribution losses do not justify doing the conversion alone. Hydro Ottawa will be reviewing the business case for each area to determine whether to proceed with the conversion. It is anticipated that two other areas will have sufficient ancillary benefits to justify the cost of proceeding. The conversion of 18 MW of load would result in a distribution losses reduction of approximately 3,100,000 kWh.

5.4 Power Factor Correction

The pilot program consists of the installation of two oil filled capacitor banks of approximately 1000 kVAR each on the Fallowfield F2 feeder. The feeder chosen has a lagging power factor of less than 85% and it is expected that with the installation of the capacitors the power factor will improve to 95%. As a result there would be a reduction in load of 500 kW. It is anticipated that after the results of the pilot program are reviewed, there will be at least two other circuits identified which would benefit from power factor correction. Installation of capacitors on these circuits would result in a load reduction of 1500 kW.

5.5 Transformer Loss Evaluation and Loading Practices

A consultant has been retained to examine the loss evaluation formula in Hydro Ottawa's transformer specifications and determine if changes are required to improve efficiencies. They will also examine life cycle costs including losses associated with various loading schemes. This report is expected by the end of August 2006. Since the study is not yet complete, it is not possible to quantify the benefits that may result from implementing any recommendations.

5.6 Transformer Replacement and Removal

An infrared (IR) survey has been done in a selected area of Hydro Ottawa's service territory to determine loading on padmount type transformers. The results will be reviewed in order to identify any candidates for replacement. When End-of-Asset-Life poles lines are replaced (especially in urban areas) excess transformation will be removed. At this point it is not possible to quantify the impact of these replacements and removals.

5.7 Conservation and Demand Management

When fully implemented, Hydro Ottawa's Conservation and Demand Management Residential, Commercial and Industrial Programs, for the 3rd tranche spending, are expected to reduce annual energy use by 50,000,000 kWh. Based on a conservative estimate, Hydro Ottawa anticipates ongoing CDM programs would save an additional 40,000,000 kWh annually.

5.8 Updating Records for Streetlight and Unmetered Scattered Load

Updating of streetlighting and scattered load records will result in an estimated distribution loss reduction of 1,371,799 kWh.

5.9 Dry Core Transformer Losses

The recording of dry core transformer losses as part of Hydro Ottawa's sales will reduce distribution losses by an estimated 2,958,895 kWh.

The following Table 5.1 summarizes the costs and benefits of each component of Hydro Ottawa's Distribution Loss Reduction Program:

Table 5.1
HYDRO OTTAWA LIMITED
DISTRIBUTION LOSS REDUCTION PROGRAM⁶

	Estimated Total Cost	Estimated Savings/Load Affected kW	Estimated Savings/Energy kWh/year ⁴	Estimated Loss Reduction kWh/year ⁵
Voltage Profile Management System-Pilot at Centrepoin	\$550,000 ¹	450	2,877,660	86,330
Voltage Profile Management System	\$11,000,000 ²	9,000	57,553,200	1,726,596
System Optimization	\$125,000 ¹	2,000	12,789,600	383,688
Voltage Conversion-approved	\$1,650,000 ³	2,000	12,789,600	345,319
Voltage Conversion	\$13,500,000 ²	18,000	115,106,400	3,107,873
Power Factor Correction-Pilot	\$125,000 ¹	500	3,197,400	95,922
Power Factor Correction	\$500,000 ²	1,500	9,592,200	287,766
CDM Programs-3 rd tranche Conservation and Demand Management	\$7,463,000		50,000,000	1,500,000
CDM Programs-2 nd generation	To be determined		40,000,000	1,200,000
Update of Streetlight and Scattered Records	N/A			1,371,799
Recording of Dry Core Transformer Losses	N/A			2,958,895
Total				13,064,188

Notes:

1. Included in CDM budget.
2. Only a high level estimate until further analysis can be completed.
3. \$150,000 of \$1,650,000 for Voltage Conversion from CDM budget.
4. Based on Load Factor of 73%.
5. Based on three-year average losses of 3%.
6. Specific programs outlined in this table are subject to further feasibility review and the undertaking of pilot projects. Actual results of programs may be below or exceed estimates.

6.0 Final Plan

Table 6.1 provides a simplified schedule for the implementation of Hydro Ottawa's Distribution Loss Reduction Plan.

Table 6.1
HYDRO OTTAWA LIMITED
DISTRIBUTION LOSS REDUCTION PROGRAM
SCHEDULE

Task Name	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Voltage Profile Management System-Pilot	[Gantt bar from start of 2006 to start of 2007]										
Voltage Profile Management System	[Gantt bar from start of 2007 to end of 2012]										
System Optimization	[Gantt bar from start of 2008 to end of 2016]										
Voltage Conversion-approved	[Gantt bar from start of 2006 to end of 2007]										
Voltage Conversion	[Gantt bar from start of 2007 to end of 2016]										
Power Factor Correction-Pilot	[Gantt bar from start of 2006 to end of 2007]										
Power Factor Correction	[Gantt bar from start of 2007 to end of 2009]										
CDM-3rd tranche	[Gantt bar from start of 2006 to end of 2007]										
CDM-2nd generation 2007/2008	[Gantt bar from start of 2007 to end of 2009]										
Update of Streetlight and Scattered Load Records	[Gantt bar from start of 2006 to end of 2006]										
Recording of Dry Core Transformer Losses	[Gantt bar from start of 2006 to end of 2006]										

7.0 Conclusions

Hydro Ottawa has already done a significant amount of work to ensure that distribution losses are as low as technically possible. This is clearly reflected in the current approved loss factor of 1.0344, which represents a three-year average. In addition to the programs described in this strategy, which are expected to achieve a reduction in distribution losses of 13,000,000 kWh per year, Hydro Ottawa will continue to include distribution loss reduction as an objective in ongoing Asset Management work, so that new opportunities can be incorporated into all future capital programs.



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DISTRIBUTION LOSSES UPDATE

Hydro Ottawa Limited (“Hydro Ottawa”) filed a *Plan to Reduce Line Losses by 5%* on July 11, 2006 (EB-2005-0381). A copy is included with Exhibit H1-4-3 as Attachment A1. The Plan outlined a number of initiatives Hydro Ottawa intended to implement in order to reduce distribution losses. In its 2008 Electricity Distribution Rate Application (EB-2007-0713), Hydro Ottawa provided an update on this loss reduction program. The following summarizes the progress made during the last two years within the various components of the Plan.

1.0 VOLTAGE PROFILE MANAGEMENT SYSTEM

Changing the voltage profile on the distribution system can result in reduced load demand and therefore reduced losses. This type of operation is commonly termed Conservation Voltage Reduction (“CVR”). Various papers on this subject indicate that for every 1% drop in voltage one can expect 0.5% to 1.5% load reduction depending on the load characteristics of the feeder. There are a number of systems on the market that can be used to accomplish such voltage reduction.

Hydro Ottawa undertook a pilot project for the installation of an automatic control system, called AdaptiVolt™, to regulate the voltage at a suburban 44/8.32 kV distribution station that has transformers with under load tap changers (“ULTCs”). This system reduces the distribution voltage at the substation by a small percentage, while ensuring that the voltage seen by customers remains within Canadian Standards Association voltage limits throughout the feeder length. It does this by monitoring the end of line voltage. The AdaptiVolt system was installed at Centrepointe substation in 2006. The equipment was operating and over a test period of 45 days, the load reduction was measured using a third party testing protocol. Based on this a forecast annual reduction in load of 3.7 GWh was determined. From this load reduction, the estimated reduction in system losses would be 130 MWh. Unfortunately the AdaptiVolt system complicated the



1 operation of the distribution system by introducing complexities during switching
2 operations to the point that its use was terminated. The cost of implementing the
3 AdaptiVolt system at several other Hydro Ottawa stations that are equipped with ULTCs
4 was also deemed to be uneconomic.

5
6 Hydro Ottawa as part of its Green Energy Act - SmartGrid initiatives will be investigating
7 the use of other less expensive means of reducing distribution voltage, while maintaining
8 flexibility in system operations. The possibility of being able to obtain daily minimum and
9 maximum service entrance voltage readings from every Smart Meter installed on the
10 system, and using this data in an automated voltage control scheme, appears promising.

11 12 13 **2.0 SYSTEM OPTIMIZATION**

14
15 This initiative aims at identifying opportunities to improve the delivery efficiency of the
16 overall distribution system. Line losses in the system are influenced by the amount of
17 load supplied on a feeder. By reconfiguring the state of the distribution system to
18 change how particular loads are supplied, it may be possible to reduce total system
19 demand and energy losses. Conceptually, if certain feeders in the system are heavily
20 loaded, and others have lighter loading, then if some of the load can be transferred off of
21 the heavily loaded lines onto the lightly loaded feeders, then the system losses will be
22 reduced. This type of load transfer often can be achieved simply by changing which
23 switches in the system are the “Normally Open Points”. It is important to note however
24 that the optimal system configuration for reducing system losses may not be the best in
25 terms of operating reliability considerations. In such cases a utility may have to assess
26 whether reducing system losses is more important than improving reliability of supply to
27 its customers.

28
29 Balancing the load on 3 phase circuits can also reduce the losses on a feeder. If it is
30 feasible to change which phase a load is connected to and allow the current on each of
31 the phases to be more uniform, then system losses will be lowered.



1 System optimization can practicably only be studied utilizing a Distribution System
2 Analysis software package. Such software allows utilities to create models of the lines,
3 station transformers, distribution transformers, distribution switches, and customer loads
4 for each of its distinct distribution networks. The software can then analyze the flow of
5 current along the lines, as well as the voltage at each point in the system, under various
6 loading conditions. As well, the program will calculate the energy and demand losses for
7 a given system configuration. Most system analysis programs also offer optimizing
8 modules that can identify the optimal system configuration to achieve the lowest system
9 losses, or other objectives such as optimal voltage levels.

10
11 In 2006 a consultant was retained by Hydro Ottawa to perform a study for parts of the
12 Nepean, and Kanata distribution systems. Their report indicated that for the Nepean
13 system, loss savings in the order of 600 kW, or about 0.3%, could be achieved by
14 changing open points. For Kanata the reduction was only 83 kW.

15
16 Now that Hydro Ottawa has completed installation of its Geographic Information System
17 ("GIS"), the system analysis software vendor has been retained to develop a tool which
18 greatly simplifies the process of creating the distribution models. This tool extracts
19 directly from the GIS database, all of the information required to build the network
20 models. This eliminates the need to maintain two separate systems and ensures that
21 the network model is kept up to date with GIS revisions. This work will allow Hydro
22 Ottawa to move forward with further loss reduction studies both to confirm the results of
23 the earlier work, and to examine potential reductions for the parts of our overall
24 distribution system that previously weren't modeled.

25 26 27 **3.0 VOLTAGE CONVERSION**

28
29 Within the core area of Ottawa the two prevalent distribution voltages are 4.16 kV and
30 13.2 kV. In the suburban areas the most common voltages are 8.32 kV and 27.6 kV. If
31 Hydro Ottawa were to undertake voltage conversion to increase the distribution voltage



1 from either 4 kV to 13.2 kV or 8 kV to 27.6 kV, the line losses are expected to be
2 reduced by about 90%. In addition, both the no-load and load losses associated with
3 distribution transformers would be reduced substantially. This is because today's
4 transformers are considerably more efficient than the units that were installed 20-30
5 years ago. Other loss savings will accrue with the removal of 13.2 kV to 4 kV station
6 transformers from the system.

7

8 Hydro Ottawa does not expect that the loss savings alone will cost justify the voltage
9 conversion program; however, by retiring distribution station equipment that is nearing its
10 end of life, Hydro Ottawa will forego the costs of replacement of this equipment and the
11 ongoing operation and maintenance costs.

12

13 Since the last update to the *Plan to Reduce Line Losses by 5%*, voltage conversion was
14 completed in the Sunnyside, and Winding Way areas. From the conversion of 6.3 MW
15 of load, a reduction in distribution losses of 1,100 MWh was estimated.

16

17 Conversion work has also begun in the Uplands 8 kV area and the Kilborn 4 kV area. In
18 these two areas conversion of about 8 MW of load will result in a distribution loss
19 reduction of approximately 1,500 MWh. Hydro Ottawa will be reviewing the business
20 case for each potential conversion area to determine whether to proceed with additional
21 conversion projects.

22

23

24 **4.0 POWER FACTOR CORRECTION**

25

26 Capacitors can be used to improve power factor on a feeder and this may result in
27 reduced line losses. By providing reactive power at the end of a feeder, capacitors
28 reduce the reactive current flow and therefore the losses; however, capacitors also
29 increase the voltage at the point in the system that they are installed. This increase in
30 voltage at the end of a feeder may result in an increased delivered power, which can



1 lead to an increase in losses. If the overall goal is to reduce system losses, then it may
2 become necessary to lower the voltage at the feeder source, i.e. the distribution station.

3
4 Hydro Ottawa had planned on installing two banks of capacitors on one of its 27.6 kV
5 systems that has relatively long feeders. Both fixed and switched capacitor installations
6 were contemplated to provide a greater degree of voltage control for varying load levels.
7 Unfortunately, due to work protection concerns, the project was put on hold, pending
8 specific operating procedures being developed by Hydro Ottawa.

9
10
11 **5.0 TRANSFORMER LOSS EVALUATION AND LOADING PRACTICES**

12
13 A consultant's report containing a review of the loss evaluation formula in Hydro
14 Ottawa's transformer specifications and the life cycle costs associated with various
15 transformer-loading schemes was received. Hydro Ottawa is currently reviewing with
16 other members of the Centre for Energy Advancement through Technological Innovation
17 - Distribution Assets Life Cycle Management Interest Group, the appropriate loss formula
18 with a goal to hopefully adopt a common formula by the end of 2011.

19
20
21 **6.0 TRANSFORMER REPLACEMENT AND REMOVAL**

22
23 Whenever replacement of a transformer is required, Hydro Ottawa ensures that excess
24 transformation is removed.

25
26
27 **7.0 CONSERVATION AND DEMAND MANAGEMENT ("CDM")**

28
29 Hydro Ottawa's CDM programs for 2007, 2008 and 2009 have been very successful,
30 resulting in a reduction in energy use of 215 GWhs and corresponding reduction in
31 losses



1 **8.0 UPDATING RECORDS FOR STREET LIGHT AND UNMETERED SCATTERED**
2 **LOAD**

3

4 Streetlight records have been updated as a part of the implementation of the GIS
5 system. As a result, more accurate information on kWh consumption for streetlights has
6 resulted in a reduction in non-technical losses.

7

8

9 **9.0 DRY CORE TRANSFORMER LOSSES**

10

11 Dry Core transformer losses are now being recorded as part of Hydro Ottawa's sales. In
12 2009 this resulted in a reduction in reported losses of 2,998 MWh.

13

14

15 **10.0 CONCLUSION**

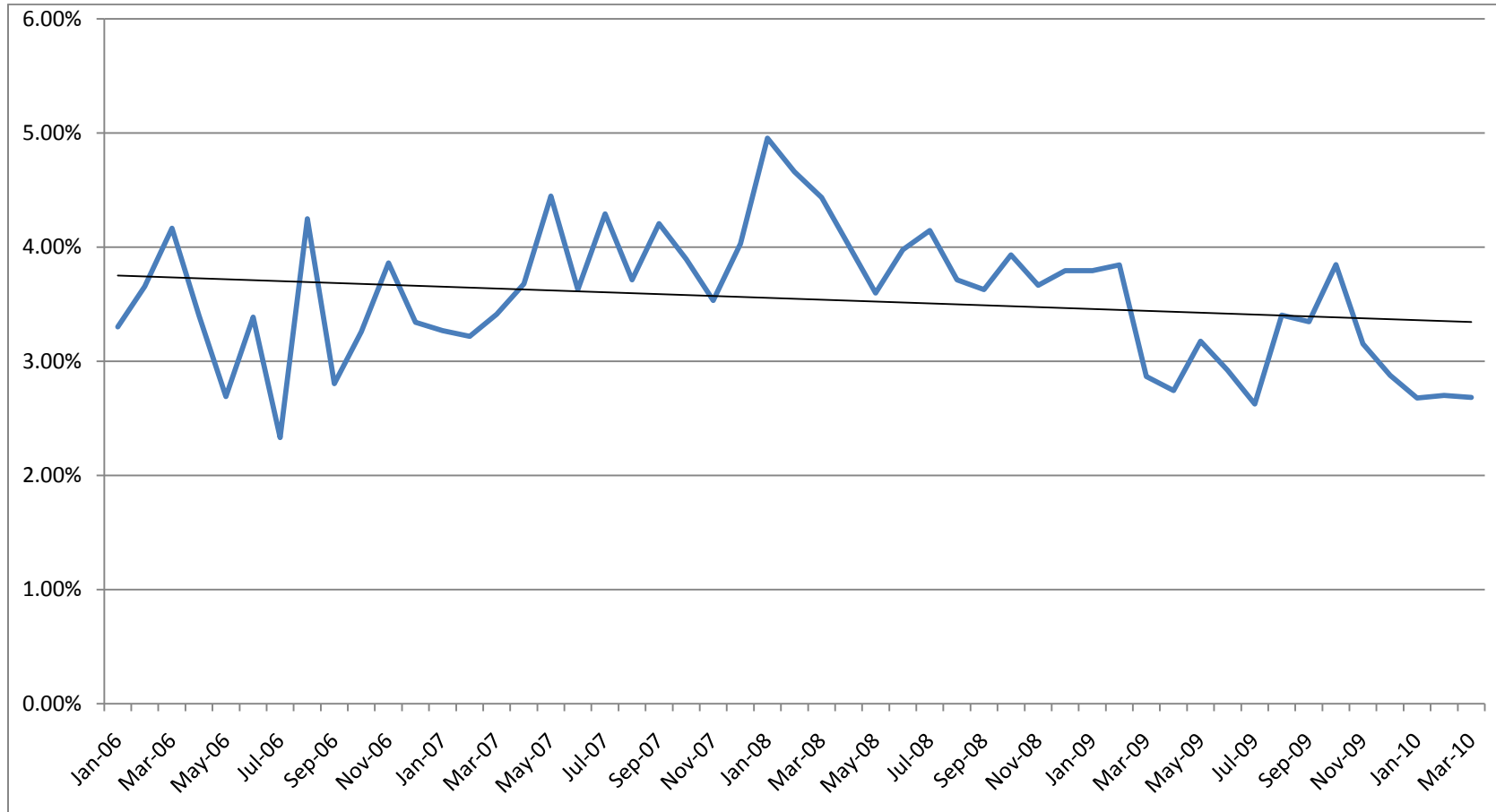
16

17 Hydro Ottawa continues to look for ways to reduce both technical and non technical
18 losses from its distribution system. Figure 1 shows the rolling 12 month average of
19 Hydro Ottawa's losses as a percentage of purchases since January 2006. Although
20 monthly loss factors can vary significantly, the overall trend is a decline in losses
21 indicating that the *Plan to Reduce Line Losses by 5%* is having a positive impact.



1

Figure 1 – 12 Month Rolling Average Loss Factor



2



1
2
3
4
5
6

PROPOSED RATE SCHEDULE

Hydro Ottawa Limited's proposed Tariff of Rates and Charges for the 2011 rate year is attached (Attachment AJ). There are no proposed changes to the Specific Service Charges, except for the revisions to the Dry Core Transformer Charges as described in Exhibit C2-1-1, Section 2.3.

Hydro Ottawa Limited

DRAFT TARIFF OF RATES AND CHARGES

Effective and Implementation Date January 1, 2011
 Except for the microFIT Generator Class effective date of September 21, 2009

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EB-2010-0133

RESIDENTIAL SERVICE CLASSIFICATION

This classification includes accounts taking electricity at 120/240 volts single phase where the electricity is used exclusively in a separately metered living accommodation. Customers shall be residing in single-dwelling units that consist of a detached house or one unit of a semi-detached, duplex, triplex or quadruplex house, with a residential zoning. Separately metered dwellings within a town house complex or apartment building also qualify as residential customers. Further servicing details are available in the distributor's Conditions of Service.

APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Board, and amendments thereto as approved by the Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges or assessments that are required by law to be charged by a distributor and that are not subject to Board approval, such as the Debt Retirement Charge, charges for Ministry of Energy and Infrastructure Conservation and Renewable Energy Program, the Provincial Benefit and any applicable taxes.

MONTHLY RATES AND CHARGES – Electricity Component

Rate Rider for Global Adjustment Sub-Account Disposition – effective until December 31, 2011 Applicable only for Non-RPP Customers	\$/kWh	0.0034
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MONTHLY RATES AND CHARGES – Delivery Component

Service Charge	\$	9.67
Distribution Volumetric Rate	\$/kWh	0.0235
Rate Rider for Tax Change – effective until April 30, 2011	\$/kWh	(0.0002)
Lost Revenue Adjustment Mechanism (LRAM) Recovery Rate Rider – effective until April 30, 2011	\$/kWh	0.0001
Rate Rider for Deferral/Variance Account Disposition – effective until December 31, 2011	\$/kWh	(0.0015)
Low Voltage Service Rate	\$/kWh	0.00004
Retail Transmission Rate – Network Service Rate	\$/kWh	0.0065
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kWh	0.0044

MONTHLY RATES AND CHARGES – Regulatory Component

Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

Hydro Ottawa Limited
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EB-2010-0133

GENERAL SERVICE LESS THAN 50 kW SERVICE CLASSIFICATION

This classification refers to non residential accounts taking electricity at 750 volts or less whose monthly average peak demand is less than, or is forecast to be less than 50 kW. Further servicing details are available in the distributor's Conditions of Service.

APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

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MONTHLY RATES AND CHARGES – Electricity Component

Rate Rider for Global Adjustment Sub-Account Disposition – effective until December 31, 2011 Applicable only for Non-RPP Customers	\$/kWh	0.0034
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MONTHLY RATES AND CHARGES – Delivery Component

Service Charge	\$	16.71
Distribution Volumetric Rate	\$/kWh	0.0210
Rate Rider for Tax Change – effective until April 30, 2011	\$/kWh	(0.0002)
Rate Rider for Deferral/Variance Account Disposition – effective until December 31, 2011	\$/kWh	(0.0016)
Low Voltage Service Rate	\$/kWh	0.00004
Retail Transmission Rate – Network Service Rate	\$/kWh	0.0059
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kWh	0.0041

MONTHLY RATES AND CHARGES – Regulatory Component

Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

Hydro Ottawa Limited
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EB-2010-0133

GENERAL SERVICE 50 to 1,499 kW SERVICE CLASSIFICATION

This classification refers to non residential accounts whose monthly average peak demand is equal to or greater than, or is forecast to be equal to or greater than 50 kW but less than 1,500 kW. Further servicing details are available in the distributor's Conditions of Service.

APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

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MONTHLY RATES AND CHARGES – Electricity Component

Rate Rider for Global Adjustment Sub-Account Disposition – effective until December 31, 2011 Applicable only for Non-RPP Customers	\$/kWh	0.0034
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MONTHLY RATES AND CHARGES – Delivery Component

Service Charge	\$	284.49
Distribution Volumetric Rate	\$/kW	3.4405
Rate Rider for Tax Change – effective until April 30, 2011	\$/kW	(0.0297)
Rate Rider for Deferral/Variance Account Disposition – effective until December 31, 2011	\$/kW	(0.6525)
Low Voltage Service Rate	\$/kW	0.0170
Retail Transmission Rate – Network Service Rate	\$/kW	2.4405
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kW	1.6704

MONTHLY RATES AND CHARGES – Regulatory Component

Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

Hydro Ottawa Limited DRAFT TARIFF OF RATES AND CHARGES

Effective and Implementation Date January 1, 2011
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EB-2010-0133

GENERAL SERVICE 1,500 to 4,999 kW SERVICE CLASSIFICATION

This classification refers to non residential accounts whose monthly average peak demand is equal to or greater than, or is forecast to be equal to or greater than 1,500 kW but less than 5,000 kW. Further servicing details are available in the distributor's Conditions of Service.

APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

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MONTHLY RATES AND CHARGES – Electricity Component

Rate Rider for Global Adjustment Sub-Account Disposition – effective until December 31, 2011 Applicable only for Non-RPP Customers	\$/kWh	0.0034
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MONTHLY RATES AND CHARGES – Delivery Component

Service Charge	\$	4,574.50
Distribution Volumetric Rate	\$/kW	3.2858
Rate Rider for Tax Change – effective until April 30, 2011	\$/kW	(0.0348)
Rate Rider for Deferral/Variance Account Disposition – effective until December 31, 2011	\$/kW	(0.7687)
Low Voltage Service Rate	\$/kW	0.0180
Retail Transmission Rate – Network Service Rate	\$/kW	2.5342
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kW	1.7851

MONTHLY RATES AND CHARGES – Regulatory Component

Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

Hydro Ottawa Limited
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EB-2010-0133

LARGE USE SERVICE CLASSIFICATION

This classification refers to non residential accounts whose monthly average peak demand is equal to or greater than, or is forecast to be equal to or greater than 5,000 kW. Further servicing details are available in the distributor's Conditions of Service.

APPLICATION

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MONTHLY RATES AND CHARGES – Electricity Component

Rate Rider for Global Adjustment Sub-Account Disposition – effective until December 31, 2011 Applicable only for Non-RPP Customers	\$/kWh	0.0034
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MONTHLY RATES AND CHARGES – Delivery Component

Service Charge	\$	16,613.44
Distribution Volumetric Rate	\$/kW	3.1455
Rate Rider for Tax Change – effective until April 30, 2011	\$/kW	(0.0301)
Rate Rider for Deferral/Variance Account Disposition – effective until December 31, 2011	\$/kW	(0.8846)
Low Voltage Service Rate	\$/kW	0.0204
Retail Transmission Rate – Network Service Rate	\$/kW	2.8092
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kW	2.0103

MONTHLY RATES AND CHARGES – Regulatory Component

Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

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UNMETERED SCATTERED LOAD SERVICE CLASSIFICATION

This classification includes accounts taking electricity at 120/240 volts single phase whose monthly average peak demand is less than or forecast to be less than, 50 kW and the consumption is unmetered. These connections include cable TV power packs, bus shelters, telephone booths, traffic lights, railway crossings, etc. The customer will provide detailed manufacturer information/documentation with regard to electrical demand/consumption of the proposed unmetered load. Qualification for this classification is at the discretion of Hydro Ottawa as defined in its Conditions of Service.

APPLICATION

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MONTHLY RATES AND CHARGES – Electricity Component

Rate Rider for Global Adjustment Sub-Account Disposition – effective until December 31, 2011 Applicable only for Non-RPP Customers	\$/kWh	0.0034
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MONTHLY RATES AND CHARGES – Delivery Component

Service Charge	\$	4.57
Distribution Volumetric Rate	\$/kWh	0.0227
Rate Rider for Tax Change – effective until April 30, 2011	\$/kWh	(0.0002)
Rate Rider for Deferral/Variance Account Disposition – effective until December 31, 2011	\$/kWh	(0.0016)
Low Voltage Service Rate	\$/kWh	0.00004
Retail Transmission Rate – Network Service Rate	\$/kWh	0.0059
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kWh	0.0041

MONTHLY RATES AND CHARGES – Regulatory Component

Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

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STANDBY POWER SERVICE CLASSIFICATION

This classification refers to an account that has Load Displacement Generation equal to or greater than 500 kW and requires the distributor to provide back-up service. Further servicing details are available in the distributor's Conditions of Service.

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MONTHLY RATES AND CHARGES

Service Charge	\$	122.34
Standby Charge – for a month where standby power is not provided. The charge is applied to the Contracted amount (e.g. nameplate rating of generation facility):		
General Service 50 to 1,499 kW customer	\$/kW	1.6326
General Service 1,500 to 4,999 kW customer	\$/kW	1.4976
General Service – Large Use customer	\$/kW	1.6619
Rate Rider for Tax Change – effective until April 30, 2011:		
General Service 50 to 1,499 kW customer	\$/kW	(0.0115)
General Service 1,500 to 4,999 kW customer	\$/kW	(0.0093)
General Service – Large Use customer	\$/kW	(0.0118)

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SENTINEL LIGHTING SERVICE CLASSIFICATION

This classification refers to accounts that are an unmetered lighting load supplied to a sentinel light. Further servicing details are available in the distributor's Conditions of Service.

APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

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MONTHLY RATES AND CHARGES – Electricity Component

Rate Rider for Global Adjustment Sub-Account Disposition – effective until December 31, 2011 Applicable only for Non-RPP Customers	\$/kWh	0.0034
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MONTHLY RATES AND CHARGES – Delivery Component

Service Charge (per connection)	\$	2.14
Distribution Volumetric Rate	\$/kW	8.2031
Rate Rider for Tax Change – effective until April 30, 2011	\$/kW	(0.1062)
Rate Rider for Deferral/Variance Account Disposition – effective until December 31, 2011	\$/kW	(0.5768)
Low Voltage Service Rate	\$/kW	0.0129
Retail Transmission Rate – Network Service Rate	\$/kW	1.8108
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kW	1.2668

MONTHLY RATES AND CHARGES – Regulatory Component

Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

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STREET LIGHTING SERVICE CLASSIFICATION

This classification refers to an account for roadway lighting with a Municipality, Regional Municipality, Ministry of Transportation and private roadway lighting controlled by photocells. The consumption for these customers is based on the calculated connected load times the required lighting times established in the approved OEB street lighting load shape template. Further servicing details are available in the distributor's Conditions of Service.

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MONTHLY RATES AND CHARGES – Electricity Component

Rate Rider for Global Adjustment Sub-Account Disposition – effective until December 31, 2011 Applicable only for Non-RPP Customers	\$/kWh	0.0034
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MONTHLY RATES AND CHARGES – Delivery Component

Service Charge (per connection)	\$	0.56
Distribution Volumetric Rate	\$/kW	3.9142
Rate Rider for Tax Change – effective until April 30, 2011	\$/kW	(0.0409)
Rate Rider for Deferral/Variance Account Disposition – effective until December 31, 2011	\$/kW	(0.5338)
Low Voltage Service Rate	\$/kW	0.0126
Retail Transmission Rate – Network Service Rate	\$/kW	1.8016
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kW	1.2409

MONTHLY RATES AND CHARGES – Regulatory Component

Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

Hydro Ottawa Limited
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EB-2010-0133

MicroFIT GENERATOR SERVICE CLASSIFICATION

This classification applies to an electricity generation facility contracted under the Ontario Power Authority's microFIT program and connected to the distributor's distribution system. Further servicing details are available in the distributor's Conditions of Service.

APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Board, and amendments thereto as approved by the Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges or assessments that are required by law to be charged by a distributor and that are not subject to Board approval, such as the Debt Retirement Charge, charges for Ministry of Energy and Infrastructure Conservation and Renewable Energy Program, the Provincial Benefit and any applicable taxes.

MONTHLY RATES AND CHARGES – Delivery Component – effective September 21, 2009

Service Charge	\$	5.25
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Hydro Ottawa Limited
DRAFT TARIFF OF RATES AND CHARGES
Effective and Implementation Date January 1, 2011
Except for the microFIT Generator Class effective date of September 21, 2009

**This schedule supersedes and replaces all previously
Approved schedules of Rates, Charges and Loss Factors**

EB-2010-0133

ALLOWANCES

Transformer Allowance for Ownership – per kW of billing demand/month	\$	(0.45)
Primary Metering Allowance for transformer losses – applied to measured demand and energy	%	(1.00)

SPECIFIC SERVICE CHARGES**APPLICATION**

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Board, and amendments thereto as approved by the Board, or as specified herein.

It should be noted that this schedule does not list any charges or assessments that are required by law to be charged by a distributor and that are not subject to Board approval, such as the Debt Retirement Charge, charges for Ministry of Energy and Infrastructure Conservation and Renewable Energy Program, the Provincial Benefit and any applicable taxes.

Customer Administration

Arrears Certificate	\$	15.00
Duplicate invoices for previous billing	\$	15:00
Request for other billing information	\$	15:00
Credit reference/credit check (plus credit agency costs)	\$	15:00
Unprocessed Payment Charge (plus bank charges)	\$	15:00
Account set up charge/change of occupancy charge (plus credit agency costs if applicable)	\$	30:00

Non-Payment of Account

Late Payment – per month	%	1.50
Late Payment – per annum	%	19.56
Collection of account charge – no disconnection	\$	30.00
Disconnect/Reconnect at meter – during regular hours	\$	65.00
Disconnect/Reconnect at meter – after regular hours	\$	185.00
Disconnect/Reconnect at pole – during regular hours	\$	185.00
Disconnect/Reconnect at pole – after regular hours	\$	415.00

Temporary Service install & remove – overhead – no transformer	\$	500.00
Specific Charge for Access to the Power Poles – per pole/year	\$	22.35
Dry core transformer distribution charge		As per Attached Table

Hydro Ottawa Limited
DRAFT TARIFF OF RATES AND CHARGES
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EB-2010-0133

RETAIL SERVICE CHARGES (if applicable)

APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Board, and amendments thereto as approved by the Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges or assessments that are required by law to be charged by a distributor and that are not subject to Board approval, such as the Debt Retirement Charge, charges for Ministry of Energy and Infrastructure Conservation and Renewable Energy Program, the Provincial Benefit and any applicable taxes.

Retail Service Charges refer to services provided by a distributor to retailers or customers related to the supply of competitive electricity

One-time charge, per retailer, to establish the service agreement between the distributor and the retailer	\$	100.00
Monthly Fixed Charge, per retailer	\$	20.00
Monthly Variable Charge, per customer, per retailer	\$/cust.	0.50
Distributor-consolidated billing credit, per customer, per retailer	\$/cust.	0.30
Retailer-consolidated billing credit, per customer, per retailer	\$/cust.	(0.30)
Service Transaction Requests (STR)		
Request fee, per request, applied to the requesting party	\$	0.25
Processing fee, per request, applied to the requesting party	\$	0.50
Request for customer information as outlined in Section 10.6.3 and Chapter 11 of the Retail Settlement Code directly to retailers and customers, if not delivered electronically through the Electronic Business Transaction (EBT) system, applied to the requesting party		
Up to twice per year		no charge
More than twice a year, per request (plus incremental delivery costs)	\$	2.00

LOSS FACTORS

If the distributor is not capable of prorating changed loss factors jointly with distribution rates, the revised loss factors will be implemented upon the first subsequent billing for each billing cycle.

Total Loss Factor – Secondary Metered Customer < 5,000 kW	1.0380
Total Loss Factor – Secondary Metered Customer > 5,000 kW	1.0170
Total Loss Factor – Primary Metered Customer < 5,000 kW	1.0276
Total Loss Factor – Primary Metered Customer > 5,000 kW	1.0069

Hydro Ottawa Limited

DRAFT TARIFF OF RATES AND CHARGES

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EB-2010-0133

Dry Core Transformer Charges

Transformers	No Load Loss (W)	Load Loss (W)	Cost of Transmission and LV per kW	Cost of Energy and Wholesale Market per kWh	Total Monthly cost of power	Cost of Distribution per kW	Total
Rates			\$ 4.4990	\$ 0.0834		\$ 2.8689	
25 KVA 1 PH	150	900	\$ 0.72	\$ 7.58	\$ 8.31	\$ 0.46	\$ 8.77
37.5 KVA 1 PH	200	1200	\$ 0.96	\$ 10.11	\$ 11.07	\$ 0.61	\$ 11.69
50 KVA 1 PH	250	1600	\$ 1.23	\$ 12.72	\$ 13.95	\$ 0.78	\$ 14.73
75 KVA 1 PH	350	1900	\$ 1.64	\$ 17.53	\$ 19.17	\$ 1.04	\$ 20.22
100 KVA 1 PH	400	2600	\$ 1.98	\$ 20.38	\$ 22.36	\$ 1.26	\$ 23.62
150 KVA 1 PH	525	3500	\$ 2.61	\$ 26.83	\$ 29.44	\$ 1.67	\$ 31.11
167 KVA 1 PH	650	4400	\$ 3.25	\$ 33.27	\$ 36.52	\$ 2.07	\$ 38.59
200 KVA 1 PH	696	4700	\$ 3.48	\$ 35.61	\$ 39.09	\$ 2.22	\$ 41.31
225 KVA 1 PH	748	5050	\$ 3.74	\$ 38.27	\$ 42.01	\$ 2.39	\$ 44.40
250 KVA 1 PH	800	5400	\$ 4.00	\$ 40.93	\$ 44.93	\$ 2.55	\$ 47.48
*15 KVA 3 PH	125	650	\$ 0.58	\$ 6.24	\$ 6.82	\$ 0.37	\$ 7.19
*45 KVA 3 PH	300	1800	\$ 1.45	\$ 15.17	\$ 16.61	\$ 0.92	\$ 17.53
*75 KVA 3 PH	400	2400	\$ 1.93	\$ 20.22	\$ 22.15	\$ 1.23	\$ 23.38
*112.5 KVA 3 PH	600	3400	\$ 2.84	\$ 30.17	\$ 33.01	\$ 1.81	\$ 34.83
*150 KVA 3 PH	700	4500	\$ 3.45	\$ 35.63	\$ 39.08	\$ 2.20	\$ 41.28
*225 KVA 3 PH	900	5300	\$ 4.31	\$ 45.42	\$ 49.73	\$ 2.75	\$ 52.48
*300 KVA 3 PH	1100	6300	\$ 5.23	\$ 55.37	\$ 60.60	\$ 3.33	\$ 63.93
*500 KVA 3 PH	1500	9700	\$ 7.40	\$ 76.40	\$ 83.80	\$ 4.72	\$ 88.52
*750 KVA 3 PH	2100	12000	\$ 9.98	\$ 105.68	\$ 115.65	\$ 6.36	\$122.02
*1000 KVA 3 PH	2600	15000	\$ 12.39	\$ 130.95	\$ 143.34	\$ 7.90	\$151.24
*1500 KVA 3 PH	4000	22000	\$ 18.80	\$ 200.59	\$ 219.39	\$ 11.99	\$231.38
*2000 KVA 3 PH	4800	24000	\$ 21.98	\$ 238.76	\$ 260.74	\$ 14.01	\$274.76
*2500 KVA 3 PH	5700	26000	\$ 25.50	\$ 281.50	\$ 307.00	\$ 16.26	\$323.26

No Load and Load Losses from CSA standard C802-94 Maximum losses for distribution power and dry-type transformers commercial use.
 Average load factor = 0.46 average loss factor = 0.2489

*For non-preferred kVA ratings no load and load losses are interpolated as per CSA standard.



BILL IMPACTS

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Bill impacts for typical customers in all classes have been calculated using the proposed rates and are shown in Attachment AK. For the impact in the change in base distribution rates, Hydro Ottawa Limited (“Hydro Ottawa”) has included the Smart Meter Adder in the current distribution rates, in order to appropriately reflect a true comparison. Also included are the revised Deferral and Variance Account Disposition Rate Riders and revised Low Voltage Charges. The most current commodity prices have been used and the tier for Residential customers on the Regulated Price Plan has been annualized at 800 kWh/month.

A typical residential customer using 800 kWh per month would see the delivery portion of their bill increase by 1.1%, with an overall bill increase of 0.6 %. Pages 4 and 5 of Attachment AK illustrate that with Hydro Ottawa’s proposed rates and rate riders, the bill impacts are not material enough to require any rate mitigation.

DISTRIBUTION IMPACTS (WITH SMART METER ADDER)

		May 1, 2010 Rates				January 1, 2011 Rates			Change		
	kWh	kW	Monthly Service Charge	Smart Meter Adder	Volumetric	Distribution without Riders	Monthly Service Charge	Volumetric	Distribution without Riders	\$	%
Residential	100		\$ 8.52	\$ 1.68	\$ 0.0207	\$ 12.27	\$ 9.67	\$ 0.0235	\$ 12.02	-\$ 0.25	-2.0%
	250		\$ 8.52	\$ 1.68	\$ 0.0207	\$ 15.38	\$ 9.67	\$ 0.0235	\$ 15.55	\$ 0.17	1.1%
	500		\$ 8.52	\$ 1.68	\$ 0.0207	\$ 20.55	\$ 9.67	\$ 0.0235	\$ 21.42	\$ 0.87	4.2%
	800		\$ 8.52	\$ 1.68	\$ 0.0207	\$ 26.76	\$ 9.67	\$ 0.0235	\$ 28.47	\$ 1.71	6.4%
	1,000		\$ 8.52	\$ 1.68	\$ 0.0207	\$ 30.90	\$ 9.67	\$ 0.0235	\$ 33.17	\$ 2.27	7.3%
	1,500		\$ 8.52	\$ 1.68	\$ 0.0207	\$ 41.25	\$ 9.67	\$ 0.0235	\$ 44.92	\$ 3.67	8.9%
	2,000		\$ 8.52	\$ 1.68	\$ 0.0207	\$ 51.60	\$ 9.67	\$ 0.0235	\$ 56.67	\$ 5.07	9.8%
GS < 50 kW	2,000		\$ 14.73	\$ 1.68	\$ 0.0185	\$ 53.41	\$ 16.71	\$ 0.0210	\$ 58.71	\$ 5.30	9.9%
	5,000		\$ 14.73	\$ 1.68	\$ 0.0185	\$ 108.91	\$ 16.71	\$ 0.0210	\$ 121.71	\$ 12.80	11.8%
	10,000		\$ 14.73	\$ 1.68	\$ 0.0185	\$ 201.41	\$ 16.71	\$ 0.0210	\$ 226.71	\$ 25.30	12.6%
	15,000		\$ 14.73	\$ 1.68	\$ 0.0185	\$ 293.91	\$ 16.71	\$ 0.0210	\$ 331.71	\$ 37.80	12.9%
GS 50-1,499 kW	15,000	60	\$ 250.76	\$ 1.68	\$ 3.0325	\$ 434.39	\$ 284.49	\$ 3.4405	\$ 490.92	\$ 56.53	13.0%
	20,000	60	\$ 250.76	\$ 1.68	\$ 3.0325	\$ 434.39	\$ 284.49	\$ 3.4405	\$ 490.92	\$ 56.53	13.0%
	30,000	100	\$ 250.76	\$ 1.68	\$ 3.0325	\$ 555.69	\$ 284.49	\$ 3.4405	\$ 628.54	\$ 72.85	13.1%
	40,000	100	\$ 250.76	\$ 1.68	\$ 3.0325	\$ 555.69	\$ 284.49	\$ 3.4405	\$ 628.54	\$ 72.85	13.1%
	150,000	500	\$ 250.76	\$ 1.68	\$ 3.0325	\$ 1,768.69	\$ 284.49	\$ 3.4405	\$ 2,004.74	\$ 236.05	13.3%
	200,000	500	\$ 250.76	\$ 1.68	\$ 3.0325	\$ 1,768.69	\$ 284.49	\$ 3.4405	\$ 2,004.74	\$ 236.05	13.3%
	360,000	1,000	\$ 250.76	\$ 1.68	\$ 3.0325	\$ 3,284.94	\$ 284.49	\$ 3.4405	\$ 3,724.99	\$ 440.05	13.4%
	450,000	1,000	\$ 250.76	\$ 1.68	\$ 3.0325	\$ 3,284.94	\$ 284.49	\$ 3.4405	\$ 3,724.99	\$ 440.05	13.4%
GS1,500-4,999 kW	600,000	2,000	\$ 4,032.07	\$ 1.68	\$ 2.8962	\$ 9,826.15	\$ 4,574.50	\$ 3.2858	\$ 11,146.10	\$ 1,319.95	13.4%
	800,000	2,000	\$ 4,032.07	\$ 1.68	\$ 2.8962	\$ 9,826.15	\$ 4,574.50	\$ 3.2858	\$ 11,146.10	\$ 1,319.95	13.4%
	1,000,000	4,000	\$ 4,032.07	\$ 1.68	\$ 2.8962	\$ 15,618.55	\$ 4,574.50	\$ 3.2858	\$ 17,717.70	\$ 2,099.15	13.4%
	2,000,000	4,000	\$ 4,032.07	\$ 1.68	\$ 2.8962	\$ 15,618.55	\$ 4,574.50	\$ 3.2858	\$ 17,717.70	\$ 2,099.15	13.4%
Large Use	2,000,000	5,000	\$ 14,643.46	\$ 1.68	\$ 2.7725	\$ 28,507.64	\$ 16,613.44	\$ 3.1455	\$ 32,340.94	\$ 3,833.30	13.4%
	2,500,000	5,000	\$ 14,643.46	\$ 1.68	\$ 2.7725	\$ 28,507.64	\$ 16,613.44	\$ 3.1455	\$ 32,340.94	\$ 3,833.30	13.4%
	3,000,000	10,000	\$ 14,643.46	\$ 1.68	\$ 2.7725	\$ 42,370.14	\$ 16,613.44	\$ 3.1455	\$ 48,068.44	\$ 5,698.30	13.4%
	5,000,000	10,000	\$ 14,643.46	\$ 1.68	\$ 2.7725	\$ 42,370.14	\$ 16,613.44	\$ 3.1455	\$ 48,068.44	\$ 5,698.30	13.4%
Streetlighting	37	0.1	\$ 0.49		\$ 3.4501	\$ 0.84	\$ 0.56	\$ 3.9142	\$ 0.95	\$ 0.12	13.9%
Unmetered Scattered Load	150		\$ 4.03		\$ 0.0200	\$ 7.03	\$ 4.57	\$ 0.0227	\$ 7.98	\$ 0.95	13.4%

DISTRIBUTION IMPACTS (WITH SMART METERS AND RATE RIDERS)

