RATE BASE

1.0 INTRODUCTION

This exhibit provides Hydro Ottawa's distribution rate base forecast for 2008. In accordance with the Board Filing Requirements, 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 allowance. Net fixed assets are gross assets in service minus accumulated amortization and contributed capital. Table 1 shows the calculation of the 2008 Rate Base.

Table 1 – 2008 Rate Base[1]

	2008	
	Adjustment $000	**Rate Base $000**
2007 closing net asset balance		$478,093
2007 Construction Work in Progress ("CIP") 2008 capital expenditures (net of contributed capital) 2008 CIP 2008 deletions	16,230 66,451 (17,049) 0	
2008 capital additions (net of contributed capital)	65,632	
2008 Amortization	(43,754)	
Net Additions		21,878
2008 closing net asset balance		499,971
2008 average net asset balance		489,032
Working Capital Allowance		92,733
Total 2008 Rate Base		$581,765

Note:
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 For audited financial statements, meters that have been replaced by Smart Meters have been removed from fixed assets.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.

Table 2 shows the capital expenditures by year for the same asset grouping used for the 2006 EDR Application.

Table 2 – Capital Expenditures

Capital Expenditures	2006 Approved with SM[1] $000	2006 Actual $000	2007 Estimate $000	2008 Forecast $000
Land and Buildings	$1,149	$1,994	$2,681	$3,504
TS Primary Above 50	6,948	4,669	9,791	13,479
DS	2,935	2,370	2,972	4,422
Poles, Wires	24,348	31,276	27,054	24,264
Line Transformers	8,918	11,303	9,049	6,807
Services and Meters	25,630	24,901	26,000	18,066
General Plant	3,699	2,708	2,506	2,103
Equipment	4,312	5,366	4,399	3,002
IT Assets	8,175	8,391	9,063	5,060
CDM Expenditures and Recoveries[2]	1,420			
Other Distribution Assets	3,767	2,359	1,053	1,089
TOTAL	$91,298	$95,337	$94,568	$81,796
Contributed Capital[2]	(6,782)	(20,029)	(15,022)	(15,345)
Net Capital Expenditures	$84,516	$75,309	$79,546	$66,451

Notes:
1. Smart Meters
2. 2006 Actual CDM Expenditures and Recoveries are included in the specific asset accounts.

Detailed explanations of material variances between 2006 Actual and 2006 Approved capital expenditures are contained in Exhibit B2-2-1, and justifications for material capital expenditures in 2006 are contained in Exhibits B2-3-1 and B2-3-2. Detailed explanations of material variances between 2007 Estimate and 2006 Actual capital expenditures are contained in Exhibit B3-2-1, and justifications for material capital expenditures in 2007 are contained in Exhibits B3-3-1 and B3-3-2. Hydro Ottawa's capital spending is based on balancing the need to invest in aging infrastructure, providing new distribution facilities to serve customers and maintaining a stable budget, as per the Budget Guidelines in Exhibit A2-2-1. When adjusted for Smart Meters and the change in capitalization estimates, as outlined in Exhibit B1-3-1, capital expenditures have remained relatively stable at $72M for 2007 and going forward, as can be seen in Table 3.

Table 3 - Capital Spending

	$M	$M	$M	$M
	Gross	Smart Meters	Capitalization[1]	
2006 Actual	95	16.4		78.6
2007 Estimate	95	16.9	6.5	71.6
2008	82	9.7		72.3
2009	78	6		72
2010	74	2		72

[1] The effect of the change in capitalization estimates for 2006 is not available.

CAPITAL PLANNING PROCESS

1.0 CAPITAL BUDGET STRUCTURE

Hydro Ottawa's capital budget is organized into three capital programs: distribution sustainment, distribution demand and general plant.

1.1 Distribution Sustainment

Sustainment expenditures are done to enhance, strengthen or support the Hydro Ottawa distribution system so it will continue to function as intended. 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 expenses are grouped into larger programs for ease of planning and tracking. Table 1 is a summary of sustainment activities for 2008 by both capital program and budget program. Each capital program has a number of budget programs associated with it.

Stations New Capacity programs require planning two to three years in advance of the required in-service date. Due to the complex technical evaluation required, supply and capacity planning is performed separate from the rest of the sustainment planning.

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
Stations Automation	Substation Automation
Distribution Asset	Cable Replacement Program –PILC Risers
	Pole Replacement
	Insulator Replacement Program
	Elbow and Insert Replacement
	Splice Replacement Program
	Distribution Transformer Replacement
	Vault Rehab or Removal
	Civil Rehabilitation Program
	End of Life Cable Works
	Switchgear New and Rehabilitated
	Overhead Equipment New and Rehabilitated
	Plant Failure Capital
Distribution Enhancement	Vault Space Capital Leasing
	Minor Line Extensions
	Major Line Extensions
	System Voltage Conversions
	System Reliability
	Distribution Enhancements
Distribution Automation	Distribution Automation
System Operations Automation	SCADA Upgrades
	RTU - Additions

1.2 Distribution Demand

Demand capital expenditures are incurred to satisfy requests from external parties for connection to, or relocation of, Hydro Ottawa's distribution system plant, or to repair equipment damaged by external parties. These activities result in a repair, relocation, change or expansion of the Hydro Ottawa distribution system. External parties may be a regulator, a road authority, a developer or an individual customer. Hydro Ottawa is required to provide timely service for these activities. Many of the demand activities include a financial contribution by the external party. Table 2 is a summary of demand activities for 2008.

Table 2 – Distribution Capital, Demand

Plant Relocation
Residential Subdivision
New Commercial Development
System Expansion
Stations Embedded Generation
Infill Services
Damage To Plant
Metering (IESO Metering Upgrades)

1.3 General Plant

General plant capital expenditures are done to ensure staff have the tools and facilities required to perform their jobs safely and efficiently. Tool replacements are needed to carry out the distribution maintenance and capital program efficiently and effectively. Strategically, the Geographic Information System ("GIS")/Outage Management System ("OMS") project will provide intelligence for planning, managing and recording assets. Operationally, Supervisory Control and Data Acquisition ("SCADA") will improve information and response for system operation/control. Functionally, the IT Strategy (Exhibit B1-2-3), the Facilities Strategy (Exhibit B1-2-4) and the Fleet Strategy (Exhibit

B1-2-5), support the overall operation of the company. These are all inputs to the General Plant Capital Plan. Table 3 is a summary of general plant activities for 2008.

Table 3 – General Plant Capital

GIS/OMS Project (Completed in 2007)
CIS Project
Buildings - Facilities
Fleet Replacement
IT Infrastructure
Tool Replacement Program
PC/Software/Servers
Geographic Resource Management (GRM)

The programs/projects used for budgeting purposes can be related to the grouping used by the Board in the 2006 EDR Proceeding and used in this application, as shown in Table 4.

Table 4 – Programs/Projects and 2006 EDR Groupings

	Land and Buildings	TS Primary Above 50	DS	Poles, Wires	Line Txs	Services and Meters	General Plant	Equipment	IT Assets	Other Distribution Assets
Sustainment										
Stations New Capacity		X	X							
Stations Switchgear Replacement		X	X							
Stations Automation		X	X							
Cable Replacement				X						
Facility Programs - Stations	X									
Major and Minor Line Extensions				X						
Pole Replacement				X						
Stations Enhancements		X	X							
Distribution Transformer Replacement					X					
Plant Failure Capital				X	X					
System Operations Automation										X
Stations Transformer Replacement		X	X							
Distribution Enhancements				X	X	X				
System Reliability		X	X	X	X					X
Stations Plant Failure Capital		X	X							
Insulator Replacement				X						
Elbow and Insert Replacement				X	X					
Vault Rehab or Removal				X						
Distribution Automation										X
System Voltage Conversion				X	X	X				
PILC Risers & Pothead Replace				X						
Switchgear New and Rehab				X						
Civil Rehabilitation Program				X						
Splice Replacement Program				X						
O/H Equipment New and Rehab				X						
Vault Space Capital Leasing	X									

Table 4 – Programs/Projects and 2006 EDR Groupings, continued

	Land and Buildings	TS Primary Above 50	DS	Poles, Wires	Line Txs	Services and Meters	General Plant	Equipment	IT Assets	Other Distribution Assets
Demand										
Smart Meters						X				
Residential Subdivision	X			X	X	X				
Commercial Development	X			X	X	X				
Plant Relocation and Upgrades				X	X	X				
Infill Services						X				
System Expansion				X	X					
Wholesale Meter Upgrade						X				
Damage to Plant		X	X	X	X	X				X
Embedded Generation Projects		X	X							
Remote Disconnected Smart Meters						X				

Table 4 – Programs/Projects and 2006 EDR Groupings, continued

	Land and Buildings	TS Primary Above 50	DS	Poles, Wires	Lin e Txs	Services and Meters	General Plant	Equipment	IT Assets	Other Distribution Assets
Conservation Demand Management										
CDM Parent Project (DIS)		X	X	X	X					
CDM Parent Project (GEN PLANT)										X
General Plant										
CIS Enhancements									X	
Buildings - Facilities							X			
Fleet Replacement								X		
Tools Replacement								X		
Information Services and Technology									X	
GRM System Enhancements									X	
Website Enhancements									X	
New PC and Peripherals									X	
Furniture and Equipment								X		
PC/Peripheral Replacement Program									X	
GIS/OMS/CIS/IVR Integration									X	
GIS Budget Program									X	

2.0 PLANNING PROCESS

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

Traditionally the distribution capital planning and budgeting was done by a core group of individuals in the engineering (Asset Planning) department.

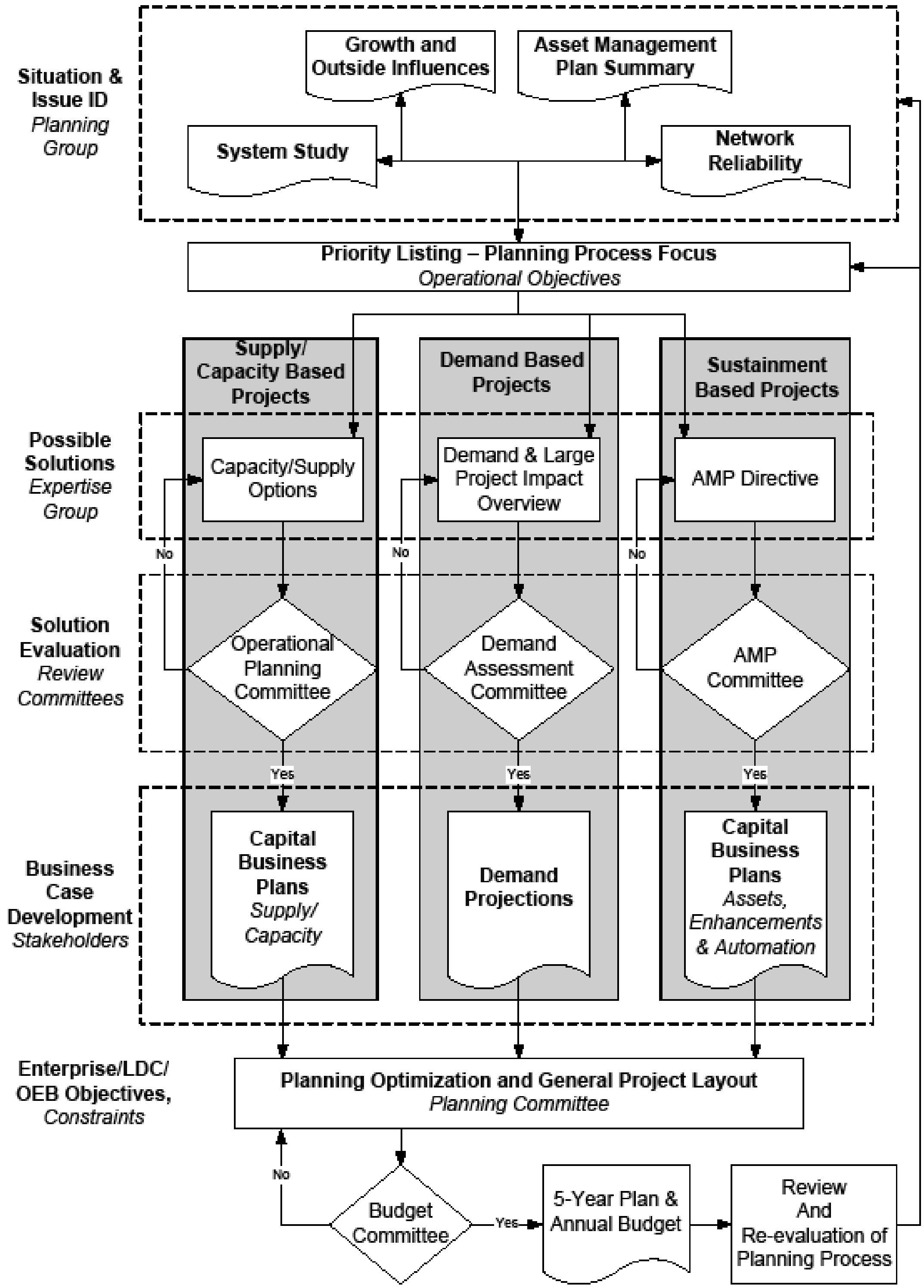
Hydro Ottawa has implemented management systems in other areas of the organization, such as metering (ISO9001), environmental (ISO14001), health and safety (ISO18001 in development) and in the design-construction processes required by Ontario Regulation 22/04. Due to the importance of capital planning, Hydro Ottawa has revised the distribution capital planning process in 2006.

The goals of revising the distribution capital planning process were to:

- formally document the process,
- include in the planning process an evaluation and feedback mechanism for continual improvement,
- disperse the planning and budgeting workload amongst a larger group of staff,
- engage a broader group of staff to formally obtain inter-departmental input and understanding of the process,
- train a larger group of employees on capital planning, and
- centralize documents and records pertaining to planning.

The following flow chart summarizes the distribution capital planning process. Three committees were formed, each focusing on a different portion of the distribution capital budget; capacity and supply, demand and asset sustainment. These committees rely on expertise from key interest areas to provide analysis and business case options for projects that can be used to provide a recommended budget and plan to the Planning Committee. The Planning Committee's function it is to evaluate budget submissions against the corporate objectives, produce a capital plan and document the associated risk. The Planning Committee interacts with the other three committees throughout the planning process. Inputs to the process and process results are clearly recorded.

Planning Process Flowchart



1

The revised planning process was followed for the creation of the three-year 2008 – 2010 capital plan.

In keeping with good management system principles, employees participated in a feedback session to comment on the process's performance for the first year. General feedback was that the process had many benefits such as employee engagement and training, a structured approach and transparency. Recommendations for improvement, such as including a maintenance stream, were brought forward and are being evaluated. Overall the revised process proved successful for the three-year planning process; however, as with all processes, refinements are expected with experience.

2.1 Supply and Capacity Planning

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

The purpose of Supply and Capacity Planning is to ensure that Hydro Ottawa will be capable of supplying both existing and future customer load. Using projections of load demand for proposed major residential and commercial/industrial projects, as well as growth estimates contained within the City's Official Plan, a forecast is developed for peak summer and winter electricity demand, over a 10-year planning horizon. The forecasts are prepared for several different electricity supply areas as defined by geographic area, and the distribution network configuration. (Refer to Exhibit C1-2-1 for further information on the forecasting methodology).

An assessment is made of the current supply capability of the substations and distribution feeders that deliver power into the defined supply areas. The available capacity generally considers a deterministic single contingency outage event, such that in the event of the failure of the largest station transformer, or a feeder, in a particular area, the winter or summer peak loads can continue to be supplied without taxing the system beyond its established ratings. Any planned retirement of plant is also considered in these assessments.
By comparing the available supply capacity, and the forecast load for each area, over a 10-year horizon, the dates at which existing supply may be incapable of meeting the supply criteria can

readily be determined. For the areas in which the available supply is projected to be inadequate in the near term (1-3 years), an expansion plan is developed to address the issue. This consists of evaluating several available options to expand the supply capability in a particular area. Initial evaluation of the technical characteristics, land availability, environmental characteristics, and the capital and operating costs is performed for each of the possible alternatives. For options that are found to be feasible, more detailed analysis is performed to determine an optimal installation from a financial perspective and included in a Five Year Planning process, along with Asset Management Plan inputs, Demand project forecasts and General Plant proposals. This information is used to develop the annual capital program.

2.2 Demand Planning

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

Demand project costs are fully or partially recoverable as described in Exhibit B1-2-2, Section 5.0. Customers must provide Hydro Ottawa sufficient time to appropriately plan, design, and schedule, typically as long as one to two years for major infrastructure projects. Hydro Ottawa must, as required by the Board, provide customers with a timely connection, once all conditions are met.

Demand planning involves forecasting demand activity based on historic trending and a number of external factors, such as developer requests, economic conditions and City works projects. Demand planning contains a fair level of uncertainty as it involves estimating future activity of external parties who do not themselves develop a concrete plan for future years. Hydro Ottawa actively monitors pending demand projects through such activities as participation in the City Utility Coordinating Committee, participation in the City project specific Technical Advisory Committees and by review of development circulations such as Site Plans and Zoning Amendments from the City.

2.3 Sustainment Planning

Sustainment planning supports the Sustainment portion of the distribution capital budget.

Sustainment planning includes the recommendations of the Asset Management Strategy as described in Exhibit B1-2-2. Operational, budgetary and practical implications need to be weighed against the recommendations of the Asset Management Strategy. Sustainment Planning involves review, by asset class, of the recommendations of the Asset Management Plan and the creation of a more detailed plan and budget. For example, if Hydro Ottawa has decided to replace poles each year per the Asset Management Strategy, the sustainment planning activity around pole replacement is to evaluate the number of poles to be replaced based on the plan and other operational requirements, and to then identify the specific poles to be replaced.

Sustainment planning also includes enhancement planning, modification to an existing system that is made for purposes of improving operating characteristics such as reliability or power quality, or for relieving system capacity constraints resulting from general load growth. Enhancement planning involves evaluation of operational concerns identified by staff and system performance issues identified by monitoring performance measures to determine optimal solutions.

2. 4 General Plant Planning

General Plant planning items include the tools and facilities which staff require to perform their jobs safely and effectively. Significant components of the General Plant capital budget for 2008 are described in the following sections:

- Exhibit B1-2-3: IT Strategy,
- Exhibit B1-2-4: Facilities Strategy,
- Exhibit B1-2-5: Fleet Strategy, and
- Exhibit B1-2-6: CIS Version Update Project.

DISTRIBUTION ASSET MANAGEMENT STRATEGY

1.0 INTRODUCTION

Hydro Ottawa's Distribution Asset Management Strategy includes replacements of distribution equipment and additions to the distribution system. The strategy is driven by internal and external factors.

Hydro Ottawa's distribution capital budget is divided into two components: sustainment and demand. The Asset Management Plan is a living document that is used as a guide to develop many of Hydro Ottawa's Sustainment Programs. The Sustainment Strategy is explained in the following sections:

- Sustainment - Asset Management Plan, which includes sustainment programs included in the Asset Management Plan, and
- General Sustainment, which includes all other sustainment programs.

2.0 SUSTAINMENT – ASSET MANAGEMENT PLAN

In 2005, Hydro Ottawa completed the formal documentation around its Asset Management Plan ("AMP"). The 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 AMP recommendations are recommended guidelines, not exact requirements.

Due to the size of the AMP, it has not been included as an attachment to the 2008 EDR Application. Information has been extracted from the AMP and included throughout this document. The 2008 EDR Application and the AMP will be available on Hydro Ottawa's website, www.hydroottawa.com, for any parties interested in referring to the details of the whole plan.

As the AMP recommendations indicated higher levels of replacement than what Hydro Ottawa was performing in 2005, Hydro Ottawa increased replacement levels and investment in 2006, although not to the levels indicated in the AMP. Hydro Ottawa is closely monitoring equipment failure rates to determine the effectiveness of its replacement programs and to determine if another increase in equipment replacement rates is required as the distribution plant ages.

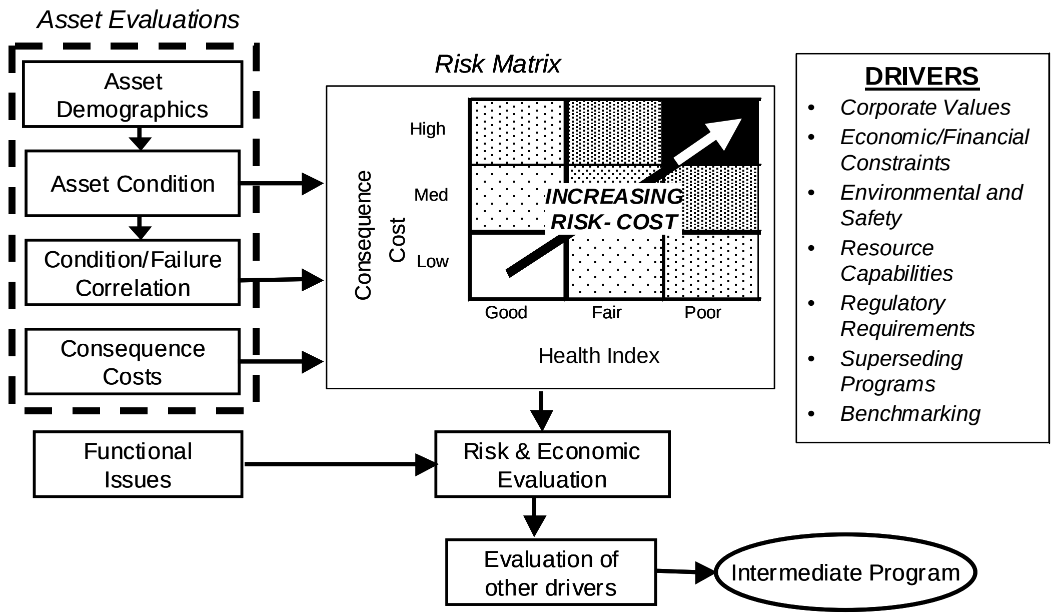
Changes to the Stations Transformer intermediary program are an example of the evolution of the AMP. The stations transformer asset class contains a relatively small number of assets. In 2006 actual test results from all of the station transformers were compiled and evaluated using the AMP, as described in Section 2.4. The revised model recommended replacement levels that were lower than when the assumed data had been used. The AMP will continually evolve as additional information is included and the distribution plant ages.

The following describes, in general, the process used to develop the asset plans for each asset class. Each asset class plan is referred to as an intermediate program. The intermediate program for each asset class addresses the following major objectives:

- Identify a desired level of service and customer costs,
- Develop a long-term, sustainable plan for asset replacement, and
- Provide inputs to the final asset management optimization process, including a cost-benefit analysis consistent with all other assets.

Hydro Ottawa’s asset management process uses relevant information about the asset such as condition, criticality, and cost, along with important drivers from Hydro Ottawa, such as level of service, corporate values, and regulatory requirements, in a quantitative way to develop a program for each asset class. Figure 1 illustrates the process.

Figure 1 – Asset Management Process



The existing utility data was maximized by supplementing the data with engineering estimates where needed, and by benchmarking to industry standards and practices.

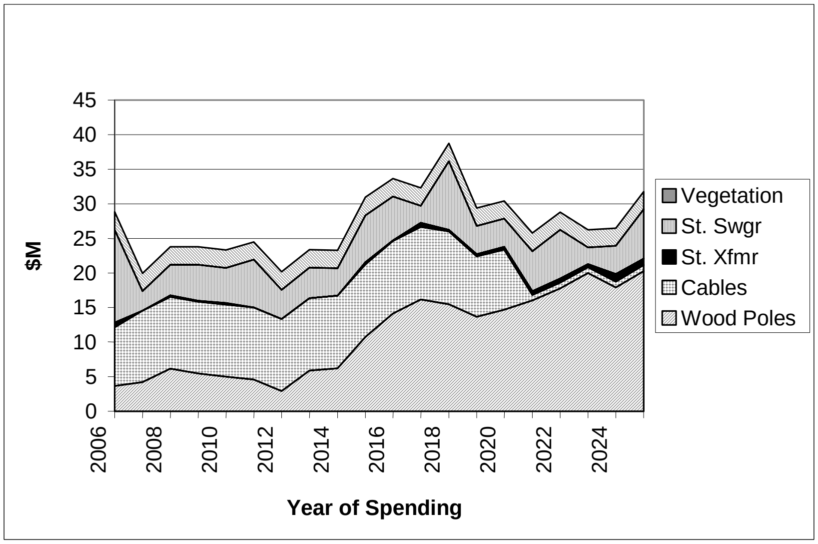
The application of this asset management process for each asset class is instrumental for ensuring desired performance at minimum cost over the long term. It is understood that some assets must be addressed each year in order to minimize life-cycle cost and maintain the value and performance of the entire asset class. The asset management process helps to determine the optimum intervention strategy and provides justification for it.

Each asset program explicitly considers risk in a quantitative way, based on the condition of the assets in the class and the consequences of their failure. Consequences include not only the costs to Hydro Ottawa for repair, but also estimates of the costs to Hydro Ottawa's customers in the form of outages and safety and environmental effects. The program is based on a least-cost method of optimizing the replacement rate.

Inputs related to condition, failure rate, and consequences of failure will continue to be developed. Additional data will produce more precise programs in terms of the optimal intervention strategy as well as the costs of delaying intervention. The process will be significantly enhanced and expanded with the completion of the new Geographic Information System ("GIS") scheduled for final completion in 2007.

An example of the application of this process is shown in Figure 2 for four of Hydro Ottawa's asset classes; Wood Poles, Underground Cables, Station Transformers, Station Switchgear. (It was also applied to Vegetation Management; see Exhibit D1-5-2.) This illustrates the optimized 20-year funding needs for these asset classes based on their recommended programs.

Figure 2 – Indicated Funding Needs for Selected Asset Programs



Indications are that a large amount of the Hydro Ottawa distribution assets are nearing end-of-life requiring increasing amounts of capital replacement/refurbishment expenditures over the next 20 years. The Hydro Ottawa Sustainment Plan will contain these capital programs.

The proposed spending in these asset classes for 2008 totals approximately $14M. Hydro Ottawa's proposed capital additions are lower than those supported by the results of the asset management process. Hydro Ottawa has chosen a conservative approach for 2008; however, it will continue to evaluate its asset plans to ensure these asset programs are sufficiently funded to reduce the impact of large increases in replacement requirements projected.

The formal documentation of the AMP has not been revised since its creation in 2005. However, there has been much activity to support implementation, evaluation and refinement of the plan.

- In 2006 a consultant was retained to work with Hydro Ottawa to develop "baseline models" of Hydro Ottawa's six essential asset classes (poles, line transformers, cables, station transformers, station switchgear, distribution switchgear). This work will be used to develop consequence models of varying levels of activity, with regard to cost, reliability, labour requirements et cetera.
- Data gathering is ongoing in various forms such as the Transformer Survey Programs in 2006 and 2007. Equipment data from replaced equipment is recorded to keep the asset records current.
- The GIS development has continued (Exhibit B2-3-2) and the GIS will be a valuable tool for the asset management programs.
- Refinement of the Distribution Capital Planning Process (Exhibit B1-2-1) has been implemented which will improve the development and tracking of asset programs.

Asset Programs exceeding $500k per year, in any of the years 2006 through 2010, are included in the sections below.

2.1 Distribution Transformers

Distribution transformers are used to reduce higher distribution voltages to lower voltages used in commercial and residential buildings. Distribution transformers that contain insulating oil with PCBs greater than 50 ppm, or show visible signs of leaking, or are of a pad-mounted live-front design are scheduled for replacement with newer and safer units. Typically, each distribution transformer services approximately 12 residential customers and fewer when used for commercial applications.

Hydro Ottawa has approximately 30,000 distribution transformers in both overhead and underground applications, not including those in transformer vaults or customer owned transformers. The survey performed in 2006 found that Hydro Ottawa has 16,649 pole-mounted and 13,207 pad-mounted units.

The strategy is to implement an aggressive program to replace transformers that contain insulating oil with PCBs greater than 50 ppm, have visible signs of oil leakage, or are of a pad-mounted live-front design. Pad-mounted live-front transformers are units with an exposed primary connection, thus exposing workers to energized components.

A distribution transformer survey of pole-mounted and pad-mounted units for levels of PCBs commenced in 2005 and was subsequently completed in 2006. Exhibit B2-3-2 contains details of the survey program. It was estimated (based on historical figures) that 6% of the distribution transformers inspected would contain insulating oil with PCBs greater than 50 ppm. As well, some would show visible signs of leakage and hence, pose a safety and/or environmental concern. In 2005 it was estimated that 540 units per year would require replacement over the five-year period 2006-2010.

The transformer survey program found that there were fewer distribution transformers in use than initially estimated and that a lower percentage of those contained insulating oil with PCB concentrations greater than 50 ppm than estimated. In total, 2.84% of the 29,856 pad-mounted and pole-mounted transformers contained insulating oil with PCBs in excess of 50 ppm. The survey also showed that the majority of units to be replaced were pole-mounted, which are less expensive and require less time to replace than pad-mounted units. This accurate information prompted Hydro Ottawa to revisit its replacement program.

The distribution transformer replacement plan related to PCB concentrations greater than 50 ppm will be completed in 2008.

The plan for 2009, 2010 and subsequent years is to replace distribution transformers based on asset management strategy rather than decommissioning of PCB containing equipment, resulting in a much less intensive program.

In 2007, a survey of vault transformers was commenced. The details of the survey are found in B3-3-2. The survey results will be evaluated with the pending PCB regulations to determine an appropriate action plan.

2.2 Cables

Hydro Ottawa's underground cable asset class consists of underground cables, splices/joints, elbows, potheads and terminations at voltage levels of 44 kV and below.

This asset class includes sections of underground cable running from distribution stations to overhead lines and from overhead lines to transformers and switches. Underground cables are used mainly in residential areas, and in urban areas where it is either impossible or extremely difficult to build overhead lines due to aesthetic, by-law, environmental or safety reasons. The configuration of the underground system is mainly loop.

Hydro Ottawa currently manages a system of underground cables with a total length of about 3,100 km operating at voltages of 44 kV and lower. The system consists of approximately 72.5% residential distribution plastic cables, 9% trunk plastic cables made with crosslink polyethylene ("XLPE"), 18.5% paper insulated lead cables (PILC) and a very small percentage of butyl rubber cables.

Demographic information for the underground cables has been collected from various sources included in Hydro Ottawa's existing condition assessment and maintenance programs. Cable age and length information, as of 2005, is shown in Table 1.

Table 1 – Underground Cable Demographics

Materials	Installation	Total
Lead (PILC)	1930s – present	735 km
Trunk Plastic (XLPE)	1970s – present	310 km
Distribution Plastic	1970s – present	2,250 km

- The plastic cable population is composed of older, non-tree-retardant[1] plastic cables installed prior to 1989 and tree-retardant cables installed in 1989 and later. The non-tree-retardant cables are considered to have a much lower useful life or about 25 years on average while the tree-retardant cables can be expected to last about 40 years. Plastic cable installed since 1989 do not require replacement within the presently defined planning horizon (20 years).
- The strategy for the non-tree-retardant cable is to replace close to the average end-of-life. The last of this cable is to be replaced by 2020 per the intermediate program.
- The PILC cable has a much longer life, and the strategy is generally not to replace until failure.

The replacement rates for each year are based on optimizing the trade-off between the increasing risk of failure as the cables age and the benefit of delaying expenditures as long as possible. As the cables reach their average end-of-life, the rate of failure increases. The optimum strategy is to replace close to the average end-of-life. The asset management process results in economically optimal replacement timing for each cable type in the risk matrix. This optimal schedule is then adjusted to create a reasonable and sustainable replacement program.

[1] Water molecules and other contaminants can cause "water trees", electrically weak areas in a cable's insulation, which can ultimately lead to cable failures. "Tree retardant" refers to cables that resist these water trees.

The intermediary program for cables recommends a total spend of approximately $11M per year until 2016, when spending then drops.

The practical implementation of cable replacement programs is complex as:

- Cable replacement projects may occur prior to the optimum timing strategy to take advantage of the efficiencies gained through coordinating with City road-works projects and other Hydro Ottawa projects,
- Replacement projects are identified in advance, however, changing field conditions, input from trades staff, outage events and outside influences may result in changing priorities, and
- Cable replacement projects are typically large projects that require funding in multiple years to allow for design, procurement and construction. The budget program is composed of multiple smaller projects in various scopes and stages of completion.

Although Hydro Ottawa is gradually increasing its cable replacement program, a high failure level of cable failures has not materialized to justify the level of spending recommended in the asset management plan, except in certain targeted areas in the west-end of the City.

2.3 Poles

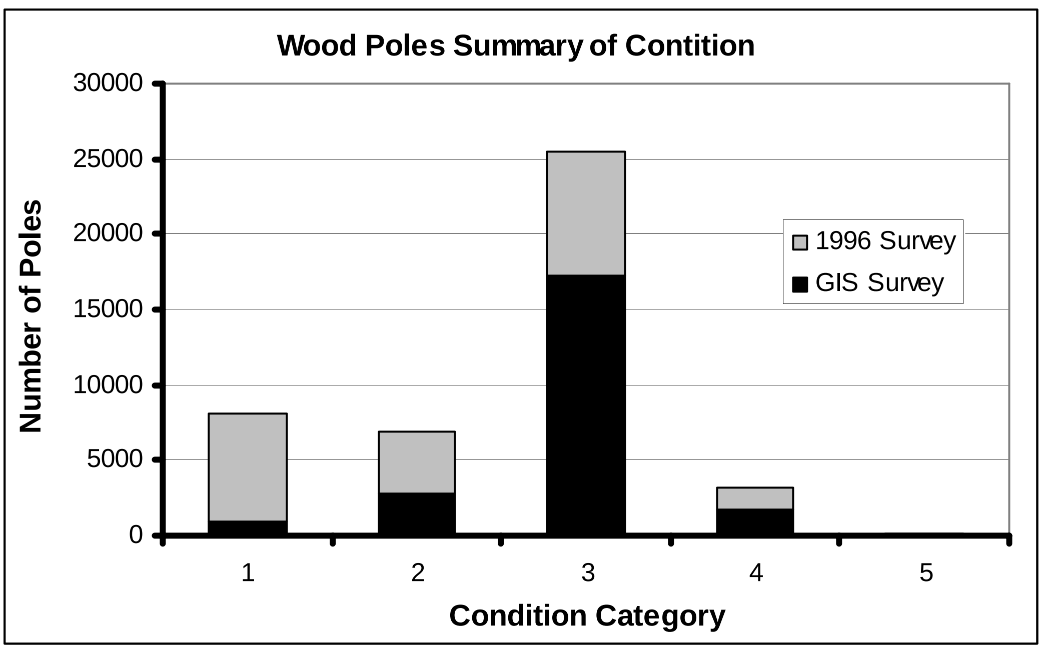
Wood poles are used by Hydro Ottawa for most of its overhead electrical distribution system. They are used to support the distribution conductors, pole-top transformers, and other equipment related to the distribution system.

Demographic information comes from two sources: a survey from 1996 of the poles within the former City of Ottawa, and a more recent 2004 survey of the poles in the surrounding areas. For each pole, these surveys note the pole's GPS coordinates, number and type of circuits attached to each pole, condition based on a visual inspection, and the other attachments such as guy wires, communication cables, and transformers.

Pole condition is scored from 1 (very good) to 5 (very poor) based on criteria established by Hydro Ottawa. Figure 3 below shows the distribution of poles by condition in 2005.

The results show a very large concentration of poles in the middle (3) condition range, more towards the good end (1) than the poor (5). This reflects that most of Hydro Ottawa's poles show slight deterioration and are between 20 and 35 years old. Typically these poles would have about 15 to 30 years remaining of their useful lifetime.

Figure 3 – Wood Poles Condition Distribution



The strategy for the asset management intermediate program for the wood poles includes the following major objectives:

- Develop a long-term, sustainable plan for wood pole replacement,
- Identify the desired level of service and customer costs,
- Optimize plan on the formal asset management process with a cost-benefit analysis consistent with all other assets.

The asset management process is used to determine the optimum rate of replacement for wood poles.

This program explicitly considers risk in a quantitative way, based on the condition of the asset and the consequences of its failure. Consequences include not only the costs to Hydro Ottawa for repair, but also estimates of the costs to Hydro Ottawa's customers in the form of outages, safety and environmental impacts. The program is based on a least-cost method of optimizing replacement rate.

The asset management process results in an economically optimized plan for each group of poles in the risk matrix. This optimal schedule is then adjusted to create a cost effective and sustainable replacement program.

The intermediary program recommends a levelled replacement rate of 500 poles per year until 2015. Hydro Ottawa is currently replacing approximately 350 poles per year. In 2016 the recommended replacement rate increases to 1700 poles per year. This increase is caused by the concentration of poles in the middle range of the condition distribution shown above. There is some uncertainty around projections of end-of-life this far into the future, but prudence suggests that the levelled program today should take into account the expectation that a large number of poles will require replacement within the planning horizon (20 years).

Asset Management is about managing risk. As such, there still exists in this program some residual risk. In general, these risks can be managed in at least two ways:

a) by tracking the cost of the program and verifying its benefits over time, and
b) by re-evaluating the program periodically with updated information and adjusting it as needed.

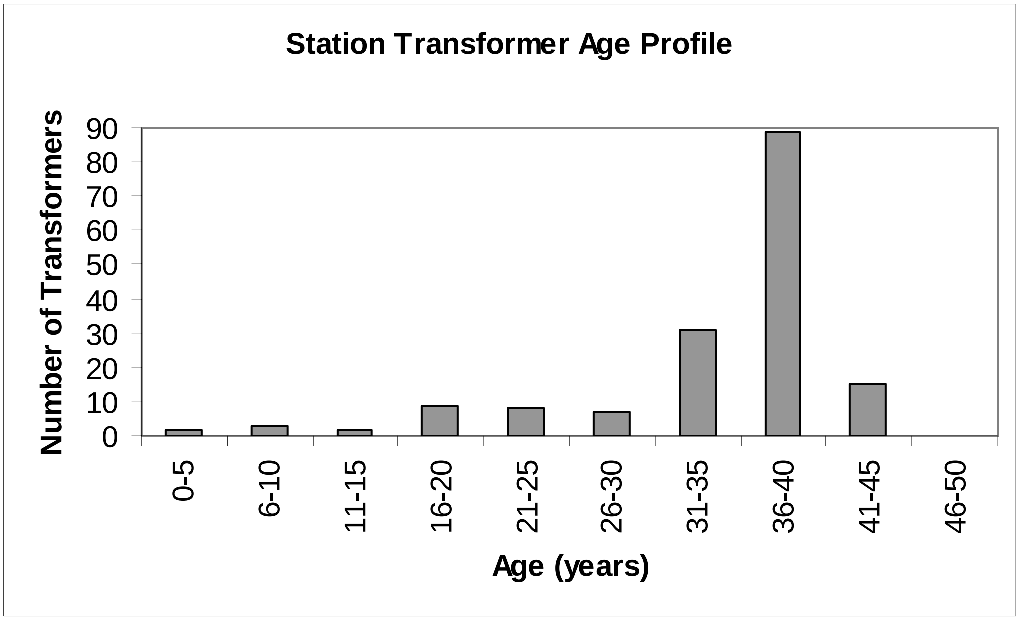
2.4 Station Transformers

Station transformers are used for stepping the voltage of incoming electric power down from higher transmission or sub-transmission voltages to lower distribution voltages. The main components of a station transformer are the bushings where the incoming and outgoing conductors are attached, the high and low-voltage coils, and the tank that houses the coils and contains the oil used for insulating and cooling the entire unit.

Age information gives indication of the remaining life of the transformer when compared to the transformer anticipated 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. As can be seen in the following figure, about 70% of Hydro Ottawa's station transformers are between 30 and 40 years old. Based on that it can be expected that significant investments are needed by Hydro Ottawa in replacements or refurbishments of its transformer fleet in the next 20 years.

Comprehensive condition assessment program will therefore be vital for Hydro Ottawa for more accurate determination of the best intervention times and methods.

Figure 4 – Station Transformer Age Profile



In 2006, Hydro Ottawa contracted a survey of the dissolved gas in oil and oil condition assessment for the fleet of power transformers. The results of the survey have been used in conjunction with the Asset Management Plan to correlate and quantify the health index in the transformer fleet and forecast remaining life indices based on transformer oil condition. The revised model recommended replacement levels of $750k to $1M per year, lower than when the assumed data had been used.

The strategy with regards to transformer replacement is to manage the risk of failure. Unlike the switchgear pool (for radial systems) a transformer failure will not necessarily result in the long-term loss of supply to the customer because Hydro Ottawa has assumed in its evaluation there is adequate capacity to supply the load from alternate sources as a result of its capital planning programs. A failure would have consequences (environmental, financial and public); however, they are manageable, assuming the transformer failure is not catastrophic.

The strategy is to balance division of capital between station switchgear (see section 2.5) and station transformers based on the overall perceived risk. The risks are qualified as follows:

- Equipment % life used is greater than 50%,
- Equipment age is greater than 40 years, or
- Consequence of failure has potential for significant outage or damage through direct or indirect consequences.

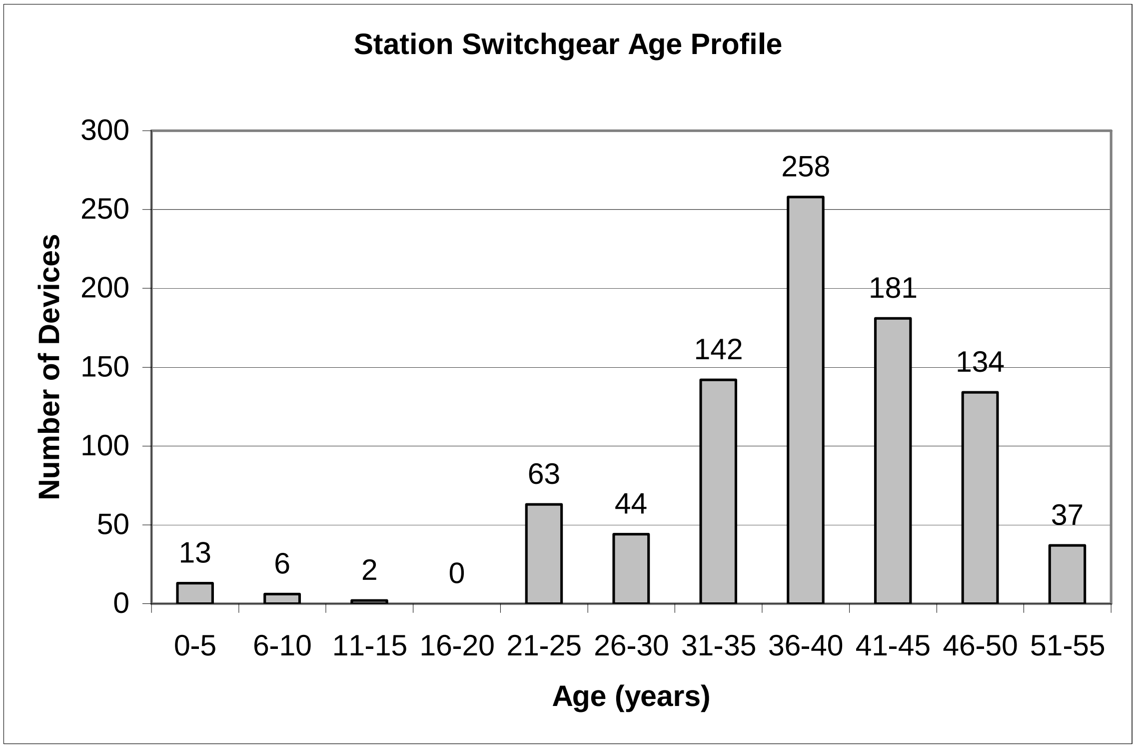
2.5 Station Switchgear

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 bus work, feeder breakers and appurtenances.

Hydro Ottawa currently manages approximately 200 switchgear assemblies containing a total of 889 breakers, 66 reclosers and 1,079 switches.

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 information is shown in Figure 5. The figure shows that about 30% of the devices are over 40 years old, which is generally considered in the industry as the useful length of life for this equipment.

Figure 5 – Station Switchgear Demographics



The strategy with regards to switchgear replacement is to concentrate on the equipment with the higher perceived risk of failure. The perceived risk is based on the age and service condition of the gear and the impact of the failure. For the short term the equipment with the highest perceived risk includes all outdoor, 5 kV and 15 kV metal clad switchgear. The risks, although not quantifiable, are qualified as follows:

- Equipment is obsolete and no spare parts are available,
- Equipment is greater than the age range for the asset class (i.e., exceeds end of life),
- Equipment life extension was performed 10 or more years ago, or
- Switchgear supplies a radial distribution system with no alternate supply to customers.

2.6 Insulators

Overhead insulators are devices that support electric wires and prevent an undesired flow of electricity. They are usually manufactured from glass, porcelain or polymeric material and provide electrical insulation and mechanical support on overhead lines. Certain horizontal post insulators manufactured from porcelain have developed cracks and are a breakage hazard. The failure of these insulators could cause overhead conductors to come into contact with each other resulting in damage to equipment and a subsequent outage. Further, they pose a safety risk to staff working on the overhead pole.

In 2005, Hydro Ottawa had an estimated 240,000 insulators installed on its overhead network, of which approximately 7,000 were porcelain horizontal post insulators.

Hydro Ottawa has identified the circuits containing suspect insulators that are deemed a critical hazard and outlined the requirements for work on poles containing these insulators. The work procedure states that the insulators must be replaced prior to any work within a 3-meter proximity of any circuit employing the device. The current practice is to change, at minimum, all insulators on the pole the crew is working on (3 to 9 insulators) as well as the insulators on the poles directly adjacent to the work area.

Hydro Ottawa has selected a polymeric insulator for new installations and for replacement of old units. An insulator replacement program has been introduced to deal with the replacement of insulators on these affected circuits. The ongoing insulator replacement program deals with the replacing of insulators on a circuit. Circuits are selected based on their inherent risk and associated history.

2.7 Distribution Switchgear

The distribution switchgear utilized in Hydro Ottawa's distribution system consist of pad-mounted and vault-installed switchgear. The switchgear consists of various makes that may contain oil, air or sulphur-hexafluoride (SF_6) insulating media.

The pad-mounted switchgear is used only very 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 pad-mounted switchgear was introduced in the early 1970s and many of these units are still in good operating condition. The life expectancy of pad-mounted switchgear is impacted by a number of factors that include frequency of switching operations, load dropped, and presence of corrosive environment or dampness at the installation site.

Failures of switchgear are most often not directly related to the age of the equipment, but are associated instead with outside influences. For example, air insulated pad mounted switchgear is most likely to fail due to rodents, dirt, contamination, vehicle accidents, rusting of the case, and broken insulators caused by misalignment during switching. All of these causes are largely preventable with good design, installation and maintenance practices.

Switchgear inspection programs include thermo graphic analysis and cleaning with CO_2 for air-insulated pad-mounted switchgear; inspection and cleaning for vault-installed switchgear (Refer to Exhibit D1-1-1). If problems or defects are identified during inspection, often the affected component can be replaced or repaired without a total replacement of the switchgear.

Hydro Ottawa follows standard industry practice of running distribution switchgear to just short of failure. Replacement priority is determined through a number of factors, such as inspection program results, the number of customers serviced off the switchgear and the design of the circuit; that is, the existence of an alternate supply.

2.8 System Operations Automation

The Systems Operations Automation is supported by two main budget categories:

- Supervisory Control and Data Acquisition ("SCADA") Upgrades, upgrades to the SCADA system hardware and software, and
- Remote Terminal Unit ("RTU") Additions, upgrades and addition of RTUs in the distribution network to improve SCADA functionality.

The SCADA system is used to monitor and control station and distribution system equipment and is comprised of three main components:

- Master Station equipment – real time and historical databases, communication servers, Operator interface,
- Communication equipment – fibre, leased copper land-line, wireless (data radio & cellular),
- Remote equipment – RTU, intelligent end devices (relays, meters, etc.).

In 2006, Hydro Ottawa was operating three distinct systems:

- Ottawa 'Telvent' Master 1998 vintage – 56 Station & 15 Switch RTUs,
- Nepean 'Quindar' Master 1996 vintage – 16 Station & 15 Switch RTUs,
- Gloucester 'Quindar – Worldview' Master 1994 vintage – 8 Station & 42 Switch RTUs.

The oldest RTUs were approximately 15 years old and are from different manufacturers.

Since amalgamation, all new SCADA development and Bow Networks protocol translation has occurred on the Telvent platform. With the added stations and data, the real-time historical servers and databases were being stressed and system performance was degrading.

The Quindar systems utilized QUICS IV protocol for Master-RTU communication. This is a proprietary protocol and could not easily be integrated into the ‘open’ architecture Telvent system.

SCADA communication is currently a mix of fibre, leased Bell lines, and wireless. Planned new distribution automation will require wireless communication. Existing wireless communication in the Gloucester sector has been unreliable. An overall wireless strategy is required to migrate existing switch RTU’s in the Nepean and Gloucester sectors onto the Telvent system.

The existing Telvent SCADA system could not accommodate additional SCADA development, migration of existing Quindar systems, and new SCADA requirements (distribution automation, new substations, new RTUs to monitor entire distribution system). A Master Station upgrade was required. Telvent is no longer developing the system that was in use, but an upgrade path was available with the newer architecture. The majority of the Hydro Ottawa SCADA system is operating off the Telvent system. Upgrade and database conversion will be implemented within the Telvent ‘family’ of SCADA products.

The overall SCADA strategy consists of two items.

- Migrate three SCADA systems to a single Telvent platform. The single platform will reduce administration costs (licensing, maintenance, upgrades, knowledgebase, etc.), allow single source for real-time data like peak system load and single source for historical SCADA data.
- Develop the SCADA system to monitor the entire distribution system. Currently there is limited or no monitoring at several stations.

With the increased emphasis on embedded generation, energy efficiency and conservation and demand management in the province, there are additional requirements to connect generation and energy savings equipment into the Hydro Ottawa distribution system. The department that implements Hydro Ottawa's SCADA equipment and software will be called upon to support the implementation of these projects into the Hydro Ottawa distribution system. Labour requirements to implement these projects, many of which are demand projects, may delay the completion of the planned SCADA upgrade work.

2.9 Vaults

A vault is an enclosed space containing (one or more) distribution transformers, switching units, and cable work. It is the point of connection from the distribution network to the customers' electrical distribution system.

This program involves refurbishment of underground vaults in Hydro Ottawa's service area due to the age or condition of the assets.

Sidewalk Vaults: There were 30 sidewalk vaults (under the road right-of-way) in the downtown core area (designated area bound by the Ottawa River, Rideau River, Rideau Street, and King Edward Avenue) with a total of 43 submersible transformers in them. The transformers are at their end-of-life and are rusting.

Other Vaults: There are approximately 1,750 indoor vaults in Hydro Ottawa's service area. The vaults may be customer owned, shared, or Hydro Ottawa owned. Approximately 90% of the 8 kV and 27.6 kV vaults contain Hydro Ottawa owned equipment. Refurbishment or replacement of vault components may include jack bus, moles, circulating fans, switchgear, or transformers.

Public safety, and finding cost effective alternatives or solutions are key drivers. The goal is to improve the reliability, cost and safety to the public who walk over the sidewalk vaults. The high profile of the Ottawa downtown can be negatively impacted when outages occur.

Strategy for Sidewalk Vaults

- Retire the sidewalk vaults by moving electrical equipment into customer vaults on a 50-year vault lease agreement, and replace the double-doors on the vault with standard cable chamber collars and lids,
- Refurbish sidewalk vaults with solid dielectric transformers, improved civil work, and other upgrades, or
- Find alternative supplies, such as customer vaults, consolidate sidewalk vaults or use a nearby pad-mount transformer.

Benefits include increased reliability, reduced environmental liability, equipment standardization and system utilization.

Strategy for Other Vaults:

- Retire Slater Station supplied 4 kV vaults (through voltage conversion),
- Replace jack bus arrangements, and
- Replace open-air wall mounted switchgear.

2.10 Elbows and Inserts

Dead-front pad-mount transformers and switchgear units utilize separable insulated connector systems to facilitate load-break switching and to provide visible open points. This connector system is commonly known as an “elbow and insert” system.
The “elbow and insert” system is designed and utilized to act as a switching device on 200A cable systems throughout urban distribution systems, particularly in residential subdivision distribution.

Early vintage elbow and insert systems installed throughout Ontario 27.6 kV distribution systems were subject to a phenomenon known as vacuum flashover. A vacuum flashover involves dielectric breakdown of the air gap between the energized elbow and the semi-conductive rubber body of the elbow and/or insert. The problem typically only occurs during switching operations in ambient temperatures less than 1-2°C and only on 27.6 kV systems.

In response the problem, utilities such as Hydro Ottawa's predecessors introduced work restrictions to protect the health and safety of its workers by ensuring that live elbow and insert operations did not take place below the restrictive temperature. The work restriction removed the health and safety risk; however, it also restricted live switching events on the systems resulting in the requirement for large, wide spread outages to facilitate elbow switching.

The manufacturers of these devices responded to the industry problem by developing a number of manufacturer-specific solutions that solved the problem and allowed for safe operation at all temperatures. Most of these solutions involve replacement of the insert and/or the elbow portion of the connector system.

This program involves the replacement of elbows and/or inserts on 27.6 kV distribution plant so that the connection point can be safely operated at all temperatures. Replacement removes the risk of vacuum flashover events to field staff and removes the operational restriction on the system. This is a safety driven program, with an added benefit of increased distribution system operability and thus a positive impact on reliability.

In 2004 it was estimated there were 2,139 single and three-phase transformer units left with elbows and/or inserts to replace.

The initial strategy was to replace all non-operable units with operable units within a five-year period. Further analysis after the 2006 EDR has resulted in a revised strategy that will improve safe operability of the distribution system, while at the same time reducing the number of units changed, and consequently reducing the associated labour and financial requirements. The revised strategy is to replace the insert and/or the elbow in selected strategic operating points of distribution circuits rather than in all locations. This work will be coordinated with other pad-mounted transformer work (either maintenance or cable replacement) to minimize costs and reduce outage time. The program will be an on-going program.

2.11 Plant Failure Capital

This program covers the unplanned replacement of failed assets. These failures must be attended to during the same outage response visit. This could include failed insulators, transformers or any other distribution asset. The cost for this program is based on historical levels.

Hydro Ottawa’s distribution infrastructure demographics is of an ageing distribution system. Tracking plant failures is one tool to provide feedback into the asset management process regarding its success. Although elimination of all plant failures would be cost prohibitive and irresponsible, the amount of failures and the impacts of the failures can be managed to within acceptable limits.

3.0 SUSTAINMENT

3.1 Stations Capacity

Station Capacity is the program to install new station facilities, which are required to supply growth in electricity demand. This could involve the installation of an additional transformer at an existing station, the upgrading of existing transformers to larger ones, or the construction of a new substation, complete with one or more new transformers. The options available to increase capacity are subject to several factors, including the available space at existing stations, the proximity of existing stations to the areas of load growth, equipment limitations at existing stations, and the availability of suitable land for installing a new station.

Hydro Ottawa does not own all of the substations and related power transformers that supply Hydro Ottawa's load. Hydro One owns many of the larger transformer stations and terminal stations in the City of Ottawa. As a result, when load growth occurs in certain parts of the city, Hydro Ottawa must consider the option of having Hydro One upgrade Hydro One's facilities; sometimes this is the only practical option. If Hydro One is requested to add more transformation to supply a particular area, then it must perform an economic evaluation of future revenues that it will derive from the Transformation Tariff that it collects at each of the stations under its ownership. If the present value of this revenue exceeds the cost of the capacity installation, then Hydro Ottawa is not required to provide a monetary contribution to the project.

Significant growth in demand is possible throughout most of the core, urban and suburban areas of the City of Ottawa. This is a result of two initiatives of the city government. One is to promote new residential development, or redevelopment, within the core area of Ottawa. The second is to encourage commercial and industrial development in the vicinity of the suburban areas. Clear evidence exists that the first of these initiatives is taking hold with the development community. Many new high-rise condominium developments have been undertaken in the last few years, and more are in the planning or construction phase. Infill development also continues in much of the downtown core.

In the major suburban communities of Kanata/Stittsville, South Nepean, South Gloucester, and Orleans, single and multi-unit residential development has been strong over the last five years, with an average of about 5,000 such dwellings being built each year. In these suburban areas, commercial development remains strong, however major industrial growth in these areas has generally been slow. A recovery of the high-tech sector could change this situation quickly.

The planning staffs of Hydro One and Hydro Ottawa have jointly undertaken a study of the available capacity at the major supply stations, which provide power to Hydro Ottawa's customers. This study shows that there currently are loading concerns in the following areas:

- Cyrville-Orleans 27.6 kV Area
- Ottawa South East 13 kV Area
- South Nepean and South Gloucester 27.6 kV Area
- Ottawa Core 13 kV Area

There is a two to three year lead-time for design and approval for station construction.

3.2 Station Automation

Station Automation is the program to install new protection and control equipment or data collection equipment. Specifically, installation of new relays for the purpose of enhancing the protection of equipment, and/or the installation of a data highway in the substation for retrieving operational and non-operational data. Data collection, separate from the protection and control, will help modernize the collection and analysis of station data.

Hydro Ottawa has 74 substations in which there are approximately 200 switchgear assemblies, 900 circuit breaker/switchers, 173 power transformers, and 80 battery banks.

The technology used in these stations range from basic electro-mechanical devices (1950's technology) to state of the art microprocessor based devices. The older equipment has been reliable, but is limited in its ability to provide information on activities that occur on the distribution system.

The approach is to install new relays during switchgear replacements or in some cases, when the switchgear is retrofitted to meet arc-proof requirements. In all cases, installation of new relays is done in conjunction with either the Station Assets programs or the Station Enhancements programs.

Station asset condition needs to be monitored with both dynamic and static information with the information integrated into the data pool in the asset management plan. This data will be used to determine asset condition enabling improved investment decisions.

3.3 Distribution Enhancements

Distribution Enhancements represent projects that modify an existing distribution system for the purpose of improving system-operating characteristics such as reliability or power quality or for relieving system capacity constraints that could result from general load growth.

Hydro Ottawa's service area now comprises approximately 800 overhead and underground feeders emanating from approximately 70 substations. Distribution voltages range from 44 kV down to 4 kV.

Projects are identified through two means:

- Joint reviews with Hydro One regarding bulk supply issues such as station capacity, or
- Internal studies of distribution system supply reliability; future load growth, feeder loading, and station loading.

3.3.1 System Voltage Conversion

Hydro Ottawa's system voltage conversion program refers to voltage conversion of the distribution system within a residential area, usually coinciding with the retirement of existing substations. Historically, system voltage conversion projects have involved the conversion of 4 kV distribution feeders to 13 kV or 8 kV to 27.6 kV. The conversion results in a more efficient distribution system, retirement of aged assets, and infrastructure renewal.

3.3.2 System Reliability

System Reliability projects are specific enhancements to areas identified as having poor system reliability. These projects are typically complex in nature and therefore are not covered by singular program categories such as line extensions. Reliability performance is tracked as per the Board's requirements; however, addition analysis is performed internally to identify areas requiring attention.

3.3.3 Line Extensions

Line extensions improve the operability, security and quality of the existing distribution system.

Minor line extensions are typically less than three spans of overhead or 200 m of underground extension of plant. Minor line extensions include such things as:

- expansions for connection of new services, and
- installation of new civil plant during the construction of sidewalks and bridges by others.

Major line extensions are typically identified as part of the system study. They are constructed to address issues such as load transfer capacity, reliability and power quality.

3.3.4 General Distribution Enhancements

General distribution enhancements, as a subsection of the overall Distribution Enhancement category, are typically smaller scale modifications to the distribution system for the purpose of improving system-operating characteristics that do not fall into the aforementioned subsections

Distribution enhancements are typically identified as part of the system study, through operating experience, or through system performance measures.

3.4 Station Enhancements

Station Enhancements are major repairs or refurbishment of existing substation assets for the purposes of extending the life of the assets. This budget item typically consists of a number of projects, prioritized per the asset management plan and other considerations, such as the availability of spare parts.

Projects include Station Circuit Breaker Control Refurbishment, Station Battery Replacement and Transformer Cooling Fan installation.

3.4.1. Station Circuit Breaker Control Refurbishment

This program consists of upgrading and refurbishing circuit breaker control circuits typically 35 years of age or over. The program includes the installation of new control components and the upgrading of several features to take advantage of newer more efficient and reliable technology. The key elements of the program consist of enhancements such as remote controlled reclose-blocking schemes to allow for the application of work protection. This will result in improvements in efficiency for day-to-day operations as the reclose-blocking can be controlled from the System Office rather than requiring a site visit to implement changes.

4.0 DEMAND CAPITAL

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

Table 2 – Demand Program Items

Plant Relocation
Residential Subdivisions
Commercial Developments
System Expansion
Stations Embedded Generation
Infill Services
Damage To Plant
Wholesale Metering (IESO Metering Upgrades)
Meters

4.1 Plant Relocation and Upgrades

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

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

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

Plant relocation is primarily dependent on the local economy and on various levels of government funding. The City establishes a road works program for each year. The road works plan is often not finalized until the year in which the works will occur, so Hydro Ottawa does not have an the ability to accurately forecast based on City plans. Hydro Ottawa does stay abreast of possible pending works through participation in the City Utility Coordinating Committee and through review of City Circulations such as Zoning Amendments and Community Design Plans.

4.2 Residential Subdivisions

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

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

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

4.3 Commercial Development

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

The majority of the commercial work is in the west, south and east suburbs of the City. Growth in the suburban areas since 2000 has been steady. Commercial development is primarily dependent on the local economy. The City had projected an average growth rate of 3% over 2006. However, their 2004 actual was 1.4% below projection. Hydro Ottawa conservatively budgeted for a 1.7% growth rate in 2006.

4.4 System Expansion

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

Development in areas with no current infrastructure requires expansion to service commercial or residential development. Activity follows growth and government infrastructure investment patterns.

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

4.5 Stations Embedded Generation

Stations Embedded Generation projects are customer driven projects. Hydro Ottawa undertakes these projects to ensure the distribution system can accept the customer embedded generation connections while ensuring reliability of the existing distribution system is maintained.

These projects are typically 100 percent contributed capital, as the work would only have been done to accommodate the additional generation.

4.6 Infill Services

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

An upgraded service is a change to the Hydro Ottawa portion of an existing customer service; for example, an increase in service size from 100A to 200A.

Infill and upgrade services occur in both residential and commercial customer classes, in rural and urban areas.

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

4.7 Damage to Plant

The program covers assets damaged by others (such as poles hit during car accidents or cable failures due to dig-ins), where there is loss of functional use, and the asset must be replaced. An attempt to recover 100% of the cost is made whenever possible. However, in many cases, the persons at fault are unknown, and cost recovery is not possible. The estimated cost of this program is based on historical levels, and is prior to any collected contributions.

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

- Responding to City and utility circulations to identify where Hydro Ottawa plant conflicts with construction activities,
- Providing underground locates through One-Call (Refer to Exhibit D1-5-3),
- Providing contractor supervision during excavation,
- Pole line designs locate pole-top equipment back from intersections where possible, and
- Installation of protective bollards.

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

4.8 Wholesale Metering

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

Hydro Ottawa as a Meter Service Provider ("MSP") will register and commission all existing and new registered wholesale metering ("RWM") installations complying with all requirements as set forth under the *Market Rules*. Meter point registration as required in the *Market Rules* include:

- Design and construction of the RWM installations,
- Review of conceptual drawing and the submission of single line diagram to the IESO,
- Review of the alternative metering installation standard checklist or declaration of

compliance of metering installation,

- Complete required calculations for the registered meter point,
- Create and submit the required totalization files to the IESO,
- Create and submit the required files to the IESO,
- Complete the required IESO forms and documents for IESO system access,
- Provide a detailed emergency restoration plan.

Meter point commissioning as required in the *Market Rules* includes:

- Perform the required on-site end to end testing,
- Confirmation of the engineering units report,
- Totalization table sign-off.

In addition to the registration and commissioning of the wholesale meter points, as MSP, Hydro Ottawa will be responsible for maintenance and conformance monitoring as required in the *Market Rules* as follows:

- Monitor and respond to all issued Meter Trouble Reports ("MTR") via the IESO workflow,
- Perform required on-site diagnostic and maintenance of the RWM for an issued MTR from the IESO,
- Daily MV90 remote interrogation of each RWM,
- Maintain the Validating, Estimating and Editing and MTR relationship required for the IESO meter data,
- Perform required remote diagnostic and maintenance of the RWM,
- Notify the IESO of planned and emergency switching,
- Annual review of documentation and tracking meter seal expiry,
- Dispute Resolution,
- Perform required trouble shooting and testing,
- Assist in IESO audits.

Hydro Ottawa, as a MSP, will register and commission the wholesale meter points as the seals expire on the existing meter installations. Most utilities share a resource limitation with Hydro One in coordinating work within shared and solely owned Hydro One facilities. The IESO has worked closely with the market participants over recent years to achieve satisfactory completion of this registration work.

This work will also be required on future metered substation installations connected to the IESO controlled grid as the meter seals expire.

The costs to upgrade each substation are dependant on a variety of technical factors such as secondary voltage, substation configuration, switchgear design and the equipment already in place.

4.9 Meters

Meters on customer services impacted by the Smart Meter program are managed by the Smart Meter program (Exhibit D3-1-1). Hydro Ottawa has received dispensation from Measurement Canada regarding the seal period for some of these assets.

Meters on customer services not impacted by the Smart Meter program, such as those on three-phase commercial services for demand customers, are managed by following Measurement Canada’s requirements. Meter sampling and re-verification, damaged meter replacement and the installation of new meters continue. Wholesale meters are discussed in section 4.8.

In Hydro Ottawa’s 2006 EDR Application, an item was included for *Meter Replacement and Re-verification*. The work related to this program is now included in the following programs:

- Metering – Re-verification: the sample testing of customer meters per Measurement Canada requirements,

- Damage to Plant: Damaged meters are replaced,
- Infill Services: Customer Service upgrades are captured in this category, and
- Smart Meters: Rather than re-verify or replace meters that will be impacted by the Smart Meter program shortly, a smart meter is installed.

5.0 CONTRIBUTED CAPITAL

Hydro Ottawa performs a number of projects that are considered “Demand Projects”, as outlined in Section 4.0. Customer contribution towards the funding for these projects is determined by the nature of the project and the Board requirements as set out in the *Distribution System Code*.

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

Embedded Generation projects are typically fully contributed by the customer, as the work is done only to accommodate the added generation, however, Hydro Ottawa owns the asset when the project is complete.

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

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

INFORMATION TECHNOLOGY STRATEGY

An Information Technology (“IT”) strategy is about making choices, which have corresponding costs and benefits. At Hydro Ottawa, IT strategy is implemented through the five-year plan as it, within the constraints of the business’ fiscal realities, defines both yearly operational parameters and strategic investment decisions in IT.

Hydro Ottawa has been successful in protecting its IT investment by:

- Establishing a comprehensive asset management program based on realistic product lifecycles,
- Optimizing the use of applications already owned by Hydro Ottawa,
- Where possible, integrating applications and sharing data,
- Investing in technologies that are tried and proven, and
- Minimizing costs and complexity in managing the IT infrastructure by establishing corporate IT standards resulting in a homogeneous technology environment.

Developing a five-year plan is a consensus building exercise that is facilitated by a structured IT governance process. Hydro Ottawa’s IT governance process provides for alignment of IT strategy with corporate objectives and goals. Investment decisions are supported by sound business cases that have been developed through cross-department collaboration, detailed evaluation of product offerings and options and a desire to reuse and build upon existing systems and applications.

The guiding considerations for Hydro Ottawa’s long-term plan are:

- Secure and reliable IT Infrastructure,
- Greater reliance upon and integration of IT within business operations,
- IT alignment with business objectives,
- Value driven strategic IT investments,
- Greater mobility of Hydro Ottawa’s workforce,

- More knowledgeable and IT comfortable workforce,
- Streamlined processes through data sharing and integration, and
- Maturing IT operational practices and implementation of industry recognized best practices.

A number of trends and changes in the IT and telecommunication industry and society in general, influence Hydro Ottawa's IT strategy. In brief, these are listed below.

- Transition of utilities from a low to a high technology environment where information technology is pervasive in all aspects of the company's business and not limited to "back-office" activities. The number of "critical" applications and the desire for 24/7 availability will increase.
- Technology needs will change as the workforce demographics change.
- New technologies and new players constantly enter the market offering new solutions but in key, maturing technology areas, consolidation to fewer suppliers limits options and decreases competition.
- Convergences of voice and data technologies provide greater complexity but more flexibility. Wireless technologies and the evolution of "mini" devices, ranging from the personal digital assistant to the tablet PC to the notebook (lap top) are facilitating an increasingly mobile workforce.
- With the increasing use of the web (Internet) for business and personal e-commerce transactions, security will continue to be a challenge. This challenge is now being transferred to internal, corporate networks as the cyber-attacks become more sophisticated and focused. Technologies exist to address security but they are very complex and lead to many logistical issues.
- Creation of digital information is occurring at an increasing rapid rate and there will be a growing demand for more storage, and content management. This will be offset by further development of miniaturization, virtualization and storage optimization technology but, potentially, these will also introduce an additional layer of infrastructure and complexity.

- The ability to attract and retain technology skills will become a serious issue in both public and private sectors and to an even greater extent in the public sector in such areas as security, system integration and business process management technology.

Currently, Hydro Ottawa manages information technology through a federated IT structure as compared to a centralized or decentralized model. Core IT infrastructure, corporate applications, and voice and data services, are managed and operated by the Information Services and Technology department with other systems (SCADA, OMS, GIS and CIS) being administered or operated by other departments. Moving forward, to the extent that it promotes business objectives, Hydro Ottawa will centralize IT functions to optimize processes, reduce costs and strengthen expertise in technology and related business functions and services.

Large IT projects are implemented through dedicated projects with oversight and guidance provided through cross-functional Steering Committees. Similar project management principles are applied to smaller projects but management and oversight are provided within each department. As applications and systems evolve and become more integrated, sustainment plans identify whether day-to-day operation and management of these systems continues with the implementing department or is transferred to the Information Services and Technology group.

Hydro Ottawa owns hundreds of pieces of computer equipment and peripherals. New equipment is introduced by one of four methods:

- As part of the lifecycle replacement program,
- As departmental request for incremental unit, typically for new staff,
- As departmental request for an upgrade to an existing unit, or
- When repair to a unit is not cost effective, based on the unit’s age.

Lifecycle management of computer equipment and peripherals is integral to employee productivity. A regular replacement cycle, combined with strategic replacements and re-allocation of computers based on job requirements, is a cost effective way of managing these assets. The lifecycle program for the larger PC and peripheral equipment has the following replacement cycles:

- Desktop computers, 5 years,
- Laptop Computers, 4 years, and
- Printers, 4 years.

FACILITIES STRATEGY

1.0 INTRODUCTION

Hydro Ottawa covers a large service area, with a diverse urban/rural mix. In order to provide quick customer response time and improve productivity by reducing vehicle travel time, a decision was made to establish various satellite work centers throughout the service area. As a result, there are currently five main work centres occupied by Hydro Ottawa employees; located at Albion Road, Merivale Road, Bank Street, Maple Grove Road and Carling Avenue.

In 2006, the Facilities Asset Strategy included a proposal for the disposal of the Albion Road facility, the construction of a new office building and an east end operations work centre. After a review of the business case, an executive decision was made to defer these projects indefinitely. The rationale for staying at the Albion Road facility was that a new building was not considered a priority for capital spending when assessed against system reliability requirements and other capital demands such as the Smart Meter program. By retaining Albion, there was also no immediate need for an east end operations work centre. This will continue to be assessed.

Hydro Ottawa's overall strategy for facilities is to provide cost effective building services for staff and equipment, in order that the utility can continue to supply electricity reliably.

The list below includes ongoing initiatives performed by the Facilities Management Department:

- A Computer Aid Facilities Management ("CAFM") tool was purchased to track all facilities related assets,
- A buildings condition assessment audit was performed on all buildings and will be managed through a preventive maintenance program (CAFM tool),

- A buildings security strategy to monitor all mission critical buildings is being implemented,
- A needs analysis to consolidate departments in order to optimize operational efficiencies is being conducted,
- Capital dollars will be invested as required in facilities to maintain the building envelopes to a safe standard,
- Land is purchased to construct substation buildings to accommodate electrical devices to distribute electricity, and
- Energy consumption is being reviewed and strategies developed to reduce consumption by replacing ageing equipment with energy efficient type.

FLEET STRATEGY

As with many of its tools and safety equipment, Hydro Ottawa's work force requires specialized vehicles for ongoing operation, construction and maintenance of its distribution system. The vehicles themselves are a valuable asset class that requires maintenance and replacement.

A critical component for quick outage restoration, efficient construction and safe work, is well-maintained and operational vehicles. Degradation of the fleet may jeopardize work performance.

Hydro Ottawa's Fleet Strategy is to provide a reliable, safe utility fleet while also being cost effective. Vehicle purchases are made both to expand the fleet and to replace the existing fleet. Replacements are not necessarily performed on a like-for-like basis; rather, a comparison of the current user needs to the current fleet determines the purchase requirements when units are retired.

User requirements have a direct impact on both replacements and additions to the fleet. Fleet expansion is based on an evaluation of user requirements, existing vehicle capabilities and financial considerations.

The following guiding principles govern the replacement of fleet vehicles. They define when new acquisitions are required or when replacements are needed, and are based on a multi-year capital plan.

- Provision of safe, reliable and efficient vehicles & equipment to meet the operational requirement of the corporation,
- Cost effectiveness (Life Cycle Management),
- Compliant with accepted industry norms and practices – replacement criteria consider age, accumulated km/hour, general condition and when exceeding one-time repair limits,

- Standardization of equipment specifications,
- Alignment of funding with corporate objectives,
- Environmental considerations – fuel economy, exhaust emissions,
- Optimization of size of fleet (kept to minimum critical level, elimination of redundancy),
- On-going consultation with the user community through the fleet council, and
- Disposal through recognized and reputable commercial vehicle & equipment resellers.

With cost effectiveness in mind the basic criteria used for replacement of fleet vehicles are age, mileage and operating expenses. The two primary drivers are age and mileage as this impacts on the expense to operate the vehicle and the potential revenue from re-sale or trade-in.

- Age – Statistically (and from experience) the failures of certain vehicle components are a function of age. Failures of critical parts in aerial devices can have serious negative consequences, including loss of faith by the users in the devices.
- Mileage – If there is just one criterion as a stand-alone it would be mileage. Logic dictates that the higher the mileage, the greater the failure rate. Choosing the optimum mileage level at which to make replacement decisions is difficult at best – so the goal is to make good decisions using mileage and power take off as the best indicator for the need for replacement of units.
- Power Take Off (“PTO”) Hours of operation – PTO is a mechanism attached to a motor vehicle engine that supplies power to an attachment or separate machine. Hydro Ottawa’s fleet has numerous vehicles that use PTO in the operation of aerial devices. The inclusion of PTO hours to evaluate vehicle use provides a more accurate measure of engine use, rather than mileage alone.
- Operating expenses – Hydro Ottawa endeavours to identify unit types, makes or models in which patterns can be identified for normal operating costs. Units

operating out of this normal pattern would be subject to closer scrutiny and possible replacement.

The target lifecycle average age is the theoretical average age for vehicles in a category, if accepted industry standard lifecycles are followed. Most of the vehicles in Hydro Ottawa's fleet are beyond the normal retirement age based on accepted industry standard lifecycles. Figure 1 shows that the actual average age of Hydro Ottawa vehicles in all categories exceeds the target lifecycle average age. The planned 2006 vehicle replacements bring Hydro Ottawa closer to, but still over, the target lifecycle average age.

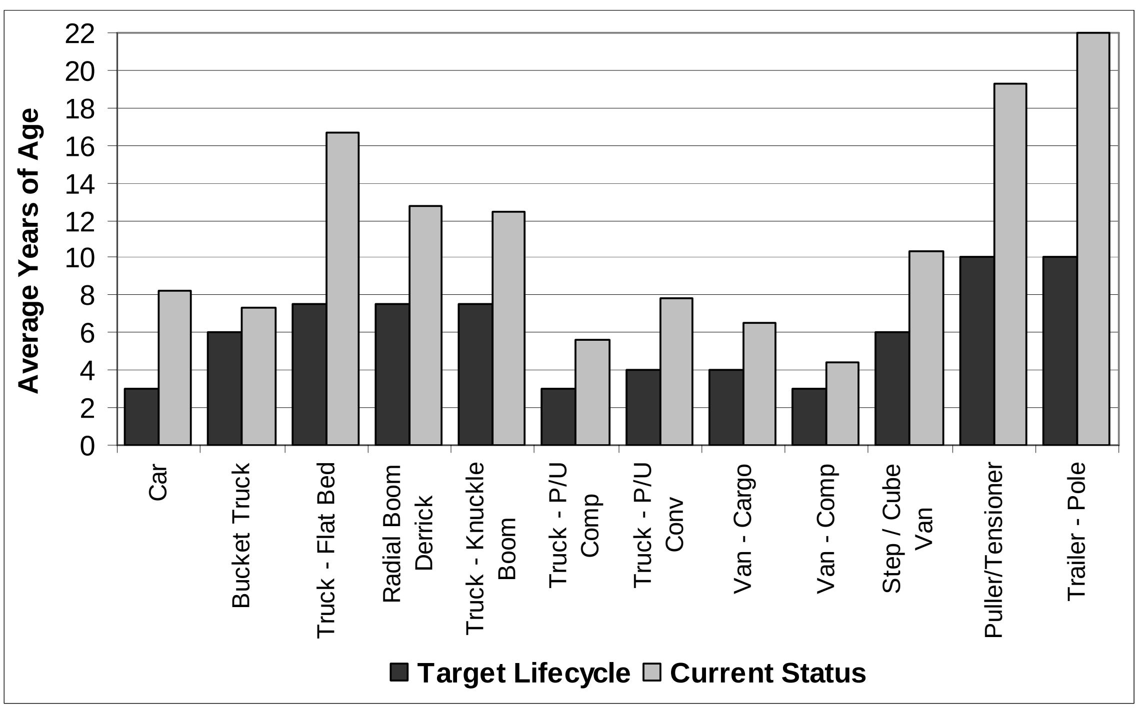
The goal of the 2005 – 2009 capital plan is to get the replacement strategy back on track to industry standard lifecycles, and to smooth out the capital budget requirements in the process. The five-year plan is based on following industry standard lifecycle strategy for replacement of fleet equipment and vehicles, as shown in Figure 1.

The current status of Hydro Ottawa's fleet, compared to the industry standard lifecycle is illustrated in Figure 2.   The goal of the fleet demographics is to have the average age of a vehicle class be half of the lifecycle, which results in a levelled replacement plan.

Figure 1 – Intended Lifecycle

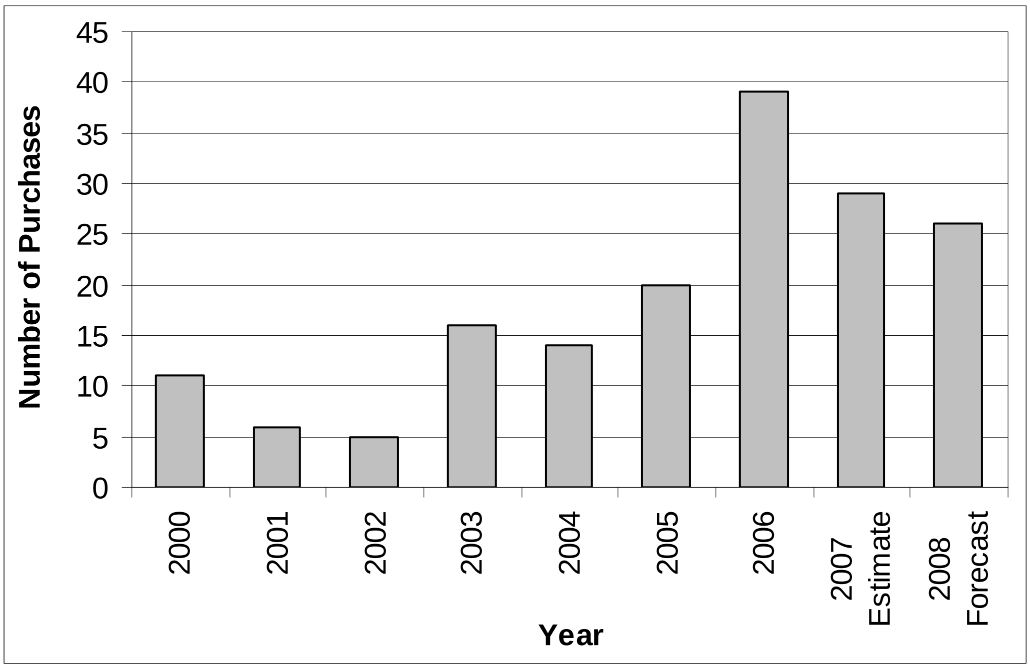
Unit Type	Intended Lifecycle (Years of age)
Cars	7
Bucket trucks	12
Stake trucks/Flatbed trucks	15
Radial Boom Derricks	15
Knuckle boom trucks	15
Compact pick up trucks	7
Full size pick up trucks	8
Full size cargo vans	8
Compact vans	7
Step Vans/Cube vans	12
Forklifts	15
Tension machines	20
Trailers	20

Figure 2 – Fleet Replacement Program, Current Status vs Target Lifecycle



In the early years following the November 2000 amalgamation, insufficient capital was spent on fleet replacement (2000 – 2004) and therefore a more aggressive approach was required to ensure the Fleet Strategy goals (to provide reliable, compliant, safe and cost effective utility fleet) could be obtained. Figure 3 shows the total unit numbers replaced in the previous seven years.

Figure 3 – Fleet Purchase History



CIS VERSION UPDATE PROJECT

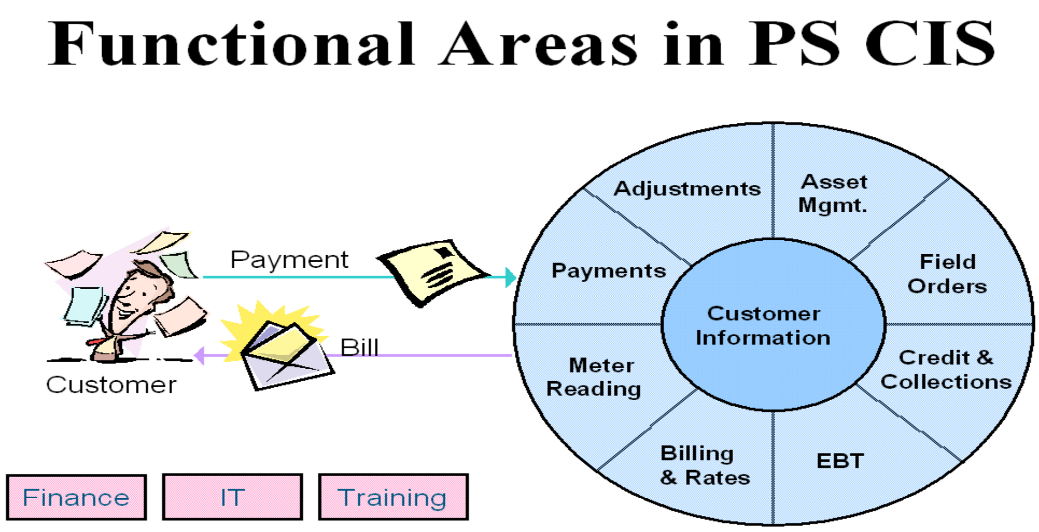
1.0 INTRODUCTION

The Customer Information System ("CIS") is a critical business system for Hydro Ottawa. The current CIS is PeopleSoft® Enterprise Revenue Management ("ERM") (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 over 280,000 customers in the service area.

As shown in Figure 1, the CIS is the central repository for tracking all of the vital information pertaining to customers, such as:

- recognizing a new premise address,
- generating field activity requests to install a meter and related equipment,
- requesting a security deposit,
- meter reading data in the field,
- billing for services supplied,
- exchanging information with Retailers operating in the deregulated Ontario electricity market,
- capturing notes referencing interactions with customers,
- receiving payments for the bills issued, and
- initiating appropriate collection and/or severance escalations.

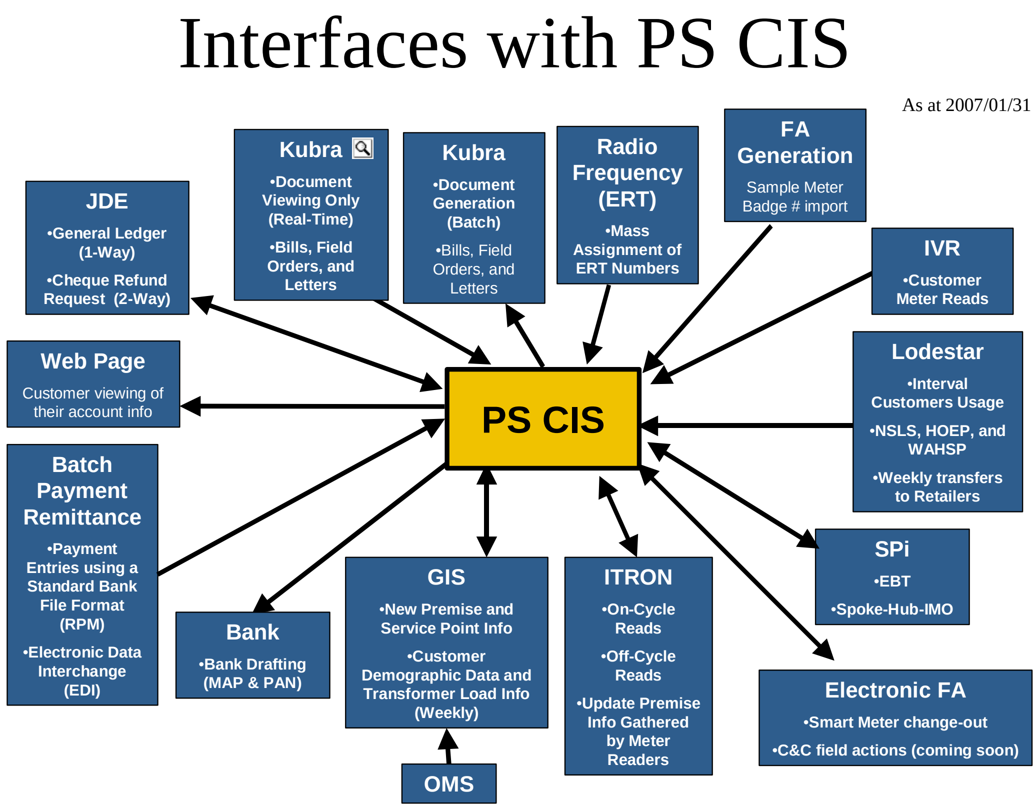
Figure 1



There is in place an application-managed services contract for CIS until 2010 with IBM Canada which focuses on technical, functional and operational support, completion of nightly batch operations and new functionality development.

CIS is a highly integrated system as evidenced by interfaces with both internal systems and external systems, as shown in Figure 2.

Figure 2



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 on-going new regulatory requirements, result in an active development environment for CIS modifications.

2.0 BACKGROUND

2.1 Implementation at Hydro Ottawa

In 2003, Hydro Ottawa sought to implement a new CIS due to significant challenges with the existing CIS application. At that time, PeopleSoft was offering the PeopleSoft ERM solution (also know as PeopleSoft Customer Information System or PS CIS), under the terms of a Joint Development and Marketing Agreement with SPL WorldGroup Inc. ("SPL"). Based on the results of a competitive and comprehensive procurement process by a dedicated cross-functional team, Hydro Ottawa chose PS CIS version 8.8 as its new CIS. This new business system was implemented on September 7, 2004.

2.2 Operational results since implementation

Since its implementation, PS CIS has proven to be a stable, reliable CIS product that is adaptable to changing regulatory and/or business requirements. This application has allowed Hydro Ottawa to successfully generate approximately 8,000 accurate and timely bills each night through batch operations, maintain very high availability and maintain system responsiveness results during the day for on-line operations. Despite challenging timelines and expectations for regulatory requirements (e.g. changes to Electronic Business Transactions ("EBT"); the CIS has successfully provided a high level of performance and remained compliant throughout.

3.0 UPGRADE STRATEGY CONSIDERATIONS

Oracle Corporation ("Oracle") acquired PeopleSoft in late 2004. On November 3, 2006, it was announced that Oracle had also purchased SPL WorldGroup ("SPL"). As a result of both of these acquisitions, product strategies for PS CIS underwent a change.

Oracle's approach to product lifecycle is to provide the customer with the following for five years from the general availability date:

- rights to new releases of the licensed products,
- access to technical support,
- updates and fixes,
- tax, legal and regulatory updates, and

- access to knowledge database, upgrade scripts and certification with new third party and Oracle products.

However, since the release schedule remains undefined for the SPL product, full support of PS CIS versions was extended by one year. For PS CIS version 8.8 that meant the following full support dates:

- Patches/Fixes: March 12, 2008
- Upgrade Script Support: March 12, 2009
- Phone Support for known fixes: Lifetime (Tier 1)
- Phone Support for known fixes: March 12, 2010 (Tier 2 and 3)

Oracle's long-term product strategy is towards a fully integrated product called Fusion. Though PS CIS will continue to be offered as a CIS solution in the short to medium term, the alternative product, Customer Care and Billing ("CC&B"), is the flagship product for the future since it is Fusion compliant.

4.0 PLANNED CIS UPGRADE PROJECT

4.1 Options

Once aware of the imminent critical support dates detailed above, Hydro Ottawa began a due diligence review of available options to consider. Operating a critical system without full support is not considered to be a reasonable risk for the business, given the customer relationship management, regulatory compliance and cash flow implications. However, with an upgrade project expected to take 10 –12 months, this situation is likely an unavoidable short-term risk, which will be managed accordingly.
Since the application has proven to be a reliable, stable product and industry standard anticipates the cost of an upgrade to be 30% of implementation cost, a full request for proposal review of all currently available CIS products is not deemed necessary.

Enhanced functionality is expected to be available in an imminent CC&B release that will embed EBT requirements into the base product. This will broaden support service capabilities and allow some future cost avoidance in comparison to the customized code alternative currently in place with PS CIS.

Final timing of a CIS upgrade project will give consideration to the organizational capacity to undertake this project and the risk to other initiatives such as Smart Meters and Time-of-Use Rates. Allocation of available capital funds and the downstream affect on associated contracts, such as the managed services arrangement with IBM Canada, will also impact scheduling decisions.

4.2 Project Budget

Based on the preliminary Oracle/SPL proposal and PS CIS implementation expenses incurred as references, the following budget has been set for an upgrade. The final scope of the project still must be finalized and an RFP will be issued to award the contract.

Table 1 details the forecasted budget. Hydro Ottawa has included $2.7M in Construction Work in Progress (“CIP”) for 2008, with the remainder of the funds deferred until 2009.

Table 1 – Budget for CIS Upgrade

Budget Item Description	Budget Estimate
Project services	$2,450,000
Software licenses	860,000
First year maintenance	300,000
Service fees	10,000
Internal labour costs	2,000,000
Legal	100,000
External communication	70,000
Administrative costs	150,000
Sub-total -----	**5,940,000**
Burdens	1,188,000
Contingency	300,000
TOTAL -----	**$7,428,000**

5.0 CONCLUSION

Hydro Ottawa intends to pursue a full version upgrade of its CIS with target implementation in 2009. In the meantime, risk mitigation efforts will be undertaken to protect the business interests for any periods where full support for CIS is unavailable.

CAPITALIZATION POLICY AND ALLOCATION PROCEDURE

Hydro Ottawa's management undertook a review of its Capitalization Policy and its Cost Allocation Rates Policy in April 2007. The former became effective on July 26, 2005; a copy is attached (Attachment P). The latter became effective on January 1, 2004; a copy is also attached (Attachment Q).

The review was triggered by the Rate-Regulated Operations Exposure Draft, which the Canadian Institute of Chartered Accountants ("CICA") released in March 2007. This document proposed to remove from the CICA Handbook all paragraphs that provide recognition and measurement guidance to rate-regulated entities. Management was concerned that the removal of these paragraphs would also remove Hydro Ottawa's flexibility, as a rate-regulated entity, to capitalize indirect or overhead costs compared to other entities.

Management accordingly began to assess the impact that the Exposure Draft might have on its two policies. The policies had been in place for a number of years so the release of the Exposure Draft coincided with the appropriate timing for a review of these policies in any event. This review by Management indicated that these accounting estimates were outdated. Management questioned the capitalization of overhead costs that are "directly attributable" to the construction or development of property, plant and equipment; see paragraph 3061.20 of the CICA Handbook. There is no definition, however, of the term "directly attributable" in the CICA Handbook.

Deloitte and Touche ("D&T") was retained to assist management by researching how overhead costs are capitalized in other jurisdictions. Management submitted a report in this regard dated May 15, 2007 to Hydro Ottawa's Audit Committee; a copy is attached (Attachment R).

D&T's report dated June 8, 2007 ("D&T Report") concluded that, historically, capitalization of overhead by North American utilities has been aggressive. There has been a shift, however, toward more conservative polices in the U.S. and, in Canada, "a shift towards more narrow definitions in terms of the types of costs which can be capitalized" (p.8); a copy of the D&T Report is attached (Attachment S).

Management then instructed Hydro Ottawa's staff to conduct an informal web-based review to determine how other utilities interpret "directly attributable" as the term applies to overhead costs. Staff considered two reports prepared by KPMG to be the most relevant and current.

Management accordingly retained KPMG to assist in a review to update Hydro Ottawa's accounting estimates of the amount of overhead costs directly attributable to its capital program. The review and update resulted in accounting estimates that are based on three allocation factors or "cost drivers". It also resulted in a simplified allocation methodology that does not affect the amounts of overheads costs that are capitalized; however, it does affect the classification of costs within the envelope of Operations, Maintenance & Administration ("OM&A") costs. The capitalization and allocation policies were reviewed and updated to reflect any necessary changes as a result of this process. This review indicated that the updated allocation policy was a procedure, rather than a policy, and it was renamed accordingly.

KPMG prepared a report dated August 16, 2007 ("KPMG Report"); a copy is attached (Attachment T). KPMG has concluded that Hydro Ottawa's updated accounting estimates adhere to the following principle: any assignment of indirect costs to a capital project should be done based upon some reasonable causal link or association with the capital activity. KPMG has also concluded that the allocation factors are based on a defensible cost causation linkage.

Management submitted another report to Hydro Ottawa's Audit Committee dated August 21, 2007 together with the updated Capitalization Policy and the updated but renamed Allocation Procedure; a copy of the report is attached (Attachment U). The Audit

Committee accepted both the policy and the procedure; a copy of each is attached (Attachments V and W respectively).

The changes in the accounting estimates and the methodology for allocating overhead costs have been reflected in the Cost Allocation Procedure. Hydro Ottawa's Capitalization Policy has been updated accordingly; the update is not a change in accounting policy.

The new Allocation Procedure – "Cost Allocation Rates" – replaces the previous Cost Allocation Rates Policy. This procedure reflects the simplified methodology using three Burden Rates to capitalize overhead costs.

The resultant level of capitalized overhead is significantly lower than it would have been under the prior accounting estimates: $10.6M compared to $4.1M, or a decrease of approximately $6.5M, for 2008. There is a corresponding increase in the OM&A costs for 2008.

This change has the effect of increasing Hydro Ottawa's service revenue requirement for 2008. This increase is estimated as follows:

Operating Costs	+$6.5M
Amortization Expense (assuming 25 year assets on average)	-0.1M
Return on rate base	-0.2M
Estimated Change in Service Revenue Requirement	+$6.2M

A $6.2M increase represents a 4% increase in the 2008 service revenue requirement.

Hydro Ottawa expects the annual amount of capitalized overhead will continue at approximately the 2008 level for the foreseeable future. So too then would the correspondingly effect on OM&A costs.

Hydro Ottawa plans to implement the updated Capitalization Policy and the updated but renamed Allocation Procedure on October 1, 2007 because timely implementation is a requirement under the CICA Handbook. The resultant effect in the last quarter of 2007 is that approximately $1.5M to $2.0M of overhead costs will be charged to operating expenses instead of being capitalized. Hydro Ottawa has accordingly applied to the Board for approval to establish the related variance account; see its letter application dated September 14, 2007.

Hydro Ottawa has compared its 2008 OM&A costs with the 2006 OM&A costs of the 10 largest LDCs in the province from the data published by the Board in the 2006 Yearbook for Electricity Distributors dated August 31, 2007. The results follow in Table 1. As can be seen, Hydro Ottawa's proposed OM&A cost per customer for 2008 is roughly equal to the 2006 average OM&A cost per customer for the 10 largest LDCs and well under the 2006 OM&A cost per customer when all LDCs are considered.

Table 1 – OM&A Costs per Customer Comparison

	Enersource Hydro Mississauga	Enwin Powerlines	Horizon Utilities	Hydro One Brampton	Hydro One Networks	Kitchener-Wilmot Hydro	PowerStream	Toronto Hydro Electric System	Veridian Connections	Hydro Ottawa 2006	Average 2006 Largest 10	Average 2006 All	Hydro Ottawa 2008 (excluding Smart Meters)
OM&A ($000)	$43,210	$21,730	$34,258	$16,090	$393,558	$11,994	$38,300	$159,542	$19,805	$45,703			$58,588
Number of Customers	182,596	84,701	231,499	120,364	1,163,961	80,940	228,471	678,106	107,231	282,393			293,220
OM&A per Customer	$237	$257	$148	$134	$338	$148	$168	$235	$185	$162	$201	$235	$200

Policy Number: FIN5-001.01	**Subject:** Capitalization
Effective Date: July 26, 2005	**Policy Owner:** VP Finance

Applicability
This policy applies to the capitalization of assets for Hydro Ottawa Limited.

Purpose
This policy describes the process and specific criteria used for determining if expenditures should be capitalized on the Balance Sheet or expensed to operations in the period incurred.

Expenditures are capitalized to ensure that there is an equitable allocation of costs among existing and future customers. Assets are expected to provide future economic benefits for more than one year. Any expenditure associated with the acquisition, construction, development or betterment of an asset should be capitalized and allocated over the useful life of the asset.

Guidelines
Tangible Assets
Property, plant and equipment are identified as tangible assets provided that 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 an asset that lacks physical substance.