		May 1,2010 Rates							January 1, 2011 Rates							Change	
	kWh	kW	Monthly Service Charge	Smart Meters Adder	Volumetric	Rate Rider for Tax Change	LRAM	Distribution with Riders	Monthly Service Charge	Volumetric	RA Rate Rider	Rate Rider for Tax Change	LRAM	Distribution with Riders	\$	%	
Residential	100		\$ 8.52	\$ 1.68	\$ 0.0207	-\$ 0.0002	\$ 0.0001	\$ 12.26	\$ 9.67	\$ 0.0235	-\$ 0.0015	-\$ 0.0002	\$ 0.0001	\$ 11.86	-\$ 0.40	-3.3%	
	250		\$ 8.52	\$ 1.68	\$ 0.0207	-\$ 0.0002	\$ 0.0001	\$ 15.35	\$ 9.67	\$ 0.0235	-\$ 0.0015	-\$ 0.0002	\$ 0.0001	\$ 15.15	-\$ 0.21	-1.3%	
	500		\$ 8.52	\$ 1.68	\$ 0.0207	-\$ 0.0002	\$ 0.0001	\$ 20.50	\$ 9.67	\$ 0.0235	-\$ 0.0015	-\$ 0.0002	\$ 0.0001	\$ 20.62	\$ 0.12	0.6%	
	800		\$ 8.52	\$ 1.68	\$ 0.0207	-\$ 0.0002	\$ 0.0001	\$ 26.68	\$ 9.67	\$ 0.0235	-\$ 0.0015	-\$ 0.0002	\$ 0.0001	\$ 27.19	\$ 0.51	1.9%	
	1,000		\$ 8.52	\$ 1.68	\$ 0.0207	-\$ 0.0002	\$ 0.0001	\$ 30.80	\$ 9.67	\$ 0.0235	-\$ 0.0015	-\$ 0.0002	\$ 0.0001	\$ 31.57	\$ 0.77	2.5%	
	1,500		\$ 8.52	\$ 1.68	\$ 0.0207	-\$ 0.0002	\$ 0.0001	\$ 41.10	\$ 9.67	\$ 0.0235	-\$ 0.0015	-\$ 0.0002	\$ 0.0001	\$ 42.52	\$ 1.42	3.5%	
	2,000		\$ 8.52	\$ 1.68	\$ 0.0207	-\$ 0.0002	\$ 0.0001	\$ 51.40	\$ 9.67	\$ 0.0235	-\$ 0.0015	-\$ 0.0002	\$ 0.0001	\$ 53.47	\$ 2.07	4.0%	
GS < 50 kW	2,000		\$ 14.73	\$ 1.68	\$ 0.0185	-\$ 0.0002		\$ 53.01	\$ 16.71	\$ 0.0210	-\$ 0.0016	-\$ 0.0002		\$ 55.11	\$ 2.10	4.0%	
	5,000		\$ 14.73	\$ 1.68	\$ 0.0185	-\$ 0.0002		\$ 107.91	\$ 16.71	\$ 0.0210	-\$ 0.0016	-\$ 0.0002		\$ 112.71	\$ 4.80	4.4%	
	10,000		\$ 14.73	\$ 1.68	\$ 0.0185	-\$ 0.0002		\$ 199.41	\$ 16.71	\$ 0.0210	-\$ 0.0016	-\$ 0.0002		\$ 208.71	\$ 9.30	4.7%	
	15,000		\$ 14.73	\$ 1.68	\$ 0.0185	-\$ 0.0002		\$ 290.91	\$ 16.71	\$ 0.0210	-\$ 0.0016	-\$ 0.0002		\$ 304.71	\$ 13.80	4.7%	
GS 50-1,499 kW	15,000	60	\$ 250.76	\$ 1.68	\$ 3.0325	-\$ 0.0297		\$ 432.61	\$ 284.49	\$ 3.4405	-\$ 0.6525	-\$ 0.0297		\$ 449.99	\$ 17.38	4.0%	
	20,000	60	\$ 250.76	\$ 1.68	\$ 3.0325	-\$ 0.0297		\$ 432.61	\$ 284.49	\$ 3.4405	-\$ 0.6525	-\$ 0.0297		\$ 449.99	\$ 17.38	4.0%	
	30,000	100	\$ 250.76	\$ 1.68	\$ 3.0325	-\$ 0.0297		\$ 552.72	\$ 284.49	\$ 3.4405	-\$ 0.6525	-\$ 0.0297		\$ 560.32	\$ 7.60	1.4%	
	40,000	100	\$ 250.76	\$ 1.68	\$ 3.0325	-\$ 0.0297		\$ 552.72	\$ 284.49	\$ 3.4405	-\$ 0.6525	-\$ 0.0297		\$ 560.32	\$ 7.60	1.4%	
	150,000	500	\$ 250.76	\$ 1.68	\$ 3.0325	-\$ 0.0297		\$ 1,753.84	\$ 284.49	\$ 3.4405	-\$ 0.6525	-\$ 0.0297		\$ 1,663.64	\$ 90.20	-5.1%	
	200,000	500	\$ 250.76	\$ 1.68	\$ 3.0325	-\$ 0.0297		\$ 1,753.84	\$ 284.49	\$ 3.4405	-\$ 0.6525	-\$ 0.0297		\$ 1,663.64	\$ 90.20	-5.1%	
	360,000	1,000	\$ 250.76	\$ 1.68	\$ 3.0325	-\$ 0.0297		\$ 3,255.24	\$ 284.49	\$ 3.4405	-\$ 0.6525	-\$ 0.0297		\$ 3,042.79	-\$ 212.45	-6.5%	
	450,000	1,000	\$ 250.76	\$ 1.68	\$ 3.0325	-\$ 0.0297		\$ 3,255.24	\$ 284.49	\$ 3.4405	-\$ 0.6525	-\$ 0.0297		\$ 3,042.79	-\$ 212.45	-6.5%	
GS1,500-4,999 kW	600,000	2,000	\$ 4,032.07	\$ 1.68	\$ 2.8962	-\$ 0.0348		\$ 9,756.55	\$ 4,574.50	\$ 3.2858	-\$ 0.7687	-\$ 0.0348		\$ 9,539.10	-\$ 217.45	-2.2%	
	800,000	2,000	\$ 4,032.07	\$ 1.68	\$ 2.8962	-\$ 0.0348		\$ 9,756.55	\$ 4,574.50	\$ 3.2858	-\$ 0.7687	-\$ 0.0348		\$ 9,539.10	-\$ 217.45	-2.2%	
	1,000,000	4,000	\$ 4,032.07	\$ 1.68	\$ 2.8962	-\$ 0.0348		\$ 15,479.35	\$ 4,574.50	\$ 3.2858	-\$ 0.7687	-\$ 0.0348		\$ 14,503.70	-\$ 975.65	-6.3%	
	2,000,000	4,000	\$ 4,032.07	\$ 1.68	\$ 2.8962	-\$ 0.0348		\$ 15,479.35	\$ 4,574.50	\$ 3.2858	-\$ 0.7687	-\$ 0.0348		\$ 14,503.70	-\$ 975.65	-6.3%	
Large Use	2,000,000	5,000	\$14,643.46	\$ 1.68	\$ 2.7725	-\$ 0.0301		\$ 28,357.14	\$ 16,613.44	\$ 3.1455	-\$ 0.8846	-\$ 0.0301		\$ 27,767.44	-\$ 589.70	-2.1%	
	2,500,000	5,000	\$14,643.46	\$ 1.68	\$ 2.7725	-\$ 0.0301		\$ 28,357.14	\$ 16,613.44	\$ 3.1455	-\$ 0.8846	-\$ 0.0301		\$ 27,767.44	-\$ 589.70	-2.1%	
	3,000,000	10,000	\$14,643.46	\$ 1.68	\$ 2.7725	-\$ 0.0301		\$ 42,069.14	\$ 16,613.44	\$ 3.1455	-\$ 0.8846	-\$ 0.0301		\$ 38,921.44	-\$ 3,147.70	-7.5%	
	5,000,000	10,000	\$14,643.46	\$ 1.68	\$ 2.7725	-\$ 0.0301		\$ 42,069.14	\$ 16,613.44	\$ 3.1455	-\$ 0.8846	-\$ 0.0301		\$ 38,921.44	-\$ 3,147.70	-7.5%	
Streetlighting	37	0.1	\$ 0.49		\$ 3.4501	-\$ 0.0409		\$ 0.83	\$ 0.56	\$ 3.9142	-\$ 0.5338	-\$ 0.0409		\$ 0.89	\$ 0.06	7.6%	
Unmetered Scattered Load	150		\$ 4.03		\$ 0.0200	-\$ 0.0002		\$ 7.00	\$ 4.57	\$ 0.0227	-\$ 0.0016	-\$ 0.0002		\$ 7.71	\$ 0.71	10.1%	

DELIVERY IMPACTS

	kWh	kW	May 1, 2010 Rates					January 1, 2011 Rates					Change	
			Loss					Loss					\$	%
			Distribution	Factor	LV	Transmission	Delivery	Distribution	Factor	LV	Transmission	Delivery		
Residential	100		\$ 12.26	1.0344	\$ 0.0002	\$ 0.0109	\$ 13.41	\$ 11.86	1.0380	\$ 0.00004	\$ 0.0109	\$ 13.00	-\$ 0.41	-3.1%
	250		\$ 15.35	1.0344	\$ 0.0002	\$ 0.0109	\$ 18.22	\$ 15.15	1.0380	\$ 0.00004	\$ 0.0109	\$ 17.98	-\$ 0.24	-1.3%
	500		\$ 20.50	1.0344	\$ 0.0002	\$ 0.0109	\$ 26.24	\$ 20.62	1.0380	\$ 0.00004	\$ 0.0109	\$ 26.30	\$ 0.06	0.2%
	800		\$ 26.68	1.0344	\$ 0.0002	\$ 0.0109	\$ 35.87	\$ 27.19	1.0380	\$ 0.00004	\$ 0.0109	\$ 36.27	\$ 0.41	1.1%
	1,000		\$ 30.80	1.0344	\$ 0.0002	\$ 0.0109	\$ 42.28	\$ 31.57	1.0380	\$ 0.00004	\$ 0.0109	\$ 42.93	\$ 0.64	1.5%
	1,500		\$ 41.10	1.0344	\$ 0.0002	\$ 0.0109	\$ 58.32	\$ 42.52	1.0380	\$ 0.00004	\$ 0.0109	\$ 59.55	\$ 1.23	2.1%
	2,000		\$ 51.40	1.0344	\$ 0.0002	\$ 0.0109	\$ 74.36	\$ 53.47	1.0380	\$ 0.00004	\$ 0.0109	\$ 76.18	\$ 1.82	2.4%
GS < 50 kW	2,000		\$ 53.01	1.0344	\$ 0.0002	\$ 0.0100	\$ 74.11	\$ 55.11	1.0380	\$ 0.00004	\$ 0.0100	\$ 75.95	\$ 1.84	2.5%
	5,000		\$ 107.91	1.0344	\$ 0.0002	\$ 0.0100	\$ 160.66	\$ 112.71	1.0380	\$ 0.00004	\$ 0.0100	\$ 164.82	\$ 4.15	2.6%
	10,000		\$ 199.41	1.0344	\$ 0.0002	\$ 0.0100	\$ 304.92	\$ 208.71	1.0380	\$ 0.00004	\$ 0.0100	\$ 312.93	\$ 8.01	2.6%
	15,000		\$ 290.91	1.0344	\$ 0.0002	\$ 0.0100	\$ 449.17	\$ 304.71	1.0380	\$ 0.00004	\$ 0.0100	\$ 461.03	\$ 11.86	2.6%
GS 50-1500 kW	15,000	60	\$ 432.61	1.0344	\$ 0.0756	\$ 4.1109	\$ 683.80	\$ 449.99	1.0380	\$ 0.017	\$ 4.1109	\$ 707.07	\$ 23.28	3.4%
	20,000	60	\$ 432.61	1.0344	\$ 0.0756	\$ 4.1109	\$ 683.80	\$ 449.99	1.0380	\$ 0.017	\$ 4.1109	\$ 707.07	\$ 23.28	3.4%
	30,000	100	\$ 552.72	1.0344	\$ 0.0756	\$ 4.1109	\$ 971.37	\$ 560.32	1.0380	\$ 0.017	\$ 4.1109	\$ 988.80	\$ 17.43	1.8%
	40,000	100	\$ 552.72	1.0344	\$ 0.0756	\$ 4.1109	\$ 971.37	\$ 560.32	1.0380	\$ 0.017	\$ 4.1109	\$ 988.80	\$ 17.43	1.8%
	150,000	500	\$ 1,753.84	1.0344	\$ 0.0756	\$ 4.1109	\$ 3,847.09	\$ 1,663.64	1.0380	\$ 0.017	\$ 4.1109	\$ 3,806.02	-\$ 41.07	-1.1%
	200,000	500	\$ 1,753.84	1.0344	\$ 0.0756	\$ 4.1109	\$ 3,847.09	\$ 1,663.64	1.0380	\$ 0.017	\$ 4.1109	\$ 3,806.02	-\$ 41.07	-1.1%
	360,000	1,000	\$ 3,255.24	1.0344	\$ 0.0756	\$ 4.1109	\$ 7,441.74	\$ 3,042.79	1.0380	\$ 0.017	\$ 4.1109	\$ 7,327.55	-\$ 114.19	-1.5%
	450,000	1,000	\$ 3,255.24	1.0344	\$ 0.0756	\$ 4.1109	\$ 7,441.74	\$ 3,042.79	1.0380	\$ 0.017	\$ 4.1109	\$ 7,327.55	-\$ 114.19	-1.5%
GS1500-5000 kW	600,000	2,000	\$ 9,756.55	1.0344	\$ 0.0808	\$ 4.3193	\$ 18,556.75	\$ 9,539.10	1.0380	\$ 0.018	\$ 4.3193	\$ 18,543.75	-\$ 13.00	-0.1%
	800,000	2,000	\$ 9,756.55	1.0344	\$ 0.0808	\$ 4.3193	\$ 18,556.75	\$ 9,539.10	1.0380	\$ 0.018	\$ 4.3193	\$ 18,543.75	-\$ 13.00	-0.1%
	1,000,000	4,000	\$ 15,479.35	1.0344	\$ 0.0808	\$ 4.3193	\$ 33,079.75	\$ 14,503.70	1.0380	\$ 0.018	\$ 4.3193	\$ 32,513.00	-\$ 566.75	-1.7%
	2,000,000	4,000	\$ 15,479.35	1.0344	\$ 0.0808	\$ 4.3193	\$ 33,079.75	\$ 14,503.70	1.0380	\$ 0.018	\$ 4.3193	\$ 32,513.00	-\$ 566.75	-1.7%
Large Use	2,000,000	5,000	\$ 28,357.14	1.0069	\$ 0.0910	\$ 4.8195	\$ 52,909.64	\$ 27,767.44	1.0069	\$ 0.0204	\$ 4.8195	\$ 52,133.92	-\$ 775.72	-1.5%
	2,500,000	5,000	\$ 28,357.14	1.0069	\$ 0.0910	\$ 4.8195	\$ 52,909.64	\$ 27,767.44	1.0069	\$ 0.0204	\$ 4.8195	\$ 52,133.92	-\$ 775.72	-1.5%
	3,000,000	10,000	\$ 42,069.14	1.0069	\$ 0.0910	\$ 4.8195	\$ 91,174.14	\$ 38,921.44	1.0069	\$ 0.0204	\$ 4.8195	\$ 87,654.39	-\$ 3,519.75	-3.9%
	5,000,000	10,000	\$ 42,069.14	1.0069	\$ 0.0910	\$ 4.8195	\$ 91,174.14	\$ 38,921.44	1.0069	\$ 0.0204	\$ 4.8195	\$ 87,654.39	-\$ 3,519.75	-3.9%
Streetlighting	37	0.1	\$ 0.83	1.0344	\$ 0.0561	\$ 3.0425	\$ 1.14	\$ 0.89	1.0380	\$ 0.0126	\$ 3.0425	\$ 1.21	\$ 0.07	6.2%
Unmetered Scattered Load	150		\$ 7.00	1.0344	\$ 0.0002	\$ 0.0100	\$ 8.58	\$ 7.71	1.0380	\$ 0.00004	\$ 0.0100	\$ 9.27	\$ 0.69	8.0%

BILL IMPACTS RPP

COMMODITY: TIERS 1ST 2ND
 800 0.065 0.075
 750 0.065 0.075

	kWh	kW	May 1, 2010 Rates						January 1, 2011 Rates						Change	
			Delivery	Loss Factor	Commodity	Regulatory	Debt		Delivery	Loss Factor	Commodity	Regulatory	Debt		\$	%
							Retirement	Total					Retirement	Total		
Residential	100		\$ 13.41	1.0344	\$ 6.72	\$ 0.0068725	\$ 0.00694	\$ 21.54	\$ 13.00	1.0380	\$ 6.75	\$ 0.0068725	\$ 0.00694	\$ 21.15	-\$ 0.39	-1.8%
	250		\$ 18.22	1.0344	\$ 16.81	\$ 0.0068725	\$ 0.00694	\$ 38.54	\$ 17.98	1.0380	\$ 16.87	\$ 0.0068725	\$ 0.00694	\$ 38.37	-\$ 0.17	-0.4%
	500		\$ 26.24	1.0344	\$ 33.62	\$ 0.0068725	\$ 0.00694	\$ 66.88	\$ 26.30	1.0380	\$ 33.74	\$ 0.0068725	\$ 0.00694	\$ 67.07	\$ 0.19	0.3%
	800		\$ 35.87	1.0344	\$ 54.06	\$ 0.0068725	\$ 0.00694	\$ 101.17	\$ 36.27	1.0380	\$ 54.28	\$ 0.0068725	\$ 0.00694	\$ 101.81	\$ 0.64	0.6%
	1,000		\$ 42.28	1.0344	\$ 69.58	\$ 0.0068725	\$ 0.00694	\$ 125.91	\$ 42.93	1.0380	\$ 69.85	\$ 0.0068725	\$ 0.00694	\$ 126.85	\$ 0.94	0.7%
	1,500		\$ 58.32	1.0344	\$ 108.37	\$ 0.0068725	\$ 0.00694	\$ 187.77	\$ 59.55	1.0380	\$ 108.78	\$ 0.0068725	\$ 0.00694	\$ 189.44	\$ 1.67	0.9%
	2,000		\$ 74.36	1.0344	\$ 147.16	\$ 0.0068725	\$ 0.00694	\$ 249.62	\$ 76.18	1.0380	\$ 147.70	\$ 0.0068725	\$ 0.00694	\$ 252.03	\$ 2.41	1.0%
GS < 50 kW	2,000		\$ 74.11	1.0344	\$ 147.66	\$ 0.0068725	\$ 0.00694	\$ 249.87	\$ 75.95	1.0380	\$ 148.20	\$ 0.0068725	\$ 0.00694	\$ 252.30	\$ 2.43	1.0%
	5,000		\$ 160.66	1.0344	\$ 380.40	\$ 0.0068725	\$ 0.00694	\$ 611.31	\$ 164.82	1.0380	\$ 381.75	\$ 0.0068725	\$ 0.00694	\$ 616.94	\$ 5.63	0.9%
	10,000		\$ 304.92	1.0344	\$ 768.30	\$ 0.0068725	\$ 0.00694	\$ 1,213.71	\$ 312.93	1.0380	\$ 771.00	\$ 0.0068725	\$ 0.00694	\$ 1,224.66	\$ 10.95	0.9%
	15,000		\$ 449.17	1.0344	\$ 1,156.20	\$ 0.0068725	\$ 0.00694	\$ 1,816.11	\$ 461.03	1.0380	\$ 1,160.25	\$ 0.0068725	\$ 0.00694	\$ 1,832.39	\$ 16.28	0.9%
GS 50-1500 kW	15,000	60	\$ 683.80	1.0344	\$ 1,156.20	\$ 0.0068725	\$ 0.00694	\$ 2,050.73	\$ 707.07	1.0380	\$ 1,160.25	\$ 0.0068725	\$ 0.00694	\$ 2,078.43	\$ 27.70	1.4%
	20,000	60	\$ 683.80	1.0344	\$ 1,544.10	\$ 0.0068725	\$ 0.00694	\$ 2,508.88	\$ 707.07	1.0380	\$ 1,549.50	\$ 0.0068725	\$ 0.00694	\$ 2,538.05	\$ 29.17	1.2%
	30,000	100	\$ 971.37	1.0344	\$ 2,319.90	\$ 0.0068725	\$ 0.00694	\$ 3,712.74	\$ 988.80	1.0380	\$ 2,328.00	\$ 0.0068725	\$ 0.00694	\$ 3,739.01	\$ 26.27	0.7%
	40,000	100	\$ 971.37	1.0344	\$ 3,095.70	\$ 0.0068725	\$ 0.00694	\$ 4,629.03	\$ 988.80	1.0380	\$ 3,106.50	\$ 0.0068725	\$ 0.00694	\$ 4,658.24	\$ 29.22	0.6%
	150,000	500	\$ 3,847.09	1.0344	\$ 11,629.50	\$ 0.0068725	\$ 0.00694	\$ 17,583.93	\$ 3,806.02	1.0380	\$ 11,670.00	\$ 0.0068725	\$ 0.00694	\$ 17,587.07	\$ 3.14	0.0%
	200,000	500	\$ 3,847.09	1.0344	\$ 15,508.50	\$ 0.0068725	\$ 0.00694	\$ 22,165.37	\$ 3,806.02	1.0380	\$ 15,562.50	\$ 0.0068725	\$ 0.00694	\$ 22,183.25	\$ 17.88	0.1%
	360,000	1,000	\$ 7,441.74	1.0344	\$ 27,921.30	\$ 0.0068725	\$ 0.00694	\$ 40,420.65	\$ 7,327.55	1.0380	\$ 28,018.50	\$ 0.0068725	\$ 0.00694	\$ 40,412.57	-\$ 8.08	0.0%
	450,000	1,000	\$ 7,441.74	1.0344	\$ 34,903.50	\$ 0.0068725	\$ 0.00694	\$ 48,667.25	\$ 7,327.55	1.0380	\$ 35,025.00	\$ 0.0068725	\$ 0.00694	\$ 48,685.69	\$ 18.44	0.0%
Unmetered Scattered Load	150		\$ 8.58	1.0344	\$ 10.09	\$ 0.0068725	\$ 0.00694	\$ 20.78	\$ 9.27	1.0380	\$ 10.12	\$ 0.0068725	\$ 0.00694	\$ 21.50	\$ 0.72	3.5%