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
A betterment is a cost which 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 was incurred to maintain the service potential of a capital asset. Expenditures for repairs are expensed in the period in which they occurred.

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.

Materiality
All additions to capital 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 level is set, which if an expenditure falls below, it is not capitalized. This level is known as a materiality limit.

Materiality Limit
For identifiable assets the materiality value for capitalization for new assets or addition to existing assets will be $500.00 for distribution plant and $200 for general plant.

For grouped assets the value for capitalization will be $1000.00 based on a single occurrence for distribution plant and $200.00 for general plant. Where programs are established for ongoing betterment work this minimum will not be applicable.

Readily Identifiable Assets (Discrete)
An identifiable capital asset has a unit cost sufficiently high, and is easily indentifiable, for the asset to 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.

Cost
Cost is the amount of consideration given up to acquire, construct, develop or better a capital asset. Capital assets will be recorded at the fully allocated cost including AFUDC if applicable.

Fully Allocated Costs
Fully allocated costs include all expenditures necessary to put a capital asset in service including all overhead costs based on full absorption costing.

Capital Related Overhead Expenses
Per Allocation Policy
Allowance For Funds Used During Construction
For projects with a 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.

Depreciation
Capital assets are generally depreciated 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 depreciation.

Capital Spares
Spare 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 transformers and meters are held for the purpose of backing up transformers and meters in service in the existing distribution system. 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.

Extraordinary Items
Extraordinary items will be identified separately provided that they exceed the materiality threshold set by the OEB. Recovery of extraordinary items through rates as a Z factor expense will follow OEB guidelines.

Other
Capital contributions paid to Hydro One for upgrades to the transmission system will be capitalized for inclusion in a future rate base, or recorded as directed by the OEB.

Approval Levels

As per Procurement Policy

Policy Compliance

All current practices will comply with the Accounting Procedures Handbook issued by the OEB and 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.

Acting Chief Operating Officer	Policy Owner	Vice President Finance

Hydro Ottawa Limited

POLICY AND PROCEDURE MANUAL

Policy Number:	Subject: **COST ALLOCATION RATES**
Effective Date: January 1, 2004	Policy Owner: Vice-President, Finance

Applicability

This policy applies to the costing of all Hydro Ottawa activities

Purpose

Hydro Ottawa's regulator, the Ontario Energy Board requires Local Distribution Companies to follow full absorption accounting practices. This requires indirect corporate overhead costs (HR, IT, and Facilities), and direct operating department overhead costs to be recovered over the three major work activities of the corporation, which are:

- Maintenance
- Capital
- Work for others

This will ensure that these three major work activities are fairly and fully costed and that the Balance Sheet and Profit and Loss Statements of the Corporation reflect appropriate values.

The allocation of these overhead costs will be accomplished by applying a series of burden or overhead rates to direct costs as detailed below.

Guidelines

Separate allocation rates will be determined for the following activities:

Direct Labour Rate

An hourly labour rate will be developed which recovers direct labour, benefits, non productive time costs, corporate overheads, and operations overheads. It will be applied to all direct labour hours charged to maintenance, capital, and work for others through timesheet reporting.

Engineering Rate

An Engineering burden rate will be developed which recovers the direct cost of the Engineering Department and its share of corporate overheads. It will be applied to Distribution Capital projects and Work For Others where applicable.

Vehicle and Equipment Rates

Vehicle and equipment burden rates will be developed to capture the full costs associated with usage (maintenance, fuel, license, insurance, corporate overheads, depreciation, fleet overheads). Individual rates will be developed for major vehicle classifications based on expected utilization. Broad category rates will be developed for estimation purposes. Charges to the three major work activities will be accomplished through vehicle timesheet reporting.

Supply Chain Rate

A Supply Chain burden rate will be developed to charge all stock, non-stock, and outside services transactions to fully recover the costs charged to the Supply Chain area including its share of the corporate overheads.

General Plant Labour Rate

A General Plant burden rate will be developed for labour charged to general plant capital projects that will recover an appropriate share of corporate overheads.

Administrative Costs Rate

An Administrative Costs burden rate will be developed which charges all direct work (Maintenance, Distribution Capital, General Plant Capital, Work for Others) with their fair share of Finance and Corporate Costs (Communications, Corporate Costs, Holdco charges)

Customer Service and Marketing

These two areas will be directly charged for their share of all corporate overheads.

Procedures

New Burden rates will be developed by the Finance Department each year in conjunction with the development of the following year's budget. They will be used to develop the budgets and applied in the JD Edwards accounting system commencing on January 1 of the budget year.

Recoveries against actual costs will be monitored during the year as part of the forecast management process.

True-ups will be completed on an annual basis at a minimum.

Policy Compliance

Any exceptions to the requirements of this policy must be approved by the Chief Operating Officer and disclosed as an addendum to the policy.

Anthony Haines – Chief Operating Officer

Stephen Thompson – VP Finance

HYDRO OTTAWA LIMITED | REPORT

HYDRO OTTAWA LIMITÉE | RAPPORT

May 15, 2007

TO/DEST. Chair and Members of the Audit Committee

Agenda Item 3 CAPITALIZATION POLICY AND COST ALLOCATION RATES POLICY

RECOMMENDATION

The Audit Committee receive this report for information.

SUMMARY

1) The purpose of this report is to provide the Audit Committee with an update on Hydro Ottawa Limited's (HOL) current accounting treatment of indirect (overhead) costs and their inclusion within the cost allocation rates policy and the capitalization policy. Pending changes in this area are also discussed.

BACKGROUND

2) HOL considers its capitalization of overheads in conformance with Generally Accepted Accounting Principles (GAAP). Canadian Institute of Chartered Accountants (CICA) Handbook section 3061.20 states that "The cost of an item of property, plant and equipment includes direct construction or development costs and overhead costs directly attributable to the construction or development." This principle is similarly applied in US Financial Accounting Standards (FAS). CICA Handbook section 1100 speaks to the use of accounting standards from other jurisdictions as further guidance to CICA primary sources of GAAP. Currently, rate regulated entities are provided with an exemption to the application of Section 1100, as CICA Handbook paragraph 1100.34 states that "...an entity is not required to apply this Section to the recognition and measurement of assets and liabilities arising from rate regulations..."

3) HOL is a capital-intensive company with the majority of its expenditures being earmarked for capital projects and the subsequent ongoing maintenance of these assets. Historically it has always applied "burden" rates to its projects/programs as

do most entities in the utility sector. Each utility has its own policies in this regard and determines what costs qualify for capitalization.

4) HOL completed a project in 2003 to review its capitalization process and develop associated polices, which are applied in the formulation of its annual audited statements.

5) The development of the allocation model also considered Ontario Energy Board (OEB) prescribed accounting guidelines within its Accounting Procedures Handbook (APH), specifically articles 230 – Definitions & Instructions, Article 340 – Allocation of Costs & Transfer Pricing and Article 410 – Capital Assets. These guidelines are designed to satisfy regulatory reporting requirements and do not necessarily follow GAAP although the CICA Handbook is referred to as the underlying principle.

6) Deloitte & Touche reviewed the allocation model and related policies in July of 2004. They found the model was working as intended. The capitalization policy and allocation model have remained consistent to date.

INDUSTRY PRACTICE

7) Currently there are no "across the board standard industry practices" regarding the accounting for overheads within a capitalization policy. Depending on corporate structures, past practices, and provincial Regulator oversight, the inclusions/exclusions can vary from company to company. Most utilities do not publicly disclose in detail their process of capitalization. The OEB Accounting Procedures Handbook (APH) articles provide guidance but not definitive rules on the components of construction costs. In 2005 the CICA issued an Accounting Guideline on Disclosures by Entities subject to Rate Regulation (AcG-19) requiring note disclosure on the differences between GAAP and rate regulated accounting. In the area of overhead capitalization, Hydro Ottawa Limited, similar to other utilities felt they did not need to disclose overhead capitalization practices as they conformed to GAAP for entities subject to rate regulation.

NEW DEVELOPMENTS

8) EXPOSURE DRAFT

The CICA released a Rate Regulated Operations Exposure Draft in March 2007, which proposes to remove CICA Handbook paragraph 1100.34 and eliminate from all other Accounting Sections of the CICA Handbook any paragraphs that provide recognition and measurement guidance to rate regulated entities. It is felt that the Handbook wants to remain silent on rate-regulated entities as a result of the expected convergence with International Accounting Standards (IAS) by 2011. There is a perception that rate-regulated entities are afforded more leeway in the capitalization of indirect costs and that if CICA Handbook paragraph 1100.34 is removed the increased flexibility to capitalize indirect costs is removed. AcG-19 will continue to provide disclosure guidance to rate regulated entities.

The Accounting Standards Board (AcSB) plans to finalize the proposals in this exposure draft by the end of 2007 and has indicated it expects implementation for fiscal years beginning on or after January 1, 2009.

In the interim before the move to International Accounting Standards, there is a suggestion that Canadian entities follow the US accounting standard on the Accounting for the Effects of Certain Types of Regulation (FAS 71). Depending on interpretation, this standard is perceived to be close to current Canadian GAAP.

9) <u>2008 ELECTRICAL DISTRIBUTION RATE APPLICATION</u>

HOL is currently preparing a budget for 2008 –2010 to support its upcoming rate application. It is critical that this rate application appropriately reflect HOL's future policy on the allocation of overheads to capital, since it will be these costs that determine the utility's future revenue stream. This application is due by August 15, 2007.

<u>FINANCIAL IMPLICATIONS</u>

10) Now that the CICA has issued its Rate Regulated Operations Exposure Draft, HOL is assessing the potential impact it may have on its capitalization methodology and financial position. Currently, approximately 50% to 60% of HOL indirect costs are capitalized.

($ millions)

Indirect Costs (1)	**P&L Expense**	**Capital Allocation (2)**	**Total**
IT	1.4	1.6	3
HR	1.6	1.9	3.5
Finance	1.4	1.8	3.2
Holdco	0.9	1.0	1.9
Corporate	0.9	1.0	1.9
Facilities	1.8	2.2	4
Operational G&A	0.9	$1.1	2
Total	**$8.9M**	**$10.6M**	**$19.5M**

(1) Indirect Costs based on budget numbers for 2007.
(2) Used an average 55% capitalization rate in calculation.

If all the exposure draft proposals are implemented HOL will most likely have to conform to the more conservative capitalization policies of non-rate regulated entities.

At issue is the interpretation of "directly attributable" as it relates to indirect or overhead costs. HOL has strong arguments for a portion of Facility and

Operational general and administration (G&A) costs being directly attributable to capital projects. However it is more difficult to establish that IT, HR, Finance, Holdco and Corporate costs are directly attributable to capital projects. HOL plans to review capitalization practices of non-rate regulated entities to see how they interpret "directly attributable".

Preliminary analysis performed by HOL indicates that the percentage of indirect costs currently capitalized may decrease thereby increasing the amount of indirect costs expensed to the P&L. This would translate into increased rates for the ratepayer and increased cash flow for HOL, provided the OEB approves the capitalization policy amendments. Generally, a $4M increase in expenses translates to a 1% increase to the ratepayer's overall hydro bill.

NEXT STEPS

11) There appears to be a move towards more conservative accounting standards in Canada and in many other jurisdictions. Therefore, it is possible that some indirect costs, which are currently capitalized under GAAP by non-rate regulated entities, could also be disallowed in the future thereby compounding the impact on rate-regulated entities.

Presently, HOL is assessing the impact the exposure draft will have on its capitalization methodology and financial position. The assessment will include FAS and IAS guidance in this area. HOL has also commissioned Deloitte & Touche to research how indirect costs are capitalized in other jurisdictions.

Recommended by:

L. Zielonka

Wojciech (Wojo) Zielonka
Chief Financial Officer

Approved for submission to the Audit Committee:

Rosemarie T. Leclair
President and Chief Executive Officer

exposure draft

ACCOUNTING STANDARDS BOARD
PROPOSED ACCOUNTING STANDARDS

Rate-Regulated Operations

March 2007

COMMENTS MUST BE RECEIVED BY JUNE 30, 2007

This Exposure Draft of proposed accounting standards is issued by the Accounting Standards Board. The Board is composed of persons knowledgeable in the preparation and use of financial statements who are drawn from public practice, business and academe. All members serve as individuals and not as representatives of their employers or organizations.

Individuals and organizations are invited to send written comments on the Exposure Draft proposals. Comments are requested from those who agree with the Exposure Draft as well as from those who do not.

Comments are most helpful if they are related to a specific paragraph or group of paragraphs, and, when expressing disagreement with the Exposure Draft, they clearly explain the problem, and include a suggested alternative supported by specific reasoning. All comments received will be available on a public file one month after the Accounting Standards Board has discussed the comment letters, unless confidentiality is requested.

To be considered, comments must be received by June 30, 2007, addressed to:

Peter Martin, CA
Director, Accounting Standards
Accounting Standards Board
277 Wellington Street West
Toronto, Ontario M5V 3H2

For ease of handling, we prefer comments to be sent by e-mail (in Word format) to:
ed.accounting@cica.ca

"Standards need not be applied to immaterial items. While materiality is a matter of professional judgment in the particular circumstances, the Board believes that, as a general rule, materiality should be judged in relation to the significance of financial statement information to decision makers. An item of information, or an aggregate of items, is deemed to be material if it is probable that its omission or misstatement would influence or change a decision."

(Introduction to Accounting Standards — CICA Handbook – Accounting)

Highlights

The Accounting Standards Board (AcSB) proposes, subject to comments received following exposure, to remove from GENERALLY ACCEPTED ACCOUNTING PRINCIPLES, Section 1100, the temporary exemption pertaining to the application of the Section to the recognition and measurement of assets and liabilities arising from rate regulation, and eliminate from other Sections of the CICA Handbook – Accounting all recognition and measurement guidance relating specifically to rate-regulated operations. ACCOUNTING GUIDELINE AcG-19, Disclosures by Entities Subject to Rate Regulation, would be amended as necessary as a result of this proposal, and retained.

Background

In March 2002, the AcSB approved a project examining the need to modify existing Canadian accounting standards to deal specifically with the unique characteristics of rate-regulated operations. The project was undertaken as a domestic project, not intended specifically as part of the AcSB's efforts (under its previous Strategic Plan) to support the international convergence of accounting standards while harmonizing with US GAAP.

The AcSB made continued progress on the project, deliberating the key issues and seeking stakeholder input as appropriate to better understand the nature of rate regulation in Canada and its economic effects on entities subject to rate regulation. In May 2005, the AcSB issued AcG-19 to improve disclosures by entities subject to rate regulation pending completion of the project.

Following the adoption of its Strategic Plan for the period 2006-2011, the AcSB considered the Plan's implications for the AcSB's current work program and concluded that the project, as it was originally envisaged, should be discontinued. The decision to discontinue the project required further decisions by the AcSB regarding the disposition of existing Handbook guidance relating specifically to rate-regulated operations. The proposals described in this Exposure Draft reflect the AcSB's decisions in this regard.

Proposals

The Exposure Draft proposes to:

(a) remove the temporary exemption in Section 1100 pertaining to the application of that Section to the recognition and measurement of assets and liabilities arising from rate regulation; and

(b) withdraw from the Handbook all other recognition and measurement guidance relating specifically to rate-regulated operations. Such guidance is found in CONSOLIDATED FINANCIAL STATEMENTS, Section 1600, PROPERTY, PLANT AND EQUIPMENT, Section 3061, INCOME TAXES, Section 3465, and DISPOSAL OF LONG-LIVED ASSETS AND DISCONTINUED OPERATIONS, Section 3475.[1]

The Exposure Draft also proposes that AcG-19 be retained after the consequential amendments indicated at the end of the document.

---

[1] Other Sections that mention rate-regulated operations do not provide recognition and measurement guidance relating specifically to this sector, and are unaffected by this proposal.

These proposals should be read in conjunction with the accompanying Background Information and Basis for Conclusions document.

Plans for finalizing the proposals

The AcSB will redeliberate these proposals to take into account comments received on this Exposure Draft. The AcSB will provide updates about its redeliberations on its website at www.acsbcanada.org.

These proposals are expected to be finalized in the fourth quarter of 2007, to be applicable to interim and annual financial statements relating to fiscal years beginning on or after January 1, 2009.

Comments requested

The AcSB welcomes comments on all aspects of the proposals. Comments are most helpful if they indicate the specific paragraph or group of paragraphs to which they relate, and, when expressing disagreement with the Exposure Draft, they clearly explain the problem, and include a suggested alternative supported by specific reasoning.

The AcSB particularly welcomes comments on the following questions concerning the proposals:

1. Do you agree with the proposed elimination from Canadian GAAP of all recognition and measurement guidance relating specifically to rate-regulated operations? If not, why not?

2. Do you agree that AcG-19 should be amended as proposed, and retained? If you do not agree that it should be retained, why not? If you do not agree with the proposed amendments, what changes would you suggest and why?

3. Do you agree with the effective date for the proposed amendments to Sections 1100, 1600, 3061, 3465 and 3475, and that the proposals should apply to both interim and annual financial statements for periods beginning on or after that date? If not, what alternative(s) do you propose and why?

4. Do you agree that the effect of any changes in accounting policy required as a result of the proposal to remove the temporary exemption in Section 1100 should apply prospectively, in accordance with paragraph 1100.33? If not, what alternative do you propose and why?

5. Do you agree that when initially applying Section 1100 to the recognition and measurement of assets and liabilities arising from rate regulation, and when this results in a change in the accounting for such assets and liabilities, entities should be required to repeat the disclosures made in the comparative period under paragraph 8 of AcG-19, in order to assist financial statements users in performing a comparative analysis? If not, why not?

Rate-Regulated Operations

PROPOSAL

The following Handbook material would be amended as indicated below. Additional text is denoted by underlining and deleted text by strikethrough. Paragraphs that do not contain changes have been omitted.

GENERALLY ACCEPTED ACCOUNTING PRINCIPLES, Section 1100

.32 This Section applies to fiscal years beginning on or after October 1, 2003, except as specified in paragraph 1100.32B ~~except in the circumstances described in paragraph 1100.34~~. Earlier adoption is encouraged.

.32B This Section applies to the recognition and measurement of assets and liabilities arising from rate regulation in interim and annual financial statements relating to fiscal years beginning on or after January 1, 2009. Upon initial application of this Section to assets and liabilities arising from rate regulation, when such application results in a change in the accounting for such assets and liabilities, entities are required to repeat, in their current period financial statements, information disclosed in the comparative period under paragraph 8 of ACCOUNTING GUIDELINE AcG-19, Disclosures by Entities Subject to Rate Regulation.

~~.34 Pending completion of a separate project on rate-regulated operations, an entity is not required to apply this Section to the recognition and measurement of assets and liabilities arising from rate regulation. Entities are required to apply this Section to all other assets and liabilities for fiscal years beginning on or after October 1, 2003.~~

~~.35 An entity that chooses not to apply this Section to the recognition and measurement of assets and liabilities arising from rate regulation is required to comply with all disclosure requirements of GAAP, and to disclose the nature of the differences between its accounting policies for assets and liabilities arising from rate regulation and those required by the primary sources of GAAP.~~

~~.36 Rate regulation exists when all of the following criteria are present:~~

- ~~(a) The rates for regulated services or products provided to customers are established by or are subject to approval by a regulator or a governing body empowered by statute or contract to establish rates to be charged for services or products.~~
- ~~(b) The regulated rates are designed to recover the cost of providing the services or products.~~
- ~~(c) It is reasonable to assume that rates set at levels that will recover the cost can be charged to and collected from customers in view of the demand for the services or products and the level of direct and indirect competition.~~

CONSOLIDATED FINANCIAL STATEMENTS, Section 1600

~~.29 Where a parent or subsidiary manufactures or constructs facilities for a regulated public utility in the consolidated group, any intercompany gain or loss is deemed to have been realized to the extent that the transfer price on such facilities is recognized for rate-making purposes by a government regulatory body.~~

PROPERTY, PLANT AND EQUIPMENT, Section 3061

~~.10 Rate-regulated property, plant and equipment are items of property, plant and equipment held for use in operations meeting all of the following criteria:~~
- ~~(a) The rates for regulated services or products provided to customers are established by or are subject to approval by a regulator or a governing body empowered by statute or contract to establish rates to be charged for services or products.~~
- ~~(b) The regulated rates are designed to recover the cost of providing the services or products.~~
- ~~(c) It is reasonable to assume that rates set at levels that will recover the cost can be charged to and collected from customers in view of the demand for the services or products and the level of direct and indirect competition. This criterion requires consideration of expected changes in levels of demand or competition during the recovery period for any capitalized costs.~~

.23 The cost of an item of property, plant and equipment that is acquired, constructed, or developed over time includes carrying costs directly attributable to the acquisition, construction, or development activity such as interest costs when the enterprise's accounting policy is to capitalize interest costs. ~~For an item of rate-regulated property, plant and equipment, the cost includes the directly attributable allowance for funds used during construction allowed by the regulator.~~

INCOME TAXES, Section 3465

.01 This Section establishes standards for the recognition, measurement, presentation and disclosure of income and refundable taxes in an enterprise's financial statements~~, except that certain rate-regulated enterprises may limit the application of this Section as set out in paragraphs 3465.102-.104~~. Special considerations related to the accounting for investment tax credits are dealt with in INVESTMENT TAX CREDITS, Section 3805.

.09 The following definitions have been adopted for purposes of this Section:
- ~~(k) A rate-regulated enterprise is an enterprise that meets all of the following criteria:~~
  - ~~(i) the rates for regulated services or products provided to customers are established by or are subject to approval by a regulator or a governing body empowered by statute or contract to establish rates to be charged for services or products;~~
  - ~~(ii) the regulated rates are designed to recover the cost of providing the services or products; and~~
  - ~~(iii) it is reasonable to assume that rates set at levels that will recover the cost can be charged to and collected from customers in view of the demand for the services or products and the level of direct~~

~~and indirect competition. This criterion requires consideration of expected changes in levels of demand or competition during the recovery period for amounts recorded as recoverable under the rate formula.~~

~~.102~~ ➤ ~~*A rate-regulated enterprise need not recognize future income taxes in accordance with this Section to the extent that future income taxes are expected to be included in the approved rate charged to customers in the future and are expected to be recovered from future customers. If future income taxes are not recognized in accordance with this Section, the rate-regulated enterprise should disclose the following, in addition to the information to be disclosed in accordance with paragraphs 3465.91-.92:*~~

~~*(a) the reason why future income tax liabilities and future income tax assets have not been recognized; and*~~

~~*(b) the amount of future income tax liabilities, future income tax assets and future income tax expense that have not been recognized.*~~

~~.103 Pending further study of accounting for rate-regulated enterprises as a whole, rate-regulated enterprises are not required to record future income taxes for temporary differences that arise from assets and liabilities relating to their rate-regulated activities to the extent that these future income taxes will be included in the rates charged to customers in the future and will be recoverable at that time as set out in paragraph 3465.102.~~

~~.104 Future income taxes would be recognized in accordance with the remainder of this Section to the extent that future income taxes are not expected to be included in the rates charged to customers in the future. In addition, a rate-regulated enterprise that chooses to recognize future income taxes despite the expectation that they will be included in the rates charged to customers in the future would recognize all future income tax liabilities and future income tax assets in accordance with the requirements of this Section.~~

DISPOSAL OF LONG-LIVED ASSETS AND DISCONTINUED OPERATIONS, Section 3475

.03 The following terms are used in this Section with the meanings specified:

~~(d) Rate-regulated long-lived assets are long-lived assets held for use in operations meeting all of the following criteria:~~

~~(i) The rates for regulated services or products provided to customers are established by or subject to approval by a regulator or a governing body empowered by statute or contract to establish rates to be charged for services or products.~~

~~(ii) The regulated rates are designed to recover the cost of providing the services or products.~~

~~(iii) It is reasonable to assume that rates set at levels that will recover the cost can be charged to and collected from customers in view of the demand for the services or products and the level of direct or indirect competition. This criterion requires consideration of expected changes in levels of demand or competition during the recovery period for any capitalized costs.~~

~~.26 For rate-regulated operations, the regulator may require the difference between net carrying amount and the proceeds on disposal of a long-lived asset to be considered in the determination of future rates charged to customers. In such circumstances, the difference is deferred, provided there is reasonable assurance that:~~

~~(a) any excess of net carrying amount over proceeds on disposal will be recovered through future rates; or~~

~~(b) any excess of proceeds on disposal over net carrying amount will serve to reduce future rates.~~

CONSEQUENTIAL AMENDMENTS

ACCOUNTING GUIDELINE AcG-19, Disclosures by Entities Subject to Rate Regulation

AcG-19 would be modified as follows to:
(a) remove references to Handbook guidance that the Exposure Draft proposes be eliminated;
(b) clarify that paragraph 1 of the Guideline is not to be interpreted as providing a definition of rate-regulated operations that may be used for recognition and measurement purposes once current Handbook definitions relating specifically to rate-regulated operations have been eliminated; and
(c) remove from the Illustrative Example the hypothetical description of an entity's accounting for income taxes, since this accounting would not likely be followed if the proposals are adopted.[2]

PURPOSE AND SCOPE

3 This Guideline does not address recognition and measurement issues associated with the accounting for rate-regulated operations, and applies regardless of the accounting policies selected by an entity for its rate-regulated operations. The description in paragraph 1 of entities to which this Guideline applies should be used only for purposes of complying with the disclosure requirements of this Guideline, and should not be interpreted as providing a definition of rate-regulated operations that may be used by analogy for recognition and measurement purposes. GENERALLY ACCEPTED ACCOUNTING PRINCIPLES, Section 1100, applies to the recognition and measurement of assets and liabilities arising from rate regulation. ~~GENERALLY ACCEPTED ACCOUNTING PRINCIPLES, paragraph 1100.34, indicates that an entity is not required to apply that Section to the recognition and measurement of assets and liabilities arising from rate regulation, pending completion of a separate project on rate-regulated operations, which is currently underway.~~

DISCLOSURE

Additional information on the financial statement effects of rate regulation

7 ~~Rate regulation may cause an entity to account for a transaction or event differently than it would in the absence of rate regulation. Such differences in accounting may result from the application of GENERALLY ACCEPTED ACCOUNTING PRINCIPLES, paragraph 1100.34, or other Sections that require or permit entities subject to rate regulation to recognize or measure an item differently from other entities (see CONSOLIDATED FINANCIAL STATEMENTS, Section 1600; PROPERTY, PLANT AND EQUIPMENT, Section 3061; INCOME TAXES, Section 3465; and DISPOSAL OF LONG-LIVED ASSETS AND DISCONTINUED OPERATIONS, Section 3475).~~

8 When rate regulation has caused an entity to account for a transaction or event differently than it would have in the absence of rate regulation, ~~affected the accounting for a transaction or event,~~ the entity should state this fact and

[2] These modifications would, in turn, necessitate other amendments to the Guideline of an editorial or referencing nature. These are not identified below.

disclose additional information about the effect on its financial statements. This information should include, at a minimum, the following:

ILLUSTRATIVE EXAMPLE

Other items affected by rate regulation

~~As prescribed by a regulatory rate order, income tax expense is recovered through customer rates based on the taxes payable method. Therefore, rates do not include the recovery of future income taxes related to temporary differences between the tax basis of assets and liabilities and their carrying amounts for accounting purposes. RRO Inc. has not recognized future income taxes, as it is expected that when these amounts become payable, they will be recovered through future rate revenues. Generally accepted accounting principles require the recognition of future income tax liabilities and future tax assets in the absence of rate regulation.~~

Rate-Regulated Operations

AcSB
Exposure Draft

Background Information
and Basis for Conclusions

FOREWORD

In March 2007, the Accounting Standards Board (AcSB) released an Exposure Draft, "Rate-Regulated Operations," proposing revisions to the CICA Handbook – Accounting. The AcSB also approved for publication the contents of this document setting out its rationale for the Exposure Draft proposals. The AcSB believes this Background Information and Basis for Conclusions document will assist readers of the Exposure Draft in understanding its proposals.

March 2007

TABLE OF CONTENTS

INTRODUCTION

1. This document summarizes considerations that were deemed significant by the members of the Accounting Standards Board (AcSB) in reaching the conclusions in the March 2007 Exposure Draft, "Rate-Regulated Operations." This Exposure Draft proposes to remove from GENERALLY ACCEPTED ACCOUNTING PRINCIPLES, Section 1100, the temporary exemption pertaining to the application of the Section to the recognition and measurement of assets and liabilities arising from rate regulation, and withdraw from the CICA Handbook – Accounting (Handbook) all other recognition and measurement guidance relating specifically to rate-regulated operations. ACCOUNTING GUIDELINE AcG-19, Disclosures by Entities Subject to Rate Regulation, would be retained after some consequential amendments. This document sets out the reasons the AcSB undertook a project on rate-regulated operations, the process of research and deliberation, the key decisions made, and the principal reasons for adopting the positions taken and rejecting others. Individual AcSB members gave greater weight to some factors than to others.

2. Nothing in this document is to be taken as overriding the requirements of the Handbook or the proposals in the Exposure Draft. However, it may help readers understand how the AcSB reached its conclusions in developing the proposed Handbook revisions, and the AcSB's intent with respect to the interpretation of its proposals.

BACKGROUND

3. In March 2002, the AcSB approved a project examining the need for modifications to the Handbook to address rate-regulated operations more comprehensively. The project was undertaken for the following reasons:
   (a) Currently, the Handbook provides limited guidance dealing specifically with rate-regulated operations. Consequently, financial statement preparers have found it necessary to analogize to guidance on other topics, or have adopted industry practice or relied on US GAAP when dealing with areas in which Canadian GAAP is silent.
   (b) In the late 1990s, after becoming aware of certain accounting and financial reporting issues related to rate-regulated operations and in light of changes in the regulatory environment (for example, increased deregulation and the emergence of new forms of rate regulation), the AcSB and the Public Sector Accounting Board (PSAB) jointly commissioned a research study on the topic. In 2002, the CICA published a Research Report, "Financial Reporting by Rate-Regulated Enterprises." The report recommended that the AcSB issue a new Section on accounting for the effects of rate regulation and that the accounting requirements be substantially converged with Statement of Financial Accounting Standards No. 71, "Accounting for the Effects of Certain Types of Regulation" (SFAS 71), of the US Financial Accounting Standards Board (FASB), with the exception of accounting for income taxes.

4. The issuance of Section 1100 in July 2003 provided another reason for undertaking the project. Paragraph 1100.34 exempts entities subject to rate regulation from the requirement to apply the Section to the recognition and measurement of assets and liabilities arising from rate regulation pending completion of the project.

5. This project was undertaken as a "domestic" project, not intended specifically as part of the AcSB's efforts (under its previous Strategic Plan) to support the international convergence of accounting standards while harmonizing with US GAAP. Nonetheless, the AcSB recognized that the project could result in Canadian GAAP moving closer to either US GAAP or International Financial Reporting Standards (IFRSs) with respect to the treatment of rate-regulated operations. US GAAP includes guidance relating specifically to rate-regulated operations in SFAS 71 and other pronouncements or guidance issued subsequently by the FASB and its Emerging Issues Task Force (EITF). In contrast, IFRSs are silent on rate-regulated operations. Entities subject to rate regulation must comply with IFRSs with no exceptions or specific guidance for their circumstances.

6. The project, as originally planned, was intended to address the following key recognition and measurement issues:
   (a) Whether, and if so, under what circumstances, rate regulation may create assets and liabilities meeting the asset and liability definitions of FINANCIAL STATEMENT CONCEPTS, Section 1000.
   (b) If rate regulation creates assets and liabilities meeting the conceptual framework definitions, how these items should be measured.

7. Since rate regulation is an important consideration in evaluating the financial performance of entities with rate-regulated operations, the project was also intended to consider how best to meet user needs through disclosures in the general purpose financial statements of such entities.

8. Considerable progress was made towards the resolution of these issues. Most notably, the AcSB:
   (a) has gained a better appreciation for the nature of rate regulation in Canada, its economic effects on entities subject to rate regulation and the various accounting treatments that have been adopted;[1]
   (b) commenced deliberations on the issue set out in paragraph 6(a); and
   (c) issued AcG-19 in May 2005.

9. The AcSB recently reconsidered this project in light of the Strategic Plan it adopted in January 2006 and the impending move to IFRSs for publicly accountable enterprises. Since publicly accountable enterprises are currently expected to be following IFRSs in approximately four years' time, any new guidance resulting from the project would be short-lived and potentially require two accounting changes within a relatively short period. Therefore, the AcSB decided that the project, as it was originally envisaged, should be discontinued.

10. The decision to discontinue the project and the implications of the new Strategic Plan required further decisions by the AcSB regarding:
   (a) the temporary exemption described in paragraph 4;
   (b) Handbook guidance relating specifically to rate-regulated operations in Sections 1600, 3061, 3465 and 3475 (see paragraphs 12-15);

---

[1] This was achieved, in part, through stakeholder input obtained at roundtable discussions and from written submissions, including those provided in response to the AcSB's invitation to submit fact patterns.

(c) the appropriateness of entities subject to rate regulation relying on other sources of GAAP (including SFAS 71); and

(d) AcG-19.

The decisions taken, and their supporting rationale, are described in paragraphs 17-37.

HANDBOOK GUIDANCE ON RATE-REGULATED OPERATIONS

11. Certain Sections of the Handbook currently provide additional or different requirements that apply only in the specific circumstances of entities subject to rate regulation and permit or require these entities to account for transactions and events differently than they would in the absence of rate regulation. As noted above, Section 1100 is one such Section. Paragraphs 12-15 describe the guidance relating specifically to rate-regulated operations in each of the other such Sections and compare it to corresponding guidance under US GAAP. As noted in paragraph 5, there is no corresponding guidance in IFRSs.

12. CONSOLIDATED FINANCIAL STATEMENTS, Section 1600, currently requires the elimination of unrealized intercompany gains or losses arising subsequent to the date of an acquisition on assets remaining within the consolidated group, but provides an exception for entities subject to rate regulation. SFAS 71 provides a similar exception.

13. PROPERTY, PLANT AND EQUIPMENT, Section 3061, currently permits the capitalization of carrying costs directly attributable to the acquisition, construction or development of property, plant and equipment over time and specifies that, in the case of rate-regulated property, plant and equipment, these costs include the regulator-approved allowance for funds used during construction (AFUDC). Since AFUDC typically includes not only an interest component but also a cost-of-equity component, carrying costs capitalized by entities subject to rate regulation generally exceed those capitalized in similar circumstances by other entities. Similarly, SFAS 71 specifies that when a regulator requires an entity to capitalize the cost of financing, comprising both a computed interest cost and a designated cost of equity funds, the entity should capitalize the same amount for financial reporting purposes, rather than the amount of interest that would otherwise be capitalized under Statement of Financial Accounting Standards No. 34, "Capitalization of Interest Cost" (SFAS 34).

14. INCOME TAXES, Section 3465, currently requires the recognition of future income taxes, but provides an exception for entities subject to rate regulation to the extent that future income taxes are expected to be included in regulator-approved future rates and recovered from future customers. US GAAP in this area differs. While SFAS 71 originally mandated the approach to accounting for future income taxes found in Section 3465, the standard was subsequently amended by Statement of Financial Accounting Standards No. 109, "Accounting for Income Taxes" (SFAS 109). US GAAP now requires entities subject to rate regulation to recognize future income tax liabilities and assets, as well as a separate regulatory asset (or liability) for the amount of future income taxes expected to be included in future rates and recovered from (or paid to) future customers.

15. DISPOSAL OF LONG-LIVED ASSETS AND DISCONTINUED OPERATIONS, Section 3475, currently requires the immediate recognition of gains or losses on the sale of a long-lived asset, except for rate-regulated operations, when the regulator requires such gains or losses to be included in the determination of future rates and there is reasonable assurance that the gain (or loss) will serve to reduce (or be recovered through) future rates. In such cases, the gain or loss is deferred for financial reporting purposes. Neither SFAS 71 nor Statement of Financial Accounting Standards No. 144, "Accounting for the Impairment or Disposal of Long-Lived Assets" (SFAS 144), specifically addresses the accounting for disposals of long-lived assets by entities subject to rate regulation. However, SFAS 71 includes general guidance on when the rate actions of a regulator justify the deferral and amortization of gains that would otherwise be included in net income of the current period, or the capitalization of costs that would otherwise be charged as a current period expense. Such guidance might reasonably be applied to disposals of long-lived assets when the qualifying criteria have been met.

16. IMPAIRMENT OF LONG-LIVED ASSETS, Section 3063, does not specifically address rate-regulated operations, but the accompanying Background Information and Basis for Conclusions states that the Basis for Conclusions for SFAS 144 might be helpful to Handbook users. Hence, it may be concluded that Canadian and US GAAP are consistent in this area. As explained in the Basis for Conclusions for SFAS 144, the impairment provisions of that standard are intended to apply differently to entities subject to rate regulation. Another US standard, Statement of Financial Accounting Standards No. 90, "Regulated Enterprises — Accounting for Abandonments and Disallowances of Plant Costs," provides guidance on impairments of a particular nature.

AcSB DECISIONS

Section 1100

17. The temporary exemption provided in Section 1100 and described in paragraph 4 was granted pending completion of the AcSB's project on rate-regulated operations, so that entities subject to rate regulation making changes as a result of the adoption of Section 1100 would not be required to make further (and possibly reversing) changes upon completion of the project. When Section 1100 was issued, the AcSB anticipated the timely completion of the project and that the exemption would be in place for a limited time. The Decision Summary for the December 1-2, 2004 meeting of the AcSB noted that it remained the Board's intention to eliminate the exemption within a reasonable period of time.

18. The AcSB has now decided that the Section 1100 exemption should be removed concurrently with any proposed amendments to Sections 1600, 3061, 3465 and 3475, for the following reasons:
    (a) Section 1100 makes it clear that accounting prescribed by regulatory authorities should not be considered in and of itself generally accepted for purposes of financial reporting. This includes financial reporting by entities subject to rate regulation.
    (b) The AcSB had previously concluded, and stakeholder input received throughout the project has consistently supported the view, that the GAAP conceptual framework and hierarchy should apply equally to all entities,

whether or not they are subject to rate regulation. Removing the Section 1100 exemption will ensure that this is the case.

(c) Revising Sections 1100, 1600, 3061, 3465 and 3475 concurrently as proposed would allow entities subject to rate regulation to make all necessary changes simultaneously, thus eliminating the need for the exemption.

The application of GAAP to rate-regulated operations

19. The AcSB notes that the Handbook, SFAS 71 and IFRSs are based on a common premise, namely, that entities subject to rate regulation should follow GAAP. However, they differ in terms of how this premise is expressed. While IFRSs are silent on rate regulated operations, SFAS 71 is explicit in its acknowledgment that the economic effects of rate regulation may affect the manner in which GAAP is applied. Although the Handbook does not have an equivalent to SFAS 71, the guidance it contains relating specifically to rate-regulated operations reflects the same concept.

20. The issue at hand is whether rate regulation introduces an economic dimension in some circumstances that should affect the application of generally accepted accounting principles to rate-regulated operations. The FASB concluded that it does, noting the cause-and-effect relationship of costs and revenues as a primary economic effect of regulation that affects the accounting for rate-regulated operations. The specific circumstances in which the FASB believes rate actions should affect the accounting for rate-regulated operations are described in SFAS 71.

21. SFAS 71 does not imply that GAAP does not apply to entities subject to rate regulation. Rather, it specifies how the different types of rate actions are reported in general purpose financial statements. The economic effect of regulatory decisions, not the mere existence of regulation, is the pervasive factor that determines the application of GAAP.

22. SFAS 71 requirements relating to future income taxes serve to illustrate this concept. As the FASB notes, rate actions of the regulator cannot eliminate obligations that were not imposed by the regulator. Thus, entities must recognize a future income tax liability when appropriate, and this liability is not affected by rate actions. At the same time, rate actions may create an asset related to but quite separate from the future income tax liability, to the extent that the future income taxes are expected to be included in future rates and recovered from future customers.

23. The AcSB's project, as originally envisaged, would have provided the opportunity to assess the appropriateness of using SFAS 71 as a model for the development of more comprehensive Handbook guidance on rate-regulated operations, considering such factors as the standard's age and changes in the North American regulatory environment since it was issued. However, this work has not been completed and, therefore, the AcSB has not formed an opinion on the extent to which SFAS 71 remains relevant in today's environment, and whether it incorporates the best measurement model.

24. Nonetheless, the AcSB is aware that the accounting for rate-regulated operations in both Canada and the US has largely evolved from the principles of SFAS 71, and that these principles were rigorously tested by the FASB

when developing the standard. The AcSB considers the FASB's analysis of, and conclusions on, the issue described in paragraph 20 to be reasonable. At the same time, the AcSB is also aware that certain differences exist between SFAS 71 and current practice in Canada.

Sections 1600, 3061, 3465 and 3475

25. The AcSB considered the extent to which existing Handbook guidance relating specifically to rate-regulated operations is consistent with SFAS 71, and whether any differences are justified. As noted in paragraphs 12, 13 and 15, the guidance contained in Sections 1600, 3061 and 3475 is consistent with SFAS 71. However, as also noted in paragraph 14, the guidance in Section 3465 differs from SFAS 71 as concerns the treatment of future income taxes.

26. During the development of Section 3465, Canadian entities subject to rate regulation were opposed to the proposed adoption of US requirements relating to income taxes. They argued that:
    (a) these requirements would result in an increase in large corporations taxes and capital taxes payable by entities subject to rate regulation, an amount that would generally be passed on to shareholders or customers, depending on whether or not the regulator allowed the increased cost to be included in the calculation of customer rates; and
    (b) the unique circumstances created by Canadian tax rules justified a different approach from the one taken in SFAS 71.

    After considering these concerns, the AcSB decided to include the exception found in paragraph 3465.102, "pending further study of accounting for rate-regulated enterprises as a whole."

27. The AcSB sees no theoretical justification for this exception. It notes that entities not operating in a rate-regulated environment must manage the pricing effects of recognizing future income taxes, and suggests that concerns about the tax effects of applying accounting standards are more appropriately brought to the attention of either the taxation authorities or the regulator, who may extend the period over which any associated increase in costs is recovered through rates. The AcSB further notes that in most Canadian tax jurisdictions, large corporations and capital taxes have either been eliminated or are being phased out. As a result of these considerations, the AcSB decided that leaving Section 3465 as is was not a feasible option.

28. The AcSB recognizes that one way of achieving consistency between those Sections with guidance relating specifically to rate-regulated operations and SFAS 71 would be to:
    (a) remove the exception in Section 3465 and further amend the Section to require the treatment of future income taxes specified in SFAS 71; and
    (b) leave Sections 1600, 3061 and 3475 intact.

    However, it could be argued that in order to make it more helpful, the Handbook should be further amended to incorporate all guidance provided in SFAS 71 and subsequent related US standards. For example, Appendix B to SFAS 71 provides guidance on the application of the standard to specific situations including intangible assets, early extinguishment of debt, and accounting for leases. The Handbook does not provide similar guidance. Anything less than this more comprehensive amendment would result in a continuation of the Handbook's current piecemeal approach to dealing with rate-regulated operations, a situation the project was intended to rectify.

29. The AcSB decided that, to the extent that it is possible for Canadian entities subject to rate regulation to account for their transactions and events in accordance with SFAS 71, this result would more appropriately be achieved through the removal of all Handbook recognition and measurement guidance relating specifically to rate-regulated operations. This conclusion rests on the view that, once such guidance has been removed, SFAS 71 is a possible "other source" of GAAP as described in Section 1100.

30. As noted in paragraph 18(b), the proposed removal of the Section 1100 exemption means that the Section's requirements regarding consistency with the conceptual framework and the application of the GAAP hierarchy would apply fully to entities subject to rate regulation. This includes the requirement, in paragraph 1100.04, that when the primary sources of GAAP do not adequately deal with an entity's circumstances, the entity adopt accounting policies and disclosures that are consistent with the primary sources of GAAP and developed through the exercise of professional judgment and the application of the concepts described in FINANCIAL STATEMENT CONCEPTS, Section 1000. The AcSB notes that:
    (a) the FASB regards the principles of SFAS 71 as being consistent with FASB Concepts Statements (for example, the Basis for Conclusions for SFAS 71 speaks to the ability of a regulatory action to create a future economic benefit, the essence of an asset, and concludes that the qualifying criteria for an asset, found in FASB Concepts Statement No. 3, *Elements of Financial Statements of Business Enterprises*, are met); and
    (b) the financial statement concepts described in Section 1000 are substantially converged with the FASB Concepts Statements.

31. Canadian entities subject to rate regulation intending to consult the pronouncements of accounting standard setters in other jurisdictions in the absence of Handbook guidance adequately dealing with their circumstances are reminded of paragraph 1100.26, which states that such other sources of GAAP should be evaluated in the context of the relative manner in which the foreign standard setter requires its pronouncements to be applied, as well as in the context of the related pronouncement.

32. The AcSB notes that the eligibility criteria of SFAS 71 appear more restrictive than the criteria included in the current Handbook definition of rate-regulated operations. Most notably, while the Handbook requires that rates be established by or subject to approval by "a regulator or a governing body empowered by statute or contract to establish rates," SFAS 71 further requires that the rate regulator be an "independent, third-party regulator." The AcSB further notes that this has implications, and could be a particular concern, for public sector entities that are required to comply with the Handbook and have a rate regulator deemed not to be independent.

33. The AcSB decided against introducing elsewhere in the Handbook a definition that differs from the one in SFAS 71 if, as proposed, all Handbook recognition and measurement guidance relating specifically to rate-regulated operations is withdrawn. The AcSB is aware that DIFFERENTIAL REPORTING, Section 1300, currently includes a definition of rate-regulated enterprises and that it differs from the SFAS 71 definition. However, the purpose of the Section 1300 definition was, and remains, only to determine the entities that qualify to use differential reporting, and not to otherwise provide recognition and measurement guidance. Therefore, the AcSB proposes that this definition be left as is.

34. Based on the foregoing, the AcSB proposes to eliminate all explicit references to rate-regulated operations in Sections 1600, 3061, 3465 and 3475.[2] This would:
   (a) open the door to the possibility of Canadian entities looking to SFAS 71 and other related US pronouncements as other sources of GAAP;
   (b) reduce the diversity of practice currently in evidence among Canadian entities subject to rate regulation; and
   (c) bring Canadian GAAP closer to IFRSs before publicly accountable enterprises are required to begin reporting using IFRSs. The AcSB observes that, at this stage in the movement towards a single set of globally accepted accounting standards, it is too early to tell whether IFRSs will be interpreted and applied in a manner that produces results consistent with those of SFAS 71. However, the AcSB's proposals create a level playing field between Canadian entities subject to rate regulation, once they are reporting using IFRSs, and others following IFRSs.

35. The AcSB observes that input received to date appears to support its choice. Stakeholders commenting on the appropriateness of SFAS 71 as a model for the development of more comprehensive Handbook guidance on rate-regulated operations strongly agree with the standard's underlying premise that the actions of a rate regulator can create an asset or liability.

AcG-19

36. AcG-19 has no equivalent in US GAAP or IFRSs. However, the AcSB believes that this Accounting Guideline is, and will remain, beneficial to the readers of the financial statements of entities subject to rate regulation. Therefore, the AcSB proposes that AcG-19 be amended as necessary as a result of the proposals in the Exposure Draft, and retained throughout the period leading up to the date on which publicly accountable enterprises are required to begin reporting using the new IFRS-based standards. The ultimate disposition of AcG-19, and other Handbook guidance with no equivalent in IFRSs, will be decided at a later date, in conjunction with the AcSB's detailed implementation plan for IFRS convergence.

37. Besides removing from AcG-19 references to Handbook material that will be withdrawn if the proposals in the Exposure Draft are adopted, the AcSB proposes the following:
   (a) The Guideline would be amended in the manner indicated so as to make clear that its broad scope is not to be used by analogy for recognition and measurement purposes once all Handbook recognition and measurement guidance relating specifically to rate-regulated operations has been withdrawn. More specifically, Handbook users cannot access SFAS 71 via AcG-19. Rather, they must look to SFAS 71 itself to determine whether they meet its qualifying criteria.
   (b) The reference, in the Guideline's Illustrative Example, to RRO Inc. accounting for income taxes using the taxes payable method would be

---

[2] One Section other than Section 1300 makes mention of rate-regulated operations but is unaffected by the AcSB's proposals. INTEREST CAPITALIZED — DISCLOSURE CONSIDERATIONS, Section 3850, scopes out interest capitalized by rate-regulated enterprises as part of AFUDC when AFUDC in the period is disclosed. The AcSB decided that this scope exception should remain, since it affects the disclosure, rather than recognition and measurement, practices of entities subject to rate regulation.

eliminated, as this scenario is no longer relevant if the proposals are adopted.

EFFECTIVE DATE AND TRANSITION

38. The effective date selected for the Handbook revisions proposed in this Exposure Draft reflects the AcSB's practice of providing a reasonable period from the publication of Handbook revisions to their effective date.

39. The AcSB decided that the proposals should apply to interim, as well as annual, financial statements relating to fiscal years beginning on or after the effective date. The AcSB notes that in determining the effect of the proposals on interim financial statements in years following the one in which the proposals become effective, entities should refer to INTERIM FINANCIAL STATEMENTS, Section 1751.

40. The AcSB considered whether the effect of any change in accounting policy made as a result of now applying Section 1100 to the recognition and measurement of assets and liabilities arising from rate regulation should be applied retrospectively, as would normally be the case under ACCOUNTING CHANGES, Section 1506, or prospectively, as required by paragraph 1100.33. As noted in the Background Information and Basis for Conclusions for Section 1100, the AcSB's rationale for requiring prospective application of the effect of any change in accounting policy made on adopting the Section related primarily to the dramatic changes in reported equity that might otherwise result, and the recognition that public companies are sensitive to financial statement restatements. Prospective application was also viewed by the AcSB as making it easier to meet the Section's effective date. The AcSB decided that this rationale applies equally as well to entities subject to rate regulation and the proposals at hand, and, therefore, entities subject to rate regulation should be subject to the same requirement as all other entities.

41. The AcSB also considered whether additional guidance on the application of the transitional provisions in Section 1100 is required. In particular, it noted that paragraph 1100.33(b) does not permit an entity to recognize assets and liabilities that were not recognized previously but would have been recognized had these proposals been in place. The AcSB concluded that additional guidance is not required. However, it notes the important distinction between not now recognizing items that were not recognized previously, and presenting separately (gross) amounts that may have previously been offset. Taking income taxes as an example, entities subject to rate regulation have, in essence, already been recognizing future income tax assets and liabilities, as well as offsetting liabilities and assets for the rate actions of the regulator, and netting them for presentation purposes. Under the proposals, the amounts would be required to be presented gross.

42. In order to ensure that financial statement users have the information needed for comparative analyses, the AcSB decided that when initially applying Section 1100 to the recognition and measurement of assets and liabilities arising from rate regulation, and this results in a change in the accounting for such assets and liabilities, entities should be required to disclose the additional information specified in proposed paragraph 1100.32B.

Deloitte & Touche LLP
800 - 100 Queen Street
Ottawa ON K1P 5T8
Ottawa ON K1P 5T8
Canada

Tel: (613) 236-2442
Fax: (613) 236-2195
www.deloitte.ca

June 8, 2007

Mr. Wojciech Zielonka
Chief Financial Officer
Hydro Ottawa Holding Inc.
3025 Albion Road North
Ottawa, ON
K1G 3S4

Dear Mr. Zielonka:

We are pleased to present this report to you, outlining the key elements of and the key findings arising from our engagement to assist management in determining the accounting guidelines and industry practices as it relates to including overhead allocations in the costs capitalized to Property, Plant & Equipment.

Our role in this engagement is to report on research conducted. The selection of accounting policies is the responsibility of management and as such no opinion has been provided.

Scope of Engagement

According to management, Hydro Ottawa Holdings currently capitalizes between 50-60% of the "indirect costs" they incur. Our analysis included looking at accounting guidance in Canada, the United States, and International Accounting Standards. We also looked at the financial statements of some of the largest utilities in the United States, as well as some Canadian utilities, to identify the policies being used by other organizations in the industry. The Federal Energy Regulatory Commission (FERC) in the U.S. also provides guidelines which, although not mandatory, are used as guidance by many utilities in the U.S.

Canadian GAAP

CICA 3061 provides guidance on property, plant & equipment. Specifically, paragraph .05 provides a definition for cost:

> .05 Cost is the amount of consideration given up to acquire, construct, develop, or better an item of property, plant and equipment and includes all costs directly attributable to the acquisition, construction, development or betterment of the asset including installing it at the location and in the condition necessary for its intended use. Cost includes any asset retirement cost accounted for in accordance with ASSET RETIREMENT OBLIGATIONS, Section 3110.

Further guidance relating to acquisition, construction or development over time is as follows:

> .20 The cost of an item of property, plant and equipment includes direct construction or development costs (such as materials and labour), and overhead costs directly attributable to the construction or development activity. **[Development costs are further defined in CICA 3450]**

> .23 The cost of an item of property, plant and equipment that is acquired, constructed, or developed over time includes carrying costs directly attributable to the acquisition, construction, or development activity such as interest costs when the enterprise's accounting policy is to capitalize interest costs. For an item of rate-regulated property, plant and equipment, the cost includes the directly attributable allowance for funds used during construction allowed by the regulator.

Based on these paragraphs, an entity may only capitalize costs "directly attributable" to a capital asset. Determining what is "directly attributable" is a matter of judgment; a criterion commonly used is whether or not a cost would have been incurred if construction of a capital asset had never occurred. Such a criteria would preclude the capitalization of a portion of overhead costs such as portions of finance charges, executive costs, building leases, other administrative charges, etc.

CICA 1100 on GAAP transitional provisions states the following:

> .34 Pending completion of a separate project on rate-regulated operations, an entity is not required to apply this Section to the recognition and measurement of assets and liabilities arising from rate regulation. Entities are required to apply this Section to all other assets and liabilities for fiscal years beginning on or after October 1, 2003.

> .35 An entity that chooses not to apply this Section to the recognition and measurement of assets and liabilities arising from rate regulation is required to comply with all disclosure requirements of GAAP, and to disclose the nature of the differences between its accounting policies for assets and liabilities arising from rate regulation and those required by the primary sources of GAAP.

These two paragraphs essentially allow rate regulated entities to depart from GAAP as it relates to the measurement of assets and liabilities arising from rate regulation. Based on these paragraphs, an argument can be made that a portion of general and administrative costs should be capitalized in order to allow for a recovery of a cost of capital on these expenses, and not just in the year of incurrence. Note that AcG-19 requires disclosure in the notes to the financial statements of any deviations from the regular CICA handbook guidance as a result of section 1100 and rate regulated accounting.

We looked at the financial statements of several large utilities in Canada. Some of them disclosed capitalizing portions of overhead costs such as "indirect labour" and "proportional shares of administrative costs" while others did not specifically mention overhead. A summary of the practices of these Canadian utilities can be found in Appendix A. There are variations across Canada in terms of the capitalization policies of utilities; Hydro Ottawa does have policies which are similar to those of many other Canadian utilities.

There is also a publicly available report conducted by KPMG for NB Power relating to overhead capitalization. This report provides more detail on NB Power's accounting policies then would normally be found in a utilities' financial statements. NB Power only capitalizes overhead costs which are "incremental" in nature. Incremental costs are costs that would not exist if NB Power did not construct its own capital assets. Note that this definition is similar to the IFRS definition discussed below. NB Power uses a 3-5 year time frame when evaluating whether or not a cost is incremental ie: if NB Power discontinued capital asset construction, although there may not be an immediate reduction in administrative costs, to the extent such costs might decrease over a 3-5 year period, that portion of the cost would be incremental.

The recent release of a CICA Exposure Draft relating to Rate Regulated Operations is expected to be implemented in 2009 and removes all special provisions from the handbook related to rate regulated entities. In the absence of specific guidance for rate regulated entities, utilities may choose to follow US guidance is described below. Canadian standards are expected to converge with international standards by 2011, which is likely the reason for the exposure draft. International Accounting Standards do not allow for rate regulated accounting, and generally companies following international standards can not apply any special rate regulated accounting, even if they own utilities in the United States.

US GAAP

SFAS 71 in the U.S. allows regulated entities to depart from U.S. GAAP. The Statement sets forth three general standards for the effects of regulation, as defined:

1. Rate action of a regulator can provide reasonable assurance of the existence of an asset. Thus, before costs which would otherwise be expensed are capitalized or deferred, it must be probable that the regulator will allow their recovery in the future by the established rates.

2. A regulator can impose a liability on an enterprise. For example, it is not uncommon for a regulator to order a refund or revenues to customers or make provisions in rates for costs not

yet incurred. Revenue refunds are recorded in the fiscal year and interim period in which such refunds become probable.

3. Rate actions of a regulator can reduce or eliminate the value of an asset. If an asset is disallowed by the regulator as an allowable cost, the asset cannot be expected to produce revenue in the future through the rate-making process. Since the asset has been impaired, it must be written down.

As a result of SFAS 71, many utilities in the U.S aggressively capitalize overhead costs to fixed assets; however there are variations among the various utilities. Using a Fortune listing, we identified the 10 largest utilities in the U.S, and reviewed the accounting policies disclosed in their financial statements. The statements of 8 of these 10 companies made reference to the capitalization of overhead or indirect costs. This includes costs such as employee benefits, general and administrative costs, and finance charges. The financial statements do not provide details as to the methodology used to allocate these costs, or what portion of the total overhead costs are ultimately capitalized, however it does show that the majority of utilities in the U.S. do capitalize overhead or indirect costs.

In 2001, the AcSEC released a statement of position (SOP) on accounting for costs and activities relating to property, plant & equipment. The SOP goes into detail about capitalization of overhead costs, with the underlying theme being that in order to be capitalized, overhead costs must be "directly identifiable with the specific PP&E".

> 28. Costs incurred during the acquisition-or-construction stage should be charged to expense as incurred unless the costs are directly identifiable with the specific PP&E or the costs meet the requirements in paragraph 32 or 35. Subject to the provisions of paragraphs 29 and 30 of this SOP, directly identifiable costs include only:
>
> a. Incremental direct costs of acquiring, constructing, or installing the specific PP&E incurred in transactions with independent parties;
> b. Certain costs directly related to activities performed by the entity (or by parties not independent of the entity) for the acquisition, construction, or installation of the specific PP&E, and costs directly related to preproduction test runs of PP&E that are necessary to get the PP&E ready for its intended use. Those costs include only (1) payroll and payroll benefit-related costs of employees who devote time to a PP&E acquisition-or-construction stage activity, to the extent of time the employees spent directly on that activity and in proportion to the total hours employed, (2) depreciation of machinery and equipment used directly in the construction of installation of PP&E to the extent of time the machinery and equipment is used directly in that activity as a percentage of its expected useful life, and incremental costs (such as fuel for machinery) directly associated with the utilization of that machinery and equipment; and (3) the cost of inventory used directly in the construction or installation of PP&E

28A. Occupancy costs, including rent and depreciation of facilities and other costs associated with facilities are excluded from directly identifiable costs and should be charged to expense as incurred.

29. General and administrative costs incurred by the entity should be charged to expense as incurred. All costs (including payroll and payroll benefit-related costs) of executive management, corporate accounting, acquisitions, corporate legal, office management and administration, marketing, human resources, and similar costs or functions should be charged to expense as incurred.

30. The costs referred to in the previous paragraph should be charged to expense as incurred whether incurred internally by the entity or by another enterprise on behalf of the entity. For example, an entity could choose to establish its own internal human resources department or could outsource its human resources function. In either case, the costs should be charged to expense as incurred.

The SOP is fairly conservative as to what costs can be capitalized. It allows capitalizing certain directly related overheads, such as for purchasing, storeroom operations, plant accounting and engineering. However most other overhead costs would not meet the SOP criteria.

This SOP was never issued, but nevertheless, a number of utilities in the U.S amended their capitalization policies to remove some of the more "aggressive" overhead costs, such as a portion of executive costs. The belief among many in the US industry is that guidelines will eventually be issued which will be similar to this SOP, with a focus on applying a "directly attributable" criteria to overhead costs. Many American companies are adopting more conservative overhead capitalization policies as a result.

The Federal Energy Regulatory Commission (FERC) is an independent agency that regulates and oversees energy industries in the United States. They provide accounting guidance that is not mandatory, but is used as a guideline by most utilities in the United States. CFR 18 Part 101 provides the following guidance on components of construction cost:

A. For Major utilities, the cost of construction properly includible in the electric plant accounts shall include, where applicable, the direct and overhead cost as listed and defined hereunder:

(1) Contract work includes amounts paid for work performed under contract by other companies, firms, or individuals, costs incident to the award of such contracts, and the inspection of such work.

(2) Labor includes the pay and expenses of employees of the utility engaged on construction work, and related workmen's compensation insurance, payroll taxes and similar items of expense. It does not include the pay and expenses of employees which are distributed to construction through clearing accounts nor the pay and expenses included in other items hereunder.

(3) Materials and supplies includes the purchase price at the point of free delivery plus customs duties, excise taxes, the cost of inspection, loading and transportation, the related stores expenses, and the cost of fabricated materials from the utility's shop. In determining the cost of materials and supplies used for construction, proper allowance shall be made for unused materials and supplies, for materials recovered from temporary structures used in performing the work involved, and for discounts allowed and realized in the purchase of materials and supplies.

These guidelines have a fairly narrow view of costs which meet capitalization criteria. The criteria is similar to the guidance in the SOP in that costs need to be "directly attributable" to the PP&E in order to be eligible for capitalization.

Recently, a forum on regulatory accounting was co-hosted by The American Gas Association and The Edison Electric Institute. Between them, these two associations represent the majority of all regulated gas and electric utilities in the U.S. We had a contact put forth the overhead capitalization question to a roundtable of representatives from the electricity industry. This is a fairly topical issue in the US as they are also concerned with the potential of US-IFRS harmonization and how this could impact regulatory accounting. There were 3 other questions put forward to the roundtable on the topic of overhead capitalization. Pertinent information from the forum on the overhead capitalization issue included:

- When asked whether G&A costs (or a portion thereof) are capitalized as part of the utility's capitalization policy, 17 respondents answered yes, and 5 responded no.
- 4 of the 17 who responded yes only capitalize based on direct charges to the project. For example, employees are either removed from their day to day job and assigned to the project or they complete timesheets to directly charge their time to a capital project.
- The other 13 apply a % to their G&A costs to represent direct capital work. The % applied is supported by performing full capitalization studies.
- 4 respondents include a % of executive costs as part of their capitalization policy, while 18 do not.
- When asked how often detailed capitalization studies are performed, 12 responded every 1-5 years, 8 responded every 6-10 years, and 2 responded greater then every 10 years.
- All respondents referenced FERC as the overriding source for them to use in determination of capitalization of overhead costs.

International Accounting Standards

International accounting standards differ significantly from Canadian & US standards in that they do not allow for special accounting for rate regulated entities. Therefore, utilities following international accounting standards can only look to the regular capitalization criteria found in IAS16 – Property Plant & Equipment. We also looked at the UK Standard FRS15 – Tangible Fixed Assets. The UK is moving towards international standards, and FRS 15 is very similar to IAS 16 however it provides some more detailed definitions as to what qualify as capital activities and tangible fixed assets.

FRS 15 defines capital activities as activities related to the initial construction, acquisition, or subsequent improvement of tangible fixed assets intended to be held long term in order to provide a service or other benefit to an entity and which are not held primarily for resale at a profit. The treatment of these activities as capital ceases when substantially all the activities that are necessary to get the tangible fixed asset ready for use are complete even if the asset has not yet been brought into use.

Tangible fixed assets are defined as assets that have physical substance and are held for use in the production or supply of goods and services or for administrative purposes on a continuing basis in the business. Held means that the entity has ownership of the assets through legal title or deemed ownership of an asset held under a finance lease. IAS 16 provides a similar definition.

FRS 15 & IAS 16 both also provide guidance on when activities associated with repairs and maintenance are treated as capital. There are three conditions which must be met:

1) where the activities provide an enhancement of the economic benefits of the tangible fixed asset in excess of previously assessed standard of performance.

2) where a component of the tangible fixed asset has been treated separately for depreciation purposes and depreciated over the useful life of the asset, is replaced and restored; and

3) where the activities relate to a major inspection or overhaul of a tangible fixed asset that restores the economic benefits of the asset that have been consumed by the entity and already have been reflected in depreciation.

FRS 15 states that fixed assets should initially be measured at cost. Only costs that are directly attributable to bringing the asset into working condition for its intended use should be included. Cost includes purchase price along with and costs directly attributable to bringing it into working condition for its intended use. Examples of directly attributable costs include the labor costs of employees arising directly from the construction, or acquisition, of the specific tangible fixed asset.

Per FRS 15, administration and other general overhead costs would be excluded from the cost of a tangible fixed asset. Employee costs not related to the specific asset (for example site selection activities) are not directly attributable costs.

Unlike direct costs, it is much more difficult and impractical to establish a direct relationship between indirect costs incurred, and capital activities. An indirect cost can be attributed to a specific capital project if the incremental costs to the entity would have been avoided only if the tangible fixed asset had not been constructed or acquired.

IAS 16 provides similar guidance, in that only directly attributable costs costs may be capitalized. In order for overhead costs to be capitalized under IAS 16, there must be proof that they are direct and incremental to the project. Directly attributable incremental costs under the IFRS definition are costs arising from the construction or acquisition of the specific asset and are incremental costs that would have been avoided only if the specific asset had not been constructed or acquired.

Examples of costs which can be capitalized under IAS 16 include

- Purchase price, including import duties and non-refundable purchase taxes;
- Site preparation;
- Delivery and handling;
- Installation and assembly, including employee benefits;
- Professional fees; and,
- Costs to add to, replace part of, and to service the asset.

Examples of costs which do not meet IAS 16 capitalization criteria include:

- Administration and other general overhead costs;
- Relocation and reorganization costs;
- Costs of day-to-day servicing;
- Costs of opening a new facility or introducing a new product; and,
- Abnormal amounts of wasted material, labor or other resources.

A study done by Deloitte for a UK utility revealed that the situation there is similar to that in North America in that there is no consistent capitalization pattern across the industry. For example, as it relates to capitalization of repair and maintenance charges, some utilities capitalized the entire cost of certain repair and maintenance projects if they met the criteria, whereas other utilities capitalized actual repair and maintenance expenditure based on budgeted capitalization rates (rather then basing it on the nature on an analysis of the actual activities).

The majority of costs capitalized in the UK relate to direct costs (85-95%), however in the area of indirect costs, there is significant differences in allocation and absorption bases among the various utilities.

Summary of Findings

There is significant variation among utilities across Canada and the United States as to capitalization policies, and specifically capitalization of overhead. Historically, capitalization of overhead by North American utilities has been fairly aggressive; however there has been a shift toward more conservative policies since the release of an SOP in the U.S. in 2001. In Canada there appears to be a shift towards more narrow definitions in terms of the types of costs which can be capitalized. This shift is the result of eventual convergence with International Standards which does not allow for rate regulated accounting, as well as a recent exposure draft discussing the elimination of rate regulated accounting in Canada, However, at this time it is still permissible to capitalize reasonable allocations of general and administrative costs as a result of rate regulated provisions.

Appendix A

Summary of Findings

	DM	DL	OH1	OH2	OH3	OH4
Hydro Ottawa	✓	✓	✓	✓	✓	✓
Accounting Standards						
CICA**	✓	✓	✓	✓	x	x
FERC**	✓	✓	✓	x	x	x
US GAAP**	✓	✓	✓	✓	x	x
IFRS	✓	✓	✓	x	x	x
Top 10 US Utilities						
Duke Energy	✓	✓	✓	✓	x[1]	x[1]
Dominion Resources Inc.	✓	✓	✓	✓[1]	✓[1]	*nc
Exelon	✓	✓	*nc	*nc	*nc	*nc
Southern Company	✓	✓	✓	✓	✓[1]	*nc
Public Service Enterprise	✓	✓	*nc	*nc	*nc	*nc
FirstEnergy Corp	✓	✓	✓	✓	✓[1]	*nc
Edson International	✓	✓	✓	✓	✓[1]	*nc
FPL Group	✓	✓	✓[1]	✓[1]	x	x
Sempra Energy	✓	✓	x[1]	x[1]	x	x
Con Edison Inc.	✓	✓	✓	✓	✓[1]	x
Sample of CDN Utilities						
Manitoba Hydro	✓	✓	✓	✓	✓[1]	*nc
Alberta Power	✓	✓	✓	✓	✓	✓[1]
BC Hydro	✓	✓	✓	✓	✓	✓[1]
Toronto Hydro	✓	✓	*nc	*nc	*nc	*nc
Newfoundland Hydro	✓	✓	*nc	*nc	*nc	*nc
Hydro Quebec	✓	✓	✓[1]	✓[1]	x[1]	x
NB Power	✓	✓	✓	*y	x	x

***in the absence of rate regulated accounting*

✓[1] = Financial Statement disclosure is not specific, it does appear as though these costs are capitalized by the utility
x[1] = Financial Statement disclosure is not specific, it does not appear that these costs are capitalized by the utility
**nc* = Not clear from the financial statements whether or not such costs are capitalized
**y* = Only to the extent that a procurement employee would not be necessary if a capital program did not exist.

Categories of Overhead

OH1 = directly attributable overhead, eg: staff taken out of regular role to work exclusively on project
OH2 = timesheet attributable overhead, eg: employees in procurement who charge their time to various projects
OH3 = not directly attributable, but based on reasonable percentage allocation eg: historically 20% of time spent by employees in finance relates to capital projects, therefore 20% of finance salaries are allocated.
OH4 = not directly attributable costs would likely be incurred regardless of capital projects eg: a percentage of executive costs

Hydro Ottawa Limited

Review and Update of Overhead Capitalization Estimates

August 16th, 2007

Table of Contents

Executive Summary

KPMG was retained by Hydro Ottawa Limited ("Hydro Ottawa") to help review and update the company's estimates of the amount of overhead costs related to capital. These costs will be allocated to capital projects through burden rates applied to direct project costs. The study results will be reflected on a prospective basis, as the results are deemed by management to be a change in accounting estimate.

As noted in our report, no single regulatory guideline, statement, or source exists that is universally accepted by industries and regulators as the definitive statement, definition, or standard that prescribes what kinds of overhead costs should be considered for capitalization. However, this topic has been the subject of discussion and comment and a body of evidence exists on the topic. From this evidence, a common principle arises:

> *That any assignment of indirect costs to a capital project should be done based upon some reasonable causal link or association with the capital activity.*

The estimates outlined in this update adhere to this principle.

KPMG has reviewed Hydro Ottawa's documented policy and finds it reasonable and in accordance with industry standards and practice related to overhead capitalization. As part of this update, KPMG has also reviewed the cost drivers that have been used by Hydro Ottawa and validated the appropriateness of the overhead costs that are to be applied to capital projects. Accordingly, KPMG finds that the overhead capitalization results developed in this study and presented herein are fair and reasonable and meet the criteria that KPMG outlines in Chapter III for this review.

In the table below, we summarize this study's estimates of the amount of overhead costs related to capital.

Summary of Capitalized Overhead Costs – Draft 2008 Budget as at August 1st, 2008

	Total Gross OM&A	Total Capitalized Overhead	% of Total Gross OM&A Capitalized
Sub-total –Admin	26,398,993	5,923,819	22.4%
DAM & CAM[1]	52,467,305	7,087,088	13.5%
Customer Contact & Conservation	6,660,970	*Nil*	-
Metering & Electricity Revenue	16,654,415	*Nil*	-
Sub-total – Operations	75,782,690	7,087,088	9.4%
Total (Unadjusted)	102,181,683	13,010,907	12.7%
Less: Internal Maintenance Included In Total Above	(12,754,768)	*Nil*	-
Total OM&A Expenditures	89,426,915	13,010,907	14.5%

[1] *For DAM & CAM, there is $3,625,861 in costs capitalized through the Engineering Burden, and $3,461,227 in costs capitalized through the Supervision Burden. The Supervision Burden includes supervisory costs from the metering department within the Metering & Electricity Revenue division.*

I. Introduction

1. Objective of this Study

KPMG was retained by Hydro Ottawa Limited ("Hydro Ottawa") to help review and update the company's estimates of the amount of overhead costs related to capital. These costs will be allocated to capital projects through burden rates applied to direct project costs. The study results will be reflected on a prospective basis, as the results are deemed by management to be a change in accounting estimate.

2. Principal Findings and Recommendations

KPMG has reviewed Hydro Ottawa's documented policy and finds it reasonable and in accordance with industry standards and practice related to overhead capitalization. As part of this update, KPMG has reviewed the cost drivers that have been used by Hydro Ottawa and validated the appropriateness of the overhead costs that are to be applied to capital projects. Accordingly, KPMG finds that the overhead capitalization results developed in this study and presented herein are fair and reasonable and meet the criteria that KPMG outlines in Chapter III for this review.

3. Organizational Structure

Hydro Ottawa provides electricity distribution services in the Ottawa area. It is a subsidiary of Hydro Ottawa Holding Inc ("Holdco"). A telecommunications company and an electricity generating company are also subsidiaries of Holdco.

Table I-1 below summarizes the formal company names for each of the entities discussed in the report, matched to the abbreviations that have been used for brevity.

Table I - 1 – Glossary of Company Names

Name Used in this Report	Formal Company Name
Holdco	Hydro Ottawa Holding Inc.
Hydro Ottawa	Hydro Ottawa Limited

II. Study Approach

In this Chapter, we summarize the methodology and approach used to complete this study. Our work plan was developed in collaboration with Hydro Ottawa management, and was designed to provide a supportable basis for the company's estimates of the amount of overhead costs related to capital.

Our work plan incorporated the following steps:

- **Step 1: Interview company officials**. In this step, we interviewed senior representatives from each operating area to understand and identify those company departments that appear to support, either directly or indirectly, capital projects at Hydro Ottawa. The purpose of this step was to gain an understanding of the specific activities within Hydro Ottawa that may be eligible to have costs allocated to capitalized overhead. This step also provided us with a good understanding of Hydro Ottawa's organizational structure and its approach to the installation of capital assets.
- **Step 2: Document regulatory and accounting policy guidance**. In this step, we researched the guidance provided by various accounting and regulatory authorities on the topic of overhead capitalization. The objective of this step was to ensure that the approach adopted in this review was consistent with a cross-section of current industry standards and practices. The results of our research are summarized in the appendix.
- **Step 3: Develop criteria for an overhead capitalization approach.** Based on the initial steps above, and on our assessment of appropriate objectives, we developed a set of criteria to be used to evaluate our approach to estimating the amount of overhead costs associated with capital projects. The criteria are provided in Chapter III.
- **Step 4: Document Hydro Ottawa's capitalization approach.** In this step, we prepared a statement that summarizes Hydro Ottawa's guidelines for overhead capitalization. This statement appears in Section B of Chapter IV of this report. Additional guidance on the nature of eligible costs is provided in Section C of the same chapter. Together, these sections were used as an information guide for management when compiling information for this review and update. They provided:
  - Guidance on the types of activities and costs that may be eligible for overhead capitalization.
  - A framework for classifying these activities and costs.
  - The details of a "test" for identifying whether specific support costs should be included as capitalized overhead. The purpose of the test is to act as a materiality threshold and to thereby ensure that the overhead capitalization process does not become unduly complex or detailed as a result of trying to

capture all of the costs that may conceivably have a link to capital projects.[1] The test ensures that the process focuses only on costs with a significant or measurable link to capital.

- **Step 5: Assess reasonableness of Hydro Ottawa's approach.** In this step, we reviewed Hydro Ottawa's guidelines for overhead capitalization, as documented in the step above. We checked this approach against guidance from the Ontario Energy Board (OEB), the Canadian Institute of Chartered Accountants ("CICA"), from other accounting and regulatory agencies (e.g. the U.S. Federal Accounting Standards Board and the Federal Energy Regulatory Commission), and the practices of other North American utilities as observed through a review of regulatory filings in other jurisdictions. We also validated Hydro Ottawa's policies against the criteria that we developed in Step 3 and which are documented in Chapter III. KPMG then concluded that the Hydro Ottawa capitalization approach, as documented in Step 4 above, is reasonable and is an appropriate basis for overhead capitalization at the utility.

- **Step 6: Internal data collection.** In this step, KPMG and finance staff within Hydro Ottawa collected data from all relevant departments within each operating company. To support proposed allocations from any given department, company management prepared the following:

  - A written description of the specific activities within the department that support capital projects.
  - Estimates of the percentage of the cost of these activities that should be allocated to capitalized overhead, and
  - Supporting documentation with respect to the basis of the proposed cost allocation factors.

  This step was intended to provide an audit trail for the costs to be allocated to capitalized overhead.

- **Step 7: Review internal survey results.** In this step, KPMG reviewed the data assembled by company management in the step above. We checked that the information provided was consistent with Hydro Ottawa's internal policies for overhead capitalization as documented in Step 4 and with the information received from our initial interview process (Step 1). We also verified the accuracy of any supporting calculations and cross-checked the information provided with respect to the costs of activities and cost drivers used against budget data for Hydro Ottawa overall. Where required and appropriate, departments were asked to review and/or update the calculations provided in the previous step.

  Overall, this step was very important to the overall integrity of this study update process: KPMG personnel worked to ensure that the allocation process was reasonable and that it was applied consistently across the company.

[1] *As outlined in Chapter IV, the test states that a support function should not allocate costs if the workload for that function would not be reduced by at least ½ an FTE and any associated G&A costs in the absence of capital projects.*

- **Step 8: Prepare summary report.** In this step, we prepared this summary report to document and summarize the results of the update process.

III. Evaluation Criteria

Methodologies for overhead capitalization should address a set of formal, objective criteria that speak to company and policy objectives. The criteria that we used in this study to evaluate the proposed capitalization approach are as follows:

- **Defensible cost causation linkage.** To conform to accounting guidelines, the methodology should show a direct causal link between capitalized overhead costs and capital activity. This is a key test in ensuring that the methodology will be acceptable to regulators and under Canadian Generally Accepted Accounting Principles ("Canadian GAAP").
- **Freedom from Bias.** The allocation approaches should not tend to allocate an undue proportion of costs toward either operating or capital activities.
- **Transparency.** The methodology and calculations should be easy to follow and to understand by internal users and by external observers (i.e., regulators). This will facilitate acceptance of the methodology.
- **Accuracy of Underlying Data.** Any data used in the allocation process should be accurate and able to be relied upon. The data should provide an appropriate measure of the underlying volume of activity or output.
- **Flexibility/Adaptability.** The methodology should accommodate changes in organizational structure, business processes, and information systems with reasonable ease. Thus, the methodology should be dynamic: it should be relatively easy to update and keep current as the organization evolves. To the extent possible, it should automatically adjust for changes in circumstance.
- **Cost-Effectiveness.** In evaluating different accounting approaches, we need to ensure that they are cost-effective. Additional accuracy may require significant additional cost, and thus an appropriate balance is required between precision and cost. In evaluating cost-effectiveness, two different time perspectives are relevant:
  - **Low implementation cost.** All else being equal, the methodology should be capable of being implemented at a reasonable cost.
  - **Low on-going costs.** The approach should have relatively low costs of upkeep. Further, it should reduce the administrative, record-keeping and reporting burden imposed on operating staff. The methodology should also integrate easily with the process used to prepare company financial statements.
- **Stability.** The methodology should not result in disproportionately large variations in the amounts of capitalized overhead from year-to-year.

IV. Hydro Ottawa Capitalization Policies

In this Chapter, we review guidance from regulatory and accounting bodies on the capitalization of overhead costs. In this context, we then present the Hydro Ottawa policy for overhead capitalization and discuss its implications. This study confirmed the appropriateness of Hydro Ottawa's policy, and it was used as the basis of the current update.

A. External Guidance

In this section, we summarize guidance from the Ontario Energy Board (OEB) and the Canadian Institute of Chartered Accounts on the capitalization of overhead costs. We also note the potential for international harmonization of standards.

1. Ontario Energy Board

Article 410 of the Ontario Energy Board Accounting Procedures Handbook for electricity distribution utilities states:

> "Property, Plant and Equipment should be recorded at cost, which includes the purchase price and other acquisition costs such as: option costs when an option is exercised, brokers' commissions, installation costs including architectural, design and engineering fees, legal fees, survey costs, site preparation costs, freight charges, transportation insurance costs, duties, testing and preparation charges."[1]

Further guidance is provided by Article 230, Definitions and Instructions, No. 20. This document defines the components of construction cost as follows:

> "the cost of construction properly included in the electric plant accounts shall include where applicable, the cost of labour; materials and supplies; transportation; work done by others for the utility; injuries and damages incurred in construction work; privileges and permits; special machinery services; allowance for fund used during construction; and such portion of general engineering, administrative salaries and expenses, insurance, taxes, and other similar items as may be properly included in construction costs."[2]

[1] *Ontario Energy Board, Accounting Procedures Handbook, Article 410, p. 7.*
[2] *Ontario Energy Board, Accounting Procedures Handbook, Article 230, p. 5.*

KPMG

2. The Canadian Institute of Chartered Accountants

The Canadian Institute of Chartered Accountants (CICA) provides guidance regarding the nature of costs that should be allocated to capitalized overhead within Handbook section CICA 3061.20 as follows:

> "The cost of an item of property, plant and equipment includes direct construction or development costs (such as materials and labour), and overhead costs *directly attributable* to the construction or development activity." [Emphasis ours]

The accounting standard does not go into further details on how the overhead costs should be identified or the actual determination of an overhead rate.

Additional sources of guidance from Canadian and U.S. bodies on the capitalization of overhead costs are summarized in the appendix.

3. International Financial Reporting Standards

As a result of recent initiatives by the Accounting Standards Board of Canada ("AcSB"), entities such as Hydro Ottawa may be required to report under International Financial Reporting Standards ("IFRS") by 2011. IFRS is more restrictive than current accounting standards for regulated utilities with respect to the capitalization of overhead costs.

At this point, there is still some uncertainty regarding the details of the application of IFRS to regulated Canadian utilities. IFRS and Canadian standards may evolve in the years leading up to 2011 and Canadian utility regulators have not yet addressed the issue of transition. The year 2011 is also beyond the horizon of this study's analysis. Accordingly, IFRS was not specifically considered in the development of this study's estimates of capitalized overhead costs for Hydro Ottawa.

B. Hydro Ottawa's Internal Guidelines

While the OEB and CICA, as noted above, provide general guidance with respect to capitalized overhead costs, Hydro Ottawa has prepared its own internal guidelines to provide more specific direction as to the nature, type, and quantum of costs that should be allocated to capitalized overhead. The definition of capitalized overhead costs that has been adopted for this study is as follows:

> "Overhead costs must be directly attributable to construction activity at the utility. This will be 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

KPMG

> program. Overhead expenditures that are capitalized include such costs as salaries and benefits of 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."

This study has therefore adopted a time-based approach (i.e. the 3 to 5 year test) for identifying costs that are directly attributable to, or can be linked to, construction activity. This approach is useful because:

- It is easy to understand and to "operationalize" by personnel seeking to interpret the policy guidelines.
- It is conceptually attractive and captures the nature of costs that are typically considered for overhead capitalization.

Because Hydro Ottawa uses a 3-5 year time horizon, many of the overhead costs captured in the process will not vary directly with the level of capital spending in the short term. They could be eliminated in the absence of a capital program but, given that Hydro Ottawa does have a capital program, they are relatively fixed in nature and may not change materially with changes in capital spending from year to year.

1. Example Application of Costing Approach

The allocation approach adopted by Hydro Ottawa has implications for certain support costs. For example, in allocating the costs of the Human Resource department, Hydro Ottawa focuses only on those costs that will vary with the number of employees. To the extent that Hydro Ottawa would have fewer employees in the absence of a capital program, any Human Resources costs that would be eliminated as a result of the work-force reduction are eligible for inclusion in the overhead allocated to capital. For example, some portion of Human Resource costs (and staffing) may be associated with handling questions and benefits claims from employees. Such staffing should be reduced in proportion with a fall in the overall employee count. However, fixed costs associated with the Human Resource function, which would continue in the absence of a capital program, are not allocated proportionately between the operating and capital portions of Hydro Ottawa. They are instead charged to current operations.

2. Treatment of Non-Productive Time

For employees whose costs are captured through the overhead capitalization process, we have directed respondents to allocate a proportionate share of all costs associated with these employees to the capitalized overhead pool. Thus if an employee spends 50% of his/her productive time on activities related to capital, costs allocated to the overhead capitalization pool should be equal to 50% of the total salary and benefit costs associated with that employee. This approach means that capital projects are allocated an appropriate share of vacations, sick time, and other internal non-productive time.

The approach outlined above is consistent with the way that Hydro Ottawa allocates those costs associated with operating staff whose time is charged directly to projects. The labour rate used for directly-charged time includes an uplift to account for the portion of employees' paid time that is not charged. This can be referred to as non-productive time. Such paid time includes allowances for training, vacation, paid sick-leave, and any other paid time that is not directly associated with productive work. Some amount of non-productive time is inevitable, and it needs to be taken into account in the cost allocation process.

3. Change in Capitalization Thresholds

In parallel with this study, Hydro Ottawa has adjusted its capitalization threshold for General Plant. This threshold has been increased from $200 to $500. The change in threshold will decrease the number of General Plant items that are capitalized rather than expensed, although the dollar impact on amounts capitalized is not expected to be large.

C. The Nature of Capitalized Overhead Costs

Capitalized overhead costs can be distinguished from:

- **Costs charged directly to capital.** These are costs that are charged directly to capital projects and that therefore form part of the direct capital cost of the associated assets. Such costs include the costs of materials and construction labour, as well as any purchased services (e.g. outside contracting) that may be associated with installation of the asset. At Hydro Ottawa, direct costs also include fleet charges for the recovery of the costs of vehicles used by personnel performing capital work.
- **Costs charged directly to operating expenses.** These costs appear in the income statement for Hydro Ottawa in the period concerned. These costs include any costs that are not identified as being related to capital projects. They thus encompass a wide range of costs, including costs associated with customer billing and service, most general and administrative costs, and costs associated with maintenance activities.

Capitalized overhead, in contrast to the cost elements above, reflects those costs that relate to capital projects but that have not been specifically identified with any individual project. The nature of capitalized overhead costs is more fully outlined below.

Functions that have costs allocated to capitalized overhead generally fall into one of the three categories noted below. While the boundaries between these types of activities are not always clear, the categories do help to provide a conceptual framework to help identify and evaluate those costs eligible for capitalized overhead:

- **Non-Project-Specific Capital Support.** This category encompasses processes for formulating, evaluating, initiating, designing and implementing capital additions. This includes feasibility analyses, expenditures to obtain approval, and budgeting. It also includes in-house design work, software coding work, and economic assessments. Activities in this category are specifically focused on capital but cannot be charged to specific projects, either:
  - Because it is impractical or costly to do so, or
  - Because the function is related to capital projects generally rather than to specific or identified projects.
- **Administration and Oversight of Activities Directly Related to Capital Projects.** This category encompasses processes for the supervision and administration, cost control, and reporting of those activities and/or costs <u>that are in direct support of capital projects.</u> Activities in support of projects can either be directly charged to those projects or they can be associated with non-project specific capital support (the first category of capitalized overhead costs noted in the bullet above). Activities in this support category thus include the administration and supervision of construction departments.
- **Support Functions and Infrastructure.** This category covers the support functions and infrastructure networks that enable the departments that are directly involved in the installation of capital projects to do their work. Relevant support functions include Human Resources and Facilities.

Because the last category of cost has the least direct relationship to capital projects, Hydro Ottawa implemented a "test" to ensure that any cost centre or activity that allocates costs to capitalized overhead has some causal linkage with capital spending. This test applies only to Support Functions and Infrastructure, and is as follows:

> *Would the workload of this function be materially reduced if the company ceased to undertake all capital projects?*

As a materiality threshold, the workload for that function would need to be reduced by the equivalent of at least ½ of a Full-Time Employee (or "FTE") under the scenario in which all capital projects at Hydro Ottawa cease.

If the function would not have its workload reduced by at least ½ an FTE under a scenario in which capital projects cease, then none of the costs of that function should be allocated to capitalized overhead.

D. Impacts on Operations

Within Hydro Ottawa, the core processes associated with operation of the distribution network and the addition of new network assets occur within the divisions titled

Distribution Asset Management ("DAM") and Construction And Maintenance ("CAM"). Accordingly, CAM and DAM are the locus of most capital projects within the company and were a major focus of our review. These divisions operate under the direction of the Chief Operating Officer (COO) of Hydro Ottawa.

Management within CAM and DAM did a detailed analysis of the workloads of various groups and individuals within these divisions to determine the staffing that is in support of capital projects. In total, management determined that the work effort equivalent to approximately 190 FTEs within CAM and DAM is related to capital projects. Key elements of this staffing estimate are:

- About 70 FTEs, representing approximately 2/3 of the workload of trades-people within CAM. These are personnel who directly perform maintenance or capital work in the field or in company shops and who install projects in the field. Associated with these trades-people are, in addition, over 20 support personnel, including managers and supervisors, co-ordinators, and administrative assistants.)
- About 2/3 of the work-force associated with transformer stations, encompassing about 20 FTEs.
- Over 40 FTEs associated with design work, service layouts, and manning of the service desk.
- A substantial share of the workforce in the GIS/Records departments.
- Most of the engineering personnel in DAM.

It should be noted that some of the labour costs associated with the personnel outlined above are charged directly to projects. This is generally the case for the trades personnel who work in the field and at Hydro Ottawa transformer stations (comprising about 90 FTEs of the labour effort noted above).

As outlined elsewhere, the hourly labour charged includes an allowance for the non-productive time of the employees. The actual allocation of direct labour costs will adjust between capital and maintenance projects based on the mix of projects undertaken and, hence, timesheet entries by personnel in the field.

Beyond those FTEs that are charged directly to projects, it follows from the discussion above that there are about 100 FTEs of capital support within CAM and DAM whose costs remain within gross OM&A. The costs of these FTEs must be captured in the overhead capitalization process. This recovery is provided for in the allocation percentages outlined later in the chapter.

Some activities within DAM are not in support of capital projects and, hence, have no costs allocated to capitalized overhead. These groups include, for example, the Systems Operations Group. This group mans the control room at Hydro Ottawa, and thus directs the real-time operation of the network.

E. Use of FTE Estimates

The estimates of staffing within CAM and DAM that are in support of capital are a key starting point for our overall estimates of the overhead costs associated with capital projects at Hydro Ottawa. Staffing levels associated with capital are the basis of allocations from, in particular, the HR and Facilities departments. Demand for these support functions is largely determined by overall staffing levels. Allocations of costs from these support functions must therefore take into account the total amount of company labour that supports capital projects, and the associated impact on company costs for support and infrastructure. For the purpose of determining support allocations, the labour effort associated with capital projects includes both labour charged directly to capital projects and engineering and other overhead and administrative labour whose costs are recovered through the overhead capitalization process.

When the labour effort associated with all company support functions is taken into account, the total number of FTE's associated with capital projects is estimated at approximately 230. This represents approximately 40 percent of projected total staffing at Hydro Ottawa in 2008. Accordingly, capital projects represent a significant proportion of the workloads of Hydro Ottawa staff.

F. Allocation of Costs from Holdco

Holdco provides a variety of administrative and support services to the operating companies. These services include finance and treasury functions, regulatory affairs, and legal support.

To identify an appropriate allocation of costs, KPMG personnel and staff from the Finance group interviewed managers in the relevant functional departments. Based on the application of our guidelines in Section B, we determined that only two groups within Holdco should have costs allocated to capital projects at Hydro Ottawa. These groups are as follows:

- General Counsel.
- Regulatory Affairs.

Managers for these groups estimated the proportion of costs within these functions associated with capital projects. The basis of the estimates are as outlined in Table IV-1.

Table IV-1
Allocations by Departments from Holdco

Department	Allocation to Capital
Chief Executive Officer	*Nil*
Chief Financial Officer	*Nil*
Internal Audit	*Nil*
General Counsel	Allocation of 35.5% is based on the estimated time that is associated with the review of contracts for construction work and the administration and control of easements for the construction of capital assets.
Chief Regulatory Officer	Allocation of 10% of costs of Chief Regulatory officer, based on estimated time that is associated with regulatory work pertaining to capital assets.
General Office	*Nil*

G. Costs Allocated by Department

In Table IV-2 we provide an overall summary of the costs allocated to capitalized overhead from each of various departments and from Holdco. These costs are grouped by the burden rate through which they are recovered. (Burden rates are more fully explained in Section H of this Chapter.)

In Table IV-2, the first column lists the total gross OM&A associated with each department. In this context, "gross" means before deductions for overhead that is charged to capital. In the second column in the table, labeled "Total Gross OM&A Considered for Capitalization", the figures have been adjusted by removing certain overhead costs that are directly charged to operating expenses and that therefore are not considered eligible for overhead capitalization. These non-eligible costs include items such as OEB membership dues, facility costs for stations, and environmental costs. For costs associated with administration, the second column therefore represents those costs remaining, which were then examined for potential allocation to the pool of capitalized overhead costs.

Table IV-2
Summary of Capitalized Overhead Costs – Draft 2008 Budget as at August 1st, 2008

	Total Gross OM&A	Total Gross OM&A Considered for Capitalization	Total Capitalized Overhead	% of Total Gross OM&A Capitalized
Holdco	1,858,742	1,858,742	185,874	10.0%
Corporate Costs	1,995,871	1,868,867	373,773	18.7%
COO's Office	1,007,602	1,007,602	151,140	15.0%
Finance	3,275,140	3,275,140	605,901	18.5%
Regulatory	1,752,755	812,505	81,251	4.6%
Supply Chain	2,718,636	2,692,636	2,288,741	84.2%
Facilities	4,462,311	3,625,046	953,387	21.4%
HR & Safety	5,703,494	3,583,980	1,182,713	20.7%
IT	3,624,443	3,367,941	101,038	2.8%
Sub-total –Admin	26,398,993	22,092,459	5,923,819	22.4%
DAM & CAM[1]	52,467,305		7,087,088	13.5%
Customer Contact & Conservation	6,660,970		*Nil*	-
Metering & Electricity Revenue	16,654,415		*Nil*	-
Sub-total – Operations	75,782,690		7,087,088	9.4%
Total (Unadjusted)	102,181,683		13,010,907	12.7%
Less: Internal Maintenance Included In Total Above	(12,754,768)		*Nil*	
Total OM&A Expenditures	89,426,915		13,010,907	14.5%

[1] *For DAM & CAM, there is $3,625,861 in costs capitalized through the Engineering Burden, and $3,461,227 in costs capitalized through the Supervision Burden. The Supervision Burden includes supervisory costs from the metering department within the Metering & Electricity Revenue division.*

Table IV-3 provides a summary description of the basis of allocations, and a short description of the costs recovered.

Table IV-3
Basis of Overhead Allocations

	% Related to Capital	Basis of Allocation
Holdco	10.0	See Table IV-1
Corporate Costs	18.7	These costs represent allocations of future employee benefits and property insurance.
COO's Office	15.0	These costs represent about 40% of the labour and G&A expense associated with personnel providing performance indicators and efficiency improvements.
Finance	18.5	Based on elimination of one A/P associate, one financial analyst, one billing analyst, one management accountant and one supervisor because of reduction in supplier invoices, variance analysis, and billing for capital projects. Figure includes proportionate share of departmental G&A expenses.
Regulatory	4.6	Represents estimated share of Regulatory department's workload associated with seeking approvals for capital projects and modeling and approvals with respect to customer contributions. License fees and association dues are excluded from the allocation.
Supply Chain	84.2	Allocated based on dollar value of materials and outside services associated with capital projects (out of total).
Facilities	21.4	Pro-rata allocation of space costs.
Human Resources & Safety	20.7	Based on estimate of staffing reduction in HR function with no capital projects and, hence, fewer line and support staff elsewhere in the company.
IT	2.8	Reflects reduction in head-count of 1 person due to lower call volumes for help desk support.
Operations (Engineering)	10.5	Identified specific staff in engineering design, record keeping and asset management who would not be required in the absence of capital projects.
Supervision	61.4	Ratio based on estimated proportion of dollars associated with capital projects versus maintenance and work for others. Based on management salaries and one-half of G&A in Operations and Meter Installation areas.

A detailed discussion of some of specific issues associated with a number of the departments is provided below.

Information Technology (IT)

The information technology department allocates a relatively small proportion of its operating budget to capital. This reflects a number of circumstances that mean that its costs would generally not be reduced with a reduction in overall organizational staffing levels and in the level of capital activity:

- The cost of new computer equipment, which is generally purchased rather than leased, typically exceeds Hydro Ottawa's capitalization thresholds, and thus these costs do not appear within OM&A budgets. Accordingly, reductions in the number of personal computers as a result of reduced staffing levels would not appear in IT department's operating budget.
- Monthly fees associated with mobile phones and other telecommunications devices are included in the budgets for individual departments. Reductions in these costs that may be associated with lower staffing levels under a scenario of no capital projects are thus captured elsewhere as reductions in the general and administrative expenses of the functional departments, rather than as a saving by the IT department.
- Much of the cost of the IT department relates to supporting the breadth of software applications used at Hydro Ottawa, rather than the number of users associated with each. These types of costs would not be significantly reduced even in the absence of capital projects.

As a result of the above factors, the major source of savings in the IT department as a result of the elimination of capital projects are associated with one fewer staff person in the Help Desk to provide support to operating staff.

The IT budget does not include expenditures associated with the Customer Information System (CIS). These costs are included in the Customer Care division.

Facilities

Reductions in staffing under the scenario in which no capital projects occur would result in a reduction in space required at three Hydro Ottawa facilities: Albion Road, Merivale, and Bank Street. In total, about 390 inside staff are housed at the 3 facilities.

As a starting point to estimating costs for the overhead capitalization process, the operating budget associated with these facilities was converted to an amount per inside employee that works at these facilities. This amount per employee was multiplied by the expected reduction in the number of inside workers under a scenario in which there are no capital projects.

The costing approach outlined above has the following implications:

- The figures use an average figure per employee for the three facilities together, rather than identifying the specific space that would be reduced. This avoided difficulties that may arise from differences across facilities in the cost of space per unit area or uncertainties in the specific space that would be retained (versus sold or sub-leased.)

- We assumed that space is a variable cost over the 3-5 year horizon used for analyzing cost behaviour. We thus assumed that excess space could either be sold or sub-leased, to capture space savings from employee reductions.