BILL IMPACTS NON RPP

	kWh	kW	May 1, 2010 Rates						January 1, 2011 Rates						Change		
			Delivery	Loss		Debt		Total	Delivery	Loss		Debt		Total	\$	%	
				Factor	Commodity	Regulatory	Retirement			Factor	Commodity	GA Rider	Regulatory				Retirement
Residential	100		\$ 13.41	1.0344	\$ 0.0689	\$ 0.0068725	\$ 0.00694	\$ 21.94	\$ 13.00	1.0380	\$ 0.0689	\$ 0.0034	\$ 0.0068725	\$ 0.00694	\$ 21.91	-\$ 0.03	-0.1%
	250		\$ 18.22	1.0344	\$ 0.0689	\$ 0.0068725	\$ 0.00694	\$ 39.56	\$ 17.98	1.0380	\$ 0.0689	\$ 0.0034	\$ 0.0068725	\$ 0.00694	\$ 40.27	\$ 0.71	1.8%
	500		\$ 26.24	1.0344	\$ 0.0689	\$ 0.0068725	\$ 0.00694	\$ 68.91	\$ 26.30	1.0380	\$ 0.0689	\$ 0.0034	\$ 0.0068725	\$ 0.00694	\$ 70.87	\$ 1.96	2.8%
	800		\$ 35.87	1.0344	\$ 0.0689	\$ 0.0068725	\$ 0.00694	\$ 104.14	\$ 36.27	1.0380	\$ 0.0689	\$ 0.0034	\$ 0.0068725	\$ 0.00694	\$ 107.59	\$ 3.45	3.3%
	1,000		\$ 42.28	1.0344	\$ 0.0689	\$ 0.0068725	\$ 0.00694	\$ 127.62	\$ 42.93	1.0380	\$ 0.0689	\$ 0.0034	\$ 0.0068725	\$ 0.00694	\$ 132.07	\$ 4.45	3.5%
	1,500		\$ 58.32	1.0344	\$ 0.0689	\$ 0.0068725	\$ 0.00694	\$ 186.33	\$ 59.55	1.0380	\$ 0.0689	\$ 0.0034	\$ 0.0068725	\$ 0.00694	\$ 193.27	\$ 6.93	3.7%
	2,000		\$ 74.36	1.0344	\$ 0.0689	\$ 0.0068725	\$ 0.00694	\$ 245.04	\$ 76.18	1.0380	\$ 0.0689	\$ 0.0034	\$ 0.0068725	\$ 0.00694	\$ 254.47	\$ 9.42	3.8%
GS < 50 kW	2,000		\$ 74.11	1.0344	\$ 0.0689	\$ 0.0068725	\$ 0.00694	\$ 244.79	\$ 75.95	1.0380	\$ 0.0689	\$ 0.0034	\$ 0.0068725	\$ 0.00694	\$ 254.24	\$ 9.45	3.9%
	5,000		\$ 160.66	1.0344	\$ 0.0689	\$ 0.0068725	\$ 0.00694	\$ 587.36	\$ 164.82	1.0380	\$ 0.0689	\$ 0.0034	\$ 0.0068725	\$ 0.00694	\$ 610.53	\$ 23.16	3.9%
	10,000		\$ 304.92	1.0344	\$ 0.0689	\$ 0.0068725	\$ 0.00694	\$ 1,158.32	\$ 312.93	1.0380	\$ 0.0689	\$ 0.0034	\$ 0.0068725	\$ 0.00694	\$ 1,204.34	\$ 46.03	4.0%
	15,000		\$ 449.17	1.0344	\$ 0.0689	\$ 0.0068725	\$ 0.00694	\$ 1,729.27	\$ 461.03	1.0380	\$ 0.0689	\$ 0.0034	\$ 0.0068725	\$ 0.00694	\$ 1,798.16	\$ 68.89	4.0%
GS 50-1500 kW	15,000	60	\$ 683.80	1.0344	\$ 0.0689	\$ 0.0068725	\$ 0.00694	\$ 1,963.89	\$ 707.07	1.0380	\$ 0.0689	\$ 0.0034	\$ 0.0068725	\$ 0.00694	\$ 2,044.20	\$ 80.31	4.1%
	20,000	60	\$ 683.80	1.0344	\$ 0.0689	\$ 0.0068725	\$ 0.00694	\$ 2,390.59	\$ 707.07	1.0380	\$ 0.0689	\$ 0.0034	\$ 0.0068725	\$ 0.00694	\$ 2,489.91	\$ 99.32	4.2%
	30,000	100	\$ 971.37	1.0344	\$ 0.0689	\$ 0.0068725	\$ 0.00694	\$ 3,531.56	\$ 988.80	1.0380	\$ 0.0689	\$ 0.0034	\$ 0.0068725	\$ 0.00694	\$ 3,663.05	\$ 131.49	3.7%
	40,000	100	\$ 971.37	1.0344	\$ 0.0689	\$ 0.0068725	\$ 0.00694	\$ 4,384.96	\$ 988.80	1.0380	\$ 0.0689	\$ 0.0034	\$ 0.0068725	\$ 0.00694	\$ 4,554.47	\$ 169.51	3.9%
	150,000	500	\$ 3,847.09	1.0344	\$ 0.0689	\$ 0.0068725	\$ 0.00694	\$ 16,648.05	\$ 3,806.02	1.0380	\$ 0.0689	\$ 0.0034	\$ 0.0068725	\$ 0.00694	\$ 17,177.29	\$ 529.24	3.2%
	200,000	500	\$ 3,847.09	1.0344	\$ 0.0689	\$ 0.0068725	\$ 0.00694	\$ 20,915.04	\$ 3,806.02	1.0380	\$ 0.0689	\$ 0.0034	\$ 0.0068725	\$ 0.00694	\$ 21,634.38	\$ 719.34	3.4%
	360,000	1,000	\$ 7,441.74	1.0344	\$ 0.0689	\$ 0.0068725	\$ 0.00694	\$ 38,164.05	\$ 7,327.55	1.0380	\$ 0.0689	\$ 0.0034	\$ 0.0068725	\$ 0.00694	\$ 39,418.60	\$ 1,254.55	3.3%
	450,000	1,000	\$ 7,441.74	1.0344	\$ 0.0689	\$ 0.0068725	\$ 0.00694	\$ 45,844.63	\$ 7,327.55	1.0380	\$ 0.0689	\$ 0.0034	\$ 0.0068725	\$ 0.00694	\$ 47,441.37	\$ 1,596.73	3.5%
GS1500-5000 kW	600,000	2,000	\$ 18,556.75	1.0344	\$ 0.0689	\$ 0.0068725	\$ 0.00694	\$ 69,760.61	\$ 18,543.75	1.0380	\$ 0.0689	\$ 0.0034	\$ 0.0068725	\$ 0.00694	\$ 72,028.84	\$ 2,268.23	3.3%
	800,000	2,000	\$ 18,556.75	1.0344	\$ 0.0689	\$ 0.0068725	\$ 0.00694	\$ 86,828.56	\$ 18,543.75	1.0380	\$ 0.0689	\$ 0.0034	\$ 0.0068725	\$ 0.00694	\$ 89,857.20	\$ 3,028.64	3.5%
	1,000,000	4,000	\$ 33,079.75	1.0344	\$ 0.0689	\$ 0.0068725	\$ 0.00694	\$ 118,419.51	\$ 32,513.00	1.0380	\$ 0.0689	\$ 0.0034	\$ 0.0068725	\$ 0.00694	\$ 121,654.82	\$ 3,235.30	2.7%
	2,000,000	4,000	\$ 33,079.75	1.0344	\$ 0.0689	\$ 0.0068725	\$ 0.00694	\$ 203,759.27	\$ 32,513.00	1.0380	\$ 0.0689	\$ 0.0034	\$ 0.0068725	\$ 0.00694	\$ 210,796.63	\$ 7,037.36	3.5%
Large Use	2,000,000	5,000	\$ 52,909.64	1.0069	\$ 0.0689	\$ 0.0068725	\$ 0.00694	\$ 219,420.58	\$ 52,133.92	1.0069	\$ 0.0689	\$ 0.0034	\$ 0.0068725	\$ 0.00694	\$ 225,491.77	\$ 6,071.20	2.8%
	2,500,000	5,000	\$ 52,909.64	1.0069	\$ 0.0689	\$ 0.0068725	\$ 0.00694	\$ 261,048.31	\$ 52,133.92	1.0069	\$ 0.0689	\$ 0.0034	\$ 0.0068725	\$ 0.00694	\$ 268,831.24	\$ 7,782.93	3.0%
	3,000,000	10,000	\$ 91,174.14	1.0069	\$ 0.0689	\$ 0.0068725	\$ 0.00694	\$ 340,940.54	\$ 87,654.39	1.0069	\$ 0.0689	\$ 0.0034	\$ 0.0068725	\$ 0.00694	\$ 347,691.18	\$ 6,750.63	2.0%
	5,000,000	10,000	\$ 91,174.14	1.0069	\$ 0.0689	\$ 0.0068725	\$ 0.00694	\$ 507,451.48	\$ 87,654.39	1.0069	\$ 0.0689	\$ 0.0034	\$ 0.0068725	\$ 0.00694	\$ 521,049.03	\$ 13,597.55	2.7%
Streetlighting	37	0.1	\$ 1.14	1.0344	\$ 0.0689	\$ 0.0068725	\$ 0.00694	\$ 4.30	\$ 1.21	1.0380	\$ 0.0689	\$ 0.0034	\$ 0.0068725	\$ 0.00694	\$ 4.51	\$ 0.21	4.9%



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STATUS OF DEFERRAL AND VARIANCE ACCOUNTS

1.0 INTRODUCTION

On April 23, 2008, Hydro Ottawa Limited (“Hydro Ottawa”) received final approval from the Ontario Energy Board (the “Board”) for rate riders to recover deferral and variance accounts accumulated to October 31, 2007 as part of the 2008 electricity distribution rates (“EDR”) cost of service application. Amounts have therefore accumulated in deferral and variance accounts from November 1, 2007 to the present. Details of the accounts for which Hydro Ottawa is seeking disposition are discussed in Exhibit I1-1-2. Details of new accounts for which approval is being sought as part of the proceeding are included in Exhibit I1-1-3.

2.0 DETAILS OF VARIANCE AND DEFERRAL ACCOUNTS

Following is a complete list of Hydro Ottawa’s active deferral and variance accounts categorized based on the Report of the Board on Electricity Distributors’ Deferral and Variance Account Review Initiative (“EDDVAR Report”).

Table 1 – Group 1 Accounts

Group 1 Accounts	Account
Low Voltage (“LV”) Account	1550
Retail Settlement Variance Account (“RSVA”)- Wholesale Market Service Charge	1580
RSVA - Retail Transmission Network Charge	1584
RSVA - Retail Transmission Connection Charge	1586
RSVA - Power (Including Global Adjustment sub)	1588
Recovery of Regulatory Asset balances	1590
Disposition and Recovery of Regulatory Balances Account	1595



1

Table 2 – Group 2 Accounts

Group 2 Accounts	Account
Other Regulatory Assets	1508
Retail Cost Variance Account – Retail	1518
Special Purpose Charge Assessment Variance Account	1521
Renewable Connection Capital Deferral Account	1531
Renewable Connection OM&A Deferral Account	1532
Smart Grid Capital Deferral Account	1534
Smart Grid OM&A Deferral Account	1535
Retail Cost Variance Account – STR	1548
Smart Meter Capital Account	1555
Smart Meter OM&A Account	1556
RSVA - One-time Wholesale Market Service	1582
PILs and Tax Variance	1592

2

3

2.1 Retail Settlement Variance Accounts (“RSVAs”) Including LV

4

5

This group of accounts includes Accounts 1550, 1580, 1582, 1584, 1586 and 1588.

6

7

Hydro Ottawa has not made any changes to its accounting policies for the RSVAs from those that were in place for amounts accumulated to October 31, 2007 and approved for

8

disposition by the Board. Hydro Ottawa has always followed the guidance from the

9

Accounting Procedures Handbook to record the difference between the cost of power

10

revenue and the cost of power expenses in the RSVA accounts, resulting in the revenue

11

equalling the expenses for financial statements. The same practice was adopted for the

12

LV Account which records the difference between revenue collected from customers

13

based on the Board-approved LV charge and the amount paid to Hydro One Networks

14

Inc. for the LV services.

15

16

2.1.1 Global Adjustment (“GA”) Variance

17

18

The RSVA power – GA subaccount of Account 1588 comprises differences between the

19

wholesale GA rate charged or credited by the Independent Electricity System Operator

20

(“IESO”) and the provincial benefit rate issued by the IESO for billing to non-regulated

21

price plan customers. The main driver for the large variance at December 31, 2009 was



1 the difference between the actual GA charges to Hydro Ottawa for each month based on
2 Hydro Ottawa's usage and the provincial benefit rate for the same month that is set
3 based on the previous month's GA using a provincial usage profile. An excellent
4 description of the cause of balances in the GA subaccount is included in the Board's
5 Decision in EB-2009-0405 for Enersource Hydro Mississauga.¹ Hydro Ottawa has
6 shown a breakdown by class of the balance in this variance sub-account in Attachment
7 AM of Exhibit I1-1-2.

9 **2.2 Disposition and Recovery of Account Balances**

10
11 This refers to Accounts 1590 and 1595. Account 1590 was to be used to record the
12 disposition and recovery of regulatory asset balances. The balance in 1590 is the
13 difference between the amount approved by the Board for disposition in 2006 and the
14 actual amounts collected from customers from the rate riders that ended on April 30,
15 2008. On May 1, 2008, Account 1595 came into effect to record the disposition and
16 recovery of deferral and variance accounts. It records the difference between the
17 amount approved by the Board for disposition in 2008 and the actual amounts collected
18 from customers from the rate riders that ended on April 30, 2009.

19
20 For both Accounts 1590 and 1595, the carrying charges accumulated to December 31,
21 2009 include a transfer of the carrying charges approved by the Board for disposition in
22 2006 and 2008 respectively from the individual deferral and variance accounts. These
23 carrying charges were kept separate from the approved principle balances; however, the
24 recoveries from the rate riders were not split by the portion related to principle balances
25 and the portion related to carrying charges. Therefore recoveries from the rate riders
26 were recorded against the principal balances only, resulting in a credit at the end of the
27 period for the principle balance and a debit for the carrying charges. This approach was
28 taken so that new carrying charges were calculated on the principal balance remaining
29 only.

30
31

¹ EB-2009-0405 Decision and Order pages 6 and 7.



1 **2.3 Other Regulatory Assets and Special Purpose Charge (“SPC”) Assessment**

2

3 Amounts recorded in Account 1508 include the incremental costs of the transition to the
4 International Financial Reporting System (“IFRS”). Hydro Ottawa began recording costs
5 in this account in 2009. Account 1521 will be used to record the difference between the
6 amount remitted to the Minister of Finance for the SPC assessment and the amount
7 recovered from customers.

8

9 **2.4 Retail Cost Variance Accounts (“RCVAs”)**

10

11 This group of accounts includes Accounts 1518 and 1548. Recorded in the RCVAs is
12 the difference between the revenue collected from retailers for retail settlement activities
13 and the costs incurred to provide these services. The overall costs incurred to provide
14 retail services are difficult to allocate between the costs for service transaction requests
15 (“STRs”) and the costs for retail contract administration and distributor-consolidated
16 billing because it is often the same personnel involved in both functions. Therefore,
17 these two accounts are appropriately reviewed together.

18

19 **2.5 Renewable Connection and Smart Grid Accounts**

20

21 This group of accounts includes Accounts 1531, 1532, 1534 and 1535. Hydro Ottawa
22 had not recorded amounts in these accounts for 2009, and therefore no disposition is
23 being sought, but amounts were reported for the first quarter of 2010.

24

25 **2.6 Smart Meter Accounts**

26

27 Hydro Ottawa continues to record in Accounts 1555 and 1556 the difference between
28 the revenue requirement determined from the actual incremental Smart Meter capital
29 and operating costs and the amounts collected from customers through the Smart Meter
30 rate adder. A sub-Account for 1555 is also used to record stranded meter costs. More
31 details on these accounts are included in Exhibit I1-1-2.

32



1 **2.7 PILs and Tax Variances**

2
3 Recorded in Account 1592 is the amount related to the tax change for the class 47
4 capital cost allowance from 4% to 8% that affected 2006 and 2007. The annual
5 difference was a credit to customers of \$1.2M of which \$2.2M plus interest had been
6 recorded at October 31, 2007 and approved for disposition by the Board, leaving a credit
7 of \$0.2M to be cleared at this time. Hydro Ottawa cleared Account 1562 as part of its
8 2008 EDR.

9
10 **2.7.1 Harmonized Sales Tax ("HST")**

11
12 As ordered by the Board, for 2010, Hydro Ottawa will be recording the input tax credits
13 that are incremental to its distribution revenue requirement. As part of this application,
14 Hydro Ottawa has made adjustments to costs related to the introduction of HST.
15 Therefore, as per the Board's Decision², Hydro Ottawa will discontinue tracking these
16 amounts on the effective date of the rate order for this application. Carrying charges will
17 continue to accrue until the balance is cleared.

18
19
20 **3.0 CONTINUITY SCHEDULE**

21
22 Attachment AL to this exhibit is a complete continuity schedule for all deferral and
23 variance accounts based on an updated version of the excel spreadsheet posted by the
24 Board on its website. The accounts have been re-ordered based on Group 1 and Group
25 2 accounts as per the EDDVAR Report.

26
27

² EB-2009-0231 Decision and Order, Page 7.



1 **4.0 CARRYING CHARGES/INTEREST**

2
3 Carrying charges were calculated on all accounts except for the Account 1555 sub
4 account for stranded meter costs. The interest rates used for the calculation of all
5 carrying charges were as prescribed by the Board and published quarterly on its web
6 site. The Board approved the disposition of Hydro Ottawa's balances as of October 31,
7 2007 with carrying charges projected to April 30, 2008. The interest rate used in this
8 forecast was the third quarter 2007 interest rate which was slightly different from the
9 interest rates subsequently published by the Board for this period. Likewise the carrying
10 charges on December 31, 2009 balances have been projected to January 1, 2011 using
11 the second quarter 2010 prescribed interest rate.
12
13

14 **5.0 REPORTING AND RECORD-KEEPING REQUIREMENTS**

15
16 On March 15, 2010, Hydro Ottawa filed with the Board the balances for each of the
17 deferral and variance accounts recorded to December 31, 2009 as required by the
18 Reporting and Record-keeping Requirements ("RRRs"). Balances in the continuity
19 schedule have no adjustments from these amounts filed with the Board except for the
20 addition of the projected carrying charges for these balances to December 31, 2010.
21 The EDDVAR Report stated that balances submitted for disposition should include: "The
22 projected carrying charges for each Account balance provided in c) iv) to the proposed
23 rate rider implementation date."³
24
25

26 **6.0 CONTINUATION OF ACCOUNTS**

27
28 Of the accounts listed in Section 2.0 above, Hydro Ottawa intends for all of them to
29 continue except for Account 1590 Recovery of Regulatory Asset Balances. Account
30 1590 was to be used to record the disposition and recovery of regulatory asset balances

³ EDDVAR Report Appendix A: Filing Guidelines.



1 approved prior to May 1, 2008, when Account 1595 came into effect. Hydro Ottawa
2 proposes to close Account 1590.

3

4

5 **7.0 NEW DEFERRAL AND VARIANCE ACCOUNTS**

6

7 Exhibit I1-1-3 describes the new deferral and variance accounts for which approval is
8 sought.

9

10

11 **8.0 PREVIOUSLY DENIED AMOUNTS**

12

13 Hydro Ottawa has not recorded any amounts in deferral and variance accounts that
14 have been previously denied by the Board.

15



Attachment AL - Continuity Schedule - Deferral and Variance Accounts

2005										
Account Description	Account Number	Opening Principal Amounts as of Jan-1-05 ¹	Transactions (additions) during 2005, excluding interest and adjustments ⁶	Transactions (reductions) during 2005, excluding interest and adjustments ⁶	Adjustments during 2005 - instructed by Board ²	Adjustments during 2005 - other ³	Closing Principal Balance as of Dec-31-05	Opening Interest Amounts as of Jan-1-05	Interest Jan-1 to Dec31-05	Closing Interest Amounts as of Dec-31-05
LV Variance Account	1550						\$ -			\$ -
RSVA - Wholesale Market Service Charge	1580	\$ 9,680,195	\$ 4,906,819				\$ 14,587,014	\$ 1,511,470	\$ 775,780	\$ 2,287,250
RSVA - Retail Transmission Network Charge	1584	\$ 2,886,560	\$ 1,222,972				\$ 4,109,533	\$ 273,797	\$ 228,504	\$ 502,301
RSVA - Retail Transmission Connection Charge	1586	\$ (11,898,806)	\$ (4,025,092)				\$ (15,923,898)	\$ (1,073,762)	\$ (1,004,480)	\$ (2,078,242)
RSVA - Power (including Global Adjustment)	1588	\$ (2,191,859)	\$ (5,937,384)				\$ (8,129,243)	\$ (807,232)	\$ (278,520)	\$ (1,085,751)
RSVA - Power - Sub-Account - Global Adjustment ⁴	1588		\$ (4,838,912)				\$ (4,838,912)		\$ (148,447)	\$ (148,447)
Recovery of Regulatory Asset Balances	1590	\$ (7,120,663)	\$ (10,455,341)				\$ (17,576,004)	\$ (150,159)	\$ (834,922)	\$ (985,081)
Disposition and Recovery of Regulatory Balances Control Account	1595									
Sub-Totals Group 1		\$ (8,644,573)	\$ (14,288,026)	\$ -	\$ -	\$ -	\$ (22,932,599)	\$ (245,885)	\$ (1,113,637)	\$ (1,359,523)
Other Regulatory Assets - Sub-Account - OEB Cost Assessments	1508	\$ 210,202	\$ 580,142				\$ 790,344	\$ 4,055	\$ 28,367	\$ 32,422
Other Regulatory Assets - Sub-Account - Pension Contributions	1508		\$ 1,210,431				\$ 1,210,431		\$ 22,216	\$ 22,216
Other Regulatory Assets - Sub-Account - Incremental IFRS Transition Costs	1508						\$ -			\$ -
Other Regulatory Assets - Sub-Account - Other ⁷	1508						\$ -			\$ -
Other Regulatory Assets - Sub-Account - Other ⁷	1508						\$ -			\$ -
Retail Cost Variance Account - Retail	1518	\$ 919,761	\$ 209,826				\$ 1,129,587	\$ 72,457	\$ 69,814	\$ 142,271
Misc. Deferred Debits	1525	\$ 268,600					\$ 268,600	\$ 37,118	\$ 18,533	\$ 55,651
Retail Cost Variance Account - STR	1548	\$ 37,234	\$ 8,728				\$ 45,962	\$ 4,934	\$ 2,992	\$ 7,926
Smart Meter Capital and Recovery Offset Variance - Sub-Account - Capital	1555						\$ -			\$ -
Smart Meter Capital and Recovery Offset Variance - Sub-Account - Recoveries	1555						\$ -			\$ -
Smart Meter Capital and Recovery Offset Variance - Sub-Account - Stranded Meter Costs	1555						\$ -			\$ -
Smart Meter OM&A Variance	1556						\$ -			\$ -
Deferred Payments in Lieu of Taxes	1562	\$ 2,284,862		\$ (707,538)			\$ 1,577,324	\$ 794,939	\$ 112,927	\$ 907,865
Deferred PILs Contra Account ⁸	1563						\$ -			\$ -
Conservation and Demand Management Expenditures and Recoveries	1565	\$ -	\$ 2,203,898	\$ (7,732,503)			\$ (5,528,605)			\$ -
CDM Contra	1566	\$ -					\$ -			\$ -
Qualifying Transition Costs ⁵	1570	\$ 4,066,680	n/a	n/a			\$ 4,066,680	\$ 911,876	\$ 280,601	\$ 1,192,477
Pre-Market Opening Energy Variances Total ⁵	1571	\$ 21,654,896	n/a	n/a			\$ 21,654,896	\$ 4,230,389	\$ 1,495,116	\$ 5,725,504
Extra-Ordinary Event Costs	1572						\$ -			\$ -
Deferred Rate Impact Amounts	1574						\$ -			\$ -
RSVA - One-time Wholesale Market Service	1582	\$ 519,464	\$ 401,743				\$ 921,207	\$ 42,754	\$ 46,305	\$ 89,059
2006 PILs & Taxes Variance	1592						\$ -			\$ -
Other Deferred Credits	2425						\$ -			\$ -
Sub-Totals Group 2		\$ 29,961,699	\$ 4,614,768	\$ (8,440,041)	\$ -	\$ -	\$ 26,136,426	\$ 6,098,521	\$ 2,076,871	\$ 8,175,391
Total		\$ 21,317,125	\$ (9,673,258)	\$ (8,440,041)	\$ -	\$ -	\$ 3,203,827	\$ 5,852,635	\$ 963,233	\$ 6,815,869

¹ As per general ledger, if does not agree to Dec-31-04 balance filed in 2006 EDR then provide supplementary analysis
² Provide supporting statement indicating whether due to denial of costs in 2006 EDR by the Board, 10% transition costs write-off, and etc.
³ Provide supporting statement indicating nature of this adjustments and periods they relate to
⁴ Not included in sub-total
⁵ Closed April 30, 2002
⁶ For RSVA accounts only, report the net additions to the account during the year. For all other accounts, record the additions and reductions separately.
⁷ Please describe "other" components of 1508 and add more component lines if necessary.
⁸ 1563 is a contra-account and is not included in the total but is shown on a memo basis. Account 1562 establishes the obligation to the ratepayer.
⁹ Interest projected on December 31, 2009 closing principal balance.