Regulatory

The functions of the regulatory group are split between Hydro Ottawa and Holdco. The Chief Regulatory Officer sits within Holdco, and costs associated with her involvement in Hydro Ottawa capital projects are included in the allocation of Holdco costs. Within Hydro Ottawa, there are 5 staff working on regulatory and rates issues associated with the utility. Within this group, the effort of ½ of an FTE was determined to be directly related to capital projects. The focus of this work is on planning and approvals for capital projects, and work to calculate costs that should be recovered through customer contributions or connection fees.

The costs of this department include OEB license fees and association dues. These external costs are excluded from the allocation to capital projects. This results in a lower allocation of total department costs to capital projects than would be suggested by the ½ FTE workload share noted above.

Fleet Costs

The cost of vehicles is recovered through an hourly vehicle rate (or burden) that is charged to all applicable projects, whether they are related to capital, maintenance, or work for others. The hourly rate is designed to capture all costs associated with the fleet department. These rates are not included in the overhead capitalization amounts that are the subject of this report. Fleet charges, however, are included in the base that is used to allocate Engineering Burdens.

H. The Structure of Burdens

Hydro Ottawa applies overhead costs to capital through three separate burden rates. The use of multiple burden rates allows overhead costs to be applied more precisely to the particular projects that are associated with the various types of overhead costs. The three different burden rates are as follows:

- **Engineering Burden.** This burden is designed to recover those costs of the engineering department that are associated with capital projects.
- **Supervision Burden.** This burden is designed to recover the costs of management salaries and general and administrative costs in the operations and metering divisions (which includes CAM and DAM).
- **General and Administrative Burden.** This burden is designed to recover the costs of various administrative and support services associated with capital projects.

In applying burdens, the approach distinguishes between two types of capital assets:

- **Distribution Plant**, which represents projects associated with Hydro Ottawa's outside distribution network, and
- **General Plant**, which covers all other capital projects. Major elements of General Plant include computer and software projects, vehicles, and buildings and equipment.

The Engineering and Supervision Burdens are applied only to Distribution Plant, since it was determined that General Plant projects do not generally consume (or draw on) the overhead resources associated with engineering and supervision activities. The Administration Burden is applied to both General Plant and Distribution Plant.

The Supervision Burden differs from the others in that it is applied to all three of the major work activities performed by Hydro Ottawa: capital, maintenance, and work for others. ("Work for others" covers projects or work undertaken on behalf of customers or other parties.) The basis for allocating the Supervision Burden is the direct project costs associated with Hydro Ottawa field labour and with outside services (e.g. contracting fees). This reflects the fact that Hydro Ottawa needs to supervise and inspect both the work done by its own field staff and the work done by others.

In Table IV-2, presented earlier in this chapter, the amount of dollars allocated to capital through the Supervision Burden is calculated based on the budgeted proportion of capital work versus maintenance projects and work for others. The actual amount allocated to capital will vary during the course of the year based on the actual levels of work activity. This is due to the fact that the percentage burden developed to recover these costs is fixed. The actual recoveries are monitored on an ongoing basis and are compared to the actual costs considered for capitalization. Any adjustments that may be required are made through a true-up process as per the allocation procedures.

The key attributes of the burden structure at Hydro Ottawa are summarized in Table IV-4 below.

KPMG

Exhibit IV-4
Burden Structure

Burden	Nature of Costs Recovered	Basis of Allocation	Types of Projects
Engineering	Engineering	Sum of: - Direct Labour - Materials - Fleet Charges - Outside Services	Distribution Plant Only
Supervision	Management salaries and general and administrative costs in the Construction & Maintenance (CAM) and Distribution Asset Management (DAM) departments	Sum of - Direct Labour - Outside Services	Distribution Plant Only *Note: Applied as well to distribution maintenance and work-for others*
Administration	Various administrative and support costs including: - Supply Chain - Facilities - Human Resources and Safety - IT - Finance - Corporate costs - Holdco - Regulatory	Sum of - Direct Labour - Materials - Fleet Charges - Outside Services	Distribution Plant and General Plant

V. Rationale for Capitalization Estimates

In this Chapter, we summarize the rationale for the capitalization estimates prepared, and link it to the criteria noted in Chapter III.

To ensure that our estimates are consistent with regulatory and industry precedent, we undertook a review of some relevant regulatory and accounting guidance, and have summarized the results of our review in the appendix. As noted in this appendix, no single regulatory guideline, statement, or source exists that is universally accepted by industries and regulators as the definitive statement, definition, or standard that prescribes what kinds of overhead costs should be considered for capitalization. However, this topic has been the subject of discussion and comment among regulators and professional accounting bodies and a body of evidence exists on the topic. From this evidence, a common principle arises:

> *That any assignment of indirect costs to a capital project should be done based upon some reasonable causal link or association with the capital activity.*

Any estimates that Hydro Ottawa prepares should apply this basic principle. It speaks to the first criterion listed in Chapter III, which is that the methodology should have a **defensible cost causation linkage**. The estimates outlined in this update adhere to this principle. For all departments that allocate costs to capitalized overhead, company officials were asked to identify the activities concerned and to provide a rationale for the proposed cost allocation approach. Proposed cost allocations were expected to have a reasonable and defensible basis.

Other elements of the capitalization approach are discussed below.

A. Allocation Factors

In this update, careful consideration was given to the allocation factors used to identify capitalized overhead costs. We ensured that allocation factors were based on a **defensible cost causation linkage**.

As noted in Chapter II, officials within each department were asked to provide the details of their proposed approach to allocating costs to capitalized overhead for those activities that support Hydro Ottawa's capital projects.

The following methods were used to allocate costs in this update:

- **Time estimation.** In this method, the allocation factors (or "cost drivers") for a particular department or function were based on estimates of the proportion of time spent by employees within the department on activities in support of capital. These estimates were typically made by managers within the department who had a good knowledge and understanding of the workloads of associated employees. For the operations area, the time of managers and support staff was allocated based on the time allocation of front-line employees (or, in other words, of those employees directly involved in carrying out department functions).

- **Volume drivers.** In this method, allocations were based on measures of throughput for a particular department. For example, vehicle insurance costs are allocated based on the underlying share of Fleet department costs that are charged to capital versus maintenance and work for others.
- **Value Measures.** Where appropriate volume measures were not available, dollar values were used. Thus, for example, costs for the Supply Chain department were allocated based on the relative value of purchases for capital versus operating activities. This allocation was based on activity levels over the last few years.

In addition to identifying appropriate cost drivers for activities allocated to capital, it was important to have a clear philosophy or rationale for the costs to be capitalized. This study focused on those costs or activities that would be eliminated in the absence of capital projects. This clear definition helped to ensure that our estimates exhibit a **freedom from bias.** The materiality threshold also helped to achieve this objective.

B. Documentation

The approach implemented for this update relies on formal documentation at each step of the process. It thus addresses the need for **transparency.** Elements of this approach are as follows:

- The Hydro Ottawa capitalization policy was documented in a formal statement. This statement provided additional guidance, relative to earlier implementation efforts, regarding the types of activities that are considered to have a causal link to capital projects.
- Finance staff, working with managers from each operating area, were required to justify the allocation factors used and to provide associated back-up (whether based on outputs from the financial reporting system or a time estimation process). Responses received represent an in-house record of the bases of cost allocation factors.
- Under the direction of KPMG, finance staff reviewed all departmental input regarding cost allocation factors, requested additional support or clarification as required, and then put together an integrated Excel spreadsheet to calculate overall overhead capitalization factors for Hydro Ottawa. This spreadsheet framework will facilitate updates, and should thus help to support the criteria of **flexibility/adaptability** and **low on-going costs**.

VI. Implementation

In this Chapter, we discuss recommendations for updating the capitalization process on an on-going basis.

A. The Use of Annual Updates

Our review suggests that most of the costs included in the overhead capitalization process are likely to be relatively fixed in nature from year to year, either in their dollar value or in their percentage of the total OM&A budget. This reflects the fact that costs allocated to the overhead capitalization process are generally related to overhead functions that are relatively stable in nature and that do not vary directly with the dollar value of capital expenditures in any particular period.

Accordingly, we recommend that burden rates used to recover capitalized overhead costs rates be recalculated annually to take into account changes in capital expenditures from year to year. An annual updating of the rate will better reflect the nature of overhead costs associated with capital projects. It will ensure that the process compensates appropriately for changes in the size of the capital budget.

The base amount of overhead costs allocated to capital will also need to be reviewed annually for reasonableness, and should be adjusted by management to account for changes in overall budgets or in the nature or breakdown of activities in the organization.

B. Comprehensive Updates

Hydro Ottawa should undertake a formal, comprehensive review of its overhead capitalization process on a periodic basis. The appropriate frequency for such updates will vary depending on the amount of change that occurs within the company over intervening periods. As a general rule, however, a comprehensive review should be carried out no less frequently than every 4 to 5 years. Specific triggers that could suggest an earlier review include the following:

- There are material changes in the costs or structure of the support functions that are associated with capital projects. Thus, changes in the organization of engineering, procurement, or stores functions, for example, could suggest an earlier update.
- There are changes in the types or nature of costs that are directly allocated to capital projects. This update, for example, has suggested that the costs of direct labour be adjusted to include an allowance for non-productive time. Such a change would require an update to the allocations within this study.

- There are changes in the definition of capital versus operating projects. This could be manifested, for example, as a change in capitalization thresholds. Any significant change in threshold may require a review of the overhead allocations, since the threshold affects the balance of work related to capital versus operating projects.
- There are significant changes in the balance of work that is done using in-house staff versus outside suppliers. Such changes may require changes in the overhead costs related to supervision and control.
- There are large changes in the size of capital budgets. Such changes could be a signal that overhead costs associated with capital projects have changed materially.
- There are changes in accounting or regulatory guidance.

Appendix

Accounting and Regulatory Guidance

August 16th, 2007

Appendix - Accounting and Regulatory Guidance

In this Appendix, we provide references to a variety of Canadian and US sources of guidance on the capitalization of overhead costs. This listing is not comprehensive, but does capture the key sources that are likely to be of interest or relevance to Hydro Ottawa.

A. Canadian Guidance

1. *Ontario Energy Board's Accounting Procedures Handbook for Electric Distribution Utilities*

Article 410 of the Ontario Energy Board Accounting Procedures Handbook states:

> "Property, Plant and Equipment should be recorded at cost, which includes the purchase price and other acquisition costs such as: option costs when an option is exercised, brokers' commissions, installation costs including architectural, design and engineering fees, legal fees, survey costs, site preparation costs, freight charges, transportation insurance costs, duties, testing and preparation charges."[1]

Further guidance is provided by Article 230, Definitions and Instructions, No. 20. This document defines the components of construction cost as follows:

> "the cost of construction properly included in the electric plant accounts shall include where applicable, the cost of labour; materials and supplies; transportation; work done by others for the utility; injuries and damages incurred in construction work; privileges and permits; special machinery services; allowance for fund used during construction; and such portion of general engineering, administrative salaries and expenses, insurance, taxes, and other similar items as may be properly included in construction costs."[2]

2. *Ontario Energy Board's Uniform System of Accounts for Class A Gas Utilities*

According to the Ontario Energy Board's Uniform System of Accounts for Class "A" Gas Utilities, Appendix A, Plant Accounting Instructions:

> "Overhead Charged to Construction: includes engineering, supervision, administrative salaries and expenses, construction engineering and supervision, legal expenses, taxes and other similar items. The assignment of overhead costs to particular jobs or units shall be on the basis of a reasonable allocation of actual costs. The records supporting the entries for overhead charged to construction

[1] *Ontario Energy Board, Accounting Procedures Handbook, Article 410, p. 7.*
[2] *Ontario Energy Board, Accounting Procedures Handbook, Article 230, p. 5.*

costs shall be maintained so as to show the total amount for each element of overhead for the year and the basis of allocation."

3. CICA Handbook Section 3061 Property, Plant and Equipment ("PP&E")

This Section of the Handbook of the Canadian Institute of Chartered Accountants ("CICA") discusses measurement of PP&E. Section 3061.16 indicates that PP&E should be recorded at cost. Cost is defined in Section 3061.05 as "the amount of consideration given up to acquire, construct, develop or better an item of PP&E and includes all costs directly attributable to the acquisition, construction, development or betterment of the asset".

When an asset is constructed or developed over time, Section 3061.20 indicates that cost includes the direct construction or development costs as well as the overhead costs *directly attributable [our emphasis]* to the construction or development activity.

The Handbook does not define the term "directly attributable"; however, this term is used throughout the handbook in various sections with reference to cost allocations.

4. CICA Handbook Accounting guideline AcG-16 Oil and Gas Accounting – Full Cost

This accounting guideline applies to the application of the full cost method of accounting for oil and gas exploration, development and production activities. While this guideline is not specifically relevant to the capitalization of costs to PP&E, it does discuss the concept of overhead allocation and the capitalization of such costs. The guideline does not recommend or discourage the use of the full cost method of accounting.

Paragraph 7 of the guideline indicates that internal costs capitalized should be limited to those costs that can be "directly identified with the acquisition, exploration and development activities undertaken by the enterprise for its own account, and should not include any costs related to production (lifting costs), general corporate overhead, or similar activities". The guideline further states that capitalized costs include the "portion of overhead or general and administrative costs that can be directly related to, and is necessary to, the exploration and development activity".

5. CICA Handbook Section 3450 Research and Development Costs

This section discusses the costs that can be capitalized as research and development costs. Paragraph 3450.08 indicates that R&D costs include a reasonable allocation of overhead with the allocation being made on bases similar to those used in allocating overhead to inventory. It further states that current accounting practice does not allocate general and administrative costs that are not clearly related to a particular activity or function. These are treated as period costs.

6. CICA Handbook section 3031 Inventories

Paragraph 3031.10 states that the "cost of inventories shall comprise all costs of purchase, costs of conversion and other costs incurred in bringing the inventories to their present location and condition".

Paragraph 3031.12 states that the costs of conversion include "a systematic allocation of fixed and variable production overheads that are incurred in converting materials into finished goods". It then states: "Fixed production overheads are those indirect costs of production that remain relatively constant regardless of the volume of production, such as depreciation and maintenance of factory buildings and equipment, and the cost of factory management and administration. Variable production overheads are those indirect costs of production that vary directly, or nearly directly, with the volume of production, such as indirect materials and indirect labour."

Paragraph 3031.13 states that "the allocation of fixed production overheads to the costs of conversion is based on the normal capacity of the production facilities". Normal capacity is "the production expected to be achieved on average over a number of periods or seasons under normal circumstances, taking into account the loss of capacity resulting from planned maintenance". Paragraph 13 goes on to state that the "amount of fixed overhead allocated to each unit of production is not increased as a consequence of low production or idle plant. Unallocated overheads are recognized as an expense in the period in which they are incurred."

7. REALpac Accounting Practices Handbook

The Real Property Association of Canada ("REALpac") has published a manual to provide practical and professional interpretations of accounting principles as they relate to Canadian real estate investment and development companies.

REALpac recommends that general and administrative costs directly attributable to construction of a property should be capitalized as a cost of the project. The section describes general and administrative costs to include the following:

- Salaries and benefits of officers of company;
- Travel and automotive costs;
- Audit and legal fees;
- Occupancy costs;
- Stationery;
- Office expenses,;
- Directors' fees;
- Insurance;
- Computer facility costs;
- Subscriptions;

- Capital and business taxes and;
- Donations.

General and administrative costs that cannot be identified with a specific project or projects should not be allocated as a capitalized cost. REALpac gives the example of corporate stewardship costs as a cost that would not be capitalized.

If general and administrative costs (that qualify for capitalization) relate to a number of construction projects, then REALpac recommends that they be allocated to the projects using judgment and well supported methodology. REALpac advises that a time basis would be the most appropriate basis for allocation in most cases. The allocation method should be used on a consistent basis.

B. US Guidance

1. FAS 67 – Accounting for Costs and Initial Rental Operations of Real Estate Projects

The guidance under FAS 67 from the Financial Accounting Standards Board (FASB) states that:

> "Indirect project costs that relate to several projects shall be capitalized and allocated to the projects to which the costs relate. Indirect costs that do not clearly relate to projects under development or construction, including general and administrative expenses, shall be charged to expense as incurred." (FAS 67 para 7.)

2. Uniform System of Accounts – Federal Energy Regulatory Commission

Under the Uniform System of Accounts prescribed for public utilities and licensees subject to provisions of the Federal Power Act, capital overhead is defined as:

"Overhead Construction Costs"

A. All overhead construction costs, such as engineering, supervision, general office salaries and expenses, construction engineering and supervision by others than the accounting utility, law expenses, insurance, injuries and damages, relief and pensions, taxes and interest, shall be charged to particular jobs or units on the basis of the amounts of such overheads reasonably applicable thereto, to the end that each job or unit shall bear its equitable proportion of such costs and that the entire cost of the unit, both direct and overhead, shall be deducted from the plant accounts at the time the property is retired.

B. As far as practicable, the determination of payroll charges included in construction overheads shall be based on time card distributions thereof. Where this procedure is impractical, special studies shall be made periodically of the time of supervisory employees devoted to construction activities to the end that only such overhead costs as have a definite relation to construction shall be capitalized. The addition to direct construction costs of arbitrary percentages or amounts to cover assumed overhead costs is not permitted.

c. For Major utilities, the records supporting the entries for overhead construction costs shall be so kept as to show the total amount of each overhead for each year, the nature and amount of overhead expenditure charged to each construction work order and to each electric plant account, and the bases of distribution of such costs.

C. Summary

All of this guidance has a common theme. Overhead that can be directly attributed to the construction project should be capitalized as part of the cost of the project. Limited guidance is given to determine which items of overhead would be considered to be “directly attributed” to a project. It seems clear that each entity must review its overhead expenses by type and determine if the cost is necessary to perform the construction project and if so, a portion of the cost should be capitalized. A reasonable basis of allocation must be determined. No guidance is given on allocation methods.

No single regulatory guideline, statement, or source exists that is universally accepted by industries and regulators as the definitive statement, definition, or standard that prescribes what kinds of overhead costs should be considered for capitalization. However, this topic has been the subject of discussion and comment among regulators and a body of evidence exists on the topic and a number endorse a common principle: that any assignment of indirect costs to a capital project should be done based upon some reasonable causal link or association with the capital activity. Any definition or standard that Hydro Ottawa adopts should apply this basic principle.

HYDRO OTTAWA LIMITED | REPORT
HYDRO OTTAWA LIMITÉE | RAPPORT

August 21, 2007

TO/DEST. Chair and Members of the Audit Committee

Agenda Item 3 REVISIONS TO CAPITALIZATION POLICY AND ALLOCATION PROCEDURE BASED ON UPDATED ESTIMATES

RECOMMENDATION

That the Audit Committee receives this report for information and discussion.

SUMMARY

1) It is a best and common practice that all organizations review on a periodic basis their financial and operational policies and procedures for appropriateness. External influences such as, significant changes to legislation, generally accepted and/or regulatory accounting principles and internal changes such, as organizational redesign and modifications to business practices or business lines, usually cause the re-examination of corporate polices for their appropriateness. In the absence of the above, the passage of time, usually 3-5 years, also triggers a review of all major corporate policies and financial estimates contained there in.

2) Recent pronouncements by professional accounting bodies affecting rate regulated entities, the filing of the 2008 rate application and the passage of time has prompted Hydro Ottawa Limited to review its Capitalization Policy and Allocation Procedure. Although Hydro Ottawa Limited's Capitalization Policy is still considered appropriate (Annex A), estimates associated with the capitalization of indirect or overhead costs need to be updated. In addition, the existing methodology for allocating overheads is complicated and needs to be simplified to allow for financial planning and budgeting in a more timely manner.

3) Proposals outlined in this accounting memo, have been benchmarked and are in line with other similar Ontario distributors of electricity as noted in the table below. However, should the Ontario Energy Board (OEB) not accept the proposed changes in estimates and allocations, there would be a material impact on the financial performance of Hydro Ottawa Limited, as distribution rates would be insufficient to cover the increased operating costs resulting from the change in capitalization estimates and allocation.

Hydro Ottawa Limited's most immediate concern, as a regulated company, is that its approved distribution rates include the change in estimated overhead included in this memo. An additional downstream financial pressure associated with increased operating costs is the requirement for larger productivity savings if the present OEB emphasis on just operating costs, (as opposed to operating and capital costs) is maintained.

4) The application of a change in accounting practice is assessed based on whether an error has occurred or it is due to a change in policy or estimate. An error requires a prior period adjustment, a change in accounting policy is applied retrospectively unless it is impractical to do so, whereas a change in estimate is implemented prospectively. It is management's opinion that the proposed adjustment to overhead allocations is a change in estimate only. As suggested by our external auditors, Ernst & Young, an independent professional accounting firm will be sought to provide an opinion on this accounting change in accordance with section 1506 – Accounting Changes, of the Canadian Institute of Chartered Accountant's (CICA) accounting handbook.

BACKGROUND

5) Upon the amalgamation of the 5 predecessor utilities on November 1, 2000, Hydro Ottawa Limited adopted the capitalization policy and allocation procedure of one its predecessors, Ottawa Hydro, until it conducted its own review in 2003. Hydro Ottawa Limited's existing policy and procedure were developed as a result of a 2003 review, the results of which were applied in the preparation of the audited 2003-year end financial statements.

6) Deloitte & Touche reviewed the policy and procedure and the related indirect cost allocation model in July of 2004. They found the model was working as intended. It was their opinion that "administrative overhead costs may be allocated to the capital projects if they are qualifying capital costs under OEB rules and if this is consistent with industry practice." The capitalization policy, and the allocation procedure and model have remained consistent to date.

7) On May 15, 2007 the Audit Committee received a report outlining Hydro Ottawa Limited's current accounting treatment of indirect (overhead) costs and their inclusion within the Capitalization Policy and the Cost Allocation Procedure. The report discussed new accounting developments, industry practices and financial implications (Annex C). The May 15, 2007 report makes reference to the CICA's handbook, section 3061.20 that states that "The cost of an item of property plant and equipment include direct construction and development costs and *overhead costs directly attributable* to the construction or development". *Directly attributable* is a concept that is not defined in the CICA handbook. *Directly attributable* is a matter of judgment and as pointed out in the D&T and KPMG reports (available upon request) can vary among and within industries and professional accounting bodies.

8) Since the May 15, 2007, report Hydro Ottawa Limited has completed a review of its Capitalization Policy and its Cost Allocation Procedure. The review included a re-

evaluation of Hydro Ottawa Limited's accounting estimates related to those indirect or overhead costs *directly attributable* to its capital program and its model for allocating overheads. Fleet and Supply Chain costs were also examined but were found to be reasonably estimated and fairly allocated to capital and hence have not been commented upon in the balance of this memo.

ANALYSIS

9) Hydro Ottawa Limited engaged Deloitte & Touche (D&T) to research accounting guidelines and industry practice as they relate to including overhead allocations in the costs capitalized to Property, Plant & Equipment. D&T 's report concluded that there is a significant variation amongst utilities across Canada and the United States as to capitalization policies and specifically the capitalization of overhead. They noted that there has been a shift from aggressive to more conservative capitalization policies. Eventual convergence with International Financial Standards and the recent exposure draft discussing the elimination of rate regulated accounting in Canada would also be contributing factors towards a more conservative approach.

10) Hydro Ottawa Limited staff also conducted an informal web based review to determine how other companies interpret *directly attributable* overhead costs. Two reports issued by KPMG were considered by staff to be the most relevant and current. They are, a study undertaken on behalf of NB Power Group of Companies and another on behalf of Union Gas Limited. In both studies KPMG was retained to conduct an independent study of the companies' process for capitalizing overhead costs and in the case of NB Power, this included the allocation of corporate service costs from their Holdco.

11) Hydro Ottawa Limited engaged the same KPMG Managing Director who participated in the NB Power and Union Gas reviews to assist in a review to update Hydro Ottawa Limited's estimate of the amount of overhead costs related to capital work and ensure its capitalization and allocation policies reflect any change in the methodology to identify and allocate overhead costs to be capitalized. The common principle that KPMG has deduced from its review of accounting and regulatory guidance and industry practice is "That any assignment of indirect costs to a capital project should be done based on some reasonable causal link or association with the capital activity." It is this principle that Hydro Ottawa Limited incorporated into its current review of indirect or overhead costs attributable to its capital program. The resulting estimate, discussed below, is reflective of a less inclusive overhead capitalization approach being taken by Hydro Ottawa Limited than in the past. The allocation of overhead costs to capital in the past was not a miscalculation but rather a different estimate of *directly attributable* costs based on circumstances relevant at the time. The costs were reflected as such in past annual audited financial statements. The current methodology as outlined in the KPMG report is seen to be more reflective of industry practice and a trend towards less capitalization of overheads by professional accounting bodies.

12) The allocation model has been simplified to eliminate a complex process of assigning overhead costs amongst support activities i.e. Finance, Human Resources etc.

and then reassigning a portion of the support activity costs estimated to be directly attributable to capital work. The new model determines a percentage of indirect cost for each overhead activity, which is applied to each supporting activity's operating costs to determine a burden rate. The burden rate is then applied to a cost driver i.e. direct labour or material resulting in the capitalization of a directly attributable overhead cost. Only three burden rates, Engineering, Supervision and Administration have been established in the current model. These will be applied to the appropriate cost drivers independently to simplify the allocation process. This also allows overhead costs to be applied more precisely to particular projects that are associated with the various types of overhead costs. Cost comparability to previous years will be difficult or impracticable once the change is implemented.

13) In summary, KPMG reviewed Hydro Ottawa Limited's policy on capitalization and and found it to be reasonable and in accordance with industry standards and practice related to overhead capitalization. KPMG also reviewed the cost drivers (for overhead allocation) and validated the appropriateness of the overhead costs that are to be allocated to capital projects. KPMG finds the proposed overhead capitalization results developed in the study and presented in their report to be fair and reasonable.

FINANCIAL IMPLICATIONS

14) Hydro Ottawa Limited's reassessment of estimated overhead or indirect costs that are directly attributable to capital work has resulted in approximately $6.5M of overhead costs now identified in the 2008 budget as OM&A costs. Previously these costs would have been capitalized and amortized over 4 to 50 years depending on the asset type to which they were assigned. The table below provides a relative comparison of the impact of the change in estimates from 2007 to 2008.

($ millions)

		2007 Approved Budget			**2008 Proposed Budget (as of August 1/07**	
Indirect Costs (1)	**Total (3)**	**Capital Allocation (1)**	**P&L Expense**	**Total (3)**	**Capital Allocation**	**P&L Expense**
IT	3.0	1.6	1.4	3.3	.1	3.2
HR	3.5	1.9	1.6	3.5	1.2	2.3
Finance	3.2	1.8	1.4	3.3	.6	2.7
Holdco	1.9	1.0	0.9	1.9	.2	1.7
Corporate	1.9	1.0	0.9	1.9	.4	1.5
Facilities	4.0	2.2	1.8	3.6	1.0	2.6
Other (2)	2.0	$1.1	0.9	2.2	.6	1.6
Total	**$19.5M**	**$10.6M**	**$8.9M**	**$19.7M**	**$4.1M**	**$15.6M**

(1) Used an average 55% capitalization rate in the 2007 calculation.
(2) Other includes some costs from the COO's office, and some general and administrative costs from Operations, which are not included in supervisory or engineering burdens.

(3) Total Indirect Costs – some gross OM&A costs have been excluded from the pool of costs considered for capitalization because they are not directly attributable to the capital program.

15) The reallocation of $6.5M from Capital expenditure to an Operating expense in the 2008 budget introduces a financial risk to Hydro Ottawa Limited. OEB acceptance of the reallocated expenses will be required to ensure Hydro Ottawa Limited's revenue requirement, which reflects the reallocated expenses to be included in the 2008 rate application, is approved. Customer rate impact will be a consideration. An increase of $6.5M would have an approximate 1. 4% increase on the average residential consumer's total monthly electricity charges or a 5% increase to their distribution rate. Overall customer rate impact however, could be reduced or increased due to other factors affecting the 2008 rate application. This report does not address the overall customer rate impact of the 2008 rate application.

16) The reallocation of expenditures from capital to operating has financial implications for Hydro Ottawa Limited. The increased operating expenses, if approved by the OEB, would be included in rates as a 2008 cost and generate an immediate cash flow of approximately $6.5M per annum. This is unlike costs that are capitalized and cash flow is generated based on the amortization of expenditures over a 4-50 year horizon depending on the nature of the asset to which they are assigned.

In addition, operating expenses do not generate a Return on Equity (ROE) and therefore Hydro Ottawa Limited would forego approximately $230,000 of ROE in 2008. Over a 3-year period assuming approximately the same level of assignment of costs to operating expense ($6.5M) and the same ROE the cumulative after tax impact to net income would be an approximate $850,000 reduction. It should also be noted that the reduction in net income from the lost return on capital is also an amount that customers will not have to pay for through rates. This is discussed more fully later in this section.

17) Once a change in accounting estimate is considered and accepted it is a requirement of Generally Accepted Accounting Principles (GAAP) that it be implemented prospectively and in a timely manner. Consequently, implementation has been planned for October 1, 2007, as this is the most practical timeframe in which to incorporate the revised methodology into our existing accounting processes. It is estimated that approximately $1.5M - $2.0M of expenditures in Q4 of 2007 will be charged to operating expense as opposed to being capitalized. The after tax effect is estimated to be an approximate $1.0M - $1.3M reduction to 2007 net income.

18) The financial impact to our customers was also considered in terms of the aggregate revenue requirement that they would fund depending on whether the $6.5M is treated as a capital expenditure or operating expense. Simply stated, our customers will pay less over the long term if the $6.5M is treated as an operating expense as opposed to being capitalized, but they will also experience a rate impact in 2008. This conclusion is outlined in the following paragraph.

An average asset life of 25 years was used for the calculation. Without considering the time value of money, and assuming full OEB approval, Hydro Ottawa would increase its revenue requirement by $6.5M for the increase in operating expenses. Alternatively, if the $6.5M is capitalized the customers will pay $11.8M over the life (25years) of the capital asset. The additional $5.3M is due to the additional return on equity and cost of debt earned each year on the unamortized asset value over its 25-year life. If the calculation is adjusted to reflect the time value of money (assume an inflation rate of 2% per annum over the 25 years) the present value of the $11.8M would be reduced to $9.5M. This is still $3.0M in excess of the $6.5M operating expense. Although the initial impact of decreasing the amount of overhead capitalized is an increase in revenue requirement and therefore an increase in rates to the consumer, it can be seen that the decrease in overhead allocated to capital is more beneficial to the customer over the long term.

<u>BENCHMARKING</u>

19) Local Distribution companies are benchmarked based on various metrics by the OEB. OM&A per customer is one such metric. To assess the appropriateness of a change in OM&A based upon a $6.5M reallocation of expenditures from capital to OM&A the '2005 Yearbook of Electricity Distributors', published March 29, 2007 was utilized.

The following table outlines OM&A per customer using 2005 data and the approximate impact that an additional $6.5M of OM&A would have on Hydro Ottawa Limited's metric. Although, there is a significant increase to Hydro Ottawa Limited's metric the revised metric is less than the average of 22 of the larger utilities in Ontario using 2005 data. It is expected that once 2008 data is available that Hydro Ottawa Limited's OM&A per customer metric will be more towards the middle of the large LDC pack. Based on the proposed 2008 Budget, Hydro Ottawa Limited's OM&A per customer would be $202.50 (excluding Smart Meters), which is expected to be still in line with its peers.

2005 Data

LDC	OM&A per customer
Enwin Powerlines	$250.67
Toronto Hydro	223.76
Enersource Hydro	229.60
Powerstream Inc.	187.46
Average of 22 Larger Utilities	**184.00**
Horizon Utilities	165.34
Hydro Ottawa	156.39
Hydro Ottawa (+$6.5M of OM&A)	**179.73**

Furthermore, the OEB engaged the services of a consultant to calculate the productivity of all LDCs. The report produced by the consultant measured the productivity of LDCs only through OM&A, not considering capital programs. If the OEB adopts the productivity calculation proposed by the consultant, Hydro Ottawa's productivity would decrease relative to other LDCs as a result of these proposed changes in capital allocations. This could have an impact on productivity factor targets set for Hydro Ottawa as part of incentive regulation.

The following table summarizes the productivity from the OEB consultant's report.

Large City Southern LDCs as defined by OEB Consultant	**Productivity (High value suggests good cost management)**	**Excess Cost (Negative value) is costs lower than benchmark per Year ($000's)**
	2005	2002 to 2005
Hydro One Brampton	1.82	(4,917)
Hydro Ottawa	1.71	(6,319)
PowerStream	1.31	(3,114)
London Hydro	1.31	91
Horizon Utilities	1.27	(2,724)
Veridian Connections	1.21	4,136
Toronto Hydro	1.19	15,556
Enersource Hydro Mississauga	1.16	2,270
Enwin	0.97	6,540
Group Average	1.33	

As can be seen, Hydro Ottawa compared very favourably based on 2005 costs. The calculation of productivity indicated that Hydro Ottawa's costs were $6.3 million lower than the benchmark when averaged over the years 2002 to 2005. The $6.5M change in allocated overhead is approximately equal to the negative excess costs of ($6.3M) calculated above by the OEB's consultant.

REGULATORY RESEARCH

20) Hydro Ottawa Limited also asked Fraser Milner Casgrain LLP (FMC), the counsel retained for the 2008 rate application, to conduct research for regulatory decisions on the issue of capitalization versus expensing expenditures. FMC's work to date covers decisions made in the last five years by the following regulators: the Ontario Energy Board (OEB), the Alberta Energy and Utilities Board (AEUB), the British Columbia Utilities Board and the National Energy Board. To date their research suggests there is no hard and fast rule, in short, when one is deciding whether to capitalize or expense an expenditure. To the contrary, well-accepted business principles are applied on a case by case basis, having regard to the facts of each case.

These regulators in general, and the OEB in particular, require an applicant to provide sufficient evidence and rationale to change its capitalization policy or cost drivers, or both, because such changes affect the basis for calculating revenue requirement. The OEB denied an application by Union Gas (RP-2003-0063), for example, on the ground that the applicant did not provide comprehensive and clear evidence, including full details on the impact on the revenue requirement that would result from the proposed changes in cost drivers. Consequently, Hydro Ottawa Limited intends to file this memo and annexes, and the accounting opinion to be obtained, with its 2008 rate application and present the necessary expert witnesses to substantiate the basis and impact of its change in estimated overhead allocation to capital work.

REVISED POLICY & PROCEDURE

21) Attached are the recommended Capitalization Policy (Annex A) and Allocation Procedure (Annex B) which effect the change in estimated indirect costs directly attributable to capital work and simplify the cost allocation model used to assign indirect costs to capital work.

22) Our external auditors are in agreement with the updated capitalization policy, resulting estimates and the revised allocation procedure.

CONCLUSION

23) It is management's opinion based on the studies and rationale provided within this report that Hydro Ottawa Limited's capitalization policy and allocation procedure should be updated to better reflect a more current estimate of overhead costs directly attributable to its capital work.

Recommended by:

W. Zielonka

Wojciech (Wojo) Zielonka
Chief Financial Officer

Approved for submission to the Audit Committee:

Rosemarie T. Leclair
President and Chief Executive Officer

Policy Number: FIN5-001-02	Subject: Capitalization
Effective Date: October 1, 2007	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 for determining if expenditures should be capitalized on the Balance Sheet or expensed to operations in the period incurred. Expenditures are capitalized if they meet 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 that 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 occurred.

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 would be 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, and if an expenditure falls below, it is not capitalized. This level is known as a materiality limit.

Materiality Limit
For 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 capital asset that 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 construction activity at the utility. This will be 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 benefits of 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 Allocation Procedures.

Allowance For Funds Used During Construction
For projects with a 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 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 transformers and meters are held for the purpose of backing up transformers and meters in service in the existing distribution system. 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.

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.

Chief Operating Officer	Policy Owner	Director, Finance

HydroOttawa

Policy Number: FIN5-001	Subject: CAPITALIZATION
Procedure Number: 001-02	Subject: **COST ALLOCATION RATES**
Effective Date: October 1, 2007	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 charges all applicable Capital, Maintenance, and Work for Others activities. This rate allocates the costs associated with the supervision of internal labour and outside services.

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: October 1, 2007	Document Owner: Chief Financial Officer

Vehicle and Equipment Rates

Vehicle and equipment burden rates capture the full costs 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 as required based on materiality limits 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 **HISTORICAL YEAR – RATE BASE**

2 **Table 1 – 2006 Approved and Actual Rate Base**

	Approved		Actual[1]	
2006 Rate Base (with Smart Meters included)	**Adjustment $000**	**Rate Base $000**	**Adjustment $000**	**Rate Base $000**
2005 closing net asset balance		$394,744		$393,797
2005 CIP 2006 capital expenditures (net of contributed capital) 2006 CIP 2006 deletions	$11,893 84,516 (13,199) 0		$16,505 75,309 (21,091) (30)	
2006 capital additions (net of contributed capital)	83,210		70,693	
2006 Amortization	(34,210)		(33,061)	
Net Additions		49,000		37,632
2006 closing net asset balance		443,744		431,429
2006 average net asset balance		419,244		412,613
Working Capital Allowance		93,223		87,846
Total 2006 Rate Base		$512,466		$500,460

3

[1] The 2006 Actual rate base shown includes stranded meters, which have been removed for audited financial statements.

Table 2 shows the variances of the inputs to the 2006 Approved and 2006 Actual Rate Base. An explanation of the reasons for these variances is below.

Table 2 – Variance between 2006 Approved and 2006 Actual Rate Base

2006 Rate Base (with Smart Meters included)	Variance $000
2005 closing net asset balance	($947)
2005 CIP	4,612
2006 capital expenditures (net of contributed capital)	(9,207)
2006 CIP	(7,892)
2006 deletions	(30)
2006 capital additions (net of contributed capital)	(12,517)
2006 Amortization	1,149
Net Additions	(11,368)
2006 closing net asset balance	(12,315)
2006 average net asset balance	(6,631)
Working Capital Allowance	(5,376)
Total 2006 Rate Base	($12,007)

The 2005 closing net asset balance is lower than was estimated in the 2006 EDR Application by approximately $1M. Although capital expenditures in 2005 (net of contributed capital) were up by $5.6M, amortization was also up by $2M and Construction Work in Progress (“CIP”) was higher by $4.6M, as shown in Table 3.

Table 3 – Closing Net Asset Balance Variance 2005

2005 closing net asset balance	Capital Expenditures $M	Contributed Capital $M	Amortization $M	2005 CIP $M	Net Impact $M
Approved	71.4	(13.1)	(30.4)	(11.9)	
Actual	75.1	(11.2)	(32.4)	(16.5)	
Impact	+3.7	+1.9	-2.0	-4.6	-1.0

Closing net asset balance = Previous year closing net asset balance + capital expenditures net of contributed capital + accumulated amortization + previous year CIP – current year CIP

Net additions in 2006 were lower by $11.4M than forecasted despite capital expenditures (before contributed capital) being higher by $4M. This is because capital contributions, 2005 CIP, 2006 CIP and amortization were also all higher. Detailed explanations of these variances can be found in Exhibit B2-2-1.

Table 4 – Net Additions Variance 2006

2006 Net Additions	Capital Expenditures $M	Contributed Capital $M	2005 CIP $M	2006 CIP $M	Amortization $M	Net Impact $M
Approved	91.3	(6.8)	11.9	(13.2)	(34.2)	
Actual	95.3	(20.0)	16.5	(21.1)	(33.1)	
Impact	+4.0	-13.2	+4.6	-7.9	1.1	-11.4

Net additions = capital expenditures – contributed capital + previous year CIP – current year CIP-amortization

Table 5 - Working Capital Allowance Variance 2006

	Power Supply Expenses $M	OM&A Expenses $M	Total @ 15 % $M
Approved[1]	575.1	44.6	93.2
Actual	541.8	43.8	87.8
Impact			-5.4

The above variances from Tables 3 to 5 resulted in an actual rate base in 2006, $12.0M lower than was approved.

[1] Working capital allowance was a settled figure in the 2006 Decision so total Approved does not equal 15% of Total Expenses.

COMPARISON OF CAPITAL SPENDING HISTORICAL YEAR ACTUAL VERSUS HISTORICAL YEAR APPROVED

1.0 INTRODUCTION

Table 1 provides details of capital expenditures as approved and actual for 2006, in the groupings provided in the 2006 EDR model. All expenditures are shown without contributed capital.

Table 1 – Historical Year Capital Expenditures

Capital Expenditures	2006 Approved with SM $000	2006 Actual $000	Variance $000
Land and Buildings	$1,146	$1,994	$848
TS Primary Above 50	6,948	4,669	(2,279)
DS	2,935	2,370	(565)
Poles, Wires	24,348	31,276	6,928
Line Transformers	8,918	11,303	2,385
Services and Meters	25,630	24,901	(729)
General Plant	3,699	2,708	(991)
Equipment	4,312	5,366	1,054
IT Assets	8,175	8,391	216
CDM Expenditures and Recoveries[1]	1,420		(1,420)
Other Distribution Assets	3,767	2,359	(1,408)
TOTAL	$91,298	$95,337	$4,039

Notes:

1. 2006 Actual CDM Expenditures and Recoveries are included in the specific asset accounts.

Hydro Ottawa plans and budgets work at a program and project level, therefore the above variances will be explained in terms of these programs/projects. The Board's Filing Requirements, states that a written explanation is required for rate base related information when there is a variance greater than a materiality of 1% of total net fixed assets. In 2006, Hydro Ottawa's total net fixed assets were $448M, resulting in a materiality threshold of $4.48M. Hydro Ottawa has chosen to use materiality thresholds of $500k for Distribution Capital programs/projects and $100k for General Plant programs/projects in order to provide a more detailed explanation of variances.

The following Tables show projects with material differences between 2006 Approved and 2006 Actual. The reference numbers in the Tables refer to the appropriate section in the write up. The projects with material expenditures for 2006, which did not have a material variance from approved, are described in Exhibit B2-3-1 and Exhibit 2-3-2.

Table 2 - Distribution Capital Program Expenditures, Sustainment

	Budget Program	2006 Approved $000	2006 Actual $000	Variance $000
2.1	Distribution Transformer Replacement	$6,601	$2,750	($3,851)
2.2	Plant Failure Capital	699	3,757	3,058
2.3	Stations New Capacity	4,061	1,637	(2,424)
2.4	System Operations Automation	3,019	1,336	(1,683)
2.5	Stations Transformer Replacement	1,990	562	(1,428)
2.6	Pole Replacement	4,580	5,828	1,248
2.7	System Reliability	0	1,021	1,021
2.8	Insulator Replacement	475	1,230	755
2.9	Cable Replacement	2,129	2,766	637
2.10	Stations Enhancements	1,696	2,232	536

Table 3 - Distribution Capital Program Expenditures, Demand

	Budget Program	2006 Approved $000	2006 Actual $000	Variance $000
3.1	Commercial Development	$4,331	$7,504	$3,173
3.2	Infill Services	1,859	4,288	2,429
3.3	Plant Relocation and Upgrades	2,874	5,237	2,363
3.4	System Expansion	2,789	1,445	(1,344)
3.5	Damage to Plant	559	1,120	561

Table 4 - Conservation Demand Management Expenditures

	Budget Program	2006 Approved $000	2006 Actual $000	Variance $000
4.1	CDM Parent Project (DIS)	$1,390	884	($506)
4.2	CDM Parent Project (GEN PLANT)	30	639	609

Table 5 - General Plant Capital Expenditures

	Budget Program	2006 Approved $000	2006 Actual $000	Actual to Approved Variance $000
5.1	GIS Budget Program	$4,902	$6,186	$1,284
5.2	Fleet Replacement	2,590	3,222	632
5.3	CIS Enhancements	1,427	830	(597)
5.4	Buildings - Facilities	3,131	2,662	(469)
5.5	Furniture and Equipment	691	494	(197)
5.6	New PC and Peripherals	419	297	(122)
5.7	Website Enhancements	132	23	(109)

Table 6 – Programs with Variances less than Materiality

	Budget Program	2006 Approved $000	2006 Actual $000	Variance $000
6.0	Projects with Variances less than Materiality	$38,924	$37,387	($1,537)

Table 7 – Total Capital Expenditures

	Budget Program	2006 Approved $000	2006 Actual $000	Variance $000
	TOTAL	$91,298	$95,337	$4,039

Table 8 - Contributed Capital

		2006 Approved $000	2006 Actual[1] $000	Variance $000
7.0	Contributed Capital	($6,782)	($16,254)	($9,472)

Note:

1. Contributed capital shown includes accumulated amortization on contributed capital

Table 9 – Construction Work in Progress

		2006 Approved $000	2006 Actual $000	Variance $000
8.1	Construction Work in Progress	($13,199)	($21,091)	($7,892)

2.0 DISTRIBUTION CAPITAL PROGRAM EXPENDITURESS, SUSTAINMENT

2.1 Distribution Transformer Replacement

The approved expenditures for 2006 were to replace 540 identified transformers at a cost of $6.6M, based on the results expected from the line distribution transformer survey program.

The transformer survey program found that there were fewer transformers in use than estimated and that a lower percentage of those contained insulating oil with PCB concentrations greater than 50 ppm, than estimated. In total, 2.84% of the 29,856 pad-mounted and pole-mounted transformers contained insulating oil with PCB concentrations greater than 50 ppm. The survey also showed that the majority of units to be replaced were pole-mounted, which are less expensive and require less time to replace than pad-mounted units. This accurate information prompted Hydro Ottawa to revise the replacement program.

The replacement plan will still be completed over the planned three-year period, but fewer replacements are required each year. The revised plan will achieve the objective of the program to replace line distribution transformers with PCBs greater than 50 ppm by the end of 2008. Replacement of 350 transformers was scheduled for 2006 at a total budget of $3.6M.

Once the program began, the total number of transformers identified for replacement in 2006 was increased to 372 units. Even with this increased number of replacements the project was $807k below the revised budget, for a total expenditure of $2.75M.

2.2 Plant Failure Capital

Plant Failure Capital is a program for the replacement of distribution equipment that fails unexpectedly. There were more failures in 2006 than anticipated, therefore requiring a greater investment than forecast. The failure rate re-enforces the need for continued investment in the distribution system.

Hydro Ottawa's asset management program is expected to result in reduced failures as the program matures. Analysis of what items are charged to this budget item will allow for meaningful feedback into the asset management process.

2.3 Stations New Capacity

There was one Stations New Capacity project in 2006, the new Cyrville station construction. Transformer procurement lead times were longer than expected for the power transformer, 18 months rather than 10 to 12 months. The project spending for the Cyrville station was therefore delayed in 2006, resulting in the variance.

In 2006, $1.6M was spent on transformer payments and preliminary engineering. In 2007, approximately $4.2M will be spent on equipment and labour. The station will be fully commissioned and on-line in 2008.

2.4 System Operations Automation

The System Operations Automation projects in 2006 involved upgrades of the Supervisory Control and Data Acquisition ("SCADA") system. The work is technical in nature, requiring specific training and experience. A relatively small number of employees have the skills to work on the SCADA system. There was a significant staff turn over in this department in 2005 and 2006. The need to train new staff and the requirement to respond to demand work created by embedded generation projects resulted in a delay to the original SCADA plan for 2006. As a result, the budget was under spent in 2006. SCADA upgrades and remote terminal unit additions will continue at the planned rate in future years.

2.5 Stations Transformer Replacement

In 2006, a survey of the dissolved gas in oil and oil condition assessment for the power transformers was conducted. The results of the survey were used in conjunction with the Asset Management Plan to correlate and quantify the health index in the transformer fleet and predict remaining life indices based on transformer oil condition. The replacement plan for station transformers was revised to a less intensive plan, to reflect the survey results. The decreased station transformer replacement rate is responsible for the variance.

The station transformer replacement plan identified the Epworth Transformer for replacement in 2007. Due to longer than expected lead times, the replacement transformer was ordered in 2006 so the project could proceed in 2007. The transformer delivery and labour for the project will occur in 2007.

2.6 Pole Replacement

The approved expenditures for 2006 were based on a planned pole replacement program of 300 poles. In total 387 poles were replaced in 2006. The increased number of pole replacements was due to the inclusion of unplanned pole replacements, which lead to additional expenditures.

Unplanned pole replacements occur when there is an immediate need for replacement to ensure public and worker safety; for example, if work involving equipment on the poles needs to be done, but the pole is not fit for workers to climb. Going forward, Hydro Ottawa's pole replacement budget includes both types of pole replacement.

The per unit cost to replace a pole varies significantly on the installation particulars, such as the number of circuits on the pole, the attachment of switches or transformers on the pole, pole location such as the road right of way or back yard, and other factors.

2.7 System Reliability

System Reliability projects are complex enhancements to areas identified as having poor system reliability. The area of Kanata has experienced relatively poor reliability, compared to the rest of the Hydro Ottawa service area, in recent years. The system performance in the area raised concerns within the community. In response, Hydro Ottawa established a team in 2006 to address the reliability problems in Kanata.

Hydro Ottawa was in the process of upgrading its Bridlewood Substation, which supplies the neighbourhoods of Glen Cairn, Bridlewood and South Kanata. The team identified additional improvements to the Substation egress in 2006 that would improve reliability of supply to the residents. These egress improvements, which were not identified until 2006, were executed as a System Reliability project, and account for the variance from the approved expenditures.

As funds were available due to savings realized in the distribution transformer replacement project, Hydro Ottawa proceeded with this customer focussed improvement plan.

2.8 Insulator Replacement Program

Several additional insulator replacement projects were identified in 2006 due to frequently occurring failures that could impact workforce safety. An additional 1,000 insulators were replaced in 2006 over the planned 1,500, for a total of 2,500 insulators. These projects were completed in 2006 and resulted in the increased expenditures.

The per unit cost to replace insulators varies significantly on the installation particulars, such as pole framing, existence of adjacent circuits, pole location such as the road right of way or back yard, and other factors.

2.9 Cable Replacement

The cable replacement projects for 2006 were increased to improve reliability in areas with aged infrastructure. The cable replacement plan for each year is developed in advance during the budgeting process. Failures and outages that occur throughout the year are reviewed to determine if changes to the program are warranted to address areas with declining reliability.

2.10 Station Enhancements

The variance in 2006 Station Enhancement program was due to an increased scope on the station circuit breaker control refurbishment projects. The program for 2006 was increased by approximately $1.5M, re-allocated from the Stations Transformer Replacement Program.

The increased scope of work was completed under budget. Efficiencies were gained throughout the year by standardizing on common parts and drawings, as well as utilizing the same employees on the project.

3.0 DISTRIBUTION CAPITAL PROGRAM EXPENDITURES, DEMAND

3.1 Commercial Development

The expected expenditures for new commercial development in 2006 was based on historical levels, projected growth rate, prior year project carry-over, and project inquiries.

The approved expenditures were exceeded due to a high level of commercial activity in 2006. This may be in part, due to the City of Ottawa's official plan that encourages urban intensification as:

- Hydro Ottawa's service area is located within the more urban centre of the City of Ottawa boundaries, and
- Servicing of multi-unit residences is considered a commercial service by Hydro Ottawa if the main service is three-phase or exceeds 400 Amp, as outlined in the Conditions of Service.

3.2 Infill Services

Infill services occur well after the Hydro Ottawa servicing to a subdivision has been completed; for example, a service to home that was constructed 10 years after the subdivision was occupied. Requests for infill service connections were higher than expected in 2006. This may be in part due to the City's official plan that encourages urban intensification.

3.3 Plant Relocations and Upgrades

The capital expenditures forecast for plant relocation was based on historical levels, projected growth rate, previous year project carry-over, and discussions with the city of Ottawa. The volume of work was higher than forecasted for 2006. There were many requested projects in 2006 of various sizes. Two of the larger projects are described below.

- Highway 7 - The Ontario Ministry of Transportation is undertaking a project to twin the existing Highway 7. To accommodate the expansion, Hydro Ottawa is required to relocate existing pole lines to the new right of way locations. Works involve green line construction, close cut clearing and removal of the old lines. This is part of an ongoing project.
- Overhead to Underground Conversion King Edward Street - The City is reconstructing King Edward Street from the MacDonald-Cartier Bridge to Laurier Street. This portion of road is an arterial road that connects Ontario and Quebec. As part of the overall project, the City requested Hydro Ottawa to convert its existing

overhead plant to underground. This multi-year project is scheduled in phases through 2011.

3.4 System Expansion

Expenditures for System Expansion to connect requests for new services were lower than estimated in 2006. The volume of commercial and residential activity does not directly correspond to system expansion volumes. The location of new developments, and the particulars of existing Hydro Ottawa distribution infrastructure in those locations, are factors that drive this capital program.

Specific projects in this budget program included expansion for the supply of Valour Drive Business Park, Terminal Lands commercial development, and addressing long-term load transfers.

3.5 Damage to Plant

Damage to Plant is damage to distribution equipment caused by outside parties, such as a vehicle colliding with a pole. Hydro Ottawa must address damage to plant to ensure worker and public safety. As described in Exhibit B1-2-2 Hydro Ottawa endeavours to reduce the likelihood of damage to plant incidents, however, the nature of distribution systems is to have equipment throughout the service area, along public roadways, where it is subject to external interference.

4.0 CONSERVATION AND DEMAND MANAGEMENT EXPENDITURES

Hydro Ottawa's Conservation and Demand Management ("CDM") capital expenditures in 2006 were in line with the total approved expenditures; however, there was a difference in the split of the funds between CDM Parent Project (DIS), which includes Distribution Loss Reduction and Smart Meters and CDM Parent Project (GEN PLANT) which includes Load Control initiatives. On July 27, 2006 Hydro Ottawa applied to the Board to redirect funds within the CDM Plan. This included transferring funds from the Distribution Loss Reduction program area to the Residential and Small Commercial Program area. The Board approved this modification on December 13, 2006 and the actual spending in 2006 reflects this adjustment.

5.0 GENERAL PLANT CAPITAL EXPENDITURES

5.1 Geographic Information System ("GIS") Budget Program

5.5.1 <u>GIS Project</u>

The GIS development continued in 2006 with the focus on data conversion. Spending on the GIS project was approximately $4.2M in 2006, and continues into 2007.

Data conversion has proved to be a more challenging activity than Hydro Ottawa and the contractor had anticipated. The GIS development involves creating electronic models of paper maps from each of the six predecessor utilities (Goulbourn, Kanata, Nepean, Ottawa, Gloucester and Casselman), each of which had varying symbols, nomenclature, level of details, et cetera. The electronic model also includes the consolidation of asset data from various sources, such as databases and spreadsheets.

Data conversion was broken into 12 geographic delivery areas. When the contractor completes the conversion of a delivery area it is forwarded to Hydro Ottawa for a 30-day quality assurance ("QA") and quality control ("QC") testing period. The delivery areas submitted in 2006 did not meet the contract QA metrics, and were consequently returned to the vendor for correction. This is the reason data conversion is taking longer than anticipated by both parties.

Accurate data is critical to the usefulness of the GIS tool:

- The GIS will replace the paper operating maps, and therefore errors in the GIS data could result in unsafe situations.
- The GIS provides the electrical graphical model for the Outage Management System ("OMS"). Inaccurate GIS data will hinder trouble-shooting of outages and restoration of power.
- The GIS will become the record maps for the utility, and errors in the maps may lead to inefficiencies in maintenance of the distribution system, and the design of distribution system expansions, system enhancements and customer connections.
- Asset data will be used as inputs into the Asset Management Plan. Complete, comparable data within asset classes will assist in creating intermediary programs.
- Errors in the data may decrease staff confidence in the tool, and therefore negatively impact its widespread acceptance and use.

Hydro Ottawa worked closely with the conversion vendor throughout the data conversion process. A documented question and answer methodology, problem action reports ("PARs"), was used to provide guidance on specific conversion issues. Hydro Ottawa staff working on the QA and QC testing accumulated a notable amount of overtime in 2006. Five temporary employees were also retained by Hydro Ottawa to assist with the QA and QC process. These two sources of additional labour expenditures were allocated directly to the GIS project.

To reduce the number of PARS resulting from the complex conversion, a Hydro Ottawa employee with extensive field and map experience was stationed at the conversion vendor's facility in India for six weeks to provide on site direction and expertise.

At the end of 2006, 3 geographic areas had been accepted and were in production. An additional 3 geographic areas had been received, and were undergoing QA.

5.1.2 Distribution Transformer Survey

The distribution transformer survey program was accelerated from a completion date in 2007 completion in 2006, so that the results would be available as an input with the data conversion. The survey collected nameplate data from distribution line transformers, pad-mounted and pole-mounted, as well as GPS coordinates. The transformer information is critical to the GIS model. The expenditures allocated to the GIS program in 2006 were $2M.

The expenditures for testing transformer oil for PCB concentration was allocated to operating portions of the budget, and were not included in the GIS project.

5.2 Fleet Replacement

The 2006 approved expenditures were to replace 29 vehicles and purchase one new full sized truck. The initial plan was changed due to:

- changing user needs altered the profile of vehicles to be replaced, and
- additional funds were made available to the Fleet Services department to help address the lagging replacement plan as described in Exhibit B1-2-5.

In total, 33 vehicles were replaced and 6 vehicles were added to the fleet. Refer to Exhibit B2-3-2 for details.

5.3 CIS Enhancements

In 2005 there were two changes in the Electronic Business Transaction ("EBT") standards. It was expected that there would be at least one change in the EBT standards in 2006. No material changes occurred in 2006, and resultantly these funds were not required.

5.4 Buildings - Facilities

The facilities building budget consists of many individual projects. The under expenditure was based on:

- The reduction in capital spending on the Albion road facility, under the assumption the relocation strategy would proceed, and
- The cancellation of the storage building at the Carling Operations Centre due to limited space allocation for future electrical service structures.

5.5 Furniture and Equipment

The Furniture and Equipment expenditures include the relocation of staff within the work sites and worksite reconfigurations. There were fewer requirements for this activity than estimated resulting in reduced costs.

5.6 New PC and Peripherals

Approved expenditures in 2006 included the purchase of a cash machine to process customer payments. This activity was contracted out in 2006, and as such, the requirement for this piece of equipment was not necessary.

5.7 Website Enhancements

Approved expenditures in 2006 included Hydro Ottawa's plan to conduct a complete website redesign. When the project was undertaken, the front end of the website was updated but the background structure of the website was not redesigned. This change in scope resulted in the project being under spent.

6.0 PROJECTS WITH VARIANCES LESS THAN MATERIALITY

The capital budget consists of the aforementioned programs with material variances from the 2006 approved expenditures, as well as a number of programs with only small variances, below the materiality threshold, because Hydro Ottawa spent according to its plan. The following is a list of the 2006 capital projects with small variances between actual and approved expenditures.

- Civil Rehabilitation Program
- Distribution Automation
- Distribution Enhancements
- Elbow and Insert Replacement
- Embedded Generation Projects
- Information Services and Technology
- LDC EBS / JDE Project
- Major and Minor Line Extensions
- O/H Equipment New and Rehab
- PC/Peripheral Replacement Program
- PILC Risers and Pothead Replacement
- Residential Subdivision
- Splice Replacement Program
- Stations Automation
- Stations Battery Replacement
- Stations Minor Enhancements
- Stations Plant Failure Capital
- Stations Relay Replacement
- Stations Switchgear Replacement
- Switchgear New and Rehab
- System Voltage Conversion
- Vault Rehab or Removal

- Vault Space Capital Leasing
- Wholesale Meter Upgrade

7.0 CONTRIBUTED CAPITAL

Overall Distribution Capital, Demand expenditures were higher than projected for 2006. Correspondingly, as shown in Table 8, the capital contributions were also higher in 2006 than anticipated.

DISTRIBUTION CAPITAL EXPENDITURE PROGRAMS/PROJECTS, 2006 ACTUAL

1.0 INTRODUCTION

The following table lists programs/projects that exceed the materiality limit of $500k. 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 – Distribution Capital Program Expenditures, Sustainment

	Budget Program	2006 Actual $000
2.1	Pole Replacement	$5,828
2.2	Distribution Enhancements	4,264
2.3	Plant Failure Capital	3,757
2.4	Cable Replacement	2,766
2.5	Distribution Transformer Replacement	2,750
2.6	Stations Enhancements	2,232
2.7	Facility Programs - Stations	1,984
2.8	Stations New Capacity	1,637
2.9	Major and Minor Line Extensions	1,528
2.10	System Operations Automation	1,336
2.11	Insulator Replacement	1,230
2.12	Stations Switchgear Replacement	1,196
2.13	System Reliability	1,021
2.14	Stations Automation	616
2.15	Stations Transformer Replacement	562
2.16	Switchgear New and Rehab	518

Table 2 - Distribution Capital Program Expenditures, Demand

	Budget Program	2006 Actual $000
3.1	Smart Meters	$16,376
3.2	Commercial Development	7,504
3.3	Residential Subdivision	7,439
3.4	Plant Relocation and Upgrades	5,237
3.5	Infill Services	4,288
3.6	System Expansion	1,445
3.7	Wholesale Meter Upgrade	1,258
3.8	Damage to Plant	1,120

2.0 DISTRIBUTION CAPITAL PROGRAM EXPENDITURES, SUSTAINMENT

2.1 Pole Replacement

Pole replacement continues per the description in Exhibit B1-2-2. The work is divided into two main categories:

- planned pole replacement – the replacement of previously identified, groups of poles in one geographic area, and
- one-of pole replacement – the replacement of individual poles identified by field staff as requiring replacement.

In 2006 planned and unplanned pole replacements were recorded in the planned pole replacement budget, thereby giving the appearance of increased spending. Both planned and unplanned pole replacement will be best captured and managed under the same overall pole replacement project, and consequently, this change has been made in the planning for the 2008 Pole Replacement Program.

Two large pole replacement projects took place in 2006.

- Robertson Road – This project involved the replacement of 39 aging wood poles on Roberson Road, supporting 3 phase 8 kV, 44 kV and a communications attachment. The poles were located off of the road right of way, on private property, without an easement. A redesigned pole line located along the road right of way, constructed to current standards, replaced the existing poles. The project was planned and designed in coordination with a City street lighting project along the same stretch of road which resulted in joint design with less poles (total poles, not just Hydro Ottawa poles) required along the roadway.
- Bayswater – This multi-phase project involve the replacement of aged poles along Bayswater Street. The poles in this area support multiple 13 kV circuits, potheads, transformers and other associated hardware.

A number of smaller pole replacement projects were also completed in 2006.

2.2 Distribution Enhancements

The Distribution Enhancement program continued per the description in Exhibit B1-2-2. There were a large number of smaller distribution enhancement projects planned in 2006, all below the materiality threshold.

2.3 Plant Failure Capital

Plant Failure capital is a program for the replacement of distribution equipment that fails unexpectedly. Hydro Ottawa's asset management program is expected to result in reduced failures as the program matures. Replacement of failed plant continued in 2006, as described in Exhibit B1-2-2. Hydro Ottawa must address damaged plant to ensure public and worker safety.

2.4 Cable Replacement

Cable replacement continues per the Cable Replacement program description in Exhibit B1-2-2. Two large cable replacement projects took place in 2006.

- Beacon Hill ($760k) for replacement of aging cables. Approximately 4000m of single-phase butyl rubber primary cable were replaced.
- Richmond Road/Bells Corners ($840k) for replacement of aging cables. Approximately 710m of single phase and 90m of 3-phase aluminium 1/0, and 650m of primary TR-XLPE cable was replaced. Associated duct and manhole work was also completed.

A number of smaller replacement projects took place in 2006, as well as carry-over projects.

2.5 Distribution Transformer Replacement

Distribution transformers are manufactured to contain insulating oil. A number of older distribution transformers may contain insulating oil with PCB concentrations greater than 50 ppm. Pending federal regulations will require transformers with insulating oil with greater than 50 ppm PCB be removed from service, per the description in Exhibit B1-2-2. All of Hydro Ottawa's line distribution transformers with PCB concentrations greater than 50ppm will be replaced over a three-year period starting in 2006. In 2006, 372 identified transformers were replaced.

2.6 Stations Enhancements

Stations enhancements continued in 2006 per the description in Exhibit B1-2-2. There was one material Substation Enhancement program in 2006, circuit breaker control refurbishments that install remote operation of the breaker reclose blocking. The refurbishments were performed to 15 substations in 2006; however, equipment was also purchased for the 2007 phase of the program.

2.7 Facility Programs – Stations

The Facility Programs approved expenditures in 2006 were for two main categories.

- The preventative capital program, which addresses the needs of existing station buildings, security, safety and general condition of the facilities. Roof, door and window replacements, amongst other upgrades, occur as required.
- Land purchases for additional stations are also included in this category. The new Cyrville Substation is to be constructed on a new parcel of land, and the expenditure in 2006 was to support this project. Refer to Section 2.8 for additional information.

2.8 Substation Capacity – Cyrville-Orleans 27.6kV Area

Hydro Ottawa has started the process to build a new 115 kV to 27.6 kV transformer substation in the Cyrville area. The 27.6 kV supply area of Cyrville-Orleans is currently fed from two stations, Bilberry TS, which is owned by Hydro One, and Moulton MTS, which is owned by Hydro Ottawa. Two feeders at Bilberry TS also supply about 30 MW of Hydro One retail load. The load in this area currently exceeds the defined planning criteria. As such an additional source of capacity is required. Several options were examined as part of the joint study. The recommended solution is for a new station to be built in the Cyrville area. The environmental assessment has been completed (2007) and the site is being readied for construction.

2.8.1 <u>Cyrville MTS Business Case</u>

New growth in this area is to be fed off of the 27.6 kV distribution system, which currently is supplied from two substations, Moulton MTS, and Hydro One owned Bilberry Creek TS.

A joint study by Hydro Ottawa and Hydro One of the station capacity supplying the area defined as Cyrville-Orleans was completed in May 2004. In the study, it was determined that the available firm capacity is insufficient to meet the planning criteria for this area. The report recommended immediate remedial action to transfer 5 MW of load off the Hydro One Bilberry Creek Station, and the need to identify new capacity opportunities prior to 2007.

Various options were examined to enhance area supply. The options examined in the report include installation of new distribution feeders, upgrading of existing stations, and the installation of a new station at one of several sites. After completion of the technical assessment of the options, it was clear that the number of options that were both feasible and economic was quite limited. Even though much of the future growth will occur in the Orleans community, transmission constraints limit the size of a new station that could be built near Orleans itself to only 10 MW. The cost of constructing a 115 kV, or 230 kV, station of this size was deemed uneconomic.

Three options to provide additional 27.6 kV station capacity were examined in detail. These options included:

A - Addition of a 44/27.6 kV transformer at one of the existing 44/8 kV stations
B - Addition of a third transformer at the existing Moulton MTS
C - A new station located near Cyrville Road and Hwy 417

The initial prices for these options, and the installed capacity, were estimated to be:

- A $1,257,000 for a 25 MVA station at an existing low voltage station
- B $3,747,000 for a 33 MVA station at an existing high voltage location
- C $5,030,000 for a 33 MVA station at a new location

Option A - Subsequently, it was determined that this would require the expansion of the 230/44 kV station at Hawthorne TS, which has a budgetary cost of approximately $10M. As such, this option was eliminated from further consideration.

Option B - The installation of a third transformer at Hydro Ottawa's Moulton MTS has a major technical disadvantage in that this station is supplied off a single 115 kV overhead transmission line. In the event of a line failure, it could take a significant period of time for Hydro One to perform line switching to restore supply to Moulton load. Placing more than 50 MW of load on such a supply is inadvisable. As such, this option was eliminated from consideration.

Option C - This has the advantage of being constructed as a DESN-type station and can be connected to two different 115 kV lines, thus minimizing the probability of a station outage. A DESN station requires the installation of two power transformers and high voltage breakers, at an additional cost of about $1.3M. There is also an estimated $1M in transmission connection costs. Construction of a new station was determined to be the overall best option for providing future high reliability capacity for this growing area.

Option	A -$11,257,000 for a 25 MVA station
	C -$7,337,700 for a 33 MVA station

Option C was chosen as the least cost, technically acceptable solution. A three-year construction schedule has been created and was the basis of the $4M program for 2006.

2.9 Line Extensions

Major and Minor Line extensions include the expansion of Hydro Ottawa infrastructure for reasons such as general load growth and the opportunity to construct civil structures within a bridge or road during its construction, as described in Exhibit B1-2-2.

There was one project in excess of the materiality threshold. An underground plant extension was constructed to connect sections of distribution plant in the area of “Chapman Mills” due to load growth in the area.

2.10 System Operations Automation

The Supervisory Control and Data Acquisition (“SCADA”) system is an important tool in running Hydro Ottawa’s distribution system and the conversion program continues per the description in Exhibit B1-2-2. Progress in 2006 towards transferring all SCADA equipment to one platform is listed below.

- The Master Station upgrade was started in 2006. This project included replacement of the existing Telvent system with the latest generation hardware and software.
- All 8 of the Gloucester Substation Quindar Remote Terminal Units (“RTUs”) were replaced in 2006 and 2 of the Nepean Substation Quindar RTUs were replaced in 2006.
- All of the hardware for the 2007 replacement of the remaining Nepean 14 Substation Quindar RTUs were purchased in 2006.

2.11 Insulator Replacement

A type of horizontal post porcelain insulators has been identified to fail, which results in an electrical and physical hazard to employees. The Insulator replacement program changes the hazardous insulators as described in Exhibit B1-2-2. In total 2,500 insulators were replaced in 2006.

2.12 Station Switchgear Replacement

The Station switchgear replacement program replaces aged infrastructure within substations, as description in Exhibit B1-2-2.

Switchgear replacement was planned for Bayswater Substation for 2007, however, due to long equipment lead times, the equipment was purchased in 2006. The bulk of the work on this project will be completed in 2007.

2.13 System Reliability

Bridlewood transformer substation is located in Kanata. The station contains two incoming voltages, 44 kV and 115 kV, and two distribution voltages, 8 kV and 27.6 kV. The substation was originally constructed in phases; the 44kV station was constructed followed years later by the 115 kV station.

A project was underway in 2006 to split the 115 kV bus work to provide individual isolation for the two 115 kV transformers and to replace 3 end-of-life outdoor reclosers with indoor metal enclosed switchgear. Construction of civil infrastructure and replacement of existing distribution poles was required to facilitate replacement of the egress cables.

Due to the significant amount of civil work being undertaken and the proximity to existing 27.6 kV Hydro Ottawa plant in the right of way, a number of other activities were identified that would better the distribution system. Significant efficiencies would be realized between the existing project and the proposed activities due to adjoining design and construction efforts. As a result, Hydro Ottawa increased the scope of work by $1.2M in the distribution enhancement program. The newly identified works included cable replacement, circuit reconfiguration and distribution system reinforcement.

This project will assist in addressing reliability performance in the Kanata area.

2.14 Station Automation

The Station Automation program continued in 2006 as described in Exhibit B1-2-2. Remote monitoring was installed on three complete substations; Kanata, Uplands and Bridlewood.

The Kanata and Uplands stations were selected as they are new substations and the substation automation program will provide data on the assets from the time they were new. The Bridlewood substation was selected as it is heavily loaded and condition information will be used to monitor its condition. All three stations are larger substations in Hydro Ottawa's service area, which will allow for more data to be gathered from each individual location.

2.15 Substation Transformer Replacement

Substation transformer replacement continued in 2006 per the description in Exhibit B1-2-2.

The Epworth T2 transformer was identified for replacement in 2007 based on the condition assessment in 2006. Preliminary work and equipment purchasing commenced in 2006. Equipment lead times required that the project began in 2006, although the actual replacement will not occur until late 2007.

2.16 Switchgear New and Rehabilitation

The Switchgear replacement program continued to replace pad-mounted switchgear in 2006 per the description in Exhibit B1-2-2. Switches were replaced in 2006, although none of the individual projects exceeded $500k.

2.17 Miscellaneous Programs

The sustainment budget consists of the aforementioned material programs, as well as a number of programs that did not exceed the $500k materiality threshold. In 2006 these smaller sustainment programs consisted of:

- Civil Rehabilitation Program
- Distribution Automation
- Elbow and Insert Replacement
- O/H Equipment New and Rehab
- PILC Risers & Pothead Replace
- Stations Relay Replacement
- System Voltage Conversion
- Splice Replacement Program
- Stations Battery Replacement
- Stations Conductor Replacement
- Stations Minor Enhancements
- Stations Plant Failure Capital, and
- Vault Space Capital Leasing.

3.0 DISTRIBUTION CAPITAL PROGRAM EXPENDITURES, DEMAND

3.1 Smart Meters

The Smart Meter Program is discussed in Exhibit D3-1-1.

3.2 Commercial Development

As described in Exhibit B1-2-2, commercial development connections are demand driven projects initiated by developers and property owners. The expected expenditures for new commercial development in 2006 were based on historical levels, the projected growth rate, prior year project carry-over, and project inquiries.

3.3 Residential Development

As described in Exhibit B1-2-2, residential developments are demand driven projects initiated by developers and property owners. The expected expenditure for new residential developments was based on historical levels, projected growth rate, prior year project carry-over, and project inquiries.

The number of new homes constructed in a given year does not directly reflect the residential work required by Hydro Ottawa to service subdivisions in a given year. Hydro Ottawa constructs its infrastructure throughout a subdivision prior to home construction or occupation.

3.4 Plant Relocation and Upgrades

As described in Exhibit B1-2-2, plant relocation and upgrades are demand driven projects are largely road works projects initiated by the City. The expected financial impact on Hydro Ottawa of plant relocations is based on historical levels, projected growth rate, previous year project carry-over, and discussion with the City. The City undergoes a number of projects every year to maintain and expand its infrastructure.

There was one project beyond the materiality threshold for 2006.

- Highway 7 - The Ontario Ministry of Transportation is undertaking a project to twin the existing Highway 7. To accommodate the expansion, Hydro Ottawa is required to relocate existing pole lines to the new right of way locations. Works involve new construction, close cut clearing and removal of the old lines. This project will have phases continuing in subsequent years.

Another large project is below the materiality threshold for 2006, however, as it is a multi-year project it warrants description.

- Overhead to Underground Conversion King Edward Street - The City is reconstructing King Edward Street from the MacDonald-Cartier Bridge to Laurier Street. This portion of road is an arterial road that connects Ontario and Quebec. As part of the overall project, the City requested Hydro Ottawa to convert its existing overhead plant to underground. This multi-year project is scheduled in phases through 2011.

3.5 Infill Services

As described in Exhibit B1-2-2, infill services are demand driven projects initiated by developers and property owners. Volumes for this activity are customer driven.

3.6 System Expansion

As described in Exhibit B1-2-2, system expansions are demand driven projects that are additions to the distribution system in response to a request for additional customer connections that otherwise could not be made; for example, by increasing the length of the distribution system. The expenditures are driven by customer activity.

A number of small projects were undertaken in 2006. One project of significance was an overhead pole line construction to connect an embedded generator.

3.7 Wholesale Meter Upgrades

Wholesale meter upgrades continued per the program described in Exhibit B1-2-2. Twelve substations were completed in 2006. Upgrading the meters is a requirement of *Market Rules* administered by the Independent Electric System Operator.

3.8 Damage to Plant

As described in Exhibit B1-2-2, damage to plant is a demand driven activity repairing damage to distribution equipment caused by outside parties, such as a vehicle colliding with a pole. Hydro Ottawa must address damaged plant to ensure public and worker safety.

3.9 Miscellaneous Programs

The demand budget consists of the aforementioned material programs, as well as a number of programs below the $500k materiality threshold. In 2006, the smaller demand programs consisted of:

- Embedded Generation Projects.

GENERAL PLANT CAPITAL EXPENDITURE PROGRAMS/PROJECTS, 2006 ACTUAL

1.0 INTRODUCTION

Table 1 lists programs/projects that exceed the materiality limit of $100k. 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 Capital Expenditures

	Budget Program	2006 Actual $000
2.1	GIS Budget Program	$6,186
2.2	Fleet Replacement	3,222
2.3	Buildings - Facilities	2,662
2.4	Tools Replacement	917
2.5	CIS Enhancements	830
2.6	Information Services and Technology	558
2.7	Furniture and Equipment	494
2.8	New PC and Peripherals	297
2.9	PC and Peripheral Replacement	210

2.0 GENERAL PLANT CAPITAL EXPENDITURES

2.1 Geographic Information System and Outage Management System

The Geographic Information System ("GIS") and the Outage Management System ("OMS") are parallel projects to install first time technology. Data conversion is included to assist in automation. With their implementation Hydro Ottawa will modernize mapping, mapping products, and processes that use maps and their background data.

OMS is the primary database and tool for tracking /responding to system outages.

GIS will be the backbone of Hydro Ottawa's distribution plant asset records management.

At the amalgamation in November 2000, the operational, distribution system asset, and technical information from each of Hydro Ottawa's five predecessor utilities was in varying and inconsistent forms. Approximately 85% of the system maps were in paper form with different presentation metrics and information. The smaller utilities in Goulbourn (a predecessor utility) and Casselman (acquired in April 2002) had no system mapping. Some technical information was tracked in separate paper files, databases, and spreadsheets. System operation was slow and uncertain while outage times increased. Formal methods for asset management and subsequent budgeting for the electrical system sustainment programs were difficult and person dependent. Additional formal systems were required to track new regulatory (reliability, response, system efficiency, safety, environmental), operational, and financial information.

Each of Hydro Ottawa's six predecessor utilities had its own records and mapping systems. Asset management was very person dependent, relying heavily on individual experience and knowledge. Hydro Ottawa's skilled workforce (knowledge base) is aging. Few people have knowledge of Hydro Ottawa's entire service area. Staff requires timely direction from Dispatch in outage situations. The OMS is providing this. Also, staff are being moved into unfamiliar neighbourhoods where easy access to updated information for safe efficient system operation is required. The GIS will provide this.

Starting in 2002, assessment of the technical, operational, and mapping requirements and challenges began. A business case was developed, and a competition was held to select an industry standard off-the-shelf solution. Next steps are to develop common standards, correct and/or gather key system information, and implement over several years.

The initial rollout of the OMS provided basic outage management control in the operational centre without system mapping. Once the OMS was in place, the GIS configuration began. The Hydro Ottawa electrical distribution system maps are overlaid onto base maps provided by provincial and federal agencies. As digital map sections become available, the electrical distribution system is to be transferred into the outage management system to assist operational staff in monitoring, controlling, and restoring the electrical system. Since this project is being implemented over several years, controls to ensure overall project risk mitigation were put into place with routine executive review and external review.

The initial phase of the OMS has been in live operation since December 2003. Current functionality consists of an automated system to log distribution system events as they occur and a computerized map to display accurately the location of where events are occurring within the system.

The mapping permits staff at the utility to have up to date and consistent information on what is happening on the distribution system at any given time. The process involves Call Centre staff inputting customer power outage calls directly into the outage mapping application to notify the System Control office dispatching staff of where problems are happening. The display of the call locations on a map results in faster trouble diagnosis and dispatching of crews and a reduction in internal phone, fax, e-mail, and paper communications.

The event data is then communicated from dispatchers to field staff utilizing mobile computer technology where crews receive assignments on a laptop installed in the vehicle. As a result, all dispatch, response, and job completion times are logged in a central database. This information is further used to generate reports regarding Hydro Ottawa response times. To date, reductions in time to receive, diagnose, and respond to outage calls is the primary benefit.

Further expansion of the OMS throughout the utility will include using the tool to capitalize on mobile communications to streamline current fieldwork.

Also included in the project completion is the incorporation of the GIS electrical system data with the OMS to facilitate a more efficient process to identify equipment failure and enable faster restoration times.

From 2003 until now, the GIS has been undergoing considerable development. Included in these efforts has been the standardization of mapping, creation of facility databases, and adoption of best practices acquired from each of the former utilities.

An intranet-based GIS mapping application has also been released to enable users who require information on transformers, poles, and streetlights to view and run inquiries on the data. Upon completion of data conversion, users will have the ability to view information on all distribution equipment within GIS.

The GIS data conversion stage of the project is presently nearing completion. At the end of 2006, 3 geographic areas had been accepted and were in production. An additional 3 geographic areas had been received, and were undergoing QA.

The majority of the capital project costs have now been incurred. Both the GIS and the OMS systems require computer hardware, application software, data conversion, consultant implementation, in-house staffing resources and staff training.

Items supporting the business case:

- Reduce distribution, operating map and key database updates from the many regularly updated sources into one centrally available repository,
- Provide a system to improve expenditures for maintenance and replacement activities and optimize distribution network investments in targeted program activities,
- Provide planning tools for system growth and reinforcement optimization,
- Enable timely electronic mapping exchange with external entities,
- New designs and changes prepared online thereby eliminating repetitive manual sketch transactions between internal groups,
- Provide additional functionality to track new and ongoing regulatory system information such as reliability, response, system efficiency, safety, and environmental,
- Eliminate the need to pin paper wall maps and provide online switching orders for system operation thus reducing the risk of switching errors that could lead to accidents,
- All outage information recorded digitally for analysis and follow up,
- Reduce outage time for system trouble calls,
- Analyze outages in the OMS to determine probable cause and identify better equipment isolation solutions for system restoration activities,
- Provide system mapping in the field for restoration and construction crews,
- Quickly identify medical and other critical customers with their electrical and geographic information,
- Immediate online notification of outage events to all inside and outside staff,
- Dispatching and crew management during system access and problems,
- Backup recovery system for system operation with IT and facility disasters, and
- Eliminate the requirement to hire additional staff necessary to maintain manual systems.

Phase IV of the project which involves development, implementation and production use, will be completed by the end of 2007. At this point data will be pushed to the OMS allowing for increased OMS functionality.

2.1.1 Distribution Transformer Survey Program

Distribution transformers are used to reduce higher distribution voltages to low voltages used in commercial and residential buildings. Distribution transformers are located on the public road allowance and private property, and contain insulating oil.

New regulations are pending that will require Hydro Ottawa to remove equipment containing insulating oil with more than 50 ppm PCB content from service. To comply with the pending legislation, Hydro Ottawa must first have an inventory of PCB contaminated equipment.

Hydro Ottawa has an estimated 30,000 distribution transformers in both overhead and underground applications, that is, approximately 16,694 pole-mounted and 13,207 are pad-mounted transformers. There are also 1,700 customer vaults that each contains multiple transformer units.

Hydro Ottawa initiated a Transformer Survey project in 2005 to identify all line distribution transformers with oil containing PCBs. This project is performed in conjunction with the GIS project and will obtain and record attribute data including PCB sampling (and lab oil analysis if required), for the existing inventory of pad mounted and pole mounted distribution transformers. This project is part of the Objectives & Targets Program under our ISO14001 certified Environmental Management System, and was expected to be complete by the end of year 2006.

Currently there is no regulatory requirement to prohibit the use of equipment containing oil with PCBs in excess of 50 ppm, but regulations are pending. Once the Transformer Survey project is completed, Hydro Ottawa plans to remove the contaminated equipment on a priority basis over the next four years. See Exhibit, B1-2-2, for details of the distribution transformer replacement program.

Transformers requiring oil sampling are located throughout Hydro Ottawa's service area on the public road allowance and private property. Based on historical testing results it was estimated that 6% of all transformers tested would contain PCBs in concentrations exceeding 50 ppm. The intent of this project is to obtain oil samples from the mineral oil-filled distribution transformers manufactured during 1945-1980.

A digital repository to house the records essential to maintaining usage information is a key deliverable. The data obtained will be used in the GIS records to establish a utility-wide representation of our electrical network. This project is data intensive, and requires transformer nameplate data collection, oil sampling, PCB analysis and GPS data.

Many customer vaults have oil containment, so although the transformers in these vaults may contain PCBs, they present a lesser risk to the environment. The vault transformer survey commenced in 2007 as described in Exhibit B3-3-2.

2.2 Fleet Replacement

Hydro Ottawa's fleet of vehicles is aged and requires investment to meet current lifecycle standards. Vehicle replacements and additions continue in 2006 per the accelerated replacement plan described in the Fleet Strategy in Exhibit B1-2-5.

In 2006, 33 vehicles were replaced and six vehicles were added to the fleet.

Table 1 – 2006 Fleet Expenditures

Numbers in () indicate additional vehicles

Unit Type	2006 Plan	2006 Actual
Cars	7	9
Bucket trucks	4	4 + (1)
Stake trucks/Flatbed trucks	0	0
Radial Boom Derricks	1	1
Knuckle boom trucks	0	0
Compact pick up trucks	5	6 + (2)
Full size pick up trucks	2 + (1)	4
Full size cargo vans	2	5
Compact vans	0	2
Step Vans/Cube vans	5	0 + (3)
Forklifts	1	1
Tension machines	0	0
Trailers	2	1
Total	29+(1)=**30**	33+(6)=**39**

The additional six vehicles were purchased to meet increased needs.

- 1 bucket truck - Upgrade to equipment for the 24/7 department.
- 2 compact pick ups – One for a new Health and Safety inspector and one for increased workload in the facilities department.
- 3 step/cube vans – One for stations electrician apprentices and two for cable jointer apprentices.

2.3 Buildings – Facilities

There are five main work centers occupied by Hydro Ottawa, which are located at Albion Road, Merivale Road, Bank Street, Maple Grove Road and Carling Avenue. Individual projects at each location above the materiality are listed below.

Albion Road Facilities Construction

- Extensive emergency work to maintain the 55 year-old building to a safe standard.
- Miscellaneous construction included hard wall offices installation, doors installation, windows and HVAC replacement.

Merivale Road Facilities Construction

- A new two bay storage facility in the pole yard compound was constructed to accommodate the Material Management Department vehicles and related equipment.
- A portion of the roof on the administration building was replaced based on the results of a roof replacement audit performed in a previous year.
- The washroom facility on the first floor was upgraded and low flow water fixtures were installed.
- As part of the facilities security strategy, two electronic gates were installed to restrict public vehicles access to the pole yard.

Bank Street Facilities Construction

- A Training Center for the Overhead and Underground Apprentice program was constructed in 2006 and completed in 2007. The training center forms an integral part of Hydro Ottawa's apprentice training program described in Exhibit D1-5-2.

Maple Grove Facilities Construction

- Expand shower facilities and installed a Building Automation System.

Carling Facilities Construction

- As part of the security strategy a concrete fence was installed on the east side of the property to secure the compound.
- Installed a Building Automation System.

2.4 Tools Replacement

Hydro Ottawa's work force requires tools for ongoing operation, construction, maintenance and repair of its distribution system and fleet. Tools are integral for staff to perform work safety and efficiently. For example, insulated rubber gloves are required to operate energized switches; a power drill provides greater efficiency over hand tightening.

Some of the tools Hydro Ottawa staff use are commonly recognized tools such as wrenches and ladders, whereas, other tools are industry specific, such as insulated live line tools. Hydro Ottawa's trades staff work in proximity to dangerous voltage levels, at heights, in confined spaces and in all kinds of weather. Having the appropriate protective devices and tools is critical to the safety of personnel.

Tool replacement in 2006 included the following;

- Tripods and rescue winches were purchased due to changes with confined space entry regulations. Staff are now required to self rescue, rather than rely on the response of public emergency services. (Ontario Regulation 632/05)
- Portable grounds were purchased due to changes in the Electrical Utility Safety Association ("EUSA") rulebook to equipotential grounding. Portable grounds are

also being standardized from a 1/0 to a 2/0 size over time to handle higher possible fault currents.

- Phase catchers were purchased to work on poles with horizontal post, porcelain insulators.
- Ladders were purchased to replace retired units after a testing and inspection program.

2.5 CIS Enhancements

The CIS development in 2006 was in response to continued evolving regulatory requirements and increasing emphasis on improving business efficiencies. The following are some of the projects that were undertaken:

- Efficiency Gains
    - Electronic Field Activities for Smart Meters,
    - Leverage workflow to automate repetitive actions currently triggered by users,
    - Add meter retirement interface,
    - Improve workflow function for Electronic Business Transactions,
    - Streamline work-list assignment to users, and
    - Development of further queries and reports for data intelligence gathering.

- Regulatory Requirements
    - Rate changes for Regulated Price Plan (“RPP”),
    - Add RPP Exit Fee on accounts when applicable,
    - Ontario Price Credit requirements, and
    - GST rate change from 7% to 6%

These projects have improved customer service and internal efficiency.

2.6 Information Services and Technology

Hydro Ottawa continued to maintain appropriate system security, redundancy, reliability, availability, lifecycle management of IT equipment and related services. Capital investments for these programs focused on the increased acquisition of software and hardware related to demands to support the business in 2006. Replacement of network servers, acquisition of security and training tools as well as enhancements to the telecommunications system were all part of the overall business support plan. Refer to B1-2-3 for the IT Strategy.

2.7 Furniture & Equipment

Furniture and equipment expenditures consisted of many individual projects in 2006, including the projects listed below.

- The work area in the customer contact centre was changed from an open office environment to cubicles, which are more conducive to the work being performed.
- Purchase of computer connectable projectors for meeting rooms.
- Existing aged furniture replacements, such as chairs with new ergonomic models.

2.8 New PCs and Peripherals

New PCs and Peripherals expenditures include additions to the “computer equipment” at Hydro Ottawa. Typical expenditures include PCs for new staff, newly identified printer and plotter requirements, new software and upgrades to existing equipment to make staff more portable. Refer to B1-2-3 for the IT Strategy.

Specific unique purchases for 2006 included;

- A software “maintenance management program” for substation equipment,

- Barcode readers and barcodes for substation equipment, and
- A new server was installed to enable the division of GIS and OMS training and development databases and to accommodate the increase of data storage requirements for the GIS.

2.9 PC/Peripheral Replacement Program

Information Services and Technology at Hydro Ottawa supported an on-going program to maintain appropriate lifecycle management of IT equipment. Under this program desktops, laptops, and printers that had reached end-of-life where scheduled for replacement as described in Exhibit B1-2-3.

2.10 Miscellaneous Programs

The general plant budget consists of the aforementioned material programs, as well as a few smaller programs. In 2006, the smaller general plant programs consisted of:

- EBS / JDE Project, and
- Website Enhancements.

CONTINUITY OF PROPERTY, PLANT AND EQUIPMENT AND ACCUMULATED AMORTIZATION, 2006 ACTUAL

1.0 INTRODUCTION

Table 1 below shows the Continuity of Fixed Assets for 2006 Actual and Table 2 shows the accumulated amortization, as per the groupings in the 2006 EDR Application.

Table 1 – Continuity of Fixed Assets

Asset Group	2005 Ending Balance $000	2006 Capital Additions[1] $000	2006 Ending Balance $000
Land and Buildings	$11,725	$648	$12,373
TS Primary Above 50	28,306	$1,684	29,990
DS	40,458	$1,677	42,135
Poles, Wires	418,804	$27,471	446,275
Line Transformers	121,968	$9,126	131,094
Services and Meters[2]	107,128	$26,464	133,593
General Plant	43,559	$2,018	45,577
Equipment	31,367	$4,134	35,501
IT Assets	52,013	$13,084	65,098
Other Distribution Assets	10,543	$911	11,454
Contributions and Grants	(74,710)	($17,000)	(91,710)
Amortization	(397,365)	($32,585)	(429,950)
TOTAL	$393,797	$37,632	$431,429

[1] Calculation of Capital Additions shown on Exhibit B2-4-2

[2.] 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.

Table 2 - Accumulated Amortization

Asset Group	2006 Opening Balance $000	2006 Amortization Expense $000	Disposals $000	2006 Ending Balance $000
Land and Buildings	($4,112)	($631)	$0	($4,742)
TS Primary Above 50	(6,737)	(707)	0	(7,444)
DS	(23,513)	(952)	118	(24,348)
Poles, Wires	(202,280)	(13,274)	0	(215,554)
Line Transformers	(71,314)	(3,749)	0	(75,063)
Services and Meters[1]	(37,045)	(3,920)	0	(40,965)
General Plant	(8,112)	(364)	0	(8,477)
Equipment	(20,565)	(1,982)	358	(22,189)
IT Assets	(18,204)	(6,942)	0	(25,147)
Other Distribution Assets	(5,483)	(539)	0	(6,021)
TOTAL	($397,365)	($33,061)	$476	($429,950)

[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.

CONTINUITY OF CONSTRUCTION WORK IN PROGRESS

Table 1 - Construction Work in Progress (“CIP”)

Asset Group	2005 CIP actual (A) $000	2005 Ending Balance (B) $000	2006 Capital Expenditures (C) $000	2006 CIP actual (D) $000	2006 Deletions (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		29,990
DS	(60)	40,458	2,370	507	(126)	42,135
Poles, Wires	4,191	418,804	31,276	7,996		446,275
Line Transformers	947	121,968	11,304	3,125		131,094
Services and Meters[1]	4,208	107,128	24,901	2,644		133,593
General Plant		43,559	2,708	691		45,577
Equipment	369	31,367	5,366	1,226	(375)	35,501
IT Assets	6,346	52,013	8,391	1,654		65,097
Other Distribution Assets	140	10,543	2,359	1,588		11,454
Contributions and Grants	(375)	(74,710)	(20,029)	(3,404)		(91,710)
Amortization		(397,365)	(33,061)		476	(429,950)
TOTAL	$16,505	$393,797	$42,248	$21,091[2]	($30)	$431,429

[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.

[2.] 2006 CIP is $47k higher than reported in financial statements due to CIP on Work for Others.

ALLOWANCE FOR WORKING CAPITAL

In the Decision with Reasons for 2006 EDR, issued April 12, 2006, Hydro Ottawa's Allowance for Working Capital was approved at $93,110,929 plus $111,735 for Smart Meters, for a total of $93,222,664. Using 2006 Actual, Hydro Ottawa's Allowance for Working Capital would have been as shown in Table 1.

Table 1 – Working Capital Allowance Based on 2006 Actual

	$000
Power Supply Expenses	$541,817
OM&A Expenses	$43,825
Total Expenses for Working Capital	$585,642
Working Capital @ 15%	$87,846

Note that the difference in the return on the Working Capital allowance is ($93,222,664 - $87,846,316)*0.0675 = $362,904. The main reason for the difference is the much lower than forecasted commodity prices in 2006. The forecast for 2006 was 5.8 cents per kilowatt-hour on average. The actual commodity price for 2006 was only 4.9 cents per kilowatt-hour.

BRIDGE YEAR AND TEST YEAR - STATEMENT OF UTILITY RATE BASE

Table 1 – Bridge Year (2007) Rate Base

	2006 Actual[1]		2007 Estimate	
	Adjustment $000	**Rate Base $000**	**Adjustment $000**	**Rate Base $000**
Previous year closing net asset balance		$393,797		$431,429
Previous year Construction in Progress (“CIP”)	$16,505		$21,091	
Current year capital expenditures (net of contributed capital)	75,309		79,546	
Current year CIP	(21,091)		(16,230)	
Current year net deletions	(30)		0	
Capital additions (net of contributed capital)	70,693		84,407	
Amortization	(33,060)		(37,743)	
Net Additions		37,632		46,664
Closing net asset balance		431,429		478,093
Average net asset balance		412,613		454,761
Working Capital Allowance		87,846		91,930
Total Rate Base		$500,460		$546,691

[1] The 2006 Actual and 2007 Estimate rate bases shown include stranded meters, which have been removed for financial statements.

Table 2 shows the variances of the inputs to the 2007 Estimated and 2006 Actual Rate Base. An explanation of the reasons for these variances is provided with Tables 3 and 4.

Table 2 – Variance between 2007 Estimate and 2006 Actual Rate Base

	Variance $000
Previous year closing net asset balance	$37,632
Previous year Construction Work in Progress ("CIP")	4,586
Capital expenditures (net of contributed capital)	4,237
Current year CIP	4,861
Deletions	30
Capital additions (net of contributed capital)	13,714
Amortization	(4,683)
Net Additions	9,031
Closing net asset balance	46,663
Average net asset balance	42,148
Working Capital Allowance	4,084
TOTAL	$46,232

Exhibit B2-1-1 explains the increase of $37.6M from the 2005 closing net asset balance to the 2006 actual closing net asset balance. Net additions increase by $9.0M, as a result of the following changes, which are explained in detail in Exhibit B3-2-1.

Table 3 – Net Additions Variances 2007

	Expenses (A) $M	Previous Year CIP (B) $M	Current Year CIP (C) $M	Amortization (D) $M	Net Additions =A+B+C+D $M
2006 Actual	75.3	16.5	(21.1)	(33.1)	37.6
2007 Estimate	79.6	21.1	(16.2)	(37.7)	46.7
Impact	+4.3	+4.6	4.9	(4.7)	+9.0

Working capital allowance is $4.1M higher in the 2007 Estimate due to an increase in the Power Supply expenses and a slight increase in OM&A expenses as shown below.

Table 4 - Working Capital Allowance Variance

	Power Supply Expenses $M	OM&A Expenses $M	Total @ 15 % $M
2006 Actual	541.8	43.8	87.8
2007 Estimated	565.7	47.1	91.9
Impact	+23.9	+3.3	+4.1

Table 5 – Test Year (2008) Rate Base[1]

	2007 Estimate		2008 Forecast	
	Adjustment $000	**Rate Base $000**	**Adjustment $000**	**Rate Base $000**
Previous year closing net asset balance		$431,429		$478,093
Previous year Construction in Progress ("CIP") Current year capital expenditures (net of contributed capital) Current year CIP Current year deletions	$21,091 79,546 (16,230) 0		$16,230 66,451 (17,049) 0	
Capital additions (net of contributed capital)	84,407		65,632	
Amortization	(37,743)		(43,754)	
Net Additions		46,664		21,878
Closing net asset balance		478,093		499,971
Average net asset balance		454,761		489,032
Working Capital Allowance		91,930		92,733
Total Rate Base		$546,691		$581,765

[1] The 2007 Estimate and 2008 Forecast rate bases shown include stranded meters, which have been removed for financial statements.

Table 6 shows the variances of the inputs to the 2008 Forecast and 2007 Estimated Rate Base. An explanation of the reasons for these variances is provided below.

Table 6 – Variance Between 2008 Forecast and 2007 Estimate Rate Bases

	Variance $000
Previous year closing net asset balance	$46,663
Previous year Construction Work in Progress ("CIP")	(4,861)
Capital expenditures (net of contributed capital)	(13,095)
Current year CIP	(819)
Deletions	0
Capital additions (net of contributed capital)	(18,775)
Amortization	(6,011)
Net Additions	(24,786)
Closing net asset balance	21,878
Average net asset balance	34,271
Working Capital Allowance	803
TOTAL	$35,074

The increase of $46.7M from the 2006 Actual closing net asset balance to the 2007 Estimate closing net asset balance is explained above. Net additions decrease by $24.8M, as a result of the following changes, which are explained in detail in Exhibit B3-2-2.

Table 7 – Net Additions Variances ($M)

	Expenses (A)	Previous Year CIP (B)	Current Year CIP (C)	Amortization (D)	Net Additions =A+B+C+D
2007 Estimate	79.6	21.1	(16.2)	(37.7)	46.7
2008 Forecast	66.5	16.2	(17.1)	(43.8)	21.9
Impact	-13.1	-4.9	-0.9	-6.1	-24.8

Working capital allowance is $0.8M higher in the 2008 Forecast due to a decrease in the Power Supply expenses and an increase in OM&A expenses as shown below.

Table 8 - Working Capital Allowance Variance

	Power Supply Expenses $M	OM&A Expenses $M	Total @ 15 % $M
2007 Estimate	565.7	47.1	91.9
2008 Forecast	558.9	59.3	92.7
Impact	-6.8	+12.2	+0.8

COMPARISON OF CAPITAL SPENDING – 2007 VERSUS 2006

1.0 INTRODUCTION

Table 1 provides details of capital expenditures for the bridge year and test year:

Table 1 – 2007 Versus 2006 Capital Expenditures

Capital Expenditures	2006 Actual $000	2007 Estimate $000	Variance $000
Land and Buildings	$1,994	$2,681	$687
TS Primary Above 50	4,669	9,791	5,122
DS	2,370	2,972	602
Poles, Wires	31,276	27,054	(4,222)
Line Transformers	11,303	9,049	(2,254)
Services and Meters	24,901	26,000	1,099
General Plant	2,708	2,506	(202)
Equipment	5,366	4,399	(967)
IT Assets	8,391	9,063	672
Other Distribution Assets	2,359	1,053	(1,306)
TOTAL	$95,337	$94,568	($769)

Hydro Ottawa plans and budgets work by program and project therefore the above variances will be explained in terms of these programs/projects. The Board's Filing Requirements, issued November 14, 2006, states that a written explanation is required for rate base related information when there is a variance greater than a materiality of 1% of total net fixed assets. In 2006, Hydro Ottawa's total net fixed assets were $448M, resulting in a materiality threshold of $4.48M. Hydro Ottawa has chosen to use materiality thresholds of $500k for Distribution Capital programs/projects and $100k for General Plant programs/projects in order to provide a more detailed explanation of variances.

Table 2 – Distribution Capital Program Expenditures, Sustainment

	Budget Program	2006 Actual $000	2007 Estimate $000	Variance $000
2.1	Stations Switchgear Replacement	$1,196	$4,603	$3,407
2.2	Stations New Capacity	1,637	4,190	2,553
2.3	System Voltage Conversion	405	2,659	2,254
2.4	Pole Replacement	5,828	3,980	(1,848)
2.5	Plant Failure Capital	3,757	2,094	(1,663)
2.6	Distribution Enhancements	4,264	2,698	(1,566)
2.7	Stations Relay Replacement	123	1,581	1,458
2.8	Cable Replacement	2,766	3,652	886
2.9	Major and Minor Line Extensions	1,528	721	(807)
2.10	Stations Enhancements	2,232	1,515	(717)
2.11	Facility Programs - Stations	1,984	2,679	695
2.12	Insulator Replacement	1,230	633	(597)
2.13	Stations Automation	616	20	(596)

Table 3 – Distribution Capital Program Expenditures, Demand

	Budget Program	2006 Actual $000	2007 Estimate $000	Variance $000
3.1	Commercial Development	$7,504	$5,401	($2,104)
3.2	Infill Services	4,288	3,021	(1,267)
3.4	Wholesale Meter Upgrade	1,258	585	(673)
3.5	System Expansion	1,445	2,102	657
3.6	Smart Meters	16,376	16,920	544

Table 4 – Conservative and Demand Management Capital Expenditures

	Budget Program	2006 Actual $000	2007 Estimate $000	Variance
4.1	CDM Parent Project (DIS)	$884	57	($828)
4.2	CDM Parent Project (GEN PLANT)	639	89	(550)

Table 5 – General Plant Capital Expenditures

	Budget Program	2006 Actual $000	2007 Estimate $000	Variance $000
5.1	Tools Replacement	$917	$1,024	$107
5.2	New PC and Peripherals	297	759	461
5.3	GIS Budget Program	6,186	6,513	327
5.4	Furniture and Equipment	494	182	(312)
5.5	Information Services and Technology	559	827	269
5.6	Fleet Replacement	3,222	2,996	(227)
5.7	Buildings - Facilities	2,662	2,451	(211)
5.8	CIS Enhancements	830	1,020	190

Table 6 – Projects with Variances less than Materiality

		2006 Actual $000	2007 Estimate $000	Variance $000
6.0	Projects with Variances less than Materiality	$20,210	$19,596	($614)

Table 7 – Total

		2006 Actual $000	2007 Estimate $000	Variance $000
	TOTAL	$95,337	$94,568	($769)

Table 8 – Contributed Capital

		2006 Actual $000	2007 Estimate $000	Variance $000
7.0	Contributed Capital	($20,029)	($15,022)	$5,007

2.0 DISTRIBUTION CAPITAL PROGRAM EXPENDITURES, SUSTAINMENT

2.1 Station Switchgear Replacement

The expenditures for Station Switchgear Replacement in 2006 were for the pre-ordering of the Bayswater station switchgear only. The Bayswater project is being executed and completed in 2007, and the Marchwood project is being executed in 2007, resulting in the increased expenditures in 2007.

2.2 Stations New Capacity

The Stations New Capacity program has one material project in 2006 and 2007, the construction of the new Cyrville substation. The station transformer was ordered in 2006, but due to longer than expected lead times for the transformer, the project was delayed in 2006. The expenditures in 2007 are for equipment, labour and contractors to construct the new station. As the bulk of the Cyrville project is taking place in 2007, the expenditures are higher in 2007 than in 2006. The station will be fully commissioned and on-line in 2008.

2.3 System Voltage Conversion

The System Voltage Conversion program in 2006 and 2007 is a 4 kV to 13 kV conversion of an area Ottawa referred to as Sunnyside. The expenditures in 2006 were for advance ordering of equipment with long lead times, that is, the transformers, so that the project could proceed in 2007. This is a one-year project that will be executed within 2007.

2.4 Pole Replacement

The pole replacement program was increased in 2006 to include planned and unplanned pole replacements. The 2007 expenditures return to the original multi-year plan expenditure levels, while including both planned and unplanned pole replacements, which has lead to the variance between years.

2.5 Plant Failure Capital

The plant failure capital program is a reactionary program. Expenditures increased in 2006 based on the rate of equipment failure. One of the inputs into the development of Hydro Ottawa's sustainment programs is the location and nature of plant failures. The continuing implementation of sustainment, maintenance and inspection programs is expected to result in decreases in this category as the projects mature. Therefore the estimate for 2007 has been decreased.

2.6 Distribution Enhancements

Distribution Enhancement projects are identified through the planning process. A pool of projects is evaluated yearly to determine priority, and coordinate construction with other programs, such as City Works. Distribution Enhancement expenditures are reduced in 2007 as the program has been balanced with the required expenditures in the Station Capacity, as explained in B4-2-1.

2.7 Stations Relay Replacement

New switchgear is being installed at the Bayswater and Marchwood stations in 2007. Coordination of Stations Switchgear Replacement and Stations Relay replacement provides logistic efficiencies, so the relays are being replaced in 2007 as well. As there were no switchgear replacement projects in 2006, little relay replacement work was performed.

2.8 Cable Replacement

The cable replacement program was increased in 2007. As described in Exhibit B1-2-2, Hydro Ottawa is gradually increasing the cable replacement program to address the ageing infrastructure of this significant asset class.

2.9 Major and Minor Line Extensions

Line extensions are required in response to general load growth and developments. Line extension projects are identified through the planning process, and although a number of projects were identified for construction in 2007, the projects are smaller, less than $500k each.

The amount of development and growth does not translate directly to the requirement for line extensions, rather the location of the growth and the particulars of existing Hydro Ottawa distribution infrastructure in those locations determine the requirements.

2.10 Stations Enhancements

The Stations Enhancements expenditures in 2006 included equipment purchases for the breaker control refurbishment program works to take place in 2006 and 2007. The 2006 expenditures therefore included labour costs for one year and material costs for two years. The scope of work in 2007 is 14 stations, compared to 15 stations in 2006, but the expenditures in 2007 are for labour only.

2.11 Facilities Programs - Stations

The increase in Facilities Stations expenditures in 2007 is due to the construction of the new Cyrville Road Substation.

2.12 Insulator Replacement

The insulator replacement actual expenditures were increased 2006, as described in Exhibit B2-2-1. The program scope in 2007 remains at the original scope levels. The insulator replacement program will continue to address safety concerns, however, the purchase of the phase catchers under the Tools Replacement program has removed the requirements for an accelerated program.

2.13 Stations Automation

The Stations Automation program was significantly reduced in 2007 as the installation phase of the program was completed in 2006. The program plan in 2007 is to operate the equipment installed to evaluate its reliability and overall performance. After operating the equipment and working with the data provided for a number of years the program will be re-assessed and a revised plan will be developed.

3.0 DISTRIBUTION CAPITAL PROGRAM EXPENDITURES, DEMAND

3.1 New Commercial Development

New commercial development actual expenditures were higher than approved for 2006, as described in B2-2-1. The forecast for 2007 does not predict sustained higher levels of development, which has lead to the variance with 2006.

3.2 Infill Services

Infill Services actual expenditures were higher than approved for 2006, as described in B2-2-1. The forecast for 2007 does not predict sustained higher levels of infill, which has lead to the variance with 2006.

3.3 Smart Meters Residential

The Smart Meter Program is discussed in Exhibit D3-1-1.

3.4 Wholesale Meter Upgrade

Upgrading the meters is a requirement of *Market Rules* administered by the IESO. Twelve stations were upgraded in 2006 based on meter seal expiry dates. Five stations require upgrading in 2007 based on expiry dates. The decreased volume of work in 2007 from 2006 resulted in decreased expenditures as well.

3.5 System Expansion

System Expansion is driven by customer requests. The requirements for this budget program increased in 2007. The volume of commercial and residential activity does not correspond to system expansion volumes. The location of new developments, and the particulars of existing Hydro Ottawa distribution infrastructure in those locations, are factors that drive this capital program.

3.6 Smart Meters

The Smart Meter Program is discussed in Exhibit D3-1-1.

4.0 CONSERVATION AND DEMAND MANAGEMENT EXPENDITURES

Hydro Ottawa is currently managing the CDM capital expenditure based on the Board approved plan of December 13, 2006. The total approved capital expenditure is $2,462,000. As of December 31, 2006, $2,191,221 was spent. The balance of $270,779 is to be spent in 2007 and 2008. The forecasted 2007 spending is $145,504.

5.0 GENERAL PLANT CAPITAL EXPENDITURES

5.1 Tool Replacement

Tool replacement is an ongoing program at Hydro Ottawa. The increase in budget in 2007 is due to increased requirements, in part due to the specific purchases explained in Exhibit B3-3-2, and due to an increased number of field staff as a result of the apprentice program.

5.2 New PC and Peripherals

The increase in expenditures for new PCs and Peripherals is to implement a new Finance Budgeting and Allocation Tool in 2007. The details of this project are described in Exhibit B3-3-2.

5.3 GIS Budget Program

Details of the GIS development progress in 2006 are included in B2-2-1 and the details of the additional expenditures incurred in 2007 are included in Exhibit B3-3-2. The project will be completed in 2007.

5.4 Furniture and Equipment

The Furniture and Equipment expenditures include the relocation of staff within the work sites and worksite reconfigurations. There were fewer requirements for this activity than in 2006 resulting in reduced expenditures.

5.5 Information Services and Technology

The variance on IS&T capital expenditures in 2007 is the result of two additional major projects:

- A hardware delivery delay at year-end 2006 resulted in a capital expenditure of $128k being charged to 2007, and
- In the first quarter of 2007 Hydro Ottawa engaged Microsoft Canada to perform a software audit that resulted in an initiative to comply with license discrepancies with an estimated cost of $140k.

5.6 Fleet Replacement

Additional vehicles were purchased in 2006 to accelerate the replacement program and advance the return of the fleet to desired lifecycle ages. The Fleet Replacement program continues in 2007 at an accelerated level to move the fleet towards desired lifecycle ages, but at previously planned levels that are lower than the spending in 2006.

5.7 Buildings – Facilities

The program consists of many individual projects to ensure the good working order and security of the facilities. In 2006 a number of one-time upgrades were undertaken, such as the installation of electronic gates at the Merivale pole yard and the construction of a training centre for the apprentices. The budget in 2007 was reduced, as the activities for 2007 do not include as many upgrades to the sites as in 2006.

5.8 CIS Enhancements

The CIS development is in response to continued evolving regulatory requirements and increasing emphasis on improving business efficiencies. Based on the volume of development works performed in 2006, and the first six months of 2007, it is estimated that the total capital expenditures for 2007 will be higher than that of 2006.

6.0 PROJECTS WITH VARIANCES LESS THAN MATERIALITY

The capital budget consists of the aforementioned programs with material variances between the 2007 estimate and the 2006 actual expenditures, as well as a number of programs with immaterial variances. The projects with a material expenditure for 2006, which did not have a material variance from approved, are described in Exhibit B3-3-1 and Exhibit B3-3-2.

The following is a list of the 2007 capital projects with immaterial variances between 2007 estimated and 2006 actual expenditures.

- Civil Rehabilitation Program
- Distribution Automation
- Distribution Transformer Replacement
- Elbow and Insert Replacement
- Embedded Generation Projects
- LDC EBS / JDE Project
- O/H Equipment New and Rehab
- Outbound Calling Auto-Dialer
- PC/Peripheral Replacement Program
- PILC Risers & Pothead Replace
- Remote Disconnected Smart Meters
- Residential Subdivision
- System Operations Automation
- Splice Replacement Program
- Stations Battery Replacement
- Stations Minor Enhancements

- Stations Plant Failure Capital
- Stations Transformer Replacement
- Switchgear New and Rehab
- System Reliability
- Vault Rehab or Removal
- Vault Space Capital Leasing
- Website Enhancements

7.0 CONTRIBUTED CAPITAL

Overall, Distribution Capital Demand expenditures are estimated lower in 2007 than what was experienced in 2006. Correspondingly, as previously shown in Table 8, the capital contributions are also estimated to be lower in 2007 than the 2006 actual.

COMPARISON OF CAPITAL SPENDING 2008 VERSUS 2007

1.0 INTRODUCTION

Table 1 provides details of capital expenditures for the bridge year and test year:

Table 1 – 2008 versus 2007 Capital Expenditures

Capital Expenditures	2007 Estimate $000	2008 Forecast $000	Variance $000
Land and Buildings	$2,681	$3,504	$823
TS Primary Above 50	9,791	13,479	3,688
DS	2,972	4,422	1,450
Poles, Wires	27,054	24,264	(2,790)
Line Transformers	9,049	6,807	(2,242)
Services and Meters	26,000	18,066	(7,934)
General Plant	2,506	2,103	(403)
Equipment	4,399	3,002	(1,397)
IT Assets	9,063	5,060	(4,003)
Other Distribution Assets	1,053	1,089	36
TOTAL	$94,568	$81,796	($12,772)

As explained in Exhibit B1-3-1, for 2008, Hydro Ottawa has revised the estimate for Administration costs allocated to capital work. The impact of this change is an approximate $6.5M reduction in capital expenditures in 2008 from 2007. The remaining $6.3M variance is explained below in terms of programs/projects, as this is how Hydro Ottawa plans and budgets work. The Board's Filing Requirements, issued November 14, 2006, states that a written explanation is required for rate base related information when there is a variance greater than a materiality of 1% of total net fixed assets. In 2006, Hydro Ottawa's total net fixed assets were $448M, resulting in a materiality threshold of $4.48M. Hydro Ottawa has chosen to use materiality thresholds of $500k for Distribution Capital programs/projects and $100k for General Plant programs/projects in order to provide a more detailed explanation of variances.

Table 2 - Distribution Capital Program Expenditures, Sustainment

	Budget Program	2007 Estimate $000	2008 Forecast $000	Variance $000
2.1	Stations New Capacity	$4,190	$9,277	$5,087
2.2	Major and Minor Line Extensions	721	3,444	2,723
2.3	System Voltage Conversion	2,659	122	(2,537)
2.4	Distribution Enhancements	2,698	609	(2,089)
2.5	Stations Relay Replacement	1,581	0	(1,581)
2.6	Stations Switchgear Replacement	4,603	5,610	1007
2.7	Plant Failure Capital	2,094	1,171	(923)
2.8	Facility Programs - Stations	2,679	3,504	825
2.9	Distribution Transformer Replacement	2,506	1,708	(798)
2.10	Pole Replacement	3,980	3,409	(571)

Table 3 – Distribution Capital Program Expenditures, Demand

	Budget Program	2007 Estimate $000	2008 Forecast $000	Variance $000
3.1	Smart Meters	$16,920	$9,684	($7,236)
3.2	Residential Subdivision	7,418	8,350	932
3.3	Plant Relocation and Upgrades	4,882	4,182	(700)

Table 4 – General Plant Capital Expenditures

	Budget Program	2007 Estimate $000	2008 Forecast $000	Variance $000
4.1	GIS Budget Program	$6,513	$0	($6,513)
4.2	CIS Enhancements	1,020	2,722	1,702
4.3	Fleet Replacement	2,996	1,693	(1,303)
4.4	GRM System Enhancements	0	547	547
4.5	New PC and Peripherals	759	370	(389)
4.6	Website Enhancements	36	392	356
4.7	Buildings - Facilities	2,451	2,103	(348)
4.8	Information Services and Technology	827	719	(108)

Table 5 – Capital Programs with Immaterial Variances

	Budget Program	2007 Estimate $000	2008 Forecast $000	Variance $000
5.0	Projects with Variances less than Materiality	$22,890	$22,180	($710)

Table 6 – Total

	Budget Program	2007 Estimate $000	2008 Forecast $000	Variance $000
	TOTAL	$94,568	$81,796	($12,772)

Table 7 - Contributed Capital

		2007 Estimate $000	2008 Forecast $000	Variance $000
6.0	Contributed Capital	($15,022)	($15,345)	($323)

2.0 DISTRIBUTION CAPITAL PROGRAM EXPENDITURES, SUSTAINMENT

2.1 Stations New Capacity

Stations New Capacity increases in 2008 with the inclusion of two new substation capacity projects as described in Exhibit B3-4-1. A second transformer will be added to the existing Uplands substation and an additional new substation will be constructed adjacent to the existing Albion Substation.

2.2 Major and Minor Line Extensions

A number of line extensions were identified for the 2008 year, resulting in an increase from 2007. Ongoing residential development in the Stittsville area, the new Rockcliffe Airbase redevelopment and the construction of a second overhead crossing that will connect Nepean and Gloucester have all contributed to the increased requirements for line extensions in 2008. Additional information on these projects is found in Exhibit B3-4-1.

2.3 System Voltage Conversion

The Sunnyside System Voltage Conversion project began in 2006 with equipment ordering, and will be substantially concluded in 2007. The remaining expenditures in 2008 are for project wrap-up, such as civil landscaping re-instatement.

2.4 Distribution Enhancements

Distribution Enhancement projects are identified through the planning process. A pool of projects is evaluated yearly to determine priority and coordinate construction with other programs, such as City of Ottawa Works. Distribution Enhancement expenditures are reduced in 2008 as the program has been balanced with the required expenditures in the Station Capacity, as explained in B4-2-1.

2.5 Stations Relay Replacement

The stations switchgear and stations relay programs are combined in 2008 to realize efficiencies. The scope of work in 2008 is to replace equipment in three substations, Beechwood, Eastview and Kilborn. Each substation has different requirements that impact the expenditures for the equipment replacements, such as voltage of the switchgear, capacity of the station and number of relays. The forecast to complete the scope of work in 2008 is less than the estimate in 2007 to replace equipment in the Bayswater and Marchwood stations.

2.6 Stations Switchgear Replacement

Refer to Section 2.5.

2.7 Plant Failure Capital

The plant failure capital program is a reactionary program. Expenditures increased in 2006 based on the rate of equipment failure. One of the inputs into the development of Hydro Ottawa's sustainment programs is the location and nature of plant failures. The continuing implementation of sustainment, maintenance and inspection programs is expected to result in decreases in this category as the projects mature. Therefore the forecast for 2008 has been decreased.

2.8 Facilities Programs – Stations

In 2007, the Facilities Station program consists of the construction of the facilities for the new Substation located in the east end of the city, the new Cyrville Substation. The 2008 program consists of the construction of the facilities for two substations located on existing Hydro Ottawa lands; Albion Substation and Uplands Substation, as described in Schedule B3-4-1. For this reason additional expenditures are forecast for 2008.

2.9 Distribution Transformer Replacement

The distribution transformer replacement program scope in 2007 included the replacement of 350 transformers. In 2008 the remaining 126 units identified by the transformer survey program will be replaced.

Since the program related to transformers containing insulating oil with PCB concentrations greater than 50 ppm will be completed in 2008, the distribution transformer replacement program will return to replacement levels based on the asset management strategy, resulting in a much less intensive program.

2.10 Pole Replacement

Pole replacement continues in 2008 at significant levels. The expenditures are lower than 2007 as the Distribution Asset capital program has been balanced with the required expenditures in the Station Capacity capital program, as explained in B4-2-1.

3.0 DISTRIBUTION CAPITAL PROGRAM EXPENDITURES, DEMAND

3.1 Smart Meters

Smart Meters are discussed in Exhibit D3-1-1.

3.2 Residential Subdivision

Residential Subdivision expenditures are increased in 2008 to reflect the increased demand Hydro Ottawa expects as a result of the growth in population and desire for single-family homes.

3.3 Plant Relocation and Upgrades

Discussions with the City of Ottawa indicate that infrastructure work by the City of Ottawa will continue in 2008. The forecast is reduced due to an expected decrease of the impact of these projects on Hydro Ottawa plant in 2008.

4.0 GENERAL PLANT CAPITAL EXPENDITURES

4.1 GIS Budget Program

There will be no further GIS expenditures once the project is completed in 2007.

4.2 CIS Enhancements

In 2008, Hydro Ottawa will start a full version upgrade of PeopleSoft Customer Information System. Refer to Exhibit B1-2-6 for more details.

4.3 Fleet Replacement

Fleet replacement expenditures have been increases in recent years to rejuvenate the aged fleet. The Fleet Replacement forecast is reduced in 2008 as Hydro Ottawa reduces its investment towards normal lifecycle replacement levels.

4.4 GRM System Enhancements

Geographical Resource Management (“GRM”) is a new general plant program in 2008. The program involves integration of geographic tools into systems and departments to gain efficiencies. One example of projects in this category is the OMS integration into IVR and internet site for customer outage information. Refer to Exhibit B3-4-2 for additional details.

4.5 New PC and Peripherals

The inclusion of the expenditures in 2007 for the implementation of a new Finance Budgeting and Allocation Tool has lead to this variance. The bulk of the project will be completed in 2007, and as a result, the expenditures for the budget program in 2008 will decrease. The details of this project are described in Exhibit B3-4-2.

4.6 Website Enhancements

The increase of capital expenditure on Website Enhancements is due to the planned implementation of Smart Meter/Time of Use website. Refer to Exhibit B3-4-2 for additional details.

4.7 Buildings – Facilities

Previous year expenditures included an increase in life cycle capital spending, such as roof replacement at the Albion facility and installation of security cameras at the Carling storage area, to maintain the buildings to a safe standard. The return of the Building Facilities expenditures towards normal yearly lifecycle capital spending resulted in the decreased forecast for 2008.

4.8 Information Services and Technology

In 2007 Hydro Ottawa undertook a review of software licence compliance and implemented the necessary changes. This program was completed in 2007, leading to a relative decrease in the 2008 forecast.

5.0 PROJECTS WITH VARIANCES LESS THAN MATERIALITY

The capital budget consists of the aforementioned programs with material variances between the 2008 forecast and the 2007 estimate, as well as a number of programs with variances below the materiality threshold. The projects with a material expenditure for 2008, which did not have a material variance from 2007, are described in Exhibit B3-4-1 for Distribution Plant and B3-4-2 for General Plant.

The following is a list of the 2008 capital projects with variances below the materiality threshold between the 2008 forecast and the 2007 estimate expenditures.

- Cable Replacement
- Civil Rehabilitation Program
- Damage to Plant
- Distribution Automation
- Elbow and Insert Replacement
- Embedded Generation Projects
- Furniture and Equipment
- Infill Services
- Insulator Replacement
- New Commercial Development
- O/H Equipment New and Rehab
- Outbound Calling Auto-Dialer
- PC/Peripheral Replacement Program
- PILC Risers & Pothead Replace
- Remote Disconnected Smart Meter
- System Operations Automation
- Splice Replacement Program
- Stations Automation
- Stations Battery Replacement
- Stations Enhancements

- Stations Minor Enhancements
- Stations Plant Failure Capital
- Stations Transformer Replacement
- Switchgear New and Rehab
- System Expansion
- System Reliability
- Tools Replacement
- Vault Rehab or Removal
- Vault Space Capital Leasing
- Wholesale Meter Upgrade

6.0 CONTRIBUTED CAPITAL

Although total capital expenditures for 2008 are forecasted at $12.8M less than 2007, contributed capital remains at $15M. This is due to the capital spending on demand projects remaining relatively the same. It is the assets included in demand projects, such as poles, services, etc., for which contributed capital is received.

DISTRIBUTION CAPITAL EXPENDITURE PROGRAMS/PROJECTS, 2007 ESTIMATE

1.0 INTRODUCTION

Table 1 lists programs/projects that exceed the materiality limit of $500k. 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 - Distribution Capital Program Expenditures, Sustainment

	Budget Program	2007 Estimate $000
2.1	Stations Switchgear Replacement	$4,603
2.2	Stations New Capacity	4,190
2.3	Pole Replacement	3,980
2.4	Cable Replacement	3,652
2.5	Distribution Enhancements	2,698
2.6	Facility Programs - Stations	2,679
2.7	System Voltage Conversion	2,659
2.8	Distribution Transformer Replacement	2,505
2.9	Plant Failure Capital	2,094
2.10	Stations Relay Replacement	1,581
2.11	Stations Enhancements	1,515
2.12	System Operations Automation	925
2.13	Major and Minor Line Extensions	721
2.14	System Reliability	680
2.15	Insulator Replacement	633

Table 2 - Distribution Capital Program Expenditures, Demand

	Budget Program	2007 Estimate $000
3.1	Smart Meters	$16,920
3.2	Residential Subdivision	7,418
3.3	Commercial Development	5,401
3.4	Plant Relocation and Upgrades	4,882
3.5	Infill Services	3,021
3.6	System Expansion	2,102
3.7	Damage to Plant	749
3.8	Wholesale Meter Upgrade	585

2.0 DISTRIBUTION CAPITAL PROGRAM EXPENDITURES, SUSTAINMENT

2.1 Station Switchgear Replacement

The Station switchgear replacement program replaces aged infrastructure within substations, as described in Exhibit B1-2-2.

The Bayswater switchgear was identified for replacement in 2007, however, due to unexpectedly long equipment lead times, the equipment was purchased in 2006. The bulk of the work on this project will be completed in 2007.

The switchgear at Marchwood MTS has been identified by the asset management plan as switchgear that must be replaced. This switchgear has also been plagued with ongoing maintenance issues. The project has started, and will be completed in, 2007.

As of June 2007, the program is on schedule:

- the Bayswater switchgear has been received and the civil and underground construction are in progress, and

- the engineering for Marchwood was underway and all major equipment had been ordered.

2.2 Stations New Capacity

Construction of the new Cyrville station, a 115 kV to 27.6 kV station, in the Cyrville area continues in 2007. The 2007 expenditures are for equipment purchases, contractors and labour. Refer to Exhibit B2-3-1 for additional information.

As of June 2007, the class environmental assessment has been completed and equipment testing is scheduled at the manufacturer site.

2.3 Pole Replacement

Pole replacement continues per the Pole Replacement Program described in Exhibit B1-2-2. The work is divided into two main categories;

- planned pole replacement – the replacement of previously identified, groups of poles in one geographic area, and
- one-of pole replacement. – the replacement of individual poles identified by field staff as requiring immediate replacement

Although there are many projects in this program in 2007, only one will individually exceed materiality.

- Merivale to Epworth - replacement of 32 poles that carry two circuits of 8.32 kV primary in old Nepean. The circuits run from Epworth DS to Merivale TS, north-to-south, parallel to a Hydro One Transmission Line. The existing primary conductors and neutral conductor are at their end of life, thus new primary and neutral cables will be strung in. The existing poles, which range in height from 35’ to 45’, will be replaced with new 55’ and 50’ poles. The new poles and hardware will be designed to current specifications.

As of June 2007, this program is on track; approximately half the identified poles have been replaced.

2.4 Cable Replacement

Cable replacement continues in 2007 per the Cable Replacement Program described in Exhibit B1-2-2. The projects below are the material projects prioritized for 2007.

- Barrhaven 1 and Barrhaven 3

  This project is to replace direct buried, butyl rubber primary cable and transformers in the Barrhaven Subdivision with a duct and manhole system. Due to the scope of the area identified for replacement the overall project has been divided into smaller, more manageable, phases.

- Forest Valley

  This project replaces aging, direct buried, unjacketed cables with a duct and manhole system that will also provide future spare duct space for additional circuits.

- Solandt Road

  This project replaces a direct buried distribution system (ducts and cables) in Kanata North High Tech Park, a commercial subdivision, in Kanata. The new system will consist of concrete encased duct structures, switching manholes, new switchgear and XLPE cables.

As of June 2007, expenditures totalled $1.7M for cable replacement, approximately half of the estimate for the year.

2.5 Distribution Enhancements

Distribution enhancements continue in 2007 as per the program described in Exhibit B1-2-2. Although there are many projects in this program in 2007, only one will individually exceed materiality.

- Replacement of 24 poles behind Walkley Substation. The poles are located between Walkley Road and Brookfield Road and run parallel to the CN Rail Right of Way running north from the substation. These 24 backyard poles are in poor condition and are in need of replacement. The existing poles will be replaced with 10' higher poles, framing will be changed to vertical construction and will address a history of outage problems from trees and wind interfering with overhead ("O/H") primary conductors. Circuit rearrangements will result in just two O/H circuits that run along the backyard pole line instead of the existing four O/H circuits.

As of June 2007, expenditures totalled $2M for new distribution enhancements, approximately 2/3 of the estimate for the year. Significant project work was completed in the first half of the year, and the program is not expected to significantly vary from the estimate at year-end.

2.6 Facility Programs – Stations

Stations Building Rehabilitation

- This preventative maintenance program addresses the need to ensure station buildings are able to meet the needs of the utility for years to come. Roof, door and window replacements for various stations, as required, are included in this program.

Cyrville Substation

- In 2007 Hydro Ottawa is constructing a building to accommodate station switchgear and transformers to service the load growth east of the city.

2.7 System Voltage Conversion

In 2006, a voltage conversion project, from 4 kV to 13 kV, was undertaken in the area of downtown Ottawa commonly referred to as Sunnyside. Equipment was ordered in 2006 for delivery during project construction in 2007. The project will benefit Hydro Ottawa customers by rebuilding aging infrastructure in an older part of town and by reducing system losses. The project was identified as part of the loss reduction initiative, which is described in Exhibit D1-8-2.

The area is currently supplied by four circuits from Sunnyside DS and a section of circuit from Riverdale DS. Once converted the area will be supplied by two 13 kV circuits from Riverdale DS. The Sunnyside DS will then be decommissioned.

The Sunnyside voltage conversion project was driven by the following factors:

- The station consists of 4 kV outdoor metal-clad switchgear that has been identified as needing replacement. The cost to rebuild the station is no longer required as the station will be decommissioned.
- Conversion of the distribution to a higher voltage will result in an expected distribution loss reduction of 345,319 MWh per year.
- Renewed infrastructure in the area will result in improved reliability of the supply.

As of June 2007, the project is on track; three customer vaults have been converted to 13 kV, approximately 30% of the secondary spun bus work is completed and customer services are being connected to the new bus. In total, approximately 50% of the underground portion of the work and 40% of overhead portion of the work has been completed.

2.8 Distribution Transformer Replacement

Distribution transformer replacement continues as described in Exhibit B1-2-2 to remove transformers from the distribution system containing insulating oil with PCB concentrations greater than 50ppm. The three year program continues at an accelerated pace, replacing 350 transformers in 2007. As of June 2007, this program is on track; approximately half the identified transformers have been replaced.

2.9 Plant Failure Capital

Plant Failure Capital is a program for the replacement of distribution equipment that fails unexpectedly. Hydro Ottawa's asset management program is expected to result in reduced failures as the program matures. Replacement of failed plant will continue in 2008, as described in Exhibit B1-2-2. Hydro Ottawa must address failed plant to ensure public and worker safety. As of June 2007, expenditures totalled $1M for plant failure, approximately half of the estimate for the year.

2.10 Substation Relay Replacement

As stated in Section 1.1, the switchgear at Bayswater and Marchwood stations are being replaced in 2007.

Replacing the switchgear and relays as a coordinated project updates older infrastructure at a cost savings compared to performing the upgrades independently. The relays at Bayswater substation are therefore being replaced in 2007 as well.

In order to comply with *Transmission System Code* protection requirements at the Marchwood station, the transformer protection scheme will be changed to include differential protection. This will require new current transformers on the 115 kV side and some rework of the 115 kV structures.

As of June 2007, the program is on schedule:

- the relays has been received and the corresponding switchgear replacement project is on schedule (Section 1.1), and
- the Marchwood equipment has been ordered.

2.11 Substation Enhancements

The station circuit breaker control refurbishment program is the only material substation enhancement program in 2007. This program will lead to operating efficiencies by allowing remote control of the breaker reclose blocking. The refurbishment of the circuit breaker controls in 14 stations is planned for 2007.

As of June 2007, the project is on schedule; nine of the 14 stations have been completed.

2.12 System Operations Automation

System Control and Data Acquisition (“SCADA”) upgrade as described in Exhibit B1-2-2 continues in 2007. Progress in 2007 includes the items below.

- The Master Station upgrade project includes replacement of the existing Telvent system with the latest generation hardware and software.
- SCADA communications upgrades began in 2007. The upgrades will replace the existing radio system with more reliable and more modern radios and cellular modems to retire radios that are too slow for the new remote terminal units (“RTUs”) and SCADA system, improving communications reliability.
- Development of the PI Historian software began in 2007. The software package is the historical repository for SCADA and automation data. The completed development will provide corporate access to reports and historical data that can

be used for system design and planning purposes. The software also allows for a reduction in the SCADA server requirements.

- All of the Qunidar RTUs in substations will be replaced with new DNP3 RTUs by the end of 2007.

These projects will further Hydro Ottawa's transition to one SCADA platform and expand monitoring and control throughout the distribution system.

With the increased emphasis on embedded generation, energy efficiency and demand side management in the province, there are additional requirements to connect generation and energy savings equipment into the Hydro Ottawa distribution system. The department that implements Hydro Ottawa SCADA equipment and software will be called upon to support the implementation of these projects into the Hydro Ottawa distribution system. Labour requirements to implement these projects, many of which are demand projects, may delay the completion of the planned SCADA upgrade work.

As of June end 2007, for the most part, the program is on track;

- The master station upgrade was completed,
- Radio upgrades have begun and 2 master radio sites have been upgraded,
- The PI Historian displays are in development and the program will be in operation by the end of September, and
- A communication problem with the RTUs is being corrected by the Vendor, through a firmware upgrade.

2.13 Major and Minor Line Extensions

Construction of major and minor line extensions continues per the description in Exhibit B1-2-2. A number of small projects are being constructed in 2007, none in excess of $500k. The planning process includes review of projects as conditions change.

As of June 2007, expenditures totalled $326k for line extensions, approximately half of the estimate for the year.

2.14 System Reliability

Projects to improve system reliability in the area of Kanata continue in 2007. Work to be completed in 2007 include:

- Continuation of the Bridlewood egress improvements construction,
- Installation of faulted circuit indicators (“FCIs”) that assist during outage response, and
- A project in the Castlefrank-Glamorgan area includes a number of upgrades to, and rearrangement of, the primary circuit. This project will improve accessibility of the distribution infrastructure, replacement of end of life components and allow for future capacity increases and customer connections.

As of June 2007, the program is on track to be completed in 2007:

- The egress improvements are completed, and
- The FCI installation and the Castlefrank-Glamorgan projects are underway.

2.15 Insulator Replacement

A type of horizontal post porcelain insulators has been identified to fail, which results in an electrical and physical hazard to employees. The Insulator replacement program changes the hazardous insulators as described in Exhibit B1-2-2.

As of June 2007 approximately 30% of the scope had been completed. The purchase of phase catchers allows staff to work safely in proximity to the hazardous insulators, thus reducing the priority of this program.

2.16 Miscellaneous Programs

The sustainment budget consists of the aforementioned material programs, as well as a number of programs below the materiality threshold. The budget for these programs is shown here as the sum of the individual budgets. In 2007, the sustainment programs consist of:

- Civil Rehabilitation Program
- Distribution Automation
- Elbow and Insert Replacement
- O/H Equipment New and Rehab
- PILC Risers & Pothead Replacement
- Stations Automation
- Stations Battery Replacement
- Stations Conductor Replacement
- Stations Minor Enhancements
- Switchgear New and Rehab
- Stations Plant Failure Capital
- Stations Transformer Replacement
- Splice Replacement Program
- Vault Rehab or Removal
- Vault Space Capital Leasing

3.0 DISTRIBUTION CAPITAL PROGRAM EXPENDITURES, DEMAND

3.1 Smart Meter Residential

The Smart Meter Program is discussed in Exhibit D3-1-1.

3.2 Residential Development

As described in Exhibit B1-2-2, residential developments are demand driven projects initiated by developers and property owners. The expected expenditure for new residential developments was based on historical levels, projected growth rate, prior year project carry-over, and project inquiries.

As of June 2007, expenditures totalled $3.3M for new residential development, approximately half of the estimate for the year.

3.3 Commercial Development

As described in Exhibit B1-2-2, commercial development connections are demand driven projects initiated by developers and property owners. The expected expenditures for new commercial development in 2007 were based on historical levels, projected growth rate, prior year project carry-over, and project inquiries.

In 2007 there is a commercial project beyond the materiality. A high-density development in a green field area of old Nepean in being constructed. The development consists of a mixture of residential and commercial buildings. Hydro Ottawa installed duct and manhole distribution infrastructure throughout the new development along road right of ways. As individual properties are developed, temporary and permanent services will be installed.

As of June 2007, expenditures totalled $2.9M for new commercial development, approximately half of the estimate for the year.

3.4 Plant Relocation and Upgrades

As described in Exhibit B1-2-2, plant relocation and upgrades are demand driven projects and largely resulting from road works projects initiated by the City of Ottawa.

The expected financial impact on Hydro Ottawa of plant relocation is based on historical levels, projected growth rate, previous year project carry-over, and discussions with the City of Ottawa. The volume of work remains high for 2007.

There are three projects estimated beyond the materiality threshold for 2007;

- Highway 7 - The Ontario Ministry of Transportation is undertaking a project to twin the existing Highway 7. To accommodate the expansion, Hydro Ottawa is required to relocate existing pole lines to the new right of way locations. Works involve new construction, close cut clearing and removal of the old lines. This is part of an ongoing project.
- Overhead to Underground Conversion King Edward Street - The City of Ottawa is reconstructing King Edward Street from the MacDonald-Cartier Bridge to Laurier Street. This portion of road is an arterial road that connects Ontario and Quebec. As part of the overall project, the City requested Hydro Ottawa to convert the existing overhead plant to underground. This multi-year project is scheduled in phases through 2011.

As of June 2007, plant relocation and upgrade expenditures totalled $3M. Project progress has been more significant in the first half of the year due to job scheduling, and the program is not expected to vary significantly from the forecast.

3.5 Infill Services

As described in Exhibit B1-2-2, infill and upgrades are demand driven projects initiated by developers and property owners. Costs in this area are customer driven.

As of June 2007, expenditures totalled $1.5M for infill services, half of the estimate for the year.

3.6 System Expansion

As described in Exhibit B1-2-2, system expansions are demand driven projects that are additions to the distribution system; for example, increasing the length of a distribution line in response to a request for additional customer connections that otherwise could not be made. The expenditures are driven by customer activity and forecast based on previous levels of activity.

A number of smaller projects have been undertaken in 2007. One project of significance was an overhead pole line extension to connect an embedded generator.

As of June 2007, expenditures totalled $1.7M for system expansion. The expenditures are incurred at a higher rate at the beginning of the year as construction occurs to prepare for connection of services in the fall and early winter. The program is not expected to vary significantly from the estimate.

3.7 Damage to Plant

As described in Exhibit B1-2-2, damage to plant is a demand driven activity repairing damage to distribution equipment caused by outside parties, such as a vehicle colliding with a pole. Hydro Ottawa must address damaged plant to ensure public and worker safety.

At June 2007, damage to plant expenditures totalled approximately $460k, more than half of the budget for the year.

3.8 Wholesale Meter Upgrades

Wholesale meter upgrades continued per the program described in Exhibit B1-2-2. The metering installations in five substations are scheduled for upgrade in 2007 based on meter seal expiry dates. Upgrading the meters is a requirement of *Market Rules* administered by the Independent Electricity System Operator.

As of June 2008 the project is on track; three of the five stations have been completed.

3.9 Miscellaneous Programs

The demand budget consists of the aforementioned material programs, as well as a number of programs below the materiality threshold. In 2007, these demand programs consisted of;

- Embedded Generation Projects, and
- Remote Disconnected Smart Meters.

GENERAL PLANT CAPITAL EXPENDITURE PROGRAMS/PROJECTS, 2007 ESTIMATE

1.0 INTRODUCTION

The following table lists programs/projects that exceed the materiality limit of $100k. 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

	Budget Program	2007 Estimate $000
2.1	GIS Budget Program	$6,513
2.2	Fleet Replacement	2,996
2.3	Buildings - Facilities	2,451
2.4	Tools Replacement	1,024
2.5	CIS Enhancements	1,020
2.6	Information Services and Technology	827
2.7	New PC and Peripherals	759
2.8	PC/Peripheral Replacement Program	225
2.9	Furniture and Equipment	182

2.0 GENERAL PLANT EXPENDITURES

2.1 GIS

2.1.1 GIS Development Project

As outlined in Exhibit B2-2-1, the GIS development project was not completed in 2006 and the project continues in 2007 with the focus on data conversion.

The existing Hydro Ottawa project team and the five contract employees continue to work on the GIS development project in 2007. The labour associated with their activities is allocated to the GIS project.

Hydro Ottawa continues to work closely with the contractor on the data conversion. The Production Action Report process continues and an employee was stationed at the contractor's facility for 10 weeks in 2007 to provide on site direction and expertise.

Additional expenditures have also been incurred to include specific as-built drawings;

- As-built drawings were not updated on paper maps during the GIS development project to avoid duplication of the effort and free staff to work on the project. Additional expenditures have been incurred to include the backlog of as-built drawings since 2003. (Note – system operating maps have been kept current for safety and operational reasons)
- Additional historic as-built drawings not updated on the paper maps were identified after the contract award. Including these drawings into the conversion increased the scope and expenditures for the project.

The GIS project is on schedule for completion at the end of 2007.

As of June 2007 this project is on schedule; an additional four geographic areas were in production, bringing the number of geographic areas in production to seven, of 12 total.

2.1.2 Vault Transformer Survey

Distribution line transformers were surveyed in 2005 and 2006. A survey program for vault transformers was undertaken in 2007 for approximately $2M.

Vaults are rooms within a customer facility that meet certain requirements of the building code to contain high voltage equipment. Hydro Ottawa installs transformers and switchgear in customer vaults. Vault transformers vary in age, construction, and may contain insulating oil with PCB concentrations greater than 50 ppm. The Vault Transformer survey program is a program to gather asset information for the GIS project, and where applicable to test for PCB content of the insulating oil. Only the data-gathering portion of the survey is allocated to the GIS program. The oil testing is charged to the operating budget, and the results will be used to develop a future replacement program based on the pending legislation regarding PCB removal. There are approximately 1,750 vaults in the distribution system, each of which contains multiple transformers.

As of the end of June 2007 the program is on track; 734 Vaults have been completed, with an average of four transformers per vault.

2.2 Vehicle Replacement and Additions

Vehicle replacements and additions continue in 2007 as per the accelerated replacement plan described in the Fleet Strategy in Exhibit B1-2-6.

The plan for 2007 is to replace 26 vehicles and add three vehicles to the fleet, as shown in Table 2.

Table 2 – 2007 Fleet Purchases

Numbers in () indicate additional vehicles

Unit Type	2007 Plan
Cars	1
Bucket trucks	1 + (1)
Stake trucks/Flatbed trucks	0
Radial Boom Derricks	2
Knuckle boom trucks	0
Compact pick up trucks	1
Full size pick up trucks	8
Full size cargo vans	1
Compact vans	2
Step Vans/Cube vans	6
Forklifts	1
Tension machines	2
Trailers	1 + (2)
Total	**26+(3)=29**

The additional three vehicles were purchased to meet increased needs.

- 1 bucket truck - Upgrade to equipment for the 24/7 department.
- 2 trailers – Enclosed trailers, one for the stations maintenance department and one for overhead crews.

2.3 Buildings - Facilities

There are five main work centers occupied by Hydro Ottawa, which are located at Albion Road, Merivale Road, Bank Street, Maple Grove Road and Carling Avenue. Individual projects at each location above the materiality are listed below.

Albion Road Facilities Construction

- Replace the roof over the administration office based on the results of a roof replacement audit performed in a previous year.
- Replace a twenty five year old condensing unit to an energy efficient unit in the IT Server Room.
- Replace the asphalt along the front and side entrance of the facility
- Miscellaneous general repairs include doors, windows and electrical upgrades.

Merivale Road Facilities Construction

- Replace asphalt and concrete curbs on the south entrance to accommodate vehicle parking for the Operations Department.
- Install outdoor lighting along the south entrance to provide additional lighting for security.
- Install a new UPS in the second floor Server room to allow for sufficient electrical load increase.
- Miscellaneous general repairs include doors, windows and electrical upgrades.

Bank Street Facilities Construction

- Construct a washroom facility on the first floor in the new apprentice training facility.
- Place asphalt and install new fencing in pole yard.
- Install energy efficient equipment, lighting fixtures and low flush toilets.
- Miscellaneous general repairs include doors, windows and electrical upgrades.

Maple Grove Facilities Construction

- Eaves troughing, ground loop detectors for garage doors and miscellaneous capital purchase and constructions for Maple Grove Truck Centre.

Carling Facilities Construction

- Installed barbwire on fence, security cameras and some miscellaneous capital expenditures for the storage area.

2.4 Tools

Hydro Ottawa's work force requires tools for ongoing operation, construction, maintenance and repair of its distribution system and fleet. Tools are integral for staff to perform work safety and efficiently.

Some of the tools Hydro Ottawa staff use are commonly recognized tools such as wrenches and ladders, whereas, other tools are industry specific, such as insulated live line tools. Hydro Ottawa's trades staff work in proximity to dangerous voltage levels, at heights, in confined spaces and in all kinds of weather. Having the appropriate protective devices and tools is critical to the safety of personnel.

Tool replacement in 2007 included the following:

- New tools for apprentices,
- New fault locating equipment, that aids in the restoration of power interruptions,
- Mobile field data capture devices, part of a workforce management system tool. The devices automatically update data from inspections and maintenance programs, and
- Replacement of live-line tools.

2.5 CIS Enhancements

The CIS development in 2007 is in response to continued evolving regulatory requirements and increasing emphasis on improving business efficiencies. Although particular items may shift based on evolving business priorities, the following are some items that will be undertaken:

- Rate changes for Regulated Price Plan ("RPP"),
- Streamlining field orders to a non paper-based alternative,
- Leveraging workflow to automate repetitive actions currently triggered by users,
- Streamlining of work-list assignment to users,
- Continual improvement to system responsiveness and batch operations,
- On-going refinement of interfaces to other enterprise systems, and
- Development of further queries and reports for data intelligence gathering.

These will improve customer service, and internal efficiency.

2.6 Information Services and Technology

Hydro Ottawa will continue to maintain and improve appropriate system security, redundancy, reliability, availability, lifecycle management of IT equipment and related services. To support the ongoing demands of the business, capital investments for these programs are focused on the increased acquisition of software, hardware, and services.

Replacement of network servers, acquisition of security and software as well as enhancements to the telecommunications system is part of the overall business support plan.

2.7 New PC and Peripherals

New PCs and Peripherals expenditures include additions to the computer equipment at Hydro Ottawa. Typical expenditures include PCs for new staff, newly identified printer and plotter requirements, new software and upgrades to existing equipment to make staff more portable.

In 2002, Hydro Ottawa introduced J.D. Edwards as the enterprise solution for capturing operational data. To do the necessary analysis, data must be extracted into Excel spreadsheets and manually manipulated to support the robust budgeting/forecasting and allocation process. The process is cumbersome, time consuming, and has lengthy turnaround time. In addition the workflow is not formally controlled and can be the cause of duplicate efforts. As a result, Hydro Ottawa would like to leverage a software tool that would assist in the majority of these manual steps, reducing the turnaround time and risk for potential human errors. At a high level, the features and functions of the tool would include budgeting and forecasting, cost allocation, robust reporting, and workflow tracking capability.

2.8 PC/Peripheral Replacement Program

Information Services and Technology at Hydro Ottawa continues to support its on-going program to maintain appropriate lifecycle management of IT equipment. Under this program desktops, laptops, and printers that had reached end-of-life have been scheduled for replacement as described in Exhibit B1-2-3.

2.9 Furniture and Equipment

Every year Hydro Ottawa incurs expenditures for furniture replacements and additions. Aged furniture is replaced due to poor condition, or to provide ergonomic models. Expenditures due to staff additions and relocations are also included in this item.

2.10 Miscellaneous Programs

The general plant budget consists of the aforementioned material programs, as well as smaller programs. In 2007, the smaller general plant programs consisted of:

- Outbound Calling Auto-Dialer, and
- Website Enhancements

DISTRIBUTION CAPITAL EXPENDITURE PROGRAMS/PROJECTS, 2008 FORECAST

1.0 INTRODUCTION

The following table lists programs/projects that exceed the materiality limit of $500k. 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 - Distribution Capital Program Expenditure, Sustainment

	Budget Program	2008 Forecast $000
2.1	Stations New Capacity	$9,277
2.2	Stations Switchgear Replacement	5,610
2.3	Cable Replacement	3,507
2.4	Facility Programs - Stations	3,504
2.5	Major and Minor Line Extensions	3,444
2.6	Pole Replacement	3,409
2.7	Stations Enhancements	1,851
2.8	Distribution Transformer Replacement	1,708
2.9	Plant Failure Capital	1,171
2.10	System Operations Automation	840
2.11	Stations Transformer Replacement	701
2.12	Distribution Enhancements	609

Table 2 - Distribution Capital Program Expenditure, Demand

	Budget Program	2008 Forecast $000
3.1	Smart Meters	$9,684
3.2	Residential Subdivision	8,350
3.3	Commercial Development	5,811
3.4	Plant Relocation and Upgrades	4,182
3.5	Infill Services	2,598
3.6	System Expansion	2,069
3.7	Wholesale Meter Upgrade	506

2.0 DISTRIBUTION CAPITAL EXPENDITURES, SUSTAINMENT

2.1 Stations New Capacity

Ottawa South East 13 kV Area

Older parts of the City of Ottawa are supplied by a 13 kV subtransmission system. In the southeast part of the old Ottawa area this 13 kV system is nearing capacity. An evaluation of the options to address this situation has resulted in a recommended solution for 2010.

A new substation will be constructed on a parcel of land that contains the existing Albion substation. There is sufficient space within the land parcel for the second substation and zoning and ownership are already in place, Hydro One transmission is already in place and locations for constructing station egress are available through existing Hydro Ottawa land and a City of Ottawa right of way. A business case for this expenditure is attached.

The estimated costs for the South-East Ottawa 13 kV solution are included in the 2008, 2009 and 2010 budgets. The plan is to have the station commissioned and in service in 2010. This preliminary plan may be adjusted during detailed design for equipment lead times and other project details that may arise.

<u>South Nepean and South Gloucester 27.6 kV Area</u>

In South Nepean and South Gloucester load is supplied through both 44 kV and 27.6 kV sub transmission systems, however new growth is typically supplied using the 27.6 kV system. Load in the South Nepean and South Gloucester areas has continued to grow with development. The 27.6 kV system load in this area is expected to exceed the planning criteria in 5 years.

The following options were considered:

- New substation in Nepean
- New substation in Gloucester
- Additional transformation at an existing substation in Nepean or Gloucester

The addition of a second transformer at Uplands Stations was selected. This option is the least complicated and least costly solution considered because:

- Hydro Ottawa already owns the land, which is appropriately zoned for the use,
- There is sufficient space within the land parcel for the second transformer,
- Hydro One transmission is already in place, and
- Locations for constructing station egress are available through existing HOL land and City right-of-way.

The preliminary budget has been included in 2008, 2009 and 2010. This preliminary plan may be adjusted during detailed design for equipment lead times and other project details that may arise.

Construction of a second tie across the Rideau River, which separates the Nepean and Gloucester areas, will assist in load transfers during operations and contingency conditions. This project is included in the 2008 Distribution Enhancement plan.

2.2 Station Switchgear Replacement

Station Switchgear Replacement and Stations Relay Replacement continue in 2008 per the description in Exhibit B1-2-2. These two programs are done in conjunction in 2008, and therefore have been budgeted together under the Station Switchgear Replacement budget program.

Three substations, Beechwood, Eastview and Kilborn have been identified for switchgear and relay replacement in 2008.

2.3 Cable Replacement

Cable replacement continues in 2008 per the Cable Replacement program described in Exhibit B1-2-2. The projects below are the material projects prioritized for 2008.

- City Park
  This project is to replace direct buried, unjacketed primary trunk cable along City Park Drive with cables in concrete encased duct. The cable condition has been assessed as poor as these cables have already had failures.
- Beacon Hill
  This project is to replace direct buried, butyl rubber primary cable in the Beacon Hill area with cable in ducts. The existing cables have had faults and are in excess of 40 years old. During the project, primary cable will be relocated off of private property, that is, residential lots, where practical and live-front transformers will be replaced with new dead-front transformers.
- Hawthorne 48M3-417
  This project involves replacing 44 kV direct buried feeder cables that run under Highway 417 with cables contained in steel encased concrete duct structure. Recent cable tests indicated the cables are in poor condition. As the cables supply Hydro Ottawa substations in the east end, access to and reliability of the

cables is a high priority. The new structures will allow for access to the cables, which is not possible with a direct buried construction.

- Campeau Drive
  There are currently approximately 2,100m of undersized, direct buried, primary cable along Campeau Drive. The City of Ottawa is planning to widen Campeau Drive and has requested that Hydro Ottawa relocate its cable prior to the road construction. The cables will be replaced along the new road right of way, with fully sized cables in a concrete duct structure. The project is expected to be a multi-year project started in 2008, however, the final schedule will be determined through coordination with the City of Ottawa's final plans.

Hydro Ottawa assesses and monitors the condition of cables based on power outage statistics. Should evidence arise in 2008 that higher priority locations exist than those already identified, resources will be reassigned accordingly.

2.4 Facility Programs – Stations

<u>Stations Building Rehabilitation</u>

- This preventative maintenance program addresses the need to ensure station buildings are able to meet the needs for years to come. Roof, door and window replacements at various stations are included in this program. Also included are the installation of energy efficient equipment, lighting fixtures and low flush toilets.

Albion Substation Upgrade

- Construct a building to accommodate station switchgear and transformers to distribute electricity south of the city. The corresponding Station Capacity project is the Ottawa South East 13 kV Area described in Section 2.1.

Uplands Station Upgrade

- Install a prefabricated building to accommodate electrical distribution equipment. The corresponding Station Capacity project is the South Nepean and South Gloucester 27.6 kV area described in Section 2.1.

2.5 Major and Minor Line Extensions

Construction of major and minor line extensions continues per the description in Exhibit B1-2-2. The following is a list of distribution enhancement projects planned for 2008 in excess of $500k. The planning process involves review of projects as conditions change.

- Limebank F3 Feeder - Development in the south Nepean area is on going and expected to continue. The addition of a 27.6 kV circuit from this Gloucester area station will supply the additional south Nepean load as well as increase reliability in the area. The Gloucester-Nepean connection is planned via a second temporary overhead river crossing. The temporary crossings will be relocated to the Strandherd-Earl Armstrong Bridge when the City constructs it; the construction has been delayed due to the cancellation of the Light Rail Transit project.

- Supply to Rockcliffe Airbase Redevelopment - Redevelopment of the airbase lands will increase load in the area. The installation of a double 27.6 kV circuit and rebuild of a 4 kV circuit by summer of 2008 is required to support this development.

- Greenbank Road Rebuild – The area around Greenbank Road is an area of high growth in the city. This rebuild will provide an additional feeder, to increase capacity for growth and provide redundancy of supply to the existing load.

- New Overhead 27.6 kV Line along Abbott Road - New developments in the Stittsville West and Kanata areas require additional supply. The new overhead line will provide capacity for growth and increase reliability in the area.

2.6 Pole Replacement

Pole replacement continues in 2008 per the Pole Replacement Program described in Exhibit B1-2-2. The work is divided into two main categories:

- planned pole replacement – the replacement of previously identified, groups of poles in one geographic area, and
- one-of pole replacement. – the replacement of individual poles identified by field staff as requiring immediate replacement

Pole replacement projects with a value greater than the materiality threshold are described below.

- Lanigan Street and Ember Glow Drive - This project for the replacement of poles in the Stittsville area was prioritized as the poles were identified as near end of life. The scope of the project also involves changing the insulation level from 8 kV to 27.6 kV and installing dual wound transformers for the eventual voltage conversion of the area.

2.7 Station Enhancements

The station circuit breaker control refurbishment program as described in Exhibit B1-2-2 continues in 2008. The circuit breaker control refurbishment program is the only material program of the various substation enhancement programs planned in 2008. This program will lead to operating efficiencies by allowing remote control of the breaker recluse blocking.

2.8 Distribution Transformer Replacement

Distribution transformer replacement continues per the description in Exhibit B1-2-2. The accelerated replacement program will conclude in 2008 with the replacement of 126 units containing PCB concentrations greater than 50 ppm, identified in the transformer survey program.

2.9 Plant Failure Capital

Plant Failure capital is a program for the replacement of distribution equipment that fails unexpectedly. Hydro Ottawa's asset management program is expected to result in reduced failures as the program matures. Replacement of failed plant will continue in 2008, as described in Exhibit B1-2-2. Hydro Ottawa must address damaged plant to ensure public and worker safety.

2.10 System Operations Automation

The Supervisory Control and Data Acquisition ("SCADA") upgrade program continues in 2008 as described in Exhibit B1-2-2. Two significant multi-year projects will be started in 2008.

- Replacement of Quindar Remote Terminal Units ("RTUs") with DNP3 RTUs in air-break switches, reclosures and other various operable devices in the distribution system.
- Extend SCADA to unmonitored parts of the distribution system by installing new, or upgrading existing, supervisory equipment at wholesale supply points embedded within Hydro One owned distribution circuits or facilities. The upgraded SCADA system is capable of handling the extra communications and data.

These projects will further Hydro Ottawa's transition to one SCADA platform and expand monitoring and control throughout the distribution system.

2.11 Stations Transformer Replacement

Substation transformer replacement continued in 2008 per the description in Exhibit B1-2-2. The Bronson Substation has been identified for transformer replacement in 2008 based on the condition assessment performed in 2006.

2.12 Distribution Enhancements

The Distribution Enhancement program continues per the description in Exhibit B1-2-2. There are a large number of smaller distribution enhancement projects planned in 2008, all below the materiality threshold. The planning process involves review of projects as conditions change.

2.13 Miscellaneous Programs

The sustainment budget consists of the aforementioned material programs, as well as a number of programs below the materiality threshold. The budget for the material programs is shown here as a sum of the individual budgets. In 2008, the smaller sustainment programs consisted of:

- Civil Rehabilitation Program
- Distribution Automation
- Elbow and Insert Replacement
- Insulator Replacement
- O/H Equipment New and Rehab
- PILC Risers & Pothead Replace
- Stations Plant Failure Capital
- Splice Replacement Program
- Switchgear New and Rehab
- System Reliability
- System Voltage Conversion
- Vault Rehab or Removal
- Vault Space Capital Leasing

3.0 DISTRIBUTION CAPITAL SUSTAINMENT, DEMAND

3.1 Smart Meter

The Smart Meter Program is discussed in Exhibit D3-1-1.

3.2 Residential Development

As described in Exhibit B1-2-2, residential developments are demand driven projects initiated by developers and property owners. The expected expenditures for new residential developments were based on historical levels, the projected growth rate, prior year project carry-over, and project inquiries.

3.3 Commercial Development

As described in Exhibit B1-2-2, commercial development connections are demand driven projects initiated by developers and property owners. The expected expenditures for new commercial development in 2008 were based on historical levels, the projected growth rate, prior year project carry-over, and project inquiries.

3.4 Plant Relocation and Upgrades

As described in Exhibit B1-2-2, plant relocation and upgrades are demand driven projects, largely resulting from road works projects initiated by the City of Ottawa. The expected financial impact on Hydro Ottawa of plant relocation is based on historical levels, previous year project carry-over, and discussions with the City of Ottawa. The City of Ottawa undergoes a number of projects every year to maintain and expand its infrastructure.

3.5 Infill Services

As described in Exhibit B1-2-2, infill and upgrades are demand driven projects initiated by developers and property owners. Costs in this area are customer driven. Historical levels have been used to forecast this activity.

3.6 System Expansion

As described in Exhibit B1-2-2, system expansions are demand driven projects that are additions to the distribution system in response to a request for additional customer connections that otherwise could not be made; for example, by increasing the length of the distribution system. The expenditures are driven by customer activity and are therefore forecast for 2008 at historical levels.

3.7 Wholesale Meter Upgrades

Wholesale meter upgrades continued per the program described in Exhibit B1-2-2. Two substations are scheduled for 2008 because the seals on these meters expire. Upgrading the meters is a requirement of *Market Rules* administered by the IESO.

3.8 Miscellaneous Programs

The demand budget consists of the aforementioned material programs, as well as a number of programs under the materiality threshold. The budget for these programs is shown here as the sum of the individual budgets. In 2008, these demand programs consist of:

- Damage to Plant,
- Embedded Generation Projects, and
- Remote Disconnected Smart Meters.

HydroOttawa	TITLE: **Project Business Case**	
RECOMMENDED: T. Lusney APPROVED: P. Lucas REV. DATE: 2007-03-30	CORPORATE INDEX: 2.2.06.01 – Business Cases	REV: **0.2**

Ottawa Southeast 13 kV Capacity Solutions

Project Business Case

REVISION SHEET

Revision	Description of Change	Date	Initial
0	Original Document	2007-03-30	TL
0.1	Modify wording for clarification	2007-05-17	PL
0.2	Modify wording for clarification	2007-06-04	PL
0.3	Modify wording and format for clarification	2007-08-13	TL

TABLE OF CONTENTS

PAGE

Executive Summary

The growth analysis of the Ottawa South East 13 kV system loading area suggests an estimated 30-50MW of load will be coming online in the next 25 years. Current available capacity under a single contingency situation (loss of one transformer bank) is not sufficient to supply this load growth. Five proposed solutions for this issue were reviewed and compared.

Solutions were reviewed using Present Value (PV) calculations to determine the net cost to the rate base for each option along with expected capital cost impacts. Safety, environment, asset risk, overall project risk, regulation and other considerations were used in the comparison. The option presenting best investment for risk would be chosen as the best solution moving forward.

The recommended solution with the least impact to the rate base would be to have Hydro Ottawa Limited (HOL) build a new station on the existing Albion site. This option has the second lowest capital cost while providing the lowest cost to the rate base. The risk associated with this option is low since costs and build times can be controlled by HOL. The option has a low environmental and customer impact compared to building on new site, while removing any complex ownership agreements that would need to exist with a Hydro One Network Inc. built station or upgrade.

1.0 Introduction

This document was produced to provide a detailed overview of proposed solutions to the growing capacity issues facing the Ottawa southeast 13 kV distribution system. Five options were compared using Present Value (PV) calculations to determine the net cost to the rate base for each option along with expected PV capital cost impacts. Safety, environment, asset risk, overall project risk, regulation and other considerations were used in the comparison. The option presenting best investment for risk and a 25-year solution would be recommended as the best choice moving forward.

2.0 References

Hydro Ottawa – System Study Report
Transmission System Code, Ontario Energy Board

3.0 Scope & Objective

This document was prepared by the Operations Planning Committee to look at all viable solutions to the capacity issues facing the Ottawa southeast 13 kV distribution system. The recommendation should be the one project that has the best combination of value to the customer, capital costs, risks, timing, regulations, safety and environment.

4.0 Definitions

"5-year" means the projections over the coming 5 years for planned work at Hydro Ottawa Limited.

"DESN" means double ended spot network

"EA" means environmental assessment

"HOL" means Hydro Ottawa Limited

"HONI" means Hydro One Networks Inc.

"Loading History" means historical data on loading of major station feeders throughout the system

"LTR" means limited time rating for a transformer

"MW" means megawatt

"MVA" means megavolt ampere

"O&M" means operating and maintenance

"OEB" means Ontario Energy Board

"OPC" means Hydro Ottawa Limited Operations Planning Committee

"Planning Area" means an area of HOL's service area that shares common loading, supply, voltage and capacity

"PV" means present value

"Stn" means Hydro Ottawa substation

"XFMR" means Power Transformer

5.0 Situation Assessment

The Ottawa southeast 13 kV distribution system is supplied by the Albion DESN station, which has two 45/75 MVA transformers with an LTR rating of 95 MVA. These transformers are owned and operated by HONI (along with high voltage assets) and is situated on HOL land. HOL owns all low voltage gear within the station. With a summer peak in 2006 at Albion of 108 MW, and an LTR rating of 95 MVA, there is a short fall at this time in capacity of 13 MVA. With an expected load growth of 30 to 50 MW over the next 25 years, this load could grow as much as 1.2 to 2 MW a year, leading to a final load within the capacity area as much as 160 MW. With the station being partial owned by HONI and situated on HOL land, there are issues with expansions and/or work within the station in respects to ownership, funding and available land.

6.0 Solution Assumptions

The following assumptions were made for all business cases reviewed

<u>Base Assumptions</u>

- Only long term solutions that resolve the issue for 25 years were considered
- The OEB accepts any solution into the rate base if it is one of the lower cost options for the rate base
- All solutions considered meet the standards at HOL for reliability, safety, environment and any other company standards
- Capital expenditures are repaid 100% over the 25 years
- No inflationary adjustments
- HOL station design standard is a Breaker-and-a-Half scheme for switchgear
- New station has 30/40/50 MVA transformers
- All overloading is moved to solutions immediately
- Expected load growth of 30 – 50 MW in the next 25 years, adding to the existing 13 MW shortfall

<u>Assumed Associated Costs</u>

- Discount rate of 5.62 %

- Interest rate of 5.25%
- Insurance of $1,000/$1,000,000 of capital value
- Fixed O&M – 0.5% of Capital
- Capital Tax - 0.3% of Capital
- Municipal tax on new site – 4.85%
- Corporate Income tax – 43%
- Revenue HONI
  - Line Connection Service Rate – $0.83/kW
  - Transformation Connection Service Rate - $1.5/kW
- Revenue HOL
  - Overall for Substations - $0.4/kW
  - Commercial – 60%
  - Residential – 40%
- Construction costs of HONI new station, $12M-$16M ($14M median)
- HONI estimate on transformer replacement cost, not including Protection and Control, switchgear, commissioning, etc.- $3M/Transformer ($6M total)
- Depreciation years for HOL and HONI equipment
  - Breakers, switchgear, power transformers, stations civil structures, contributed capital to HONI – 40 years
  - Protection and Control – 15 years

7.0 Proposed Solutions

The following solutions were reviewed using Present Value (PV) calculations to determine the net cost to the rate base for each option along with expected PV capital cost impacts. Safety, environment, asset risk, overall project risk, regulation and other considerations were used in the comparison. The option presenting best investment for risk would be chosen as the best solution moving forward.

7.1 Proposed Solution A – HOL builds station on new site

Solution A would have HOL build a new station at a site different then the current Albion station site. This would require land acquisition, an environmental assessment and transmission connection charges

7.2 Proposed Solution B – HONI builds station on new site

Solution B would have HONI build a new station for HOL at a site different then the current Albion station site and would require land acquisition and an environmental assessment. HONI would retain all capital investments, along with their operating costs. The PV shortfall over the 25-year horizon would be paid in full by HOL upon completion of the project as a capital contribution to HONI. The full rate base charge would be the sum of these totals, however, HONI would only be able to depreciate the value not including the contributed capital from HOL (which would be able to depreciate that amount).

7.3 Proposed Solution C – HOL builds on existing site

Solution C would have HOL build a new station at the existing Albion site adjacent to the current structure. This would not require land acquisition or an environmental assessment but transmission connection charges would still apply.

7.4 Proposed Solution D – HONI builds on existing site

Solution D would have HONI build a new station for HOL at the existing Albion site adjacent to the current structure. HONI would retain all capital investments, along with their operating costs, while a land sharing agreement would need to be worked out. The PV shortfall over the 25-year horizon would be paid in full by HOL upon completion of the project as a capital contribution to HONI. The full rate base charge would be the sum of these totals, however, HONI would only be able to depreciate the value not including the contributed capital from HOL (which would be able to depreciate that amount).

7.5 Proposed Solution E – HONI replace current transformers with 60/100 MVA

Solution E would have HONI replace the current 45/75 MVA power transformers with 60/100 MVA. This solution would require work done by HOL to meet the new specifications due to the new transformers installed. HONI would retain all capital investments it has made, along with their operating costs. The PV shortfall over the 25-year horizon would be paid in full by HOL upon completion of the project as a capital contribution to HONI. The full rate base charge would be the sum of these totals, however, HONI would only be able to depreciate the value not including the contributed capital from HOL (which would be able to depreciate that amount)

8.0 Comparison of Options

Comparisons were based on the following criteria and are shown in Appendix A:

- NPV to Customer
- Capital costs
- Customer impact and reliability
- Impact on safety
- Impact on environment
- Risk assessment
- Regulatory Compliance
- Other considerations

9.0 Recommendation

The OPC recommends that HOL build a new station at the existing Albion site adjacent to the current structure (option C). As we can see from Appendix A, the least impact to the rate base would be option C. This option has the second lowest capital cost while providing the lowest cost to the rate base. The risk associated with this option is low since costs and build times can be controlled by HOL. The option has a low environmental and customer impact compared to building on new site, while removing any complex ownership agreements that would need to exist with a HONI built station or upgrade. It was also recommended that work should begin for the Albion station as of 2008 with a capital cost (Present Value) of $4,415,400 in 2008, $3,614,080 in 2009 and $392,240 in 2010. The new station would be operational as of April 2010 with a total capacity upgrade to meet the 25-year projection.

Appendix A

	Solution A HOL Build Stn New Site	Solution B HONI Build Stn New Site	Solution C HOL Build Stn Existing Site	Solution D HONI Build Stn Existing Site	Solution E HONI Rpl XFMR w/ 60/100
Financial Assessment	$9,213,784 - See Figure 1 for NPV comparisons with respects to the rate base	$16,821,870 - See Figure 1 for NPV comparisons with respects to the rate base	$8,823,254 - See Figure 1 for NPV comparisons with respects to the rate base	$20,112,348 - See Figure 1 for NPV comparisons with respects to the rate base	$27,994,462 - See Figure 1 for NPV comparisons with respects to the rate base
Capital Cost	$8,142,660 - See Figure 1 for Capital cost	$7,790,423 - See Figure 1 for Capital cost	$7,525,277 - See Figure 1 for Capital cost	$9,480,180 - See Figure 1 for Capital cost	$14,511,457 - See Figure 1 for Capital cost
Customer Impact and Reliability	A new site may be a disruption to certain HOL customers With DESN construction, customers would experience no outages during single contingency operation Maintenance on Stn could be done without causing an outage to customers throughout the year	A new site may be a disruption to certain HOL customers With DESN construction, customers would experience no outages during single contingency operation Maintenance on Stn could be done without causing an outage to customers throughout the year	An existing site expansion would have a minimal impact on the HOL customer base With DESN construction, customers would experience no outages during single contingency operation Maintenance on Stn would be able to be done without causing an outage to customers throughout the year	An existing site expansion would have a minimal impact on the HOL customer base No difference in reliability aspects between new site or existing site Maintenance on Stn would be able to be done without causing an outage to customers throughout the year	An existing site expansion would have a minimal impact on the HOL customer base No difference in reliability aspects between new site or existing site Maintenance on Stn would be able to be done without causing an outage to customers throughout the year
Impact on Safety	Solution would meet all HOL required safety standards	Solution would meet all HOL required safety standards	Solution would meet all HOL required safety standards	Solution would meet all HOL required safety standards	Solution would meet all HOL required safety standards

	Solution A HOL Build Stn New Site	Solution B HONI Build Stn New Site	Solution C HOL Build Stn Existing Site	Solution D HONI Build Stn Existing Site	Solution E HONI Rpl XFMR w/ 60/100
Impact on Environment	A new site may cause a greater environmental impact (larger footprint, more vehicle travel needed, possible oil spill from XFMR) An EA would be required for a new site development	A new site may cause a greater environmental impact (larger footprint, more vehicle travel needed, possible oil spill from XFMR) An EA would be required for a new site development	Building on the existing site would minimize the environmental impact of a station build. The new Stn would have a slightly larger footprint and risk impact then the current arrangement No EA would be required for existing site	Building on the existing site would minimize the environmental impact of a station build. The new Stn would have a slightly larger footprint and risk impact then the current arrangement No EA would be required for existing site	Building on the existing site would minimize the environmental impact of a station build. Replacing XFMR would not increase the footprint of the existing station No EA would be required for existing site
Risk Analysis of Asset Adjustments	Lower risk level due to new asset base	Lower risk level due to new asset base	Lower risk level due to new asset base	Lower risk level due to new asset base	Medium risk levels for asset base would exist since some existing assets would remain XFMR switch out would keep some existing assets, but at this time not enough to raise the risk level significantly
Risk Assessment	This solution would avert capacity issues in the area for a 25 year period The capacity situation is at a critical point, with additional capacity required immediately. HOL build would greatly reduce risk due to lower construction time when compared	This solution would avert capacity issues in the area for a 25 year period The capacity situation is at a critical point, with additional capacity required immediately. The expected HONI build time when compared to HOL is longer and therefore greatly	This solution would avert capacity issues in the area for a 25 year period The capacity situation is at a critical point, with additional capacity required immediately. HOL build would greatly reduce risk due to lower construction time when compared with HONI	This solution would avert capacity issues in the area for a 25 year period The capacity situation is at a critical point, with additional capacity required immediately. The expected HONI build time when compared to HOL is longer and therefore greatly increases the risk	This solution would avert capacity issues in the area for a 25 year period The capacity situation is at a critical point, with additional capacity required immediately. The expected HONI build time when compared to HOL is longer and therefore greatly

	Solution A HOL Build Stn New Site	Solution B HONI Build Stn New Site	Solution C HOL Build Stn Existing Site	Solution D HONI Build Stn Existing Site	Solution E HONI Rpl XFMR w/ 60/100
	with HONI	increases the risk of overloading under the single contingency situation		of overloading under the single contingency situation	increases the risk of overloading under the single contingency situation
	The EA process from a new site could cause project delays that are compounded due to the critical loading condition	With a new site construction, the EA process could cause project delays that are compounded due to the critical loading condition	No EA would remove the risk of project delays	No EA would remove the risk of project delays	No EA would remove the risk of project delays
Regulatory Compliance	This solution would have a high burden on the rate base when compared to building on the exiting site or having HOL build	This solution would have a high burden on the rate base when compared to building on the exiting site or having HOL build	This solution would provide the lowest possible cost to the rate base that solves the capacity issue a projected 25 years	This solution would provide the lowest possible cost to the rate base while solving the capacity issue in this year for a project 25 years	This solution would provide the lost possible cost to the rate base while solving the capacity issue in this year for a project 25years
	HOL building and ownership of new station would remove any complexities of a HONI build	The complexity of the ownership agreement that would exist with a HONI build and owned station would be a limiting factor during its lifetime. From a rate generating view point, having HONI build would reduce the amount of available revenue generating base for HOL	Since the land is owned by HOL, there is no ownership complexity with this solution	Since this station would be built on HOL owned land, a complex ownership agreement would exist with a HONI built and owned station would be a limiting factor during its lifetime. From a rate generating view point, having HONI build would reduce the amount of available revenue generating base for HOL	No ownership changes would be needed since the XFMR would replace existing HONI owned XFMR

	Solution A HOL Build Stn New Site	Solution B HONI Build Stn New Site	Solution C HOL Build Stn Existing Site	Solution D HONI Build Stn Existing Site	Solution E HONI Rpl XFMR w/ 60/100
Other Considerations	Capital costs could be controlled by HOL to work with the total capacity 5yr plan Load growth expectations would be kept within HOL.	HONI building would require a one-time payment for contributed capital that could provide a cost constraint for that year. If the load growth does not materialize as projected, HONI charges could provide further cost constraints for the lifetime of the asset.	Capital costs could be controlled by HOL to work with the total capacity 5yr plan Load growth expectations would be kept within HOL.	HONI building would require a one-time payment for contributed capital that could provide a cost constraint for that year. If the load growth does not materialize as projected, HONI charges could provide further cost constraints for the lifetime of the asset.	HONI building would require a one-time payment for contributed capital that could provide a cost constraint for that year. If the load growth does not materialize as projected, HONI charges could provide further cost constraints for the lifetime of the asset.

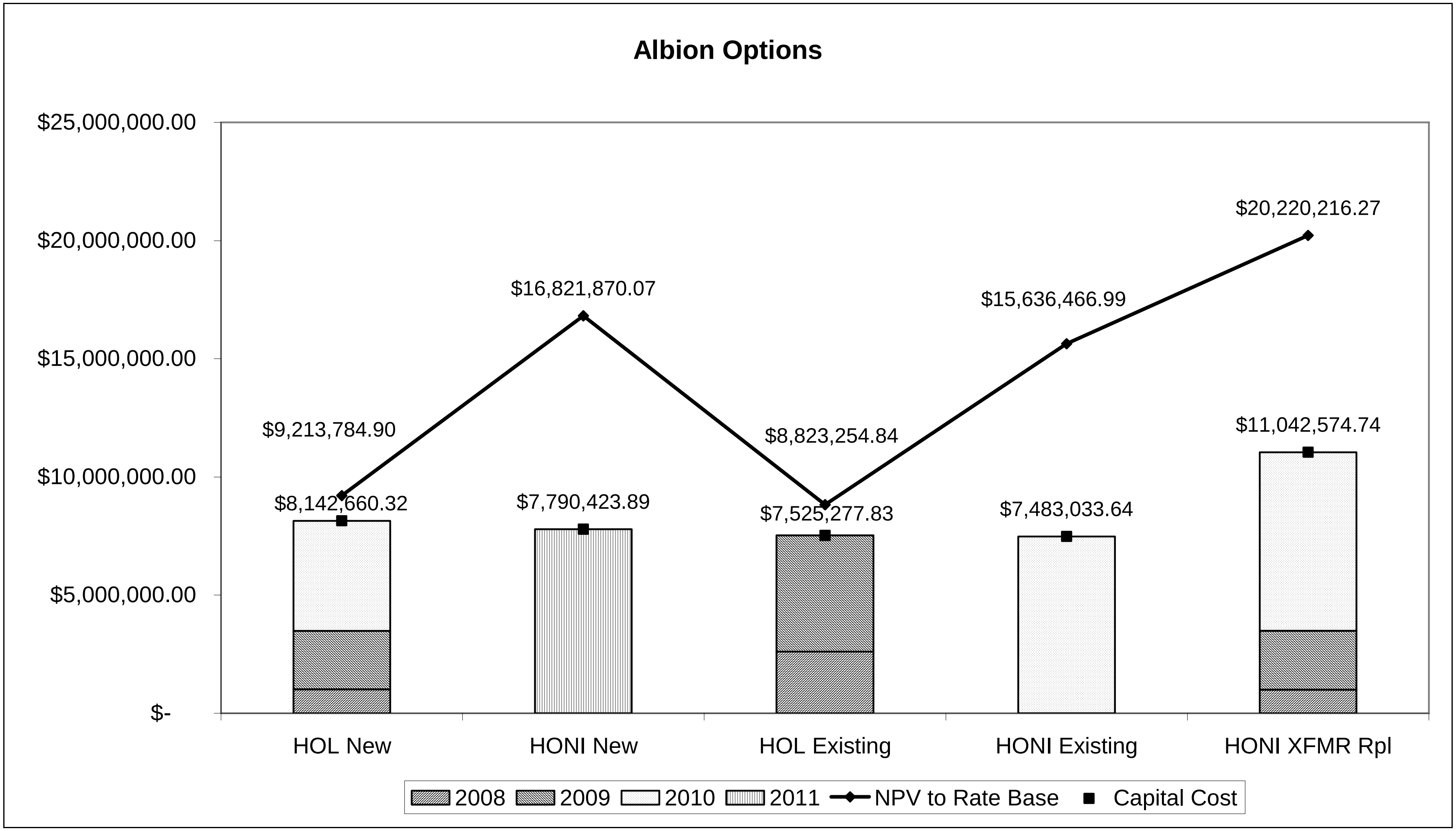


Figure 1: NPV and Capital Cost estimates for all options considered for the Ottawa Southeast 13kV Capacity Plan

GENERAL PLANT CAPITAL EXPENDITURE PROGRAMS/PROJECTS, 2008 FORECAST

1.0 INTRODUCTION

The following table lists programs/projects that exceed the materiality limit of $100k. 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 Capital Expenditures

	Budget Program	2008 Forecast $000
2.1	CIS Enhancements	$2,722
2.2	Buildings – Facilities	2,103
2.3	Fleet Replacement	1,693
2.4	Tools Replacement	1,037
2.5	Information Services and Technology	719
2.6	Geographic Resource Management System Enhancements	547
2.7	Website Enhancements	392
2.8	New PC and Peripherals	370
2.9	Furniture and Equipment	272
2.10	PC/Peripheral Replacement Program	218

2.0 GENERAL PLANT CAPITAL EXPENDITURES

2.1 CIS Enhancements

A CIS Version Upgrade Project will commence in 2008. Refer to Exhibit B1-2-6

2.2 Buildings - Facilities

There are five main work centers occupied by Hydro Ottawa, which are located at Albion Road, Merivale Road, Bank Street, Maple Grove Road and Carling Avenue. Individual projects at each location above the materiality are listed below.

<u>Albion Road Facilities Construction</u>

- Miscellaneous general repairs include doors, windows, electrical, civil construction and HVAC equipment replacement.
- Security system upgrades (security cameras).

<u>Merivale Road Facilities Construction</u>

- Miscellaneous general repairs include doors, windows and electrical upgrades.
- Security system upgrades (security cameras).

<u>Bank Street Facilities Construction</u>

- Miscellaneous general repairs include doors, windows and electrical upgrades.
- Security system upgrades (security cameras).

<u>Maple Grove Facilities Construction</u>

- Miscellaneous general repairs include doors, windows and electrical upgrades.
- Security system upgrades (security cameras).

<u>Carling Facilities Construction</u>

- Storage rack and security system upgrade

2.3 Fleet Replacement

Vehicle replacements and additions continue in 2008 per the accelerated replacement plan described in the Fleet Strategy in Exhibit B1-2-5.

The plan for 2008 is to replace 23 vehicles and add three vehicles to the fleet as shown in Table 2.

Table 2 – 2008 Fleet Expenditures

Numbers in () indicate additional vehicles

Unit Type	2008 Plan
Cars	0
Bucket trucks	1
Stake trucks/Flatbed trucks	0
Radial Boom Derricks	0
Knuckle boom trucks	0
Compact pick up trucks	2 + (3)
Full size pick up trucks	7
Full size cargo vans	4
Compact vans	1
Step Vans/Cube vans	3
Forklifts	0
Tension machines	1
Trailers	4
Total	23+(3)= 26

The additional three vehicles were purchased to meet increased needs.

- 3 compact pick ups – For new staff to the 24/7 department.

2.4 Tools Replacement

Hydro Ottawa's work force requires tools for ongoing operation, construction, maintenance and repair of its distribution system and fleet. Tools are integral for staff to perform work safety and efficiently.

Some of the tools Hydro Ottawa staff use are commonly recognized tools such as wrenches and ladders, whereas, other tools are industry specific, such as insulated live line tools. Hydro Ottawa's trades staff work in proximity to dangerous voltage levels, at heights, in confined spaces and in all kinds of weather. Having the appropriate protective devices and tools is critical to the safety of personnel.

Tool replacement will continue in 2008 to meet the operational and safety requirements of staff at roughly the same level of expenditure as 2007.

2.5 Information Services and Technology

Hydro Ottawa will continue to maintain and improve appropriate system security, redundancy, reliability, availability, lifecycle management of IT equipment and related services. Acquisition of software, hardware, systems and services will be made to support the ongoing demands of the business in 2008.

Replacement of network servers and switches, acquisition of security applications, storage networks, training tools, monitoring tools and software as well as enhancements to the telecommunications system is part of the overall support plan to meet expanding requirements of the business.

2.6 GRM System Enhancements

The 2008 capital budget makes use of the existing Geographic Information System ("GIS") and Outage Management System ("OMS") to provide greater operational efficiencies. Work for 2008 includes the following:

- Establish an OMS interface with CIS for taking trouble calls,
- Provide customers the ability to view the status of distribution system outage events via the internet,
- Deployment of additional GIS and OMS mobile applications to Operations field staff, and
- Enhancements to allow the GIS to be used for system design applications.

2.7 Website Enhancements

Hydro Ottawa has issued a request for proposal for the development of a web service portal. This single sign-on module will allow customer access to time-of-use consumption via the Meter Data Management/Repository which is managed by a third party. The module will interface with Hydro Ottawa's Customer Information System. The web portal architecture and implementation will include the design, build and integration of the single sign-on system, security requirements, a consumption comparison module and the ability to integrate other self-service features.

2.8 New PCs and Peripherals

New PCs and Peripherals expenditures include additions to the "computer equipment" at Hydro Ottawa. Typical expenditures include PCs for new staff, newly identified printer and plotter requirements, new software and upgrades to existing equipment to make staff more portable.

The final phase of the J.D. Edwards reporting tool upgrades, as described in Exhibit B3-3-2, is included in the 2008 expenditures.

2.9 Furniture and Equipment

Every year Hydro Ottawa incurs expenditures for furniture replacements and additions. Aged furniture is replaced due to poor condition, or to provide ergonomic models. Expenditures due to staff additions and relocations are also included in this item.

2.10 PC/Peripheral Replacement Program

Hydro Ottawa continues to maintain appropriate lifecycle management of IT equipment. Under this program desktops, laptops, and printers that had reached end-of-life will be scheduled for replacement, as described in Exhibit B1-2-3.

CONTINUITY OF PROPERTY, PLANT AND EQUIPMENT AND ACCUMUMATED AMORTIZATION, 2007 ESTIMATE AND 2008 FORECAST

1.0 INTRODUCTION

Table 1 shows the Continuity of Fixed Assets for 2007 Estimate and Table 2 shows the accumulated amortization, as per the groupings in the 2006 EDR Proceeding. Tables 3 and 4 provide the same information for 2008 Forecast.

Table 1 – Continuity of Fixed Assets, 2007 Estimate

Asset Group	2006 Ending Balance $000	2007 Capital Additions[1] $000	2007 Ending Balance $000
Land and Buildings	$12,373	$1,343	$13,715
TS Primary Above 50	29,990	8,439	38,429
DS	42,135	3,014	45,150
Poles, Wires	446,275	31,964	478,239
Line Transformers	131,094	11,242	142,336
Services and Meters[2]	133,593	24,818	158,410
General Plant	45,577	3,071	48,647
Equipment	35,501	4,756	40,257
IT Assets	65,097	8,858	73,956
Other Distribution Assets	11,454	2,454	13,909
Contributions and Grants	(91,710)	(15,805)	(107,514)
Amortization	(429,950)	(37,491)	(467,441)
TOTAL	$431,429	$46,663	$478,093

[1] Calculation of Capital Additions shown on Exhibit B3-5-2.
[2] For financial statements, meters that have been replaced by Smart Meters have been removed from fixed assets. For regulatory purposes, they are still included.

Table 2 - Accumulated Amortization, 2007 Estimate

Asset Group	2007 Opening Balance (A)	2007 Amortization Expense (B)	2007 Deletions (C)	2007 Ending Balance =A+B+C
Land and Buildings	($4,742)	($109)	$0	($4,851)
TS Primary Above 50	(7,444)	(745)	0	(8,188)
DS	(24,348)	(1,026)	0	(25,374)
Poles, Wires	(215,554)	(14,075)	0	(229,629)
Line Transformers	(75,063)	(3,888)	0	(78,950)
Services and Meters[1]	(40,965)	(5,162)	0	(46,127)
General Plant	(8,477)	(953)	0	(9,429)
Equipment	(22,189)	(2,457)	252	(24,394)
IT Assets	(25,147)	(8,737)	0	(33,883)
Other Distribution Assets	(6,021)	(593)	0	(6,614)
TOTAL	($429,950)	($37,743)	$252	($467,441)

Table 3 – Continuity of Fixed Assets, 2008 Forecast

Asset Group	2007 Ending Balance $000	2008 Capital Additions[2] $000	2008 Ending Balance $000
Land and Buildings	$13,715	$6,094	$19,809
TS Primary Above 50	38,429	10,657	49,086
DS	45,150	4,108	49,258
Poles, Wires	478,239	24,006	502,245
Line Transformers	142,336	6,787	149,123
Services and Meters[3]	158,410	18,972	177,382
General Plant	48,647	2,229	50,877
Equipment	40,257	3,048	43,304
IT Assets	73,956	3,892	77,848
Other Distribution Assets	13,909	1,093	15,002
Contributions and Grants	(107,514)	(15,253)	(122,767)
Amortization	(467,441)	(43,754)	(511,195)
TOTAL	$478,093	$21,878	$499,971

[1] Includes amortization on Stranded Meters which have been added back to the Rate Base.
[2] Calculation of Capital Additions is shown on Exhibit B3-5-2.
[3] For financial statements, meters that have been replaced by Smart Meters have been removed from fixed assets. For regulatory purposes, they are still included.

Table 4 - Accumulated Amortization, 2008 Forecast

Asset Group	2008 Opening Balance	2008 Amortization Expense[1]	2008 Ending Balance
Land and Buildings	($4,851)	($77)	(4,929)
TS Primary Above 50	(8,188)	(1,049)	(9,237)
DS	(25,374)	(1,148)	(26,522)
Poles, Wires	(229,629)	(14,766)	(244,395)
Line Transformers	(78,950)	(4,042)	(82,992)
Services and Meters	(46,127)	(5,118)	(51,245)
Stranded Meters	0	(4,535)	(4,535)
General Plant	(9,429)	(1,089)	(10,518)
Equipment	(24,394)	(2,912)	(27,305)
IT Assets	(33,883)	(8,237)	(42,120)
Other Distribution Assets	(6,614)	(782)	(7,396)
TOTAL	($467,441)	($43,754)	($511,195)

[1] Includes the amortization on Stranded Meters which have been added back to the Rate Base.

CONTINUITY OF CONSTRUCTION WORK IN PROGRESS, 2007 AND 2008

1.0 INTRODUCTION

Construction Work in Progress ("CIP") represents expenditures that have not yet been capitalized. Capital additions equal capital expenditures plus the previous year's CIP minus the current year's CIP, plus any deletions. Table 1 shows the continuity of CIP for 2007 Estimate and capital additions, in the groupings from the 2006 Electricity Distribution Rate Handbook.

Table 1 - Construction Work in Progress ("CIP"), 2007 Estimate

Asset Group	2006 CIP actual (A) $000	2006 Ending Balance (B) $000	2007 Capital Expenditures (C) $000	2007 CIP actual (D) $000	Deletions (E) $000	2007 Ending Balance =A+B+C+D+E $000
Land and Buildings	$1,365	$12,373	$2,681	$2,703		$13,715
TS Primary Above 50	3,701	29,990	9,791	5,053		38,429
DS	506	42,135	2,971	463		45,150
Poles, Wires	7,996	446,275	27,054	3,086		478,239
Line Transformers	3,124	131,094	9,049	932		142,336
Services and Meters	2,644	133,593	26,000	3,827		158,410
General Plant	691	45,577	2,506	127		48,647
Equipment	1,226	35,501	4,398	617	(252)	40,257
IT Assets	1,654	65,097	9,063	1,858	0	73,956
Other Distribution Assets	1,588	11,454	1,052	186	0	13,909
Contributions and Grants	(3,404)	(91,710)	(15,022)	(2,622)	0	(107,514)
Amortization		(429,950)	(37,743)		252	(467,441)
TOTAL	$21,091	$431,429	$41,802	$16,230	$0	$478,093

Table 2 shows the continuity of CIP for the 2008 Forecast and capital additions, in the groupings provided in the 2006 EDR Handbook.

Table 2 - Construction Work in Progress ("CIP"), 2008 Forecast

Asset Group	2007 CIP actual (A) $000	2007 Ending Balance (B) $000	2008 Capital Expenditures (C) $000	2008 CIP actual (D) $000	2008 Ending Balance =A+B+C-D $000
Land and Buildings	$2,703	13,715	$3,503	$112	$19,809
TS Primary Above 50	5,053	38,429	13,479	7,876	49,086
DS	463	45,150	4,422	778	49,258
Poles, Wires	3,086	478,239	24,264	3,345	502,245
Line Transformers	932	142,336	6,807	952	149,123
Services and Meters	3,827	158,410	18,066	2,921	177,382
General Plant	127	48,647	2,103	0	50,877
Equipment	617	40,257	3,002	571	43,304
IT Assets	1,858	73,956	5,060	3,027	77,848
Other Distribution Assets	186	13,909	1,088	181	15,002
Contributions and Grants	(2,622)	(107,514)	(15,345)	(2,714)	(122,767)
Amortization	0	(467,441)	(43,754)	0	(511,195)
TOTAL	$16,230	$478,093	$22,697	$17,049	$499,971

ALLOWANCE FOR WORKING CAPITAL

1.0 INTRODUCTION

This Exhibit provides a schedule of the Allowance for Working Capital for the bridge year (2007), using the actual to June, and the test year (2008). For comparison purposes, the approved and actual Allowance for Working Capital for the base year (2006) is also shown.

Table 1 – Allowance for Working Capital

	2006 Approved with SM[1] $000	2006 Actual $000	2007 Estimate $000	2008 Forecast $000
Power Supply Expenses		$541,817	$565,728	$558,895
OM&A Expenses		43,825	47,140	59,328
Total Expenses for Working Capital		585,642	612,868	618,223
Working Capital @ 15%	$93,223	$87,846	$91,930	$92,733

The Power Supply Expenses for 2008 of $558,894,683 are calculated in the following manner:

The forecasted monthly purchased kWh and peak kW produced by the load forecasting model described in Exhibit C1-2-1 were adjusted for the impact of Conservation and Demand Management activities, as per Section 3.0 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 $0.0610/kWh.

[1] The Allowance for Working Capital for 2006 Approved was a settled figure, not directly calculated.

The Wholesale Market Charge is determined from the total kWh purchased multiply by the estimated rate of $0.062. The wholesale one-time charges are based on historical levels. The forecasted kW monthly coincident peak is multiplied by historic percentages for each transmission charge to establish the kWs for those charges. The results are then multiplied by the appropriate rates.

Independent Electricity System Operator refunds or credits were calculated as the difference between the cost of power revenue based on two-tier pricing and the calculated cost of power based on the forecasted market price. This had the effect of lowering the forecast expense by $20.3M.

The Global Adjustment is calculated using 50% of the difference between the forecasted market price and the forecasted regulated price. A spreadsheet showing the calculation of the Power Supply Expenses for 2008 is attached.

On the financial statements, power supply expenses and revenues are set equal by reducing the higher of the two and recording the difference in the retail settlement variance accounts (“RSVAs”). For 2008, the power supply expenses are forecast to be higher than the power supply revenues by $4M; therefore, the expenses are lowered by this amount for financial reporting purposes. From a cost perspective, Hydro Ottawa has paid the higher amount and therefore this is included in the determination of the working capital allowance.