Attachment AL - Continuity Schedule - Deferral and Variance Accounts

Account Description	Account Number	2006						Closing Principal Balance as of Dec-31-06	Opening Interest Amounts as of Jan-1-06	Interest Jan-1 to Dec31-06	Transfer of Board-approved amounts to 1590 as per 2006 EDR	Closing Interest Amounts as of Dec-31-06
		Opening Principal Amounts as of Jan-1-06	Transactions (additions) during 2006, excluding interest and adjustments ⁶	Transactions (reductions) during 2006, excluding interest and adjustments ⁶	Adjustments during 2006 - instructed by Board ²	Adjustments during 2006 - other ³	Transfer of Board-approved amounts to 1590 as per 2006 EDR					
LV Variance Account	1550	\$ -	\$ 646,153				\$ 646,153	\$ -	\$ 9,488		\$ 9,488	
RSVA - Wholesale Market Service Charge	1580	\$ 14,587,014	\$ (9,762,037)			\$ (9,680,195)	\$ (4,855,218)	\$ 2,287,250	\$ 48,760	\$ (2,179,404)	\$ 156,607	
RSVA - Retail Transmission Network Charge	1584	\$ 4,109,533	\$ 529,913			\$ (2,886,560)	\$ 1,752,885	\$ 502,301	\$ 71,350	\$ (472,969)	\$ 100,681	
RSVA - Retail Transmission Connection Charge	1586	\$ (15,923,898)	\$ (1,298,964)			\$ 11,898,806	\$ (5,324,056)	\$ (2,078,242)	\$ (267,179)	\$ 1,894,779	\$ (450,642)	
RSVA - Power (including Global Adjustment)	1588	\$ (8,129,243)	\$ 14,542,921			\$ 2,191,859	\$ 8,605,536	\$ (1,085,751)	\$ 189,315	\$ 958,470	\$ 62,034	
RSVA - Power - Sub-Account - Global Adjustment ⁴	1588	\$ (4,838,912)	\$ 9,185,051				\$ 4,346,138	\$ (148,447)	\$ 84,946		\$ (63,501)	
Recovery of Regulatory Asset Balances	1590	\$ (17,576,004)	\$ (6,907,494)		\$ (525,916)	\$ 32,178,765	\$ 7,169,351	\$ (985,081)	\$ 865,571	\$ 985,081	\$ 865,571	
Disposition and Recovery of Regulatory Balances Control Account	1595											
Sub-Totals Group 1		\$ (22,932,599)	\$ (2,249,509)	\$ -	\$ (525,916)	\$ -	\$ 7,994,650	\$ (1,359,523)	\$ 917,305	\$ 1,185,957	\$ 743,739	
Other Regulatory Assets - Sub-Account - OEB Cost Assessments	1508	\$ 790,344	\$ 160,242			\$ (210,202)	\$ 740,384	\$ 32,422	\$ 34,251	\$ (16,141)	\$ 50,531	
Other Regulatory Assets - Sub-Account - Pension Contributions	1508	\$ 1,210,431	\$ 487,372				\$ 1,697,803	\$ 22,216	\$ 68,354		\$ 90,570	
Other Regulatory Assets - Sub-Account - Incremental IFRS Transition Costs	1508	\$ -					\$ -	\$ -			\$ -	
Other Regulatory Assets - Sub-Account - Other ⁷	1508	\$ -					\$ -	\$ -			\$ -	
Other Regulatory Assets - Sub-Account - Other ⁷	1508	\$ -					\$ -	\$ -			\$ -	
Retail Cost Variance Account - Retail	1518	\$ 1,129,587	\$ 138,578	\$ (310,942)		\$ (919,761)	\$ 37,463	\$ 142,271	\$ 7,718	\$ (135,921)	\$ 14,068	
Misc. Deferred Debits	1525	\$ 268,600	\$ 93,238			\$ (268,600)	\$ 93,238	\$ 55,651	\$ 1,799	\$ (55,651)	\$ 1,799	
Retail Cost Variance Account - STR	1548	\$ 45,962	\$ 420,225	\$ (15,577)		\$ (37,234)	\$ 413,376	\$ 7,926	\$ 9,287	\$ (7,503)	\$ 9,709	
Smart Meter Capital and Recovery Offset Variance - Sub-Account - Capital	1555	\$ -	\$ 15,948,320				\$ 15,948,320	\$ -	\$ 93,494		\$ 93,494	
Smart Meter Capital and Recovery Offset Variance - Sub-Account - Recoveries	1555	\$ -	\$ (1,010,867)				\$ (1,010,867)	\$ -			\$ -	
Smart Meter Capital and Recovery Offset Variance - Sub-Account - Stranded Meter Costs	1555	\$ -					\$ -	\$ -			\$ -	
Smart Meter OM&A Variance	1556	\$ -	\$ 4,777,296				\$ 4,777,296	\$ -	\$ 25,870		\$ 25,870	
Deferred Payments in Lieu of Taxes	1562	\$ 1,577,324		\$ (2,294,796)			\$ (717,471)	\$ 907,865	\$ 32,376		\$ 940,241	
Deferred PILs Contra Account ⁸	1563	\$ -					\$ -	\$ -			\$ -	
Conservation and Demand Management Expenditures and Recoveries	1565	\$ (5,528,605)	\$ 4,652,643	\$ (1,546,497)			\$ (2,422,459)	\$ -			\$ -	
CDM Contra	1566	\$ -	\$ (6,856,541)	\$ 9,279,000			\$ 2,422,459	\$ -			\$ -	
Qualifying Transition Costs ⁵	1570	\$ 4,066,680	n/a	n/a		\$ (4,066,680)	\$ -	\$ 1,192,477	\$ -	\$ (1,192,477)	\$ -	
Pre-Market Opening Energy Variances Total ⁵	1571	\$ 21,654,896	n/a	n/a		\$ (21,654,896)	\$ (0)	\$ 5,725,504	\$ -	\$ (5,725,504)	\$ -	
Extra-Ordinary Event Costs	1572	\$ -					\$ -	\$ -			\$ -	
Deferred Rate Impact Amounts	1574	\$ -					\$ -	\$ -			\$ -	
RSVA - One-time Wholesale Market Service	1582	\$ 921,207	\$ 334,785			\$ (519,464)	\$ 736,529	\$ 89,059	\$ 28,229	\$ (78,597)	\$ 38,692	
2006 PILs & Taxes Variance	1592	\$ -	\$ (1,585,670)				\$ (1,585,670)	\$ -			\$ -	
Other Deferred Credits	2425	\$ -					\$ -	\$ -			\$ -	
Sub-Totals Group 2		\$ 26,136,426	\$ 17,559,622	\$ 5,111,188	\$ -	\$ -	\$ 21,130,400	\$ 8,175,391	\$ 301,378	\$ (7,211,794)	\$ 1,264,975	
Total		\$ 3,203,827	\$ 15,310,113	\$ 5,111,188	\$ (525,916)	\$ -	\$ 29,125,050	\$ 6,815,869	\$ 1,218,683	\$ (6,025,837)	\$ 2,008,714	



Attachment AL - Continuity Schedule - Deferral and Variance Accounts

2007										
Account Description	Account Number	Opening Principal Amounts as of Jan-1-07	Transactions (additions) during 2007, excluding interest and adjustments ⁶	Transactions (reductions) during 2007, excluding interest and adjustments ⁶	Adjustments during 2007 - instructed by Board ²	Adjustments during 2007 - other ³	Closing Principal Balance as of Dec-31-07	Opening Interest Amounts as of Jan-1-07	Interest Jan-1 to Dec31-07	Closing Interest Amounts as of Dec-31-07
LV Variance Account	1550	\$ 646,153	\$ 1,389,057	\$ (610,793)			\$ 1,424,417	\$ 9,488	\$ 46,039	\$ 55,527
RSVA - Wholesale Market Service Charge	1580	\$ (4,855,218)	\$ (9,442,167)				\$ (14,297,385)	\$ 156,607	\$ (440,697)	\$ (284,090)
RSVA - Retail Transmission Network Charge	1584	\$ 1,752,885	\$ 835,629				\$ 2,588,514	\$ 100,681	\$ 125,253	\$ 225,935
RSVA - Retail Transmission Connection Charge	1586	\$ (5,324,056)	\$ 591,878				\$ (4,732,178)	\$ (450,642)	\$ (235,552)	\$ (686,193)
RSVA - Power (including Global Adjustment)	1588	\$ 8,605,536	\$ 5,609,936				\$ 14,215,472	\$ 62,034	\$ 318,912	\$ 380,946
RSVA - Power - Sub-Account - Global Adjustment ⁴	1588	\$ 4,346,138	\$ 1,425,437				\$ 5,771,575	\$ (63,501)	\$ 60,356	\$ (3,145)
Recovery of Regulatory Asset Balances	1590	\$ 7,169,351	\$ 904,752	\$ (6,914,460)			\$ 1,159,643	\$ 865,571	\$ 203,678	\$ 1,069,249
Disposition and Recovery of Regulatory Balances Control Account	1595									
Sub-Totals Group 1		\$ 7,994,650	\$ (110,915)	\$ (7,525,253)	\$ -	\$ -	\$ 358,483	\$ 743,739	\$ 17,634	\$ 761,373
Other Regulatory Assets - Sub-Account - OEB Cost Assessments	1508	\$ 740,384					\$ 740,384	\$ 50,531	\$ 35,010	\$ 85,541
Other Regulatory Assets - Sub-Account - Pension Contributions	1508	\$ 1,697,803					\$ 1,697,803	\$ 90,570	\$ 80,283	\$ 170,852
Other Regulatory Assets - Sub-Account - Incremental IFRS Transition Costs	1508	\$ -					\$ -	\$ -	\$ -	\$ -
Other Regulatory Assets - Sub-Account - Other ⁷	1508	\$ -					\$ -	\$ -	\$ -	\$ -
Other Regulatory Assets - Sub-Account - Other ⁷	1508	\$ -					\$ -	\$ -	\$ -	\$ -
Retail Cost Variance Account - Retail	1518	\$ 37,463	\$ 84,651	\$ (325,932)			\$ (203,819)	\$ 14,068	\$ (2,715)	\$ 11,353
Misc. Deferred Debits	1525	\$ 93,238	\$ 1,339				\$ 94,577	\$ 1,799	\$ 4,463	\$ 6,262
Retail Cost Variance Account - STR	1548	\$ 413,376	\$ 336,125	\$ (28,110)			\$ 721,391	\$ 9,709	\$ 28,266	\$ 37,976
Smart Meter Capital and Recovery Offset Variance - Sub-Account - Capital	1555	\$ 15,948,320				\$ (15,948,320)	\$ -	\$ 93,494	\$ (93,494)	\$ (0)
Smart Meter Capital and Recovery Offset Variance - Sub-Account - Recoveries	1555	\$ (1,010,867)	\$ (4,481,727)	\$ 1,762,535			\$ (3,730,059)	\$ -	\$ -	\$ -
Smart Meter Capital and Recovery Offset Variance - Sub-Account - Stranded Meter Costs	1555	\$ -	\$ 7,311,855	\$ (2,953,845)		\$ 4,777,296	\$ 9,135,307	\$ -	\$ -	\$ -
Smart Meter OM&A Variance	1556	\$ 4,777,296	\$ 2,971,264			\$ (4,777,296)	\$ 2,971,264	\$ 25,870	\$ (43,289)	\$ (17,419)
Deferred Payments in Lieu of Taxes	1562	\$ (717,471)	\$ 566,544				\$ (150,927)	\$ 940,241	\$ (26,587)	\$ 913,654
Deferred PILs Contra Account ⁸	1563	\$ -					\$ -	\$ -	\$ -	\$ -
Conservation and Demand Management Expenditures and Recoveries	1565	\$ (2,422,459)	\$ 1,140,864				\$ (1,281,595)	\$ -	\$ -	\$ -
CDM Contra	1566	\$ 2,422,459	\$ (1,140,864)				\$ 1,281,595	\$ -	\$ -	\$ -
Qualifying Transition Costs ⁵	1570	\$ -	n/a	n/a			\$ -	\$ -	\$ -	\$ -
Pre-Market Opening Energy Variances Total ⁵	1571	\$ (0)	n/a	n/a			\$ (0)	\$ -	\$ -	\$ -
Extra-Ordinary Event Costs	1572	\$ -					\$ -	\$ -	\$ -	\$ -
Deferred Rate Impact Amounts	1574	\$ -					\$ -	\$ -	\$ -	\$ -
RSVA - One-time Wholesale Market Service	1582	\$ 736,529	\$ 238,972				\$ 975,501	\$ 38,692	\$ 40,127	\$ 78,819
2006 PILs & Taxes Variance	1592	\$ (1,585,670)	\$ (1,396,411)				\$ (2,982,081)	\$ -	\$ (94,653)	\$ (94,653)
Other Deferred Credits	2425	\$ -					\$ -	\$ -	\$ -	\$ -
Sub-Totals Group 2		\$ 21,130,400	\$ 5,632,613	\$ (1,545,352)	\$ -	\$ (15,948,320)	\$ 9,269,340	\$ 1,264,975	\$ (72,589)	\$ 1,192,386
Total		\$ 29,125,050	\$ 5,521,698	\$ (9,070,605)	\$ -	\$ (15,948,320)	\$ 9,627,823	\$ 2,008,714	\$ (54,955)	\$ 1,953,759



Attachment AL - Continuity Schedule - Deferral and Variance Accounts

2008												
Account Description	Account Number	Opening Principal Amounts as of Jan-1-08	Transactions (additions) during 2008, excluding interest and adjustments ⁶	Transactions (reductions) during 2008, excluding interest and adjustments ⁶	Adjustments during 2008 - instructed by Board ²	Adjustments during 2008 - other ³	Transfer of Board-approved amounts to 1595 as per 2008 EDR	Closing Principal Balance as of Dec-31-08	Opening Interest Amounts as of Jan-1-08	Interest Jan-1 to Dec-31-08	Transfer of Board-approved amounts to 1595 as per 2008 EDR	Closing Interest Amounts as of Dec-31-08
LV Variance Account	1550	\$ 1,424,417	\$ 1,413,004	\$ (1,187,082)			\$ (1,308,915)	\$ 341,423	\$ 55,527	\$ 30,772	\$ (77,689)	\$ 8,610
RSVA - Wholesale Market Service Charge	1580	\$ (14,297,385)	\$ (4,791,023)				\$ 13,552,824	\$ (5,535,584)	\$ (284,090)	\$ (332,612)	\$ 509,005	\$ (107,697)
RSVA - Retail Transmission Network Charge	1584	\$ 2,588,514	\$ (3,920,702)				\$ (3,495,962)	\$ (4,828,149)	\$ 225,935	\$ (61,868)	\$ (287,185)	\$ (123,118)
RSVA - Retail Transmission Connection Charge	1586	\$ (4,732,178)	\$ (2,761,549)				\$ 4,454,219	\$ (3,039,509)	\$ (686,193)	\$ (120,350)	\$ 760,670	\$ (45,873)
RSVA - Power (including Global Adjustment)	1588	\$ 14,215,472	\$ 6,698,339				\$ (3,948,697)	\$ 16,965,115	\$ 380,946	\$ 347,993	\$ (433,429)	\$ 295,510
RSVA - Power - Sub-Account - Global Adjustment ⁴	1588	\$ 5,771,575	\$ 2,564,808					\$ 8,336,384	\$ (3,145)	\$ 192,476		\$ 189,331
Recovery of Regulatory Asset Balances	1590	\$ 1,159,643	\$ 904,752	\$ (2,387,225)				\$ (322,830)	\$ 1,069,249	\$ (11,890)		\$ 1,057,358
Disposition and Recovery of Regulatory Balances Control Account	1595		\$ 4,879,976				\$ (8,089,053)	\$ (3,209,077)		\$ (142,701)	\$ 758,390	\$ 615,689
Sub-Totals Group 1		\$ 358,483	\$ (2,457,179)	\$ 1,305,669	\$ -	\$ -	\$ 1,164,416	\$ 371,389	\$ 761,373	\$ (290,656)	\$ 1,229,762	\$ 1,700,479
Other Regulatory Assets - Sub-Account - OEB Cost Assessments	1508	\$ 740,384					\$ (740,384)	\$ -	\$ 85,541	\$ 11,971	\$ (98,157)	\$ (645)
Other Regulatory Assets - Sub-Account - Pension Contributions	1508	\$ 1,697,803					\$ (1,697,803)	\$ -	\$ 170,852	\$ 27,450	\$ (199,782)	\$ (1,479)
Other Regulatory Assets - Sub-Account - Incremental IFRS Transition Costs	1508	\$ -						\$ -	\$ -			\$ -
Other Regulatory Assets - Sub-Account - Other ⁷	1508	\$ -						\$ -	\$ -			\$ -
Other Regulatory Assets - Sub-Account - Other ⁷	1508	\$ -						\$ -	\$ -			\$ -
Retail Cost Variance Account - Retail	1518	\$ (203,819)	\$ 69,241	\$ (324,191)			\$ 122,528	\$ (336,240)	\$ 11,353	\$ (9,346)	\$ (9,273)	\$ (7,266)
Misc. Deferred Debits	1525	\$ 94,577					\$ (94,577)	\$ -	\$ 6,262	\$ 1,529	\$ (7,873)	\$ (82)
Retail Cost Variance Account - STR	1548	\$ 721,391	\$ 411,261	\$ (15,725)			\$ (738,524)	\$ 378,403	\$ 37,976	\$ 17,716	\$ (50,414)	\$ 5,277
Smart Meter Capital and Recovery Offset Variance - Sub-Account - Capital	1555	\$ -						\$ -	\$ (0)			\$ (0)
Smart Meter Capital and Recovery Offset Variance - Sub-Account - Recoveries	1555	\$ (3,730,059)	\$ (4,651,361)	\$ 1,213,673				\$ (7,167,747)	\$ -			\$ -
Smart Meter Capital and Recovery Offset Variance - Sub-Account - Stranded Meter Costs	1555	\$ 9,135,307	\$ 5,841,081	\$ (2,025,752)				\$ 12,950,636	\$ -			\$ -
Smart Meter OM&A Variance	1556	\$ 2,971,264	\$ 2,270,200					\$ 5,241,463	\$ (17,419)	\$ (64,813)		\$ (82,232)
Deferred Payments in Lieu of Taxes	1562	\$ (150,927)					\$ 150,927	\$ 0	\$ 913,654	\$ (2,440)	\$ (911,083)	\$ 131
Deferred PILs Contra Account ⁸	1563	\$ -						\$ -	\$ -			\$ -
Conservation and Demand Management Expenditures and Recoveries	1565	\$ (1,281,595)	\$ 1,281,595					\$ 0	\$ -			\$ -
CDM Contra	1566	\$ 1,281,595	\$ (1,281,595)					\$ 0	\$ -			\$ -
Qualifying Transition Costs ⁵	1570	\$ -	n/a	n/a				\$ -	\$ -			\$ -
Pre-Market Opening Energy Variances Total ⁵	1571	\$ (0)	n/a	n/a				\$ (0)	\$ -			\$ -
Extra-Ordinary Event Costs	1572	\$ -						\$ -	\$ -			\$ -
Deferred Rate Impact Amounts	1574	\$ -						\$ -	\$ -			\$ -
RSVA - One-time Wholesale Market Service	1582	\$ 975,501	\$ 220,753				\$ (947,804)	\$ 248,449	\$ 78,819	\$ 19,954	\$ (94,784)	\$ 3,989
2006 PILs & Taxes Variance	1592	\$ (2,982,081)					\$ 2,781,219	\$ (200,861)	\$ (94,653)	\$ (52,977)	\$ 141,604	\$ (6,025)
Other Deferred Credits	2425	\$ -						\$ -	\$ -			\$ -
Sub-Totals Group 2		\$ 9,269,340	\$ 4,161,175	\$ (1,151,994)	\$ -	\$ -	\$ (1,164,416)	\$ 11,114,104	\$ 1,192,386	\$ (50,956)	\$ (1,229,762)	\$ (88,333)
Total		\$ 9,627,823	\$ 1,703,996	\$ 153,674	\$ -	\$ -	\$ (0)	\$ 11,485,493	\$ 1,953,759	\$ (341,612)	\$ -	\$ 1,612,147



Attachment AL - Continuity Schedule - Deferral and Variance Accounts

Account Description	Account Number	2009					Closing Principal Balance as of Dec-31-09	Opening Interest Amounts as of Jan-1-09	Interest Jan-1 to Dec31-09	Closing Interest Amounts as of Dec-31-09
		Opening Principal Amounts as of Jan-1-09	Transactions (additions) during 2009, excluding interest and adjustments ⁶	Transactions (reductions) during 2009, excluding interest and adjustments ⁶	Adjustments during 2009 - instructed by Board ²	Adjustments during 2009 - other ³				
LV Variance Account	1550	\$ 341,423	\$ 613,065	\$ (1,419,495)			\$ (465,007)	\$ 8,610	\$ 1,244	\$ 9,854
RSVA - Wholesale Market Service Charge	1580	\$ (5,535,584)	\$ (2,615,936)				\$ (8,151,521)	\$ (107,697)	\$ (62,363)	\$ (170,060)
RSVA - Retail Transmission Network Charge	1584	\$ (4,828,149)	\$ (799,298)				\$ (5,627,447)	\$ (123,118)	\$ (52,034)	\$ (175,152)
RSVA - Retail Transmission Connection Charge	1586	\$ (3,039,509)	\$ (3,257,761)				\$ (6,297,270)	\$ (45,873)	\$ (40,319)	\$ (86,191)
RSVA - Power (including Global Adjustment)	1588	\$ 16,965,115	\$ 7,482,582				\$ 24,447,697	\$ 295,510	\$ 167,396	\$ 462,906
RSVA - Power - Sub-Account - Global Adjustment ⁴	1588	\$ 8,336,384	\$ 8,318,310				\$ 16,654,694	\$ 189,331	\$ 110,317	\$ 299,648
Recovery of Regulatory Asset Balances	1590	\$ (322,830)	\$ 395,880	\$ (419,040)			\$ (345,990)	\$ 1,057,358	\$ (3,748)	\$ 1,053,611
Disposition and Recovery of Regulatory Balances Control Account	1595	\$ (3,209,077)	\$ 2,474,794				\$ (734,283)	\$ 615,689	\$ (19,916)	\$ 595,773
Sub-Totals Group 1		\$ 371,389	\$ 1,818,531	\$ 636,260	\$ -	\$ -	\$ 2,826,180	\$ 1,700,479	\$ (9,739)	\$ 1,690,740
Other Regulatory Assets - Sub-Account - OEB Cost Assessments	1508	\$ -					\$ -	\$ (645)		\$ (645)
Other Regulatory Assets - Sub-Account - Pension Contributions	1508	\$ -					\$ -	\$ (1,479)		\$ (1,479)
Other Regulatory Assets - Sub-Account - Incremental IFRS Transition Costs	1508	\$ -	\$ 511,250				\$ 511,250	\$ -	\$ 220	\$ 220
Other Regulatory Assets - Sub-Account - Other ⁷	1508	\$ -					\$ -	\$ -		\$ -
Other Regulatory Assets - Sub-Account - Other ⁷	1508	\$ -					\$ -	\$ -		\$ -
Retail Cost Variance Account - Retail	1518	\$ (336,240)	\$ 69,262	\$ (338,783)			\$ (605,761)	\$ (7,266)	\$ (4,695)	\$ (11,961)
Misc. Deferred Debits	1525	\$ -					\$ -	\$ (82)		\$ (82)
Retail Cost Variance Account - STR	1548	\$ 378,403	\$ 411,261	\$ (8,744)			\$ 780,921	\$ 5,277	\$ 5,605	\$ 10,882
Smart Meter Capital and Recovery Offset Variance - Sub-Account - Capital	1555	\$ -					\$ -	\$ (0)		\$ (0)
Smart Meter Capital and Recovery Offset Variance - Sub-Account - Recoveries	1555	\$ (7,167,747)	\$ (5,292,458)	\$ 1,797,265			\$ (10,662,939)	\$ -		\$ -
Smart Meter Capital and Recovery Offset Variance - Sub-Account - Stranded Meter Costs	1555	\$ 12,950,636	\$ 1,846,027	\$ (3,038,628)			\$ 11,758,035	\$ -		\$ -
Smart Meter OM&A Variance	1556	\$ 5,241,463	\$ 3,633,261				\$ 8,874,725	\$ (82,232)	\$ (20,723)	\$ (102,956)
Deferred Payments in Lieu of Taxes	1562	\$ 0					\$ 0	\$ 131		\$ 131
Deferred PILs Contra Account ⁸	1563	\$ -					\$ -	\$ -		\$ -
Conservation and Demand Management Expenditures and Recoveries	1565	\$ 0					\$ 0	\$ -		\$ -
CDM Contra	1566	\$ 0					\$ 0	\$ -		\$ -
Qualifying Transition Costs ⁵	1570	\$ -	n/a	n/a			\$ -	\$ -		\$ -
Pre-Market Opening Energy Variances Total ⁵	1571	\$ (0)	n/a	n/a			\$ (0)	\$ -		\$ -
Extra-Ordinary Event Costs	1572	\$ -					\$ -	\$ -		\$ -
Deferred Rate Impact Amounts	1574	\$ -					\$ -	\$ -		\$ -
RSVA - One-time Wholesale Market Service	1582	\$ 248,449	\$ (243,785)				\$ 4,664	\$ 3,989	\$ (3,972)	\$ 17
2006 PILs & Taxes Variance	1592	\$ (200,861)					\$ (200,861)	\$ (6,025)	\$ (2,271)	\$ (8,296)
Other Deferred Credits	2425	\$ -					\$ -	\$ -		\$ -
Sub-Totals Group 2		\$ 11,114,104	\$ 934,819	\$ (1,588,890)	\$ -	\$ -	\$ 10,460,033	\$ (88,333)	\$ (25,837)	\$ (114,169)
Total		\$ 11,485,493	\$ 2,753,350	\$ (952,630)	\$ -	\$ -	\$ 13,286,213	\$ 1,612,147	\$ (35,576)	\$ 1,576,571



Attachment AL - Continuity Schedule - Deferral and Variance Accounts

Account Description	Account Number	Projected Interest on Dec 31 -09 balance from Jan 1, 2010 to Dec 31, 2010 ⁹	Projected Interest on Dec 31 -09 balance from Jan 1, 2011 to April 30, 2011 ⁹	Claim before Forecasted Transactions	Forecasted Transactions, Excluding Interest from Jan 1, 2010 to Dec 31, 2010	Forecasted Transactions, Excluding Interest from Jan 1, 2011 to April 30, 2011	Projected Interest from Jan 1, 2010 to April 30, 2011 on Forecasted Transx (Excl Interest) from Jan 1, 2010 to December 31, 2010	Projected Interest from Jan 1, 2011 to April 30, 2011 on Forecasted Transx (Excl Interest) from Jan 1, 2011 to April 30, 2011	Total Claim
LV Variance Account	1550	\$ (2,558)		\$ (457,711)				\$ (457,711)	
RSVA - Wholesale Market Service Charge	1580	\$ (44,833)		\$ (8,366,414)				\$ (8,366,414)	
RSVA - Retail Transmission Network Charge	1584	\$ (30,951)		\$ (5,833,550)				\$ (5,833,550)	
RSVA - Retail Transmission Connection Charge	1586	\$ (34,635)		\$ (6,418,096)				\$ (6,418,096)	
RSVA - Power (including Global Adjustment)	1588	\$ 134,462		\$ 25,045,066				\$ 25,045,066	
RSVA - Power - Sub-Account - Global Adjustment ⁴	1588	\$ 91,601		\$ 17,045,943				\$ 17,045,943	
Recovery of Regulatory Asset Balances	1590	\$ (1,903)		\$ 705,718				\$ 705,718	
Disposition and Recovery of Regulatory Balances Control Account	1595	\$ (4,039)		\$ (142,549)				\$ (142,549)	
Sub-Totals Group 1		\$ 15,544	\$ -	\$ 4,532,464	\$ -	\$ -	\$ -	\$ -	\$ 4,532,464
Other Regulatory Assets - Sub-Account - OEB Cost Assessments	1508	\$ -		\$ -				\$ -	
Other Regulatory Assets - Sub-Account - Pension Contributions	1508	\$ -		\$ -				\$ -	
Other Regulatory Assets - Sub-Account - Incremental IFRS Transition Costs	1508	\$ 2,812		\$ 514,282				\$ 514,282	
Other Regulatory Assets - Sub-Account - Other ⁷	1508	\$ -		\$ -				\$ -	
Other Regulatory Assets - Sub-Account - Other ⁷	1508	\$ -		\$ -				\$ -	
Retail Cost Variance Account - Retail	1518	\$ (3,332)		\$ (621,053)				\$ (621,053)	
Misc. Deferred Debits	1525	\$ -		\$ -				\$ -	
Retail Cost Variance Account - STR	1548	\$ 4,295		\$ 796,098				\$ 796,098	
Smart Meter Capital and Recovery Offset Variance - Sub-Account - Capital	1555	\$ -		\$ -				\$ -	
Smart Meter Capital and Recovery Offset Variance - Sub-Account - Recoveries	1555	\$ -		\$ (10,662,939)				\$ (10,662,939)	
Smart Meter Capital and Recovery Offset Variance - Sub-Account - Stranded Meter Costs	1555	\$ -		\$ 11,758,035				\$ 11,758,035	
Smart Meter OM&A Variance	1556	\$ (9,835)		\$ 8,761,934				\$ 8,761,934	
Deferred Payments in Lieu of Taxes	1562	\$ 0		\$ -				\$ -	
Deferred PILs Contra Account ⁸	1563	\$ -		\$ -				\$ -	
Conservation and Demand Management Expenditures and Recoveries	1565	\$ 0		\$ -				\$ -	
CDM Contra	1566	\$ 0		\$ -				\$ -	
Qualifying Transition Costs ⁵	1570	\$ -		\$ -				\$ -	
Pre-Market Opening Energy Variances Total ⁵	1571	\$ (0)		\$ -				\$ -	
Extra-Ordinary Event Costs	1572	\$ -		\$ -				\$ -	
Deferred Rate Impact Amounts	1574	\$ -		\$ -				\$ -	
RSVA - One-time Wholesale Market Service	1582	\$ 26		\$ 4,707				\$ 4,707	
2006 PILs & Taxes Variance	1592	\$ (1,105)		\$ (210,262)				\$ (210,262)	
Other Deferred Credits	2425	\$ -		\$ -				\$ -	
Sub-Totals Group 2		\$ (7,139)	\$ -	\$ 10,340,801	\$ -	\$ -	\$ -	\$ 10,340,801	
Total		\$ 8,405	\$ -	\$ 14,873,265	\$ -	\$ -	\$ -	\$ 14,873,265	
				\$ 9,857,030				\$ 9,857,030	
				\$ 5,016,235				\$ 5,016,235	



CLEARANCE OF DEFERRAL AND VARIANCE ACCOUNTS

1.0 INTRODUCTION

Exhibit I1-1-1 discusses the status of Hydro Ottawa Limited's ("Hydro Ottawa") deferral and variance accounts. Balances to October 31, 2007 for all accounts were approved for disposition by the Ontario Energy Board (the "Board") as part of Hydro Ottawa's 2008 Electricity Distribution Rates ("EDR") cost of service rate application, except as noted below. Hydro Ottawa has reviewed the amounts accumulated in deferral and variance accounts since November 1, 2007 and is seeking a rate order from the Board to clear the actual balances accumulated to December 31, 2009 for the accounts summarized in Table 1. Carrying charges on these December 31, 2009 balances were also projected to December 31, 2010 and included in the balance to be cleared. Hydro Ottawa proposes that the new rate riders commence on January 1, 2011 at the same time as other changes to distribution rates.

2.0 VARIANCE AND DEFERRAL ACCOUNTS PROPOSED FOR DISPOSITION

Table 1 sets out the principal and interest, for each deferral and variance account, for which Hydro Ottawa proposes disposition at this time. The principal balance is as of December 31, 2009, based on Hydro Ottawa's audited financial statements. Carrying charges have been projected to December 31, 2010 using the first quarter 2010 interest rate prescribed by the Board.

The total amount accumulated between November 1, 2007 and December 31, 2009 sought for recovery from customers is \$5,016,231. Of this amount \$12,029,712 will be credited to all classes of customers based on the allocators discussed in Section 3.0. The remaining charge of \$17,045,943 relates to the global adjustment variance and therefore would apply only to customers that are not on the regulated price plan ("non RPP"). Exhibit I1-1-1 provides a description of each category of account.



1

Table 1 - Total Balances to be Cleared

Account Description	Account Number	Principal as of December 31, 2009	Carrying Charges to December 31, 2009¹	Carrying Charges to December 31, 2010	Current Total Filing for Disposition
Group 1 Accounts					
Low Voltage ("LV") Account	1550	(\$465,007)	\$9,854	(\$2,558)	(\$457,711)
Retail Settlement Variance Account ("RSVA")- Wholesale Market Service	1580	(8,151,521)	(170,060)	(44,833)	(8,366,414)
RSVA - Retail Transmission Network	1584	(5,627,447)	(175,152)	(30,951)	(5,833,550)
RSVA - Retail Transmission Connection	1586	(6,297,270)	(86,191)	(34,635)	(6,418,096)
RSVA - Power commodity only	1588	7,793,003	163,258	42,861	7,999,123
RSVA - Power sub account Global Adjustment	1588	16,654,694	299,648	91,601	17,045,943
Recovery of Regulatory Asset balances	1590	(345,990)	1,053,611	(1,903)	705,718
Disposition and Recovery of Regulatory Balances Account	1595	(734,283)	595,773	(4,039)	(142,549)
Subtotal Group 1		2,826,180	1,690,740	15,544	4,532,465
Group 2 Accounts					
Other Regulatory Assets - Sub-Account - Incremental IFRS Transition Costs	1508	511,250	220	2,812	514,282
Retail Cost Variance Account - Retail	1518	(605,761)	(11,961)	(3,332)	(621,053)
Retail Cost Variance Account - STR	1548	780,921	10,882	4,295	796,098
RSVA - One-time Wholesale Market Service	1582	4,665	17	26	4,707
PILs & Taxes Variance	1592	(200,861)	(8,296)	(1,105)	(210,262)
Subtotal Group 2		490,214	(9,139)	2,696	483,771
Total Group 1 and Group 2		\$3,316,393	\$1,681,602	\$18,240	\$5,016,236

2

¹ For Accounts 1590 and 1595, the carrying charges to December 31, 2009 include the interest approved by the Board for disposition in 2006 and 2008 respectively that was transferred from the individual deferral and variance accounts and kept separate from the approved principle balances. The recoveries from the rate riders were recorded against the principal balances only, resulting in a credit at the end of the period.



1 The balance for the Group 1 accounts represents over 90% of the total for Group 1 and
2 Group 2 together. As defined by the Board in the Report of the Board on Electricity
3 Distributors' Deferral and Variance Account Review Initiative ("EDDVAR Report"), Group
4 1 accounts are "Accounts that do not require a prudence review. This group will include
5 Account balances that are cost pass-through and Accounts whose original balances
6 were approved by the Board in a previous proceeding."²

7

8 **2.1 Accounts Not Proposed for Clearance**

9

10 All balances for deferral and variance accounts at December 31, 2009 are being
11 proposed for clearance with the exception of Accounts 1555 and 1556, the Smart Meter
12 variance accounts. Exhibit I2-1-1 provides more details of the Smart Meter program.
13 The balances for Account 1555 and 1556 at December 31, 2009 are as follows in Table
14 2.

15

16

Table 2 – Smart Meter Variance Accounts

Account Description	Account Number	Principal Amounts as of December 31, 2009	Carrying Charges to December 31, 2009	Carrying Charges Projected to December 31, 2010	Balance
Smart Meter Capital Variance Account (including recoveries from Smart Meter Adders)	1555	(\$10,662,939)			(\$10,662,939)
Smart Meter Capital Variance – subaccount stranded meters	1555	11,758,035			11,758,035
Smart Meter Operating Variance Account	1556	8,874,725	(102,956)	(9,835)	8,761,934
Total Accounts 1555 and 1556		\$9,969,820	(\$102,956)	(\$9,835)	\$9,857,030

17

18 The variance account balances were completed by determining the revenue requirement
19 for each year of Smart Meter costs and netting this with the amounts collected from
20 customers in the same period from the Smart Meter Rate Adders approved from 2006 to

² EDDVAR Report, Page 6.



1 2009. Costs to April 30, 2007 were adjusted to the costs from the Board's Decision for
2 the Smart Meter combined proceeding under EB-2007-0063/E2007-0544. Return on
3 capital (interest and equity), stranded meter costs and amounts collected from
4 customers from the Board-approved Smart Meter Rate Adders were recorded in Account
5 1555. Operating, Maintenance and Administration costs ("OM&A"), amortization, PILs
6 and carrying charges were recorded in Account 1556.

7
8 Based on Hydro Ottawa's actual Smart Meter costs, the balances at December 31, 2009
9 for Accounts 1555 and 1556 are \$1,095,096 and \$8,771,769 respectively, for a total
10 between the two accounts of \$9,866,865. Without the stranded meter costs, the balance
11 at December 31, 2009 for the two accounts would be a credit of \$1,891,171. Carrying
12 costs to December 31, 2010 were then projected.

13
14 Hydro Ottawa is not proposing to clear the balances in Account 1555 and 1556 at this
15 time. As part of Hydro Ottawa's 2010 EDR, EB-2009-0231, Hydro Ottawa was granted
16 approval for a new Smart Meter Rate Adder of \$1.68 per meter per month. At the time,
17 Hydro Ottawa was projecting the balance (excluding stranded meters) of Accounts 1555
18 and 1556 combined to be a credit of \$1,869,210.³ As noted above, the actual balance in
19 Accounts 1555 and 1556 (excluding stranded meters) was nearly identical to this
20 forecast. Rather than seek a higher Smart Meter Rate Adder, Hydro Ottawa determined
21 the \$1.68 rate adder by reducing the 2010 Smart Meter Revenue Requirement by the
22 balance in the variance accounts so that the amounts would be cleared in this manner.
23 For this reason, based on the 2010 Smart Meter spending budget, Accounts 1555 and
24 1556 are forecasted to clear by December 31, 2010. Therefore, no further disposition
25 through a rate rider is necessary at this time. Final disposition of the account balances
26 would occur after 2010, when the Smart Meter program has concluded.

27
28 Although Hydro Ottawa is not seeking to clear the variance balances in Accounts 1555
29 and 1556 as part of this proceeding, it is asking the Board to determine that its spending
30 for the Smart Meter program to the end of 2010 is prudent. Hydro Ottawa is proposing

³ EB-2009-0231, Pre-filed evidence, Exhibit B-1-3, Page 8, Table 7



1 to include all of the Smart Meter capital additions to the end of 2010 in its 2011 rate
2 base. Details of this are discussed in Exhibit I1-2-1.

3
4

5 **3.0 DETERMINATION OF RATE RIDERS FOR RECOVERY**

6

7 Table 3 shows the proposed rate riders to clear the balances shown in Table 1. The
8 worksheet for determining the rate riders is included as Attachment AM - Deferral and
9 Variance Account Recovery Riders. This Attachment shows the allocation of the
10 variance/deferral accounts to each customer class. Hydro Ottawa proposes that the
11 same allocators be used for the accounts that were approved for Hydro Ottawa's 2008
12 EDR Application. These are consistent with the Board's EDDVAR Report.

13

14 As previously approved, Hydro Ottawa has used customer numbers (as opposed to
15 number of connections) as the basis for allocating RCVA amounts to the street lighting,
16 unmetered scattered loads ("USL") and sentinel lighting customer classes. For sentinel
17 lights, the customer number was set at one to provide a reasonable allocation.

18

19 As noted in Section 2.0, there will be two sets of rate riders. The first, Rate Rider #1,
20 applies to all customer classes. The second, Rate Rider #2, applies only to non-RPP
21 customers.

22

23 For Rate Rider #1, rate riders for the Residential, General Service < 50 kW and USL
24 classes are determined by dividing the amount allocated to each class by the 2011
25 forecast annual kWhs for that class. For the remaining customer classes, the 2011
26 forecast annual kWhs were used to determine the rate rider. Rate Rider #1 will be applied
27 to the variable distribution rate for each class for disposition of balances over 12 months.

28

29 Rate Rider #2 is determined by dividing the total balance to be recovered for the global
30 adjustment variance by the forecasted loss-adjusted kWh for non-RPP customers in
31 2011. Hydro Ottawa proposes to apply Rate Rider #2 to the Provincial Benefit on the bill
32 and therefore it is determined on a per kWh basis for all non-RPP customers. It would



1 require significant programming changes to apply Rate Rider #2 to the variable
 2 distribution charges because it would require charging different rate riders within a rate
 3 class. The kWhs for the Provincial Benefit are loss adjusted, therefore the rate rider was
 4 derived from the non-RPP loss adjusted kWh. It is proposed that this rate rider would
 5 apply on a prospective basis to non-RPP customers, i.e. the non-RPP customers in
 6 2011. It is not possible to apply this to non-RPP customers on a retrospective basis
 7 because customers change throughout the year and come on and off the regulated price
 8 plan at different times.

9
 10 The allocation to customer classes and development of both Rate Rider #1 and Rate
 11 Rider #2 are shown in Attachment AM.

12
 13 **Table 3 - Proposed Rate Schedule**

14 **Rate Rider for Disposition of Deferral and Variance Accounts**
 15 **Effective January 1, 2011 to December 31, 2011**
 16

All Customers Deferral Variance Account Disposition Rate Rider	Variable Distribution Rate	Rate Rider #1
Residential Service	(per kWh)	-\$0.0015
General Service <50 kW	(per kWh)	-\$0.0016
General Service > 50 kW <1500 kW	(per kW)	-\$0.6525
General Service > 1500 kW < 5000 kW	(per kW)	-\$0.7687
Large User	(per kW)	-\$0.8846
Street Lighting	(per kW)	-\$0.5338
Unmetered Scattered Load	(per kWh)	-\$0.0016
Sentinel Lighting	(per kW)	-\$0.5768

Non Regulated Price Plan (RPP) Customers only Global Adjustment Sub-Account Disposition Rate Rider	Provincial Benefit	Rate Rider #2
Non-RPP Customers	(per kWh) loss adjusted	\$0.0034

17

18



1 **4.0 IMPLEMENTATION**

2

3 Hydro Ottawa requests that the rate order from the Board set out rate riders to be
4 effective for a period of one year from January 1, 2011 to December 31, 2011. This
5 would include a Deferral Variance Account Disposition Rider (Rate Rider #1) for all
6 customers and a Global Adjustment Sub-Account Disposition Rate Rider (Rate Rider #2)
7 only for non-RPP customers.

8

9 In making this proposal, Hydro Ottawa considered both the bill impacts to customers and
10 the impact on the company's cash flow. For the RPP customers, the rate rider would be
11 a credit. While the amount is material, paying this to customers over 12 months would
12 not be a hardship for the company.

13

14 For the non-RPP customers, the impact of the Global Adjustment Sub-Account
15 Disposition Rate Rider will be partially offset by the Deferral Variance Account
16 Disposition Rider. In determining if a one year recovery was reasonable, Hydro Ottawa
17 reviewed the EB-2009-0405 Decision for Enersource Hydro Mississauga ("Enersource").
18 In that Decision, the Board approved a recovery of the global adjustment variance over a
19 two-year period; however, the magnitude of Enersource's balance was such that a two-
20 year recovery still resulted in a higher rate rider than being proposed by Hydro Ottawa to
21 recover its balance over one year.⁴

22

23

24 **5.0 BILL IMPACTS**

25

26 The impact of these proposed rate riders on the total bill of typical residential and
27 general service < 50 kW customers are shown in Table 4.

28

29

30

⁴ EB-2009-0405, Page Tariff of Rates and Charges Page 3 of 4 shows the approved rate rider for Enersource of \$0.0039 per kWh. Hydro Ottawa, per Table 3, is proposing a rate of \$0.0035 per kWh.



1

Table 4 – Bill Impacts

Class	RPP	Non RPP (both rate riders combined)
Residential (800 kWh per month)	-1.2%	+1.4%
General Service < 50 kW (2000 kWh per month)	-1.3%	+1.4%

2



Attachment AM - Deferral and Variance Accounts Recovery Riders

SHEET 1 - December 31, 2009 Variance and Deferral Account Balances to be Cleared

Account Description	Account Number	Balance at	Principal Additions	Interest Additions	Balance at	Total Approved	Principal Additions	Interest Additions	Balance at	Principal Additions	Interest Additions	Principal Additions	Interest Additions	Balance at	Interest Additions	Balance at	Interest on	Total Claim
		Oct 31-07	Nov 1-07 to Dec 31-07	Nov 1-07 to Dec 31-07	Dec 31-07	By OEB	Jan 1-08 to Dec 31-08	Jan 1-08 to Dec 31-08	Dec 31-08	Jan 1-09 to Dec 31-09	Jan 1-09 to Dec 31-09	Dec 31-09	Dec 31-09	Dec 31-09	Dec 31-09	Dec 31-09	Dec 31-09	
Retail Settlement Variance Accounts																		
RSVA - Wholesale Market Service Charge	1580	-13,716,384	-744,562	-120,530	-14,581,475	-14,061,829	-4,791,023	-332,612	-5,643,281	-2,615,936	-62,363	-8,151,521	-170,060	-8,321,580	-44,833	-8,366,414		
RSVA - One-time Wholesale Market Service	1582	1,018,430	27,697	8,193	1,054,320	1,042,588	220,753	19,954	252,438	-243,785	-3,972	4,664	17	4,681	26	4,707		
RSVA - Retail Transmission Network Charge	1584	3,694,038	-907,447	27,858	2,814,449	3,783,146	-3,920,702	-61,868	-4,951,267	-799,298	-52,034	-5,627,447	-175,152	-5,802,599	-30,951	-5,833,550		
RSVA - Retail Transmission Connection Charge	1586	-5,101,357	-277,960	-39,056	-5,418,372	-5,214,889	-2,761,549	-120,350	-3,085,381	-3,257,761	-40,319	-6,297,270	-86,191	-6,383,461	-34,635	-6,418,096		
RSVA - Power - Commodity Only	1588	4,281,479	4,495,200	51,310	8,827,989	4,382,126	4,133,531	155,517	8,734,910	-635,728	57,079	7,793,003	163,258	7,956,262	42,862	7,999,123		
RSVA - Power - Global Adjustment sub	1588	4,033,425	1,699,041	35,964	5,768,430	0	2,564,808	192,476	8,525,715	8,318,310	110,317	16,654,694	299,648	16,954,342	91,601	17,045,943		
Subtotal		-5,790,368	4,291,969	-36,261	-1,534,660	-10,068,857	-4,554,182	-146,882	3,833,133	565,802	8,709	4,376,123	31,520	4,407,644	24,069	4,431,713		
Other Variance and Deferral Accounts																		
Other Regulatory Assets-IFRS	1508	0	0	0	0	0	0	0	0	511,250	220	511,250	220	511,470	2,812	514,282		
Retail Cost Variance Account - Retail	1518	-110,115	-81,290	-1,060	-192,466	-113,256	-254,950	-9,346	-343,506	-269,521	-4,695	-605,761	-11,961	-617,722	-3,332	-621,053		
Retail Cost Variance Account - STR	1548	770,010	-17,133	6,490	759,367	788,938	395,536	17,716	383,681	402,518	5,605	780,921	10,882	791,803	4,295	796,098		
Low Voltage ("LV") Charges	1550	1,353,057	115,502	11,385	1,479,944	1,386,604	225,921	30,772	350,033	-806,430	1,244	-465,007	9,854	-455,153	-2,558	-457,711		
PLTs and Tax Variance	1592	-2,851,542	-200,861	-24,330	-3,076,733	-2,922,823	0	-52,977	-206,887	-2,271	-200,861	-8,296	-209,158	-1,105	-210,262			
Recovery of Regulatory Asset balances	1590	3,730,338	-1,520,220	18,774	2,228,892	0	-1,482,473	-11,890	734,529	-23,160	-3,748	-345,990	1,053,611	707,621	-1,903	705,718		
Disposition of Account Balances Approved in 2008	1595				0	3,330,663	4,879,976	-142,701	-2,593,388	2,474,794	-19,916	-734,283	595,773	-138,510	-4,039	-142,549		
Subtotal		2,891,748	-1,704,002	11,258	1,199,004	6,470,126	3,764,011	-168,426	-1,675,537	2,289,451	-23,562	-1,059,730	1,650,081	590,351	-5,829	584,523		
Total		-2,898,620	2,587,967	-25,002	-335,656	-3,598,731	-790,171	-315,309	2,157,595	2,855,252	-14,853	3,316,393	1,681,602	4,997,995	18,240	5,016,236		

Data By Class	2011 Forecast kW	2011 Forecast kWhs Total	2011 Forecast kWhs non RPP Loss Adjusted	2011 Average Cust. Num.'s	2009 Distribution revenue (see note 1)
RESIDENTIAL CLASS		2,229,754,498	264,320,612	276,039	\$79,897,339
GENERAL SERVICE <50 kW CLASS		756,993,599	120,589,080	23,554	17,982,084
GENERAL SERVICE >50 kW < 1500 kW	7,564,413	3,019,209,934	3,134,015,754	3,265	31,749,553
GENERAL SERVICE >1500 kW	1,787,025	839,344,031	871,260,189	66	8,301,303
LARGE USER CLASS	1,197,001	645,268,861	649,721,216	12	5,092,541
UNMETERED SCATTERED LOADS (see note 2)		17,001,652		126	536,070
SENTINEL LIGHTS (see note 2)	221	79,560		1	1,810
STREET LIGHTING (see note 2)	118,127	38,922,344	40,402,371	8	688,761
Totals	10,666,788	7,546,574,478	5,080,309,221	303,070	\$144,249,461

Allocators	kW	kWhs Total	kWhs non RPP	Cust. Num.'s	Dx Revenue
RESIDENTIAL CLASS	0.0%	29.5%	5.2%	91.1%	55.4%
GENERAL SERVICE <50 kW CLASS	0.0%	10.0%	2.4%	7.8%	12.5%
GENERAL SERVICE >50 kW < 1500 kW	70.9%	40.0%	61.7%	1.1%	22.0%
GENERAL SERVICE >1500 kW	16.8%	11.1%	17.1%	0.0%	5.8%
LARGE USER CLASS	11.2%	8.6%	12.8%	0.0%	3.5%
UNMETERED SCATTERED LOADS	0.0%	0.2%	0.0%	0.0%	0.4%
SENTINEL LIGHTS	0.0%	0.0%	0.0%	0.0%	0.0%
STREET LIGHTING	1.1%	0.5%	0.8%	0.0%	0.5%
Totals	100%	100%	100%	100%	100%

Note 1: In general, 2011 forecasts have been used as the allocator. For distribution revenue, the 2009 actual numbers were used because the final 2011 forecast was still in development when this exhibit was finalized. Since the costs allocated by distribution revenue are minimal this would not have a material impact on the rate riders. The revenue does not include SSS Admin charges or transformer ownership credits.