2008 Cost of Power

Power Purchases (kWh)	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEPT	OCT	NOV	DEC	Total
Total Load Forecast kWh	758,588,140	695,691,120	684,303,640	604,830,820	610,907,120	644,288,070	709,472,540	683,222,000	613,607,900	619,199,510	653,523,660	733,976,510	8,011,611,030
CDM Adjustment	5,514,667	5,514,667	5,514,667	5,514,667	5,514,667	5,514,667	5,514,667	5,514,667	5,514,667	5,514,667	5,514,667	5,514,667	66,176,000
Total wholesale kWh	753,073,473	690,176,453	678,788,973	599,316,153	605,392,453	638,773,403	703,957,873	677,707,333	608,093,233	613,684,843	648,008,993	728,461,843	7,945,435,030

Power Purchased (kW)	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEPT	OCT	NOV	DEC	Total
Power Purchases - coincident peak (kW)	1,371,460	1,311,160	1,202,030	1,056,660	1,107,520	1,330,930	1,413,910	1,360,810	1,203,350	1,122,270	1,204,300	1,322,460	15,006,860
CDM Adjustment	917	917	917	917	917	917	917	917	917	917	917	917	11,000
Total kW	1,370,543	1,310,243	1,201,113	1,055,743	1,106,603	1,330,013	1,412,993	1,359,893	1,202,433	1,121,353	1,203,383	1,321,543	14,995,860

kW Breakdown by Type	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEPT	OCT	NOV	DEC
Coincident System Peak	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Transmission Network Charge IMO	92.8%	92.8%	92.8%	92.8%	92.8%	92.8%	92.8%	92.8%	92.8%	92.8%	92.8%	92.8%
Transmission Transformation Charge IMO	81.5%	81.5%	81.5%	81.5%	81.5%	81.5%	81.5%	81.5%	81.5%	81.5%	81.5%	81.5%
Transmission Line Charge IMO	95.1%	95.1%	95.1%	95.1%	95.1%	95.1%	95.1%	95.1%	95.1%	95.1%	95.1%	95.1%
Transmission Network Charge HONI	7.7%	7.7%	7.7%	7.7%	7.7%	7.7%	7.7%	7.7%	7.7%	7.7%	7.7%	7.7%
Transmission Transformation Charge HONI	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%
Transmission Line Charge HONI	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%

	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEPT	OCT	NOV	DEC	TOTAL
Transmission Network Charge IMO	1,271,337	1,215,401	1,114,171	979,323	1,026,502	1,233,740	1,310,714	1,261,458	1,115,395	1,040,184	1,116,277	1,225,884	13,910,386
Transmission Transformation Charge IMO	1,117,359	1,068,199	979,228	860,713	902,178	1,084,316	1,151,967	1,108,677	980,305	914,203	981,079	1,077,411	12,225,634
Transmission Line Charge IMO	1,303,605	1,246,250	1,142,450	1,004,180	1,052,556	1,265,055	1,343,982	1,293,475	1,143,706	1,066,586	1,144,609	1,256,998	14,263,455
Transmission Network Charge HONI	105,106	100,482	92,113	80,965	84,865	101,998	108,362	104,290	92,214	85,996	92,287	101,349	1,150,026
Transmission Transformation Charge HONI	75,380	72,063	66,061	58,066	60,863	73,151	77,715	74,794	66,134	61,674	66,186	72,685	824,772
Transmission Line Charge HONI	34,347	32,836	30,101	26,458	27,733	33,332	35,411	34,080	30,134	28,102	30,158	33,119	375,813

RATES	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEPT	OCT	NOV	DEC
Commodity Charge	$0.0746	$0.0685	$0.0540	$0.0463	$0.0454	$0.0569	$0.0719	$0.0693	$0.0584	$0.0603	$0.0611	$0.0652
Transmission Network Charge IMO	$2.8300	$2.8300	$2.8300	$2.8300	$2.8300	$2.8300	$2.8300	$2.8300	$2.8300	$2.8300	$2.8300	$2.8300
Transmission Transformation Charge IMO	$1.5000	$1.5000	$1.5000	$1.5000	$1.5000	$1.5000	$1.5000	$1.5000	$1.5000	$1.5000	$1.5000	$1.5000
Transmission Line Charge IMO	$0.8200	$0.8200	$0.8200	$0.8200	$0.8200	$0.8200	$0.8200	$0.8200	$0.8200	$0.8200	$0.8200	$0.8200
Transmission Network Charge HONI	$2.6100	$2.6100	$2.6100	$2.6100	$2.6100	$2.6100	$2.6100	$2.6100	$2.6100	$2.6100	$2.6100	$2.6100
Transmission Transformation Charge HONI	$1.4300	$1.4300	$1.4300	$1.4300	$1.4300	$1.4300	$1.4300	$1.4300	$1.4300	$1.4300	$1.4300	$1.4300
Transmission Line Charge HONI	$0.7800	$0.7800	$0.7800	$0.7800	$0.7800	$0.7800	$0.7800	$0.7800	$0.7800	$0.7800	$0.7800	$0.7800
Wholesale Market Charge	$0.00620	$0.00620	$0.00620	$0.00620	$0.00620	$0.00620	$0.00620	$0.00620	$0.00620	$0.00620	$0.00620	$0.00620

Cost of Power	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEPT	OCT	NOV	DEC	TOTAL
Commodity Charge	$56,141,627	$47,263,284	$36,654,605	$27,724,365	$27,466,656	$36,333,431	$50,614,571	$46,944,787	$35,494,402	$37,017,470	$39,593,349	$47,502,997	$488,751,544
IESO Refunds	($7,602,895)	($4,527,705)	$1,087,826	$3,368,899	$3,560,910	$45,418	($5,712,115)	($4,359,903)	($369,640)	($1,016,280)	($1,427,958)	($3,387,861)	($20,341,306)
Commodity Charge with refunds	$48,538,732	$42,735,579	$37,742,430	$31,093,264	$31,027,565	$36,378,849	$44,902,456	$42,584,884	$35,124,762	$36,001,190	$38,165,391	$44,115,136	$468,410,238
Transmission Network Charge IMO	$3,597,883	$3,439,586	$3,153,103	$2,771,485	$2,905,000	$3,491,485	$3,709,320	$3,569,925	$3,156,569	$2,943,721	$3,159,063	$3,469,250	$39,366,392
Transmission Transformation Charge IMO	$1,676,039	$1,602,298	$1,468,843	$1,291,070	$1,353,266	$1,626,475	$1,727,951	$1,663,015	$1,470,457	$1,371,304	$1,471,619	$1,616,117	$18,338,451
Transmission Line Charge IMO	$1,068,956	$1,021,925	$936,809	$823,428	$863,096	$1,037,345	$1,102,065	$1,060,650	$937,839	$874,600	$938,580	$1,030,739	$11,696,033
Transmission Network Charge HONI	$274,328	$262,258	$240,415	$211,317	$221,498	$266,215	$282,824	$272,196	$240,679	$224,450	$240,869	$264,520	$3,001,568
Transmission Transformation Charge HONI	$107,793	$103,051	$94,468	$83,034	$87,034	$104,606	$111,132	$106,956	$94,571	$88,194	$94,646	$103,939	$1,179,424
Transmission Line Charge HONI	$26,791	$25,612	$23,479	$20,637	$21,631	$25,999	$27,621	$26,583	$23,505	$21,920	$23,523	$25,833	$293,134
Wholesale Market Charge	$4,669,056	$4,279,094	$4,208,492	$3,715,760	$3,753,433	$3,960,395	$4,364,539	$4,201,785	$3,770,178	$3,804,846	$4,017,656	$4,516,463	$49,261,697
IMO one-time charges	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$240,000
LV charges	$0	$0	$0	$0	$116,186	$116,186	$116,186	$116,186	$116,186	$116,186	$116,186	$116,186	$929,488
Total	$59,979,578	$53,489,403	$47,888,039	$40,029,996	$40,252,525	$46,911,368	$56,247,908	$53,505,993	$44,838,559	$45,350,226	$48,131,346	$55,161,998	$592,716,426
Rate for Global Adjustment	0.053												
Global Adjustment	($8,114,367)	($5,341,966)	($339,394)	$2,019,695	$2,309,572	($1,239,220)	($6,652,402)	($5,513,149)	($1,632,730)	($2,246,087)	($2,624,436)	($4,447,260)	($33,821,744)
Total Cost of Power	$51,865,211	$48,147,437	$47,548,644	$42,049,691	$42,562,097	$45,672,148	$49,595,506	$47,992,844	$43,205,829	$43,104,139	$45,506,910	$50,714,738	$558,894,683

ALLOWANCE FOR FUNDS USED DURING CONSTRUCTION

A financing charge, referred to as Allowance for Funds Used During Construction ("AFUDC"), will be applied against projects with construction durations greater than 2 months. The AFUDC is at the rate deemed by the Board for rate-setting purposes, and is capitalized.

Table 1 – AFUDC Applied to 2008 Capital Projects

Capital Project	AFUDC	Refer to Exhibit for Project Details
Carling Operation Centre, Facility	$1,957	B3-4-2, Section 1.2
Bank St. Building, Facility	3,000	B3-4-2, Section 1.2
Maple Grove Buildings, Facility	3,587	B3-4-2, Section 1.2
Merivale Building, Facility	5,544	B3-4-2, Section 1.2
Additional Uplands Station Transformer, Station Building	8,262	B3-4-1, Section 1.4
Albion Building, Facility	13,915	B3-4-2, Section 1.2
CIS Enhancements	17,768	B1-2-6
Stations Building Rehabilitation	17,220	B3-4-1, Section 1.4
New Albion Station, Station Building	20,437	B3-4-1, Section 1.4
Stations Transformer Replacement	21,274	B3-4-1, Section 1.11
Stations Switchgear Replacement	169,191	B3-4-1, Section 1.2
Stations Capacity: New Albion Station and Additional Uplands Transformer, Station Buildings	165,243	B3-4-1, Section 1.1
Stations New Capacity: Cyrville MTS	247,612	B2-3-1, Section 1.8
TOTAL	$695,010	

CAPITAL ADJUSTMENT FACTOR

1.0 INTRODUCTION

The Board Filing Requirements, issued on November 14, 2006 state: "recognizing that rebasing may occur every three years, a distributor may consider applying for deferral accounts for capital works during the non-rebasing years to collect the cost of construction"[1]. For a distributor rebasing in 2008, deferral accounts would presumably allow the recording of the return, amortization and Payment in Lieu of Taxes ("PILs") relate to capital additions in 2009 and 2010. The distributor would be required to justify the spending before being allowed to recover the funds from their customers. The inclusion of this option in the Board Filing Requirements supports the position of many LDCs that annual adjustments for capital are an important part of setting just and reasonable rates.

Instead of seeking an accounting order for a capital deferral account, Hydro Ottawa is seeking approval of its 2009 and 2010 forecast of capital expenditures. Exhibits B4-2-1, B4-3-1 and B4-3-2 provide and describe these forecasts. Hydro Ottawa is then proposing that a capital adjustment factor be applied to its rates in 2009 and 2010 in conjunction with the third generation incentive regulation mechanism ("3GIRM"). A methodology for calculating a capital adjustment factor that would be applied to the previous year's rates is proposed.

Hydro Ottawa is requesting approval of the 2009 and 2010 capital additions, plus the methodology for developing the capital adjustment factor, in order to recover the cost of the planned investment in the distribution system. The capital adjustment factor would be less burdensome for the regulator than a full cost of service study in each year.

During the proceeding for the second-generation incentive regulation mechanism ("2GIRM"), a capital adjustment factor was proposed by Hydro One Networks Inc. One of

[1] Pg. 7, the Board Filing Requirements, November 14, 2006

the concerns expressed by other parties was that it was based on a prior year capital plan, not the capital plan for the year in which rates will be set. To alleviate this concern, Hydro Ottawa is filing its 2009 and 2010 capital plans so that they may be reviewed and approved by the Board.

2.0 CAPITAL PLAN FOR 2009 AND 2010

Exhibit B4-2-1 provides details of the proposed capital expenditures of $80,077k in 2009 and $75,201k in 2010 and explains programs/projects with material variances from 2008 to 2009 and 2010. Exhibits B4-3-1 and B4-3-2 provide justification for programs/projects greater than a materiality of $500k for Distribution projects and $100k for General Plant projects for 2009 and 2010.

3.0 METHODOLOGY FOR CAPITAL ADJUSTMENT FACTOR

Attached is a spreadsheet that sets out a methodology for calculating a capital adjustment factor that would be applied to rates at the same time as the 3GIRM adjustments. Calculation of the adjustment factor would be based on the following considerations:

- The revenue requirement resulting from capital expenditures in non-rebasing years includes the return on rate base, amortization and PILs.
- Smart Meters and stranded meters are not included since it is anticipated that the Board will still review rates annually for all Smart Meter related costs.
- The capital adjustment factor is net of the forecasted load growth.
- The capital adjustment factor would not apply to Operating, Maintenance and Administration (“OM&A”) expenses or the Working Capital Allowance.
- The capital adjustment factor is separate and distinct from the 3GIRM factor, which is still to be set by the Board.

- Hydro Ottawa recognizes that should the Board's approved ROE be updated yearly, the proposed capital adjustment factor would also be updated, as would other inputs such as the tax rate should they change.
- The capital adjustment factor would only apply to the portion of the revenue requirement that is related to capital expenditures.

Incorporating the proposed 2009 and 2010 capital expenditures with Smart Meters and Stranded Meters removed into the rate base, and then adjusting for growth, results in a capital adjustment factor ("CAF") of 0.0349 for 2009 and 0.0328 for 2010, as shown on the attached spreadsheet.

As this factor will only apply to the capital portion of rates, it is necessary to determine the percentage of the base revenue requirement (and hence rates) that is related to capital. For Hydro Ottawa's base revenue requirement of $147,951k in 2008, $59,328k, or 40.1%, is OM&A and 59.9% is based on capital.

The factor to apply to rates = 1 + (CRR x CAF + ORR x 3GIRM)
where:
CRR = 59.9%, the percentage of revenue requirement related to capital
CAF = the capital adjustment factor
ORR = 40.1%, the percentage of revenue requirement related to OM&A
3GIRM = Board determined factor for the 3rd generation incentive regulation mechanism.

For 2009 the factor to apply to 2008 rates would be: 1 + (59.9% x 0.0349 + 40.1% x 3GIRM). If 3GIRM = 0 (for instance if a productivity factor was equal to an inflation factor), the factor to apply to rates would be 1.021.

For 2010 the factor to apply to 2009 rates would be: 1 +(59.9% x 0.0328 + 40.1% x 3GIRM). If 3GIRM = 0, the factor to apply to rates would be 1.020.

INPUTS:	2008	2009 Additions	2010 Additions	NOTES
Equity	40%	40%	40%	Inputs can be updated as required
Debt - long term	56%	56%	56%	
Debt - short term	4%	4%	4%	
Return on Equity	8.81%	8.81%	8.81%	
Debt Rate	5.26%	5.26%	5.26%	
Debt Rate	4.93%	4.93%	4.93%	
Cost of Capital	6.67%	6.67%	6.67%	
Tax Rate	34.50%	34.50%	34.50%	
BASE REVENUE REQUIREMENT FOR CAPITAL ADJUSTMENT FACTOR				
Incremental Net Fixed Assets	$13,866,711	$23,940,349	$17,553,002	Smart Meters ("SM") and Stranded Meters have been removed
Incremental Average Net Fixed Assets		$18,903,530	$20,746,676	
Return on incremental increase in Rate Base		$1,260,049	$1,382,907	
Incremental Amortization on new Assets		$1,766,375	$1,775,696	Amortization on SM and Stranded Meters have been removed
Net Income		$666,160	$731,113	
PILS		$350,878	$385,090	
TOTAL increase in revenue requirement		$3,377,303	$3,543,693	
Non OM&A Revenue Requirement	$88,622,681	$91,999,984	$95,543,677	
Percentage Increase		3.81%	3.85%	
Minus growth in load (net of CDM)		0.32%	0.57%	Remove increase in Revenue due to increase in load
Net		3.49%	3.28%	Net increase
Capital Adjustment Factor (CAF)		0.0349	0.0328	

OM&A	$59,328,061
Base Revenue Requirement	$147,951,054
OM&A Revenue Requirement %	40.10%
Capital Revenue Requirement %	59.90%

Factor to apply to rates = 1 + (Capital Revenue Requirement % * CAF + OM&A Revenue Requirement % * 3GIRM)
if 3GIRM = 0

Factor to apply to 2008 rates	1.021
Factor to apply to 2009 rates	1.020

COMPARISON OF CAPITAL SPENDING 2009 and 2010 VERSUS 2008

1.0 INTRODUCTION

Table 1 provides details of capital expenditures for 2009 and 2010 compared to the previous year.

Table 1 – 2009 and 2010 Capital Expenditures

Capital Expenditures	2008 $000	2009 $000	Variance 2009 versus 2008 $000	2010 $000	Variance 2010 versus 2009 $000
Land & Buildings	$3,503	$2,443	($1,061)	$3,341	$898
TS > 50 kW	13,479	9,048	(4,431)	10,842	1,793
DS	4,422	4,231	(191)	3,820	(412)
Poles and Wires	24,264	28,539	4,274	28,677	139
Transformers	6,807	7,504	697	7,546	42
Services and Meters	18,066	16,301	(1,765)	11,093	(5,208)
General Plant	2,103	1,639	(463)	1,672	33
Equipment	3,002	2,707	(295)	3,390	683
IT Assets	5,060	6,615	1,555	3,827	(2,788)
Other Distribution Assets	1,088	1,050	(39)	994	(55)
Total	$81,796	$80,077	($1,718)	$75,201	($4,876)

Hydro Ottawa plans and budgets work by program and project therefore the above variances will be explained in terms of these programs/projects. The Board's Filing Requirements, issued November 14, 2006, states that a written explanation is required for rate base related information when there is a variance greater than a materiality of 1% of total net fixed assets. In 2006, Hydro Ottawa's total net fixed assets were $448M, resulting in a materiality threshold of $4.48M. Hydro Ottawa has chosen to use materiality thresholds of $500k for Distribution Capital programs/projects and $100k for General Plant programs/projects in order to provide a more detailed explanation of variances.

Table 2 – Distribution Capital Program Expenditures, Sustainment

	Capital Expenditures	2008 $000	2009 $000	Variance 2009 versus 2008 $000	2010 $000	Variance 2010 versus 2009 $000
2.1	Stations Capacity	$9,277	$4,624	($4,654)	$6,090	$1,467
2.2	Stations Enhancement	1,851	1,773	(78)	1,261	(513)
2.3	Distribution Asset	10,856	15,385	4,528	14,193	(1,192)
2.4	Distribution Enhancement	4,592	5,426	834	5,494	68
2.5	Facilities Programs - Stations	3,504	2,389	(1,115)	3,204	815

Table 3 – Distribution Capital Program Expenditures, Demand

	Capital Expenditures	2008 $000	2009 $000	Variance 2009 versus 2008 $000	2010 $000	Variance 2010 versus 2009 $000
3.1	Commercial	$5,811	$4,684	($1,128)	$4,592	($92)
3.2	Smart Meters	9,684	7,043	0	1,460	0
3.3	Wholesale Metering	506	1,135	628	1,112	(22)

Table 4 – General Plant Capital Expenditures

	Capital Expenditures	2008 $000	2009 $000	Variance 2009 versus 2008 $000	2010 $000	Variance 2010 versus 2009 $000
4.1	Buildings - Facilities	$2,102	$1,603	($499)	$1,604	$1
4.2	Fleet Replacement	1,693	1,463	(230)	2,068	605
4.3	CIS Enhancements	2,722	4,662	1,940	1,002	(3,660)
4.4	New PC and Peripherals	370	198	(171)	198	0
4.5	Website Enhancements	392	97	(294)	97	0
4.6	Information Services and Technology	719	837	119	1,680	842

2.0 DISTRIBUTION CAPITAL PROGRAM EXPENDITURES, SUSTAINMENT

One of the goals of the distribution capital planning process is to avoid large yearly variances in the total distribution capital expenditures. Rather, the distribution capital plan is developed within a spending envelope that will meet the operational needs of the company while considering financial prudence.

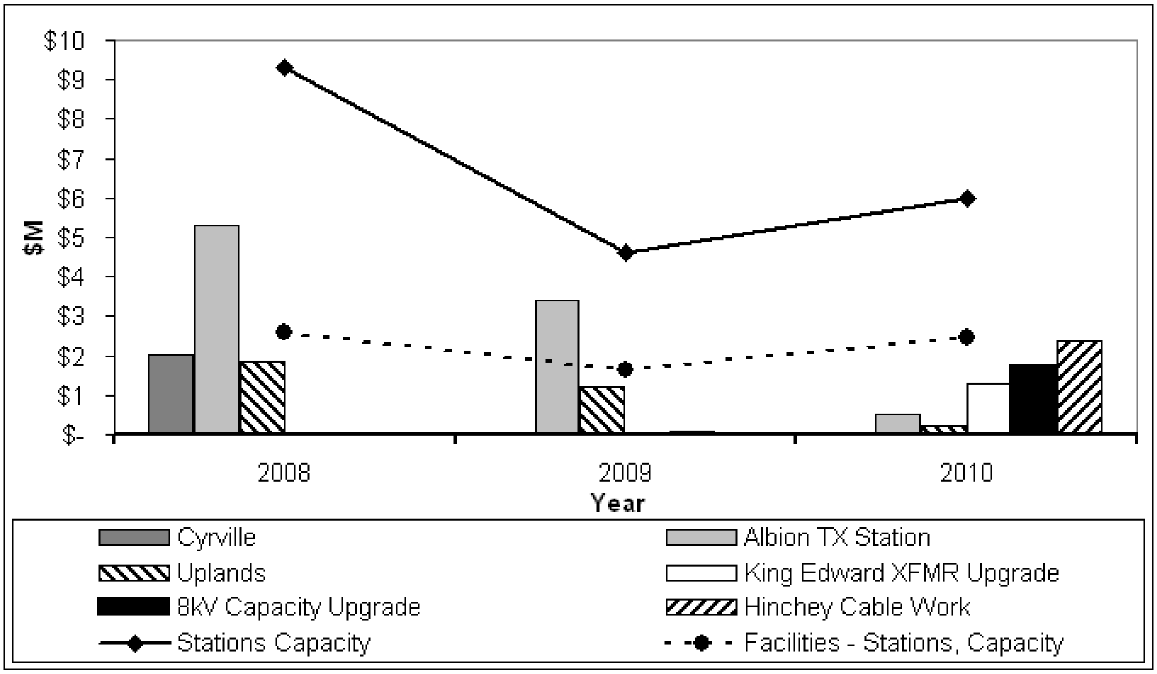
As described in Section 2.2 below, the Stations Capacity capital program expenditures often vary significantly from year to year, in the order of millions of dollars. Hydro Ottawa's approach to balance the capital expenditures is to balance the Stations Capacity capital program with the Distribution Asset and Distribution Enhancement capital program. The total expenditures for these capital programs are set at levels that, over time, will provide sufficient investment in all categories.

2.1 Stations Capacity

Variances in the Stations Capacity capital program are primarily due to the substation asset class being discrete assets, versus pooled assets such as poles. With the relatively low number of substation construction projects each year and the significant costs of each construction, the spending can fluctuate materially year to year depending on the capacity growth requirements. Substations are much different than a pooled asset, such as poles. There are tens of thousands of poles installed at a low cost (in the order of thousands), and of which there are hundreds replaced and installed each year.

Stations Capacity expenditures are summarized below for 2008 through 2010. The expenditures for Facilities Programs – Stations, related to the construction of additional or expanded substations are also included below, as the land and structures are an integral part of the overall capacity projects. Planning for Stations Capacity and Facilities Programs – Stations capital programs are coordinated to meet the project deliverables.

Figure 1 – Stations Capacity and Related Facilities Programs – Stations Expenditures



The justifications for the individual projects are within the year the construction commences.

2.2 Stations Enhancement

Stations Enhancements continue in 2009 and 2010 as described in Exhibit B1-2-2, with ongoing Station Circuit Breaker Control Refurbishment, and other smaller scale enhancement projects. The Capital Program decreases in 2010 as the Station Circuit Breaker control Refurbishment project is completed mid-year.

2.3 Distribution Asset

Distribution Asset Capital Program continues in 2009 and 2010. Renewal of the distribution infrastructure is vital to the performance and safety of the distribution system.

The distribution asset expenditures are lower in 2008 due to the increased expenditures in the Stations Capacity capital program. The expenditures for 2009 and 2010 set at a level that over time will provide sufficient investment.

2.4 Distribution Enhancement

Distribution Enhancement programs continue in 2009 and 2010. The distribution enhancement expenditures are lower in 2008 due to the increased expenditures in the Stations Capacity capital program. The expenditures for 2009 and 2010 are set at a level that over time will provide sufficient investment.

2.5 Facilities Programs - Stations

Facilities Programs – Stations capital program consists of station building rehabilitation, as well as land purchases and buildings construction to support the construction of Stations Capacity capital programs.

As per the description in section 2.2 above, the Stations Capacity capital program expenditures fluctuate from year to year. As a result, the portion of the Facilities Programs Stations that supports the Stations Capacity Capital program fluctuates as well. Land purchases are forecast for future years, however the exact location of the land for a capacity project is selected based on the area requiring capacity increases, location of the transmission supply and the environmental assessment process where applicable.

3.0 DISTRIBUTION CAPITAL PROGRAM EXPENDITURES, DEMAND

Demand expenditures are primarily dependent on the local economy and on various levels of government funding. Demand work involves construction of new services, construction of infrastructure to meet the requirements of new customers, relocation of plant for private and public construction, and to meet specific regulatory requirements.

Forecasting the volumes and expenditures of demand work is based on such background knowledge as the Load Forecast (Exhibit C1-2-1), historic activity levels, developer inquiries, City circulations (site plans, zoning amendments), government initiatives, and residential and commercial vacancy rates.

Despite best efforts to forecast accurately, there are many factors that may alter the Capital Program expenditures;

- The City establishes a road works program for each year. The road works plan is often not finalized until the year in which the works will occur, so Hydro Ottawa does not have an the ability to accurately forecast based on City plans.
- Changes to the local economy, such as the downturn in high-tech in the early 2000s.
- New government initiatives, such as development subsidies for brown fields or green generation.
- Major infrastructure projects, such as installation of a mass transit system or highway widening.

Hydro Ottawa is obligated to respond to demand-based activities.

3.0.1 Growth

Table 4.0 of The Load Forecast contained in Exhibit C1-2-1, forecasts the number of additional customers per year. Customer numbers are forecast to increase around 0.11% per year in the commercial class and 2.3% per year in the customer class between 2008 and 2011.

New residential customers are added to Hydro Ottawa's distribution system through construction in the following Capital Programs:

- Infills and Upgrades,
- New Residential Subdivisions, and
- New Commercial Services in the case of multi-unit buildings which require larger services.

Hydro Ottawa's construction activities for New Residential Subdivisions occur prior to actual residence construction and occupation.

New commercial customers are added to Hydro Ottawa's distribution system through construction of the following Capital Programs:

- New Commercial Services and
- Infill and Upgrades.

3.1 Commercial Development

Although commercial developments are forecast to remain strong in 2009 and 2010, there is a decrease in the forecast expenditures in this category. With the completion of some significant commercial developments, Hydro Ottawa is expecting a reduction in requests for large developments.

3.2 Smart Meters

Refer to Exhibit D3-1-1 for information on Smart Meter Program.

3.3 Wholesale Metering

Over the past years Hydro Ottawa has taken ownership of the wholesale metering at a number of 13kV stations, per the *Market Rules* administered by the Independent Electricity System Operator. The next stage of the wholesale metering program is to review this equipment, and determine the upgrades required to meet the Market Rules. Generally this requires the upgrade of metering sensors (potential transformers and current transformers). The plans for 2009 and 2010 are to address the requirements of these stations. Project carry over from 2008 will also occur in 2009.

4.0 GENERAL PLANT CAPITAL EXPENDITURES

4.1 Buildings – Facilities

In 2008, spending focussed on the capital replacements and upgrades at administrative buildings. The continued return of the Building Facilities expenditures towards normal yearly lifecycle capital spending resulted in the decreased forecast for 2009. The 2009 and 2010 expenditures are at a level consistent with buildings lifecycle capital work.

4.2 Fleet Replacement

Fleet purchases continue in 2009 and 2010 based on the lifecycle asset management of the existing fleet and changing user requirements. Fluctuations on yearly expenditures are based on the requirements of this yearly purchase plan.

4.3 CIS Enhancements

The CIS Version upgrade project (Refer to Exhibit B1-2-6) will start in 2008 and continue into 2009. The project schedule includes more expenditures in 2009 than in 2008, resulting in the variance between the years. The project will be completed in 2009.

The 2010 forecast is based on the anticipated requirements to implement ongoing regulatory changes and business efficiency improvements. Spending levels are similar to those from past years.

4.4 New PC and Peripherals

The financial reporting tool project (Refer to Exhibit B3-3-2) will be completed in 2008. Expenditures for New PCs and Peripherals are forecast to return to historical based levels of spending.

4.5 Website Enhancements

The 2008 Forecast expenditures for Website Enhancements included a significant project for the development of a web service portal that will allow customers to access time-of-use consumption information, as described in Exhibit B3-4-2. The project will be completed within 2008. Expenditures for 2009 and 2010 are based on ongoing content and technology updates, and are in line with the spending from previous years.

4.6 Information Services and Technology

In 2009, an upgrade to Microsoft Office Suite is planned, resulting in an increase in the forecast expenditures from 2008.

In 2010, an upgrade to the JDE software commences, resulting in an increase in the forecast expenditures. Refer to Exhibit B4-3-2 for additional information on the project.

DISTRIBUTION CAPITAL EXPENDITURE PROGRAMS/PROJECTS, 2009 and 2010

1.0 INTRODUCTION

Tables 1 and 2 list programs/projects that exceed the materiality limit of $500k. A justification 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 – Distribution Capital Program Expenditures, Sustainment

	Capital Expenditures	2009 $000	2010 $000
2.1	Stations Asset	$6,478	$6,606
2.2	Stations Capacity	4,624	6,090
2.3	Stations Enhancement	1,773	1,261
2.4	Distribution Asset	15,385	14,193
2.5	Distribution Enhancement	5,426	5,494
2.6	System Ops. Automation	780	710
2.7	Facilities Programs - Stations	2,389	3,204

Table 2 – Distribution Capital Program Expenditures, Demand

	Capital Expenditures	2009 $000	2010 $000
3.1	Plant Relocation	$4,316	$4,564
3.2	Residential Subdivisions	8,171	8,583
3.3	Commercial Development	4,684	4,592
3.4	System Expansion	2,031	2,036
3.5	Infill and Upgrade	2,586	2,897
3.6	Damage To Plant	555	545
3.7	Smart Meters	7,043	1,460
3.8	Wholesale Metering	1,135	1,112

2.0 DISTRIBUTION CAPITAL PROGRAM EXPENDITURES, SUSTAINMENT

2.1 Stations Asset

Investment in Station Assets will continue in 2009 and 2010 through such programs as Station Transformer Replacement and Station Switchgear Replacement. These projects are identified and prioritized through the methodologies described in Exhibit B1-2-2, Sections 2.4 and 2.5.

Hydro Ottawa has a plan identified for Station Switchgear and Station Transformer Replacement; however, the condition and performance of the assets is monitored to evaluate the timeliness and prudence of the expenditures.

2.2 Stations Capacity

Stations Capacity capital program expenditures continue in 2009. Construction of the new Albion Substation and the expansion of the Uplands Substation continue in 2009 as these are multi-year projects. The justifications for these projects are located in Exhibit B3-3-1 (Refer to Station Capacity, Ottawa South East 13 kV Area and South Nepean and South Gloucester 27.6 kV area).

In 2010, the new Albion Substation and the expansion of the Uplands Substation will be completed. Additional Stations Capacity capital program projects, as described below, commence in 2010 to address capacity issues in two distinct planning areas.

<u>Nepean 8 kV</u>

The demand of the 8 kV distribution in Nepean is nearing the capacity limit. The need for the construction of a solution has been identified to begin in 2010; however, at this time the solution has not yet been finalized. The Operational Planning Committee is preparing an analysis of the options.

Ottawa Core 13 kV

The demand on the 13 kV distribution system in the Ottawa core is nearing the capacity limit.

The King Edward station is one of the 13 kV supplies for the Ottawa core. There are two transformers in the station, one is rated at 60/80MW and the other is rated at 45/75MW. Replacing the smaller King Edward transformer with a unit that matches the larger transformer will provide additional capacity in the Ottawa core. This is a cost effective project as the land, buildings, land zoning, transmission and distribution infrastructure are already in place to accommodate the transformer upgrade. Hydro Ottawa's expenditures on this project will be in the form of a net payment to Hydro One, who owns the transformers.

Lisgar and Slater substations, which also supply the Ottawa core, are nearing their capacity. The Hinchey station is located a short distance away and has the capacity to supply some of the load currently supplied by Slater and Lisgar stations. This project involves cable work to transfer some 13 kV load in the downtown from Slater and Lisgar stations to the Hinchey station.

2.3 Stations Enhancements

Stations Enhancements continue in 2009 and 2010 as described in Exhibit B1-2-2, with ongoing Station Circuit Breaker Control Refurbishment, and other smaller scale enhancement projects. The Station Circuit Breaker Control Refurbishment project will be completed in 2010.

2.4 Distribution Asset

Investments in Distribution Assets will continue in 2009 and 2010 as described in Exhibit B1-2-2. Investment in the distribution infrastructure will include the following budget programs:

- Cable Replacement,
- Pole Replacement,
- Insulator Replacement,
- Plant Failure Capital, and
- Civil Rehabilitation Program.

The most up to date outage and performance information will be used to determine the priority of each budget program.

2.5 Distribution Enhancement

The Distribution Enhancement capital program will continue in 2009 and 2010 as described in Exhibit B1-2-2. Investment in the distribution infrastructure will include the following budget programs;

- Line Extensions,
- System Reliability, and
- Distribution Enhancements.

2.6 System Ops Automation

The System Operations Automation program will continue as described in Exhibit B1-2-2. Two significant multi-year projects started in 2008 will continue in 2009 and 2010.

- Replacement of Quindar Remote Terminal Units ("RTUs") with DNP3 RTUs in air-break switches, reclosures and other various operable devices in the distribution system.
- Extend Supervisory Control and Data Acquisition ("SCADA") system to unmonitored parts of the distribution system by installing new, or upgrading existing, supervisory equipment at wholesale supply points embedded within Hydro One owned distribution circuits or facilities. The upgraded SCADA system is capable of handling the extra communications and data.

2.7 Facility Programs – Stations

Stations Building Rehabilitation

- This preventative maintenance program will continue in 2009 and 2010 to ensure station buildings are able to meet the needs for years to come. Roof, door and window replacements at various stations, as required, are included in this program. Also included are the installation of energy efficient equipment, lighting fixtures and low flush toilets.

Stations Capacity related Facilities projects

As described in Exhibit B4-2-1, Stations Capacity work will continue in 2009. Land purchases and facilities construction are an integral part of the overall capacity projects.

- In 2009 a new building will be constructed at the existing Woodroffe Station in Nepean as part of a Stations Assets project; the outdoor metal-clad switchgear will be replaced with indoor switchgear.
- In 2010 land will be purchased to construct a substation building to accommodate station switchgear and transformers to distribute electricity in the south Nepean area. (The substation construction is planned after 2010)

- In 2010 land will be purchased to construct a substation building to accommodate station switchgear and transformers to distribute electricity in the south Kanata area (The substation construction is planned after 2010).

3.0 DISTRIBUTION CAPITAL PROGRAM EXPENDITURES, DEMAND

Hydro Ottawa has an obligation to perform demand activities, once applicable technical and financial requirements are met. Refer to Exhibit B4-2-1, Sections 3.0 and 3.0.1 for explanations of the expenditures forecast for demand programs in 2009 and 2010.

- Hydro Ottawa must relocate plant at the request of the road right-of-way authority, that is, the City of Ottawa and the Village of Casselman.
- New services must be connected for new customers, as Hydro Ottawa is the only Licensed Distributor in its service area.
- Damage to Plant must be addressed for worker and public safety.
- Smart Meters, Remote Disconnect Smart Meters and Wholesale Metering projects must be completed to meet the requirements of regulators.

City projects are defined in the year they occur and consequently, Hydro Ottawa forecasts levels of activity, rather than detailing exact projects. Multi-year projects are known about, for example, the King Edward project is scheduled to continue into 2011

GENERAL PLANT CAPITAL EXPENDITURE PROGRAMS/PROJECTS, 2009 and 2010

1.0 INTRODUCTION

The following table lists programs/projects that exceed the materiality limit of $100k. 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 Capital Expenditures

	Capital Expenditures	2009 $000	2010 $000
2.1	CIS Enhancements	4,662	1,002
2.2	Buildings - Facilities	1,603	1,604
2.3	Fleet Replacement	1,463	2,068
2.4	Tools Replacement	996	996
2.5	Information Services and Technology	837	1,680
2.6	Geographic Resource Management System Enhancements	481	492
2.7	PC/Peripheral Replacement Program	217	217
2.8	New PC and Peripherals	198	198
2.9	Furniture and Equipment	190	190

2.0 GENERAL PLANT CAPITAL EXPDENTIDURES

2.1 CIS Enhancements

In 2008 a CIS Version Upgrade Project will be commenced which will continue into 2009. The project will be completed in 2009. Refer to Exhibit B1-2-6 for addition information. The CIS development in 2010 will be in response to continued evolving regulatory requirements and continued focus on improving business efficiencies.

2.2 Buildings - Facilities

There are five main work centers occupied by Hydro Ottawa, which are located at Albion Road, Merivale Road, Bank Street, Maple Grove Road and Carling Avenue. The capital expenditures in 2009 and 2010 include the following.

Albion Road Miscellaneous Construction

- Miscellaneous general repairs include doors, windows, electrical, civil construction and HVAC equipment replacement.
- Security system upgrade.

Bank Street Miscellaneous Construction

- Miscellaneous general repairs include doors, windows and electrical upgrade.
- Security system upgrade.

Merivale Road Miscellaneous Construction

- Miscellaneous general repairs include doors, windows and electrical upgrades.
- Security upgrade

2.3 Fleet Replacement

Vehicle replacements and additions continue in 2009 and 2010 per the replacement plan described in the Fleet Strategy in Exhibit B1-2-5.

2.4 Tools Replacement

Hydro Ottawa's work force requires tools for ongoing operation, construction, maintenance and repair of its distribution system and fleet. Tools are integral for staff to perform work safety and efficiently.

Some of the tools Hydro Ottawa staff use are commonly recognized tools such as wrenches and ladders, whereas, other tools are industry specific, such as insulated live line tools. Hydro Ottawa's trades staff work in proximity to dangerous voltage levels, at heights, in confined spaces and in all kinds of weather. Having the appropriate protective devices and tools is critical to the safety of personnel.

Tool replacement will continue in 2009 and 2010 to meet the operational and safety requirements of staff.

2.5 Information Services and Technology

Hydro Ottawa will continue to maintain and improve appropriate system security, redundancy, reliability, availability, lifecycle management of IT equipment and related services. Increased acquisition of software, hardware, systems and services will be made to support the ongoing demands of the business.

Replacement of network servers and switches, acquisition of security applications, storage networks, training tools, monitoring tools and software as well as enhancements to the telecommunications system are part of the overall support plan to meet expanding requirements of the business.

In 2003, Hydro Ottawa adopted JD Edwards as its financial management system. With the necessary business processes and policy and procedures now documented within this system, further upgrades are now necessary to retain vendor-managed warranties and support. The two-year upgrade project will commence in 2010.

2.6 Geographic Resource Management System Enhancements

The 2009 and 2010 capital budgets makes use of the existing Geographic Information System (“GIS”) and Outage Management System (“OMS”) to provide greater operational efficiencies.

2.7 PC/Peripheral Replacement Program

Hydro Ottawa will continue to maintain appropriate lifecycle management of IT equipment. Under this program desktops, laptops, and printers that had reached end-of-life will be scheduled for replacement.

2.8 New PC and Peripherals

New PCs and Peripherals expenditures include additions to the “computer equipment” at Hydro Ottawa. Typical expenditures include PCs for new staff, newly identified printer and plotter requirements, new software and upgrades to existing equipment to make staff more portable.

2.9 Furniture and Equipment

This includes existing aged furniture replacement, such as chairs with new ergonomic models and minor move adds and changes.

THROUGHPUT REVENUE

1.0 INTRODUCTION

Exhibit C1-1-1 provides throughput revenue showing volumes, revenues, unit revenues and customer count by rate class for:

- 2006 Board-approved
- 2006 Actual
- 2006 Actual normalized
- 2007 Estimate
- 2007 Estimate normalized
- 2008 Forecast

The throughput revenue for 2008 is calculated using the load forecast provided in Exhibit C1-1-2. Table 1 below shows the volumes, Table 2 shows the customer counts and Table 3 shows the revenues.

Table 1 –Volumes

With Smart Meters	2006 Approved	2006 Actual	2006 Normalized	2007 4Normalized/8	2007 4Actual/8	2008
Sales (kWh)						
Residential	2,301,294,515	2,226,390,833	2,264,787,144	2,296,144,691	2,246,091,074	2,251,011,794
General Service <50kW	772,588,479	747,491,213	745,302,405	769,081,540	752,920,405	773,402,407
General Service 50-1500kW	3,101,900,398	2,963,910,130	3,024,891,569	3,074,061,951	3,077,767,029	1,858,148,586
General Service 1500-5000kW	754,640,299	821,669,334	832,749,490	829,979,240	820,691,390	2,092,542,937
Large Use	670,343,906	654,954,633	663,300,700	652,102,924	645,711,740	648,616,244
Street Lighting	38,228,992	36,132,554	39,042,010	40,028,031	39,814,060	40,114,500
Sentinel Lights	90,794	92,512	92,512	92,512	92,512	92,512
Unmetered Scattered Load	17,987,072	12,722,211	12,911,700	20,402,203	20,304,400	20,244,150
Total	7,657,074,455	7,463,363,420	7,583,077,530	7,681,893,092	7,603,392,610	7,684,173,130
Sales (kW)						
General Service 50-1500kW	7,516,923	7,416,114	7,159,172	7,154,976	7,191,965	7,373,199
General Service 1500-5000kW	1,605,452	1,754,007	1,752,702	1,763,198	1,746,829	1,757,782
Large Use	1,222,386	1,184,284	1,180,104	1,171,152	1,171,899	1,167,362
Street Lighting	105,344	105,737	105,451	107,119	107,186	107,220
Sentinel Lights	252	257	257	257	257	257
Total	10,450,105	10,460,141	10,197,429	10,196,445	10,217,878	10,405,821
Standby Charge (kW)						
General Service 50-1500kW	15,000	0	0	0	0	15,000
General Service 1500-5000kW	120,960	0	0	0	0	144,960
Large Use	4,800	0	0	0	0	4,800
Total	140,760	0	0	0	0	164,760

Table 2 – Customers/Connections

With Smart Meters	2006 Approved	2006 Actual	2006 Normalized	2007 4Normalized/8	2007 4Actual/8	2008
Number of Customers	June 06[1]	June 06	June 06	June 07	June 07	June 08
Residential	254,379	253,921	253,921	258,250	258,695	263,821
General Service <50kW	23,382	23,108	23,108	23,044	23,044	23,051
General Service 50-1500kW	3,137	3,196	3,196	3,264	3,267	3,295
General Service 1500-5000kW	65	78	78	79	79	81
Large Use	10	11	11	11	11	11
Total	280,973	280,314	280,314	284,649	285,097	290,258
Number of Standby Customers						
General Service 50-1500kW	3	0	0	0	0	3
General Service 1500-5000kW	4	0	0	0	0	5
Large Use	1	0	0	0	0	1
Total	8	0	0	0	0	9
Number of Connections						
Street Lighting	45,763	46,078	46,078	46,523	46,523	47,188
Sentinel Lights	125	97	97	95	95	95
Unmetered Scattered Load	2,821	2488	2488	3,115	3,115	3,115
Total	48,709	48,663	48,663	49,732	49,732	50,398

[1] June numbers shown, however throughput revenue calculated on a monthly basis using monthly customer and connection numbers.

Table 3 – Throughput Revenue

	2006 Approved	2006 Actual	2006 Normalized	2007 4Normalized/8	2007 4Actual/8	2008
Residential	$65,937,638	$61,735,313	$62,450,918	$69,212,067	$68,301,091	$78,168,914
General Service <50kW	16,452,794	15,194,909	15,172,891	16,579,529	16,290,245	19,601,077
General Service 50-1500kW	28,384,933	27,495,472	26,844,680	27,982,307	28,076,090	34,391,468
General Service 1500-5000kW	6,969,121	7,238,176	7,235,550	7,903,443	7,865,372	9,810,229
Large Use	4,888,215	4,710,042	4,699,330	4,935,822	4,937,750	5,944,307
Street Lighting	434,507	419,121	418,418	442,532	442,695	536,494
Sentinel Lights	4,110	3,428	3,428	3,553	3,553	4,248
Unmetered Scattered Load	485,964	394,245	389,879	546,101	544,243	657,782
Total[1]	$123,557,283	$117,190,706	$117,215,095	$127,605,355	$126,461,039	$149,114,518

[1] Total throughput revenue shown includes revenue collected to pay Transformer Ownership Credit.

2.0 TRANSFORMER OWNERSHIP CREDIT

Hydro Ottawa is not proposing any change to the current Transformer Ownership Credit ("TOC") of $0.45/kW for customers who own their transformers. Table 4 shows TOC for 2006 approved, 2006 actual, 2007 estimate and 2008 forecast.

Table 4 –Transformer Ownership Credit

	2006 Approved		2006 Actual		2007 Estimate		2008 Forecast	
	MW	$000	MW	$000	MW	$000	MW	$000
GS > 50 < 1500 kW	641	289	1,864	838	1,817	818	1,843	830
GS > 1500 kW	897	403	444	200	433	195	440	198
Large User	971	437	295	133	288	129	292	131
Total	2,509	1,129	2,603	1,171	2,538	1,142	2,575	1,159

The 2008 forecast for TOC of $1,158,564 has been added to the Base Revenue Requirement before the Revenue Deficiency/Sufficiency was calculated.

LOAD FORECAST

1.0 INTRODUCTION

In the 2006 EDR Application, 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. There are currently over 500 *MetrixND* users worldwide.

Table 1 provides a comparison of the forecasted growth rate that was incorporated in Hydro Ottawa's 2006 EDR, the revised growth rate as a result of the Settlement and the actual growth rate, both real and weather normalized.

Table 1 - Comparison of Forecasted Growth to Actual Growth

	MWh Total Purchases	% growth from 2005 Actual/estimate	% difference from 2006 Actual
2005 Actual/estimate as per 2006 EDR	7,790,182		
2006 Forecast as per 2006 EDR	7,819,252	0.4%	1.2%
2006 Forecast as per Settlement	7,908,814	1.5%	2.4%
2006 Actual	7,724,426	-0.8%	-
2006 Actual Weather Normalized	7,840,902	0.7%	1.5%

2.0 MODELLING PROCESS AND RESULTS

Hydro Ottawa's load forecast was developed using a series of regression models developed through a contract with the Load Forecasting group at Itron Inc. These models were produced using a statistical analysis software program called *MetrixND.* The following historical data was used as inputs into the models:

- system load data May 2002 to April 2007 – hourly energy data,
- system load data prior to May 2002 – monthly energy data,
- customer count, energy consumption and peak demand (monthly sales data, 2002 to April 2007),
- weather data from 1952 to 2006 – temperature and humidity, and
- economic variables for the Ottawa area: population, Gross Domestic Product ("GDP"), Real Personal Income ("RPI"), etc.

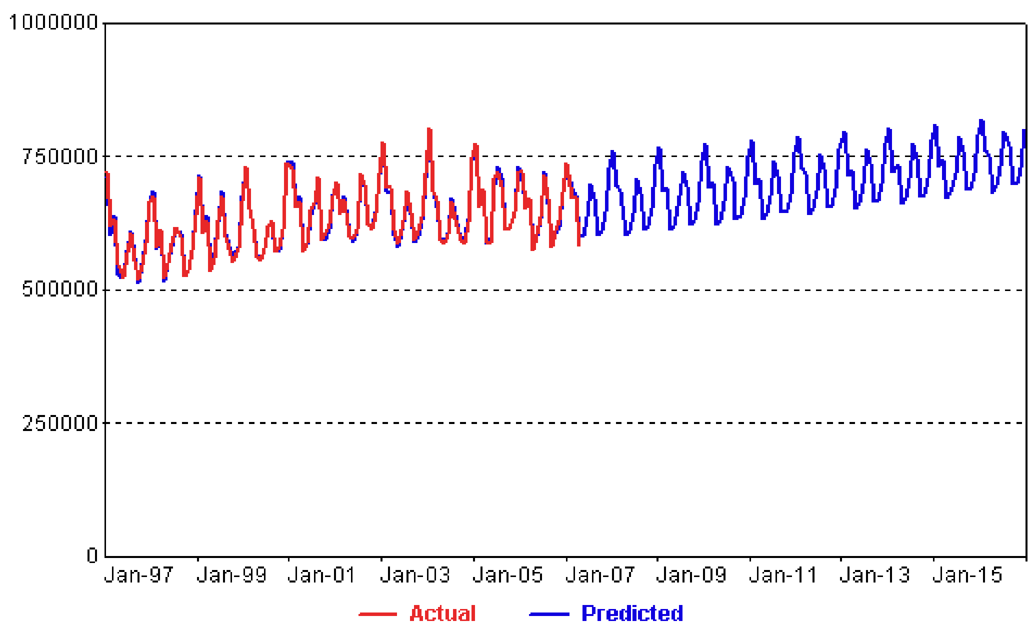
Two main forecasts were developed for the purposes of the rate setting exercise; a system forecast of energy and demand, and a class sales forecast. As well, a forecast of peak demand was developed for system planning purposes based on more extreme weather conditions.

2.1 System Energy Forecast

The system energy forecast model was estimated using the available data from 1997 through early 2007, thus including both a period of strong growth from 1997-2002 and a period of reduced growth after 2002. The main variable driving the model is GDP for the Greater Ottawa area, which was obtained from the Conference Board of Canada. Heating degree days with bases of 8 and 18 degrees Celsius and cooling degree days with an 18 degree Celsius base were found to best capture the relationship between weather and system wide energy consumption. The energy forecast is based on normal weather patterns that were derived from the past 30 years of recorded weather data. In examining the historical weather it appears that weather extremes in the summer months occurred statistically more frequently during the last 10 years. However until this trend is confirmed, the use of a longer period of record was deemed prudent for developing the energy forecast.

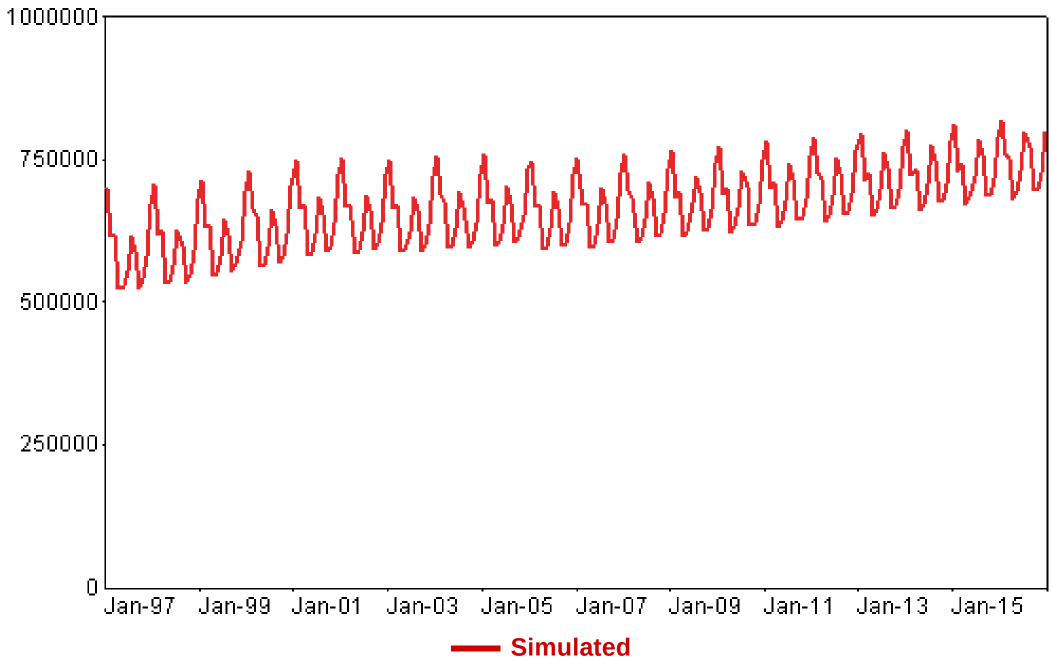
The model also contains other binary variables to capture non weather-related seasonality. This model specification does a good job of capturing the historical behaviour of energy with respect to economics and weather. It performs very well with an adjusted R^2 of 0.98 indicating that 98% of the variations in energy are explained by the variables in the model. Mean Absolute Percentage Error ("MAPE") is low at 0.91% indicating that overall, model residuals are low (see model results showing actual historical energy consumption and that predicted by the regression model in Figure 1 below).

Figure 1 – System Energy Forecast (Monthly kWhrs)



For purposes of analyzing the growth over the period 1997 to 2006, a simulation tool has been used. This projects what the consumption would have been if weather conditions had been normal in each year that is simulated. The results of this simulation are shown in Figure 2.

Figure 2: Simulated System Energy Projection



As can be seen from Table 2, system energy is projected to grow at a relatively strong rate of 1.34% throughout the forecast period, reflecting expectations of continuing strong economic growth in Greater Ottawa.

Table 2 – Actual and Forecasted System Energy (MWh)

Year	Historical Weather	Growth	Normalized Weather	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	8,010,452	2.70%	7,896,987	0.59%
2006	7,740,360	-3.40%	7,840,902	-0.71%
2007	7,860,460	1.60%	7,861,908	0.27%
2008	8,011,611	1.90%	8,011,611	1.90%
2009	8,101,499	1.12%	8,101,499	1.12%
2010	8,212,129	1.37%	8,212,129	1.37%
2011	8,325,360	1.38%	8,325,360	1.38%
2012	8,453,640	1.54%	8,453,640	1.54%
2013	8,545,969	1.09%	8,545,969	1.09%
2014	8,660,932	1.35%	8,660,932	1.35%
2015	8,779,117	1.36%	8,779,117	1.36%
2016	8,920,113	1.61%	8,920,113	1.61%
2008 to 2016		1.34%		1.34%

2.2 System Peak Forecast

The system peak forecast was derived using the maximum hourly load value for each month for the time period after May 2002. As the system level peak data prior to 2002 was not available to use in the model, the problem of imposing growth on the peak forecast was resolved by using as an input variable a 12-month moving average of system energy. Utilizing this moving average of system energy allowed the growth trend to be isolated, while at the same time allowing the seasonal effects of weather on the system peak to be captured by using peak-day weather variables.

The system peak model was specified using peak-producing weather (i.e. weather on the day of the peak). Monthly binary variables were also used to account for non weather-related seasonality, as well as to mark off any anomalous observations. The model does a very good job fitting the data with an adjusted R^2 of 0.94 and MAPE of 2.19%. Figure 3 shows model actual and predicted values for system peak.

Figure 3: System Peak Forecast (Monthly MW)

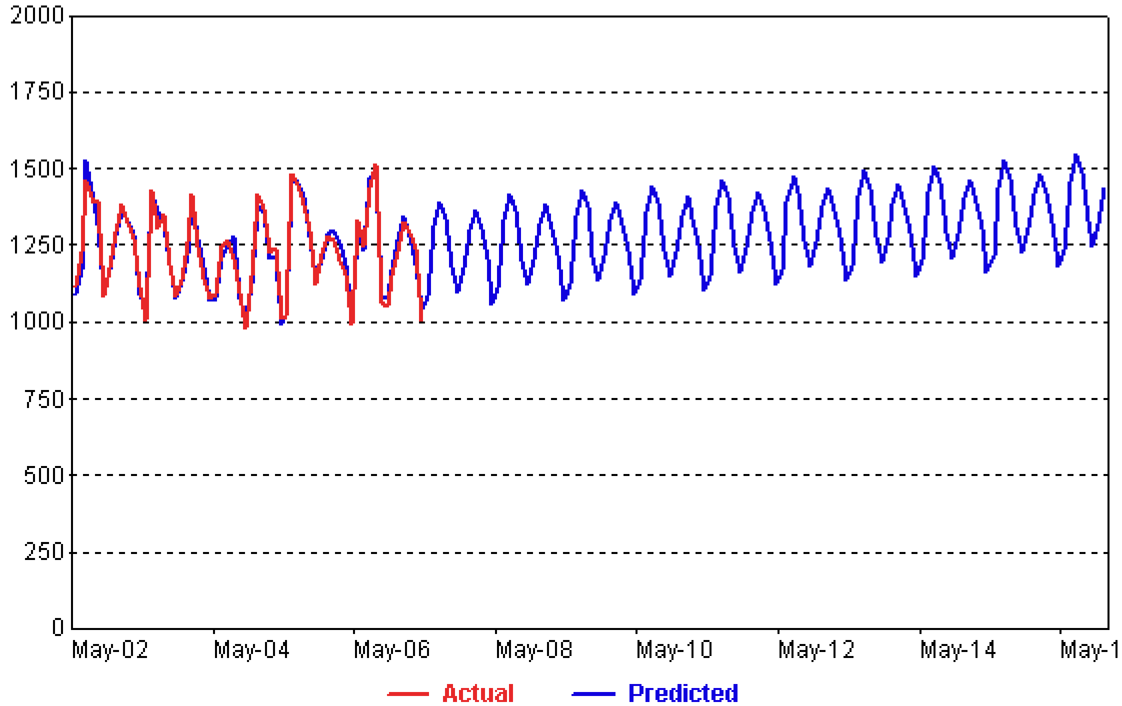


Table 3 shows the actual and forecasted growth in system peak for the years 2003 through 2016.

Table 3 – Actual and Forecasted System Peak

Year	System Peak	Growth
2002	1459	
2003	1429	-2.1%
2004	1418	-0.8%
2005	1482	4.5%
2006	1512	2.0%
2007	1390	-8.0%
2008	1414	1.7%
2009	1427	1.0%
2010	1443	1.1%
2011	1459	1.1%
2012	1476	1.2%
2013	1490	0.9%
2014	1506	1.1%
2015	1523	1.1%
2016	1541	1.2%
2008 to 2016		1.08%

2.3 Class Billed Sales and Demand Forecast

The class sales forecast process consisted of three sequential steps. First, sales forecast models for each class were created that capture the relationship between class sales and a number of explanatory variables. Second, the billed-month forecast was converted to a calendar-month basis by simulating the models with calendar-month weather variables. In the final step, the calendar-month class sales forecasts were calibrated to the system energy forecast to produce final class level sales forecast.

Class sales forecast models were created for the following customer groups:

- Residential,
- GS50 (General Service Less Than 50 kW),
- GS1000NI (Non-Interval 50 kW – 1000 kW),
- GS1000I (Interval 50 kW – 1000 kW),
- GS1500 (1000 kW – 1500 kW),
- GS5000 (1500 KW – 5000 kW),
- GSLRG (Over 5000 kW),
- Street Lighting, and
- Unmetered Scattered Loads ("USL").

Note that the GS 1000NI, GS1000I and GS1500 customer groups combine to be the General Service 50 to 1500 kW Rate Class. Billing demand forecasts were estimated directly using the billed-month data and were not calibrated to a control total. Class demand forecast models were created for the following customer groups:

- GS1000NI (Non-Interval 50 kW – 1000 kW),
- GS1000I (Interval 50 kW – 1000 kW),
- GS1500 (1000 kW – 1500 kW),
- GS5000 (1500 KW – 5000 kW),
- GSLRG (Over 5000 kW), and
- Street Lighting.

Two major issues arose during the development of the billed customer class forecasts. First, the historical data was only available from 2002 forward, providing only five years to evaluate relationship between sales and economic drivers. Second, most class sales did not exhibit any significant growth between 2002 and 2006, similar to system energy. This problem was partly resolved by interacting weather with economic variables. In addition, calibrating class sales to system energy helped impose some growth on the forecast, as well as align the class forecast with the system forecast.

Further, the billed-month data is quite “noisy”. The noise appears to have been caused by billing issues, which have since been resolved. The noisy billed month data created challenges from an analytical perspective. In particular, it was found that the billed sales are related to two-month lagged weather, as well as one-month lagged weather in the case of the residential sales model.

Customer class sales models are structured similarly to one another and contain variables that combine weather and economics to drive the forecast. In addition, the models employ binary variables to mark off anomalous observations, capture any non-weather-related seasonality, and to account for systematic, unexplained shifts in the data.

The forecast models sales reasonably well, given the noise in the data, with an adjusted R^2 ranging between 0.70 and 0.80 for most classes (except for GS 1000 Non-Interval where adjusted R^2 is 0.54). Actual and predicted values for sales for the various customer classes can be seen in Figure 4 through Figure 12 and are summarized in Table 4.

Figure 4: Residential Sales (Actual and Predicted)

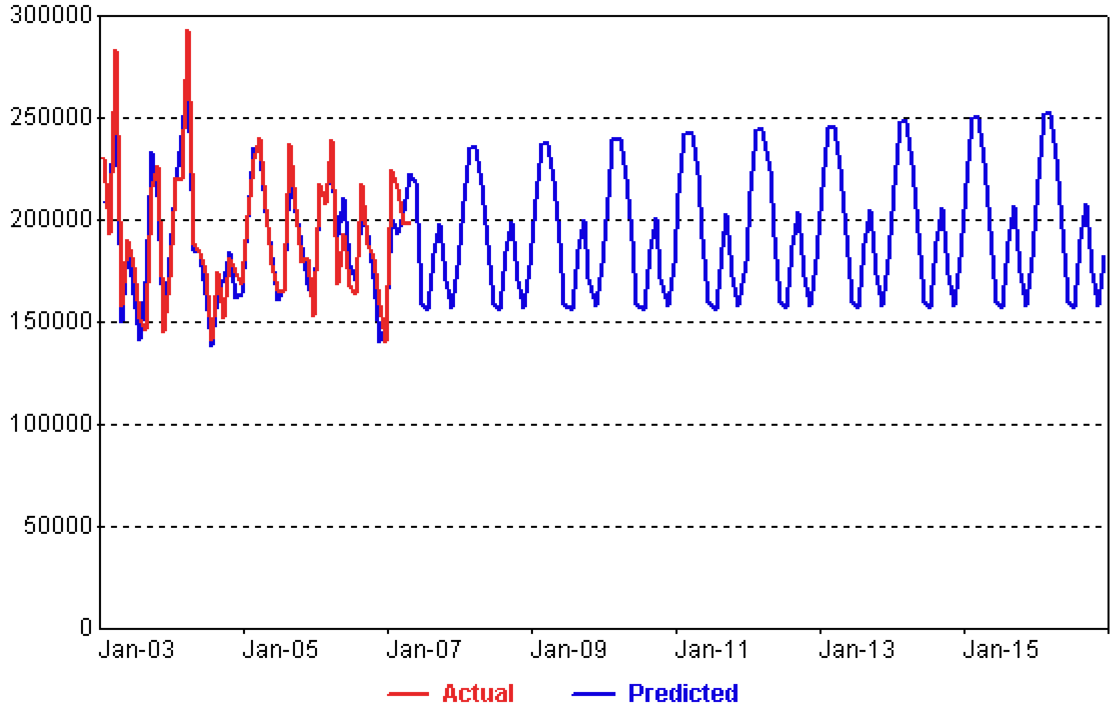


Figure 5: GS50 Sales Model (Actual and Predicted)

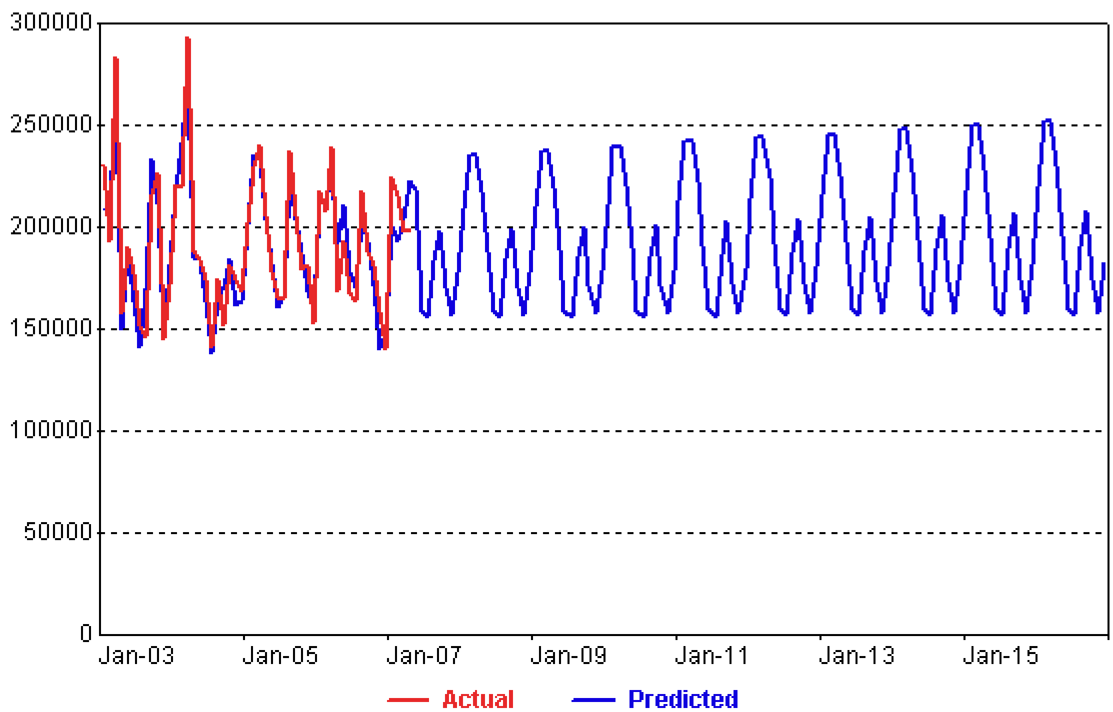


Figure 6: GS1000 NI Sales Model (Actual and Predicted)

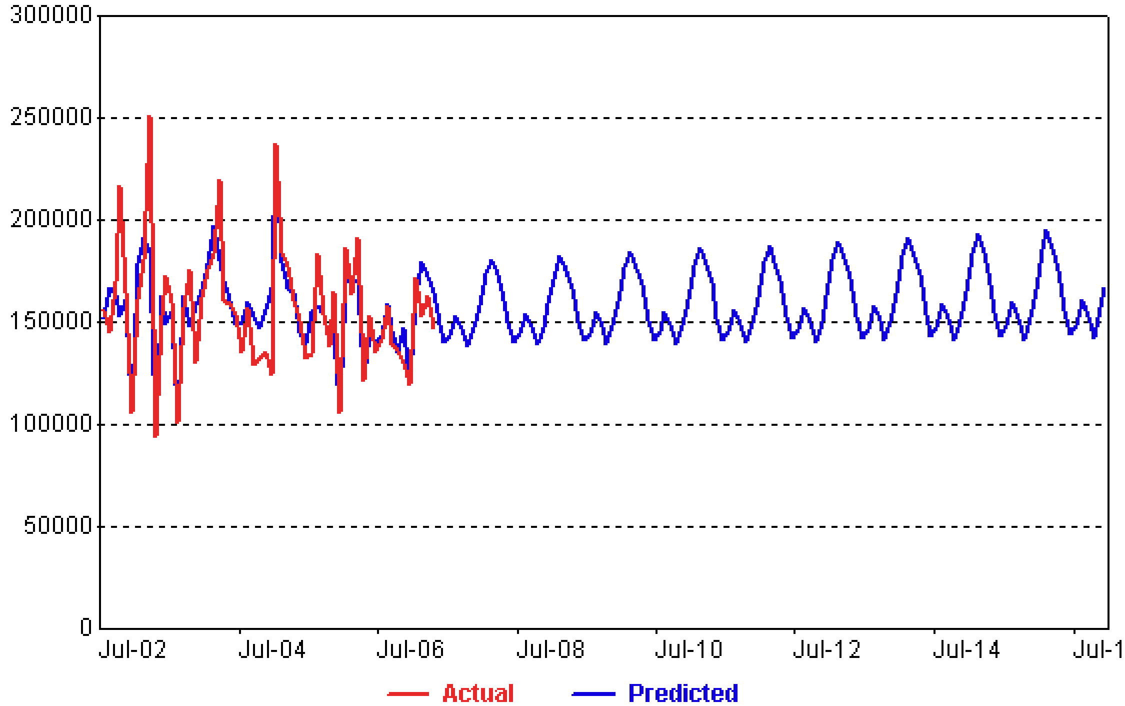


Figure 7: GS1000I Sales Model (Actual and Predicted)

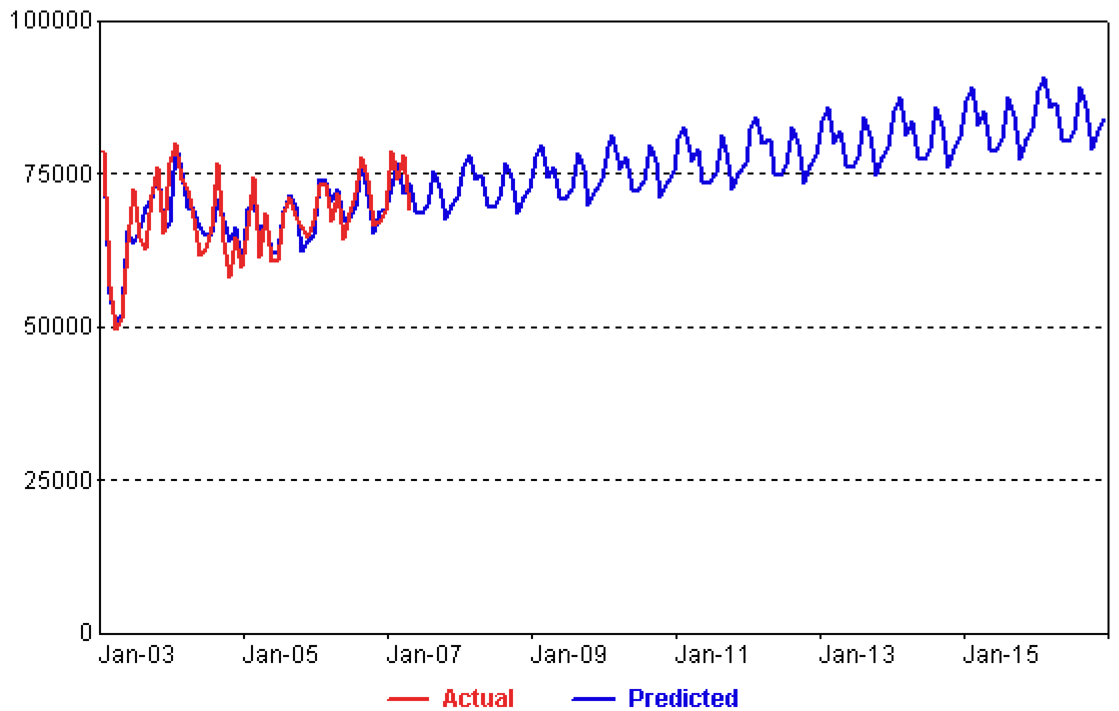


Figure 8: GS1500 Sales Model (Actual and Predicted)

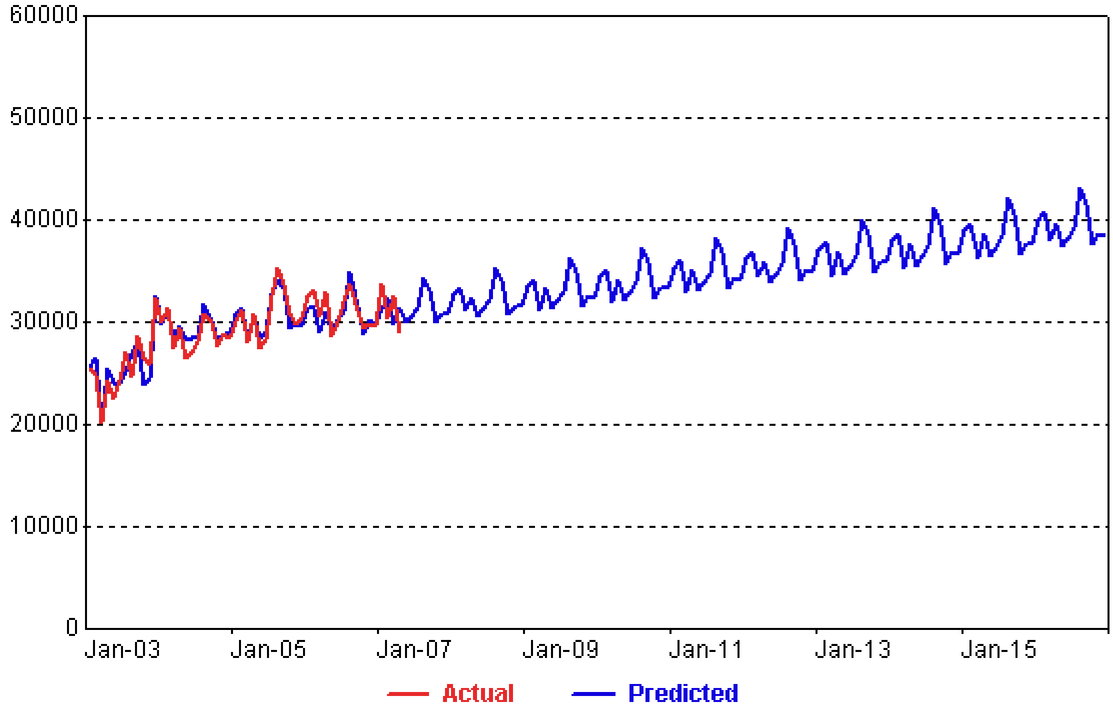


Figure 9: GS5000 Sales Model (Actual and Predicted)

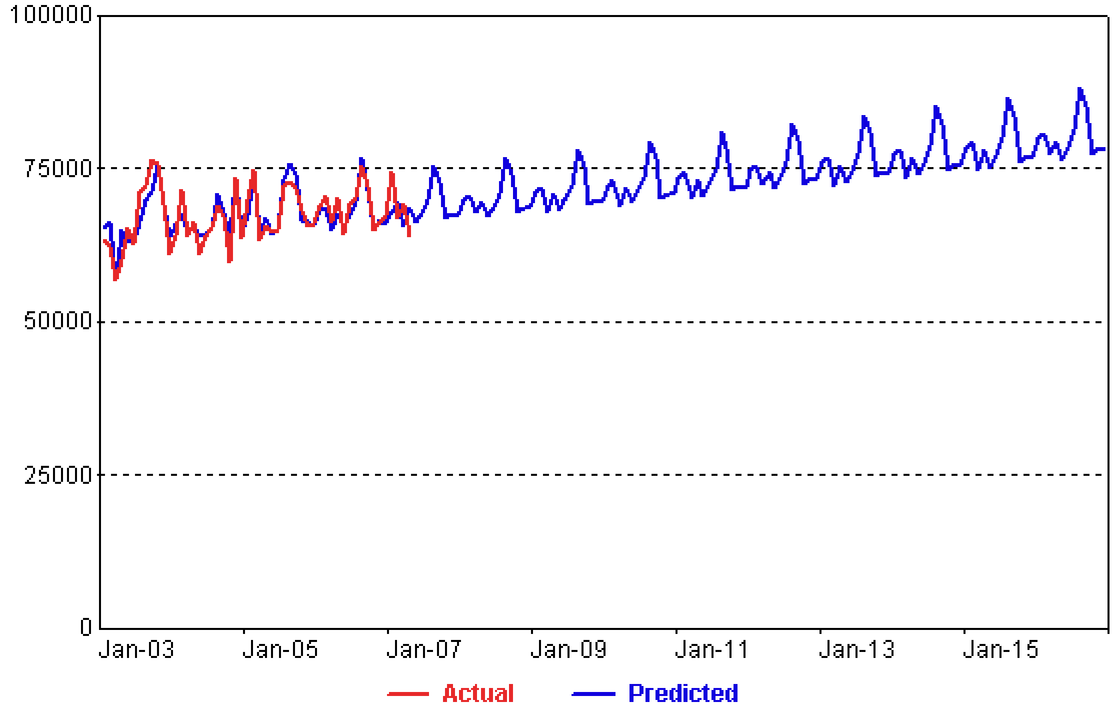


Figure 10: GSLRG Sales Model (Actual and Predicted)

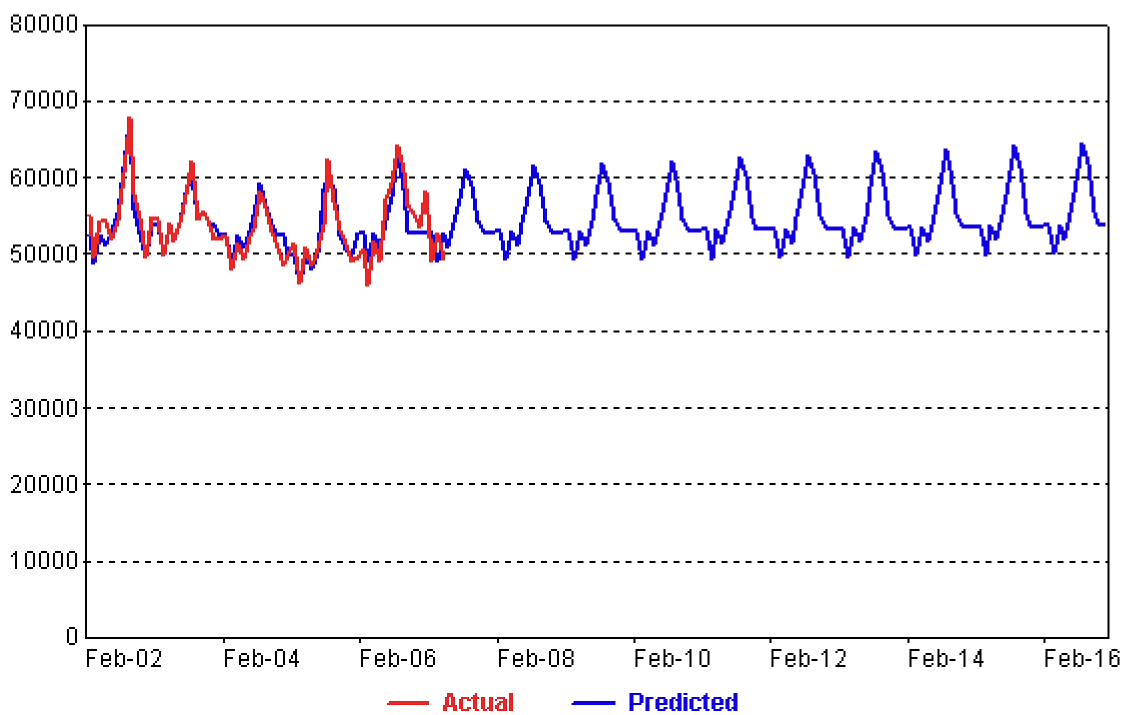


Figure 11: Street Lighting Sales Model (Actual and Predicted)

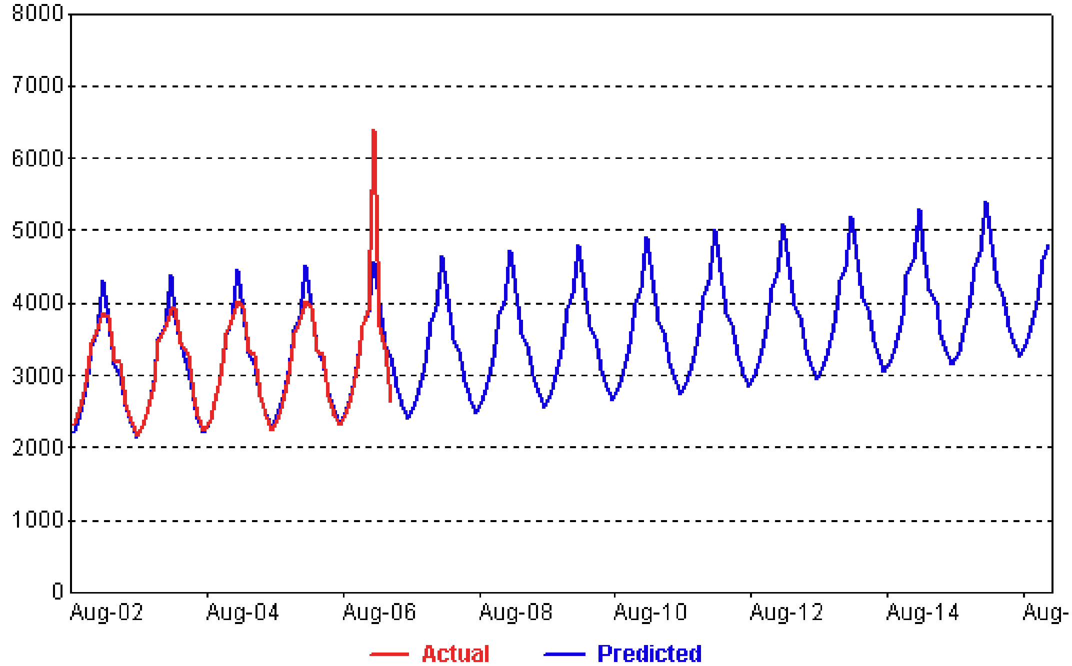


Figure 12: USL Sales Model (Actual and Predicted)

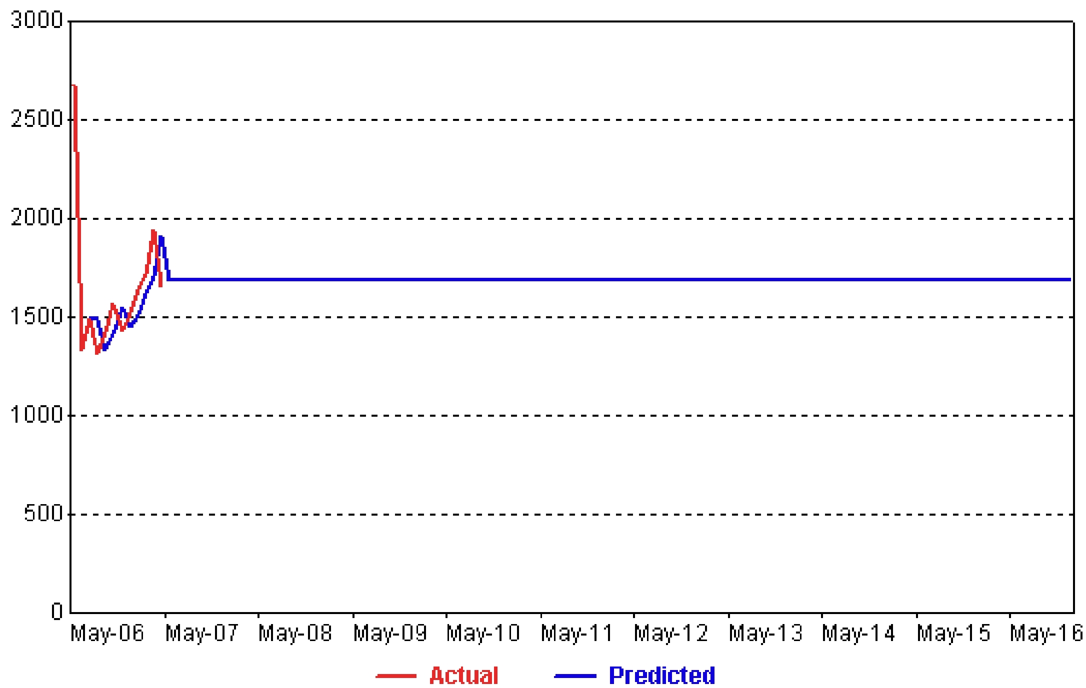


Table 4 – Sales by Class

Year	Res	GS50	GS1000NI	GS1000I	GS1500	GS5000	GSLRG	StLgt	USL
2003	2,293,823	819,016	1,868,219	796,069	315,336	817,994	675,141	37,271	
2004	2,224,866	755,227	1,946,981	809,602	347,543	788,254	633,512	36,748	
2005	2,342,548	811,092	1,900,550	810,553	373,204	836,293	634,861	37,952	
2006	2,236,813	735,963	1,762,450	851,562	370,811	822,042	655,017	38,366	
2007	2,244,813	752,703	1,848,770	855,214	373,909	820,751	645,779	39,741	20,311
2008	2,283,037	778,075	1,869,218	877,233	386,850	840,923	652,479	40,115	20,244
2009	2,298,247	785,041	1,884,420	895,069	397,559	856,813	656,424	41,228	20,305
2010	2,319,181	793,637	1,903,512	915,926	409,904	875,479	661,577	42,481	20,401
2011	2,340,612	802,385	1,922,921	937,334	422,597	894,646	666,829	43,785	20,498
2012	2,365,159	812,457	1,945,552	961,045	436,500	915,947	673,112	45,269	20,627
2013	2,380,223	819,603	1,961,108	979,556	447,642	932,429	677,120	46,594	20,686
2014	2,400,629	828,556	1,980,940	1,001,701	460,802	952,242	682,450	48,040	20,783
2015	2,421,443	837,747	2,001,281	1,024,566	474,406	972,696	687,906	49,515	20,880
2016	2,447,423	848,707	2,025,793	1,051,270	490,183	996,657	694,641	51,115	21,013
2008-2016	0.87%	1.09%	1.01%	2.26%	2.96%	2.12%	0.78%	3.03%	0.47%

Class sales are projected to grow at annual rates of between 0.47% for Unmetered Scattered Loads and 3.03% for Street Lighting, with residential sales growing at 0.87%. With system energy growing at 1.34% per annum throughout the forecast period, it is no surprise that there is strong growth in the sales of certain classes as well.

In previous years, the kWhs associated with Sentinel lights have been reported in the related customer class, e.g. kWhs for a sentinel light attached to a residential property would be included in the Residential class. As a result, the load forecast has not separately forecasted the kWh and kW for Sentinel lights, but included them in the various classes. For purposes of computing rates and the throughput revenue, it has been necessary to forecast the kWhs for the Sentinel Light class off-line, and subtract these figures from the model forecasts.

The 2006 actual, 2007 estimate and 2008 forecast kWhs and kWs for Sentinel Lights are shown in Tables 5 and 6 below.

Table 5 – Sentinel Lights kWh

kWh	2006 Approved	2006 Actual	2007 Forecast	2008
Residential		24,836	24,836	24,836
GS50		65,715	65,715	65,715
GS1000NI		1,961	1,961	1,961
TOTAL	90,794	92,512	92,512	92,512

Table 6 – Sentinel Lights kW

kW	2006 Approved	2006 Actual	2007 Forecast	2008
Residential		69	69	69
GS50		183	183	183
GS1000NI		5	5	5
TOTAL	252	257	257	257

2.4 Customer Forecast

Customer models were created for each customer class and are generally simple, containing employment and non-manufacturing employment as drivers and binary variables that capture shifts in the data. These models perform very well with adjusted R2 ranging from 0.93 to 0.99 and low model MAPEs. Table 7 and 8 below show the historical and forecast yearly average and year end customer numbers and corresponding average annual growth rates over the forecast period. Annual growth rates in average customer numbers vary between 0% for the Large User class to 2.32% for Residential customers.

Table 7 - Customer Forecast, Average

Year	Res	GS50	GS1000NI	GS1000I	GS1500	GS5000	GSLRG	StLgt	USL
2003	240,551	23,333	3,024	317	45	57	11	43,806	
2004	245,716	23,306	2,582	335	54	61	10	44,095	
2005	250,713	23,263	2,669	373	65	64	10	44,901	2,813
2006	254,245	23,026	2,733	442	78	75	11	45,813	2,494
2007	258,610	23,056	2,725	476	81	80	11	46,520	3,064
2008	264,080	23,051	2,729	485	82	81	11	47,219	3,115
2009	270,051	23,059	2,745	491	83	83	11	47,933	3,115
2010	276,267	23,068	2,761	498	83	84	11	48,676	3,115
2011	282,709	23,076	2,778	505	83	86	11	49,446	3,115
2012	289,615	23,086	2,788	510	84	87	11	50,272	3,115
2013	296,598	23,095	2,799	514	84	88	11	51,106	3,115
2014	303,659	23,105	2,809	519	84	89	11	51,951	3,115
2015	310,798	23,114	2,820	524	85	89	11	52,804	3,115
2016	318,017	23,124	2,831	530	85	90	11	53,667	3,115
2008 - 2016	2.32%	0.04%	0.46%	1.10%	0.43%	1.31%	0.00%	1.60%	0.00%

Table 8 - Customer Forecast, Year End

Year	Res	GS50	GS1000NI	GS1000I	GS1500	GS5000	GSLRG	StLgt	USL
2003	242,369	23,844	2,535	325	45	61	11	43,834	
2004	247,790	23,137	2,633	339	55	61	10	44,744	
2005	252,619	23,323	2,670	385	70	65	10	44,932	2,688
2006	255,993	23,050	2,714	465	82	78	11	46,355	2,510
2007	260,987	23,047	2,719	481	82	80	11	46,849	3,115
2008	266,766	23,055	2,736	488	82	82	11	47,540	3,115
2009	272,866	23,063	2,752	494	83	84	11	48,269	3,115
2010	279,175	23,072	2,769	501	83	85	11	49,024	3,115
2011	286,042	23,081	2,779	505	84	86	11	49,844	3,115
2012	292,985	23,090	2,790	510	84	87	11	50,674	3,115
2013	300,005	23,100	2,800	515	84	88	11	51,514	3,115
2014	307,104	23,109	2,811	520	84	89	11	52,362	3,115
2015	314,282	23,119	2,822	525	85	90	11	53,221	3,115
2016	321,540	23,129	2,833	530	85	90	11	54,088	3,115

As shown in Table 9 below, Hydro Ottawa is forecasting one additional GS > 1500 kW customer requiring standby capacity, for embedded generation

Table 9 – Standby Customers for Embedded Generation

	2006 Approved	2008 Forecast
GS > 50 < 1500 kW	3	3
GS > 1500 kW	4	5
Large Use	1	1
TOTAL	8	9

Hydro Ottawa is no longer allowing the installation of new Sentinel Lights and therefore, as Table 10 shows, has not forecasted any increase in the number of connections.

Table 10 - Sentinel Light Connections

# connections	2006 Approved	2006 Actual	2007 Estimate	2008 Forecast
TOTAL	125	95	95	95

2.5 Demand Forecast

Table 11 shows class level billing demand history and forecast. The results are mostly in line with the class sales forecast that was used to drive the demand forecast models.

The demand models perform very well with adjusted R^2 values ranging from 0.94 for GS 1000NI to 0.99 for GS1500, GS5000 and street lighting. The model's MAPEs range from 0.17% for street lighting to 2.72% for GS 1000 NI. Growth rates over the forecast period in peak demand range from 0.1% for the Street lighting class to 2.4% for the GS1500 class.

Table 11 - Class Demand Forecast in kW

Year	GS1000NI	GS1000I	GS1500	GS5000	GSLRG	StLght
2002	695,976	379,775	92,915	159,089	118,180	17,454
2003	536,423	175,887	71,425	180,631	112,959	8,446
2004	518,640	164,056	64,904	167,725	104,943	8,647
2005	569,898	159,363	76,387	159,810	112,806	8,650
2006	460,618	171,992	72,566	161,568	114,730	8,933
2007	404,410	167,973	73,959	160,264	108,738	8,936
2008	412,389	167,336	75,757	161,819	109,066	8,946
2009	413,588	170,037	77,681	163,700	109,431	8,955
2010	414,833	172,753	79,617	165,603	109,799	8,965
2011	416,161	175,561	81,621	167,607	110,188	8,974
2012	417,351	178,234	83,525	169,463	110,547	8,984
2013	418,623	180,991	85,490	171,409	110,924	8,993
2014	420,821	183,832	87,518	173,447	111,320	9,002
2015	423,519	186,761	89,610	175,582	111,735	9,012
2016	426,343	189,779	91,769	177,814	112,170	9,021
2008-2016	0.42%	1.57%	2.40%	1.18%	0.35%	0.10%

As a result of the additional GS > 1500 kW standby customer, the kWs for standby charges is also forecasted to increase, as shown in Table 12.

Table 12 – Standby Customers for Embedded Generation, kW

	2006 Approved	**2008 Forecast**
GS > 50 < 1500 kW	15,000	15,000
GS > 1500 kW	120,960	144,960
Large Use	4,800	4,800
TOTAL	140,760	164,760

The load forecast produced using Itron's models is generally consistent with the load forecast produced for the Ottawa region by the Ontario Power Authority ("OPA") for the Integrated Power System Plan.

3.0 CONSERVATION AND DEMAND MANAGEMENT ADJUSTMENT

Hydro Ottawa supports the Provincial Government's Conservation and Demand Management ("CDM") initiatives and is currently delivering CDM programs that are funded through both third tranche spending and the OPA.

For lost revenue in 2005-2007 due to CDM programs, Hydro Ottawa intends to apply for a Lost Revenue Adjustment Mechanism under a separate application. The impact of these programs on the load in future years is automatically incorporated in the load forecast presented above, through the modelling process. However, the prepared forecast does not take into account new CDM programs planned for the Province of Ontario by the OPA. Therefore, Hydro Ottawa has adjusted the forecast to reflect new CDM.

Ontario's Integrated Power System Plan, prepared by the OPA, includes a forecast of CDM savings for the various regions of Ontario. By 2010, for the Ottawa and East regions, the total planned energy savings is 961 GWh, with a peak savings of 162 MW[1]. Hydro Ottawa has prorated these forecasts to its service area, for 2008, and as a result has made an adjustment to the forecast of 64,000 MWh and 11 MW peak.

[1] Table 3.7 and Table 3.8, IPSP Discussion Paper #3; Conservation and Demand Management – Revised, December 21, 2006.

4.0 VARIANCE ANALYSIS

Table 13 below shows the year end customer class numbers for the 2005 Approved, 2005 Actual, 2006 Approved, 2006 Actual, 2007 Estimate and 2008 Forecast, by rate class. For the Residential class, the population growth and resulting customer growth in 2006 was less than expected however, the 2007 estimate and 2008 forecast are higher due to an expected rebound in the population growth, as shown on Table 1 in Exhibit C1-2-2. In the Large User class, no increase was forecasted, however one GS > 1500 kW customer did get reclassified. No changes are expected for the Large User class in 2008.

Table 14 below shows average consumption per customer for the past five years and forecasted average consumption for 2008. The average use per residential customer has clearly been decreasing and is forecasted to continue to reduce as conservation becomes a way of life.

Table 13 – Year End Customer Numbers

	2005 Approved	2005 Actual	2006 Approved	2006 Actual	Approved Growth 2006	Actual Growth 2006	2007 Estimate	Estimate Growth	2008 Forecast	Forecast Growth
Residential	252,619	252,268	256,619	255,993	4,000	3,725	260,987	4,994	266,766	5,779
GS < 50 kW	23,323	22,983	23,440	23,050	117	67	23,047	(3)	23,055	8
GS > 50 kW <1500 kW	3,125	3,251	3,151	3,261	26	10	3,282	21	3,306	24
GS > 1500 kW	65	69	65	78	0	9	80	2	82	2
Large Use	10	10	10	11	0	1	11	0	11	0
TOTAL	279,142	278,581	283,285	282,393	4,143	3,812	287,407	5,014	293,220	5,813

Table 14 – Average Use per Customer

Average kWh/Month	2002	2003	2004	2005	2006 Approved	2006 Actual	2008 Forecast
Residential	806	777	770	789	753	742	711
General Service <50kW	2,372	2,904	2,832	2,494	2,753	2,698	2,796
General Service 50-1000kW NONI	61,736	46,797	61,087	57,299	64,728	54,488	56,753
General Service 50-1000kW INT	183,006	211,103	188,364	220,224	157,736	163,102	149,868
General Service 1000-1500kW	338,061	569,545	540,610	483,634	333,082	404,415	390,240
General Service 1500-5000kW	973,566	1,147,017	1,099,543	1,027,385	967,488	927,836	858,782
Large Use	5,037,653	4,933,541	5,177,824	5,079,746	5,586,199	5,224,468	4,913,759
Street Lighting	73	69	71	70	70	71	71
Unmetered Scattered Load					531	431	542
Average kW/Month							
General Service 50-1000kW NONI	163	120	143	150	163	137	141
General Service 50-1000kW INT	430	455	413	397	357	327	331
General Service 1000-1500kW	1,194	1,218	1,111	1,023	735	874	842
General Service 1500-5000kW	1,975	2,517	2,330	2,268	2,059	1,951	1,806
Large Use	9,317	8,906	9,315	9,412	10,188	9,265	8,844
Street Lighting	0.19	0.19	0.19	0.19	0.19	0.19	0.19

ECONOMIC INDICATORS

Gross Domestic Product ("GDP") and Real Personal Income ("RPI") are used to drive the sales models; population and employment, both total (Emp) and non-manufacturing employment (NManEmp), are used drive the customer models. Table 1 presents the major economic variables used in the forecast and their associated growth rates.

Table 1: Major Economic Variables

Year	GDP	% Chg	RPI	% Chg	Pop	% Chg	Emp	% Chg	NManEmp	% Chg
2003	37,603		30,930		1,132		606		571	
2004	38,644	2.77	31,540	1.97	1,142	0.90	609	0.50	572	0.12
2005	39,737	2.83	32,075	1.70	1,151	0.78	619	1.66	582	1.73
2006	40,738	2.52	33,230	3.60	1,158	0.63	643	3.85	601	3.37
2007	41,620	2.16	33,933	2.11	1,167	0.73	637	(0.88)	596	(0.91)
2008	42,842	2.94	34,841	2.68	1,178	0.94	653	2.55	614	3.03
2009	44,163	3.08	35,667	2.37	1,189	1.00	667	2.00	627	2.08
2010	45,499	3.03	36,569	2.53	1,202	1.02	680	1.95	639	2.03
2011	46,865	3.00	37,513	2.58	1,214	1.05	692	1.91	652	2.01
2012	48,178	2.80	38,315	2.14	1,228	1.12	701	1.20	661	1.34
2013	49,528	2.80	39,134	2.14	1,241	1.12	709	1.20	670	1.34
2014	50,916	2.80	39,971	2.14	1,255	1.12	718	1.20	679	1.33
2015	52,343	2.80	40,825	2.14	1,269	1.12	726	1.20	688	1.33
2016	53,810	2.80	41,698	2.14	1,284	1.12	735	1.20	697	1.33
03-06		2.70		2.42		0.77		1.99		1.73
07-16		2.90		2.32		1.07		1.60		1.76

Both GDP and RPI have exhibited strong growth in the years from 2003 to 2006, growing 2.7% and 2.4% respectively. GDP is projected by the Conference Board to continue to grow at an annual rate of 2.9% from 2007 to 2016, and RPI at a rate of 2.3%. This strong growth is reflected in the growth in class level sales throughout the forecast period.

Moreover, the greater Ottawa area is projected to experience relatively strong growth in population throughout the forecast period of 1.1% per annum. Total and non-manufacturing employment are projected to grow at 1.6% and 1.8% annually respectively.

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 has classified these into the following categories, the same categories used in the 2006 EDR Application: Specific Service Charges, Late Payment Charges, Other Distribution Revenue, Regulated Price Plan (“RPP”) Admin Charge and Other Income and Deductions. Table 1 provides a summary of Other Revenue for 2006 through 2008.

Table 1 - Other Revenue Summary

Other Revenue	2006 Approved	2006 Actual	2007 6/6 Estimate	2008 Forecast
Specific Service Charges	(2,034,012)	(3,017,980)	(2,735,363)	(2,956,045)
Late Payment Charges	($800,000)	($1,603,469)	($1,633,376)	($1,600,000)
RPP Admin Charge	(653,773)	(746,792)	(755,476)	(768,826)
Other Distribution Revenue	(284,733)	(633,476)	(354,938)	(341,400)
Other Income & Deductions	(304,982)	(2,333,180)	(2,337,043)	(1,919,869)
TOTAL	($4,077,500)	($8,334,897)	($7,816,196)	($7,586,140)

2.0 SPECIFIC SERVICE CHARGES

There are three components of Specific Charges: Miscellaneous Rates and Charges, Pole Attachments and Dry Core Transformer Loss Charges.

2.1 Miscellaneous Rates and Charges

Hydro Ottawa is not proposing any changes to miscellaneous rates and charges for 2008, other than the name change proposed in Section 2.1.5 and the update to the Dry Core Transformer Loss Charges outlined in Section 2.3. Table 2 that follows summarizes the volumes and revenues associated with each miscellaneous rate and charge for 2006, 2007 and 2008.

2.1.1 Arrears Certificate

A charge is levied to provide a certificate of arrears per service address. This is typically provided to lawyers during a property purchase.

2.1.2 Duplicate Invoice

A charge is levied to cover the additional costs for reproducing an invoice that has already been issued.

2.1.3 Request for Other Billing Information

A charge is levied to cover the additional costs of providing billing information other than an invoice.

2.1.4 Credit Reference / Credit Check

Customers opening an account may qualify for a waiver on a security deposit based on a satisfactory credit check. This credit check is done at the customer's expense.

2.1.5 Returned Cheque Charge

This charge is applied to a customer's account for each payment that cannot be processed. Hydro Ottawa is not proposing a change to the amount charged; however, it is proposed to update the name of the charge to be more reflective of current payment methodologies. Far more customers are using electronic payment options now rather than paying by "cheque". Therefore, it is proposed that this charge be renamed the Unprocessed Payment Charge.

2.1.6 Account Setup Charge

When a customer establishes a new account, a charge is applied to their first bill to cover the cost of setting up the new account. This charge applies to both those customers who are new to Hydro Ottawa's distribution service area and those who have moved locations within the distribution service area.

2.1.7 Collection of Account Charge

A Collection Charge is applied when a collection visit is made at a customer's premises. This charge is not applied if the collections trip does not result in payment. Only one Collection Charge will be applied per billing period unless a partial payment has been made. A Collection Charge will not be applied if a reconnection charge is applied in the same billing period following a service disconnect for non-payment.

2.1.8 Disconnect / Reconnect Charge

A customer disconnected for non-payment is required to pay a reconnection fee before the service will be reconnected. The level of the fee is dependant on whether the reconnection is done during regular hours or after-hours as defined in Hydro Ottawa's Conditions of Service. Furthermore, the charges are higher for disconnect / reconnects completed at a pole or pad mount transformer rather than a meter base because of the additional skill level required to complete the work.

Table 2 - Miscellaneous Rates and Charges

Summary of Miscellaneous Rate and Charges

MISCELLANEOUS RATES AND CHARGES	2006 Rate	2006 Forecast Volume	2006 Forecast Revenue	2006 Actual Volume	2006 Actual Revenue $	2007 Forecast Volume	2007 Forecast Revenue $	2008 Rate	2008 Forecast Volume	2008 Forecast Revenue $
Arrears certificate	$15.00	2,400	$32,000	994	$14,910	889	$13,335	$15.00	1,116	$16,740
Duplicate invoices for previous billing	$15.00	4,000	$40,000	315	$4,725	824	$12,360	$15.00	360	$5,400
Request for other billing information	$15.00	3,000	$30,000	282	$4,230	720	$10,800	$15.00	0	$0
Credit reference/credit check (plus credit agency costs)	$15.00	1,200	$18,000	2,347	$35,205	1,770	$26,550	$15.00	2,736	$41,040
Returned cheque charge (plus bank charges)	$15.00	4,000	$54,667	2,787	$41,805	2,757	$41,355	$15.00	3,333	$49,995
Account set up charge/change of occupancy charge (plus credit agency costs if applicable)	$30.00	54,000	$1,231,200	46,511	$1,395,330	52,843	$1,585,292	$30.00	54,000	$1,620,000
Collection of account charge - no disconnection	$30.00	1,400	$30,333	856	$25,680	1,170	$35,100	$30.00	1,200	$36,000
Disconnect/Reconnect at meter - during regular hours	$65.00	1,400	$70,000	1,501	$97,565	1,599	$103,935	$65.00	1,320	$85,800
Disconnect/Reconnect at meter - after regular hours	$185.00	130	$18,200	310	$57,350	352	$65,120	$185.00	325	$60,125
Disconnect/Reconnect at pole - during regular hours	$185.00	10	$2,016	52	$9,620	56	$10,360	$185.00	132	$24,420
Disconnect/Reconnect at pole - after regular hours	$415.00	2	$710		$0		$0	$415.00	35	$14,525
Temporary service install & remove - overhead - no transformer	$500.00	2	$1,000	0	$0	0	$0	$500.00	0	$0
Total			$1,528,126		$1,686,420		$1,904,207			$1,954,045

2.2 Pole Attachments

As per the Board's Decision in 2005, Hydro Ottawa proposes to continue to charge for pole attachments at a rate of $22.35 per pole per month.

2.3 Dry Core Transformer Loss Charges

Hydro Ottawa currently has Board approval for the recovery of losses from the installation of customer owned dry core transformers. Dry core transformers are installed down-stream from Hydro Ottawa's revenue meters and therefore any lost energy and demand is not charged. The dry core transformer charge is intended to recover this lost energy and demand.

The proposed dry core transformer charges are based on specific transformer sizes that are common in Hydro Ottawa's service area and are separated into cost-of-power (commodity, wholesale market and transmission) and distribution charges. The distribution portion has been included as other revenue to reduce the base revenue requirement. The cost-of-power portion will be part of Hydro Ottawa's retail settlement variance account ($RSVA_{POWER}$).

Hydro Ottawa is proposing to update the dry core transformer charges schedule as follows:

- Revising the commodity charge from $.058/kwh to $.062/kwh, which represents the current second tier price for Regulated Price Plan customers,
- Revising the transmission charge from $2.60/kW to $3.6049/kW which represents the sum of the current Transmission Network Charge and Connection Charge for the General Service Class > 50 kW < 1500 kW,
- Revising the distribution charge from $2.61/kW to $3.1561/kW which represents the 2007 approved variable distribution rate for the General Service Class > 50 kW < 1500 kW, and

- Adding additional sizes of dry core transformers to the list, i.e. 1000, 1500, 2000 and 2500 kVA).

These revisions are included in Exhibit I1-6-1 Proposed Rate Schedule.

3.0 LATE PAYMENT CHARGES

Hydro Ottawa proposes to continue to charge 1.5% per month (19.56% annually) for late payments. This is applied to all accounts not paid by the due date. Bills are due and payable 16-days from the mailing date. This charge is levied on any bill, including final bills, with no minimum set. Where the customer has made a partial payment on or before the due date, the late payment charge applies only to the amount of the bill outstanding at the due date, inclusive of arrears from previous billings.

Credit balances arising from customer overpayments may be refunded at the request of the customer. In such instances, no interest is applied to the amount.

4.0 OTHER DISTRIBUTION REVENUE

Other distribution revenue relates to amounts recorded in USoA Accounts 4082 and 4084 for services to electricity retailers. For the first four months of 2006, there was also an amount recorded in Account 4090 related to a new transmission station that went into service in 2003. The Board had approved an accounting entry of \$1.50 per kW from the Retail Settlement Variance Account ($\text{RSVA}_{\text{CONNECTION}}$) to Account 4090 until the station became part of rate base on May 1, 2006.

5.0 REGULATED PRICE PLAN ADMIN CHARGE

Hydro Ottawa proposes to continue the existing $0.25 per month for all customers that take their electricity commodity under the Board's regulated price plan ("RPP").

6.0 OTHER INCOME AND DEDUCTIONS

Included within Other Income and Deductions are three categories: Work for Others, Property Rental and Interest Income.

6.1 Work for Others

Work for Others includes services provided to the City of Ottawa, services provided to affiliates and services to third parties.

6.1.1 Services to the City of Ottawa

For 2008, there are no plans for any special services to the City of Ottawa beyond the normal work to relocate distribution plant due to city work plans. However, in 2006 there were two significant projects for the city: Street Lighting Design Services and the Light Rail Transit Line ("LRT") project.

- Street lighting

  In 2005, the City of Ottawa selected a new service provider for street lighting maintenance and design work. Hydro Ottawa had been providing this service for the City. The streetlight maintenance work ended in 2005, but the City asked Hydro Ottawa to continue to provide some design services until July 2006. Other than the transfer of some mapping records in 2007, Hydro Ottawa no longer provides street lighting services for the City.

- LRT

The City of Ottawa had proposed an expansion of its rapid transit network with the construction of a north – south transit line from the downtown core to the south Nepean sector, and an east-west transit line from the Kanata sector to Orléans. The north-south transit line project was awarded to a design-build consortium in the summer of 2006 and scheduled to begin construction in the fall of 2006. The total project cost for Hydro Ottawa, excluding contributions, was estimated at $30M. At the time of the 2006 Rate Application in 2005, the impact of the LRT project on Hydro Ottawa was not yet known.

Hydro Ottawa assembled a dedicated project team in January 2006 to work on the project. In December of 2006 the newly elected City Council cancelled the contract and Hydro Ottawa resultantly stopped all work. Expenses incurred by Hydro Ottawa were recovered from the City of Ottawa in 2006, with final billing occurring in 2007. Hydro Ottawa completed no capital work on this project.

Following the cancellation of the north-south transit line, the environmental assessment for the east-west line was also cancelled.

The City of Ottawa is currently revisiting its transportation plan and is expected to continue with expansion of its public transit network. Since the City of Ottawa has not determined the details of future expansion plans, no expenses or corresponding revenue have been included in this Application. However, the impact of a new public transportation project on Hydro Ottawa could be extensive, and Hydro Ottawa will evaluate the financial and other implications when the City's project definition is finalized.

6.1.2 Services to Affiliates

Hydro Ottawa provides a few services to affiliates under the terms of service level agreements ("SLAs"). For 2008, the services are in the area of duct rental, pole attachments and the provision of certain corporate services (human resources ("HR"), Information Technology ("IT") and facilities). Details of revenues from affiliate transactions are included in Exhibit C2-1-5.

6.1.3 Services to Third-Parties

For 2008, this relates to the revenue, net of expenses, for services provided to customers including temporary services, isolation / re-energization of services and transformer vault shutdown, escort and inspection. In prior years, there was also some revenue associated with billing water heaters but the contract for this work is expected to end on December 31, 2007. A small amount of revenue is also forecast for providing web portal services for seeing interval meter data in a web-based format.

6.2 Property Rental

Property rental relates to fees paid by Hydro One for land owned by Hydro Ottawa. In many locations in Ottawa, Hydro Ottawa and Hydro One have joint facilities for transformer stations. For locations in which Hydro Ottawa owns the land on which Hydro One has facilities, a rental fee is paid.

6.3 Interest Income

Interest income relates to interest earned on cash balances in the year.

7.0 NON-UTILITY INCOME

Non-utility income is not considered a “revenue offset” in that it does not reduce the distribution (base) revenue requirement. Hydro Ottawa has very little non-utility income with the exception of Conservation and Demand Management (“CDM”) activities. In addition to CDM activities, Hydro Ottawa has a very small sentinel lighting program. The assets and corresponding expenses related to this program are not included in Hydro Ottawa’s distribution revenue requirement. These lights are owned by Hydro Ottawa but provided to a small number of rural customers on a grandfathered basis. No new lights are installed and lights that fail are removed but not replaced.

The third source is rent paid by the tenants of a small number of houses Hydro Ottawa purchased next to distribution stations many years ago to facilitate future station expansion. These assets have been removed from rate base and the associated costs and revenue are not reflected in Hydro Ottawa’s distribution revenue requirement.

Hydro Ottawa occasionally disposes of assets that were never, or are no longer, necessary in serving the public (e.g. a fully amortized vehicle, furniture surplus to requirements). Where the proceeds vary from the net book value of an asset, Hydro Ottawa treats the variances as a debit or credit to non-utility income. Hydro Ottawa has treated the proceeds from the sale of a vacant parcel of land in the same fashion. In 2006, Hydro Ottawa sold a parcel adjacent to its Carling Avenue transformer station that was surplus to its needs. The land was purchased by Ottawa Hydro (a predecessor) decades earlier to ensure that there was room for expansion, if required. It was determined that the property would not be required for distribution system purposes and therefore it was sold, at a net gain of $285k, to an adjacent hospital for use as a parking lot.

REVENUE OFFSETS 2006 ACTUAL VERSUS 2006 BOARD APPROVED

1.0 INTRODUCTION

The following table summarizes the differences between revenue offsets in Hydro Ottawa's final Decision for the 2006 EDR Application and the actual results for 2006. Explanations for these differences are then provided for each category of revenue.

Table 1 - 2006 Revenue Offsets

Revenue Offsets	2006 Approved	2006 Actual
Specific Service Charges		
Specific Service Charges (excluding poles)	($1,542,210)	($1,873,522)
Poles Attachments revenue	(782,352)	(1,144,458)
Pole Attachment expense	290,550	0
Total Specific Service Charges	(2,034,012)	(3,017,980)
Late Payment Charge	**(800,000)**	**(1,603,469)**
Other Distribution Revenue		
STR and retail revenue	(284,733)	(326,535)
Kanata MTS Adjustment	0	(306,941)
Total Other Distribution Revenue	(284,733)	(633,476)
RPP Admin Charge	**(653,773)**	**(746,792)**
Other Income and Deductions		
Net Revenue work for others	277,267	(1,574,270)
Property Rental	(582,248)	(454,192)
Interest Income	0	(304,719)
Total Other Income and Deductions	(304,981)	(2,333,180)
Total Revenue Offsets	**($4,077,500)**	**($8,334,897)**

2.0 SPECIFIC SERVICE CHARGES

In total, the specific service charge revenues were approximately $1M higher than expected. Included within this category are both the revenue for miscellaneous rates and charges to customers and revenue from other utilities for pole attachments.

2.1 Pole Attachments

The most significant difference for specific service charges is related to the pole attachment revenue. For the 2006 EDR Application, Hydro Ottawa budgeted pole attachment revenue net of the expenses paid to Hydro One and Bell for pole attachments on their poles. The pole attachment expenses were not included in OM&A budget. However, for reporting purposes, Hydro Ottawa no longer records the revenue net of the expenses. This results in approximately $300k more in revenue and an equivalent increase in OM&A expenses for the 2006 Actuals.

Furthermore, up until 2005 there was an open issue between LDCs and the cable and telephone companies as to the appropriate amount to charge for pole attachments. This was resolved when the Board issued its Decision with Reasons. Given the magnitude of the retroactive adjustments, many were not settled until 2006. As a result, Hydro Ottawa realized additional revenue of about $200k related to retroactive pole attachment revenues from the years prior to 2006 that had been expected in 2005.

Finally for pole attachments, the introduction of Hydro Ottawa's Geographic Information System has enabled a verifiable count of poles, including the number of attachments on each pole by third parties. This has led to a higher than expected number of attachments than initially forecast, resulting in an additional $100k in revenue.

2.2 Miscellaneous Rates and Charges to Customers

For the other miscellaneous rates and charges, there was additional revenue of $400k. The largest portion of this was related to $167k of revenue for dry core transformer losses that was incorrectly recorded as a specific service charge. It should have been recorded as a cost of power revenue and will be reclassified as such in 2007. The remaining difference of a little over $200k is predominately related to the Account Set-up charge. In 2006, the rate increased from $8.40 to $30.00. Hydro Ottawa had forecast the annual activity and prorated four months at the old rate and eight months at the new rate. However, much more than a pro-rata share of the move-in / move-out activity occurred in the last eight months of the year. This is evidenced by the fact that the volumes were lower than expected but the revenue was higher.

Furthermore, there was a small shortfall in historical and forecasted volumes relating to requests for duplicate bill copies, billing information and arrears certificates. The introduction of online account viewing in early 2006 (“My Hydro Links”), along with a reduction in requests for arrears statements by legal firms contributed to this variance. However, the higher revenues relating to collection activity essentially offset this shortfall.

Exhibit C2-1-1 provides a summary of volumes and revenues for each type of miscellaneous rate and charge.

2.3 Summary

In summary the $1M difference is summarized as follows:

$0.3M	pole attachment revenue forecasted net of pole attachment expense for 2006 EDR
$0.2M	retroactive pole attachment revenue for years prior to 2006
$0.1M	due to accurate count of poles with attachments
$0.2M	dry core transformer losses that should have been recorded as a cost of power revenue
$0.2M	predominately related to a higher than expected percentage of move-in / move-out activity in the last 8 months of 2006, even though the overall volume for the year was lower than expected.
$1.0M	Total

3.0 LATE PAYMENT CHARGES

In 2006, Hydro Ottawa realized revenue from late payment charges that exceeded forecast by approximately $800k. The 2006 budget was based on prior year trends that were inconsistent, year over year. In 2003, Hydro Ottawa experienced billing irregularities and delays, which resulted in an above-average number of late payment reversals and waivers. In Fall 2004, Hydro Ottawa converted to a new Customer Information System ("CIS") and experienced a seven-week labour disruption. These events delayed the introduction of the collection modules and the associated application of late payment fees for three months. Due to the aforementioned, backlogs in billing production functionality was given priority in 2005. During this period late payment charges were suppressed for two additional months. In 2005, consumer deposit reviews and refunds were initiated for the first time. Associated refunds offset outstanding balances that might have otherwise existed. Also, at the time of conversion in 2004, the production of bills was outsourced to a company in Mississauga. To accommodate the additional mailing distance, the bill due date was extended from 16 to 18 days. In turn, the grace period for receiving payment was reduced from three to two days. By comparison, late payment revenues in 2004 and 2005 were roughly within the same range forecasted for 2006.

2004	- $ 761,402
2005	- $ 870,481
2006 Approved	- $ 800,000

2006 actual revenues of $1.6M are deemed to be more representative of normal, ongoing business.

4.0 OTHER DISTRIBUTION REVENUE

In 2006, other distribution revenue exceeded the 2006 EDR by approximately $300K. There were two sources of this revenue: Fees to Retailers and Kanata MTS.

4.1 Fees from Retailers

This includes service transaction request fees and fees for distributor-consolidated billing. The revenue for this was very difficult to forecast for 2006. As discussed for late payment charges, until September 2004, Hydro Ottawa had been operating with a CIS that had limitations on scalability. As a result, there was a significant backlog in bills in 2004, particularly for customers signed with retailers. Consequently, associated retailer charges were not issued in a timely manner. In 2004 there were accrued charges to retailers from prior years. In 2003, revenue from retailers was only $92k, in 2004 it was $506 and in 2005 the revenue was $277k. Hydro Ottawa's forecast of $285k for 2006 was reasonable, given this history. The actual revenue was only $40k higher.

4.2 Kanata Municipal Transformer Station ("MTS")

The additional $300k for Kanata MTS was related to a prior Board Decision that allowed Hydro Ottawa to record amounts in Account 4090 related to a new transformer station until that station became part of rate base. Kanata MTS is a 230 kV to 27.6 kV station that went into service in 2003. As part of this Board Decision, Hydro Ottawa was authorized to record $1.50 per kW for all demand delivered from this station. The offsetting entry was to the transmission connection variance account. Essentially, revenue collected from customers as part of the retail transmission rates was redirected to Account 4090 as other distribution revenue. Since Kanata MTS became part of rate base on May 1, 2006, there were still four months of entries to Account 4090 for 2006, of approximately $300k. No further entries have been recorded in Account 4090.

5.0 RPP ADMINISTRATION CHARGE

Hydro Ottawa is authorized to collect $0.25 cents, per month, for all customers participating on the OEB's Regulated Price Plan (RPP). In 2005, the revenue associated with this charge was based on a forecast that 25% of customers would sign contracts with retailers, and therefore the remaining 75% would be on the regulated price plan. With lower than expected commodity prices, the retail market did not grow as anticipated. Furthermore, a few retailers exited the market, and the requirement for positive confirmation meant that some contracts were not renewed. This left only 11% of the customer base on contract with retailers. As a result there was an additional $100k of distribution revenue realized.

6.0 Other Income and Deductions

Other Income and Deductions was $2.2M higher than forecast in 2006. The differences can be explained in three categories, work for others, property rental and interest income.

6.1 Work for Others

In accordance with the Uniform System of Accounts (“USoA”), the revenue and expenses associated with work for others are both part of Other Income and Deductions. It should be noted that for Hydro Ottawa’s financial statements, the revenue associated with work for others is shown as “Other Revenue”, while the expenses are part of “Operations Expense”. Therefore, both Other Revenue and Operations Expense will be higher in the audited financial statements than in the regulatory set of accounts.

For 2006, there was $1.9M in additional net revenue associated with work for others. Work for others can be categorized in four main areas; revenue from services for the City of Ottawa, revenue from services to other affiliates, revenue from services to third parties and duct rental.

6.1.1 Services for the City of Ottawa

In 2005, the City of Ottawa awarded a contract for street lighting services to a third-party. Historically, Hydro Ottawa had the contract for both street lighting design and maintenance. The transfer of the maintenance work occurred in 2005. However, the City asked Hydro Ottawa to continue with design work until July 2006. The additional revenue, net of expenses, was just below $100k.

As noted in Tab B, Section 4.04, Page 22 of 118 of the Manager’s Summary of Hydro Ottawa’s 2006 EDR Application (EB-2005-0381), the City of Ottawa was still exploring Light Rail Transit (“LRT”) in Ottawa, at the time of filing. Initially, the City approved the project and Hydro Ottawa's work commenced. While the project was ultimately cancelled, Hydro Ottawa incurred recoverable expenses. In 2006, this resulted in additional net revenue of approximately $100k. However, this additional revenue was solely the result of an over-accrual of expenses that reversed in 2007, since the project was undertaken on a cost recovery basis, without profit.

In total, there was approximately $200k in additional net revenue during 2006 relating to work undertaken for the City of Ottawa. The City of Ottawa is the shareholder of the Holding Company and therefore this net revenue is classified as an affiliate transaction.

6.1.2 Services for Other Affiliates

In addition to the City of Ottawa, Hydro Ottawa undertakes a few services for affiliated companies. The Service Level Agreements ("SLAs") for this work are included in Exhibit A1-7-3. Services include:

- Duct rental and mapping services for Telecom Ottawa

  The actual revenue of $517k was in line with the 2006 forecast.

- Control room monitoring and mechanic services for Energy Ottawa's generating plants

  The net revenue for these services was $100k higher than expected in 2006 due to an over accrual that reversed in 2007.

- Corporate Services (Human Resources (HR), Information Technology (IT) and Facilities) for Telecom Ottawa, Energy Ottawa and the Holding Company:

  The forecasted amount for these services in 2006 was $643k. The actual revenue in 2006 was $545k. The decrease was related to a change in the SLA to reflect a reduction in IT and HR services to Telecom Ottawa. Telecom Ottawa has their own HR and payroll department and their own local area network; therefore, fewer services are required from Hydro Ottawa. However, the 2006 forecast of $643k was not shown as a revenue, but rather, as an offset to Administration expenses. This was discussed in Hydro Ottawa's 2006 EDR Application as part of the responses to Board Staff Interrogatory 52. In other words, forecasts for revenue offsets and Administration Expenses for 2006 both would have been $643k higher if the revenues from these services had been recorded in the same way as for the 2006 actual results. Hydro Ottawa changed how this was recorded to provide greater transparency for these affiliate transactions.

In summary, revenue from affiliates tracked very close to forecast overall; however, due to a portion being forecast as an offsetting Administration expense, the total variance reflected in net revenue for 'work for others' can be summarized as follows:

$0.1M	Over-accrual for SLA to Energy Ottawa reversed in 2007
$0.6M	SLA's for corporate services an offsetting expense in 2006 EDR Application
$0.7M	Total.

6.1.3 Services for Third-Parties

In 2006, Hydro Ottawa generated small amounts of revenue from a variety of sources beyond affiliates. This included the following:

- Water heaters, meter and data services

Hydro Ottawa currently bills water heaters for a third-party. This arrangement is now scheduled to end on December 31, 2007 but originally was expected to end in 2006.

Furthermore, by request and with the approval of a customer, Hydro Ottawa will provide hourly load data in a convenient web based format through its web portal system. In 2005, Hydro Ottawa had stopped providing meter services to other LDCs, but needed to complete the work that had already been committed. A small portion of this work scheduled for completion at year-end 2005 was not finished until early 2006. For this reason, a small amount of revenue was realized in 2006. The water heater, meter and data services generated $300k in net revenue in 2006 that had not been forecasted.

- Service Desk Revenue

This revenue relates to the revenue, net of expenses, for services provided to customers including temporary services, isolation / re-energization of services and transformer vault shutdown, escort and inspection. In the case of vault shutdowns, this results in a loss because Hydro Ottawa records the expense of providing this service, but customers with vaults are provided one free shutdown each year to perform maintenance. This approach encourages customers to undertake annual vault maintenance. An improperly maintained customer vault poses a risk to the reliability of the system to which it is connected. Transformer vaults typically have both customer owned and Hydro Ottawa owned equipment in them. For safety reasons, Hydro Ottawa requires a customer to be escorted into the vault by Hydro Ottawa qualified personnel. This escort was formerly provided without charge, but now customers are expected to cover the cost of this service. As a result, while vault work was still operated at a loss in 2006, it was initially forecasted to be a larger loss.

Furthermore, Hydro Ottawa charges for its services on the basis of the average cost of providing each type of service. The average cost for each service was incorporated into Hydro Ottawa's Conditions of Service that was finalized in 2002. Since these average costs were incorporated within the Conditions of Service, they could not be changed without publishing a new Conditions of

Service. This entails customer notification and filing with the Board. Since there were other changes required to the Conditions of Service, Hydro Ottawa wanted to incorporate all changes in the next version. This work started early in 2006; however, the final version was not completed until January of 2007. With the requirement in the Distribution System Code to notify customers of the proposed changes and allow the opportunity for comment, this meant that the new Conditions of Service did not become effective until May 2007. The result of this was that the actual costs for providing work through Hydro Ottawa's Service Desk was based on 2006 costs, whereby the associated revenues from customers were based on the average 2002 costs. As a result, any work done for customers in 2006 was provided at a loss.

In total, the service desk operated at a net loss of $200k in 2006. It had been forecasted to operate at a loss of $800k based on expected volumes at the Service Desk. This resulted in a $600k positive variance between the original forecast and actual revenues in 2006 for this activity.

6.2 Property Rental

Property rental is associated with fees paid by Hydro One for land owned by Hydro Ottawa. In many locations in Ottawa, Hydro Ottawa and Hydro One have joint facilities for transformer stations. For locations in which Hydro Ottawa owns the land on which Hydro One has facilities, a rental fee is charged. The difference between the 2006 forecast and actual results related to rental income for non-utility assets that can been forecast as utility income.

6.3 Interest Income

Hydro Ottawa did not forecast any interest income in 2006. At the time, Hydro Ottawa planned to maintain a zero cash balance by fulfilling short-term needs for cash on an 'as-required' basis by issuing short-term debt through the Holding Company. During 2006, there were two events that impacted this plan. First, for the distribution of Ontario Price Credit ("OPC") rebates, cash was received up front for distribution to customers. Most of this was applied to active customer accounts in December 2005 and paid out to customers over the next two-month period. In accordance with provincial requirements, the eligibility windows were established to allow LDCs time to trace and distribute rebates to customers who had moved out of the service area. The end result was that the OPC was not fully cleared until 2007. This produced interest revenue on the balance in 2006. Further, the Holding Company went to the debt markets in December 2006 to obtain funds for Hydro Ottawa, and issued $50M in 30-year debentures. There was interest earned on this cash for part of December. As a result of the OPC and the new debt, there was $300k in interest earned that had not been anticipated.

REVENUE OFFSETS 2007 ESTIMATE VERSUS 2006 ACTUAL

1.0 INTRODUCTION

Table 1 summarizes the differences between the actual revenue offsets in 2006 and the estimate for 2007. Explanations for these differences are then provided for each category of revenue.

Table 1- 2007 Revenue Offsets

Revenue Offsets	2006 Actual	2007 Estimate
Specific Service Charges		
Specific Service Charges (excluding poles)	($1,873,522)	($1,755,870)
Poles Attachments revenue	(1,144,458)	(979,494)
Total Specific Service Charges	(3,017,980)	(2,735,363)
Late Payment Charge	(1,603,469)	(1,633,376)
Other Distribution Revenue		
STR and retail revenue	(326,535)	(354,938)
Kanata MTS Adjustment	(306,941)	-
Total Other Distribution Revenue	(633,476)	(354,938)
RPP Admin Charge	(746,792)	(755,476)
Other Income and Deductions		
Revenue work for others	(1,574,270)	(985,298)
Property Rental	(454,192)	(486,590)
Interest Income	(304,719)	(865,154)
Total Other Income and Deductions	(2,333,180)	(2,337,042)
Total Revenue Offsets	**($8,334,897)**	**($7,816,196)**

2.0 SPECIFIC SERVICE CHARGES

Included within this category are both the revenue for miscellaneous services to end-use consumers and revenue from other utilities for pole attachments. In total, the revenue from specific service charges are expected to be $300k lower in 2007 than in 2006.

2.1 Miscellaneous Rates and Charges to Consumers

Overall, the decrease in miscellaneous rates and charges revenue is primarily due to a reversal of $167k in 2007 of dry core transformer loss charges recorded in 2006 as a specific service charge that should have been recorded as a cost of power revenue. Offsetting this decrease are small increases due to anticipated volume increases in customer move in/out activity. All other specific services charge revenues are expected to trend normally.

Exhibit C2-1-1 provides a summary of volumes and revenues for each type of miscellaneous rate and charge.

2.2 Pole Attachments

2007 pole attachments are forecasted to be 14% lower than in 2006, due to the approximate $200k in retroactive revenues that were applied in 2006 for prior years. This was due to matters related to the Board’s 2005 Decision on pole attachment fees that were not resolved until 2006.

3.0 LATE PAYMENT CHARGES

In 2007, Hydro Ottawa expects to have revenue from late payment charges roughly equivalent to those in 2006, adjusted for modest customer growth. Hydro Ottawa plans to accept credit cards, as a payment option for customers facing service interruptions, due to outstanding balances. This option is planned for implementation in Q4, 2007 and could reduce late payment charges.

4.0 OTHER DISTRIBUTION REVENUE

In 2006, Hydro Ottawa had other distribution revenue approximately $300k higher than included in the 2006 EDR. There were two elements to this revenue: Fees to Retailers and Kanata MTS.

4.1 Fees to Retailers

These revenues are related to service transaction request fees and fees for distributor consolidated billing. The revenues for 2007 are forecasted to trend slightly higher to 2006 actual values, as 5-year contracts signed for market opening come up for renewal This increases the number of transactions with retailers.

4.2 Kanata MTS

No further entries have been recorded in Account 4090 relating to Kanata MTS, since becoming part of Hydro Ottawa's asset base May 1, 2006.

5.0 RPP ADMINISTRATIVE CHARGES

No rate change is expected for the RPP Admin Charge therefore the small increase in estimated revenue is related solely to customer growth.

6.0 OTHER INCOME AND DEDUCTIONS

Hydro Ottawa is estimating that revenue associated with Other Income and Deductions will be approximately the same in 2007 from 2006. This is the result of estimated increases and offsetting decreases in three categories, work for others, property rental and interest income.

6.1 Work for Others

In accordance with the Uniform System of Accounts, the revenue and expenses associated with work for others are both part of Other Income and Deductions. It should be noted that for Hydro Ottawa's financial statements, the revenue associated with work for others is shown as "Other Revenue" while the expenses are part of "Operations Expense". For this reason, both Other Revenue and Operations Expense will be higher in the audited financial statements, than in the regulatory set of accounts.

For 2007, it is estimated that net revenues will decrease by $600k associated with work for others. Work for others can be categorized in four main areas; revenue from services for the City of Ottawa, revenue from services to other affiliates, revenue from services to third parties and duct rental.

6.1.1. Services for the City of Ottawa

In 2006, net revenues associated with street lighting services and light rail transit ("LRT") were $200k. In 2007, Hydro Ottawa no longer provided street lighting services to the City of Ottawa with the exception of some minor mapping work related to the transfer of records. In addition, the LRT project was cancelled in 2007. However, as a result of an over accrual in 2006, there was actually a $100k loss recorded for the LRT project in 2007. Therefore, net revenues are estimated to be $300k lower in 2007.

6.1.2 Services for Other Affiliates

Hydro Ottawa provides some services to its affiliated companies. The Service Level Agreements ("SLAs") for this work are included in Exhibit A1-7-3. Services include:

- Duct rental, mapping, supply chain and corporate services for Telecom Ottawa.

  Duct rental, mapping and supply chain services and corporate services are expected to be approximately the same as in 2006, with only a small increase in corporate services.

- Control room monitoring, mechanic services and corporate services for Energy Ottawa.

  Forecasted revenue for 2007 is expected to trend to 2006 actuals except that the SLA for control room monitoring services will end in 2007. In addition, there was an over accrual of revenue for this in 2006 that reversed in 2006 resulting in a net $200k decrease in revenue year over year.

- Corporate services of Human Resources, Information Technology and Facility services for the Holding Company.

  The revenue from the Holding Company is forecasted to be a little higher in 2007 than in 2006 as a result of additional Human Resources consulting services in 2007 and a small increase in associated facility and IT services.

In total, the change in net revenue from SLAs is expected to decrease by $150k from the 2006 Actuals, as a result of the small increases described above, offset by the impact of the over accrual.

6.1.3 Services for Third-Parties

In 2007, Hydro Ottawa earned modest revenue from third parties from the following areas.

- Water heaters and meter data services

  In 2007, Hydro Ottawa continued to bill water heaters for a third party. Initially expected to end in 2006, this arrangement was extended until the end of 2007. Hydro Ottawa continues to provide hourly load data to a customer, through its web portal system. Therefore, 2007 estimated and 2006 actual revenue was closely aligned.

- Service Desk Revenue

  This revenue is associated with services provided to customers, on request. Services include temporary service installations, isolation and re-energization of services and transformer vault shutdown, escort and inspection. For the first four months of 2007, these services were provided at the average cost from 2002, when the previous Conditions of Service was issued. Revenues for the remaining eight months will reflect the actual costs of providing such service with the issuance of a new Conditions of Service document in May 2007 resulting in a small increase in net revenues. In total these revenues are estimated to decrease roughly $100k in 2007 from 2006.

6.2 Property Rental

Property rental is primarily associated with fees paid by Hydro One for land owned by Hydro Ottawa. In many locations in Ottawa, Hydro Ottawa and Hydro One have joint facilities for transformer stations. For locations in which Hydro Ottawa owns the land on which Hydro One has facilities, a rental fee is paid. The estimated rent for 2007 is virtually the same as the actual amount for 2006.

6.3 Interest Income

The 2007 estimated interest income is nearly $600k higher for 2007 than in 2006. This is the result of the additional cash from a bond issuance of $50M in December 2006. The expected declaration of dividends at the end of 2007 will reduce the cash balance significantly.

REVENUE OFFSETS 2008 FORECAST VERSUS 2007 ESTIMATE

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 summarizes the differences between the revenue offset forecast for 2008 versus the estimate for 2007. Explanations for these differences are then provided for each category of revenue.

Table 1 - Revenue Offsets 2008 Forecast to 2007 Estimate

Revenue Offsets	2007 Estimate	2008 Forecast
Specific Service Charges		
Specific Service Charges (excluding poles)	($1,755,870)	($1,976,045)
Poles Attachments revenue	(979,494)	(980,000)
Total Specific Service Charges	(2,735,363)	(2,956,045)
Late Payment Charge	(1,633,376)	(1,600,000)
Other Distribution Revenue		
STR and retail revenue	(354,938)	(341,400)
RPP Admin Charge	(755,476)	(768,826)
Other Income and Deductions		
Net Revenue work for others	(985,298)	(1,425,669)
Property Rental	(486,590)	(454,200)
Interest Income	(865,154)	(40,000)
Total Other Income and Deductions	(2,337,042)	(1,919,869)
Total Revenue Offsets	**($7,816,196)**	**($7,586,140)**

2.0 SPECIFIC SERVICE CHARGES

Included within this category are both the revenue for miscellaneous services to end-use consumers and revenue from other utilities for pole attachments. There are no increases or additions to specific service charges being requested for 2008.

2.1 Miscellaneous Rates and Charges to Consumers

In total, the revenue from specific service charges is expected to be approximately $250k higher in 2008 than in 2007. The most significant change relates to an amount of $167k reversed in 2007 to be recorded in cost of power revenue for dry core transformer energy charges, as discussed in Exhibits C2-1-2 and C2-1-3. The remaining amount reflects an incremental increase in customer growth and, therefore, related business activity. Technical efficiencies in field collection activity are expected to increase volumes and associated revenues. The introduction of ebilling in 2008 is expected to further decrease customer requests for bill reprints and related information. Overall, the increase in miscellaneous rates and charges is primarily the result of ongoing customer growth projections and associated move in/out activity. Co-related to this activity are modest increases in credit reference check revenues. There are no increases or additions in charges.

Exhibit C2-1-1 provides a summary of volumes and revenues for each type of miscellaneous rate and charge.

2.2 Pole Attachments

Pole attachments revenues include amounts paid by an affiliate and amounts paid by other utilities. Revenues are expected to remain inline with the 2007 forecasted levels.

3.0 LATE PAYMENT CHARGES

Late payment charges are forecasted to trend to 2007 levels, adjusted for customer and inflationary growth.

4.0 OTHER DISTRIBUTION REVENUE

Other distribution revenue relates to fees charge to retailers for service transaction requests and distributor consolidated billing.

4.1 Fees to Retailers

There are no material changes in revenues relating to Retailer transaction requests. The turnover in contracts experienced in 2006 and 2007, is not expected to continue in 2008. A modest increase in Retailer activity is anticipated.

5.0 RPP ADMINISTRATIVE CHARGE

No rate change is expected for the RPP Admin Charge therefore the small increase in revenue is related solely to customer growth.

6.0 OTHER INCOME AND DEDUCTIONS

Hydro Ottawa is estimating that revenue associated with Other Income and Deductions will decrease by approximately $400K in 2008 from 2007. The differences can be explained in three categories, work for others, property rental and interest income.

6.1 Work for Others

In accordance with the Uniform System of Accounts, the revenue and expenses associated with work for others are both part of Other Income and Deductions. It should be noted that for Hydro Ottawa's financial statements, the revenue associated with work for others is shown as "Other Revenue" while the expenses are part of "Operations Expense". For this reason, both Other Revenue and Operations Expense will be higher in the audited financial statements, than in the regulatory set of accounts.

6.1.1. <u>Services to the City of Ottawa</u>

Street lighting mapping services conclude in 2007 and no further service requests from the City of Ottawa are anticipated.

6.1.2 <u>Services for Other Affiliates</u>

Hydro Ottawa provides some services to its affiliated companies. The Service Level Agreements ("SLAs") for this work are included in Exhibit A1-7-3. Services include:

- Duct rental, mapping, supply chain and corporate services for Telecom Ottawa.

  Actual revenue from Telecom Ottawa is expected to increase in 2008 as a result of a review of the number of meters of duct and a decrease in services to be provided, particularly related to supply chain activities.

- Mechanic and corporate services to Energy Ottawa.

  Hydro Ottawa had been providing the services of a mechanic to Energy Ottawa for the Chaudière generating plants. This arrangement is anticipated to end in 2008. However, forecasted revenue for 2008 will remain relatively consistent due to offsetting increases for corporate services.

- Corporate services to the Holding Company.

  The Holding Company revenue for 2008 is forecasted to be inline with the revenues from 2007.

In total, revenues from SLAs with affiliates are forecast to increase by $500k in 2008.

6.1.3. <u>Services for Third Parties</u>

In 2008, Hydro Ottawa expects to earn modest revenue from third-parties in the following areas:

- Water heaters and metering and meter data services

  Hydro Ottawa’s current plans are to conclude water heater services in 2008, with a loss in revenue of approximately $200k. Other activities are inline with 2007.

- Service Desk Revenue

  This revenue is associated with services provided to customers, on request. Services include temporary service installations, isolation and reenergization of services and transformer vault shutdown, escort and inspection. As discussed in Exhibit C2-1-2, these services are operated at a loss to encourage vault maintenance. In 2008, a net increase from 2007 is forecast due to two issues. First, Hydro Ottawa’s new Conditions of Service was issued in May 2007 and average costs of providing services were updated to current levels. In addition, the implementation of changes to Hydro Ottawa’s allocation of corporate costs reduced the corporate cost allocation to work for others. As a result, net revenues for the service desk are forecast to increase $100K for 2008, over 2007.

6.2 Property Rental

Hydro One pays property rental fees for land owned by Hydro Ottawa. In many locations in Ottawa, Hydro Ottawa and Hydro One have joint facilities for transformer stations. For locations in which Hydro Ottawa owns the land on which Hydro One has facilities, a rental fee is paid. The estimated rent for 2008 is expected to trend closely to the 2007 amount.

6.3 Interest Income

Due to a planned dividend declaration in the latter part of 2007 by Hydro Ottawa, cash balances will decrease significantly in 2008. Hydro Ottawa will pay the dividends to the Holding Company. No dividends have been declared since 2002 despite the dividends paid by the Holding Company to the City of Ottawa in 2006 and 2007. As a result of the lower cash balance, interest revenue is forecast to decrease by $800k.

SERVICES TO AFFILIATES

1.0 INTRODUCTION

Hydro Ottawa provides a small number of services to affiliated companies including Energy Ottawa, Telecom Ottawa and the Holding Company. As discussed in Exhibit A1-7-1, Hydro Ottawa is by far the largest within the Hydro Ottawa Group of Companies, contributing approximately 96% of the revenues and owning 87% of the Group's assets. With the exception of strategic oversight from the Holding Company, Hydro Ottawa maintains its own resources for the corporate services of Human Resources ("HR"), Information Technology ("IT"), Facilities, Supply Chain, Fleet, Regulatory and Finance. While the affiliates also have some resources of their own, Hydro Ottawa does provide certain corporate services for Energy Ottawa, Telecom Ottawa and the Holding Company. These services are provided under the terms of Service Level Agreements that are provided in Exhibit A1-7-3.

No services are planned in 2008 for the City of Ottawa beyond the normal utility work of relocating distribution plant to accommodate the annual City works program and the provision of electricity distribution services. However, some services were provided in prior years.

Tables 1 through 4 summarize the services Hydro Ottawa has provided or will provide to affiliates from 2006 to 2008.

2.0 2006 FORECAST NET REVENUES

The following table summarizes the services that were forecast to be provided to affiliates as part of the 2006 EDR. The differences between the actual and forecast revenues in 2006 are discussed in Exhibit C1-1-2.

Table 1 - 2006 Approved Net Revenues

Affiliate Names	Activity	Revenue
City of Ottawa	Street lighting Maintenance and Design	0
Energy Ottawa	Facilities, Human Resources and IT Services (SLA)	$61,689
	Mechanic and control room services (called Engineering services in the 2006 EDR)	$144,000
Holding Company	Facilities, Human Resources and IT Services (SLA)	$231,052
Telecom Ottawa	Facilities, Human Resources and IT Services (SLA)	$350,300
	Pole Attachments and Duct Rental	$560,456
	Mapping	$7,000

3.0 2006 ACTUAL NET REVENUES

Table 1 summarizes the services that were provided to affiliates and the associated net revenues in 2006. The differences between the actual and forecast net revenues in 2006 are discussed in Exhibit C1-1-2.

Table 2 - 2006 Actual Net Revenues

Affiliate Names	Activity	Revenue	Pricing
City of Ottawa	Street lighting Maintenance and Design	$61,376	Street lighting design work continued until July 2006 based on a cost recovery, time and materials basis.
	LRT	$122,376	LRT work was charged based on a cost recovery, time and materials basis. The net revenue was based on an over accrual that reversed in 2007.

Affiliate Names	Activity	Revenue	Pricing
Energy Ottawa	Facilities, Human Resources and IT Services (SLA)	$52,197	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 and control room services for generating plant	$51,961	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	$66,241	Metering and Meter Data Services were based on market pricing.
Holding Company	Facilities, Human Resources and IT Services (SLA)	$272,348	IT Technical Support is market-based. IT Network, Equipment and Business Application Support is cost-based. HR Services, facility furniture rentals and special projects are cost-based. Office space is based on 2004 market pricing obtained through a consultant.
Telecom Ottawa	Facilities, Human Resources, Supply Chain and IT Services (SLA)	$220,485	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 2004 market pricing.
	Pole Attachments and Duct Rental	$556,987	For pole attachments, 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.
	Mapping	$7,000	Pricing was based on a percentage of original estimated of costs to maintain mapping data.

Table 2 continued

4.0 2007 ESTIMATED NET REVENUES

Table 3 summarizes the services that are being provided to affiliates and the associated net revenues in 2007.

Table 3 - 2007 Estimated Net Revenues

Affiliate	Activity	Revenue	Pricing
City of Ottawa	Street lighting Maintenance and Design	($23,871)	Minimal work is performed and charged to the City when City owned plant attached to Hydro Ottawa plant needs to be relocated during routine maintenance or when replacing Hydro Ottawa plant. As well as, when work is required within safe limits of approach of high voltage. Pricing is based on hours worked at Hydro Ottawa normal charge rates. The revenue is expected to be negative in 2007 as a result of an over accrual in 2006 reversed in 2007 and essentially no further work on street lighting.
	LRT	($96,689)	The revenue is expected to be negative in 2007 as a result of an over accrual in 2006 reversed in 2007 and no further work on LRT.
Energy Ottawa	Corporate Services (Facilities, Human Resources, IT Services)	$55,145	IT 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	$(181,596)	Mechanical services for the generating plant were based on $60/ hour for regular hours and $120/hour for overtime for the mechanic. The revenue is expected to be negative due to overall accruals of revenue in previous years corrected in 2007.
	Metering and Meter Data Services	$60,893	Metering and Meter Data Services are based on market pricing.

Affiliate	Activity	Revenue	Pricing
Holding Company	Facilities, Human Resources and IT Services (SLA)	$290,391	IT, HR services, facility furniture rentals and special projects are cost-based. Office space is based on 2004 market pricing obtained through a consultant.
Telecom Ottawa	Facilities, Human Resources and IT Services (SLA)	$277,812	IT, HR services, facility utilities and special projects are cost-based. Office space is leased for 5 years, based on 2004 market pricing
	Pole Attachments and Duct Rental	$556,990	For pole attachments, 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.
	Mapping	$20,396	Pricing is based on a percentage of overall costs to maintain mapping information and to acquire 3rd party data.

Table 3 continued

5.0 2008 FORECAST NET REVENUES

Table 4 summarizes the services to affiliates and the associated net revenues that have been forecast for 2008.

Table 4 - 2008 Forecast 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 of Ottawa in 2008. Pricing for the relocation of plant on road allowances must comply with the *Public Service Works on Highways Act*. In addition, Hydro Ottawa bills the City of Ottawa for electricity charges based on the current rate order issued by the Board.
Energy Ottawa	Facilities, Human Resources and IT Services (SLA)	$63,007	IT 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	$72,000	Metering and Meter Data Services are based on market pricing
Holding Company	Facilities, Human Resources and IT Services (SLA)	$260,112	IT, HR services, facility furniture rentals and special projects are cost-based. Office space is based on 2004 market pricing obtained through a consultant.

Telecom Ottawa	Facilities, Human Resources and IT Services (SLA)	$254,473	IT, HR services, facility utilities and special projects are cost-based. Office space is leased for 5 years, based on 2004 market pricing
	Pole Attachments and Duct Rental	$964,457	For pole attachments, 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.
	Mapping	$20,392	Pricing is based on a percentage of overall costs to maintain the mapping information and to acquire 3rd party data.

Table 4 continued

OPERATIONS, MAINTENANCE AND ADMINISTRATION COSTS

1.0 INTRODUCTION

There are a number of factors, both external and internal, that affect Operations, Maintenance and Administration ("OM&A") Costs in the period 2006 to 2008.

1.1 Growth

The City continues to grow and Hydro Ottawa added approximately 3,800 new customers to the distribution system in 2006 and higher growth is forecast for 2007 and 2008. Hydro Ottawa's customer count is forecast to be 293,220 by year-end 2008 up 10,827 (3.8%) from the 2006 year-end number of 282,393.

1.2 Compensation

In March 2007, a new collective agreement was signed with the International Brotherhood of Electrical Workers, increasing the annual wages by 3% in 2007 and 3.25% for each of 2008 and 2009. Management staff compensation has been forecasted to increase by 3%.

At the end of 2006, the Hydro Ottawa Group of Companies underwent a reorganization. As a result of this, the vice-president layer of Hydro Ottawa's management was eliminated (four vice-presidents), two director positions were created and one eliminated and one existing director was transferred to the Holding Company.

Hydro Ottawa is nearing completion of an integrated Geographical Information System ("GIS") and Outage Management System ("OMS"). Once implemented, the system will enable Hydro Ottawa to diagnose and respond more quickly to problems in the distribution system and reduce outage times for customers. An important impact of the conclusion of this project is that the team members whose salaries have been fully capitalized during the project will now be focused on operational work. Only a portion of these salaries will now be related to capital projects and the other part will be in Operating and Maintenance ("O&M") expenses. Further details on compensation are provided in Exhibit D1-5-1.

1.3 Workforce planning

In 2005, Hydro Ottawa launched its apprenticeship program to meet the challenges that the company is facing with an aging workforce. The apprenticeship program continued to grow through 2006 and 2007. It now includes four distinct groups of skilled trades including power line maintainers, cable jointers, stations electricians, and system operators. The total number of apprentices as of June 2007 is 29, and 20 more are planned for 2008. These apprentices are anticipated to be fully qualified within five years of their hire. Further details of this apprenticeship program are included in Exhibit D1-5-2. In addition to the apprentices discussed previously, Hydro Ottawa has a development program for distribution system designers to ensure that qualified staff are available as the current staff retire.

1.4 Asset Management Strategy

While Hydro Ottawa's asset management strategy is predominately related to the capital assets, some evaluation has been applied to OM&A activities. In particular the asset management strategy included the appropriate cycles for vegetation management. Details of this program are provided in Exhibit D1-4-2.

1.5 Environmental Requirements

Hydro Ottawa maintains its ISO 140001 certification for environmental stewardship, and continues to maintain a high standard on environment issues.

On November 4, 2006 Environment Canada published an updated draft of its Regulations on PCBs. Hydro Ottawa has been in the process of and continues to undertake a comprehensive transformer survey and replacement program to ensure

PCBs in concentrations greater than 50 ppm are removed from its equipment, in anticipation of the enactment of this regulation. While the replacement of transformers is a capital project, the testing of PCBs has been part of O&M costs.

Another significant factor for OM&A costs relates to City of Ottawa bylaw (Sewer Use By-Law No. 2003-514) that requires all water pumped out of manholes to be tested for contaminants before going into the sewer system. Hydro Ottawa has approximately 4,000 manholes (underground chambers) throughout the City to provide access to the underground distribution system for maintenance and construction. These manholes cannot be sealed for reasons of public safety; therefore, run-off water from city streets can enter the manholes. If the water has any contaminants, they existed prior to entering Hydro Ottawa's chambers. The logistics around testing are such that the only practical approach to allow work on the distribution plant to proceed would be to treat all water pumped out of manholes, at a considerable expense. This would require special contractors to pump the water and transport it to a waste treatment facility.

If all water in manholes must be pumped and treated, the additional annual costs to Hydro Ottawa is estimated at $1.3M. However, Hydro Ottawa is working with the City of Ottawa to determine the full extent of the requirements. Given some level of uncertainty as to the extent of the work required, Hydro Ottawa proposes that instead of including the $1.3M in the 2008 forecast for O&M costs, a deferral account will be sought for tracking the actual costs. This deferral account is discussed further in Exhibit A1-5-1.

1.6 Review of Overhead Allocation and Capitalization

As discussed in Exhibit B1-3-1, Hydro Ottawa is changing the accounting estimates used to allocate overhead costs to capital programs, and how it allocates overhead costs to O&M. This has two impacts on the OM&A costs. First, with fewer overhead costs allocated to capital programs, the total OM&A costs increase. Furthermore, to develop a simpler approach for accounting, overhead administration costs will no longer be allocated out to maintenance programs. This means that these corporate overheads will remain part of the Administration grouping of OM&A instead of being part of O&M.

2.0 OM&A COSTS

Table 1 shows the OM&A by year for the same OM&A groupings used as part of the 2006 EDR Application. These numbers are shown net of allocations out to capital. The changes being implemented to the allocation of overhead costs has a significant impact on the net OM&A but does not impact the gross OM&A. Therefore the allocations to capital and gross OM&A are shown as separate rows to illustrate the change.

Table 1 - OM&A by Groupings

Operations, Maintenance and Administration (OM&A)	2006 Approved Rate Application	2006 Actual	2007 Estimate	2008 Forecast
Operations	$17,646,027	$14,217,031	15,179,697	$14,562,448
Maintenance	4,459,435	5,547,781	5,217,978	5,111,153
Billing and Collection	9,197,432	8,446,010	9,392,339	9,716,811
Community Relations	3,455,624	3,512,896	4,419,933	4,515,270
Administrative and General[1] Expenses	5,125,241	6,904,950	7,571,263	20,313,829
Insurance Expense	210,000	296,852	289,565	325,692
Bad Debt Expense	900,000	2,992,045	2,002,739	2,000,008
Advertising Expenses	62,000	7,403		0
Allowable Charitable donations[2]		40,000	40,000	40,000
Other Distribution Expenses	2,931,751	1,859,728	1,991,516	2,002,832
Net OM&A without Smart Meters	**43,987,510**	**43,824,696**	**46,105,030**	**58,588,043**
Allocations to capital	not available	($33,414,021)	($36,681,333)	($28,866,253)
Gross OM&A without Smart Meters		**77,347,304**	**82,786,363**	**87,454,296**
Smart Meter Expenses[3]	$0	$0	$1,034,835	$740,018
Net OM&A with Smart Meters	**$43,987,510**	**$43,824,696**	**$47,139,865**	**$59,328,061**

[1] Administration costs do not include the costs for Low Voltages charges from Hydro One. These costs were recorded in USoA Account 5665 for 2006 but subsequent guidance from the OEB have these costs recorded in Account 4750, therefore not part of OM&A.

[2] Actual charitable donations were higher. This reflects the charitable donations related to helping customers pay their electricity bills.

[3] The Smart Meter expenses are discussed in Section 12.0. For 2007, the expenses shown relate to the calendar year including a portion from the 2006 rate year (January 1, 2007 to April 30, 2007) and a portion from the 2007 rate year (May 1, 2007 to December 31, 2007). For the calendar year 2008, the expenses are forecast at a total of $1,723,018. But this is comprised of $983,000 from the 2007 rate year (January 1, 2008 to April 30, 2008) and $740,018 from the 2008 rate year (May 1, 2008 to December 31, 2008).

3.0 OPERATIONS AND MAINTENANCE

Operation is defined as work that encompasses actions of a detective, preventative, and/or monitoring nature. Maintenance is defined as the routine activity to ensure the equipment or device operates correctly (generally work performed in a reactionary manner based on the results of an Operation activity).

With Hydro Ottawa's corporate structure, numerous different divisions and/or departments within the company can carry out operations and maintenance functions. For instance, the Construction and Maintenance division ("CAM") certainly has responsibilities for maintenance functions, but also has operations responsibility. The Distribution Asset Management division ("DAM") has responsibility for the system control room but also has responsibility for maintenance of stations. The Metering and Electricity Revenue ("MER") division has both operating and maintenance functions for metering. Reasonable effort has been taken to provide the appropriate split between operations and maintenance, but as a result of changes in corporate structures there are some inconsistencies year over year. Therefore, for the purposes of doing comparisons between years, operations and maintenance expenses should be considered in their totality.

The following is a description of typical operation activities and maintenance programs.

3.1 Control Room

Hydro Ottawa's control room is the "control authority" for the service area. The control room is operational 24 hours per day, 7 days per week ("24/7") to review and authorize system device operations and to provide key support for emergency response requirements.

3.2 General Switching

Hydro Ottawa has remotely operable switches; however, the vast majority of switches in the distribution system require manual operation. Qualified staff is required to travel to these devices in order to perform general system reconfigurations.

3.3 Distribution Transformer Oil Testing

A transformer survey program was undertaken, largely due to the GIS project and pending legislative changes concerning equipment containing insulating oil with PCB concentrations greater than 50ppm. Exhibit B2-3-2 contains information on the survey program. Testing the oil for PCB content is an O&M expense.

3.4 Station Transformer Oil Analysis

Chemical properties of the oil in stations' transformers can provide a general indication of the condition of the transformer. Oil tests are performed periodically to monitor transformer condition.

3.5 Asbestos Removal and Arc-Proofing of Cables

Cables in manholes and vaults are wrapped with an arc-proof tape. For health and safety reasons, workers cannot work freely in a manhole or vault with older, asbestos containing tape. Therefore, this program involves removing asbestos tape and replacing it with a new model of arc-proof tape that is asbestos free.

3.6 Supervisory Control and Data Acquisition ("SCADA") Maintenance

SCADA equipment is installed throughout the distribution system. Many remote devices are battery powered and the batteries require periodic replacement. The communications devices such as antennas and radios require repairs, as do other components, from time to time.

3.7 Thermographic Scan

Hydro Ottawa uses infrared scanning, a heat detection technology, as an early detection and preventative maintenance method to find possible plant failure. The program results in an increase in system reliability and safety and extends the useful life of the assets in the distribution system.

3.8 CO_2 Wash

The CO_2 wash program for pad-mounted switchgear is based on the results of the Thermographic Scan program. The CO_2 method has allowed switchgear to be maintained in an efficient and cost effective manner. The process involves cleaning energized switchgear using dry ice. Compared to washing with water, this affords flexibility to schedule switchgear maintenance throughout the year while decreasing maintenance costs, eliminating interruptions, avoiding switching thereby removing the associated safety concerns and freeing up manpower.

3.9 Insulator Washing

The insulators in the Hydro Ottawa system become contaminated by road salt, vehicle exhaust, and other airborne contaminants. The City of Ottawa uses more salt during the winter than many other Ontario municipalities. In damp weather, these insulators can flashover, cause pole fires, and jeopardize the system’s reliability. To avoid this, Hydro Ottawa has adopted an extensive insulator-washing program along the major roadways where contamination builds normally. Full washing of these critical, 44 kV, 27.6 kV and 13.2 kV circuits is done around mid-February, and selective washing in the fall (around mid-October) each year. The program also involves washing all under-build (lower voltage lines on the same pole line as higher voltage lines) of 8 kV or more.

3.10 Graffiti Abatement

The purpose of the graffiti abatement is to remove and/or prevent inappropriate messages and statements, graphical or text, on Hydro Ottawa's assets (e.g., buildings, pad-mounted transformers or switchgear), from general public visibility. The requirement for this service is established under Hydro Ottawa's commitment to the City of Ottawa Utility Coordinating Committee. Assets to be addressed are identified by the City of Ottawa by-law enforcers, the police and the public at large.

The program typically involves provision of standard or anti-graffiti coating on Hydro Ottawa's pad-mounted equipment. The standard paint coating is a quick-dry gloss enamel type, while the anti-graffiti is an epoxy base or aliphatic clear finish. Normally, Hydro Ottawa's field representative assesses the type of coating needed. The program also includes the re-instatement of the area around the equipment, and re-labelling of the equipment using the approved materials and label placement specifications.

3.11 Tree Trimming / Vegetation Management

Information on Hydro Ottawa's vegetation management program is contained in Exhibit D1-4-2.

3.12 Manhole Inspection and Cleaning

Manholes are the access point to Hydro Ottawa's underground distribution system. There are approximately 4,000 manholes in Hydro Ottawa's distribution system. The majority are located along road right of ways, either in the road or within the sidewalk area. Regular access is required to plan projects to connect new customers, replace aged cables, troubleshoot outages or accommodate road construction.

The primary reason for manhole inspections is to maintain the integrity of the civil structures and below grade electrical system.

Items checked during a manhole inspection include:

- condition and height of the cover, the part that closes the manhole to the public and is therefore the utmost importance for public safety,
- condition of cable splices and cable racks,
- integrity of the concrete,
- existence of rust on steel components, and
- cleanliness of the manhole.

There is also a need to identify which manholes contain cables that have been treated with arc-proof tape containing asbestos. Work may still be performed within a manhole with tape containing asbestos; however, the presence must be identified for worker safety.

Many of the manholes are connected to the City storm/sewer system that may backup into the manholes. The lids of the manholes are not sealed and do allow water and dirt to enter the manhole over time. To ensure the contaminants do not degrade the equipment in the manhole and to allow for a safe working environment, the manholes are often cleaned prior to planned work. As discussed in Section 1.5, a City of Ottawa bylaw requires the potential treatment of water pumped from manholes.

3.13 Underground Locates

Information on Hydro Ottawa's Locates activities is contained in Exhibit D1-4-3.

4.0 BILLING AND COLLECTING

The Billing and Collecting function provides a variety of services that directly service the needs of electricity customers within Hydro Ottawa's service area. This function is responsible for customer billing, collections of electricity accounts and metering reading. Meter reading functions have been out sourced to a contractor for many years. This contractor can also disconnect and reconnect meters. Internal field staff address more complex transactions and commercial/industrial accounts. Collection of accounts is an internally resourced function until the point at which avenues for collecting closed accounts have been exhausted. At this point the arrears are transferred to an external collection agency that is paid a percentage of the amount that is collected.

Meter data services is also a part of this grouping with responsibilities for reading all interval meters, determining the net system load shape for billing customers and wholesale settlement functions including the validation of electricity bills received from the Independent Electricity System Operator ("IESO") and Hydro One Networks Inc.

The other function within the Billing and Collecting group is Customer Information System ("CIS") Support. This function has responsibility for all support functions for Hydro Ottawa's CIS including the day-to-day support and oversight of any changes to the system or the reports that are produced from it. This function is separate but closely related to the information technology functions in the company that are part of the Administration grouping.

5.0 COMMUNITY RELATIONS

Costs included in the Community Relations group include the Customer Contact team; Hydro Ottawa's customer facing organization. The Customer Contact team is organized to serve a diverse customer base of approximately 250,000 residential and small commercial customers.

This group is responsible for all customer account and relationship activities including the handling of customer telephone calls, correspondence and move requests. The Customer Contact team routinely handles 350,000 customer generated account maintenance and outage reporting calls, 34,000 pieces of written correspondence and 60,000 customer initiated move requests per year. Over 72% of customer calls are answered within 30 seconds (exceeding the Board requirement of 65%), and 99% of written correspondence is answered within 10 business days (exceeding the OEB requirement of 90%).

A call centre that operates between 8:00 am and 8:00 pm on business days handles customer telephone inquiries. The call centre handles higher volume and lower complexity "First Level" calls. This function has been outsourced to IBM for six years ending December 31, 2010. After 15 months into the agreement, it was recognized that call volumes were actually 20% higher than originally contracted, and an adjustment was made to the agreement to recognize this fact. Costs paid are based on a formula related to the size of Hydro Ottawa's customer base, not on the number of calls handled. Scripting, training and oversight are all managed strictly by Hydro Ottawa. Performance standards are monitored on a regular basis between Hydro Ottawa and IBM management.

Customer requests that are lower in volume but higher in complexity are directed from the call centre to a Hydro Ottawa customer contact support team, which provides "Second Level" support. This group also handles paper based move requests, miscellaneous correspondence, return mail, lawyer's letters, Auto Pay and Budget Billing requests, escalations and reporting.

In 2007 and 2008, the Customer Contact team is focusing on a number of customer service improvement initiatives including First Call Resolution, improved handling of customer service requests, improved meter reading processes, and timeliness of credit refunds to name but a few. Ongoing work in these areas and a continued focus on managing workflow, processes and the implementation of technology where applicable will help to continually improve the service that we offer our customers.

6.0 ADMINISTRATIVE AND GENERAL EXPENSES

Included with the Administrative and General Expenses grouping are all corporate service functions for Hydro Ottawa. Each of the following functions is lead by a member of the senior management team. For simplicity, this grouping of accounts will be called Administration expenses in subsequent sections.

6.1 Human Resources

The Human Resources Department is responsible for all payroll issues, labour relations, compensation reviews, internal communications, employee events and the development and oversight of human resources polices.

The Human Resources department also has oversight for safety, training and environmental programs. These functions together comprise the company's occupational health, safety and environment ("OHS&E") function. The costs of safety and training are considered an Administration cost; however, environment program costs are grouped with O&M expenses because they are primarily related to this function. An overview of Hydro Ottawa's approach to OHS&E is included in Exhibit D1-4-1.

6.2 Finance

Included within the Finance group are separate functions for general accounting, accounts receivable, accounts payable, payment processing (including electricity bill payments), retail settlements, budgeting/business planning, financial forecasting, taxes and banking.

Responsibility for the maintenance and upkeep of Hydro Ottawa's facilities are also a key function for the Finance department. This includes the corporate head office, three additional operations centre across the city, a separate fleet/training facility and approximately 70 distribution stations. Costs for maintaining the general plant (i.e. office buildings) are part of Administration expenses whereas maintenance for facilities at transformer stations is part of O&M costs.

Another major responsibility for the Finance group is procurement /supply chain management. This group sets and oversees procurement policies and procures all products and services for the company. Details of Hydro Ottawa's Procurement Strategy are provided in Exhibit D1-3-1.

6.3 Information Technology ("IT")

The IT department has responsibility for all core IT infrastructure, corporate applications, voice services and data services. Business specific systems (SCADA, OMS, GIS and CIS) are currently administered or operated by the operational department that is the predominant user of that system. The IT department oversees coordination between systems through various working groups and steering committees.

For 2008, a particular priority for the IT department is enhancing the security of the infrastructure while supporting the company's move to a more mobile workforce enabled by the new GIS.

6.4 Communications

The communications team is responsible for the delivery of customer communication and community initiatives that promote customer and public awareness of business and industry activities. This function also maintains Hydro Ottawa's website, develops customer brochures, organizes community information sessions, interfaces with the media and local government representatives and manages the on-call and outage support procedures, schedules and training.

6.5 Regulatory Affairs

Regulatory Affairs is responsible for all filings with the Board and the IESO including comments on consultations, rate and other applications, compliance reporting, licence applications and renewals and reporting and record-keeping requirements. Regulatory accounting is also part of this group working closely with the finance staff. A major expense for the Regulatory Affairs department is the OEB Cost Assessment, Cost Awards paid to intervenors and annual fees to the Electrical Safety Authority.

6.6 Corporate Costs / Chief Operating Officer ("COO")

The COO has oversight responsibility for all of Hydro Ottawa's activities including the functions described in Sections 3, 4, 5 and 6. A major initiative for 2008 is the review of internal processes to ensure that all activities are aligned to common goals and are being performed in the most efficient manner.

The Uniform System of Accounts ("UsoA") requires all executive salaries to be recorded in Account 5605. While Hydro Ottawa's internal accounting normally records these salaries as part of the operational department costs, to be consistent with the USoA, the costs have been considered a corporate cost within the Administration grouping. Therefore all salaries and associated departmental expenses for the senior management team (COO and Directors) are included as corporate costs and therefore are part of Administration expenses. In addition, corporate costs would include bank charges, prudential requirements to the IESO, association fees (Canadian Electricity Association, Ontario Energy Association, Electricity Distributors Association), allocations from the Holding Company, audit fees and employee future benefits.

7.0 INSURANCE EXPENSE

While insurance expense is normally part of corporate costs, the amount was separated out for the 2006 EDR Application. Therefore, for consistency the insurance expense is shown separately again. It should be noted that this includes only property and fleet insurance.

8.0 BAD DEBT EXPENSE

Bad debt expense is the difference between the allowance for doubtful accounts recorded or forecast between one year and the next. The allowance for doubtful accounts is set based on a percentage of the aged arrears. Therefore, the allowance associated with arrears from a customer that are 60 days old is less than the allowance for arrears that are a year old. This provides a weighting related to risk that the amount will not be collected.

There are two categories of bad debt expense. One is related to electricity billing and one is related to billing for other services. These other services could be pole attachments, damages to plant, temporary services, service isolation and re-energization to permit maintenance and upgrades, etc.

As part of the 2006 EDR Application, Hydro Ottawa only provided a forecast for the first category of bad debt expenses but experienced a significant impact from the second category as well. Therefore both categories are included in the forecast for 2008.

9.0 ADVERTISING EXPENSE

Included with Advertising Expense are Accounts 5515 and 5660. For Account 5515 the advertising would be *“designed to promote or retain the use of utility service”.* For Account 5660 the advertising would be *“primarily designed to improve the image of the utility or the industry*”. Hydro Ottawa has not identified any advertising for 2007 that would fit these descriptions, except for the advertising related to Conservation and Demand Management (“CDM”) that is separate from this application. Therefore no amounts are estimated for 2007 or forecasted for 2008 for Advertising Expenses.

10.0 ALLOWABLE CHARITABLE DONATIONS

Hydro Ottawa is a founding sponsor of the Ottawa Safe Communities Program and is an active participant in the local United Way campaign. Consistent with the 2006 EDR Application, Hydro Ottawa has not included the costs for these charitable donations in its revenue requirement.

However, Hydro Ottawa is also a sponsor for the Winter Warmth Program. This is a charity to which a customer can apply for assistance in paying their electricity bill. These types of charitable donations were eligible for recovery in the 2006 EDR Application; therefore the costs have been included in this application.

11.0 OTHER DISTRIBUTION EXPENSES

Included within the Other Distribution Expenses grouping are two unrelated accounts. The first is for Account 6105, taxes other than income taxes. Included in this account are both provincial capital taxes and property taxes. Since the large corporation taxes are dealt with through the allowance for PILs, the only amount included in Other Distribution Expenses is for property taxes.

The other two accounts in Other Distribution Expenses are Account 5510 Supervision for sales activities and 5515 Demonstrating and Selling Expenses. Hydro Ottawa has recorded the expenses related to providing service to large customers referred to as “key accounts” in these accounts. These customers are the highest consumers of electricity within Hydro Ottawa’s service area and require ongoing and more complex service support.

For the 2006 EDR Application, Hydro Ottawa had also included in these accounts certain marketing functions that were recorded in the 2006 actuals, 2007 estimate and 2008 forecast as an Administration Expense.

12.0 SMART METER EXPENSES

Smart Meter expenses have been shown as a separate item because the presence of the variance account for 2007 means that the expenses are dealt with on a rate year basis (May 1, 2008 to April 30, 2009). The numbers shown are for the portion of the 2008 rate year that occur in the 2008 calendar year (May1, 2008 to December 31, 2008) of $740,018. In addition, not shown is $983,000 in costs that represents the portion for the 2007 rate year that occurs in the 2008 calendar year (January 1, 2008 to April 30, 2008). The 2007 rate year portion is higher because it includes a number of one-time costs in preparation for the implementation of time-of-use billing. The one-time costs include change management initiatives and incremental call centre costs.

Only the 2008 rate year portion of $740,018 was included for the purposes of determining the revenue requirement.

Details of Hydro Ottawa's current Smart Meter Investment Plan are described in Exhibit D3-1-1.

OPERATIONS, MAINTENANCE AND ADMINISTRATION
2006 ACTUAL VERSUS 2006 APPROVED

1.0 INTRODUCTION

Table 1 summarizes Hydro Ottawa's actual 2006 Operations, Maintenance and Administration ("OM&A") expenses based on the grouping of accounts from the Board's 2006 EDR process and compares them to the 2006 expenses approved in EB-2005-0381. The Uniform System of Accounts ("USoA") groupings for Operations and Maintenance ("O&M") and Administration are shown net of the allocations to capital programs. There are no capital allocations in the other expense groupings.

Table 1 - OM&A 2006 Actual Results Versus 2006 Approved Rate Application[1]

OM&A	2006 Approved Rate Application	2006 Actual Results
O&M	$22,105,462	$19,764,812
Billing and Collections	9,197,432	8,446,010
Community Relations	3,455,624	3,512,896
Administration	5,125,241	6,904,950
Insurance Expense	210,000	296,852
Bad Debt Expense	900,000	2,992,045
Advertising Expenses	62,000	7,403
Allowable Charitable Donations	-	40,000
Other Distribution Expenses	2,931,751	1,859,728
Total Net OM&A	**$43,987,510**	**$43,824,696**
Capital Allocations	not available	(33,522,608)
Total Gross OM&A		**$77,347,304**

The Board's Filing Requirements state that: "A written explanation is required for operating cost related information when there is a variance greater than or equal to of

[1] Table 1 does not include costs related to the Smart Meter program that are discussed in Exhibit D3-1-1.

1% of total distribution expenses before PILs, whichever is larger."[2] For Hydro Ottawa this requirement would set the materiality limit at $440k based on 2006 distribution expenses. Hydro Ottawa has generally provided more detailed explanations.

Overall, 2006 results are approximately $150k lower than submitted in the rate application. Hydro Ottawa proactively works to manage expenses within the envelope approved by the OEB. When unanticipated cost overruns are identified, Hydro Ottawa responds by reducing discretionary expenses, identifying areas where the company may experience cost savings, or deferring non-critical expenses. A significant increase in bad debts expense, recognized by the first quarter of 2006, triggered a significant undertaking to manage costs in 2006. However, some additional costs omitted from the 2006 rate application, including costs to comply with the OEB mandate to establish an independent Board of Directors, could not be curtailed and resulted in an increase.

2.0 OPERATIONS AND MAINTENANCE

O&M includes all activities that are related to USoA Accounts 5005 through 5195 of the Accounting Procedures Handbook ("APH") relating to the operating and maintenance of Hydro Ottawa's distribution plant.

Overall O&M costs for 2006 were $2.3M lower than approved in the rate application. A significant reduction in O&M related to the actual hours the labour force spent in 2006 on capital projects versus maintenance programs. Approximately $1.7M of the variance was due to more labour spent on capital than expected; thereby decreasing the O&M costs.

Compensation in 2006 was approximately $500k higher than planned. However, this was predominately due to increased overtime costs due to mutual aid provided to Hydro One and Quebec Hydro, which were fully funded. Therefore, this did not impact the net O&M.

[2] Page 18 of the Board's Filing Requirements.

Most maintenance programs were completed as planned as follows.

- Vegetation management as described at Exhibit D1-4-2 is contracted out on a three-year trim cycle, 2005, 2006 and 2007. The 2006 contract amount was $1.9M, plus off-cycle and emergency trimming, but the 2005 contract amount of only $1.7M had been included in the 2006 rate application. Actual spending was approximately $200k higher than the contract, as a result of higher off-cycle spot trimming and emergency work and some 2005 work that was deferred and completed in 2006. The total expense of $1.9M recorded in 2006 is not indicative of the level of work because a year-end estimate accrued for services in 2005 was higher than the actual costs. This will be reflected as an increased cost in 2007. The total increase from the rate application to the 2006 actuals was $200k.
- General Maintenance Programs – These are described in Exhibit D1-1-1 and include Infrared Scanning, CO_2 and Insulator Washing, graffiti abatement and asbestos removal. These programs were completed generally in accordance with plan. During 2006, some of the asbestos removal work was not completed as the Light Rail project did not progress as planned, but this had a minimal impact.
- Work proceeded on the testing of transformer oil for PCBs as planned.

Manhole inspections and cleaning were not completed as planned; however, this cost was offset by pole attachment expenses. In the 2006 rate application, Hydro Ottawa had included the amounts paid to Hydro One Networks Inc. and Bell Canada for attachments to their poles as a reduction to the pole attachments revenues from the same parties for the reciprocal arrangement. For 2006 actuals and subsequent years, the expenses and revenues are shown separately. See C2-1-2 for discussion of a corresponding variance in revenue.

The remaining decrease in O&M of $800k relates to $300k in reduced costs for items such as travel, training and professional services as discussed in Section 5.0 and $500k of compensation and other office expenses for two directors in the senior management team whose costs were actually recorded in Administration costs commencing in 2006.

In summary, the O&M costs were $2.3M lower than the rate application related mostly to $1.7M additional costs allocated to capital programs, $300k related to efforts to manage ancillary costs, such as travel and training, and $500k in costs shifted from O&M to Administration, offset by increases to maintenance programs totalling $200k.

3.0 BILLING AND COLLECTIONS

Billing and collections was $750k lower than originally anticipated. Approximately $550k of this relates to lower compensation expenses, due in part to delay in filling some vacant positions and a shift in the Corporation's organizational structure. Specifically:

- two unionized CIS support and one supervisor position were filled midway to late in the year,
- a reduction of one management Full Time Equivalent was achieved by combining the Manager of Billings and Manager of Collections into one position, and
- the salary and office expenses for the director position had been included in Billing and Collections expenses in the rate application but is recorded in Administration as part of the senior management team (reclassification only, see 5.0) for the 2006 actuals and subsequent years.

In addition, a renegotiation of the meter reading contract resulted in $200k of savings. Since some smart meters had been installed, but not yet functional by the end of 2006, no amount of this savings could be attributed to this program.

4.0 COMMUNITY RELATIONS

Community Relations includes costs related to Hydro Ottawa's Call Centre, both external and internal, front cash operations and customer contact. Overall expenditures on

Community Relations were approximately $100k greater than approved in the rate submission.

In 2006, there were a number of staff positions not filled which resulted in savings of approximately $400k. These savings were offset by $300k for compensation costs shifted from the Other Distribution Expenses grouping (See 10.0 below) and an increase in the IBM contract for the Call Centre of approximately $200k.

5.0 ADMINISTRATION

Administration expenses are presented reflecting a $1.8M increase in expense. Most of this increase relates to classification changes between the rate application and 2006 actual expenditures, over forecasted allocations to capital and a shifting of costs between O&M and Administration.

A significant portion, $600k, relates to the presentation of amounts paid by affiliates for corporate services provided by Hydro Ottawa for facilities, human resources, information technology and supply chain management as a reduction to expenses for the 2006 EDR Application rather than as other income. For the 2006 actual results and subsequent years, this payment from affiliates to Hydro Ottawa is shown as revenue. This is discussed further in Exhibit C2-1-2.

Another amount of approximately $700k relates to costs for sales and marketing functions that shifted from the Other Distribution Expenses grouping (see Section 10.0) and the inclusion of the salary and associated office expenses for a new member of the senior management that were originally in the Billing and Collection grouping. (See Section 3.0).

Allocations from the Holding Company, as discussed at Exhibit D1-2-1 were $400k higher than originally submitted, most of which related to consulting on appropriate governance structures and recruiting costs to select board members to commence implementation of an independent Board of Directors for Hydro Ottawa as mandated by the OEB. Other increased costs of the Holding Company related to the engagement of procurement specialists to recommend best practices for procurement policies and practices, and expenses related to the management of Hydro Ottawa's financial reporting system. Hydro Ottawa was allocated a portion of these increased costs.

Inventory write-offs and obsolescence increased by $250k. Furthermore, $500k of expenses for two operations directors was included as an O&M cost in the rate application but was recorded in Administration commencing in 2006 (See Section 2.0).

A onetime recognition of a retirement grant liability of $600k was recorded in 2006 but this was offset by a deferral of OMERS expense and OEB cost assessments up until April 30, 2006 in the amount of $650k (net decrease to expenses of $50k).

Discretionary spending such as travel and training and professional services was also curtailed by $600k in 2006 related to the heavy work program in the year but also as a result of a management effort to mitigate the increase in bad debt expense.

6.0 INSURANCE EXPENSE

Fleet insurance of approximately $60k has been included as an insurance expense for 2006, but was classified as an Administration expense in the rate application. This accounts for most of the small difference in insurance.

7.0 BAD DEBT EXPENSE

Bad debts expense was $2.1M higher than applied for in the rate application. Bad debts provisions were re-evaluated in 2006 to ensure the provisions reflected the risk to the company and a concerted effort was made to clean up old accounts. The new CIS was implemented in 2004, but certain aspects of the collections modules were not available. All bad debts were recorded manually up until 2004. In 2004, Hydro Ottawa experienced a strike and collections activities took a lesser priority. It took a further year to finalize billing processes with the new system so that the focus could shift to collections activities in 2006. For this reason bad debts related to electricity accounts were $700k higher than originally approved. The 2006 bad debts as a percentage of sales revenue is 0.2%, which is more consistent with industry average. In addition, bad debts from other sources, including pole attachments, street lighting contracts and work for others in the amount of $1.3M were also recognized in 2006. In 2006 there was only one account written off in excess of $100k.

8.0 ADVERTISING EXPENSE

The advertising budget was set based on costs incurred to educate customers about pending industry changes and upcoming service related events such as rate changes, changes to bill layout, outages and many others. It also included newspaper advertisements to inform customers of planned service outages, to repair, install or upgrade equipment.

The company's focus during 2006 was on CDM, and any advertising related to CDM has been reflected as a CDM cost.

Hydro Ottawa did not undertake any "branding" or corporate image advertising in 2006.

9.0 ALLOWABLE CHARITABLE DONATIONS

The Winter Warmth Program as described at Exhibit D1-1-1, was not envisioned at the time of the 2006 EDR Application and therefore no costs had been included for charitable donations.

10.0 OTHER DISTRIBUTION EXPENSES

Other distribution expenses are presented showing a $1.1M decrease. $400k of this amount represents savings while the remaining $700k relates to a reclassification of compensation expenses to both the Community Relations ($300k) and Administration groupings ($400k).

Savings of $200k were realized in 2006 on expenses related to sales, marketing and key accounts. Participants and exhibitors funded the 2006 “Powering the Future” conference instead of Hydro Ottawa bearing the expense. In addition, staff training, promotion and sponsorships were not fully spent. Property taxes were approximately $200k lower than expected.

OPERATIONS, MAINTENANCE AND ADMINISTRATION
2007 ESTIMATE VERSUS 2006 ACTUAL

1.0 INTRODUCTION

Table 1 summarizes the differences between the 2007 Estimate and the 2006 Actual results. Explanations for these differences are then provided for each category of expense. The Uniform System of Accounts ("USoA") groupings for Operations and Maintenance ("O&M") and Administration are shown net of the allocations to capital programs. There are no capital allocations in the other expense groupings.

Table 1 - OM&A 2007 Estimate Versus 2006 Actual Results[1]

OM&A	2006 Actual Results	2007 Estimate
O&M	$19,764,812	$20,397,675
Billing and Collections	8,446,010	9,392,339
Community Relations	3,512,896	4,419,933
Administration	6,904,950	7,571,263
Insurance Expense	296,852	289,565
Bad Debt Expense	2,992,045	2,002,739
Advertising Expenses	7,403	-
Allowable Charitable Donations	40,000	40,000
Other Distribution Expenses	1,859,728	1,991,516
Total Net OM&A	**$43,824,696**	**$46,105,030**
Capital Allocations	(33,522,608)	(36,681,333)
Total Gross OM&A	**$77,347,304**	**$82,786,363**

The Board's Filing Requirements state that: "A written explanation is required for operating cost related information when there is a variance greater than or equal to of 1% of total distribution expenses before PILs, whichever is larger."[2] For Hydro Ottawa

[1] Table 1 does not include OM&A costs related to the Smart Meter program that are discussed in Exhibit D3-1-1.
[2] Page 18 of the Board's Filing Requirements.

this requirement would set the materiality limit at $440k based on 2006 distribution expenses. Hydro Ottawa has generally provided more detailed explanations.

2.0 OPERATIONS AND MAINTENANCE

O&M includes all activities that are related to Accounts 5005 through 5195 of the USoA and relating to the operating and maintenance of Hydro Ottawa's distribution plant. Variances are discussed in the total compensation, O&M programs and allocated costs. Overall O&M costs for 2007 are estimated to increase $650k over the 2006 actual results.

2.1 Compensation

Compensation expense has increased $1.05M due mainly to the addition of 16 apprentices related to workforce planning, and new positions to be hired during the last quarter of 2007, as discussed at Exhibit D1-5-2. In 2006, Hydro Ottawa experienced increased overtime related to providing mutual aid to Hydro One and Hydro Québec to help restore power after some major storms, however this was fully funded.

2.2 Programs

Expenses for O&M programs are expected to increase by approximately $1.6M, mainly due to the increase in maintenance contracts related to:

- Vegetation management – This program is described at Exhibit D1-4-2. Spot trimming and emergency work has increased costs for 2007 by $350k. The cycle costs of tree trimming do vary depending on the zone that is being serviced. The increase in 2007 is also due in part to lower expenses in 2006 as a result of reversing an estimate for year-end 2005 costs.
- Underground locates – This program is described at Exhibit D1-4-3. Hydro Ottawa must respond to the external request for cable locates and therefore

costs fluctuate by demand and customer growth. In addition, Hydro Ottawa has been promoting this service to try to eliminate accidental damage to underground cables and the resultant risks to health and safety. The number of underground locates contracted increased by 4% as a result of volumetric increases in City development and therefore costs increased by $250k.

- Oil testing of transformers – Work continued in testing oil in transformers for PCBs. The focus for 2007 was on transformer vaults. In 2006, the testing was predominately for overhead distribution transformers. The costs were approximately equal each year. This program is described at Exhibit D1-1-1.
- Asbestos removal – Hydro Ottawa's asbestos removal program is also described in Exhibit D1-1-1. Additional costs of $200k will be incurred in 2007 to remove asbestos tape from cables.
- Maintenance of fleet – Fleet maintenance costs including bodywork, mechanical and other miscellaneous repairs are expected to be $100k higher in 2007 than in 2006. This is because of additional maintenance costs expected on the vehicles scheduled for replacement in 2007 and general price increases.
- Oil spill clean-up and treatment of contaminants – A net increase of $700k is included in the 2007 estimate. This is predominately due to requirements related to a City bylaw.

Other changes in costs related to GIS/OMS and station's software maintenance costs of $200k that will now be expensed following the completion of the capital project. Training costs have increased by $100k from 2006 because some training was deferred from 2006 to the early part of 2007 to manage the workload in that year. These cost increases were offset by the centralization of certain land based telecommunications costs from operations to IT resulting in a $100k decrease to O&M and a corresponding increase in Administration costs. Furthermore, dark fibre lease and pole attachment costs are expected to decrease by $200k in 2007.

2.3 Allocations

The amount of O&M capitalized during 2007 is estimated to increase $2.0M. Demand capital is estimated to increase in 2007 related to plant relocation, upgrade work and system expansion.

2.4 O&M Summary

In summary, the O&M costs are estimated to increase $650k from the 2006 actual results. This is made up of a $1.05M increase in compensation plus a $1.6M increase in maintenance and operations programs offset by an increase in costs capitalized of $2.0M.

3.0 BILLING AND COLLECTIONS

Costs for billing and collecting are expected to increase by $1M in 2007 from the 2006 level. Increases in compensation related to salary increases of 3%, a full year of salaries for three staff hired in 2006 and a temporary backfill to cover a maternity leave accounts for approximately $300k of this increase.

The remaining $700k increase in costs relates to:

- The CIS maintenance contract, which is indexed to inflation and increases in the customer base,
- Additional referrals to collection agencies and legal fees related to a couple of significant litigation cases,
- An increase in notices to customers related to collection activities,
- Equipment and training to automate the work of field staff including handheld devices and air cards, and
- Increased costs for the contract with Olameter Inc. related to meter reading expenses and additional field activity related to collections activities.

4.0 COMMUNITY RELATIONS

Community Relations has increased $900k over 2006 actual results, of which $450k relates to adjusting the IBM Call Centre contract to reflect the increase in call volumes as described at Exhibit D-1-1.

Compensation is increasing $250k. In addition to the 3% salary increases forecast, six vacant customer contact agent positions were filled in late 2006, whereas 2007 has a full year of salaries.

Furthermore, new projects are being completed in 2007 in the amount of approximately $200k related to analysis of call recording for implementation in 2008, performing customer satisfaction surveys, streamlining the outage reporting process and reconciling budget billings accounts that had not been completed yet with the new CIS.

5.0 ADMINISTRATION

Overall, Administration costs increased by $700k in 2007 from the 2006 level as a result of a decrease in compensation of $300k, an increase in general administration costs of $2.1M and a reduction in costs due to higher allocations to capital programs of $1.1M.

5.1 Compensation

Compensation expense decreased approximately $300k. Costs for the 3% salary increase were more than offset by the impacts of the organizational restructuring as described at Exhibit D1-5-1, which saw the shift of one director position from Hydro Ottawa to the Holding Company. This organizational change also results in an increase in Holding Company allocations.

Furthermore in 2006, Hydro Ottawa recorded a one-time liability for a retirement grant that was part of past collective agreements and recorded four months (to April 30, 2006) of the OMERS pension costs in a deferral account as approved by the Board. The net between these adjustments was a $100k increase in 2006 costs that will not occur in 2007.

5.2 General Administration

General administration expenses increased $2.1M related to:

- Human Resources costs of $300k including the introduction of an employee recognition program, consulting contracts related to the new collective agreement and training for new apprentices.
- Additional security patrols at Hydro Ottawa facilities and other facilities maintenance costs of $200k.
- Media communications and promotional media related to numerous small projects in support of proactive communication to customers that increased costs by $300k in 2007. The communications department was not fully staffed in 2006 and therefore numerous projects were not started until 2007 including outage communication, e-billing and website update.
- IT costs of $400k due to the centralized of certain land based telecommunications costs from O&M to the IT department, increases to IT maintenance contracts, more mobile workforce supported by the new GIS and consultants to support IT emergencies for which Hydro Ottawa does not retain permanent staff,
- Liability insurance cost increase of $200k.
- Allocations from the Holding Company of $200k as described in Exhibit D1-2-1 as a result of the strategic re-organization undertaken at the end 2006,
- Regulatory expenses mainly due to an increase in OEB Cost Assessments. An amount of $200k was deferred in 2006 for the period January 1, to April 30, 2006, as approved by the Board, whereas 2007 is based on a full year of costs.

- Miscellaneous cost increases of $300k due to inflation, staff levels, etc.

5.3 Capital Allocation

Allocations of administration costs increased by $1.1M in 2007 mainly due to more labour hours spent on capital programs in 2007 than in 2006.

6.0 INSURANCE EXPENSE

Property insurance for 2007 is estimated to be in line with 2006.

7.0 BAD DEBT EXPENSE

Bad debt expenses relating to electricity accounts are anticipated to be consistent with 2006 at $1.6M. The $900k decrease can be attributed to bad debts related to billings for other services, including pole attachments, street lighting contacts and work for others estimated to drop from $1.3M to $400k. Bad debt expense had increased in 2006 because the allowance for doubtful accounts had been increased to reflect the aging of accounts receivable for a number of major accounts. Since some of this amount was collected in 2007, the allowance could be decreased, and the bad debt expense decreased accordingly.

8.0 ADVERTISING EXPENSE

As described at Exhibit D1-1-1, no advertising expenses related to USoA Accounts 5515 and 5660 were paid or estimated for 2007.

9.0 ALLOWABLE CHARITABLE DONATIONS

There is no anticipated increase in Hydro Ottawa's donations to the Winter Warmth Program for 2007, as described at Exhibit D1-1-1.

10.0 OTHER DISTRIBUTION EXPENSES

Other distribution expenses are estimated to increase by $130k in 2007. This increase is predominately related to property tax increases. Minor compensation and expense increases for the Key Accounts department account for the remaining difference.

OPERATIONS, MAINTENANCE AND ADMINISTRATION
2008 FORECAST VERSUS 2007 ESTIMATE

1.0 INTRODUCTION

Table 1 summarizes the differences between the 2008 Forecast and the 2007 Estimate. Explanations for these differences are then provided for each category of expense. The USoA account grouping for Operations and Maintenance ("O&M") and Administration are shown net of the allocations to capital programs. There are no capital allocations in the other expense account groupings.

Table 1 - OM&A 2008 Forecast Versus 2007 Estimate[1]

OM&A	2007 Estimate	2008 Forecast
O&M	$20,397,675	$19,673,601
Billing and Collections	9,392,339	9,716,811
Community Relations	4,419,933	4,515,270
Administration	7,571,263	20,313,829
Insurance Expense	289,565	325,692
Bad Debt Expense	2,002,739	2,000,008
Advertising Expenses	-	-
Allowable Charitable Donations	40,000	40,000
Other Distribution Expenses	1,991,516	2,002,832
Total Net OM&A	**$46,105,030**	**$58,588,043**
Capital Allocations	(36,681,333)	(28,866,253)
Total Gross OM&A	**$82,786,363**	**$87,454,296**

The Board's Filing Requirements state that: "A written explanation is required for operating cost related information when there is a variance greater than or equal to of 1% of total distribution expenses before PILs, whichever is larger."[2] For Hydro Ottawa

[1] Table 1 does not include OM&A costs for the Smart Meter program that are discussed in Exhibit D3-1-1.
[2] Page 18 of the Board's Filing Requirements.

this requirement would set the materiality limit at $440k based on 2006 distribution expenses. Hydro Ottawa has generally provided more detailed explanations.

2.0 OPERATIONS AND MAINTENANCE

O&M includes all activities that are related to USoA Accounts 5005 through 5195 relating to the operating and maintenance of Hydro Ottawa's distribution plant. Variances are discussed in the total compensation, O&M programs and allocated costs. Overall O&M costs are forecast to decrease by $700k.

2.1 Compensation

Compensation expense has increased $2.3 million due mainly to the addition of 20 apprentices, two system designers, one stations electrician and one supervisor related to workforce planning, as discussed at Exhibit D1-5-2. The remainder of the increase can be attributed to regular compensation increases, 3.25% for unionized personnel and 3% for management as well as normal step increases set out in the collective agreement.

2.2 Programs

O&M programs include all of the costs in addition to compensation. Excluding compensation, the costs for planned maintenance programs are forecast to stay approximately the same as in 2007 with increases in some programs offset by decreases in others.

The following programs are forecast to have increased costs in 2008 over the 2007 level.

- Vegetation Management – This program is described in Exhibit D1-4-2. In addition to the cycle tree trimming, it includes emergency clean up. Hydro Ottawa has been working under the terms of a three-year contract that ends in

2007. A tender is being issued in third quarter of 2007 and costs are expected to increase.

- Stations facilities contracts – These involve general maintenance at Hydro Ottawa's 70 distribution systems throughout the city, including the new stations planned at Cyrville, Uplands and Albion. Maintenance includes cleaning, snow removal, landscaping, utilities and a requirement for increased security.
- General Maintenance Programs – These are described in Exhibit D1-1-1 and include switch maintenance, graffiti abatement program and manhole inspections. Hydro Ottawa addresses graffiti in accordance with City of Ottawa requirements. Manhole inspections were curtailed in 2007 because of work on the City's Light Rail Transit project but are now planned to return to normal levels for 2008.
- Other minimal cost increases relate to improving the management of the mobile workforce, including wireless units for use with Hydro Ottawa's GIS.

However, these increased costs are almost completely offset by small reductions to the following work:

- Oil testing of vault transformers – This work was largely completed in 2007,
- Maintenance of fleet – Costs are forecast to decrease in 2008 because the average age of the fleet has improved with the fleet replacement program undertaken over the past three years, and
- The 2008 forecast for asbestos removal and cable locates are down only slightly from the 2007 level.

In addition to these maintenance programs, Hydro Ottawa is forecasting a decrease of $600k from 2007 related to environmental work for spills and contaminated water in manholes. As discussed in Exhibit D1-1-1, a City of Ottawa by-law related to the testing and treatment of water from Hydro Ottawa's manholes could impact Hydro Ottawa's operations. Since it remains unclear on the extent to which Hydro Ottawa will incur costs related to this by-law, Hydro Ottawa is seeking a deferral account to record these costs should they occur. The discussion of the deferral account is included in Exhibit A1-5-1. Therefore, program costs for 2008, excluding compensation, are decreasing approximately $600k from the 2007 level.

2.3 Capital Allocations

Prior to 2008, Hydro Ottawa allocated certain Administration costs to O&M. The Administration costs were allocated to either maintenance, i.e. expensed, or capital programs, i.e. capitalized. As discussed in Exhibit B1-3-1, Hydro Ottawa changed its accounting estimates for the overhead costs directly attributable to capital programs and thereby decreased the capitalized amount for 2008 by $6.5M compared to what it would have otherwise been. This change has resulted in a comparable increase in the Administration costs.

Furthermore, to simplify the allocation methodology, Administration costs will also no longer be allocated to O&M for maintenance programs. This change does not impact the overall OM&A, but has the affect of leaving costs in Administration that in prior years would have been allocated to O&M.

The process of preparing this exhibit in future years will be more efficient and simpler to manage as a result of this change. Another result is the more effective and thus meaningful comparisons of Hydro Ottawa's O&M costs and Administration costs with those of other LDCs.

The final material impact to the O&M relates to the number of hours of labour that were attributed to capital programs versus maintenance programs between 2007 and 2008. For 2008, less labour will be capitalized resulting in approximately $1.3M of costs remaining in net O&M. This is the result of a number of factors. The GIS program will be completed in 2007; as a result, a portion of the labour related to this project will be expensed in 2008. Furthermore, capital labour was higher in 2007 related to the Sunnyside voltage conversion project and work on refurbishing station circuit breakers as part of Stations Enhancements. For both of these projects, the equipment was ordered in 2006 but the installation labour occurred in 2007. These projects are discussed in Exhibit B3-3-1.

2.4 O&M Summary

In summary, the O&M costs are forecast to decrease $700k from the 2007 estimated amounts. This is made up of a $2.3M increase in compensation plus an additional $1.3M related to labour not capitalized less a $0.6M reduction in maintenance programs and a $3.7M reduction in administrative costs allocated to maintenance programs, which therefore remains in the Administration grouping.

3.0 BILLING AND COLLECTIONS

Billings and collections expenses are forecast to increase by approximately $300k in 2008. Increases in compensation related to regular salary increases and the addition of a MDS Senior Analyst position, as described at Exhibit D1-5-1, accounts for approximately $250k of this increase. The remaining increase relates mainly to the requirement to provide support for the Customer Information System (“CIS”). Support for the current version ends in 2007 and the new version upgrade will not be completed until 2009. Therefore, Hydro Ottawa has to arrange for its own support. This additional support plus small increases for Oracle maintenance contracts and licenses will increase costs by approximately $250k.

These increases are offset by a drop in meter reading expense of approximately $200k as a result of implementing Smart Meters.