Note 2: For the purposes of allocations based on customer numbers, the number of customer accounts has been used for unmetered scattered loads and streetlighting and one for sentinel lights, instead of number of connections, to provide a more reasonable allocation. This approach was previously approved by the Board. Furthermore, Hydro Ottawa does not typically forecast the kWh associated with sentinel lights, only the billing determinant of kW. Therefore, for the purposes of allocation, a kWh number of kW x 360 = 79,560 kWh has been used, which is not part of the overall load forecast. This has an immaterial affect on the other customer classes.



Sheet 2 - Rate Riders Calculation

Regulatory Asset Accounts:	Amount	ALLOCATOR	Residential	GS > 50 <			Large Users	Unmetered			Total
				GS < 50 KW	1500	GS > 1500		Scattered Load	Sentinel Lighting	Street Lighting	
RSVA - Wholesale Market Service Charge	\$ (8,366,414)	kWh	\$ (2,471,989)	\$ (839,231)	\$ (3,347,209)	\$ (930,528)	\$ (715,369)	\$ (18,849)	\$ (88)	\$ (43,151)	\$ (8,366,414)
RSVA - One-time Wholesale Market Service	\$ 4,707	kWh	\$ 1,391	\$ 472	\$ 1,883	\$ 524	\$ 402	\$ 11	\$ 0	\$ 24	\$ 4,707
RSVA - Retail Transmission Network Charge	\$ (5,833,550)	kWh	\$ (1,723,614)	\$ (585,161)	\$ (2,333,869)	\$ (648,818)	\$ (498,797)	\$ (13,142)	\$ (62)	\$ (30,087)	\$ (5,833,550)
RSVA - Retail Transmission Connection Charge	\$ (6,418,096)	kWh	\$ (1,896,328)	\$ (643,796)	\$ (2,567,732)	\$ (713,833)	\$ (548,778)	\$ (14,459)	\$ (68)	\$ (33,102)	\$ (6,418,096)
RSVA - Power - Commodity Only	\$ 7,999,123	kWh	\$ 2,363,467	\$ 802,389	\$ 3,200,264	\$ 889,677	\$ 683,964	\$ 18,021	\$ 84	\$ 41,256	\$ 7,999,123
RSVA - Power - Global Adjustment sub	\$ 17,045,943	kWh non RPP	\$ 886,874	\$ 404,612	\$ 10,515,551	\$ 2,923,336	\$ 2,180,007	\$ -	\$ -	\$ 135,562	\$ 17,045,943
Subtotal - RSVA	\$ 4,431,713		\$ (2,840,199)	\$ (860,716)	\$ 5,468,890	\$ 1,520,358	\$ 1,101,429	\$ (28,419)	\$ (133)	\$ 70,503	\$ 4,431,713
Other Regulatory Assets-IFRS	\$ 514,282	Dx Revenue	\$ 284,852	\$ 64,110	\$ 113,194	\$ 29,596	\$ 18,156	\$ 1,911	\$ 6	\$ 2,456	\$ 514,282
Retail Cost Variance Account - Retail	\$ (621,053)	# of Customers	\$ (565,661)	\$ (48,267)	\$ (6,691)	\$ (134)	\$ (25)	\$ (258)	\$ (2)	\$ (16)	\$ (621,053)
Retail Cost Variance Account - STR	\$ 796,098	# of Customers	\$ 725,093	\$ 61,871	\$ 8,576	\$ 172	\$ 32	\$ 331	\$ 3	\$ 21	\$ 796,098
Low Voltage ("LV") Charges	\$ (457,711)	kWh	\$ (135,238)	\$ (45,913)	\$ (183,119)	\$ (50,907)	\$ (39,136)	\$ (1,031)	\$ (5)	\$ (2,361)	\$ (457,711)
PILs and Tax Variance	\$ (210,262)	Dx Revenue	\$ (116,461)	\$ (26,211)	\$ (46,279)	\$ (12,100)	\$ (7,423)	\$ (781)	\$ (3)	\$ (1,004)	\$ (210,262)
Recovery of Regulatory Asset balances	\$ 705,718	kWh	\$ 208,516	\$ 70,790	\$ 282,342	\$ 78,491	\$ 60,342	\$ 1,590	\$ 7	\$ 3,640	\$ 705,718
Disposition of Account Balances Approved in 2008	\$ (142,549)	kWh	\$ (42,118)	\$ (14,299)	\$ (57,030)	\$ (15,855)	\$ (12,189)	\$ (321)	\$ (2)	\$ (735)	\$ (142,549)
Subtotal - Non RSVA	\$ 584,523		\$ 358,983	\$ 62,081	\$ 110,993	\$ 29,263	\$ 19,757	\$ 1,440	\$ 6	\$ 2,000	\$ 584,523
Total to be Recovered	\$ 5,016,236		\$ (2,481,217)	\$ (798,634)	\$ 5,579,882	\$ 1,549,621	\$ 1,121,186	\$ (26,978)	\$ (127)	\$ 72,503	\$ 5,016,236
Balance to be collected or refunded per year All Classes	\$ (12,029,707)		\$ (3,368,091)	\$ (1,203,246)	\$ (4,935,669)	\$ (1,373,715)	\$ (1,058,821)	\$ (26,978)	\$ (127)	\$ (63,059)	\$ (12,029,707)
Additional Balance to be collected from non RPP Customers	\$ 17,045,943		\$ 886,874	\$ 404,612	\$ 10,515,551	\$ 2,923,336	\$ 2,180,007	\$ -	\$ -	\$ 135,562	\$ 17,045,943

Class - All Customers	Residential	GS < 50 KW	GS > 50 < 1500	GS > 1500	Large Users	Unmetered Scattered Load	Sentinel Lighting	Street Lighting
Billing Determinants	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh
<i>Recovery Rate Riders RSVA only excluding global adjustment</i>	-0.0017	-0.0017	-0.6672	-0.7851	-0.9011	-0.0017	-0.6017	-0.5508
<i>Recovery Rate Riders non-RSVA</i>	0.0002	0.0001	0.0147	0.0164	0.0165	0.0001	0.0249	0.0169
Deferral Variance Account Disposition Rate Rider	-0.0015	-0.0016	-0.6525	-0.7687	-0.8846	-0.0016	-0.5768	-0.5338

Class - Non Regulated Price Plan Customers Only	Residential	GS < 50 KW	GS > 50 < 1500	GS > 1500	Large Users	Unmetered Scattered Load	Sentinel Lighting	Street Lighting
Billing Determinants (loss adjusted)	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh
Global Adjustment Sub-Account Disposition Rate Rider	0.0034	0.0034	0.0034	0.0034	0.0034	-	-	0.0034



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NEW PROPOSED ACCOUNTS FOR TEST YEAR

1.0 APPROVAL FOR NEW DEFERRAL AND VARIANCE ACCOUNTS

Hydro Ottawa Limited (“Hydro Ottawa”) is seeking the Ontario Energy Board’s (the “Board”) approval for several new deferral and variance accounts as part of this application. These are described in the following sections.

1.1 Account 1595 Sub-Accounts Disposition of December 31, 2009 Balances

As described in Exhibit I1-1-2, Hydro Ottawa is seeking approval to clear balances accumulated in deferral and variance accounts to December 31, 2009. Therefore, Hydro Ottawa is also seeking approval to set up a new sub-account to Account 1595 to record the disposition and recoveries. Upon approval of the disposition by the Board, Hydro Ottawa would transfer the approved amounts from the individual deferral and variance accounts to Account 1595. Amounts billed through the rate riders would then be recorded as offsetting entries.

1.2 Variance Account for International Financial Reporting System (“IFRS”) Changes

Hydro Ottawa has filed this application based on Canadian Generally Accepted Accounting Principles (“CGAAP”). A transition to International Financial Reporting Standards (“IFRS”) is required starting on January 1, 2011, including comparators to 2010 in IFRS. Hydro Ottawa has work underway to determine the changes that are required. Costs incurred for this project have been recorded in Account 1508, as previously approved by the Board; however, there may be changes related to differences in the 2011 revenue requirement calculated under CGAAP in this application, and what the 2011 revenue requirement would have been under IFRS. Hydro Ottawa is seeking the Board’s approval for a variance account to track any material difference. To be specific, this would be the difference between the Board-approved 2011 revenue



1 requirement from this application under CGAAP and what the 2011 revenue requirement
2 would have been under IFRS. Hydro Ottawa is not proposing that this account would
3 record variances to the 2011 actuals.

4
5 Hydro Ottawa is working on identifying differences between CGAAP and IFRS. One of
6 the more material changes is expected to be related to the componentization and useful
7 lives determined for assets. This is expected to have an impact on depreciation
8 expense, though this analysis is not yet complete. Hydro Ottawa has reviewed the
9 results of the Kinectrics Asset Amortization Study for the Ontario Energy Board, released
10 by the Board for comments on April 30, 2010, to determine alignment with Hydro
11 Ottawa's preliminary internal analysis.

12
13 The other material issue still under consideration that could affect the revenue
14 requirement is with respect to what costs are eligible for capitalization under IFRS.
15 Hydro Ottawa changed its capitalization policy in 2008 to one that is directionally closer
16 to IFRS, but certain administration and other costs may no longer be eligible to be
17 capitalized. Hydro Ottawa's review is taking into consideration the Board's letter of
18 February 24, 2010 to all licensed distributors and rate-regulated gas utilities in which the
19 Board state that: "As stated in the Board Report at Issue 3.3, the Board is requiring full
20 compliance with IFRS requirements (e.g., IAS 16) as applicable to non-regulated
21 enterprises and only where the Board authorizes specific alternative treatment for
22 regulatory purposes is alternative treatment acceptable."¹ Under CGAAP, there were
23 certain exemptions for rate-regulated companies. Even if certain exemptions are
24 approved for use under IFRS by rate-regulated companies by the Accounting Standards
25 Board of Canada ("AcSB"), this Board-policy could preclude their use.

26
27 Hydro Ottawa is working on identifying and calculating the differences between CGAAP
28 and IFRS, including any impact to depreciation expense, capitalization and other IFRS
29 requirements. Therefore, Hydro Ottawa is proposing that any differences between the

¹ Letter posted on the Board's website February 24, 2010, page 2.



1 Board-approved revenue requirement and what the revenue requirement would have
2 been under IFRS be recorded in a variance account for future disposition.

3
4 **1.3 Variance Account for Smart Meter Charges (“SMCs”) from the Independent**
5 **Electricity System Operator (“IESO”)**

6
7 It is anticipated that shortly the IESO will file an application with the Board to recover
8 costs it has incurred to build and manage the provincial meter data management and
9 repository (“MDM/R”). As per Ontario Regulation 453/06, the IESO is permitted to
10 recover its costs related to the Smart Meter initiative. It is expected that the Board will
11 approve one or more SMCs for the IESO to charge to distributors for the MDM/R. The
12 distributors, including Hydro Ottawa, will then seek Board approval for an associated
13 charge to pass these costs through to end-use customers. To the extent that there are
14 differences between the amount charged by the IESO to Hydro Ottawa and the amount
15 Hydro Ottawa bills to its customers, Hydro Ottawa proposes to track these differences in
16 a variance account for future disposition.

17
18 While it may seem premature to seek this variance account prior to the Board approving
19 SMCs for the IESO, it is expected that this approval will occur in the timeframe prior to
20 the final adjudication of this application. Once the IESO files its application, if the Board
21 does not initiate a generic proceeding to develop the SMCs that distributors will charge
22 their customers, Hydro Ottawa may amend this application to seek approval for such
23 SMCs.

24
25 **1.4 Variance Account for Recovery of Late Payment Charge Payment**

26
27 Exhibit I3-1-1 describes a one-time cost for the settlement of a class action lawsuit
28 against Ontario’s electricity distributors related to the 5% late payment charge applied to
29 customer accounts until 2001. As part of this settlement, Hydro Ottawa would make a
30 payment to a local charity who will distribute the money to assist customers to pay their
31 electricity bills. Hydro Ottawa has proposed that the Board hold a generic proceeding to



- 1 determine whether the settlement costs are recoverable from customers and the method
- 2 of recovery. Hydro Ottawa has further proposed that differences between the total
- 3 payment to the local charity and any amount billed to customers be recorded in a
- 4 variance account for future disposition.



SMART METERS

1.0 SMART METER INVESTMENT PLAN

Hydro Ottawa Limited's ("Hydro Ottawa") implementation of the Province's Smart Meter Initiative ("SMI") remains on track to be completed by the end of 2010. As of December 31, 2009, 267,516 residential, 21,693 general Service < 50 kW, 2,041 meters for demand customers and 902 collectors have been installed. Table 1 illustrates the actual and forecasted deployment results for the five-year initiative.

Table 1 – Number of Meters Installed Each Calendar Year

	Customers at Dec. 31, 2010 Smart Meters	2006 # meters Actual	2007 # meters Actual	2008 # meters Actual	2009 # meters Actual	2010 # meters Forecast	Total
Residential	273,392	96,570	70,694	73,798	26,454	5,292	272,808
G.S.<50kW	23,504	765	5,606	10,269	5,053	1,678	23,371
Demand Customers.	3,339	235	137	894	775	713	2,754
Collectors ¹		58	327	343	174	400	1,302
TOTAL	300,235	97,628	76,764	85,304	32,456	8,083	300,235
% complete		32.5%	25.6%	28.4%	10.8%	2.7%	100%

By the end of 2010, it is expected that meters will have been fully deployed to all customers and approximately 50% will be registered with the provincial meter data management and repository ("MDM/R"). Many customers will have received their first time-of-use ("TOU") bill in 2010 and all customers will be on TOU rates by the end of the second quarter of 2011. Most of the capital investments and data management infrastructure will have been completed by the end of the third quarter of 2010. As such, Hydro Ottawa considers that its Smart Meter project will be substantively complete by

¹ Collectors are essentially specialty meters that meter an individual premise and also collect meter data from surrounding meters. They are deployed on all classes of customers. Previously, Hydro Ottawa has reported the collectors as part of the meters deployed by class. However, the Board has previously requested that collectors be shown separately because of their higher unit costs. Therefore, for this exhibit, Hydro Ottawa has shown the collectors as a separate grouping.



1 the end of 2010. On this basis, Hydro Ottawa is applying to include all of its Smart Meter
2 capital additions from 2006 to 2010 in the 2011 rate base. The capital additions from
3 2006 to April 30, 2007 were included in the 2008 rate base. Ongoing expenditures for
4 2011 metering will be treated as part of normal business and are discussed in Exhibit
5 B4-4-1.

6 7 8 **2.0 CAPITAL ADDITIONS²**

9 10 **2.1 Overall Capital**

11
12 Table 2 provides the 2006, 2007, 2008 and 2009 Actual, and 2010 Budgeted capital
13 additions for Smart Meters.

14
15 **Table 2 – Capital Additions by Calendar Year (\$000)**

	2006 Actual³	2007 Actual	2008 Board Approved⁴	2008 Actual	2009 Actual	2010 Budget	Total
Total	\$16,430	\$11,390	\$9,684	\$14,572	\$7,106	\$4,876	\$54,374

16
17 Hydro Ottawa's plan has been to complete the mass deployment of meters first in areas
18 in which meters were predominately outside, easy to access and with few modifications
19 required. The capital expenditures are higher in the first three years of the
20 implementation during this mass deployment because of the quantity of meters installed.
21 Most installations were completed by a contractor in this period. In 2007, fewer meter
22 installations were completed than originally planned as Hydro Ottawa refined its
23 installation practices for older parts of the city and changed installation contractors (see

² Capital additions reflect the capitalization of the asset and therefore are capital expenditures adjusted by the year over year changes in construction work in progress.

³ As part of the Smart Meter Proceeding EB-2007-0063, the Board determined that smart meter credits of \$2,896,862 earned through 2006 meter purchased should be recorded as an offset to the 2006 capital even though the credits were not used until 2007. These capital additions do not reflect this adjustment in order to reconcile the numbers to Hydro Ottawa's financial system; however, in calculating the balance in account 1555, this adjustment has been done.

⁴ This was included in the 2008 Smart Meter rate adder.



1 Section 2.3). Therefore, in 2008 the capital spending was higher than budgeted to bring
2 the meter installations back on track. This had the benefit of smoothing the spending
3 between 2007 and 2008. The Smart Meter variance accounts track any differences
4 between budgeted and actual spending.

5
6 In 2009, and now in 2010, deployment returns to locations that could not be accessed
7 during the mass deployment, usually through pre-arranged appointments across the
8 whole service area. The pace of implementation has therefore slowed, and unit costs of
9 installation have increased as work proceeds on meters that are difficult to access.

10
11 Hydro Ottawa planned capital additions for 2010 include the following:

12	Residential and GS < 50 kW classes	\$1,874,597
13	Collectors	\$ 399,518
14	Demand Customers	\$ 445,783
15	Integration to provincial MDM/R	\$2,073,489
16	TOU Web Enhancements	<u>\$82,126</u>
17	Total	\$4,875,513

18
19 The capital additions of \$2,073,489 for integration to the provincial MDM/R are from
20 capital expenditures that occurred in prior years, but the assets were not capitalized until
21 2010 and therefore are included in the 2010 capital additions. This includes systems
22 work for Hydro Ottawa's Advanced Metering Infrastructure management tool ("AMI MT")
23 as well as other systems changes for integration to the provincial MDM/R. The AMI MT
24 converts the metering data into the format required by the provincial MDM/R and is a
25 quality assurance tool to identify and manage exception reporting for the meter data and
26 to track and respond to any meter errors. Hydro Ottawa has also built an operational
27 data integrator ("ODI") for managing meter readings and made investments for a storage
28 area network ("SAN") for data storage and transport. The AMI MT, ODI and SAN are
29 essential tools in managing the volume of information from the field. Hydro Ottawa's
30 systems do not duplicate the functions of the provincial MDM/R. Hydro Ottawa relies on
31 the provincial MDM/R for producing bills in the TOU categories.



1 **2.2 Unit Costs**

2

3 Table 3 shows the per-unit costs for meters, installation and overall for each year in the
 4 categories used in the Smart Meter Proceeding EB-2007-0063.

5

6

Table 3 – Per Unit Costs

Advanced Metering Collection Device Residential and General Service < 50kW						
Costs	2006	2007	2008	2009	2010	Total
Smart Meters	13,674,584	7,610,831	9,294,436	3,583,103	1,129,463	35,292,418
Unit Cost of Meters	140	100	111	114	162	119
Installation	1,716,248	2,768,647	3,359,604	2,750,851	745,134	11,340,485
Unit Cost of Installation	18	36	40	87	107	38
Total Capital Cost Installed Meter	15,390,832	10,379,478	12,654,040	6,333,955	1,874,597	46,632,903
Unit Cost Installed Meter	158	136	151	201	269	157
Work Force Management	838,597	9,112				847,709
Total Capital Costs	16,229,430	10,388,590	12,654,040	6,333,955	1,874,597	47,480,612

Advanced Metering Regional Collector						
Costs	2006	2007	2008	2009	2010	Total
Collectors	53,473	384,929	302,372	152,591	350,783	1,244,148
Unit Cost of Collector	922	1,177	882	877	877	956
Installation	12,133	43,599	56,272	21,200	48,735	181,938
Unit Cost of Installation	209	133	164	122	122	140
Total Capital Costs Installed Collectors	65,606	428,528	358,645	173,790	399,518	1,426,087

Advanced Metering Control Computer⁵						
Costs	2006	2007	2008	2009	2010	Total
Computer Hardware		53,634	5,138	0	0	58,771
Computer Software		79,986	0	0	0	79,986
Computer Software Licence and Installation		319,638	982,788	113,462	2,155,615	3,571,502
Total Capital Costs		453,258	987,925	113,462	2,155,615	3,710,260

AMCD Demand Customers						
Costs	2006	2007	2008	2009	2010	Total
Smart Meters	135,045	88,904	431,935	341,064	313,722	1,310,670
Unit Cost of Meters	575	649	483	440	440	476
Installation		30,281	139,932	143,571	132,061	445,845
Unit Cost of Installation		221	157	185	185	162
Total Capital Costs Installed Meter	135,045	119,185	571,867	484,635	445,783	1,756,515
Total Unit Cost Installed Meter	575	870	640	625	625	638

Total Capital	16,430,082	11,389,561	14,572,477	7,105,842	4,875,512	54,373,473
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⁵ As noted previously, the capital additions for 2010 are almost exclusively related to capital expenditures in prior years for assets not yet capitalized (and therefore were in construction work in progress until 2010).



1 Included within the Residential and General Service < 50kW category are variety of
2 different meter types. Most of the meters are the standard single phase meters. Some
3 residential premises have 400A services and therefore require more expensive meters.
4 Some apartment buildings have 120V/208V services requiring specialized meters.
5 Given Hydro Ottawa's large service area (1,104 square kilometres), some premises are
6 located in remote areas requiring meters with antennae, at an additional cost. For
7 General Service < 50kW customers, many have three phase electrical services requiring
8 the installation of a meter that is capable of reading demand, even though the demand
9 reading is not required. The per-unit cost of meters can therefore increase or decrease
10 depending on the quantity of the different kind of meters being installed. In initial phases
11 of the project, a large percentage of Hydro Ottawa's installations were the simpler less
12 expensive meters. Now at the end of the project, the more complicated metering
13 configurations represent a higher percentage of the total work to be done.

14

15 During 2006, 2007 and 2008, most of the residential installations were being completed
16 by a contractor as part of the mass deployment. With the mass deployment now
17 completed, the remaining installations are being completed at the end of 2009 through
18 2010 by Hydro Ottawa staff because of their complicated nature or difficulties in gaining
19 access. Hydro Ottawa has always indicated that the unit cost of installations would
20 increase as the project continued because the easier installations would have been
21 completed.

22

23 **2.3 Procurement**

24

25 As part of the Smart Meter Proceeding, Hydro Ottawa filed details of its procurement
26 process for the selection of Elster EnergyAxis for its AMI. Hydro Ottawa has continued
27 to use Elster meters throughout the project. Hydro Ottawa worked on joint procurement
28 with other members of the coalition of large distributors (Toronto Hydro Electric System
29 Limited ("THESL"), Enersource Hydro Mississauga, Horizon Utilities, Veridian
30 Connections and PowerStream). All but PowerStream selected Elster for their AMI. The
31 Board deemed that this procurement process was prudent.



1 In 2008, THESL issued a new request for proposal (“RFP”) for metering. From this RFP,
2 THESL obtained a new and reduced per unit pricing arrangement from Elster. Elster
3 agreed to provide this same pricing arrangement to Hydro Ottawa. This is the basis for
4 Hydro Ottawa’s procurement in 2008, 2009 and 2010.

5
6 As part of the Smart Meter Proceeding, Hydro Ottawa also provided details of its
7 procurement process to select an installation vendor. The Board also found this process
8 to be prudent. In 2007, Hydro Ottawa’s installation vendor indicated that they could no
9 longer continue with the contract at the existing pricing. At that time, based on a number
10 of considerations, Hydro Ottawa changed vendors to Honeywell Utility Solutions, the
11 qualified vendor with the next lowest pricing from the initial RFP. This vendor provided
12 excellent services through the remainder of 2007 until the end of 2009.