4.0 COMMUNITY RELATIONS

Community Relations expenses are forecast to increase by $100k in 2008. Regular salary increases amount to approximately $150k. There are no new staff being added. In addition, Hydro Ottawa plans to implement call recording for its call centre in 2008. This, plus normal increases in the IBM Call Centre contract, are forecasted to increase costs by $150k in 2008.

These increases were offset by a $200k reduction in consulting contracts from the 2007 level. A number of initiatives occurring in 2007 are not planned for 2008.

5.0 ADMINISTRATION

Administration costs are forecast to increase $12.7M in 2008. The main reason for this is $10.2M relates to changes in allocations of administration costs to capital and O&M as discussed in Section 5.3. Actual costs are increasing by $2.5M.

5.1 Compensation

Administration compensation has increased by $1M in 2008. As discussed at Exhibit D1-5-1, in addition to general salary increases, four new positions are forecast for 2008 including two IT analysts, a Security Specialist and a Database administrator to manage new services and growth, a management accountant to support the finance function and a human resources advisor to assist with the development and delivery of human resources programs.

5.2 Administrative Costs

In addition to the compensation increase, other administration costs are forecast to increase $1.5M in 2008. These costs can be attributed to increases for the following.

- New Programs – In 2008, Hydro Ottawa plans to embark on a program to review its internal processes to develop improved measurement tools, improve the timeliness of reporting and recommend process changes for greater efficiency. In addition, management development programs will be created to ensure succession plans are in place, to provide management skills development and review management benefits. In total, these programs are forecast to cost $500k in 2008.
- Regulatory expenses – Costs for the regulatory function are expected to increase by $200k in 2008. This is related to normal cost increases expected for OEB Cost Assessments and ESA membership dues, intervenor costs awards and legal fees related to the 2008 Rate Application and increased travel to Toronto for hearings and other proceedings.
- Customer communications – An increase of approximately $100k is forecast for 2008 related to growing customer base, communications for the e-billing service format for e-billing, and other additional promotional expenses.
- Hydro Ottawa Board and Holding Company allocations – An increase of $200k is forecast for 2008 for these costs. Having an independent Board of Directors for Hydro Ottawa is a new requirement of the Affiliate Relationships Code for Electricity Transmitters and Distributors. In 2007, the Holding Company paid for all of the costs of the Hydro Ottawa’s Board of Directors, including administrative support. These costs will now be paid for directly by Hydro Ottawa. Additional administrative support will be required by Hydro Ottawa to support the Board’s work. Furthermore, the Holding Company is undertaking a number of new initiatives as discussed in Exhibit D1-2-1 including business continuity planning and enhanced internal auditing and Hydro Ottawa will be allocated a portion of these new costs.
- A remaining increase of $500k relates to a 2% increase in other miscellaneous costs across all administrative departments.

5.3 Capital Allocations

As discussed in Section 2.3, Administration costs will no longer be allocated to O&M in 2008. As a result of this, $6.5M related to allocations to capital and $3.7M related to allocations to O&M (maintenance) will now remain in the Administration grouping of accounts. Therefore, Administration will increase by $10.2M as a result of this change. With the increase in compensation of $1M, the increase in Administration costs of $1.5M and not allocating Administration costs to O&M of $10.2M, the total increase in the Administration grouping is $12.7M.

6.0 INSURANCE EXPENSE

Insurance expense includes property and fleet insurance. Increases in 2008 are forecast to correspond with increases in property value, including increase in fleet value due to replacement of the aging fleet at the end of 2007.

7.0 BAD DEBT EXPENSE

Bad debts related to electricity accounts are forecast to be consistent with 2006 and 2007 at approximately $1.6 million. The bad debts incurred from other services, including pole attachments, street lighting contacts and work for others is anticipated to level off at approximately $400k for 2008. Therefore the bad debt expense forecast for 2008 is approximately the same as the estimate for 2007.

8.0 ADVERTISING EXPENSE

As described at Exhibit D1-1-1, no advertising expenses related to USoA Accounts 5515 and 5660 are estimated for 2007 or forecast for 2008.

9.0 ALLOWABLE CHARITABLE DONATIONS

There is no anticipated increase in the cost of the Winter Warmth Program, to be undertaken in 2007 and 2008.

10.0 OTHER DISTRIBUTION EXPENSES

Expenses for sales, marketing and key accounts and for property taxes are forecast to be in line with amounts expended in 2007. Reductions in managing key accounts are offset by property tax increases for the new Cyrville transformer station.

SERVICES FROM AFFILIATES

1.0 INTRODUCTION

Hydro Ottawa has received a very limited number of services from affiliates and the forecast for 2008 does not include any changes to this approach.

1.1 Energy Ottawa

No services are received from Energy Ottawa with the exception of 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.

1.2 Telecom Ottawa

From Telecom Ottawa, Hydro Ottawa plans to continue to purchase fibre services. Telecom Ottawa owns fibre assets between the distribution stations and operations centres of Hydro Ottawa. Since no other carrier would have fibre assets directly to these locations, no other carrier could provide these services at a reasonable cost. Hydro Ottawa currently pays a fair market value to Telecom Ottawa for fibre optic services as determined by Telecom Ottawa’s prices charged to other clients and a tariff approved by the Canadian Radio-television and Telecommunications Commission (“CRTC”) for Bell Canada (CRTC 6716).

1.3 The Holding Company

The Holding Company provides strategic direction and oversight to Hydro Ottawa in the areas of finance, treasury, risk management, legal, regulatory, human resources, internal audit and communications. The Holding Company does not engage in operational work for Hydro Ottawa, with the exception of some legal services. Costs are allocated from the Holding Company to all affiliates based on an assessment of the activity level with each affiliate, with certain items such as shareholder costs excluded. This assessment is completed at least annually to determine the appropriate allocation of costs.

For 2006, approximately 44% of the total holding company expenses were allocated to Hydro Ottawa. The allocation methodology has been applied consistently between the years and represents approximately 40% of total holding company costs, on average.

By July 2006, the Board required that all LDCs in Ontario maintain a separate Board of Directors with 1/3 of its members independent from affiliates. As such, Hydro Ottawa engaged the Conference Board of Canada to review the implications of the required change to identify best practices, recommend an appropriate structure and ensure the independence criteria was met. After establishing the appropriate structure, recruitment of new Board members was undertaken. Additional specific charges were incurred by the Holding Company for completion of a procurement study and costs in support of the management of Hydro Ottawa's financial system, not previously anticipated. For this reason the percentage of allocated costs in 2006 was a little higher than expected.

A corporate reorganization in 2006 to strategically align resources in the Holding Company resulted in the movement of one director from Hydro Ottawa into the Holding Company and the filling of a senior position that had been vacant since early 2006. While the Holding Company was strengthening the strategic resources of the Corporate Group, specific strategic projects undertaken for other companies in the consolidated group helped reduce the percentage of costs allocated to Hydro Ottawa to approximately 39% for 2007.

The 2008 forecast maintains Hydro Ottawa's allocation at 39% of the total holding company costs based on the expected activity level related to Hydro Ottawa for the year. Additional costs for 2008 include business continuity planning and an increased focus on internal audit. Business continuity planning is an important function to ensure that Hydro Ottawa is prepared for any potential risk or threat to its operations.

The Holding Company does not include a profit in the cost allocation to affiliates. In addition, the Holding Company has responsibility for all external financing for itself and the affiliates. Therefore, the Holding Company issues debt in the external markets and Hydro Ottawa pays interest expense to the Holding Company under the terms of a promissory note.

1.4 The City of Ottawa

From the City of Ottawa, Hydro Ottawa received water and sewer services and pays property taxes on the same terms as any business in the city. Hydro Ottawa also procured fuel from the City of Ottawa for fleet vehicles, in order to benefit from volume pricing. Hydro Ottawa also receives mapping information from the City by participating in the City's Central Utility Registry.

2.0 SERVICES FROM AFFILIATES

Tables 1 through 4 that follow summarize the services Hydro Ottawa has received or plans to receive from affiliates in 2006 to 2008.

2.1 2006 Approved Expenses

Table 1 summarizes the services that were forecast to be received from affiliates and the associated expenses in 2006 as part of the 2006 EDR.

Table 1 - 2006 Approved Expenses

Affiliate Names	Activity	Value	Basis Pricing
City of Ottawa	Property Taxes	$1,800,000	Market-based pricing as per expected municipal assessment
City of Ottawa	Water and sewer charges, fuel and other miscellaneous city services	$288,500	Market-based pricing as per expected municipal rate calculations
Holding Company	Interest expense (long-term and short-term)	$13,623,915	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.
Holding Company	Administration and Corporate Services expense	$1,488,000	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	$1,285,200	Market-based pricing based on same determinants for external customers including length of contract, number of strands,etc.

2.2 2006 Actual Expenses

Table 2 summarizes the services that were received from affiliates and the associated expenses in 2006.

Table 2 - 2006 Actual Expenses

Affiliate Names	Activity	Value	Pricing Basis
City of Ottawa	Property Taxes	$1,647,040	Market-based pricing as per expected municipal assessment
	Water and sewer charges, fuel and other miscellaneous city services	$444,339	Market-based pricing as per expected municipal rate calculations
Holding Company	Interest expense (long-term and short-term)	$12,845,879	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.
	Administration and Corporate Services expense	$1,876,880	Cost-based pricing based on activity level, excluding some specific shareholder costs absorbed by the Holding Company. The 2006 allocation is based on 44% of total costs.
Telecom Ottawa	Broadband data services and dark fibre rental	$1,408,857	Market-based pricing based on same determinants for external customers including length of contract, number of strands,etc. Includes $149K of fibre used by Energy Ottawa, which are offset by revenues of same amount.

2.3 2007 Estimated Expenses

Table 3 summarizes the services that are being received from affiliates and the associated expenses in 2007.

Table 3 - 2007 Estimated Expenses

Affiliate Names	Activity	Value	Pricing Basis
City of Ottawa	Property Taxes	$1,731,383	Market-based pricing as per expected municipal assessment
	Water and sewer charges, fuel and other miscellaneous city services	$503,542	Market-based pricing as per expected municipal rate calculations
Holding Company	Interest expense (long-term and short-term)	$15,047,121	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.
	Administration and Corporate Services expense	$2,090,000	Costs-based pricing based on activity level, excluding some specific shareholder costs absorbed by the Holding Company. The 2007 allocation is based on 39% of total costs.
Telecom Ottawa	Broadband data services and dark fibre rental	$1,259,858	Market-based pricing based on same determinants for external customers including length of contract, number of strands,etc.

2.4 2008 Forecast Expenses

Table 4 summarizes the services received from affiliates and the associated expenses that have been forecast for 2008.

Table 4 - 2008 Forecast Expenses

Affiliate Names	Activity	Value	Pricing Basis
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	Interest expense (long-term and short-term)	$16,050,415	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.
	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. The 2008 allocation is based on 39% of total costs.
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.

PROCUREMENT STRATEGY

1.0 SUPPLY CHAIN

Hydro Ottawa's 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 Operations), all ordered goods and services.

The Procurement Policy stipulates that all acquisitions shall be covered by purchase orders (with a few exceptions, such as utilities and taxes, as defined by the policy), Spending authority is defined by the Policy and controlled by electronic workflow embedded in the business system (JD Edwards – One World). Acquisitions requiring RFP action, i.e. formal, written quotes, 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. A state of the art e-procurement process is used to acquire direct material, and this will be elaborated on further, below.

In 2006 purchase orders for over $100M were placed for all goods and services. A total of $30.3M in direct material (average of $2.5M per month) was received and a total of $28.9M (average of $2.4M per month) was issued. Overall an inventory of between $6.5 and $8.2M was maintained over the year, ending at $7.2M as of December 31, 2006. 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 and this level has been pared down from a high of $16M in 2003 to a December 31, 2004 close of $7.2M and maintained at this level since.

The procurement practices Hydro Ottawa has in place would enable the optimization of the inventory turns ratio to approach 12. However, the actual monthly turns ratio is currently running around 3.6 as the inactive safety stock weighs down the ratio.

Typically, electric utilities in Canada run between one and two and one half, so Hydro Ottawa is clearly setting the benchmark inventory turns. This inventory minimization is the result of some very proactive processes:

- Forecasting
  Hydro Ottawa has long standing alliances with three key suppliers. Monthly forecast sessions with sales management personnel and the design and planning group enable the supplier to work their supply channels to pipeline material to meet projected need dates with minimal commitment on Hydro Ottawa's part. Meetings are documented and updated monthly as the forecasts are continuously refined

- Drop Shipping
  Again the alliance partnership positions Hydro Ottawa not to take delivery until ready to proceed with the relevant job. The material is delivered to the job site on the day specified and is charged to the covering work order upon delivery, i.e. it is not taken into inventory - the supplier holds the inventory. All residential transformers and underground cable are delivered in this manner in addition to some commercial transformers and poles for new or replacement pole lines.

- Work-order Supply Chain Process ("WSCP")
  A further refinement is the WSCP implemented in November 2006. This is a web-based application hosted by a middleware provider that enables the seamless transmission of work order parts lists to a selected supplier with the planned job start date indicated. The supplier uses this information as forecast data and in the same vein as the previously described forecast process; the supplier, through their supply chain, plans the material arrival accordingly.

Material is provided in job lots and when received, is issued immediately to the job and consequently is not taken into inventory. Warehouse staff do not have to put away and then kit the material at a later date, but simply stage the material for the job directly. This saves labour and reduces the opportunity for error.

Company overheads have been reduced by consolidating the warehousing into one central location from four (with one ancillary yard and small stock to serve the special needs of the down town core). Material for the next day's jobs are delivered to the corresponding work centres around the city overnight by common carrier. This enables line crews to be out on the road as soon as they arrive for work and not have to access stores before they can get going, as was traditionally done.

There are formal strategic alliances established with three key suppliers. The net effect is that Hydro Ottawa has full visibility into their pricing models and, after establishing baseline pricing through a competitive process; price changes (up and down) are transparently discussed and agreed. Because of the pre-agreed pricing, buyers do not have to go through a pricing and availability cycle every time an item comes up for replenishment. This greatly economizes on their time by eliminating this traditional low-level activity in favour of more strategic vendor communications. Also, the pricing reflects the total usage expectation of the company, where each item is priced accordingly, not at the level of each discrete buy quantity, as would be the case in a traditional scenario. This open relationship has enabled the above-mentioned forecast process to see lead times become almost a non-issue from previously having to deal with 18 – 26 weeks plus scenarios.

Overall, the continued thrust is to minimize inventory investment and at the same time improve service levels. Continuous improvement is actively pursued so that the company can continue to do more with less – less investment in inventory and minimal staffing. As the acquisition process is so pivotal in improving effectiveness, investments have been made in more advanced skill sets and tools in the procurement department while having warehouse headcount decline. A major initiative going forward is to position procurement to play a more supportive and leadership role in the acquisition of non-stock goods and services. This will involve providing guidance as to the best sourcing and tendering methodologies, establishing a meaningful evaluation matrix, and post award contract management services. This initiative will be led by two Senior Procurement Agents, one of which will be a new hire, and supported by an analyst, a recent new hire. The overarching objective is to establish as leading edge a process for non-stock procurement as is currently in place for direct material.

Year over year expectations for 2007 through 2012 center on process improvements as described above. The planned staff complement has the elasticity to carry Hydro Ottawa over this time period, baring an unplanned major change to the company's customer base or business model. As well, the processes now in place operationally are expected to continue to drive inventory levels down, while also improving service levels to the company.

2.0 GLOBAL MARKET IMPACT ON DISTRIBUTION EQUIPMENT

2.1 Discussion

Distribution equipment contains parts composed of various metals. Current carrying components, such as those on switches, transformers, cables and conductors are made of copper and aluminium. Casings for equipment such as transformers and pad-mounted switches are constructed of steel.

The Global market prices for metals, particularly steel, copper and aluminium, have risen significantly in recent years. The global market for oil has increased as well, which impacts the cost of shipping and the cost of XLPE insulation. As material costs to equipment manufacturers have risen, the costs for manufactured equipment have risen. Costs for manufactured equipment are expected to increase over time, considering inflation and minor fluctuations in the market place. In recent years, Hydro Ottawa has seen a rise in equipment costs beyond historic rises, largely due to the increased prices of metals and oil.

Measures already in place for some time in supply chain activities will also assist in mitigating the risk of increasing equipment costs, for example, strategic alliances developed with suppliers lower overall costs and lead times. However, significant increases in global market prices for raw materials will have an impact on Hydro Ottawa's costs for manufactured equipment.

2.2 Impact on Distribution Equipment Costs

This section provides an illustrative comparison of some Hydro Ottawa equipment costs that have risen significantly during the period of December 2004 through December 2006. For this analysis, the cost of equipment purchased will be explored, although it is realized, this may not be the cost of the equipment capitalized within the same year.

2.2.1 Cables and Conductors

Cable and conductor prices increased significantly over the period. A significant increase in the global market prices for copper and aluminum were responsible. Comparing prices of commonly used overhead and underground cables, purchased in high volumes; Hydro Ottawa experienced a cost increase in the range of 22% to 48%.

Hydro Ottawa purchased in excess of 200km of cable in each of 2004, 2005 and 2006.

2.2.2 Distribution Transformers

Distribution transformer prices increased significantly over the period due to significant increases in global market prices for copper, oil and steel.

- 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, and high-grade steel is used for the transformer cores.

Comparing prices of 50kVA transformers, for both overhead and underground distribution at a few commonly used voltage combinations, Hydro Ottawa experienced cost increases in the range of 40% to 60%.

Hydro Ottawa purchased higher than normal numbers of transformers in 2006 due to the transformer replacement program.   Hydro Ottawa purchases in the order of hundreds of transformers, of various sizes and voltage combinations, each year.

2.2.3 Wood Poles

Wood pole prices increased significantly over the period. An increase in demand, based on new wind turbine generator construction in Ontario, was responsible for the increase. Hydro Ottawa experienced cost increases for wooden poles (55’ Class 2 through 65’ Class 2) in the range of 15% to 20%.

Hydro Ottawa purchases hundreds of wood poles each year.

2.2.4 Shipping

Oil prices increased during the period impacting shipping prices. Shipping costs are included in the unit costs for those prices supplied by Hydro Ottawa’s strategic alliance partners.

HEALTH, SAFETY AND ENVIRONMENT OVERVIEW

1.0 STRATEGIC PLANNING

Achieving world-class status in occupational health, safety and environment ("OHS&E") is not an easy mission to accomplish. Striving to be the best means understanding that OHS&E is a proactive process that always needs to be continuously improved and adequately resourced. One element of being successful in continuously improving the OHS&E process is to strategically plan and budget for that improvement. The strategic plan for improving upon/creating an OHS&E culture and working environment is conducive to continuous improvement.

2.0 VISION

To provide a work environment that maintains the highest level of health and safety and programs that continuously improve environmental performance.

3.0 MISSION

To foster a culture where health, safety and the environment are an integral part of every job and to ensure Hydro Ottawa Limited is recognized as a leader in health, safety and environmental performance.

4.0 VALUES

In terms of the health and safety of our employees, members of the public and our contractors we hold the following to be true.

- Health, safety and environmental management are our highest priorities.
- Accidents are preventable.
- Safety is an attitude that we foster.
- Working safely and protecting the environment is a condition of employment.
- Excellence in health, safety and environmental stewardship must be recognized at an individual, group and corporate level.
- Excellence in health, safety and environmental management is compatible with increasing shareholder value.

5.0 GOALS & OBJECTIVES

To ensure that the integrated occupational health, safety and environmental management program, practices, procedures and wellness initiatives are available, known and used.

- Where appropriate, conduct formal risk-based assessments of health and safety hazards and environmental aspects.
- Implement and assess a safety communication strategy for OHS&E information (policies, procedures, work instructions).
- Establish a process for monitoring compliance to the Integrated Management System.

To ensure that everyone knows and understands their roles, responsibilities and accountability within the integrated program Hydro Ottawa has:

- Updated/improved written guidelines outlining OHS&E roles, responsibilities, authority and accountability for all levels of management, and
- Ensured OHS&E performance is integrated into management performance appraisal system.

To provide ongoing training and support to ensure proficiency for all employees in the work that they do, Hydro Ottawa has:

- Developed a comprehensive training matrix by occupation and risk and track all training,
- Delivered training as required to meet compliance and program requirements, and
- Assessed training effectiveness on an ongoing basis.

To effectively promote health, safety and wellness throughout the company Hydro Ottawa has:

- Developed and implemented an effective communications process,
- Planed and executed OHS&E events that are meaningful to employees and effective in improving program performance,
- Developed and implemented employee recognition programs that reinforce best in class safe work practices, and
- Implemented processes that promote consultation with/engagement of employees.

To ensure, through the integrated OHS&E program, that practices related to contractor construction and maintenance activities have been established and implemented, Hydro Ottawa:

- Ensures that current documented program reflects the actions and needs of Hydro Ottawa stakeholders,
- Establishes a framework for project execution that clearly outlines stakeholder involvement and accountabilities, and
- Audits the project safety management program to determine compliance and efficacy.

To comply with the law Hydro Ottawa has:

- Compiled and maintains a registry of applicable legislation,
- Communicated legislated duties, responsibilities and accountability to employees, and
- Conducted audits for compliance on a regular basis.

6.0 WHAT IS CURRENTLY IN PLACE AT HYDRO OTTAWA

The elements of a proper OHS&E system are best justified by a comparison to what has been established in current case law. Common elements of an effective OHS&E system as established in the courts include requirements:

To establish instruction, training and orientation programs Hydro Ottawa has (for all operational work):

- Crew Leaders appointed to lead two and three person crews,
- Coordinators appointed to lead multiple crews,
- Supervisors appointed to manage the work of the Coordinators, Crew Leaders and workers, and
- Developed training profiles and implemented training to ensure all are competent for the work they do.

To ensure that appropriately trained and sufficient supervisory personnel are appointed Hydro Ottawa has:

- Project management processes in place that take OHS&E issues into account during the initial work planning,
- Job safety planning processes in place to ensure OHS&E issues are discussed during the operational work planning,

- Tailboard Conference processes in place to ensure OHS&E is discussed at the actual job site by the workers present to do the work, and
- A comprehensive Crew Inspection/Audit process in place to ensure compliance to Hydro Ottawa OHS&E program.

To audit or review the workplace for foreseeable health, safety and environmental risks Hydro Ottawa has:

- Adopted a risk-based approach (procedures and database) to assess our risks to ensure proper controls are in place,
- Adopted (through the International Organization for Standardization (“ISO”) process) an annual process for comprehensive internal and external audits of our integrated program, and
- Adopted a system of ‘safety accountability’ for the management team, which requires them to perform specific activities (safety meetings, safety tours, crew visits, etc) to ensure a safe work environment for their people.

To ensure policies, practices and procedures are in place to protect workers and the environment against risks Hydro Ottawa has:

- Implemented an integrated ISO 14001 (Environmental) and Occupational Health and Safety Assessment Series (“OHSAS”) 18001 management system – both to be certified programs in 2007,
- The management system has a comprehensive listing of documents based on the hierarchy of Management System (“MS”) Manual/Environment (“ENV”) & Health and Safety (“H&S”) Policies/Procedures/Work Instructions,
- Adopted a risk-based approach and developed two databases; Environmental aspects and health and safety hazards. Both databases list the foreseeable risks, the controls put in place to mitigate the risks to acceptable levels and the legislation that applies, and

- Implemented a process to assess all Business Units using risk-based approach to ensure documented OHS&E practices are in place where appropriate.

To create disciplinary guidelines to enforce policies, practices and procedures Hydro Ottawa has:

- A corporate procedure on progressive discipline that specifically outlines consequences for non-compliance to OHS&E, and
- A rigorous incident investigation process to determine root causes, and,
- Added compliance statements in all management system documentation (policies, procedures and work instructions).

To receive regular reports on the operation of the health, safety and environmental program, particularly cases of non-compliance with legislation or regulations and serious incidents Hydro Ottawa has:

- Instituted an Executive OHS&E Steering Committee that meets quarterly to review the OHS&E programs, discuss status of programs, review follow actions, etc,
- Implemented a comprehensive workplace inspection/audit program that formally tracks all non-compliance issues/deficiencies found to completion. These are reported upwardly to appropriate management on an ongoing basis and outstanding issues reviewed by Executive OHS&E Steering Committee,
- Implemented a Safety Communications Process where all incidents resulting in medical aid and lost time injuries and incidents with high potential are reported throughout the organization immediately using Injury/Injury Bulletins and/or H&S Notices, and
- Various OHS&E metrics that are reported on a monthly basis.

To maintain records Hydro Ottawa has implemented a formal document management system to ensure:

- That all documents in our OHS&E integrated are managed in accordance with legislative compliance and ISO requirements, and
- That all records are kept in accordance with corporate policy, legislative requirements and ISO standards.

7.0 2007 OHS&E PROGRAM OBJECTIVES

- To raise awareness about ergonomics in the office environment.
- To reduce aggregate idling time of Hydro Ottawa Limited fleet vehicles.
- To increase the number of contractor safety inspections performed annually.
- To ensure that Hydro Ottawa Limited field crews are planning safety as the part of each job.
- To involve senior managers/directors in the safety accountability program.

8.0 2008 OHS&E PROGRAM OBJECTIVES

- Increase employee awareness about recycling and to increase the effectiveness of Hydro Ottawa recycling programs.
- Increase awareness about ergonomics within the trade groups.
- Further reduce aggregate idling time of Hydro Ottawa fleet vehicles.
- Conduct on-site (head office) OHS&E audits of contractors to ensure compliance with Hydro Ottawa's contractor safety management program.
- Complete risk-based analyses of Warehouse, Facilities and Fleet Services operations and implement appropriate controls.

VEGETATION MANAGEMENT

1.0 INTRODUCTION

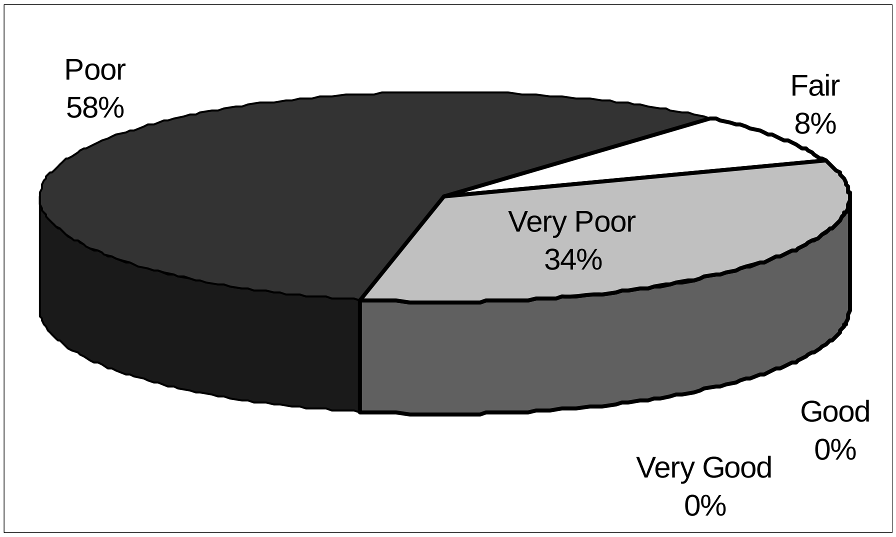
Hydro Ottawa's Vegetation Management involves managing trees, plants and shrubs in the distribution corridors within its service area. A corridor is defined as the area adjacent to overhead lines. Hydro Ottawa has rights to construct, operate and maintain electric utility distribution lines (i.e., distribution 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.

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 4,830 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.

Condition demographics were developed as part of the work for the Asset Management Plan that was finalized in 2005. A summary of the condition assessment for corridors is shown in Figure 1. This is based on an initial survey of 12 areas scheduled for a full trim in 2004. It had been three years since these areas had been trimmed. The chart below shows that immediately leading up to a trim, corridors are generally in Poor and Very Poor condition. The condition assessment of corridors just prior to a trim indicates that the trim rate should be no longer than the current 3-year cycle. With increased cutback distances (e.g. greater than 10 feet), the cycle could be extended, however increased trimming is limited by practical reasons such as National Capital Commission guidelines, the City of Ottawa, customer expectations and general aesthetics.

Figure 1 – Vegetation Condition Assessment (pre-trim)



3.0 TRIM CYCLE

The asset management process compares the costs and benefits of a faster tree-trimming program. Figure 2 shows the number of tree-related failure events for each year after a full trim. This illustrates the direct correlation between power outages and the elapsed time since trees have been trimmed.

Figure 2 – Tree Related Failures in Relation to Last Tree-Trim

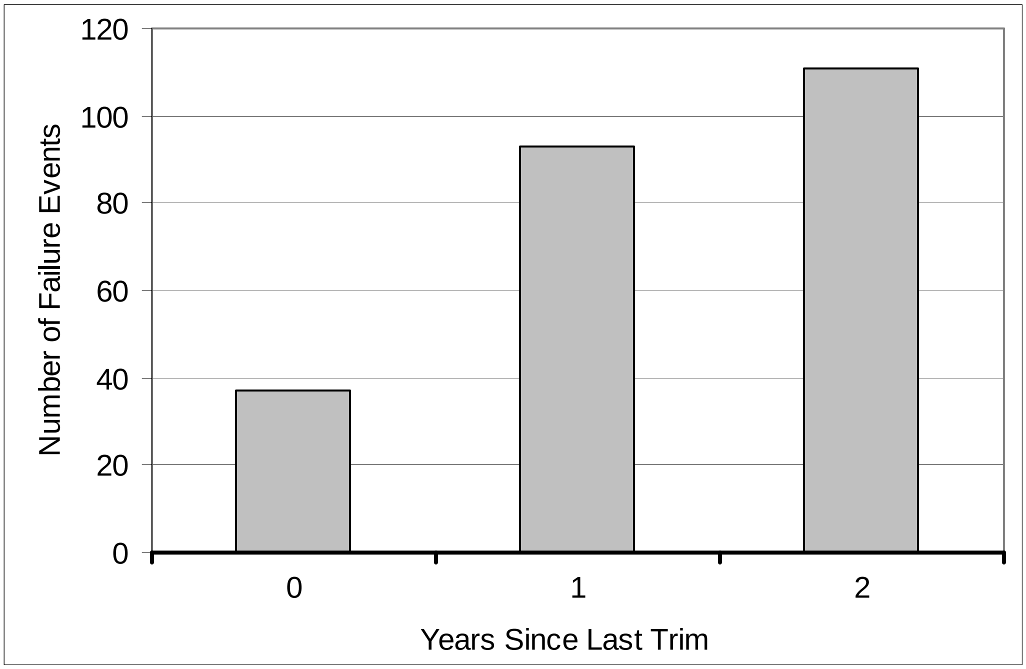
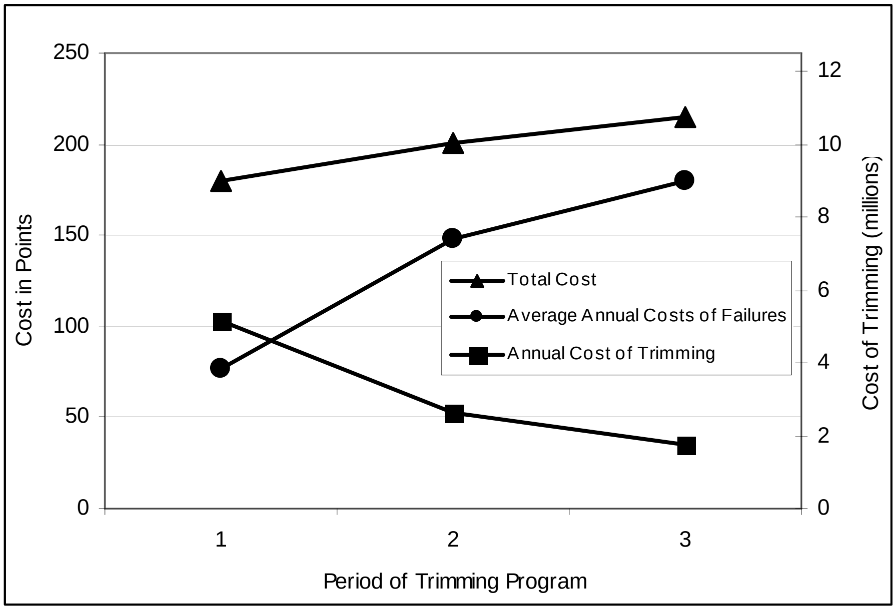


Figure 3 shows a model of tree-trimming program costs developed during the Asset Management Plan development in 2005. The annual cost of trimming was based on Hydro Ottawa's most recent contract amount, to trim one-third of the total system (i.e. the present 3-year trim cycle). The cost of failures was based on an estimated number of yearly outages for each trim cycle, and then calculating the consequence-cost of those failures. Based on this, the annual cost of a one-year or a two-year trimming cycle was estimated.

The Total Cost curve shows there may be an advantage to a faster tree-trimming program.

Figure 3 – Tree Trimming Costs



Prior to the analysis of this program in the Asset Management Plan, Hydro Ottawa had adopted a three-year trim cycle with full and spot trimming activities. The trimming season starts on the first working day of the year and is completed by Christmas in each year. The program breaks the service area within the City into defined trim areas. The order of completion is at the preference of Hydro Ottawa. Based on current trim areas and cycles, the vegetation management program requires an estimated 45,500 person-hours each year, excluding any emergency and off-cycle trimming. A tender was issued and awarded for the 2005-2007 Vegetation Management Program. For 2006 and 2007, the historic three-year cycle was maintained.

The Asset Management Plan for vegetation management will be revisited upon a material change to the easement assets or a significant passage of time to create new inputs into the model.

4.0 CONTRACT

For operational purposes, Hydro Ottawa normally requests separate proposals for the trim areas within the Ottawa Core and the trim areas in the suburbs outside core but within its service area. In addition to the general trimming, Hydro Ottawa also requires the bidders to submit separate prices to carry out full brushing and clean up of Hydro Ottawa's off-road right of ways and easements, on a "time and material" basis. In late 2004, three parties were invited to bid on the 2005-2007 Vegetation Management Program-Ottawa Core and Ottawa Suburb.

Based on competitive pricing, and as well Hydro Ottawa's prior experience with one bidder, both contracts were awarded to the same company. The contract price varied each year depending on the cycle, $1.7M for 2005, $1.9M for 2006 and $1.8M for 2007 plus off-cycle and emergency trimming.

A new tender will be issued in the second half of 2007 for a six-year program that will occur from 2008 through 2013. To better align the current program to the recommendations in the Asset Management Plan, the Ottawa Core will be trimmed on a two-year cycle and the Ottawa Suburb will be trimmed on a three-year cycle. The trim frequency was increased in the Ottawa Core because this area contains denser development, load and customer numbers. The infrastructure in the Ottawa Core also consists of overhead lines in older developments where:

- infrastructure and therefore system load is denser than in the suburbs,
- structures are nearer to the lot lines resulting in tighter tree clearances, and
- trees are older, larger and more likely to interfere with overhead lines.

The impact of the change in trimming frequency will be tracked and used as real data (vs. estimated data) into the Asset Management Plan to re-evaluate the cost effectiveness of the trim cycles, that is, the data will be used to reconstruct Figure 3.

Although Hydro Ottawa has performed tree trimming in the Village of Casselman in past years, this will be the first time the area is included in the larger contract.

The final contract price will not be known until the contract award. However, the forecast was made based on the change to the trim cycle and the increasing costs of labour, trucking and equipment.

UNDERGROUND LOCATES

1.0 INTRODUCTION

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 ranges 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, 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, Hydro Ottawa and other utilities in the province will locate underground cables for customers free of charge.

2.0 CUSTOMER COMMUNICATIONS

Hydro Ottawa is a member of Ontario 1-Call, a call centre that receives excavator locate requests and notifies utilities that have plant in the vicinity of the dig site. The utilities then mark the location of underground equipment within the vicinity of the excavation site. This service provides homeowners and contractors the ability to call a single phone number and have multiple utilities identified, thus increasing the likelihood that Hydro Ottawa will be notified of relevant excavations.

Hydro Ottawa refers customers to use the Ontario 1-Call service through its internet site, its Conditions of Service, brochure Swimming Pools in the Vicinity of Electrical Wires, brochure Tree Planting Advice, through many written communications on City Site Plan Circulations and through customer newsletters.

3.0 LOCATING DISTRIBUTION PLANT

Hydro Ottawa contracts its underground system locating to a locate contractor. The busy season for Hydro Ottawa, and for locates activities, runs from early spring through the fall. By contracting this service Hydro Ottawa lessens the drain on its field resources during the busy construction season, achieves operational efficiencies and cost savings by having a dedicated contractor attend to this seasonal task.

The locate contractor is selected through a competitive bid process. Typically a 3-year tender is issued by Hydro Ottawa and the contractors are evaluated on price, technical qualifications and performance. Throughout the contract Hydro Ottawa performs quality assurance audits to verify the number of locates, the locate accuracy and that locates are being performed to Hydro Ottawa’s standards.

4.0 ASSOCIATIONS

Hydro Ottawa is an active participant, and sponsor of the Ontario Regional Common Ground Alliance ("ORCGA"), a group of industry stakeholders that promote efficient and effective damage prevention for Ontario's underground infrastructure. The mission of the ORCGA is "to enhance public safety and utility infrastructure reliability through a unified approach to effective and efficient damage prevention". The ORCGA has developed Best Practices guidelines for activities such as locating and marking, excavating and education that are used throughout the province.

5.0 ACTIVITY LEVEL

Locate requests are projected to remain high year over year as development and the economy are strong, the population continues to grow and public awareness of the need for locates continues to improve.

Table 1 - Activity Level

Year	Requests	
2005	27,013	Actual
2006	28,796	Actual
2007	30,000	Estimated
2008	28,600	Forecasted

HEADCOUNT AND COMPENSATION: 2006, 2007 AND 2008

1.0 HEAD COUNT

Table 1 summarizes Hydro Ottawa's head count for 2006, 2007 and 2008. 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 who are compensated through Hydro Ottawa's payroll system.

Temporary employees are used to bridge gaps until permanent hiring is completed or to staff particular functions that may have a set end date. 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 June 30, 2007 Hydro Ottawa's head count was 535 employees.

Table 1 - Head Count[1]

	2006 (Approved)	2006 (Actual)	2007 Actual (June)	2007 (Estimate)	2008 (Forecast)
Executive	10	8	7	7	7
Management	84	88	90	91	94
Non-unionized	39	50	45	45	49
Unionized	390	380	393	396	420
Total	523	526	535	539	570

[1] Hydro Ottawa files head count numbers with 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 Executive

Executive staff has previously included the chief operating officer ("COO") and vice-presidents. At the end of 2006; however, an organizational restructuring was implemented. This resulted in the elimination of the vice-president level within Hydro Ottawa (three positions in 2006 and one in early 2007). Therefore, for the purposes of this exhibit, directors have been included with the executive group as members of the senior management team. As part of this restructuring, one director position was moved to the Holding Company, two new director positions were created and another was eliminated. This reduced the total head count in the Hydro Ottawa executive /senior management grouping by a total of four (three in 2006 and the fourth in 2007). The head count in the 2006 EDR Application did not include the Chief Operating Officer position that was vacant at that time.

The positions currently included within the executive / senior management group are listed in Exhibit A1-7-2. No further changes are expected for 2007 and 2008.

1.2 Management

The Management group includes managers and supervisors within Hydro Ottawa. Increases in this category have included additional positions in the metering department related to Smart Meters and supervision of apprentices. The positions planned for hiring in last half of 2007 and 2008 include:

- Manager, Business Performance – This position will support the COO with reporting requirements and will undertake important process re-engineering projects,
- Supervisor, Apprenticeship Program – With the addition of 12 new Power Line Maintainer ("PLM") apprentices in 2008, more supervision will be required,
- Supervisor, Project Administration – This position will oversee administration of asset management projects.

- Supervisor, Cyber Security - This position will oversee the enhancement of cyber security for all of Hydro Ottawa's information systems.

1.3 Non-unionized Positions

Included in the non-union group are the professional staff at Hydro Ottawa including engineers, budget offiers, executive assistants, et cetera. The number increased in 2006 as a result of a number of temporary staff retained to manage the transformer inspection program and to work on the City of Ottawa's North-South Light Rail Transit ("LRT") project. The number has dropped back down in 2007.

Additional staff planned for the remaining part of 2007 and 2008 include:

- Budget Officer – The position will be involved in the management of business forecasts for operational departments.
- Human Resources Advisor – Hydro Ottawa undertakes a number of human resources projects each year, typically using outside resources. An additional internal resource will provide greater continuity.
- Programmer/Analyst - This position is required as a second database administrator ("dba") to support Hydro Ottawa's enterprise systems. There is currently only one dba supporting all of Hydro Ottawa's systems, except the Customer Information System that has separate support.
- Executive Assistant – Since the introduction of the new Hydro Ottawa Board of Directors in 2006, the Holding Company has been managing the work and costs for this Board. Hydro Ottawa will take over responsibility for these costs, including the need to provide a resource to manage material for the Board of Directors, along with other duties.

1.4 Unionized Positions

The unionized workforce is represented by the International Brotherhood of Electrical Workers ("IBEW"). The represented employees include both tradespersons and administrative/clerical staff, sometimes referred to as "inside" and "outside" staff.

The increase in the number of unionized positions between 2006 and 2007 is predominately related to Hydro Ottawa's apprenticeship program. Sixteen apprentices were hired at the beginning of 2007.

1.4.1 Workforce Planning

For 2008, the majority of the increase in staff is related to the demographic challenges facing Hydro Ottawa as discussed in Exhibit D1-5-2. This is described as workforce planning.

The additional staff for 2008 includes the following:

PLM Apprentices	8
Cable Jointer Apprentices	4
System Operator Apprentices	4
Stations Electrician Apprentices	4
Station Electrician Journeyperson (project administration speciality)	1
Distribution System Designers	2
Total	23

1.4.2 Other New Position

In addition to the positions required in 2008 to continue to address the aging workforce, an additional unionized position is planned due to increased work volume levels as follows:

- Meter Data Services Analyst – This position will be responsible for daily interrogation of interval meters, determination of net system load shape and other wholesale settlement functions.

2.0 TOTAL COMPENSATION

Table 2 summarizes the total compensation in the categories tracked by Hydro Ottawa's financial system. As can be seen, the 2006 actual compensation was approximately equal to the Board-approved compensation for the 2006 EDR Application. For 2007 and 2008 the increased compensation is based on the new positions as discussed previously, annual increases in base pay for existing staff and increasing costs for benefits programs. Union overtime is affected by number and type of power outages in the year, typically affected by weather.

Table 2 – Total Compensation[2]

	2006 (Approved)	2006 (Actual)	2007 Estimate	2008 Forecast
Executive/Management/Non-union	$12,766,286	$13,935,617	$13,432,621	$14,113,613
Unionized	22,875,018	21,571,858	23,785,632	25,717,292
Union Overtime	1,899,377	2,454,781	1,919,195	2,138,095
Benefits	8,410,921	8,234,981	8,784,108	9,807,913
Total Annual Compensation	$45,951,602	$46,197,237	$47,921,556	$51,776,913

2.1 Compensation Increase for New Positions

For 2008, the new positions, discussed previously, represent $2.2M of the total $3.7M increase in compensation.

[2] Total compensation in this table does not include compensation for staff dedicated to CDM activities.

2.2 Annual Increases to Base Pay

In 2007, a new three-year collective agreement was signed with the IBEW. This agreement included a 3% wage increase in 2007 and 3.25% for 2008 and 2009. The agreement also included some enhancements to the benefit plan for unionized staff. The 2008 forecast also assumed an average 3% increase across the management and non-unionized staff. The actual increase to each individual is based on performance. The collective agreement sets out the grade progression for each new unionized employee until they reach the maximum grade for that position. In the past, these progressions have been less material because the majority of employees had already reached the maximum. However, as more apprentices are hired and the average years of service for the workforce decreases, there will be period of time in which there will be incremental wage increases related to progression up the scale.

In total the increases to base are expected to be approximately $1.5M in 2008.

2.3 Other Factors Affecting Compensation

Other factors in the total compensation for the company are overtime for unionized staff, benefits, and the incentive plan for executive, management and non-unionized staff.

From Table 2, it can be noted that the union overtime in 2006 was higher than expected. This was predominately due to a number of storms that passed through areas of Ontario and Québec. Hydro Ottawa provided a number of staff to assist both Hydro One and Hydro Québec in restoring power in Combermere, Laurentide, Montréal and Richelieu. The overtime in 2007 is estimated to be lower than normal because there have not been any major summer storms. The increase in overtime in 2008 is related to the base pay increases and the new apprentices.

Benefit plans are forecast for 2008 based on the increased compensation for staff plus the anticipated increasing costs of benefits. However, forecast cost increases in both union overtime and benefits are offset by a corresponding decrease in the forecast for incentive payments for executive, management and non-union staff.

Executive, management and non-union staff all have a portion of their compensation that is fixed and a portion that is variable based on achievement of both company and individual objectives. Incentive pay currently can range from a factor of 0 to 1.5 for the variable portion of the pay, depending on performance. The forecast for 2008 is based on a factor of 1.0.

3.0 AVERAGE ANNUAL BASE WAGE

Table 3 summarizes the average base wage by employee group for 2006 through to 2008.

Table 3 – Average Annual Base Wage

	2006 (Approved)	2006 (Actual)	2007 Estimate	2008 Forecast
Executive / senior management	$130,850	$123,112	$127,649	$132,561
Management	78,230	76,538	79,301	82,633
Non-unionized	65,992	65,852	68,588	70,938
Unionized	59,459	58,355	59,186	59,750

The average change in base wages is affected by both the new positions included in the group and the average pay increases. For instance, while all unionized staff will see a 3.25% pay increase in 2008, the increase in the average annual base wage is lower than this percentage because a number of new staff will be hired at entry level wages. This will result in an average base wage in 2008 lower than it otherwise would have been.

4.0 AVERAGE ANNUAL OVERTIME

Table 4 summarizes the average overtime paid per employee.

Table 4 – Average Annual Overtime

	2006 (Approved)	2006 (Actual)	2007 Estimate	2008 Forecast
Executive / senior management				
Management				
Non-unionized				
Unionized	$4,456	$6,015	$4,847	$5,209

As discussed previously, the increase in 2006 was predominately related to the mutual aid provided to Hydro One and Hydro Québec in 2006. Non-unionized and management staff do not typically receive any overtime payments except in highly unusual and extenuating circumstances. No amounts are estimated for 2007 or forecast for 2008.

5.0 AVERAGE ANNUAL INCENTIVE PAY

Table 5 summarizes the average annual incentive pay for executive, management and non-unionized staff.

Table 5 – Average Annual Incentive Pay

	2006 (Approved)	2006 (Actual)	2007 Estimate [3]	2008 Forecast
Executive / senior management	$31,059	$39,848	$38,339	$30,934
Management	12,392	14,690	13,700	11,481
Non-unionized	6,118	6,796	7,892	7,157
Unionized	0	0	0	0

[3] While the numbers were estimated based on six months of actuals and six months of estimates, incentives have already been paid in 2007 based on 2006 performance. Therefore, these numbers are essentially "actual".

As noted previously, Hydro Ottawa forecast incentive pay in 2008 on an average performance factor of 1.0, which is a decrease from the 2007 level.

6.0 AVERAGE ANNUAL BENEFITS

Table 6 summarizes the average annual benefits by employee group. With the exception of the 2006 Approved numbers, this includes all employee benefits attributable to specific employees.

Table 6 – Average Annual Benefits

	2006 (Approved) (see note)	2006 (Actual)	2007 Estimate	2008 Forecast
Executive / senior management	$9,018	$27,648	$26,757	$27,924
Management	$4,698	$17,691	$18,226	$19,208
Non-unionized	$0	$13,574	$13,647	$14,200
Unionized	$4,799	$13,106	$13,508	$13,816

Note: In the 2006 EDR Application, (page 73 of 118 of the Manager's Summary), Hydro Ottawa indicated that the only benefits included in Table 6.9 were basic insurance, dental, health coverage, long-term disability and car allowance. Pension contributions to the Ontario Municipal Employees Retirement System ("OMERS") were not included since they had been reported in Table 6.14 on page 76 of 118. However, for the 2006 actual benefits, 2007 estimate and 2008 forecast, all items identified as employee benefits attributable to specific employees were included, including OMERS. Therefore the numbers are much larger. The comparable amount approved for the 2006 EDR Application cannot be identified to this level of precision.

7.0 PENSION COSTS

Pensions are provided to Hydro Ottawa employees through OMERS. Table 7 summarizes the actual and expected employer contributions to OMERS based on employee payroll.

Table 7 – OMERS Payments

	2006 (Forecast)	2006 (Actual)	2007 Estimate	2008 Forecast
Pension premiums	$2,743,217	$2,530,813	$2,730,670	$2,966,832

Employer pension contributions are slightly lower than expected in 2006. This difference is related to the 23 temporary employees that Hydro Ottawa had on payroll at year-end 2006. Temporary employees are not enrolled in the OMERS pension plan.

8.0 POST RETIREMENT BENEFITS

No material changes are expected for post-retirement benefits as summarized in Table 8 that follows.

Table 8 – Post Retirement Benefits

	2006 (Forecast)	2006 (Actual)[4]	2007 Estimate	2008 Forecast
Post Retirement Benefits	$600,000	$1,237,017	$600,000	$600,000

[4] In 2006, Hydro Ottawa recorded a one-time provision related to retirement grants paid to unionized employees who leave the company with at least 25 years of continuous service. The amount of the grant is determined based on the employees' sick leave record.

WORKFORCE PLANNING

1.0 BACKGROUND AND STRATEGY

Hydro Ottawa's core business is the construction, operation and maintenance of the local distribution system. Skilled trade resources and technical staff are required in order to meet Hydro Ottawa's responsibilities to provide safe and reliable service to customers and to maintain the OEB Service Quality Levels.

Hydro Ottawa faces increases in workload for the following reasons.

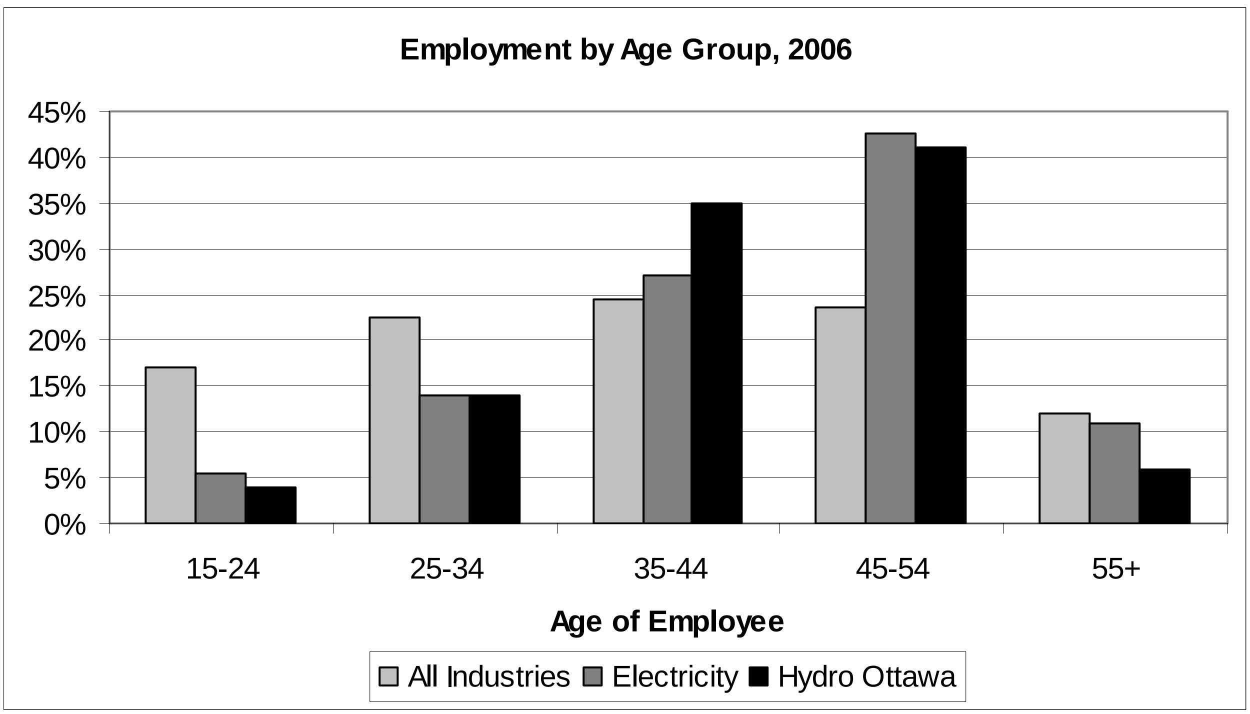
- Hydro Ottawa increased the amount of capital work in 2006. The Asset Management plan projects future increases in replacement of aged infrastructure will be required through to 2020. Details of the asset management plan are provided in Exhibit B1-2-2.
- Demand work continues to increase with residential and commercial developments, infill and upgrades.
- The City of Ottawa (the "City") initiated plant relocations have continued to increase. The City's infrastructure is aging as well, and will continue to require replacement and upgrades in coming years.
- The Canadian Electricity Association (CEA) Report *Addressing the Human Resource Challenge in the Electricity Industry*, 2007, illustrates that an increase in labour resources is required to facilitate construction of additional generation and transmission infrastructure in Canada. Hydro Ottawa staff will be increasingly engaged in constructing connections from embedded generators into the distribution system.

Hydro Ottawa's skilled work force is aging, and significant retirement levels are forecasted in the trades and trades supervision over the next 5 to 15 years. The CEA Report *Canadian Electricity Human Resource Sector Study*, 2004, illustrates that approximately 40% of the electricity sectors' non-support staff will be eligible to retire by

2014. This report shows that the hiring and retention challenges faced by Hydro Ottawa are common to the industry. A similar situation also exists in the United States. This has created a limited ability to recruit candidates from an externally trained labour pool.

Figure 1 illustrates the age distribution of all staff at Hydro Ottawa in 2006 in comparison to data from the Electricity Sector Council[1]. The graph illustrates that Hydro Ottawa's work force is aging and that Hydro Ottawa's situation is not unique.

Figure 1 – Employment by Age Group, 2006



Note: The numbers for Hydro Ottawa include the 29 apprentices already on staff.

[1] Electricity Sector Council, an independent not-for-profit organization, brings together key stakeholders to address HR issues such as recruiting and retaining workers, facilitating school-to-work transitions, and developing sector and career awareness strategies. The Board of Directors of the Council consists of representatives from all interested areas of our industry in Canada, from learning institutions, generators, transmitters, and distributors. N. Fraser, who is the COO of Hydro Ottawa, is a member of the Board, to represent small to medium distributors in Canada. More information is available at www.brightfutures.ca.

To project staff numbers, Hydro Ottawa considers loss of personnel due to retirement, internal advancement, internal horizontal job opportunities and opportunities with other employers. Figure 2 shows the projected numbers of trade staff considering retirement losses only, and considering the more realistic situation involving all types of losses.

Figure 2 – Trades Staff Levels not including Apprentice Hiring

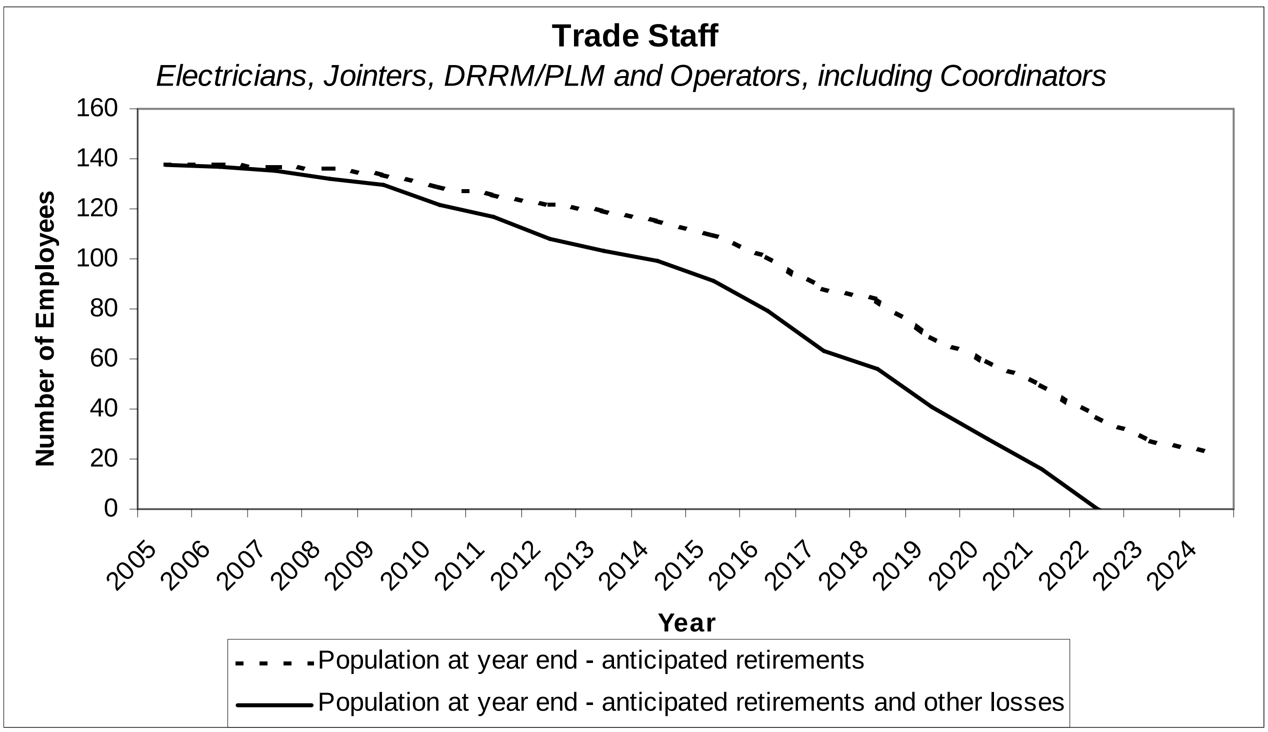


Figure 2 clearly shows that Hydro Ottawa must plan on replacing significant numbers of trade staff over the coming years if it is to maintain sufficient skilled trades people to manage the workload.

Trades and technical staff such as the Systems Operators, Cable Jointers and SCADA administrators work within small workgroups. Loss of a single staff member in these departments represents a significant percentage of that labour force which has a negative impact on workload and shift coverage. The Systems Operators are the Control Authority for Hydro Ottawa and, therefore, control all device operations in the service area. Isolations and protection for planned capital and maintenance work, as well as all unplanned work, are issued through the system office. Labour shortages in system operations could impede the rest of the organization from performing its work.

One possible option for Hydro Ottawa to replenish and expand its trade staff workforce is to recruit, as required, fully qualified journeypersons and add them immediately to the workforce with modest amounts of orientation and/or training. The availability of fully qualified journeypersons is very sparse with most available hires being typically older, mostly retired tradespeople. Staffing full time positions from this pool is not the best return for investment considering that it further compounds the demographics problem.

Hydro Ottawa's recent experience with trying to hire new journeyperson employees and contractors has proved problematic.

- Since 2001, Hydro Ottawa has posted externally for journeyperson Power Line Maintainers ("PLMs") and there have been limited qualified applicants.
- In 2005 Hydro Ottawa lost 6 young, fully trained and qualified individuals to other utilities in North America.
- Hydro Ottawa posted externally for System Operators with municipal distribution experience twice in 2006 and received no qualified applications. A qualified System Operator new to Hydro Ottawa requires multi-year on the job orientation on the distribution system to be effective.
- An investigation by Hydro Ottawa in 2007 found that there were no contractors within Ontario or Quebec that can provide qualified 13 kV PILC cable jointer labour (this is a voltage virtually unique to Hydro Ottawa).
- Power line contractors are facing the same demographic issue as the rest of the industry. In some instances contractors have refused to bid on projects due to their own lack of trained PLMs or trades.

Hydro Ottawa is exploring the way it performs and contracts some activities to realize efficiencies in utilizing its trades staff; however, this will require time and human resources effort. Increased efficiencies alone will not offset staff retirements.

In response to the tight supply in the labour market and the operational requirements for additional staff, Hydro Ottawa has introduced strategic hiring in areas impacted by the demographic challenges facing the electrical industry, through the introduction of apprentice programs and strategic hiring of technical staff.

The advantages of hiring and training apprentices and new technical staff include; a younger average workforce age, consistency in training, learning and training on the system for which they will ultimately be responsible, and creation of full time employees. Other large utilities such as Hydro One are experiencing these same problems and have also concluded that the hiring of new apprentices is the best option for them and their customers.

Besides the obvious benefit of revitalizing the workforce, new employees offer many intangible benefits including improved staff morale and labour relations through demonstrating an investment in the future of the workgroups within the company.

A newly qualified trades person is still considered a junior staff member and does not have the experience in all situations or on all equipment that may be encountered. These new employees are, therefore, less productive and independent than more experienced staff in some situations. Overall construction costs and times may increase with a less experienced workforce in some projects; however, a younger average age workforce is expected to lead to a reduction in injuries and compensation claims.

There are some qualified journeyperson positions that require unique and specialized skill sets. When personnel in these positions plan to retire, there is a requirement to have an overlap of staff in the position to allow for on the job training. The requirements for the specialized training result in a head count increase until the planned retirement.

Although there is no formal apprenticeship program for engineers, technologists and technicians, it is recognized that a similarly lengthy training, orientation and development period is required to have these staff work effectively and independently.

2.0 STRATEGIC TECHNICAL HIRING

Strategic technical hiring involves increasing the staff numbers in technical areas where there are projected labour shortages due to the looming demographic problem, other than journeypersons.

Hydro Ottawa has identified the following areas for strategic hiring in the coming years.

- CAD/GIS Technician
- Engineers
- System Designers
- Station Technician

The number of permanent CAD/GIS technicians has increased through the development of the GIS project. These permanent staff will be retained at the end of the project, in part, to address demographic issues within the department.

Additional Distribution Engineer positions have been filled in 2004 through 2006.

In 2008 the system designer area will be addressed through the addition of two full-time employees.

Employee retention, retirements and workload will be monitored to create and update plans for future strategic hiring.

3.0 APPRENTICE PROGRAM HIRING

Hydro Ottawa employs the following trades that are considered in this section:

- PLM; traditional "lineman"
- Distribution Reliability Response Maintainer ("DRRM"), are PLM by trade, but are classified differently by job function and collective agreement
- Cable Jointer (specialists in PILC jointing)
- Station Electrician
- System Operator
- Coordinator – a Hydro Ottawa term for a tradesperson who is promoted to a position within the workgroups involving more job and material planning responsibility. Coordinators are considered part of the working pool of their trade.

To graduate from an apprentice program requires 5 years of on the job training and schooling. Apprentices must be hired in advance of qualified tradesperson retirements to allow time for the apprentices to complete training if Hydro Ottawa is to maintain the necessary level of qualified labour.

The new apprentice hires in 2005 constitute the first ones by Hydro Ottawa and its predecessor utilities since the mid 1990's. Apprentice hiring has continued in 2006 and 2007.

Hydro Ottawa will continue monitoring this program closely to ensure the desired results are achieved. The hiring of new apprentices is critical to the effective long-term operation of the company.

Evaluation of the apprentice program has identified two possible areas of increased efficiencies that are under consideration.

- Ontario Colleges have recently begun offering PLM trades training. Apprentices will graduate from a college with 2 years of apprentice training. Hydro Ottawa is evaluating this new program and may change its PLM apprentice program to include some of these graduates.
- The running of a classroom environment for apprentice trades requires dedicated facilities, experienced trades persons, and a trade staff supervisor. Although there is a practical benefit to having experienced Hydro Ottawa staff run the apprentice program, their involvement reduces the number of field staff for construction and maintenance activities. It is more cost effective, with respect to internal staff and facility costs, to hire apprentices in larger groups every 2 to 3 years, rather than to hire every year.

Table 1 summarizes Hydro Ottawa's recent apprentice hiring and plans for 2008.

- In the fall of 2005, eight PLM apprentices were hired, six of whom successfully completed the orientation period ending in 2006.
- In 2006, 6 cable jointers, 2 electrician and 2 operator apprentices were hired. One of the electrician apprentices successfully pursued a position elsewhere in the company. One of the system operators successfully pursued a position with another utility, and the other did not successfully complete the probationary period.
- In 2007, 10 PLM, 2 station electrician and 4 system operator apprentices were hired. As of August 2007 all apprentices were still in the program.
- The plan for 2008 is to hire 8 PLM, 4 Cable Jointer, 4 System Operator and 4 stations electrician apprentices.

Table 1 – Apprentice Numbers

Hired / retained (Retained as of June 2007)	2005	2006	2007	2008	2009	2010
PLMs	8 / 6	0	10	8	0	0
Cable Jointers	0	6 / 6	0	4	0	0
Operators	0	2 / 0	4	4	0	0
Electricians	0	2 / 1	2	4	0	0
Hired	8	10	16	20	0	0
Retained	6	7	TBD	TBD	0	0

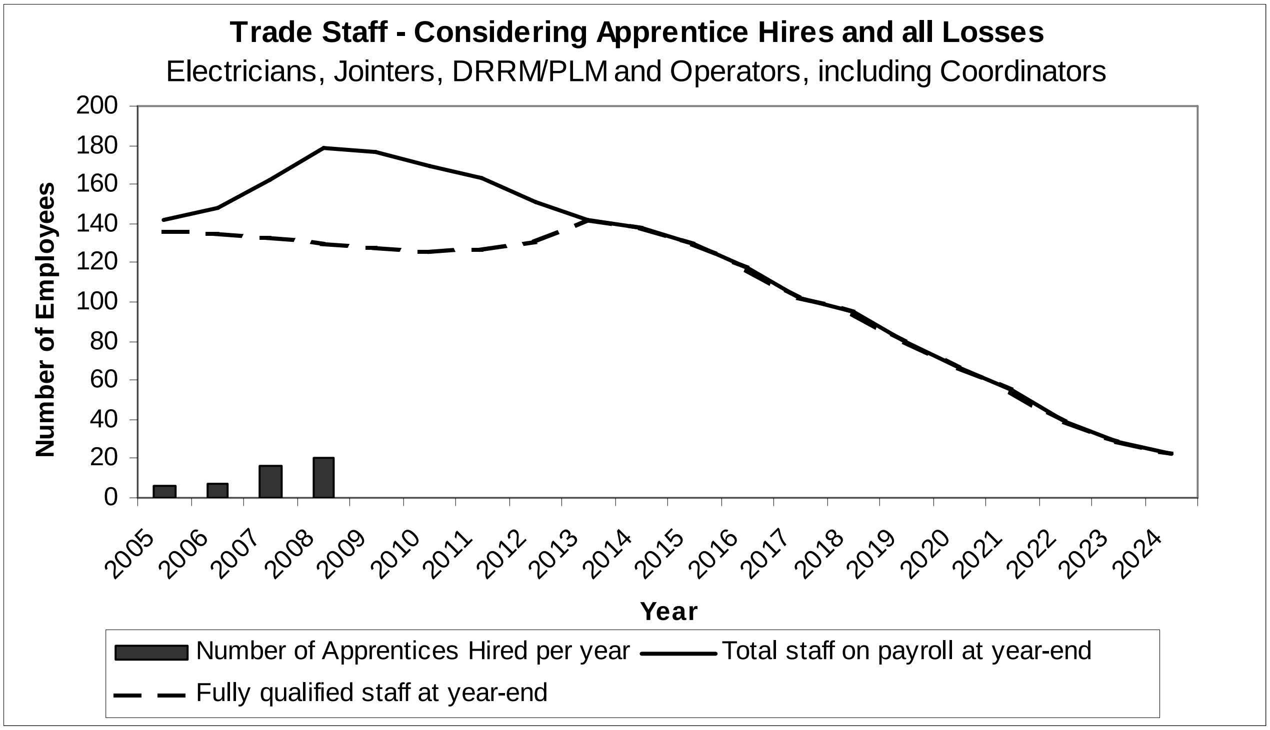
Overall, the apprentice program has proven successful. The productivity of the first group of PLMs, i.e., those hired in 2005, surpassed expectations. A number of construction projects were identified that provided repetitive practice, real construction experience and team building. The PLMs completed the construction safely, ahead of schedule and exceeded Hydro Ottawa's performance expectations of the group.

Even with a thorough screening and selection process, there has been some turn-over in the apprentice program. Hydro Ottawa is confident this training and trial opportunity will provide the most capable and dedicated staff it can obtain.

Figure 3 shows the impact of apprentice hires on the total trades staff numbers and the number of fully qualified staff. The number of fully qualified staff will not meet the 2005-year number of 139 until 2014 when it peaks at 142 staff. The following year, 2015, the number of fully qualified staff dips to 138. Figure 3 clearly shows that apprentice hiring must continue beyond the 2008 hiring to maintain staff levels.

It should be noted that the fully qualified staff numbers are based on all trades staff losses, and that losses to outside organizations have been estimated. Hydro Ottawa must balance the risk of overstaffing to the risk of understaffing, on unknown variables such as apprentice retention and existing staff retention.

Figure 3 – Trade Staff Levels including Apprentice Hiring



3.1 Apprentice Program - Overview

The apprenticeship program has been implemented to address present and future resource requirements in the skilled trades. The Power Line Maintainer, Cable Jointer, Electrician and Operator demographics are such that in five years, a large number of these skilled trades will begin to retire. In addition, most of the trades' supervisors and coordinators will also be eligible for retirement. With many of these leadership positions retiring within 10 years it was apparent that Hydro Ottawa had to develop and retain core competencies to meet future needs.

The initial phase of the program in 2005 and 2006 focused on the line and cable trades. This program is the first of its kind at Hydro Ottawa. It was modeled after similar recruiting/training programs being used by the Ottawa Fire Department and other electrical utilities such as Manitoba Hydro and Hydro One. The annual program consists of hiring staff over the next five years to ensure they are trained in time to offset the exodus of the skilled trades. These new recruits will reach journeyperson status (training completed) in five years. Each hiring class is put through an in-house orientation and skills development program for up to 6 months. They remain together as a work crew for one year and complete capital work projects. They are then dispersed amongst the existing work crews where they continue their apprenticeship and cycle throughout various work centers on 6-month assignments. They will all attend and must pass a two-week per year formal line school that is presently being conducted by the Municipal Electric Association Reciprocal Insurance Exchange (“MEARIE”) at Kleinburg, Ontario. All new hires will be expected to be available for shift work.

The electrician apprentices have been placed on a yearly job rotation with the Stations Capital and Stations Maintenance departments where they will cycle through various work centres and will be involved in various projects. Each apprentice is paired with an experienced electrician. The apprentices are receiving in house instruction and hands on experience. They will also be attending training at MEARIE facilities. A detailed training matrix of requirements has been developed for these apprentices to ensure they receive training for the diverse equipment within Hydro Ottawa’s substations.

The operator apprentices hired in January 2007 have been placed on a job rotation that exposes them to operator, planner and dispatch positions, as well as puts them in the field to be exposed to the work, system and equipment they will be controlling. The operators are receiving in house instruction and hands on experience. They will also be attending training at MEARIE facilities. A detailed training matrix of requirements has been developed for these apprentices to ensure they receive training for the diverse equipment and configurations within Hydro Ottawa’s distribution system.

3.1.1 Selection Process - Example

To ensure the best quality of new apprentices, a rigorous and thorough selection process has been developed for each trade. Both internal and external candidates go through the same process with some preferential treatment given to internal applicants.

Hydro Ottawa's goal is to hire career-oriented individuals who will become permanent employees.

The selection process for each trade has its own unique requirements. The selection process for the PLM position is included here to illustrate the rigour in place for the Hydro Ottawa programs.

The requirements for the PLM job include:

- Above average mechanical aptitude,
- Physically fit,
- Ability to climb, work in confined spaces, and in adverse weather conditions, and
- Work on a 24 x 7 rotating shift basis, as required.

For the 1st round of hiring that occurred in Fall 2005, the PLM selection process consisted of the following steps. A similar process has been used for subsequent hiring.

- Application Screening (over 500)
- Aptitude test at Algonquin College (top 100 candidates)
- Interview stage (top 25 candidates)
- Height Test (top 10 candidates)
- Strength Test and Medicals (top 10 candidates)
- Background Checks (top 10 candidates)
- Job Offers (top 8 candidates)

3.1.2 Training Program

The training program for each trade has its own unique requirements. The training program for the PLM position is included here to illustrate the rigour in place for the Hydro Ottawa programs.

A very intensive six-month orientation and Hydro Ottawa's training program has been developed for the PLM apprentices and takes place at the Bank Street facility. The program is delivered by two seasoned journeyperson trades staff, led by one experienced Lines Supervisor. The goal of the program is to provide trade specific accelerated training in a safe and isolated environment. This program is designed to prepare the group, so that they can provide productive labour very early in their career.

CORPORATE COST ALLOCATIONS

There are two types of corporate cost allocations that are described in this application.

- Allocations from the Holding Company to Hydro Ottawa

  These allocations are described in Exhibit D1-2-1.

- Allocations of Administration costs to capital and maintenance programs.

Hydro Ottawa has completed a review of its capitalization policy in 2007. Results from this review and the impact on costs are discussed in Exhibit B1-3-1. Further discussion on the impact of this change on Operations, Maintenance and Administration costs is included in Exhibit D1-1-4.

AMORTIZATION/DEPLETION SCHEDULE

Hydro Ottawa is not proposing to change any of the amortization rates that were used in the 2006 EDR Application. Therefore an amortization study is not included with this application. The following table details the amortization expenses for 2006 Approved, 2006 Actual, 2007 Estimate and 2008 Forecast, by asset group. Also included is the amortization period for the various assets that make up each grouping. As detailed in Exhibit D3-1-1, Hydro Ottawa is applying for an accelerated amortization period for meters stranded as a result of the installation of Smart Meters.

Table 1 – Amortization Schedule

Asset Group	2006 Approved Amortization Expense $000	2006 Actual Amortization Expense $000	2006 Actual Deletions $000	2007 Estimate Amortization Expense $000	2007 Estimate Deletions $000	2008 Forecast Amortization Expense $000	Amortization Period (years)
Land and Buildings	($661)	($631)	$0	($109)	$0	($77)	Note 1
TS Primary Above 50	(721)	(707)	0	(745)	0	(1,049)	40
DS	(965)	(952)	118	(1,026)	0	(1,148)	30
Poles, Wires	(13,032)	(13,274)	0	(14,075)	0	(14,766)	25
Line Transformers	(3,867)	(3,749)	0	(3,888)	0	(4,042)	25
Services and Meters	(4,339)	(3,920)	0	(5,162)	0	(5,118)	Note 2
Stranded Meters	0	0	0	0	0	(4,535)	4
General Plant	(356)	(364)	0	(953)	0	(1,089)	Note 3
Equipment	(2,120)	(1,982)	358	(2,457)	252	(2,912)	10
IT Assets	(7,844)	(6,942)	0	(8,737)	0	(8,237)	Note 4
Other Distribution Assets	(608)	(539)	0	(593)	0	(782)	Note 5
TOTAL	($34,513)	($33,060)	$476	($37,743)	$252	($43,754)	

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.

DISTRIBUTION LOSSES AND LOSS FACTORS

1.0 DISTRIBUTION LOSSES

Table 1 below provides losses as a percentage of purchases for the previous five years. Hydro Ottawa's losses have not been greater than 5% in the past five years.

Table 1 – Losses as a % of Purchases for Previous Five Years

	2002	2003	2004	2005	2006
Electricity Purchases (kWh)	7,751,077,843	7,755,187,001	7,702,017,686	7,927,295,414	7,724,426,291
Electricity Sales (kWh)	7,470,558,035	7,483,288,326	7,514,934,346	7,663,197,036	7,466,330,420
Losses (kWh)	280,519,808	271,898,675	187,083,340	264,098,378	258,095,871
Losses %	3.62%	3.51%	2.43%	3.33%	3.34%
Losses % 3 year average	3.87%	3.43%	3.18%	3.09%	3.03%

2.0 LOSS ADJUSTMENT FACTORS

Hydro Ottawa's current loss adjustment factor is 1.0344 for secondary metered customers using less than 5MW, which was approved by the Board as part of the EB-2005-0381 decision. The calculation in Table 2 updates the calculation of the Secondary Distribution Loss Adjustment Factor for the most recent 3 years, 2004, 2005 and 2006.

A loss factor is the number applied to kWh sales (Retail kWh) in order to determine the kWh purchases (Wholesale kWh). This is different than the percentage losses from Section 1.0 that are calculated as the kWh losses from the purchased kWh. The loss factor and losses (%) are both based on the same numbers.

The formulas can be summarized as follows:

$$\text{loss factor} = \frac{\text{kWh purchased}}{\text{kWh sales}}$$

$$\text{losses \%} = \frac{(\text{kWh purchased} - \text{kWh sales})}{\text{kWh purchased}}$$

Table 2 – Loss Adjustment Factor

		2004	2005	2006
A	"Wholesale" kWh	7,702,017,686	7,927,295,414	7,724,426,291
B	"Wholesale" kWh for Large Use Customers	631,901,662	636,977,595	666,088,862
C	Net "Wholesale" kWh (A)-(B)	7,070,116,024	7,290,317,819	7,058,337,430
D	"Retail" kWh	7,514,934,346	7,663,197,036	7,466,330,420
E	"Retail" kWh for Large Use Customers	621,338,901	626,329,985	654,954,633
F	Net "Retail" kWh (D)-(E)	6,893,595,445	7,036,867,051	6,811,375,787
G	Loss Factor (C)/(F)	1.0256	1.0360	1.0363
H	Secondary Distribution Loss Adjustment Factor (3 year average)		1.0326	

Hydro Ottawa is concerned that the Loss Factor for 2004 is not representative of the actual situation, due to issues related to transferring to the new CIS system. When looked at in context of the proceeding and subsequent years in Table 3, it becomes clear that 2004 was an aberration.

Table 3 – Yearly Loss Factor

	2002	2003	2004	2005	2006
Loss Factor	1.0396	1.0382	1.0256	1.0360	1.0363

As reported in Exhibit D1-8-3, Hydro Ottawa is working on reducing distribution losses, however it would be premature to reduce the loss factor to 1.0326. A lower than actual loss factor means that the commodity related variance account balances will increase, resulting in the need to recover the balance in the retail settlement variance account from customers through future rate riders. Hydro Ottawa proposes to maintain the Loss Factor at 1.0344 for 2008 and when 2007 Actuals are available, review the situation, with a possible change in the loss factor is 2009. Hydro Ottawa is also not proposing any changes to the loss adjustment factor for the Large Use customer class or for primary metered customers.

DISTRIBUTION LOSS STUDIES

On July 11, 2006, Hydro Ottawa filed with the Ontario Energy Board *A Plan To Reduce Line Losses by 5%* under file number EB-2005-0381. A copy is attached.

EB-2005-0381
Filed: July 11, 2006

HYDRO OTTAWA LIMITED
A PLAN TO REDUCE LINE LOSSES BY 5%

TABLE OF CONTENTS

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 though 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 PROGRAM[6]

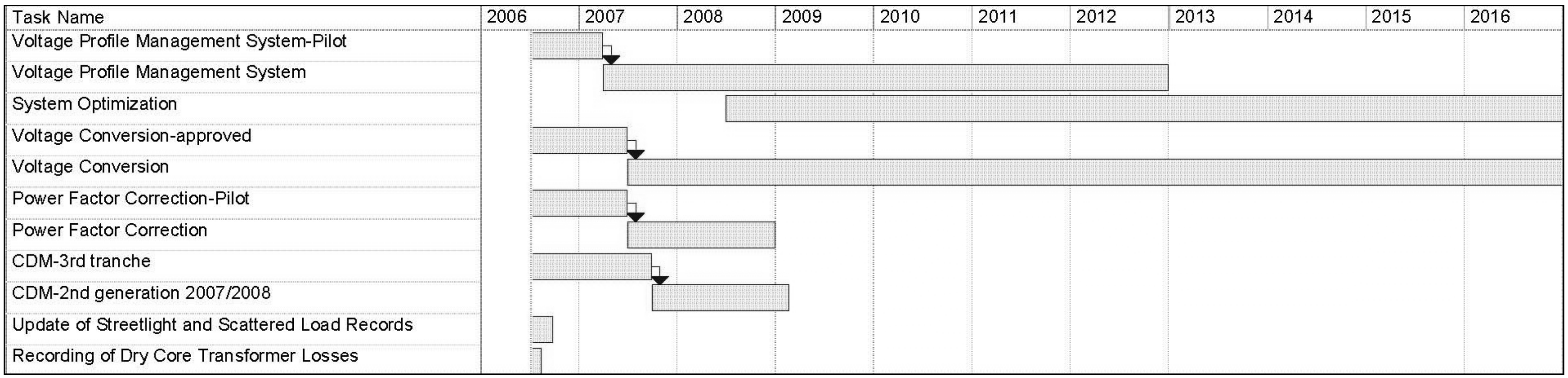
	Estimated Total Cost	Estimated Savings/Load Affected kW	Estimated Savings/Energy kWh/year[4]	Estimated Loss Reduction kWh/year[5]
Voltage Profile Management System-Pilot at Centrepointe	$550,000[1]	450	2,877,660	86,330
Voltage Profile Management System	$11,000,000[2]	9,000	57,553,200	1,726,596
System 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-3rd tranche Conservation and Demand Management	$7,463,000		50,000,000	1,500,000
CDM Programs-2nd 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



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.

DISTRIBUTION LOSSES UPDATE

Hydro Ottawa filed a Plan to Reduce Line Losses by 5% on July 11, 2006 (EB-2005-0381). The plan outlined a number of initiatives Hydro Ottawa intended to implement in order to reduce distribution losses. The following provides an update on the components of the plan:

1.0 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. 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.

The AdaptiVolt system was installed at Centrepointe substation in 2006. The equipment is operating and once Hydro Ottawa has collected sufficient data, the possibility of future installations at other stations will be evaluated. 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.

2.0 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.

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.

A consultant performed a study for the Nepean and Kanata distribution systems in 2006. The recommendations in the report are being reviewed to determine appropriate follow-up actions.

3.0 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.

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. As this project is classified as a Distribution Enhancement project further details are included in Exhibit B3-3-1.

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.

4.0 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 27.6 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.

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.

An analysis of the Fallowfield F1 & F2 feeders and Moulton F1, F2, F3 and F4 feeders for power factor correction determined that installing capacitors would reduce distribution line loss on the Fallowfield F2 feeder. The capacitor installation project will be completed by the end of 2007.

5.0 TRANSFORMER LOSS EVALUATION AND LOADING PRACTICES

A consultant’s report containing a review of the loss evaluation formula in Hydro Ottawa’s transformer specifications and the life cycle costs associated with various transformer-loading schemes has been received. The report provides an updated Total Ownership Cost methodology to be used in comparing the cost of different component designs and a methodology for selecting the optimum size of transformer for each application. Hydro Ottawa is currently reviewing the report and will be implementing the recommendations as circumstances permit.

6.0 TRANSFORMER REPLACEMENT AND REMOVAL

When replacement of a transformer is required, Hydro Ottawa ensures that excess transformation is removed.

7.0 CONSERVATION AND DEMAND MANAGEMENT (“CDM”)

Hydro Ottawa’s CDM programs for 2005 and 2006 have been very successful, resulting in a reduction in annual energy use of 62,834,375 kWhs.

8.0 UPDATING RECORDS FOR STREET LIGHT AND UNMETERED SCATTERED LOAD

Streetlight records have been updated as a part of the implementation of the GIS system. As a result, more accurate information on kWh consumption for streetlights has resulted in a reduction in non-technical losses.

9.0 DRY CORE TRANSFORMER LOSSES

Dry Core transformer losses are now being recorded as part of Hydro Ottawa's sales. In 2006 this resulted in a reduction in reported losses of 2,967,000 kWh.

PAYMENTS IN LIEU OF TAXES CALCULATION

1.0 INTRODUCTION

Hydro Ottawa is required to make payments in lieu of income taxes and capital taxes (“PILs”) based on its taxable income and paid-up capital (“PUC”). The amount for PILs included in the 2008 revenue requirement is $13,675,906. Hydro Ottawa’s model to calculate the forecasted 2008 PILs (“the Tax Model”) is based on the 2006 EDR Tax Model developed by the Board for 2006 rate applications. Modifications have been made to update the model to the new test year of 2008 for any applicable legislative changes in taxation rates and to include a work sheet to show supplementary calculations for the PUC. No modifications have been made to the general principles and methodologies of the model.

2.0 GENERAL METHODOLOGY

For income taxes, Hydro Ottawa has used a combined tax rate of 34.5%, down from 36.12% in 2006. 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 2008 was forecast. This forecast uses the estimated 2007 undepreciated capital cost (“UCC”) as the opening balance and the forecast 2008 capital additions (applying the half-year rule) to determine the closing balance. The cumulative eligible capital (“CEC”) deduction for 2008 is also determined based on the 2008 forecast eligible capital expenditures.

For Ontario Capital Tax (“OCT”), a rate of 0.285% was used. This is down from the rate of 0.30% in 2006. The rate is applied to the net PUC less the eligible exemption of

$15M. This amount is included in the total tax provision without being grossed up because it is pre-tax expense.

3.0 PRINCIPLES

As discussed previously, Hydro Ottawa has followed the same principles as it did for the 2006 EDR. These are summarized in the sections that follow.

3.1 Non-Recoverable and Disallowed Expenses

All disallowed and non-recoverable expenses have been identified and recorded in the regulatory tax calculations. For Hydro Ottawa this includes $99,800 for charitable donations in 2008 that have not been included in the revenue requirement.

3.2 Capital Tax Exemptions

Hydro Ottawa is claiming the full amount of the Ontario Capital Tax Exemption.

3.3 Loss Carry-Forwards

Hydro Ottawa's loss carry forward was fully utilized in 2005. No loss carry forward is available for 2008.

3.4 Undepreciated Capital Cost ("UCC") and Capital Cost Allowance("CCA")

Hydro Ottawa is taking the full CCA for 2008 and has included in this amount the effects of the 2001 Fair Market Value ("FMV") bump.

3.5 Regulatory Tax Treatment of Eligible Capital Expenditure ("ECE")

Hydro Ottawa is taking the full CEC deduction allowed for 2008. The CEC used in the calculation does not have any FMV adjustments from the FMV "bump" and only includes costs for land rights.

3.6 Interest deduction

Hydro Ottawa has deducted the deemed interest in the Tax Model as it is higher than the forecast actual interest expense. The 2006 EDR Tax Model used the same approach of deducting the higher of the deemed or forecasted interest expense.

3.7 Interest Capitalized for Accounting, but Deducted for Tax Purposes

Hydro Ottawa capitalizes interest incurred on Construction-Work-In-Progress ("CIP") as described in its capitalization policy (see Exhibit B1-3-1). This capitalized interest is referred to as the Allowance for Funds Used During Construction ("AFUDC"). The amount in 2008 of $695,011 has been deducted in the Tax Model from schedules 1 and 8. The calculation for AFUDC is shown in Exhibit B3-7-1.

3.8 Overlapping Year-Ends

For the purposes of the tax calculation, Hydro Ottawa has assumed the rate year (May 1, 2008 to April 30, 2009) is the same as the tax year (calendar 2008) in its calculations. However, since PILs is part of the overall revenue requirement, it is part of the calculation in Exhibit I1-4-1 related to revenue deficiency for the first four months of 2008.

3.9 Ontario Corporate Minimum Tax

Hydro Ottawa has not included any Ontario Corporate Minimum Tax in its calculations, as this will not apply.

3.10 Non-distribution elimination

Hydro Ottawa has excluded all non-distribution costs and revenues.

3.11 Tax credits

Hydro Ottawa has not claimed any tax credits in the Tax Model.

3.12 Impact of Conservation and Demand Management (“CDM”) and Smart Meter expenditures

Both CDM and Smart Meter capital expenditures have been included in rate base as approved by the Board. As such they are treated the same as any other capital expenditure for tax purposes.

3.13 Stranded Meter Costs

For regulatory purposes, Hydro Ottawa has included stranded meter costs in its rate base as approved by the Board in the Smart Meter Combined Proceeding (EB-2007-0063). These are the costs related to meters that have been removed from service as a result of the installation of a Smart Meter. For its audited financial statements, Hydro Ottawa had removed these meters from fixed assets to record in the Smart Meter variance account for future recovery.

As part of this application, Hydro Ottawa is proposing to recover the stranded meter costs by amortizing the costs over a four-year period. This accelerated amortization is included in the proposed revenue requirement for 2008. Amortization for regulatory purposes does not impact the CCA calculation for tax purposes. However, the difference between the regulatory amortization and CCA increases resulting in a higher PILs calculation.

Hydro Ottawa has sought the opinion of a tax consultant on whether the recovery for stranded meter costs should be considered taxable income. There are provisions in the *Income Tax Act R.S.C. 1985*, c.1 (5th Supp) (Section 13, subsection 21) that could allow certain compensation received under statutory authority to be deemed proceeds of disposition, instead of income. However, it cannot be assumed that the Ministry of Finance would consider the recovery of stranded costs any differently than it would the recovery of variance and deferral accounts. Cash received from customers related to the recovery of variance and deferral accounts is treated as income, and is therefore taxable. For this reason, it is Hydro Ottawa's position that it has adopted the conservative approach of increasing taxable income for amounts related to the recovery of stranded meter costs.

3.14 Property Taxes

The Tax Model only addresses corporate income and capital taxes. Property tax is included in a grouped account for Other Distribution Expenses discussed in Exhibits D1-1-1 through to D1-1-4.

3.15 Capital Leases

No leases capitalized for accounting purposes are deducted for tax purposes.

3.16 Tax Re-Assessments

Hydro Ottawa has not included any adjustments related to tax re-assessments for prior years in the 2008 PILs calculation as the Ministry of Finance has not completed its review process for any prior years returns.

3.17 Reserves

Hydro Ottawa records tax reserves related to customer credit balances and customer deposits. These reserves are normally added to taxable income, but since there is a corresponding deduction from taxable income, there is no impact on the calculation of PILs. Therefore, tax reserves have been excluded from the PILs calculation.

3.18 Dividends

Hydro Ottawa is expecting to declare a dividend to the Holding Company in 2007 and 2008. The last dividend was paid in 2002. The dividend is not subject to tax in the hands of the Holding Company since it is an affiliate of Hydro Ottawa. Hydro Ottawa does not receive a tax deduction for the payment of the dividend, rather, dividend is deducted from Hydro Ottawa’s after tax Retained Earnings.

3.19 Disposition of Variance and Deferral Accounts

Hydro Ottawa records balances in variance and deferral accounts on its balance sheet to be cleared at a later date. For tax purposes, the year over year change in these balances affect net income for that year (positive or negative). The amounts related to the retail settlement variance accounts are difficult to predict since they are affected by changes in the electricity market such as commodity prices and the amount of imported power. These balances can fluctuate by millions of dollars depending on these conditions.

Balances in the variance and deferral accounts relate to timing differences between when costs are incurred and when payments are received. Therefore, over time there is no tax impact from the set up and disposition of these balances. Therefore, Hydro Ottawa has not included the net balance in variance and deferral accounts in the 2008 taxable income. The exclusion of the amount from the test year provides a more reflective tax year, indicative of what can be expected to be the income of Hydro Ottawa over time. Adjusting for net balances in variance and deferral accounts would presuppose that the PILs amount in the revenue requirement would be adjusted each year as these items fluctuate with the changing electricity market. The approach adopted by Hydro Ottawa provides a more stable PILs calculation and therefore less volatility to rates. This is the same approach adopted by Hydro Ottawa for the 2006 EDR Application.

4.0 TAX MODEL

Attached is the Tax Model used to determine the 2008 PILs. The model is a modified version of the 2006 EDR Tax Model. The model was updated for the new test year and reflects legislative changes enacted since that time.