13
14
15 **3.0 COST BEYOND MINIMUM FUNCTIONALITY**

16
17 Included in the total project spending are installations for customers with demand. As
18 part of the Smart Meter Proceeding EB-2007-0063/EB-2007-0748, the Board determined
19 that Hydro Ottawa’s installation of 328 commercial demand meters to April 30, 2007 was
20 prudent. Hydro Ottawa has continued the installation of commercial demand meters and
21 by the end of 2010 will have installed 2,754 meters. Details of the costs of these
22 installations are shown in Table 3 under AMCD Demand Customers and have been
23 included in the total Smart Meter project cost.

24
25 Hydro Ottawa has installed a number of Smart Meters with the additional functionality of
26 remote disconnection. The decision to install this functionality is based on an internal
27 consideration of the cost/benefit. As such, Hydro Ottawa has not included this cost as
28 part of the Smart Meter program. The total costs to date for Smart Meters with remote
29 disconnects is \$399,077.



4.0 OPERATIONS, MAINTENANCE AND ADMINISTRATION (“OM&A”)

In 2010, Hydro Ottawa expects to focus on the transition to TOU billing. This is an extremely significant change for customers and the employees charged with supporting the ‘meter to cash’ and customer functions. As such, additional resources and effort have been assigned to manage this change. In addition, operating and maintaining the AMI is a new accountability. New skills and resources are required to ensure the accuracy and timeliness of the daily collection of over seven million meter readings and to manage effective interactions between Hydro Ottawa’s AMI, Customer Information System and the provincial MDM/R.

Table 4 summarizes the OM&A costs for the project from 2007 to 2010 (Hydro Ottawa did not record any OM&A costs in 2006). The OM&A account grouping is shown in brackets for each cost.

Table 4 – Operating Maintenance and Administration (“OM&A”)

Costs	2007 Actual	2008 Board Approved	2008 Actual	2009	2010	Total
Labour and benefits (O&M)	188,025	274,838	102,745	251,255	732,686	1,274,711
Outside Services (O&M)	0		76,975	193,454	380,000	650,430
Training / Change Management Cost (Administration)	2,535		7,892	97,127	461,000	568,554
Miscellaneous Administration (Administration)	82,144	10,620	29,741	45,689	55,215	212,789
Telephony / Data Communications (O&M)	201,153	199,560	368,440	356,565	410,000	1,336,159
Customer Communications (Administration)	54,995	200,000	53,138	4,893	214,000	327,026
IT maintenance contracts/software (Administration)	74,298	55,000	76,680	180,787	592,806	924,570
Total Operating Costs	603,150	740,018	715,611	1,129,772	2,845,707	5,294,239

Hydro Ottawa’s actual OM&A spending for 2008 was very close to the amount included in Hydro Ottawa’s 2008 Electricity Distribution Rate (“EDR”) Application. The labour category has now been broken down to reflect outside services including contract



1 employees. Included within outside services are costs for repairing customer-owned
2 property as a result of meter deployment. The amount for this work was less than \$100k
3 each year. For 2009, Hydro Ottawa began developing comprehensive plans for the roll
4 out of TOU rates. Additional staff, both permanent and on contract, was added to
5 support the initiative. The volume of data being managed increased significantly as
6 more meters were converted and additional staff was required to manage and analyze
7 the data.

8
9 For 2010, the activity related to change management and customer communications is
10 increasing significantly. In late 2009, Hydro Ottawa formed a dedicated team for change
11 management to document process changes and identify impacts, develop and
12 implement training, communicate to staff and ensure external communications are
13 coordinated with the roll out. An overall customer communications plan has been
14 developed including materials such as a welcome package to TOU rates. The welcome
15 package directs customers to the web site developed as part of this project that will
16 assist customers in understanding their bill and reviewing their consumption.

17
18 Starting in 2009 and increasing in 2010 are the costs of information technology
19 maintenance contracts including new Oracle software required for TOU, web services
20 support, contracts with IBM for supporting integration to Hydro Ottawa's customer
21 information system ("CIS"), support for an upgrade to Hydro Ottawa's settlement system
22 (Lodestar) and a support contract for the Elster system.

23
24 Hydro Ottawa continues to use the Smart Meter variance accounts to track differences
25 between actual and forecast amounts, with accrued interest.

26
27 The OM&A from Table 4 does not include any OM&A costs related to transaction costs
28 or fees for the use of the provincial MDM/R because these costs/fees are not yet known.
29 However, as included in Exhibit I1-1-3, Hydro Ottawa is seeking the Board's approval for
30 a new account related to any Smart Meter charges it may receive from the Independent
31 Electricity System Operator ("IESO").

32



1 **5.0 2011 METERING**

2

3 With the roll out of TOU rates in 2010, Hydro Ottawa considers the Smart Meter program
4 substantively complete. Therefore all 2011 costs have been included as part of regular
5 business. For example, a discussion of 2011 capital expenditures for metering can be
6 found in Exhibit B4-4-1.

7

8

9 **6.0 VARIANCE ACCOUNTS 1555 and 1556**

10

11 **6.1 Determination Balances**

12

13 As discussed in Exhibit I1-1-2, Hydro Ottawa has determined the balances in Accounts
14 1555 and 1556 by calculating the revenue requirement for each year resulting from the
15 Smart Meter spending and netting this with the amounts collected from customers from
16 the Smart Meter Rate Adders. A sub-Account of 1555 is also used to record stranded
17 meter costs as discussed in Section 6.2 below.

18

19 The total balance in Accounts 1555 and 1556 at December 31, 2009, excluding stranded
20 meters, was \$1,891,171. Table 5 shows the details for these balances. Hydro Ottawa
21 recorded the return on capital net of the recoveries from customers in Account 1555 and
22 the OM&A, depreciation expense, PILs and carrying charges in Account 1556. Hydro
23 Ottawa is not seeking to clear these balances at this time as explained in Exhibit I1-1-2
24 Section 2.1, but is seeking the Board's determination that the spending underpinning
25 these balances has been prudent.

26

27 As noted in Table 5, as part of Hydro Ottawa's 2008 EDR Application, the Board
28 approved the inclusion in the 2008 rate base of Hydro Ottawa's Smart Meter costs to
29 April 30, 2007 of \$15.7 million. As a result, the 2008 assets were reduced by that
30 amount for the purposes of the revenue requirement calculation and the opening
31 balance for 2008 was set to zero.

32



1

Table 5 – Calculation of Revenue Requirement

Item	2006	2007	2008	2009
Investment in Smart Meters	\$13,533	\$27,820	\$42,392	\$49,498
Approved in EDR Rate Base to 2007/04/30			15,724	15724
Smart Meters Investment not in rate base	13,533	27,820	26,668	33,773
Accumulated Amortization	465	402	1,819	4,011
Net Book Value	13,068	27,418	24,849	29,763
Average Net Book Value Investments not in rate base	6,534	20,243	12,424	27,306
Return on Rate base debt	206	617	579	856
Return on Rate base equity	235	705	634	941
Add:				
OM&A		603	716	1,130
Depreciation Expense	465	1,416	1,381	2,192
Carrying Charges		(17)	(65)	(21)
PILs	101	385	174	311
Revenue Requirement	1,007	3,710	3,419	5,410
Less:				
Funding collected in rates	1,011	4,482	4,651	5,292
Net Entry to 1555 and 1556	(4)	(772)	(1,232)	117
Closing Balance 1555 and 1555 ⁶				(\$1,891)

2

3 **6.2 Stranded Meters**

4

5 When a Smart Meter replaces a conventional meter that has not been fully amortized,
6 the conventional meter becomes stranded. The Decision related to the Smart Meter
7 Proceeding, issued August 8, 2007 states “The Board also accepts that stranded costs,
8 properly calculated, are recoverable”, and goes on to say, “Many of the utilities
9 suggested that at the present time, the stranded costs associated with existing meters
10 should stay in rate base. The Board accepts this proposition. Utilities can, if they
11 choose, bring forward applications for the recovery of stranded costs in their 2008
12 rates”.⁷

13

⁶ Not including stranded meters

⁷ Pgs. 15 & 16, Decision with Reason, Smart Meter Proceeding, August 8, 2007



1 As part of the 2008 EDR Application, the Board approved the amortization of these
 2 stranded meters over a six year period. Table 6 shows the yearly disposal of meters,
 3 proceeds on sale of meters, and the recovery from amortization. As part of this
 4 application, Hydro Ottawa is proposing to amortize the remaining balance over the
 5 period ending December 31, 2013.

6
 7

Table 6 – Stranded Meters (\$000)

	Gross Asset	Accumulated Amortization	Net Asset	Proceeds	Contributed Capital	Recovery	Balance
Meters removed in 2006	\$12,031	(7,161)	4,870	(93)	-	-	\$4,777
Meters removed in 2007	9,567	(4,531)	5,036	(54)	-	(623)	9,136
Meters removed in 2008	19,021	(11,689)	7,332	(72)	(1,419)	(2,026)	12,951
Meters removed in 2009	4,549	(2,695)	1,854	(8)	-	(3,039)	11,758
Meters to be removed in 2010	623	(387)	236	-	-	(3,039)	8,955
TOTAL	\$45,791	(26,463)	19,328	(228)	(1,419)	(8,726)	

8

9 Since 2007, when the initial gross asset for stranded meters was assessed, there has
 10 been further refinement of the cost pool that represents stranded meters. The meter
 11 asset pool initially contained wholesale meters, interval meters and conventional meters
 12 that had to be separated. An initial analysis was performed at the outset of the program
 13 which has been refined, resulting in a small change to the allocation between the three
 14 classes of meter assets. The accumulated amortization has also been updated to reflect
 15 the actual schedule of meter removals. As discussed in Section 2.1, Hydro Ottawa
 16 installed fewer meters in 2007, and more in 2008, than originally planned. As a result,
 17 there was additional amortization accumulated to the meter pool before the meters were
 18 removed so that the net stranded asset is approximately \$1M lower than initially forecast
 19 in 2007. By the end of 2010, all conventional meters will have been removed and



1 recorded as a stranded asset and therefore the final balance remaining to be recovered
2 from 2011 to 2013 can be precisely forecast.

3

4

5 **7.0 FILING REQUIREMENTS**

6

7 As required by the Filing Requirements for Transmission and Distribution Rate
8 Applications, Chapter 2, Table 7 provides details of Hydro Ottawa's Smart Meter
9 activities in the format set out in Appendix 2-S.



**Table 7
 Smart Meter Activity**

Year	Smart Meters Installed				Accumulated Percentage of applicable customers converted (%)	Account 1555		Account 1556
	Residential	GS < 50 kW	Collectors ¹	Demand Customer		Funding Adder Revenues Collected	Capital Additions ²	Operating Expenses
2006	96,570	765	58	235	32.5%	\$1,010,867	\$16,430,082	\$0
2007	70,694	5,606	327	137	58.1%	4,481,727	11,389,561	603,150
2008	73,798	10,269	343	894	86.5%	4,651,361	14,572,477	715,611
2009	26,454	5,053	174	775	97.3%	5,292,458	7,105,842	1,129,772
2010 Forecast	5,292	1,678	400	713	100.0%	6,015,380	4,875,512	2,845,707
Total	272,808	23,371	1,302	2,754	100.0%	\$21,451,793	\$54,373,473	\$5,294,239

¹ With the Elster AMI, collectors are deployed throughout the city in place of meters at specific customers. Therefore to reflect the true number of customers that have been converted, collectors must be considered like a meter.

² Hydro Ottawa has expressed this as capital additions instead of capital expenditures because that is how entries to Account 1555 were determined. Capital additions are net of construction work in progress and therefore reflect an asset that is used and useful.. In July 2007, meters were received at no cost. As determined by the Board, for the purposes of determining the balance in 1555 to be cleared, meter credits of \$2,896,862 were credited to 2006 and debited to 2007. This does not affect the overall cost of the program, only the timing of the costs.



RECOVERY OF LATE PAYMENT SETTLEMENT COSTS

1.0 BACKGROUND

1.1 Electricity Distribution Charges Prior to Industry Restructuring

Prior to the restructuring of the electricity industry introduced in 1998, electricity distribution in Ontario was primarily undertaken by municipally owned hydro-electric utility commissions (“MEUs”) and Ontario Hydro. The rates charged by MEUs were “subject to the approval and control” of Ontario Hydro pursuant to Section 113 the Ontario *Power Corporation Act*. The Act made it an offence to charge rates other than those approved by Ontario Hydro. Ontario Hydro was therefore the regulator of rates charged by MEUs.

As part of the rate setting process, in the 1990s, Ontario Hydro issued guidelines to MEUs for acceptable rates and charges to be charged to customers. For example, the “1998 Regulatory Guidelines For Ontario Municipal Electric Utilities” issued in September 1997 by Ontario Hydro set out service charges. Some charges were indicated as being discretionary. However, the guideline also set out the following:

- “Late Payment Charge – This charge shall be adopted by all utilities to ensure uniformity in the approach to late payment.
- A one-time charge – 5% of outstanding amount”

Hydro Ottawa Limited (“Hydro Ottawa”) and its predecessor hydro-electric commissions relied in good faith upon the validity of these guidelines and the rates approved by Ontario Hydro pursuant to these guidelines. Hydro Ottawa and its predecessor commissions would have sought to recover costs related to the late payment of bills in another manner if the late payment charges were not permitted.



1 **1.2 Challenge to Late Payment Charges**

2
3 In 1981, the Federal Parliament amended the *Criminal Code* (section 347) to render it a
4 criminal offence to receive an interest payment at an effective rate of interest exceeding
5 the annual amount of 60 percent. The prohibition was broadly drafted to apply to any
6 “fee, fine, penalty, commission or other similar charge or expense” payable for the
7 advancing of credit.

8
9 In 1994 and 1998, a series of class actions were launched against utilities claiming that
10 late payment charges imposed by these utilities violated the *Criminal Code* prohibition
11 and should be reimbursed. One action was brought by Gordon Garland against the
12 Consumers’ Gas Company (now Enbridge) on behalf of all customers in Ontario.

13
14 Another class action was brought against Union Gas on behalf of its customers. A class
15 action was also initiated in 1998 against the Toronto Hydro-Electric Commission (now
16 Toronto Hydro-Electric System Limited) (referred to as “Toronto Hydro”) as
17 representative of all MEUs in Ontario (including the MEU predecessors to Hydro
18 Ottawa). An action had been filed against Toronto Hydro on its own in 1994 and this
19 was replaced by the class action in 1998. The action against Consumers’ Gas (now
20 Enbridge) went forward and other class actions were held in abeyance pending the
21 result of the Enbridge class action.

22
23 In 1998, the Supreme Court of Canada ruled that late payment charges imposed by
24 Consumers’ Gas violated section 347 of the Criminal Code. This was based on the
25 determination that when a payment was made within 38 days of the due date, a
26 customer was paying in excess of 60 percent per year. In 2004, the Supreme Court of
27 Canada ruled that late payment charges collected by Consumers’ Gas after April 1994
28 were to be reimbursed to the extent that the rates collected exceeded a 60 percent rate
29 of interest.

30



1 In 2006, Enbridge settled the class action for a total payment of \$21.2 million, including a
2 donation of \$9 million to the Winter Warmth Fund. Enbridge also paid \$10.2 million for
3 the plaintiff's legal fees and expenses and \$2 million to the Class Proceeding Fund
4 operated by the Law Foundation of Ontario.

6 **1.3 Settlement Agreement**

7
8 Given the decision of the Supreme Court of Canada in the case involving Enbridge, the
9 Electricity Distributor's Association ("EDA") entered into negotiations with the plaintiff
10 related to the late payment charges received by electricity distributors after the class
11 proceeding was commenced in 1998 until the practice of charging 5% late payment
12 penalties was discontinued effective in 2001.

13
14 On March 2, 2010, the EDA informed distributors of a tentative settlement in the class
15 action. The settlement involves payment of \$18,382,125 by all utilities that had imposed
16 the 5% late payment charges. All distributors have opted to accept this settlement and
17 the Offer to Settle has been officially accepted by the plaintiffs via their counsel. Hydro
18 Ottawa's share would involve payment of \$1,025,974.83 (including \$3,321.84 in respect
19 of Casselman Hydro whose service area is now licensed by Hydro Ottawa). The
20 payment of the settlement funds would be due on June 30, 2011. This is inclusive of all
21 of the costs that Hydro Ottawa expects to incur related to this issue, except possibly for
22 future interest charges after June 30, 2011.

23
24 The parties have recognized that it would be virtually impossible for utilities to assess
25 amounts payable to individual customers. The settlement involves payment of funds
26 (less applicable legal costs in the litigation) to a local charity involved in low-income
27 energy assistance programs still to be determined (such as the Winter Warmth Fund
28 operated by the United Way for Ottawa and Casselman). Administrators of these
29 programs will be required to report on the use of the funds and will be required to
30 provide explanations where administrative costs of programs exceed 9.6 percent.

31



1 **2.0 PROPOSED RECOVERY FROM CUSTOMERS**

2

3 **2.1 Proposed Approach for Cost Recovery**

4

5 The payment of settlement funds is scheduled for June 30, 2011. Hydro Ottawa is
6 proposing that the Ontario Energy Board (the “Board”) hold a generic hearing in 2010 to
7 determine if the costs incurred from this settlement are recoverable from customers. If
8 the Board determines that it will not hold a generic proceeding on this issue, Hydro
9 Ottawa may amend this application.

10

11 Hydro Ottawa proposes that, if the recovery of settlement costs is approved, the
12 recovery be through a monthly fixed charge rate rider on distribution rates over 12
13 months from January 1, 2011 to December 31, 2011 for distributors with distribution
14 rates effective January 1, 2011, and from May 1, 2001 to April 30, 2012 for all other
15 distributors, including those on the incentive regulation mechanism (“IRM”).

16

17

18 **2.2 Enbridge Decision**

19

20 In its Decision for EB-2007-0741, the Board approved an application by Enbridge to
21 recover settlement costs of its late payment penalty litigation in similar circumstances. In
22 this Decision, the Board addressed a number of questions as follows:

23

24 *Were the costs prudently incurred?*

25 The Board accepted that Enbridge had been prudent in its approach, including the
26 settlement. “The Board concludes that the costs were prudently incurred.”¹

27

28 *Are the costs a form of forecast variance?*

29 The Board agreed that the settlement costs were not part of a forecast error or variance
30 normally covered by the risk premium in the deemed return on equity. “The Board

¹ EB-2007-0731, Decision Page 11



1 concludes that these costs do not represent a forecast error or forecast variance to be
2 borne by shareholders.”¹

3

4 *Would recovery of these costs be retroactive ratemaking?*

5 The Board agreed that recovery of settlement costs did not constitute retroactive rate-
6 making. “The Board does not agree that recovery of the costs would result in retroactive
7 ratemaking. Enbridge is not seeking to recover past costs or to change prior rates; it is
8 seeking to recover costs arising from settling a dispute related to a finding that past
9 Board orders were legally invalid, and it is seeking to do so at the first practical
10 opportunity after the costs were incurred.”²

11

12 *Should any adjustments be made to the amount?*

13 One proposal was to adjust the amounts if the actual amount collected was higher than
14 forecasted. The Board concluded that requiring any adjustments would constitute
15 retroactive rate-making. “Enbridge and its shareholders do bear the risks related to the
16 cost and revenue forecasts underpinning the rates. The Board has already determined
17 that the settlement costs do not represent a forecast risk and that the recovery of the
18 settlement costs does not represent retroactive ratemaking. Therefore there is no
19 justification for the adjustment proposed; such an adjustment would be retroactive
20 ratemaking.”³

21

22 *What is the appropriate disposition (allocation and recovery period) of the account?*

23 Enbridge proposed that the allocation would be based on customer numbers and the
24 Board agreed. “The Board accepts the proposed allocation method. This allocation
25 method reflects the allocation of the LPP revenues and is therefore appropriate.”⁴

26

27 Furthermore the Board recognized that additional interest would accrue on the balance
28 until it was cleared, and approved a shorter recovery period than originally sought. “The

¹ EB-2007-0731, Page 12

² *ibid*, Page 12

³ *ibid*, Page 13

⁴ *ibid*, Page 13



1 estimated impact for a five year recovery period would be about \$2.70/year for a
2 residential customer. The method of recovery is consistent with the way in which late
3 payment revenues were collected from customers. The Board finds there is no
4 significant ratepayer benefit in terms of reduced impact to extending the period of
5 recovery to as long as eight years, and that there are benefits in terms of simplicity and
6 efficiency to aligning the recovery to the period of the incentive rate mechanism as well
7 as reduced interest expense for the ratepayers.”¹

9 **2.3 Prudence of Costs Incurred**

10
11 Hydro Ottawa has acted prudently in accepting this settlement proposal and therefore
12 any costs should be considered prudently incurred. While the class action named
13 Toronto Hydro, it was as a representative of all MEUs. Therefore Hydro Ottawa is a
14 member of the proposed defendant class in the class action. It is reasonable to allocate
15 all costs, including the settlement costs, to all members of the defendant class. In light
16 of the analogous proceedings involving Enbridge, it was also reasonable for all parties to
17 agree to defer the proceedings pending the disposition of matters in the Enbridge action,
18 so as to avoid additional costs. Some costs were reasonably incurred in intervening in
19 the Enbridge action in support of the interests of the hydro-electric commissions and
20 their successor local electricity distribution companies. The amount of the settlement
21 and associated legal costs payable to the plaintiff will be subject to court approval under
22 the *Class Proceedings Act, 1992*, which is expected to occur on July 16, 2010. These
23 costs are all included in the settled amount of \$1,025,974.83 for Hydro Ottawa.

24
25 Once advised by the Board in November 2000 of concerns over the validity of late
26 payment charges, in its next rate application, Hydro Ottawa sought a revised method for
27 charging customers for the late payment of bills.

28

¹ EB-2007-0731, Page 13, 14



1 **2.4 Development of Rate Rider**

2
3 Consistent with the Enbridge Decision, Hydro Ottawa proposes that costs be allocated
4 on the basis of customer numbers. This is a reasonable proxy for the distribution of late
5 payment charges across classes, and furthermore, the funds provided to the selected
6 charity are expected to be used by low income consumers in the residential class. A
7 rate rider could be developed on a generic basis for all distributors, or each distributor
8 could calculate the rate rider based on a common methodology. Hydro Ottawa proposes
9 that this methodology be to divide the settlement amount by the average number of
10 customers forecast for 2011 for those distributors filing cost of service rate applications,
11 and by the most recent actual number of customers for distributors filing IRM
12 applications; all divided by 12 months. The late payment charges associated with
13 unmetered scattered load, streetlighting and sentinel lights are negligible, and therefore
14 would not be included in this calculation.

15
16 The impact of the resultant charge would be significantly less than the impact approved
17 by the Board for Enbridge and therefore the one year recovery period is appropriate.

18
19
20
21 **3.0 VARIANCE ACCOUNT**

22
23 Hydro Ottawa proposes that any differences between the amount paid to the local
24 charity as part of the settlement agreement and the amount billed to customers for the
25 period January 1, 2011 to December 31, 2011 through the rate rider be recorded in a
26 variance account for future disposition. Hydro Ottawa further proposes that interest
27 would accrue on this variance account. This is discussed in Exhibit I1-1-3.

28
29
30 **4.0 TIMING OF APPLICATION**

31
32 Hydro Ottawa has recommended that this matter be decided by way of a generic
33 proceeding. Hydro Ottawa and some other distributors are applying to have distribution



1 rates effective on January 1, 2011. Hydro Ottawa is therefore requesting that, should
2 the Board commence a generic proceeding, it be timed such that any rate riders
3 approved for the recovery of the settlement costs could commence on January 1, 2011
4 for those with distribution rates effective the same date. Hydro Ottawa anticipates that
5 the court will render its decision on the settlement agreement on July 16, 2010. A
6 generic proceeding could therefore commence after this date.

7

8 The settlement sets out a payment date of June 30, 2011. A rate rider recovering this
9 cost from January 1, 2011 to December 31, 2011 will ensure that any interest accrued
10 on amounts outstanding is nominal. A reduced interest expense to ratepayers was one
11 of the Board's reasons for approving a shorter recovery period for Enbridge as part of
12 proceeding EB-2007-0741.