2008 PILs Provision for Revenue Requirement

Name of Utility:	**Hydro Ottawa Limited**		
License Number:	**ED-2002-0556**		
File Number:	**EB-2007-0713**		
Name of Contact:	**Lynne Anderson**		
Phone Number:	**(613) 738-5499**	**Ext:**	**527**
E-Mail Address:	**lynneanderson@hydroottawa.com**		
Date:	**September 18, 2007**		
Version Number:	**PILS2008**		

Input Summary

Name of Utility:	Hydro Ottawa Limited
License Number:	ED-2002-0556
File Numbers:	EB-2007-0713,
Name of Contact:	Lynne Anderson
Phone Number:	(613) 738-5499

Ratebase	581,765,003
Net Income Before Taxes	20,501,399
Calculation of Deemed Interest	
Debt Ratio	56.00%
Debt Rate % (as calculated)	5.26%
Deemed Interest to be recovered	18,277,919

Tax Rates and Exemptions

Name of Utility: Hydro Ottawa Limited
License Number: ED-2002-0556
File Numbers: EB-2007-0713,
Name of Contact: Lynne Anderson　　Phone Number: (613) 738-5499

Applicant	Rate Base	OCT Exemption	LCT Exemption
		15,000,000	50,000,000
Hydro Ottawa Limited	581,765,003	15,000,000	50,000,000
Regulated Affiliates (if applicable)			
1		0	0
2		0	0
3		0	0
4		0	0
5		0	0
Total	581,765,003	15,000,000	50,000,000

Corporate Tax Rates for Test Year

Income Range	**0 to 300,000**	**300,000 to 400,000**	**400,000 to 1,128,519**	**>1,128,519**
Federal	11.50%	11.50%	20.50%	20.50%
Ontario	5.50%	5.50%	5.50%	14.00%
Income Tax Rates used to gross up the true up variance	17.00%	17.00%	26.00%	34.50%
Ontario SBD Clawback			4.67%	

Capital Tax Rate	0.285%
LCT rate	0.000%
Surtax	0.00%

2006 Taxable Income

Name of Utility: Hydro Ottawa Limited
License Number: ED-2002-0556
File Numbers: EB-2007-0713,
Name of Contact: Lynne Anderson
Phone Number: (613) 738-5499

	T2S1 line #	Total for Legal Entity	Non-Distribution Eliminations	2006 Wires Only
Income before PILs/Taxes	A	51,237,000	0	51,237,000
Additions:				
Interest and penalties on taxes	103	0	0	0
Amortization of tangible assets	104	32,980,000	0	32,980,000
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	67,900	0	67,900
Taxable Capital Gains	113	32,450	0	32,450
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	125,432	0	125,432
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	0	0	0
Reserves from financial statements- balance at end of year	126	0	0	0
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
Non-deductible penalties	293	0	0	0
Employee Future Benefit per F/S	294	1,223,280	0	1,223,280
Ontario Specified Credits	295	30,000	0	30,000
Total Additions		**34,459,062**	**0**	**34,459,062**
Deductions:				
Gain on disposal of assets per financial statements	401	298,000	0	298,000
Dividends not taxable under section 83	402	0	0	0
Capital cost allowance from Schedule 8	403	33,752,778	0	33,752,778
Terminal loss from Schedule 8	404	0	0	0
Cumulative eligible capital deduction from Schedule 10	405	93,627	0	93,627
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	0	0	0
Reserves from financial statements - balance at beginning of year	414	0	0	0
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
Reserves from Financial Statements - beginning		9,690,400		
Redcution in 2005 OHSA charge		73,750		
Net Regulatory Assets		10,046,732		
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
Actual employee benefits paid	393	321,482	0	321,482
Capitalized Interest	394	193,362	0	193,362
Total Deductions		**54,470,131**	**0**	**34,659,249**
Net Income for Tax Purposes		**31,225,931**	**0**	**51,036,813**
Charitable donations from Schedule 2	311	67,900	0	67,900
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	332	0	0	0
Limited partnership losses of preceding taxation years from Schedule 4	335	0	0	0
TAXABLE INCOME		**31,158,031**	**0**	**50,968,913**

Schedule 8 and 10 UCC and CEC

Name of Utility: Hydro Ottawa Limited
License Number: ED-2002-0556
File Numbers: EB-2007-0713,
Name of Contact: Lynne Anderson   Phone Number: (613) 738-5499

Methodology: This schedule starts with forecast 2007 Schedules 8 and 10, then the non-distribution assets are eliminated. The closing balances in this schedule are the starting point for the Test Year Schedules

Class	Class Description	UCC End of Year Dec 31/07 per tax returns	Less: Non-Distribution Portion	Less: Disallowed FMV Increment	UCC Test Year Opening Balance
1	Distribution System - post 1987	275,895,755		0	275,895,755
2	Distribution System - pre 1988	89,107,550	0	0	89,107,550
3	Buildings: pre-1988	13,852,592	0	0	13,852,592
8	General Office/Stores Equip	9,698,056	9,301	0	9,688,755
10	Computer Hardware/ Vehicles	7,136,097	0	0	7,136,097
12	Computer Software	3,441,112	0	0	3,441,112
42	Fibre optic cable	794,730	0	0	794,730
45	Computers & Systems Software acq'd post Mar 22/04	2,982,443	0	0	2,982,443
47	Distribution System - post 2005	133,225,698	0	0	133,225,698
			0	0	0
	SUB-TOTAL - UCC	536,134,033	9,301	0	536,124,732
CEC	Goodwill	0	0	0	0
CEC	Land Rights	1,159,424	0	0	1,159,424
CEC	FMV Bump-up	0	0	0	0
		0	0	0	0
		0	0	0	0
	SUB-TOTAL - CEC	1,159,424	0	0	1,159,424

Test Year UCC and CEC

Name of Utility:	Hydro Ottawa Limited
License Number:	ED-2002-0556
File Numbers:	EB-2007-0713,
Name of Contact:	Lynne Anderson

Phone Number: (613) 738-5499

Total Capital Assets for PILs Model		CCA Class	Capital Assets		Test Year Total Additions	Test Year Total Disposals
			Additions	Disposals		
1815	Transformer Station Equipment - Normally Primary above 50 kV	47	10,656,742	0	10,656,742	0
1820	Distribution Station Equipment - Normally Primary below 50 kV	47	4,107,932	0	4,107,932	0
1825	Storage Battery Equipment	47	0	0	0	0
1830	Poles, Towers and Fixtures	47	7,496,595	0	7,496,595	0
1835	Overhead Conductors and Devices	47	4,499,432	0	4,499,432	0
1840	Underground Conduit	47	5,729,946	0	5,729,946	0
1845	Underground Conductors and Devices	47	6,279,860	0	6,279,860	0
1850	Line Transformers	47	6,786,635	0	6,786,635	0
1855	Services	47	6,704,944	0	6,704,944	0
1860	Meters	47	12,267,003	0	12,267,003	0
1865	Other Installations on Customer's Premises	47	0	0	0	0
1870	Leased Property on Customer Premises	47	0	0	0	0
1908	Buildings and Fixtures	47	0	0	0	0
1995	Contributions and Grants - Credit	47	-15,252,975	0	-15,252,975	0
2010	Electric Plant Purchased or Sold	47	0	0	0	0
2020	Experimental Electric Plant Unclassified	47	0	0	0	0
2030	Electric Plant and Equipment Leased to Others	47	0	0	0	0
2040	Electric Plant Held for Future Use	47	0	0	0	0
2050	Completed Construction Not Classified--Electric	47	0	0	0	0
2070	Other Utility Plant	47	0	0	0	0
xxx1	Fixed Assets for Conservation and Demand Management	47	0	0	0	0
	AFUDC	47	-695,011	0	-695,011	0
	SUBTOTAL - CLASS 47		48,581,103	0	48,581,103	0
1620	Buildings and Fixtures	1	0	0	0	0
1635	Boiler Plant Equipment	1	0	0	0	0
1650	Reservoirs, Dams and Waterways	1	0	0	0	0
1660	Roads, Railroads and Bridges	1	0	0	0	0
1808	Buildings and Fixtures	1	0	0	0	0
1715	Station Equipment	1	0	0	0	0
1720	Towers and Fixtures	1	0	0	0	0
1725	Poles and Fixtures	1	0	0	0	0
1730	Overhead Conductors and Devices	1	0	0	0	0
1735	Underground Conduit	1	0	0	0	0
1740	Underground Conductors and Devices	1	0	0	0	0
1745	Roads and Trails	1	0	0	0	0
1808	Buildings and Fixtures	1	4,403,723	0	4,403,723	0
1815	Transformer Station Equipment - Normally Primary above 50 kV	1	0	0	0	0
1820	Distribution Station Equipment - Normally Primary below 50 kV	1	0	0	0	0
1825	Storage Battery Equipment	1	0	0	0	0
1830	Poles, Towers and Fixtures	1	0	0	0	0
1835	Overhead Conductors and Devices	1	0	0	0	0
1840	Underground Conduit	1	0	0	0	0
1845	Underground Conductors and Devices	1	0	0	0	0
1850	Line Transformers	1	0	0	0	0
1855	Services	1	0	0	0	0
1860	Meters	1	0	0	0	0
1865	Other Installations on Customer's Premises	1	0	0	0	0
1870	Leased Property on Customer Premises	1	0	0	0	0
1908	Buildings and Fixtures	1	2,229,283	0	2,229,283	0
1995	Contributions and Grants - Credit	1	0	0	0	0
2010	Electric Plant Purchased or Sold	1	0	0	0	0

2020	Experimental Electric Plant Unclassified	1	0	0	0	0
2030	Electric Plant and Equipment Leased to Others	1	0	0	0	0
2040	Electric Plant Held for Future Use	1	0	0	0	0
2050	Completed Construction Not Classified--Electric	1	0	0	0	0
2070	Other Utility Plant	1	0	0	0	0
xxx1	Fixed Assets for Conservation and Demand Management	1	0	0	0	0
xxx2	Smart Meters	1	0	-53,618	0	-53,618
	SUBTOTAL - CLASS 1		6,633,006	-53,618	6,633,006	-53,618
1875	Street Lighting and Signal Systems	8	0	0	0	0
1915	Office Furniture and Equipment	8	209,094	0	209,094	0
1935	Stores Equipment	8	0	0	0	0
1940	Tools, Shop and Garage Equipment	8	995,379	0	995,379	0
1945	Measurement and Testing Equipment	8	116	0	116	0
1950	Power Operated Equipment	8	0	0	0	0
1955	Communication Equipment	8	0	0	0	0
1960	Miscellaneous Equipment	8	140,576	0	140,576	0
1965	Water Heater Rental Units	8	0	0	0	0
1970	Load Management Controls - Customer Premises	8	0	0	0	0
1975	Load Management Controls - Utility Premises	8	0	0	0	0
1980	System Supervisory Equipment	8	1,093,116	0	1,093,116	0
1985	Sentinel Lighting Rental Units	8	0	0	0	0
1990	Other Tangible Property	8	0	0	0	0
	SUBTOTAL - CLASS 8		2,438,281	0	2,438,281	0
1920	Computer Equipment - Hardware	45	730,033	0	730,033	0
	SUBTOTAL - CLASS 45		730,033	0	730,033	0
1930	Transportation Equipment	10	1,702,443	0	1,702,443	0
	SUBTOTAL - CLASS 10		1,702,443	0	1,702,443	0
1925	Computer Software - CL12	12	3,161,742	0	3,161,742	0
	SUBTOTAL - CLASS 12		3,161,742	0	3,161,742	0
1630	Leasehold Improvements	13_1	0	0	0	0
1710	Leasehold Improvements	13_2	0	0	0	0
1810	Leasehold Improvements	13_3	0	0	0	0
1910	Leasehold Improvements	13_4	0	0	0	0
	SUBTOTAL - CLASS 13		0	0	0	0
1640	Engines and Engine-Driven Generators	43.1	0	0	0	0
1645	Turbogenerator Units	43.1	0	0	0	0
1655	Water Wheels, Turbines and Generators	43.1	0	0	0	0
1665	Fuel Holders, Producers and Accessories	43.1	0	0	0	0
1670	Prime Movers	43.1	0	0	0	0
1675	Generators	43.1	0	0	0	0
1680	Accessory Electric Equipment	43.1	0	0	0	0
1685	Miscellaneous Power Plant Equipment	43.1	0	0	0	0
	SUBTOTAL - Generating Equipment		0	0	0	0
2005	Property Under Capital Leases	CL	0	0	0	0
2075	Non-Utility Property Owned or Under Capital Leases	CL	0	0	0	0
	SUBTOTAL - Capital Leases		0	0	0	0
1606	Organization	ECP	0	0	0	0
1610	Miscellaneous Intangible Plant	ECP	0	0	0	0
1616	Land Rights	ECP	0	0	0	0
1706	Land Rights	ECP	0	0	0	0
1806	Land Rights	ECP	0	0	0	0
1906	Land Rights	ECP	0	0	0	0
2060	Electric Plant Acquisition Adjustment	ECP	0	0	0	0
2065	Other Electric Plant Adjustment	ECP	0	0	0	0
1608	Franchises and Consents	14	0	0	0	0
	SUBTOTAL - Eligible Capital Property		0	0	0	0
1615	Land	LAND		0	0	0
1705	Land	LAND	0	0	0	0
1805	Land	LAND	1,690,107	0	1,690,107	0
1905	Land	LAND	0	0	0	0
	SUBTOTAL - Land		1,690,107	0	1,690,107	0
2055	Construction Work in Progress--Electric	WIP	0	0	0	0
			0	0	0	0
			64,936,715	-53,618	64,936,715	-53,618

Test Year Schedule 8 CCA

Name of Utility: Hydro Ottawa Limited
License Number: ED-2002-0556
File Numbers: EB-2007-0713,
Name of Contact: Lynne Anderson Phone Number: (613) 738-5499

Class	Class Description	UCC Test Year Opening Balance	Test Year - Additions	Test Year - Disposals	UCC Before 1/2 Yr Adjustment	1/2 Year Rule {1/2 Additions Less Disposals}	Reduced UCC	Rate %	Test Year CCA	UCC End of Test Year
1	Distribution System - post 1987	275,895,755	6,633,006	-53,618	282,582,379	3,343,312	279,239,067	4%	11,169,563	271,412,816
2	Distribution System - pre 1988	89,107,550	0	0	89,107,550	0	89,107,550	6%	5,346,453	83,761,097
3	Buildings: pre-1988	13,852,592	0	0	13,852,592	0	13,852,592	5%	692,630	13,159,962
8	General Office/Stores Equip	9,688,755	2,438,281	0	12,127,036	1,219,141	10,907,896	20%	2,181,579	9,945,457
10	Computer Hardware/ Vehicles	7,136,097	1,702,443	0	8,838,540	851,222	7,987,319	30%	2,396,196	6,442,344
12	Computer Software	3,441,112	3,161,742	0	6,602,854	1,580,871	5,021,983	100%	5,021,983	1,580,871
42	Fibre optic cable	794,730	0	0	794,730	0	794,730	12%	95,368	699,362
45	Computers & Systems Software acq'd post Mar 22/04	2,982,443	730,033	0	3,712,476	365,017	3,347,460	45%	1,506,357	2,206,119
47	Distribution System - post 2005	133,225,698	48,581,103	0	181,806,801	24,290,552	157,516,250	8%	12,601,300	169,205,501
			0	0	0	0	0		0	0
		0			0	0	0		0	0
		0			0	0	0		0	0
	TOTAL	536,124,732	63,246,608	-53,618	599,424,958	31,650,113	567,774,845		41,011,427	558,413,531

Test Year Schedule 10 CEC

Name of Utility: Hydro Ottawa Limited
License Number: ED-2002-0556
File Numbers: EB-2007-0713,
Name of Contact: Lynne Anderson   Phone Number: (613) 738-5499

Cumulative Eligible Capital				**1,159,424**
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				**1,159,424**
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				**1,159,424**
Current Year Deduction (Carry Forward to Tab "Test Year Taxable Income")		**1,159,424**	**x 7% =**	**81,160**
Cumulative Eligible Capital - Closing Balance				**1,078,264**

Test Year Schedule 7-1 Loss Carry Forward

Name of Utility: Hydro Ottawa Limited
License Number: ED-2002-0556
File Numbers: EB-2007-0713,
Name of Contact: Lynne Anderson
Phone Number: (613) 738-5499

Corporation Loss Continuity and Application

Non-Capital Loss Carry Forward Deduction	**Total**	**Non-Distribution Portion [1]**	**Utility Balance**
Actual/Estimated December 31, 2007	0		0
Application of Loss Carry Forward to reduce taxable income in 2008	0		0
Other Adjustments Add (+) Deduct (-)			0
Balance available for use in Test Year	0	0	0
Amount to be used in Test Year			0
Balance available for use post Test Year	0	0	0

Net Capital Loss Carry Forward Deduction	**Total**	**Non-Distribution Portion [1]**	**Utility Balance**
Actual/Estimated December 31, 2007			0
Application of Loss Carry Forward to reduce taxable capital gains in 2008			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

Test Year Taxable Income

Name of Utility: Hydro Ottawa Limited
License Number: ED-2002-0556
File Numbers: EB-2007-0713,
Name of Contact: Lynne Anderson
Phone Number: (613) 738-5499

	T2 S1 line #	Test Year Taxable Income	2006 Adjusted Taxable Income	Variance	Explanation for Variance
Net Income Before Taxes		20,501,399	51,237,000	-30,735,601	One Time recovery of provision for regulatiry assets of $24.9M
Additions:					
Interest and penalties on taxes	103		0	0	
Amortization of tangible assets *2-4 ADJUSTED ACCOUNTING DATA P489*	104	43,753,909	32,980,000	10,773,909	Higher levels of capex expenditures and fixed asset NBV
Amortization of intangible assets *2-4 ADJUSTED ACCOUNTING DATA P490*	106		0	0	
Recapture of capital cost allowance from Schedule 8	107		0	0	
Gain on sale of eligible capital property from Schedule 10	108		0	0	
Income or loss for tax purposes- joint ventures or partnerships	109		0	0	
Loss in equity of subsidiaries and affiliates	110		0	0	
Loss on disposal of assets	111		0	0	
Charitable donations	112	139,800	67,900	71,900	
Taxable Capital Gains	113		32,450	-32,450	
Political Donations	114		0	0	
Deferred and prepaid expenses	116		0	0	
Scientific research expenditures deducted on financial statements	118		0	0	
Capitalized interest	119		0	0	
Non-deductible club dues and fees	120		0	0	
Non-deductible meals and entertainment expense	121	125,000	125,432	-432	
Non-deductible automobile expenses	122		0	0	
Non-deductible life insurance premiums	123		0	0	
Non-deductible company pension plans	124		0	0	
Tax reserves beginning of year	125	0	0	0	
Reserves from financial statements- balance at end of year	126	0	0	0	
Soft costs on construction and renovation of buildings	127		0	0	
Book loss on joint ventures or partnerships	205		0	0	
Capital items expensed	206		0	0	
Debt issue expense	208		0	0	
Development expenses claimed in current year	212		0	0	
Financing fees deducted in books	216		0	0	
Gain on settlement of debt	220		0	0	
Non-deductible advertising	226		0	0	
Non-deductible interest	227		0	0	
Non-deductible legal and accounting fees	228		0	0	
Recapture of SR&ED expenditures	231		0	0	
Share issue expense	235		0	0	
Write down of capital property	236		0	0	
Amounts received in respect of qualifying environment trust per paragraphs 12(1)(z.1) and 12(1)(z.2)	237		0	0	
Other Additions: (please explain in detail the nature of the item)					
Interest Expensed on Capital Leases	290		0	0	
Realized Income from Deferred Credit Accounts	291		0	0	
Pensions	292		0	0	
Non-deductible penalties	293		0	0	
Employee Future Benefit per F/S	294	600,000	1,223,280	-623,280	
Ontario Specified Credits	295		30,000	-30,000	
	296		0	0	
	297		0	0	
Total Additions		44,618,709	34,459,062	10,159,647	
Deductions:					
Gain on disposal of assets per financial statements	401		298,000	-298,000	
Dividends not taxable under section 83	402		0	0	
Capital cost allowance from Schedule 8	403	41,011,427	33,752,778	7,258,649	Higher levels of capex expenditures and UCC
Terminal loss from Schedule 8	404		0	0	
Cumulative eligible capital deduction from Schedule 10 CEC	405	81,160	93,627	-12,467	
Allowable business investment loss	406		0	0	
Deferred and prepaid expenses	409		0	0	
Scientific research expenses claimed in year	411		0	0	
Tax reserves end of year	413	0	0	0	
Reserves from financial statements - balance at beginning of year	414	0	0	0	

Contributions to deferred income plans	416		0	0	
Book income of joint venture or partnership	305		0	0	
Equity in income from subsidiary or affiliates	306		0	0	
Other deductions: (Please explain in detail the nature of the item)					
Interest capitalized for accounting deducted for tax	390		0	0	
Capital Lease Payments	391		0	0	
Non-taxable imputed interest income on deferral and variance accounts	392		0	0	
Actual employee benefits paid	393	335,000	321,482	13,518	
Capitalized Interest	394	695,011	193,362	501,649	
Excess Interest (from Tab "Schedule 7-3")	395	0	0	0	
	396		0	0	
	397		0	0	
Total Deductions		42,122,598	34,659,249	7,463,349	
NET INCOME FOR TAX PURPOSES		22,997,510	51,036,813	-28,039,303	
Charitable donations	311	99,800	67,900	31,900	Anticipated inc. receipted donations for 2006
Taxable dividends received under section 112 or 113	320		0	0	
Non-capital losses of preceding taxation years from Schedule 7-1	331	0	0	0	Losses all used to reduce 2005 taxable income
Net-capital losses of preceding taxation years (Please show calculation)	332		0	0	
Limited partnership losses of preceding taxation years from Schedule 4	335		0	0	
TAXABLE INCOME (C/F to tab "Tax Provision)		22,897,710	50,968,913	-28,071,203	

Test Year Schedule 7-3 Interest

Name of Utility:	Hydro Ottawa Limited
License Number:	ED-2002-0556
File Numbers:	EB-2007-0713,
Name of Contact:	Lynne Anderson
Phone Number:	(613) 738-5499

Calculated Deemed 2008 Interest Expense in 2008 EDR model	18,277,919
2008 Actual Interest Expense	15,237,000
2008 Capitalized Interest (USoA 6040)	
2008 Capitalized Interest (USoA 6042)	695,011
2008 Forecast Interest	15,932,011
Interest Forecast for Tier 1 or 2 Adjustments	
Total Interest	15,932,011
Excess Interest Expense for 2006 PILs	0

Test Year Ontario Capital Tax

Name of Utility:	Hydro Ottawa Limited
License Number:	ED-2002-0556
File Numbers:	EB-2007-0713,
Name of Contact:	Lynne Andersor Phone Number: (613) 738-5499

If Rate Base is proxy for paid-up capital, useSection A
If using actual paid-up capital, useSection B
Enter the LCT amount from either Section A or B in tab "Tax Provision" cell D2

Section A

	Wires Only
ONTARIO CAPITAL TAX	
Rate Base	581,765,003
Less: Exemption	15,000,000
Deemed Taxable Capital	566,765,003
Rate in 2008	0.285%
Net Amount (Taxable Capital x Rate)	1,615,280
FEDERAL LCT	
Rate Base from	581,765,003
Less: Exemption	50,000,000
Deemed Taxable Capital	531,765,003
Rate in 2006	0.000%
Gross Amount (Taxable Capital x Rate)	0
Less: Federal Surtax	0
Net LCT	0
Grossed-up LCT	0

Section B

Detailed Calculation of the Ontario Capital Tax

ONTARIO CAPITAL TAX
(From Ontario CT23)
PAID-UP CAPITAL

	From 2004 Tax Return	Non-Distribution Elimination	Wires Only
Paid-up capital stock	167,081,000		167,081,000
Retained earnings(if deficit, use negative sign	49,376,000		49,376,000
Capital and other surplus excluding			0
appraisal surplus			0
Loans and advances	353,246,500		353,246,500
Bank loans			0
Bankers acceptances			0
Bonds and debentures payable			0
Mortgages payable			0
Lien notes payable			0
Deferred credits (future employee benefits)	4,546,000		4,546,000
Contingent, investment, inventory and similar reserves			0
Other reserves not allowed as deductions			0
Share of partnership(s), joint venture(s) paid-up capital			0
Sub-total	574,249,500	0	574,249,500
Subtract:			
Amounts deducted for income tax purposes in excess of amounts booked	9,030,793		9,030,793
Deductible R&D expenditures and ONTTI costs deferred for income tax			0
Total (Net) Paid-up Capital	565,218,707	0	565,218,707

ELIGIBLE INVESTMENTS

Bonds, lien notes, interest coupons			0
Mortgages due from other corporations			0
Shares in other corporations			0
Loans and advances to unrelated corporations			0
Eligible loans and advances to related corporations			0
Share of partnership(s) or joint venture(s) eligible investments			0
			0
Total Eligible Investments	0	0	0

TOTAL ASSETS

	From 2004 Tax Return	Non-Distribution Elimination	Wires Only
Total assets per balance sheet	679,084,000	18,816,301	660,267,699
Mortgages or other liabilities deducted from assets			0
Share of partnership(s)/ joint venture(s) total assets			0
Deduct			
Investment in partnership(s)/joint venture(s)			0
Total assets as adjusted	679,084,000	18,816,301	660,267,699
Add: (if deducted from assets)			
Contingent, investment, inventory and similar reserves			0
Other reserves not allowed as deductions			0
Deduct			
Amounts deducted for income tax purposes in excess of amounts booked	9,030,793		9,030,793
Deductible R&D expenditures and ONTTI costs deferred for income tax			0

Deduct			
Appraisal surplus if booked			0
Other adjustments (if deducting, use negative sign			0
Total Assets	670,053,207	18,816,301	651,236,906
Investment Allowance	0	0	0

Taxable Capital

Net paid-up capital	565,218,707	0	565,218,707
Investment Allowance	0	0	0
Taxable Capital	565,218,707	0	565,218,707

Capital Tax Calculation

Deduction from taxable capital up to $15,000,000	15,000,000		15,000,000
Net Taxable Capital			550,218,707
Rate			0.2850%
Ontario Capital Tax (Deductible, not grossed-up			1,568,123

LARGE CORPORATION TAX
(From Federal Schedule 33)

CAPITAL	**From 2004 Tax Return**	**Non-Distribution Elimination**	**Wires Only**
ADD:			
Reserves that have not been deducted in computing income for the year under Part I			0
Capital stock	167,081,000		167,081,000
Retained earnings	49,376,000		49,376,000
Contributed surplus			0
Any other surpluses			0
Deferred unrealized foreign exchange gains			0
All loans and advances to the corporation	353,246,500		353,246,500
All indebtedness- bonds, debentures, notes, mortgages, bankers acceptances, or similar obligations			0
Any dividends declared but not paid			0
All other indebtedness outstanding for more than 365 days			0
Subtotal	569,703,500	0	569,703,500
DEDUCT:			
Deferred tax debit balance			0
Any deficit deducted in computing shareholders' equity			0
Any patronage dividends 135(1) deducted in computing income under Part I included in amounts above			0
Deferred unrealized foreign exchange losses			0
			0
Subtotal	0	0	0
Capital for the year	569,703,500	0	569,703,500

INVESTMENT ALLOWANCE	**From 2004 Tax Return**	**Non-Distribution Elimination**	**Wires Only**
Shares in another corporation			0
Loan or advance to another corporation			0
Bond, debenture, note, mortgage, or			0
similar obligation of another corporation			0
Long term debt of financial institution			0
Dividend receivable from another corporation			0
Debts of corporate partnerships that were not exempt from tax under Part I.3			0
Interest in a partnership			0
Investment Allowance	0	0	0

TAXABLE CAPITAL

Capital for the year	569,703,500	0	569,703,500
Deduct: Investment allowance	0	0	0
Taxable Capital for taxation year	569,703,500	0	569,703,500
Deduct: Capital Deduction upto $50,000,000	50,000,000		50,000,000
Taxable Capital	519,703,500	0	519,703,500
Rate			0.00000%
Gross Part I.3 Tax LCT			0.00
Federal Surtax Rate			0.0000%
Less: Federal Surtax = Taxable Income x Surtax Rate			0
Net Part I.3 Tax - LCT Payable ***(If surtax is greater than Gross LCT, then zero)***			0
Net Part I.3 Tax - LCT Payable grossed-up (1 - 0.3612)			0

Paid-Up Capital

Loans & Advances

Customer Deposits	23,850,000
Notes payable	323,830,000
Tender Deposits	75,000
Key Deposits	16,500
Prudentials	475,000
CIS Credit	5,000,000
	353,246,500

Deferred Credits

Future Employee Benefits Liabiltiy	4,546,000

Excess Amounts

Cumulative CCA
Cumulative Amortization
Cumulative CEC
Cumulative CCA on FMV Bump

Hydro Ottawa Limited
Line 371 reconciliation
December 31, 2006

Cumulative CCA		Cumulative Depreciation		Cumulative CEC amount	
2001	6,046,889	2001	5,365,000	2001	29,812
2002	26,801,693	2002	23,432,000	2002	116,190
2003	26,880,359	2003	25,107,000	2003	108,056
2004	36,713,722	2004	25,890,138	2004	106,132
2005	37,305,089	2005	29,674,251	2005	99,620
2006	33,752,778	2006	32,979,486	2006	93,627
2007	40,948,796	2007	37,346,006	2007	87,269
2008	41,011,427	2008	39,649,960	2008	81,160
	249,460,753		219,443,841		721,866

Line 371

Cumulative CCA	249,460,753
Cumulative Depreciation	(219,443,841)
Cumulative CEC amount	721,866
Cumulative CCA on FMV Bump	(21,707,985)
Net Regulatory (Liability)/Asset	-
	9,030,793

Test Year PILs Provision

Name of Utility:	Hydro Ottawa Limited	
License Number:	ED-2002-0556	
File Numbers:	EB-2007-0713,	
Name of Contact:	Lynne Anderson	Phone Number: (613) 738-5499

	Wires Only	2004 Actual	Variance	Explanation of Variance
Regulatory Taxable Income - From 'Test Year Taxable Income'	22,897,710			
Corporate Income Tax Rate	34.50%			
Total Income Taxes	7,899,710			
Investment Tax Credits			0	
Miscellaneous Tax Credits			0	
Total Tax Credits	0	0	0	
Corporate PILs/Income Tax Provision for Test Year	7,899,710			
Ontario Capital Tax	1,615,280			
LCT	0			

INCLUSION IN RATES

Income Tax (grossed-up)	12,060,626
Ontario Capital Tax (not grossed-up)	1,615,280
LCT (grossed-up)	0
Tax Provision for 2008 EDR Model Rate Recovery	13,675,906

Test Year PILs Variance

Name of Utility: Hydro Ottawa Limited
License Number: ED-2002-0556
File Numbers: EB-2007-0713,
Name of Contact: Lynne Anderson   Phone Number: (613) 738-5499

		Income Taxes	OCT	LCT	TOTAL
Actual PILs/Taxes Paid by the Utility [1]	**2006**	10,968,065	1,525,758	0	12,493,823
Test Year PILs/Taxes [2]	**2008**	12,060,626	1,615,280	0	13,675,906
Variance (2008 vs. 2006)		1,092,561	89,522	-	1,182,083
Percentage Variance between Actual 2006 and 2008 Proxy					9%

Comments:

See Exhibit D2-2-1.

[1] Actual Wires-Only PILs/ Taxes paid includes income taxes and Ontario Capital Tax.

[2] Test Year PILs/Taxes include the grossed-up amounts for income taxes plus Ontario Capital Tax (not grossed-up).

PAYMENTS IN LIEU OF TAXES VARIANCES

1.0 INTRODUCTION

Table 1 summarizes the Payments in Lieu of Taxes ("PILs") for 2006 (Approved and Actual), 2007 (Bridge Year) and 2008 (Test Year). The PILs include amounts related to income taxes and capital taxes (large corporation taxes ("LCT") and Ontario Capital Taxes ("OCT")).

Table 1 – PILs by Year ($000)

	2006 Approved	2006 Actual	2007 Estimate	2008 Forecast[1]
Income Taxes	$10,237	$ 10,968	$13,485	$12,061
Capital Taxes	2,199	1,526	1,800	1,615
Total	$12,436[2]	$ 12,494	$15,285	$13,676

2.0 2006 Actual to 2006 Approved Variance

The actual income taxes paid in 2006 were affected by changes in the regulatory asset reserve as well as changes in the rates for class 47 and the removal of the Large Corporations Tax effective January 1, 2006. The removal of the LCT is the main reason for the difference in capital taxes. As discussed in Exhibit E1-1-1, amounts included in the 2006 revenue requirement related to these items were credited to the variance accounts for disposition to customers.

[1] The 2008 Forecast is from the Tax Model used to determine the PILs provision to include in the revenue requirement. This calculation is based on a full year of income at the new distribution rates. The new distribution rates will not be implementing until May 1, 2008, resulting in a revenue deficiency for the calendar year 2008 and therefore lower taxes paid.
[2] An additional $320k for PILs related to Smart Meters but was included in the Smart Meter revenue requirement.

3.0 2007 Estimate to 2006 Actual Variance

Income taxes are estimated to increase in 2007 because distribution revenue for 2007 will reflect a whole year related to the rate increase on May 1, 2006 and includes a small increase for inflation less productivity. This along with reduced deductions for the regulatory asset reserves is increasing the corporate taxes. As well, the 2007 Forecast includes a contingent amount in regards to the audit review currently in progress with the Ministry of Finance.

Capital taxes are expected to increase in 2007 due to increases in the total PUC employed.

4.0 2008 Forecast to 2007 Estimate

Income taxes are estimated to decrease in 2008 as it does not have an audit contingency amount included, it reflects a reduced combined corporate tax rate of 34.5%, and does not include any changes for regulatory reserves.

SMART METERS

1.0 SMART METER INVESTMENT PLAN

Hydro Ottawa's implementation of the Province's Smart Meter Initiative ("SMI") remains on track. As of June 30, 2007, 133,760 residential, 4,109 small commercial and 469 demand type meters have been installed. This represents 45% of the total five-year objective. This significant accomplishment was achieved in less than ten months. Table 1 illustrates the actual and forecasted deployment results for the five-year initiative.

Table 1 – Number of Meters Installed Each Calendar Year

	Total Customers at Dec. 31, 2010 requiring Smart Meters	2006 # meters	%	2007 # meters	%	2008 # meters	%	2009 # meters	%	2010 # meters	%
Residential	281,789	96,628	34	97,236	35	50,516	18	31,100	11	6,309	2
G.S.<50kW	19,669	765	4	7,048	36	6,007	30	3,764	19	2,085	11
G.S.>50kW	2,769	235	8	842	31	838	30	837	30	17	1
Total	304,227	97, 628	32	105,126	34	57,361	19	35,701	12	8,411	3

Hydro Ottawa continues to find efficiencies in the implementation costs of the advanced metering infrastructure ("AMI"). By working closely with vendors and the Coalition of Large Distributors ("CLD") preferential and volume pricing opportunities are being maximized. However, many unknown factors remain that will or may have an upward impact on costs in 2008 and beyond. These include:

- Meter Data Management/Repository ("MDM/R") integration costs,
- Increased meter installation costs in older, indoor locations,
- Potential requirement for additional AMI technology to address rural and/or locations with poor radio frequency communications characteristics,
- Transaction costs with the MDM/R.

2.0 CAPITAL EXPENDITURES

Table 2 provides the 2006 Actual, 2007 Estimate and 2008, 2009 and 2010 Forecasted capital expenditures for Smart Meters.

Table 2 – Capital Spending by Calendar Year

	2006 Actual[1] $000	2007 Estimate $000	2008 Forecast $000	2009 Forecast $000	2010 Forecast $000
Total	$16,376	$16,920	$9,684	$7,043	$1,460

Hydro Ottawa's plan has been to have a large portion of the meters converted by the time that Time-of-Use ("TOU") billing is implemented; therefore, the capital expenditures are higher in the first two years of the implementation than in the subsequent years. Furthermore, the strategy has been to complete the installations for all of the newer parts of the service area first where there are few inside meters or meter bases requiring modifications. Now that work has transitioned to the older neighbourhoods, the pace of implementation has slowed.

Current procurement arrangements for AMI in compliance with Ontario Regulation 427/06 will expire at the end of 2007. In its July 26, 2007 letter to the Minister of Energy, the CLD requested direction from the Minister on how best to proceed with procurement activities for 2008 that are compliant with provincial regulations.

3.0 OPERATIONS, MAINTENANCE AND ADMINISTRATION ("OM&A")

In 2008, Hydro Ottawa expects to begin the transition to TOU billing. This is an extremely significant change for our customers and the employees charged with supporting the 'meter to cash' and customer functions. As such, additional resources and effort will be assigned to managing this change. In addition, operating and

[1] Does not include work on customer-owned equipment.

maintaining the AMI is a new accountability for LDCs. 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 3 summarizes the OM&A costs for the calendar year 2008. The OM&A account grouping is shown in brackets for each cost.

Table 3 – Operating Expenses for the 2008 Calendar Year

Labour and benefits (O&M)	$274,838
Call Centre costs (Community Relations)	523,000
Training / Change Management Cost (Administration)	460,000
Miscellaneous Administration (Administration)	10,620
Telephony / Data Communications (O&M)	199,560
Customer Communications (Administration)	200,000
IT maintenance contracts/software (Administration)	55,000
Total	$1,723,018

For the 2008 rates, Hydro Ottawa has included $740,018 of the above expenses. The remaining $983,000, which is for call centre costs and training, are one-time costs for the implementation of time-of-use ("TOU") billing. As part of the 2007 EDR Application, Hydro Ottawa had forecast these costs to occur in the 2007 rate year (May 1, 2007 to April 30, 2008); therefore, these costs were included in the determination of Hydro Ottawa's 2007 rate adder for Smart Meters. Hydro Ottawa still anticipates incurring these costs in early to mid-2008 if TOU billing proceeds; therefore, the costs are included in the forecast for the 2008 calendar year. Since Hydro Ottawa has already collected the funds through the 2007 rate adder, this amount of $953,000 has not been included in the 2008 revenue requirement. Any differences between costs incurred and amounts collected from customers for the 2007 rate year will continue to be tracked through the Account 1556 Smart Meter variance account with accrued interest.

The OM&A from Table 3 does not include any OM&A costs related to transaction costs or regular fees for the use of the provincial MDM/R because these costs/fees are not yet known. However, as included in Exhibit A1-4-1, Hydro Ottawa is seeking the Board's express confirmation that these costs/fees can be recorded in the Account 1556 Smart Meter variance, until the costs/fees are known and can be included in an ongoing revenue requirement.

Hydro Ottawa recognizes that while there are a number of areas in which costs are increasing related to the Smart Meters program, there are some areas in which costs are forecast to decrease for 2008. As referenced in Exhibit D1-1-4, Section 3.0, Hydro Ottawa is forecasting a decrease in traditional meter reading expenses in 2008. Furthermore, the costs for meter expenses (Account 5065) and maintenance of meters (Account 5175) are forecasted to be $600k lower in 2008 than when Hydro Ottawa launched the Smart Meter implementation in 2006.

Hydro Ottawa continues to take a leadership role in implementing the systems, processes and customer communications necessary to permit a smooth transition to TOU billing. In its July 26, 2007 letter to the Minister of Energy, the CLD provided the Minister with its views on the implementation of TOU billing and recommended that it be undertaken on a mandated, province-wide basis. The CLD has offered to assist the government to develop a plan to facilitate the transition. Hydro Ottawa believes the decision to mandate new rates is an important provincial policy decision and is best implemented in a coordinated fashion. The lack of a coordinated plan for transitioning to TOU rates could adversely affect the SMI.

4.0 2009 AND 2010

Hydro Ottawa is applying to the Board for a Capital Adjustment Factor for capital additions in 2009 and 2010 (See Exhibit B4-1-1). Smart Meter capital expenditures have not been included in the calculation of the Capital Adjustment Factor as Hydro Ottawa is expecting that there will be a rate adder in 2009 and 2010 to recoup capital expenditures and incremental operating expenses related to Smart Meters.

5.0 STRANDED METERS

When a Smart Meter replaces a conventional meter that has not been fully amortized, the conventional meter becomes stranded. The Decision with Reason related to the Smart Meter Proceeding, issued August 8, 2007 states "The Board also accepts that stranded costs, properly calculated, are recoverable", and goes on to say, "Many of the utilities suggested that at the present time, the stranded costs associated with existing meters should stay in rate base. The Board accepts this proposition. Utilities can, if they choose, bring forward applications for the recovery of stranded costs in their 2008 rates".[2]

For 2006 audited financial statements, Hydro Ottawa removed the stranded assets from fixed assets and recorded them as a regulatory asset on the balance sheet. For purposes of this Application, Hydro Ottawa has added back the removed stranded meters and related amortization. Furthermore, the additional amortization that would have accumulated if the meters had remained in fixed assets was also added back to the rate base.

Hydro Ottawa is requesting approval to accelerate the amortization of the pool of stranded assets starting in 2008, over a four-year period. Table 4 shows the stranded meters that will be removed from the rate base. As detailed in Exhibit D2-1-1, Section 3.13, there is an impact on Payments in Lieu of Taxes as a result of the increased amortization. Hydro Ottawa proposes that a reconciliation be conducted at the end of the four years to ensure that the actual costs of the stranded meters has been recovered, with no residual credit or debit balance.

[2] Pgs. 15 & 16, Decision with Reason, Smart Meter Proceeding, August 8, 2007

Table 4 – Stranded Meters ($000)

	Gross Asset	Accumulated Amortization	Net Asset	Proceeds	Contributed Capital	Net Removal
Meters removed in 2006	$12,031	($7,161)	$4,870	($93)	$0	$4,777
Meters removed to June 2007	4,346	(2,088)	2,258	(44)	0	2,213
Meters to be removed in remaining 2007	10,371	(5,658)	4,714	(52)	0	4,662
Meters to be removed in 2008	10,598	(5,781)	4,817	(53)	(731)	4,033
Meters to be removed in 2009	6,604	(3,602)	3,001	(33)	(455)	2,513
Meters to be removed in 2010	1,481	(808)	673	7	(102)	564
TOTAL	$45,430	$25,098	$20,332	$283	$1,288	$18,761

CONSERVATION AND DEMAND MANAGMENT

1.0 INTRODUCTION

In the 2006 and 2007 Rate Applications, Hydro Ottawa did not seek approval for any incremental Conservation and Demand Management ("CDM") expenditures beyond the amount already approved in the RP-2004-0203 proceeding.

For the 2006 EDR Application, Hydro Ottawa included $2,616,912 (Account 1565) in rate base related to 3rd tranche CDM spending. Actual expenditures were recorded in the actual asset accounts. Section 3.0 of Exhibit B2-2-1 provides details on the variance between the approved and actual spending.

Hydro Ottawa is not seeking approval to fund CDM programs through distribution rates in 2008. Although CDM funding by the Ontario Power Authority ("OPA") for 2008 has not been confirmed, Hydro Ottawa remains optimistic that this funding will continue.

2.0 LOST REVENUE ADJUSTMENT MECHANISM/SHARED SAVINGS MECHANISM

As outlined in the Board Filing Requirements, issued November 14, 2006, the Board has determined that a Lost Revenue Adjustment Mechanism ("LRAM") and a Shared Savings Mechanism ("SSM") associated with 3rd tranche CDM funding is appropriate and should be recovered on a retrospective basis. Hydro Ottawa intends to file a separate application at a future date to recover the LRAM/SSM related to 3rd tranche CDM spending.

CURRENT DEFERRAL AND VARIANCE ACCOUNTS

1.0 INTRODUCTION

On April 12, 2006, Hydro Ottawa received final approval from the Board for recovery of regulatory assets accumulated to December 31, 2004 as part of the 2006 EDR Application. Amounts have therefore accumulated in variance and deferral accounts from January 1, 2005 to the present.

Sections 78 (6.1) and 78(6.2) of the *Ontario Energy Board Act* require the Board to make an order determining whether and how amounts accumulated in variance and deferral accounts shall be reflected in rates. For commodity accounts these orders are to occur quarterly and for non-commodity accounts annually.

Hydro Ottawa has reviewed the amounts accumulated in variance and deferral accounts since January 1, 2005 and is seeking a rate order from the Board for the disposition of the balances as at June 30, 2007 for all accounts except Account 1588, for which recovery is sought for the December 31, 2006 balance. Hydro Ottawa proposes that the new rate riders commence on May 1, 2008 at the same time as other changes to distribution rates.

On March 19, 2007, Hydro Ottawa filed an Application to the Board requesting a rate order for recovery of December 31, 2006 balances. That Application is now superseded by this Application for recovery of the June 30, 2007 balances.

2.0 DETAILS OF VARIANCE AND DEFERRAL ACCOUNTS

Table 1 sets out the principal and interest for each variance and deferral account for which Hydro Ottawa proposes disposition at this time.

Table 1 - Total Balances Disaggregated by Principal, Interest

Account Description	Account Number	Principal Amounts as of June 30, 2007	Interest to June 30, 2007	Current Total Filing
RSVA - Wholesale Market	1580	($9,434,876)	$4,205	($9,430,671)
RSVA – One-time	1582	856,348	56,404	912,752
RSVA - Transmission Network	1584	2,218,175	149,841	2,368,015
RSVA - Transmission Connection	1586	(4,946,920)	(574,407)	(5,521,327)
RSVA – Power[1] Commodity	1588	4,259,398	125,535	4,384,933
Other Regulatory Assets OEB Cost Assessments	1508	740,384	67,384	807,767
Other Regulatory Assets Pension Contributions	1508	1,697,803	129,214	1,827,017
RCVA – Retail	1518	(70,579)	13,859	(56,721)
RCVA – STR	1548	606,164	21,024	627,188
Misc. Deferred Debits	1525	94,577	3,942	98,519
Low Voltage Charges	1550	944,324	26,600	970,924
Deferred PILs (pre May 1, 2006)	1562	(150,927)	923,911	772,983
PILs and Tax Variances (post May 1, 2006)	1592	(1,775,259)	(38,082)	(1,813,341)
Total		($4,961,389)	$909,428	($4,051,961)

The total amount accumulated between January 1, 2005 and June 30, 2007 for which disposition is sought is a credit to customers of $4,051,961.

[1] The balance for the RSVA – Power account is as at December 31, 2006. See Section 6.1 for further details. Furthermore, the balance does not include the global adjustment sub-account for which recovery is not sought. See Section 6.2 for further details.

2.1 Retail Settlement Variance Accounts

Hydro Ottawa has not made any changes to its accounting policies with respect to the Retail Settlement Variance Accounts ("RSVAs") from those that were in place for amounts accumulated to December 31, 2004 and approved for recovery by the Board. Hydro Ottawa has always followed the guidance from the Accounting Procedures Handbook ("APH") to record the difference between the cost of power revenue and the cost of power expenses in the RSVA accounts, resulting in the revenue equalling the expenses for financial statements.

2.2 Other Regulatory Assets

Amounts recorded in Account 1508 reflect the incremental OEB cost assessments and expenses paid to the Ontario Municipal Employees Retirement System ("OMERS") for the period, January 1, 2005 to April 30, 2006. For the OEB cost assessments, the amount recorded reflects the OEB cost assessments for the period less the amount included in the 1999 base year of $155,988. No amounts were recorded in Account 1508 after April 30, 2006, except for interest.

2.3 Retail Cost Variance Accounts

Recorded in the Retail Cost Variance Accounts (RCVAs) is the difference between the revenue collected from retailers for retail settlement activities net of costs incurred to provide these services. The overall costs incurred to provide retail services are difficult to allocate between the costs for service transaction requests ("strs") and the costs for retail contract administration and distributor-consolidated billing because it is often the same personnel involved in both functions. Therefore, there two accounts are appropriately reviewed together.

2.4 Miscellaneous Deferred Debits

As per the Board's letter dated December 13, 2005, costs incurred to administer the Ontario Price Credit were recorded in Account 1525 Miscellaneous Deferred Debits, Sub-account Payments to Customers.

2.5 LV Variance Accounts

Account 1550 for Low Voltage ("LV") charges was set up effective May 1, 2006. Recorded in this account is the difference between the amounts charged to Hydro Ottawa from Hydro One for LV services and the amounts collected from Hydro Ottawa customers for these charges. The amounts collected from customers were determined by applying the LV adjustment for distribution rates determined in Sheet 8-2 RATES - Low Voltage/ Wheeling Adjustments of the 2006 EDR Model to the kilowatthours ("kWhs") or kilowatts ("kWs") (as appropriate) consumed by each class of customer, each month. It should be noted that Hydro Ottawa's estimate for the LV charges from Hydro One was significantly underestimated. Therefore, there is a substantial balance in this account.

2.6 Other Accounts

Hydro Ottawa has no amounts recorded in Accounts 1572, 1574 and 2425.

3.0 PAYMENTS IN LIEU OF TAXES (PILs)

3.1 Deferred PILs

In April 2003, the Board issued accounting guidance for Accounts 1562 and 1563 related to deferred PILs. This guidance set out three alternative accounting methods for recording PILs variances. Hydro Ottawa adopted Alternative 1 and therefore did not record any entries in the contra account 1563. From 2002 through to April 30, 2006, the variance was recorded as the difference between the Board approved PILs Proxy amount and the amount collected from customers in the same period. In addition, an annual true-up was completed using the worksheets issued by the Board each year. This true-up amount was then recorded to the variance account. For 2006, Hydro Ottawa also recorded amounts for the first four months of the year related to the change in the tax rules for class 47 assets ($396k) and the elimination of the large corporation tax (“LCT”) ($182k).

While the principle balance is a credit, the interest calculation is a debit. This is predominately due to the timing difference between when Hydro Ottawa became a taxable corporation on October 1, 2001 and when the revenue for PILs commenced on March 1, 2002.

3.2 PILs and Tax Variances

Recorded in Account 1592 are the amounts since May 1, 2006 related to tax changes for LCT and class 47 assets. Hydro Ottawa was not required to pay LCT in 2006 because of changes in federal tax rules. Furthermore, a change in the treatment of class 47 assets also decreased the taxes payable. A credit of $1.8M (0.6M for LCT and $1.2M for class 47) was recorded in Account 1592 for these changes.

4.0 INTEREST

From January 1, 2005 to April 30, 2006 interest amounts were calculated, as prescribed by the Board, using a simple interest rate of 6.9% for all accounts except Account 1508 (Other Regulatory Assets). From May 1, 2006 to December 31, 2006, interest amounts were calculated using the interest rates prescribed by the Board and published quarterly on the Board’s web site.

For Account 1508 until April 30, 2006, a simple interest rate of 5.75% was used for the sub-account for Board cost assessments in accordance with the Board’s December 20, 2004 letter, and 3.88% for the sub-account for pension contributions in accordance with the Board's letter dated February 20, 2006. From May 1, 2006 to June 30, 2007, interest was calculated using the interest rate prescribed by the Board and published quarterly on the Board's web site.

5.0 SMART METER VARIANCE ACCOUNTS

Hydro Ottawa was an applicant in the Board's combined proceeding on Smart Meters EB-2007-0063/2007-0544. Hydro Ottawa filed details on its Smart Meter costs to April 30, 2007. As part of its pre-filed evidence (page 29 of 44), Hydro Ottawa illustrated that it had experienced only a $91,098 shortfall in Smart Meter funding when the revenue requirement related to these costs incurred to April 30, 2007 was compared to the actual amounts collected from customers for the same period. Since the amount was small, Hydro Ottawa proposed that it would defer the clearing of this account until a later date. Between the April 30, 2007 and June 30, 2007 balances no material change has occurred that would change the balance and therefore Smart Meter variances are not included for disposition at this time.

6.0 COMMODITY VARIANCES

Included within the RSVA Power control account are the variances related to the electricity commodity and the global adjustment (RSVA power sub account global adjustment). These accounts include permanent amounts that need to be cleared, but can sometimes include some short-term timing differences that will self-clear in subsequent periods. Hydro Ottawa understands the importance of rate stability and therefore has reviewed these accounts in detail to determine if the balances are permanent or self-clearing. At December 31, 2006 the balance in the RSVA power control account was $8,667,570 (including both the commodity variance of $4,384,933 and global adjustment variance of $4,282,637). At June 30, 2007 the balance had increased to $10,933,353 (commodity variance $7,200,325 and global adjustment variance of $3,733,028).

6.1 Commodity Variance

As a result of a detailed review, Hydro Ottawa has concluded that the balance in the commodity portion of the RSVA power account at December 31, 2006 of $4,384,933 is a permanent difference that needs to be cleared through a rate rider. The balance had increased to $7,200,325 by June 30, 2007. However, Hydro Ottawa does not have evidence to support seeking recovery from customers of the additional $2.7M at this time. It is possible that this additional amount accumulated because of seasonal differences between the commodity costs and the commodity revenue collected from customers for which month-end estimates for accrued revenue cannot completely adjust.

The RSVA power account comprises the difference between the commodity revenue from customers and the commodity paid to the Independent Electricity System Operation ("IESO"), Hydro One Networks Inc. and embedded generators. The commodity revenue from customers includes the amount billed to customers plus an accrual for the amount of energy consumed in the period but not yet billed. The commodity paid to the IESO includes an estimate for the refunds to address the difference between the spot market price and the Regulated Price Plan ("RPP") pricing to most customers.

Included within the RSVA power account are differences between the Board approved loss factor and the actual loss factor for the period. Hydro Ottawa notes that between January 1, 2005 and December 31, 2006 the actual loss factor was higher than the three-year average approved by the Board. This is predominately because of an abnormally low loss factor in 2004 that lowered the 3-year average. Hydro Ottawa's Board approved loss factor based on this average dropped from 1.0364 to 1.0344 on May 1, 2006 for secondary metered customers. A loss factor decrease of this magnitude results in decreased sales of approximately 14 GWh or $800k at a commodity price of 6 cents per kWh. This results in a permanent asset balance in the RSVA power account.

As noted previously, Hydro Ottawa uses accrual accounting for the recording of the RSVA accounts. As a result, an estimate was done at December 31, 2004 for the amount of energy that had been consumed but not yet billed. This accrual was higher than the actual amount billed. The affect of this is to essentially shift the recording of revenue from 2005 to 2004. Differences between the accrual estimate and the actual amounts are normally smoothed out in the accumulated balance in the $RSVA_{POWER}$ Account, but the December 31, 2004 balance was cleared and $3.2M went back to customers.

Monthly IESO invoices that are used to set the commodity price to be billed to customers include preliminary settlement amounts for the last half of the month. Therefore differences between the preliminary and final IESO settlements become permanent balances in the RSVA power account.

In 2005, Hydro Ottawa determined final reconciliations for the period between May 1, 2002 and December 31, 2004, for the refunds related to differences between the spot market price and regulated prices set for customers (initially 4.3 cents per kWh and then the two-tier price). This resulted in a return of amounts to the IESO with the effect of increasing the cost of the commodity creating a permanent balance for the RSVA power account.

6.2 Global Adjustment Variance

The RSVA power – global adjustment comprises differences between the wholesale global adjustment rate charged or credited by the IESO and the provincial benefit rate issued by the IESO for billing to non-RPP customers. Timing differences can occur because the provincial benefit rate for a particular month is based on the global adjustment rate from the previous month. The timing differences are more material when the global adjustment changes from a credit in one month to a charge in the next. It is difficult to separate the permanent balance in this account from the amount that will be self-clearing. For this reason, Hydro Ottawa is proposing that the June 30, 2007 asset balance of $3,733,028 not be cleared at this time.

7.0 DETERMINATION OF RATE RIDERS FOR RECOVERY

The Attachment to this exhibit shows the proposed rate riders to clear the balances shown in Table 1. The worksheet for determining the rate riders is also part of the Attachment. This shows the allocation of the variance / deferral accounts to each customer class. Hydro Ottawa proposes that the same allocators be used for the accounts that were approved for Hydro Ottawa's 2006 EDR Application. For Account 1550 LV Charges, Hydro Ottawa proposes that balances be allocated on the basis of kWhs. This is because this account relates to charges from Hydro One to deliver electricity to Hydro Ottawa's service area. The magnitude of these charges is directly related to the consumption of electricity by customers. For Accounts 1562 and 1592 related to PILs, Hydro Ottawa proposes to use distribution revenue as the allocator. As was approved as part of the 2006 EDR Application, Hydro Ottawa has used customer numbers (as opposed to number of connections) as the basis for allocating RCVA amounts to the street lighting, unmetered scattered loads ("USL") and sentinel lighting customer classes. For sentinel lights, the customer number was set at one to provide a reasonable allocation.

The Attachment to this exhibit also determines appropriate rate riders for the disposition of balances allocated to each customer class. For Residential, General Service < 50 kW and USL classes, rate riders for disposition of balances over 12 months are determined by dividing the amount allocated to the class by the 2006 annual kWhs for that class. For the remaining customer classes, the 2006 annual kWs were used to determine the rate rider.

8.0 IMPLEMENTATION

Hydro Ottawa requests that the rate order from the Board sets out distribution rate riders to be effective for a period of one year from May 1, 2008 to April 30, 2009.

9.0 BILL IMPACTS

The disposition of these variance and deferral accounts results in a –0.2% decrease to the electricity bill for a residential customer using 1,000 kWh per month and –0.5% for the general service customer with demand less than 50 kW using 2,000 kWh per month. The impact of this change is incorporated in Exhibit I1-7-1.

10.0 REPORTING AND RECORD-KEEPING REQUIREMENTS (RRR)

On July 31, 2007, Hydro Ottawa filed with the OEB the balances for each of the variance and deferral accounts recorded to June 30, 2007 as required by the Reporting and Record-keeping Requirements ("RRRs"). Amounts included in Table 1 are the same as those filed with the OEB as part of the RRRs (for the RSVA power account this was the December 31, 2006 balance filed with the Board on January 31, 2007).

11.0 PREVIOUSLY DENIED AMOUNTS

Hydro Ottawa has not recorded any amounts in variance and deferral accounts that have been previously denied by the Board.

ATTACHMENT

Proposed Rate Schedule

Rate Rider for Regulatory Asset Recovery

Effective May 1, 2008 to April 30, 2009

Residential Service	(per kWh)	-$0.0002
General Service<50 kW	(per kWh)	-$0.0005
Unmetered Scattered Load	(per kWh)	-$0.0005
General Service > 50 kW <1500 kW	(per kW)	-$0.2963
General Service > 1500 kW < 5000 kW	(per kW)	-$0.3311
Large User	(per kW)	-$0.4022
Street Lighting	(per kW)	-$0.2538
Sentinel Lighting	(per kW)	-$0.1102

ATTACHMENT

SHEET 1 - June 30, 2007 Regulatory Assets

NAME OF UTILITY	Hydro Ottawa Limited	**LICENCE NUMBER**	ED-2002-0556
NAME OF CONTACT	Lynne Anderson	**DOCID NUMBER**	
E-mail Address	lynneanderson@hydroottawa.com		
VERSION NUMBER		**PHONE NUMBER**	613-738-5499
Date	18-Sep-07	**(extension)**	527

Account Description	**Account Number**	**Principal Amounts as of June 30, 2007**	**Interest to June 30-07**	**Total Claim**
RSVA - Wholesale Market Service Charge	1580	$ (9,434,875.79)	$ 4,205.21	$ (9,430,670.58)
RSVA - One-time Wholesale Market Service	1582	$ 856,347.66	$ 56,403.90	$ 912,751.56
RSVA - Retail Transmission Network Charge	1584	$ 2,218,174.64	$ 149,840.84	$ 2,368,015.48
RSVA - Retail Transmission Connection Charge	1586	$ (4,946,920.15)	$ (574,407.15)	$ (5,521,327.29)
RSVA - Power (excluding global adjustment) (as of December 31, 2006)	1588	$ 4,259,397.93	$ 125,534.70	$ 4,384,932.63
Sub-Totals		$ (7,047,875.70)	$ (238,422.49)	$ (7,286,298.20)
RSVA - Power (excluding global adjustment) (as of June 30, 2007)	1588	$ 6,975,496.04	$ 224,828.92	$ 7,200,324.96
(This is provided as a reference only, not included in the totals)				
Other Regulatory Assets-OEB Fees	1508 (1)	$ 740,383.94	$ 67,383.50	$ 807,767.44
Other Regulatory Assets-Pension Contribution	1508 (2)	$ 1,697,802.94	$ 129,213.83	$ 1,827,016.77
Retail Cost Variance Account - Retail	1518	$ (70,579.03)	$ 13,858.52	$ (56,720.51)
Retail Cost Variance Account - STR	1548	$ 606,164.29	$ 21,023.84	$ 627,188.13
Miscellaneous Deferred Debits	1525	$ 94,576.63	$ 3,942.13	$ 98,518.76
Low Voltage Charges	1550	$ 944,324.11	$ 26,600.13	$ 970,924.24
Deferred PILs (pre May 1, 2006)	1562	$ (150,927.42)	$ 923,910.50	$ 772,983.08
Deferred PILs (post May 1, 2006)	1592	$ (1,775,258.80)	$ (38,081.84)	$ (1,813,340.64)
Sub-Totals		$ 2,086,486.66	$ 1,147,850.61	$ 3,234,337.27
Totals per column		$ (4,961,389.05)	$ 909,428.12	$ (4,051,960.93)
			Grand Total Claimed	$ (4,051,960.93)

2008 Forecast Data By Class	**2008 Forecast kW**	**2008 Forecast kWhs**	**2008 Average Cust. Num.'s**	**2008 Forecast Dx Throughput Revenue**
RESIDENTIAL CLASS		2,251,011,794	264,080	$78,168,914
GENERAL SERVICE <50 kW CLASS		773,402,407	23,051	$19,601,077
GENERAL SERVICE >50 kW < 1500 kW	7,373,199	3,114,747,107	3,296	$34,391,468
GENERAL SERVICE >1500 kW	1,757,782	835,944,416	81	$9,810,229
LARGE USER CLASS	1,167,362	648,616,244	11	$5,944,307
SMALL SCATTERED LOADS		20,244,150	171	$657,782
SENTINEL LIGHTS	257	92,512	1	$4,248
STREET LIGHTING	107,220	40,114,500	9	$536,494
Totals	10,405,821	7,684,173,130	290,700	$ 149,114,519

Allocators	**kW**	**kWhs**	**Cust. Num.'s**	**Dx Revenue**
RESIDENTIAL CLASS	0.0%	29.3%	90.8%	52.4%
GENERAL SERVICE <50 kW CLASS	0.0%	10.1%	7.9%	13.1%
GENERAL SERVICE >50 kW < 1500 kW	70.9%	40.5%	1.1%	23.1%
GENERAL SERVICE >1500 kW	16.9%	10.9%	0.0%	6.6%
LARGE USER CLASS	11.2%	8.4%	0.0%	4.0%
SMALL SCATTERED LOADS	0.0%	0.3%	0.1%	0.4%
SENTINEL LIGHTS	0.0%	0.0%	0.0%	0.0%
STREET LIGHTING	1.0%	0.5%	0.0%	0.4%
Totals	100%	100%	100%	100%

ATTACHMENT cont'd

Sheet 2 - Rate Riders Calculation

NAME OF UTILITY	Hydro Ottawa Limited	**LICENCE NUMBER**	ED-2002-0556
NAME OF CONTACT	Lynne Anderson	**DOCID NUMBER**	
E-mail Address	lynneanderson@hydroottawa.com		
VERSION NUMBER		**PHONE NUMBER**	613-738-5499
Date	18-Sep-07	**(extension)**	527

Regulatory Asset Accounts:	**Amount**	**ALLOCATOR**	**Residential**	**GS < 50 KW**	**GS > 50 < 1500**	**GS > 1500**	**Large Users**	**Small Scattered Load**	**Sentinel Lighting**	**Street Lighting**	**Total**
WMSC - Account 1580	$ (9,430,671)	kWh	$ (2,762,633)	$ (949,185)	$ (3,822,682)	$ (1,025,942)	$ (796,037)	$ (24,845)	$ (114)	$ (49,232)	$ (9,430,671)
One-Time WMSC - Account 1582	$ 912,752	kWh	$ 267,383	$ 91,867	$ 369,980	$ 99,296	$ 77,045	$ 2,405	$ 11	$ 4,765	$ 912,752
Network - Account 1584	$ 2,368,015	kWh	$ 693,690	$ 238,338	$ 959,865	$ 257,611	$ 199,883	$ 6,239	$ 29	$ 12,362	$ 2,368,015
Connection - Account 1586	$ (5,521,327)	kWh	$ (1,617,425)	$ (555,715)	$ (2,238,047)	$ (600,653)	$ (466,052)	$ (14,546)	$ (66)	$ (28,824)	$ (5,521,327)
RSVA - Power	$ 4,384,933	kWh	$ 1,284,528	$ 441,338	$ 1,777,414	$ 477,027	$ 370,129	$ 11,552	$ 53	$ 22,891	$ 4,384,933
Subtotal - RSVA	$ (7,286,298)		$ (2,134,458)	$ (733,357)	$ (2,953,470)	$ (792,660)	$ (615,032)	$ (19,196)	$ (88)	$ (38,037)	$ (7,286,298)
Other Regulatory Assets - Account 1508 (1)	$ 807,767	Dx Revenue	$ 423,448	$ 106,181	$ 186,302	$ 53,143	$ 32,201	$ 3,563	$ 23	$ 2,906	$ 807,767
Other Regulatory Assets - Account 1508 (2)	$ 1,827,017	Dx Revenue	$ 957,760	$ 240,161	$ 421,379	$ 120,199	$ 72,832	$ 8,059	$ 52	$ 6,573	$ 1,827,017
Retail Cost Variance Account - Acct 1518	$ (56,721)	# of Customers	$ (51,526)	$ (4,498)	$ (643)	$ (16)	$ (2)	$ (33)	$ (0)	$ (2)	$ (56,721)
Retail Cost Variance Account (STR) Acct 1548	$ 627,188	# of Customers	$ 569,754	$ 49,734	$ 7,111	$ 175	$ 24	$ 369	$ 2	$ 19	$ 627,188
Miscellaneous Deferred Debits	$ 98,519	# of Customers	$ 89,497	$ 7,812	$ 1,117	$ 27	$ 4	$ 58	$ 0	$ 3	$ 98,519
Low Voltage Charges	$ 970,924	kWh	$ 284,424	$ 97,722	$ 393,560	$ 105,625	$ 81,955	$ 2,558	$ 12	$ 5,069	$ 970,924
PILs	$ (1,040,358)	Dx Revenue	$ (545,377)	$ (136,755)	$ (239,946)	$ (68,445)	$ (41,473)	$ (4,589)	$ (30)	$ (3,743)	$ (1,040,358)
Subtotal - Non RSVA	$ 3,234,337		$ 1,727,980	$ 360,357	$ 768,880	$ 210,708	$ 145,541	$ 9,985	$ 59	$ 10,826	$ 3,234,337
Total to be Recovered	$ (4,051,961)		$ (406,477)	$ (372,999)	$ (2,184,590)	$ (581,952)	$ (469,491)	$ (9,211)	$ (28)	$ (27,212)	$ (4,051,961)
Balance to be collected or refunded per year	$ (4,051,961)		$ (406,477)	$ (372,999)	$ (2,184,590)	$ (581,952)	$ (469,491)	$ (9,211)	$ (28)	$ (27,212)	$ (4,051,961)

Class	**Residential**	**GS < 50 KW**	**GS > 50 < 1500**	**GS > 1500**	**Large Users**	**Scattered Load**	**Sentinel Lighting**	**Street Lighting**
Recovery Rate Riders over 12 months	-0.0002	-0.0005	-0.2963	-0.3311	-0.4022	-0.0005	-0.1102	-0.2538
Billing Determinants	kWh	kWh	kW	kW	kW	kWh	kW	kW

NEW PROPOSED ACCOUNTS FOR TEST YEAR

A full discussion of the proposed new deferral accounts is included in Exhibit A1-5-1. In particular, Hydro Ottawa is seeking a deferral account to record costs related to a City of Ottawa By-Law No. 2003-514.

Furthermore, Hydro Ottawa has included in this application a proposal for capital adjustment factors for its 2009 and 2010 capital additions, and a rate rider related to the revenue deficiency resulting from the four month difference between the rate year and fiscal / calendar year. Should the Board not approve these proposals, Hydro Ottawa has proposed that deferral accounts be approved to record the amounts for future disposition.

For all three of these deferral accounts, Hydro Ottawa would propose using sub-accounts to Account 1508 - Other Regulatory Assets.

CAPITAL STRUCTURE

1.0 INTRODUCTION

Hydro Ottawa has used the Board's deemed capital structure of 56% long-term debt, 4% short-term debt and 40% common equity for the purpose of this rate application. This was set out in *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. Hydro Ottawa generally targets 60/40 as its actual debt to equity capital structure by increasing borrowing or issuing dividends to the Holding Company as required.

It should be noted that Hydro Ottawa does not normally set a short-term debt component to its capital structure. Short-term debt is only used to bridge any gap on long-term debt, and to finance month over month fluctuations in cash requirements, caused predominately by the changes in commodity prices each month. The Holding Company has issued debentures in the external markets (private placement) for long-term debt. To attract the best interest rates, Hydro Ottawa has not gone to the markets for long-term debt in small increments. As a result, Hydro Ottawa does not require new debt each year. For instance, the last debentures were issued in December 2006. The next debentures will likely be issued in late 2008, depending on the markets. Based on this approach, Hydro Ottawa has had very little short-term debt requirements in 2007. With new long-term debt in place at year-end 2008, the year-end balance of short-term debt for 2008 is forecast to be much lower than the deemed 4%.

However, for the purposes of this rate application, Hydro Ottawa has adopted the Board's deemed capital structure, including the 4% short-term debt component. This approach is based in part on the approach described in Exhibit B3-6-1 of using 15% of expenses to forecast the working capital allowance.

2.0 CAPITAL STRUCTURE SUMMARY

Table 1 summarizes the year-end capital structure for 2006 Approved compared to 2006 Actual, 2007 Estimate and 2008 Forecast.

Table 1 Capital Structure Summary ($000)

	2006 Board-Approved	%	2006 Actual	%	2007 Estimate	%	2008 Forecast Deemed	%
Long-term debt	$302,590	60	$282,185	56	$282,185	55	$325,788	56
Short-term/ unfunded debt			0	0	14,885	3	23,271	4
Common Equity[1]	201,726	40	219,480	44	212,553	42	232,706	40
Total Capitalization[2]	$504,316	100%	$501,665	100%	$509,620	100%	$581,765	100%

[1] All shares of Hydro Ottawa are held by the Holding Company. The City of Ottawa owns 100% of the shares of the Holding Company. Dividends were not issued to the Holding Company in 2006 but are planned for 2007 and 2008.

[2] For 2006 Board-Approved and 2008 Forecast, Total Capitalization is the rate base. Therefore the capital structure reflects the deemed amounts. For 2006 Actual, Total Capitalization is from audited financial statements. For 2007 Estimate, Total Capitalization is the estimate for the financial statements. Hydro Ottawa has removed the cost of stranded meters related to the Smart Meter program; however, these costs are included for the purposes of rate base.

COST OF DEBT

1.0 INTRODUCTION

As discussed in Exhibit F1-1-1, Hydro Ottawa is using the Board's deemed capital structure for this rate application. For debt, that includes a long-term portion of 56% and a short-term portion of 4%.

2.0 LONG-TERM DEBT

For the 2008 EDR Application, Hydro Ottawa's long-term debt rate is 5.258%, up slightly from 5.250% approved in the 2006 EDR Application

As discussed in Exhibit A1-7-1, the Holding Company has responsibility for financing for the whole Hydro Ottawa Group of Companies. Financing for long-term debt is from debentures issued in the external markets, currently through private placements with terms between 10 years and 30 years. This debt has been assigned to Hydro Ottawa through promissory notes to the Holding Company including amortized issuance costs and 10 basis points for administration.

At year-end 2005, Hydro Ottawa had $232M in long-term debt. In December 2006, an additional $50M of 30-year debentures were issued by the Holding Company and assigned to Hydro Ottawa through a new promissory note. With the addition of this new debt, the average long-term debt rate paid by Hydro Ottawa is now 5.258%, calculated as illustrated in Table 1.

Table 1 – Weighted Average Cost of Long-Term Debt

Description	Date Issued	Principal ($000's)	Interest Rate	Weighted Average
Promissory Note to the Holding Company	July 1, 2005	$200,000	5.14%	3.643%
Promissory Note to the Holding Company	July 1, 2005	32,185	5.9%	0.673%
Promissory Note to the Holding Company	December 20, 2006	50,000	5.318%	0.942%
Total		$282,000		5.258%

3.0 SHORT-TERM DEBT

Hydro Ottawa has calculated the short-term debt rate at 4.93% based on the approach adopted by the Board as part of the Board Report on CoC and IRM. The Board's methodology for calculating short-term debt is described as follows*: "The Board has determined that the deemed short-term debt rate will be calculated as the average of the 3-month bankers' acceptance rate plus a fixed spread of 25 basis points."*

Hydro Ottawa's calculation used the 3-month bankers acceptance ("BA") rate from July 27, 2007, which was 4.68%. Therefore the short-term debt rate is as follows:

4.68% + 0.25% = 4.93%

In the Board Report on CoC and IRM the Board further stated the following: *"Further, consistent with updating of the ROE and deemed long-term rate, the deemed short-term debt rate will be updated using data available three full months in advance of the effective date of the rates."* It is Hydro Ottawa's expectation, therefore, that the short-term debt rate will be updated based on a January 2008 BA rate.

The Holding Company maintains a credit facility that is used if short-term funds are required. Hydro Ottawa then has access to short-term financing through the Holding Company at the same rate, plus 10 basis points for administration. It should be noted that Hydro Ottawa's actual short-term debt rate using the July 27, 2007 interest rates would be 5.035%. Therefore the Board's deemed rate is lower than the amount that Hydro Ottawa will actually pay on short-term debt should the need arise.

As discussed in Exhibit F1-1-1, Hydro Ottawa does not normally set a short-term debt component to its capital structure. Short-term debt fluctuates as required on a month-by month basis and depending on the length of time since the last issuance of long-term debt. Short-term debt is expected to be at minimal levels at year-end 2008.

COST OF EQUITY

1.0 INTRODUCTION

Hydro Ottawa's rate of return on equity ("ROE") for 2007 has been set at 9% by the Board. For this rate application, Hydro Ottawa's filing includes an ROE of 8.81% calculated using the Board's formula set out in Appendix B, page III of the *Report of the Board on Cost of Capital and 2nd Generation Incentive Regulation for Ontario's Electricity Distributors* and the July 9, 2007 *Consensus Forecast.*

2.0 CALCULATION OF ROE

Appendix B presents the following formula for updating the ROE:

$$ROE_t = 9.35\% + 0.75 \times (LCBF_t - 5.50\%)$$

The Long Canada Bond Forecast ($LCBF_t$) for purposes of the filing was estimated using the following formula from Appendix B, pages III-IV.

$$LCBF_t = \left[\frac{{}_{10}CBF_{3,t} + {}_{10}CBF_{12,t}}{2}\right] + \frac{\sum_i ({}_{30}CB_{i,t} - {}_{10}CB_{i,t})}{I_t}$$

Where:

- ${}_{10}CBF_{3,t}$ is the 3-month forecast of the 10-year Government of Canada bond yield as published in *Consensus Forecasts* at time *t*;
- ${}_{10}CBF_{12,t}$ is the 12-month forecast of the 10-year Government of Canada bond yield as published in *Consensus Forecasts* at time *t*;

- is the actual rate for the 30-year Government of Canada bond yield at the close of day *i* (as published by the Bank of Canada [Series V39056] during the month (this is the previous month data, the same as used for updating the ROE for natural gas distribution) corresponding to time *t*;
- ${}_{10}CB_{i,t}$ is the actual rate for the 10-year Government of Canada bond yield at the close of day *i* (as published by the Bank of Canada) [Series V39055] during the month corresponding to time *t*; and
- I_t is the number of business days for which published 10- and 30- Government of Canada bond yields are published during the month corresponding to time *t*.

From the July 9, 2007 forecast, ${}_{10}CBF_{3,t}$ is 4.80% and ${}_{30}CBF_{12,t}$ is 4.90%. The average of the two forecasts, $\frac{{}_{10}CBF_{3,t} + {}_{10}CBF_{12,t}}{2}$, is 4.85%.

The spread between the 30-year Canada bond yield and the 10-year Canada bond yield, $\frac{\Sigma_i({}_{30}CB_{i,t} - {}_{10}CB_{i,t})}{I_t}$, was calculated using the actual rates on 30-year Canada bonds (Series V39056 published by the Bank of Canada) and 10-year Canada bonds (Series V39055) for each trading day during the month of July 2007. The average spread during the month of July 2007 was -.0681%.

The indicated Long Canada bond forecast based on the July 9, 2007 *Consensus Forecast* and the spreads during July is thus 4.782%.

The updated ROE from that approved by the Board in Decision RP-1998-001 is:

8.81% = 9.35% + 0.75 X (4.782% - 5.50%)

3.0 UPDATE TO ROE CALCULATION

The indicated ROE of 8.81% is a placeholder for the final allowed ROE that will be adopted for purposes of rates to be set effective May 1, 2008. As stated in the Board Report, "The final ROE will be factored into rates using the Long Canada Bond Forecast based on *Consensus Forecasts* (as detailed below) and Bank of Canada data three months in advance of the effective date for the rate change. Therefore, for May 1 rate changes, the ROE will be based on January data – effectively *Consensus Forecasts* published during that month and Bank of Canada data for all business days during the month of January."

Hydro Ottawa will recalculate the final ROE to be factored into rates when the January 2008 Consensus Forecast and the actual rates on 30-year and 10-year Canada bonds during January 2008 become available using the same Board formulas that were utilized to calculate the "placeholder" ROE.

4.0 PREFERRED SHARES

Hydro Ottawa has no current plans to issue any preferred shares.

COST OF CAPITAL

1.0 INTRODUCTION

The cost of capital is based on the capital structure described in Exhibit F1-1-1, the cost of debt described in Exhibit F1-1-2 and the cost of equity described in Exhibit F1-1-3.

2.0 WEIGHTED AVERAGE COST OF CAPITAL

Table 1 summarizes the weighted average cost of capital used for determining rates for 2008. Hydro Ottawa understands that the final return on equity portion of the calculation will be determined from the January 2008 Consensus Forecasts once it becomes available.

Table 1 – Weighted Average Cost of Capital

Component	Capital Structure	Rate	Weighted Average Cost of Capital
Long-Term Debt	56%	5.26%	2.95%
Short Term Debt	4%	4.93%	0.20%
Equity	40%	8.81%	3.52%
Total	100%		6.67%

CALCULATION OF REVENUE DEFICIENCY/SUFFICIENCY

1.0 INTRODUCTION

This exhibit provides a summary of the revenue required by Hydro Ottawa in 2008 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 Regulatory Assets (Exhibit E1-1-1), Low Voltage Charges (Exhibit I1-4-1) and the calendar versus rate year rider (Exhibit I1-3-2). As directed in the Board Filing Requirements, 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 2008 was calculated using the following inputs:

- 2007 approved rates, not including the Smart Meter rate adder,
- 2008 load forecast and forecast of customers and connections, as developed using the methodology described in Exhibit C1-2-1, and
- The base revenue requirement calculated as shown in Table 1 below (details provided in the model attached in Exhibit I1-2-1).

The revenue deficiency/sufficiency was then determined by calculating what the revenue would have been with 2007 rates (not including the Smart Meter adder and the Regulatory Asset rider) and the forecasted 2008 load and customer numbers.

Table 1 – Revenue Sufficiency/Deficiency

	$000
Return on Rate Base	$38,779
Distribution Expenses (including amortization	103,082
PILS	13,675
Service Revenue Requirement	155,537
Less Revenue Offsets	(7,586)
Base Revenue Requirement	147,951
Transformer Ownership Credit	1,159
TOTAL	$149,110
2008 Load at 2007 Rates	123,915
Revenue Deficiency	($25,195)

A revenue deficiency of $25,195,047 represents a required increase in rates of 20.33%.

Table 2 provides a summary of the drivers of the identified revenue deficiency in 2008, how much each driver contributes and the exhibit(s) that provide further details.

Table 2 – Drivers of Revenue Deficiency

CAUSE	Impact on Revenue Requirement $000	Reference
Increase in Amortization Expense	($9,638)	B3-2-1 B3-2-2 B3-3-1 B3-3-2 B3-4-1 B3-4-2 B3-5-1 D3-1-1
Increase in Revenue Offsets	3,491	C2-1-4
Increase in OM&A Expenses	(15,151)	B1-3-1 D1-1-4
Increase in Return on Capital	(4,606)	B1-3-1 B3-2-2 B3-3-1 B3-3-2 B3-4-1 B3-4-2 B3-5-1
Change in Payment in Lieu of Taxes	(1,186)	D2-1-1 D2-1-2 D3-1-1
Moving Low Voltage Charges to Cost of Power	556	I1-4-1
Load Growth	1,340	C1-2-1
Total Deficiency	($25,195)	

The main contributions to the increase in the revenue requirement are as follows:

- Increase in amortization expense as a result of additions to the rate base in 2007 and 2008, and the half-year of 2006 not included in 2006 rates. In addition, Hydro Ottawa is proposing that the amortization period for the cost of meters stranded as a result of Smart Meters be four years. This accelerated amortization allows the cost of stranded meters to be recovered by April 30, 2012. This proposal results in incremental amortization expense in the revenue requirement of $3.3M above the $1.2M that would otherwise result from continuing to amortize the stranded meters over 25 years; that is, a total amortization of $4.5 for 2008.

- A forecasted increase in Revenue Offsets reduces the revenue deficiency by $3.5M.

- The increase for OM&A is largely due to a change in overhead costs and labour being capitalized and, therefore, it is not related to an overall increase in spending. This change is discussed in detail in Exhibit B1-3-1. Another significant impact is related to workforce planning and the continuation of Hydro Ottawa's apprenticeship program as discussed in Exhibit D1-5-2. Labour contracts and material prices have also increased since 2006. Exhibit D1-1-3 and Exhibit D1-1-4 provide a detailed analysis of the OM&A cost changes between 2006 and 2008.

- An increase in the Return on Capital as a result of continued investment in the distribution infrastructure results in a forecast growth in the year-end NBV of assets between 2006 and 2008 of $69M. This includes investments related to the Asset Management Plan, capacity planning and new distribution plant due to customer demand, general plant purchases and the installation of Smart Meters. Offsetting the increases in rate base, is a reduction in the cost of capital due to the inclusion of short-term debt in the capital structure and the lower rate of return on equity ("ROE") calculated using the July *Consensus Forecast*.

- The increase in Payment in Lieu of Taxes is primarily a result of the increase in amortization due to the accelerated amortization of the stranded meters.

- The revenue deficiency is reduced by the impact of the forecasted load growth and by the removal of low voltage charges from the distribution revenue.

2.0 NET INCOME

Table 3 provides Hydro Ottawa's Net Income and rate of return on equity ("ROE") for 2006 Actual, 2007 Estimate and 2008 Forecast. Also included for comparison purposes is 2006 Actual that has been 'normalized' by removing the recovery of regulatory assets.

Table 3 – Net Income and ROE

	2006 Actual $000	2006 Normalized $000	2007 Estimate $000	2008 Forecast $000
Net Income	$39,862	$16,700	$15,068	$18,212
Rate Base	500,460	500,460	546,691	581,765
Actual ROE	19.98%	8.37%	6.98%	8.48%
Deemed ROE	9.00%	9.00%	9.00%	8.81%

The normalized net income illustrates what the net income would have looked like in the absence of Board approval for the final recovery of regulatory assets. The normalized Statement of Income is provided in Exhibit A3-2-1.

On April 12, 2006, the Board approved the final recovery of regulatory assets accumulated to December 31, 2004 for the remaining two years of a total four-year recovery period. Until final approval had been received, recovery of the full amount was still in doubt and therefore for financial statement purposes certain provisions for doubtful recovery were recorded. These provisions were primarily set up in 2002 as illustrated by Hydro Ottawa's negative net income for that year (-$15.4M).

In 2006, with final approval for recovery granted by the Board, the provisions were reversed, resulting in a one-time increase to net income unrelated to the current year activity. Without the reversal of this regulatory asset provision, and the resultant tax impact, the net income would have looked like the normalized net income.

COST ALLOCATION

Hydro Ottawa filed its Cost Allocation Study for 2006 (included under Exhibit H1-1-2) following the Board's 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 results of the 2006 Cost Allocation Study are summarized in Table 1.

Table 1 – 2006 Cost Allocation Study Results

Class	Revenue to Costs	Minimum Service Charge	Maximum Service Charge	2006 Approved Rate
Residential	96%	$3.62	$13.68	$7.88
General Service<50kW	113%	$7.56	$21.91	$9.35
General Service>50<1500kW	97%	$45.30	$66.64	$247.16
General Service >1500<5000kW	125%	$134.69	$274.43	$3,961.67
Large Use	117%	$120.30	$260.11	$14,385.58
Street Lights	49%	$0.01	$9.10	$0.32
Sentinel Lights	29%	$0.16	$10.64	$1.67
Unmetered Scattered Load	150%	$0.06	$9.06	$4.26
Back-up/Standby Power	107%	$176.58	$273.75	$95.00

In the Manager's Summary submitted with the Cost Allocation Study for 2006, Hydro Ottawa expressed its concerns about the direct application of the results of the model due to the number of assumptions and estimates that were required. The Board Staff Discussion Paper issued on June 28, 2007, recommended that the upper end of the range for fixed monthly charges should be 20% above the ceiling calculated in the Cost Allocation Model and that the revenue to cost ratios listed in Table 2 would be acceptable. However, these recommendations have not been finalized and Hydro Ottawa has not received any specific feedback from the Board on the results of the 2006 Cost Allocation study.

Table 2 – Board Staff Proposal on Acceptable Revenue to Cost Ratios

Class	Ratios
Residential	80% - 120%
General Service<50 kW	80% - 120%
General Service>50 kW < 1500 kW	80% - 180%
General Service > 1500 kW < 5000 kW	80% - 180%
Large Use	80% - 180%
Street Lights	70% - 120%
Sentinel Lights	70% - 120%
Unmetered Scattered Load	80% - 120%
Back-up/Standby Power	80% - 180%

Furthermore, Hydro Ottawa expressed concern about certain aspects of the Board's Cost Allocation model, including the allocation of cost to street lighting and application of the transformer ownership credit in determining the revenue to cost ratios for applicable classes.

As explained in Exhibit I1-3-1, the proposed 2008 rates are based on the current approved 2007 rates, which in turn were developed directly from the approved 2006 rates. There is no reason to believe that the cost allocation results for 2008 will have changed significantly. Therefore, Hydro Ottawa has not made any changes to the 2008 rates to adjust revenue to cost ratios or service charges but will continue to analyse the possible implications to rates due to cost allocation, in anticipation of final direction from the Board.

It is Hydro Ottawa's position that determination of the fixed charges is a rate design issue that is best reviewed as part of the Board's proceeding EB-2007-0031. Therefore, Hydro Ottawa has not proposed any changes.

COST ALLOCATION STUDY 2006

Hydro Ottawa filed its 2006 Cost Allocation Study with the Board on January 15, 2007. Copies of the Manager’s Summary (Attachment 1), Cost Allocation Model (Attachment 2) and Appendix 1.1. Filing Summary (Attachment 3) are attached.

HYDRO OTTAWA LIMITED
COST ALLOCATION
INFORMATIONAL FILING
MANAGER'S SUMMARY

EB-2007-0001

Filed: January 15, 2007

Table of Contents

Chapter 1 Introduction

1.1 Background

Hydro Ottawa Limited ("Hydro Ottawa") is a distributor as defined in, and is licensed as such under, the *Ontario Energy Board Act, 1998* (the "Act"). Hydro Ottawa holds Electricity Distribution Licence ED-2002-0556.

Hydro Ottawa owns and operates 70 distribution substations along with over 3,040 kilometers (km) of overhead and 1, 790 km of underground circuits. Hydro Ottawa's service area, which includes the Village of Casselman, is a mix of urban, suburban and rural customers spread out over some 1,104 square-kilometers. From east to west the area is over 55 km wide, not including Casselman.

In preparing this informational filing, Hydro Ottawa has used the *Board Directions on Cost Allocation Methodology for Electricity Distributors* ("Board Directions"), issued on September 29, 2006, the Cost Allocation Model ("Model") version 1.2, the Cost Allocation Informational Filing Guidelines for Electricity Distributors ("Filing Guidelines"), issued on November 15, 2006 and the User Instructions for the Cost Allocation Model for Electricity Distributors ("Instructions"), revised for version 1.2, December 8, 2006.

This Manager's Summary follows the Chapters outlined in the Board Directions and the Filing Guidelines. Hydro Ottawa's submission also includes two Runs of the Cost Allocation Model and The Filing Summary Excel Spreadsheet (Appendix 1.1).

Hydro Ottawa's Run 1 reflects the currently approved rate classifications as per the Ontario Energy Board's (the "Board's") Decision with Reasons, April 12, 2006 with the following exceptions: as per Section 2.2.2, Unmetered Scattered Load (USL) has been included in the GS < 50 kW class as the approved rate for USL was derived from the GS < 50 kW rate. In addition, as per Section 2.2.3, customers with Load Displacement Generation ("LDG") Facilities are included as part of their standard rate classifications, because the approved rates were derived from the standard rate classifications.

For Run 2, as per Section 2.3.5, a separate rate classification for Unmetered Scattered Load customers has been modeled. In addition, as per Section 2.3.6, a separate rate classification for all customers with substantial LDG (i.e. > 500 kW) has been included. The Interim Standby Rates approved by the Board in April 2006 are for the standby generation portion of their account only. The load portion of their accounts was included in their respective rate classification. As per the Directions, in the Cost Allocation Model the load portion only is included in the new class.

Hydro Ottawa is predominately supplied from the transmission grid, but has a number of delivery points embedded within Hydro One's distribution service territory. Hydro Ottawa is not a host distributor. There are no density-based classifications nor seasonal rate classifications and Hydro Ottawa is not in the process of merging with another utility.

Hydro Ottawa has chosen not to file the optional third run at this time. The load data required to model three Back-up/Standby Power classes to reflect Hydro Ottawa's current interim approved rates, was not received in sufficient time to properly complete the analysis. Hydro Ottawa may file a Run 3 once the load data has been reviewed and should it be determined that it will assist in the assessment of the filing. Furthermore, Hydro Ottawa will determine whether issues highlighted in Section 1.4 should be addressed through a third run.

1.2 Results of Run 1 and Run 2 of Cost Allocation Model

The revenue to expenses percentage, existing revenue minus allocated costs and return on equity component of rate base for Runs 1 & 2 are shown in Table 1. In both runs, the revenue to expenses ratio for the Residential, GS < 50 kW, GS > 50 kW < 1500 kW, GS > 1500 kW < 5000 kW and Large Use classes are all within reasonable ranges given the inherent level of precision of some of the Model inputs. In contrast, the ratios for the Street Light and Sentinel Light classes are very low, i.e. according to the Model, Hydro Ottawa is under collecting revenue for these classes. This under collecting also results in the return on the equity component of the rate base being negative for these two classes.

It should be noted that the revenue to expenses ratios reported in the Model do not take into account the Transformer Ownership Allowance. If this credit is factored in, the ratio for GS > 1500 kW < 5000 kW drops from 128% to 121% and the ratio for Large Use drops from 115% to 109%.

In Run 2, the revenue to expenses ratio for the Back-up/Standby Power class is reasonable while the ratio for the Unmetered Scattered Load class indicates that Hydro Ottawa is over collecting revenue for this class.

Table 2 shows the calculated minimum and maximum monthly fixed charges for each class for Runs 1 & 2. In both runs, Hydro Ottawa's Fixed Monthly Service Charge for the Residential, Street Light and Sentinel Light classes are well within the range calculated by the Model. The approved Fixed Monthly Service Charge for GS < 50 kW is higher than the minimum calculated customer unit cost per month using the avoided cost method but lower than the minimum calculated using the directly related method.

For the GS > 50 kW < 1500 kW , GS > 1500 kW < 5000 kW and Large Use classes, the calculated Fixed Monthly Service Charge is lower than expected.

In Run 2 the Fixed Monthly Service Charge for Unmetered Scattered Load is within the range calculated by the Model. Hydro Ottawa's Fixed Monthly Service Charge for Back-up/Standby Power of $95.00 is an administrative charge, which is in addition to the appropriate class monthly service charge. The Cost Allocation Model calculated the Fixed Monthly Service Charge based on the load displacement customer's total load

TABLE 1 - RUN 1

	Residential	GS<50 kW	GS>50 kW < 1500 kW	GS > 1500 kW < 5000 kW	Large Use	Street Light	Sentinel
Revenue to Expenses %	96%	115%	96%	128%	115%	48%	30%
Existing Revenue minus Allocated Costs ($000)	($2,691)	$2,267	($1,247)	$1,501	$651	($469)	($11)
Return on Equity Component of Rate Base	7%	19%	6%	21%	14%	(22%)	(35%)

TABLE 1 - RUN 2

	Residential	GS<50 kW	GS>50 kW < 1500 kW	GS > 1500 kW < 5000 kW	Large Use	Street Light	Sentinel	Unmetered Scattered Load	Back-up/Stand by Power
Revenue to Expenses %	96%	113%	97%	125%	117%	49%	29%	150%	107%
Existing Revenue minus Allocated Costs ($000)	($2,710)	$1,944	($916)	$1,260	$585	($465)	($11)	$215	$98
Return on Equity Component of Rate Base	7%	18%	6%	20%	15%	(22%)	(35%)	39%	12%

TABLE 2 - RUN 1

	Residential	GS<50 kW	GS>50 kW < 1500 kW	GS >1500 kW <5000 kW	Large Use	Street Light	Sentinel
Minimum using Avoided Cost	$3.62	$7.54	$45.42	$136.68	$128.58	$0.01	$0.16
Minimum using Directly Related Costs	$4.87	$10.19	$64.06	$201.77	$204.54	$0.02	$0.23
Maximum using Minimum System with PLCC Adjustment	$13.52	$22.16	$84.37	$274.23	$274.17	$8.94	$10.51
Fixed Charge per approved 2006 EDR	$7.88	$9.35	$247.16	$3,961.67	$14,385.58	$0.32	$1.67

TABLE 2 - RUN 2

	Residential	GS<50 kW	GS> 50 kW < 1500 kW	GS > 1500 kW < 5000 kW	Large Use	Street Light	Sentinel	Unmetered Scattered Load	Back-up/Stand-by Power
Minimum using Avoided Cost	$3.62	$7.56	$45.30	$134.69	$120.30	$0.01	$0.16	$0.06	$176.58
Minimum using Directly Related Costs	$4.87	$10.19	$63.82	$199.84	$196.36	$0.02	$0.23	$0.08	$240.51
Maximum using Minimum System with PLCC Adjust.	$13.68	$21.91	$66.64	$274.43	$260.11	$9.10	$10.64	$9.06	$273.75
Fixed Charge per approved 2006 EDR	$7.88	$9.35	$247.16	$3,961.67	$14,385.58	$0.32	$1.67	$4.26	$95.00

being placed in the Back-up/Standby Power class. Therefore, for this class, it is not appropriate to compare Hydro Ottawa's approved Administration Charge to that calculated by the Model.

Table 3 below shows the Transformer Ownership Credit or Allowance ("TOC") calculated by the Model for Runs 1 & 2, for those classes that currently have customers receiving the credit. The calculated transformer allowances are higher than Hydro Ottawa's current approved TOC of $0.45/kW.

Hydro Ottawa notes that the forecasted 2006 spending on transformer operations and maintenance is higher than normal due to an increased emphasis on distribution transformer oil testing and a projected increase in transformers requiring repair due to a comprehensive transformer inspection program. A more appropriate calculation for this rate would examine the costs over several years to normalize these maintenance expenses. Furthermore, it would also be necessary to examine how the cost differs depending on the size of the transformer. Typically, the larger the transformer, the more likely it will be owned by a customer. Therefore, those transformers owned by customers will be proportionately larger than those maintained by Hydro Ottawa. Further analysis would be required to determine if Hydro Ottawa's actual transformer maintenance costs are reflective of the avoided costs for the customer owned transformers.

TABLE 3 - RUN 1

	GS > 50 kW < 1500 kW	**GS > 1500 kW < 5000 kW**	**Large Use**
Line Transformer Allowance	$0.70	$0.64	$0.79
Substation Transformer Allowance	$0.05	$0.05	$0.06

TABLE 3 - RUN 2

	GS > 50 kW < 1500 kW	**GS > 1500 kW < 5000 kW**	**Large Use**	**Back-up/Standby Power**
Line Transformer Allowance	$0.70	$0.71	$0.80	$0.76
Substation Transformer Allowance	$0.05	$0.06	$0.06	$0.05

1.3 Changes to Cost Allocation Model

In order to be consistent with Section 7.4.2.2 of the Board Directions, the Cost Allocation Model Sheet E1 was updated to set the Customer Component for High-density Distributors for line transformers equal to 30% and for distribution equal to 35%.

For Run 1, Sheet I6 Row 44 Weighted Services, where there are both customers and connections in the GS < 50 kW class, it was necessary to change the formula to add the number of customers and the number of connections together instead of taking the higher of the two. In addition, on Sheet E3 the formulas for GS < 50 kW in Rows 19 and 21-23 had to be changed to ensure that the number of customers was captured, not just the number of connections.

On Sheet E3 Row 20, CCB should be all zeros as Hydro Ottawa does not have any bulk customers. Therefore the formulas for rate classes that include connections were changed. Similarly Row 26 PLCC-CCB should be all zeros. Also on Sheet E3 in rows 39, 52 and 65, the reference to Cell 26, which is the PLCC-CCB, should be replaced by Cell 25, which is the PLCC-CCA.

1.4 Interpretation of the Cost Allocation Filing

Hydro Ottawa understands that the Board intends to use the outputs from the Cost Allocation Model as input into future considerations on changes to cost allocations, rate classifications or rate design including the ongoing “Electricity Distribution Rate Design Review”. Hydro Ottawa is concerned that direct use of the results produced from this initial attempt at a standard cost allocation methodology may not be appropriate for all customer groups. Numerous of the inputs to the Model are based on estimates or assumptions. Further work on determining which inputs have the most impact on the cost allocation results would allow distributors to gather more accurate data.

Hydro Ottawa has concerns about the results of the Model in the following areas:

<u>Street Lighting and Sentinel Lights</u>
Results of both runs of the Model indicate that Hydro Ottawa is under collecting for both the Street Lighting and Sentinel Lights classes. The model has allocated costs to one street light connection or one sentinel light as if it is equivalent to one residential customer. It is suspected that this may over estimate the costs for operating and maintaining the distribution plant required to supply the street lights and sentinel lights. More analysis is required to validate this premise. The Directions provided guidance on adjusting the number of street lights to more accurately reflect the actual number of physical connections to the distributor’s system. Although Hydro Ottawa made this adjustment, further adjustments may be required to appropriately allocate the costs.

<u>Unmetered Scattered Load</u>
Run 2 on the Cost Allocation filing indicates that Hydro Ottawa is over collecting for the Unmetered Scattered Load class. It should be noted that there are a number of expenses, such as tracking additions and deletions of connections and the costs of the ongoing verification program to validate estimated consumption. This verification program requires the installation of test meters to measure consumption and the analysis of results. These costs have not been directly allocated to this class. Once these expenses are

tracked separately, they can be allocated directly to the class, resulting in a more accurate revenue to expenses ratio.

Back-up/Standby Power

Run 2 includes a separate class for all customers with load displacement generators. The results indicate an acceptable revenue to expense ratio of 107%. However, the Model does not consider the requirement to reserve distribution assets for times when the generation is not on line. A third run would address this issue by increasing the actual or measured load of the LDG customers to reflect the load supplied by the generator.

Maximum Monthly Fixed Charge

For the GS > 50 kW < 1500 kW, GS > 1500 kW < 5000 kW and Large Use classes the maximum monthly fixed charge calculated using the minimum system with Peak Load Carrying Capability ("PLCC") adjustment is significantly lower than current Monthly Fixed Service Charges. The customer unit cost per month, as calculated using the minimum system with PLCC adjustment, includes the cost of building a minimum size distribution system to connect each customer, in addition to the billing and metering costs. The variable distribution charge is in place to recoup the costs for building and maintaining the rest of the distribution system to supply the total load. However, once the distribution system has been built to supply the total load of a larger customer, the distributor still must maintain it at all times, regardless of whether the customer uses the electricity or not. A low Monthly Fixed Service Charge for larger customers can leave the distributor open to increased risk if the expected load does not materialize, since the costs of the distribution system are substantially fixed.

Transformer Ownership Allowance

Recovery of the revenue required to pay the Transformer Ownership Allowance has been allocated using the Line Transformer Customer Base. These customers are the ones that do not own their own transformers. A more appropriate approach would be to allocate this revenue recovery across all customers.

Updating Data and Assumptions

As a first iteration review of cost allocation, this filing has been successful in highlighting several areas in which more precise data is required. Hydro Ottawa will continue to refine these assumptions and estimates, particularly by using new capabilities being developed through its Geographic Information System.

Chapter 2 Rate Classifications for the Filings

2.1 Background

Hydro Ottawa had the following rate classifications approved in the Board's Decision With Reasons, April 12, 2006 for 2006 Electricity Distribution Rates (EDR):

Residential
General Service Less Than 50 kW
General Service 50 to 1,499 kW
General Service 1,500 to 4,999 kW
Large Use
Unmetered Scattered Load
Standby Power – Approved on an Interim Basis
Sentinel Lighting
Street Lighting

2.2 Run 1 of the Filings

Hydro Ottawa's USL Rates were set based on the special 2006 EDR methodology, therefore approach i), i.e. treatment as part of the GS < 50 kW rate classification, was followed.

Hydro Ottawa had interim standby rates approved for three separate rate classifications; GS > 50 kW < 1500 kW, GS > 1500 kW < 5000 kW and Large Use. These rates were derived from the corresponding standard rate classifications, therefore approach i), i.e. treatment as part of a standard rate classification, was followed in Run 1.

2.3 Run 2 of the Filings

Hydro Ottawa used a forward test year in the 2006 EDR filing. At that time, it was forecasted that there would be ten customers in the Large Use class and 8 customers with load displacement generation during 2006. Subsequent to the filing, an additional customer has moved into the Large Use classification, for a total of 11. The load displacement generation for one of the customers included in the Standby class did not materialize and two of the customers in the standby rate classifications did not use their generators during 2005. These changes should not materially impact the load data used in the cost allocation filing.

In the 2006 EDR Decision, Hydro Ottawa received approval to rename the GS > 50 kW TOU class to GS > 1500 kW < 5000 kW class. This was simply a name change and does not require placing these customers into a new rate classification and therefore has no impact on the Cost Allocation Filing. The name change was made to reflect the true nature of the class which had been designed for customers > 1500 kW and < 5000 kW, not for all customers with interval metering.

In Run 2, Hydro Ottawa has modeled USL as a fully separate rate classification, which includes both photo-sensitive and non-photo sensitive loads.

In Run 2, Hydro Ottawa has modeled one rate class for customers with load displacement generation equal to or greater than 500 kW in the 2006 EDR test year. As mentioned above, one of the eight forecasted load displacement generation customers did not materialize, therefore load data was not available. This customer has not been included in the modeling of the rate classification for customers with substantial load displacement generation.

Chapter 3 Load Data Requirements

Hydro Ottawa used the Hydro One Load Data Team to prepare its utility-specific load profiles. In order to produce Hydro Ottawa's residential load profiles, Simul Corporation completed an updated residential appliance saturation survey for Hydro Ottawa alone, during May and June 2006. Based on proportionate sampling, 798 customers were contacted to determine what appliances they have and how they use electricity. The results are accurate within +/- 3% of the true saturation rate 95% of the time.

Hydro Ottawa used the Hydro One methodology to weather normalize its load profiles. As Hydro Ottawa was a forward year test filer, the kWhs used in the 2006 EDR model equal those provided by Hydro One. Therefore there is no difference between the Revenue Requirement calculated based on the approved kWhs from the 2006 EDR model and the normalized kWhs.

Hydro Ottawa has included all load displacement customers with standby service requirements above 500 kW in one separate class to be modeled in Run 2. The load data is based on the actual metered usage of these customers and as a result, there are no concerns or qualifications about the reliability of the load data.

Filing Questions

i) Hydro Ottawa has seven customers with load displacement generation equipment above 500 kW.

ii) Hydro Ottawa has the following information on the size and type of generation for these customers:

Table 4

Customer	Generator Nameplate Rating kW	Type of Generation
1	750	natural gas
2	1,000	natural gas
3	1,500	natural gas
4	4,000	natural gas
5	2,000	natural gas
6	5,000	natural gas
7	500	natural gas

iii) For 5 of the 7 LDG customers, the load data is representative of the ongoing performance of the associated generation facilities, however, two of these customers did not operate their generation during the year.

Chapter 4 Test Year and Revenue

4.1 Test Year

The accounting data used for Hydro Ottawa's cost allocation was submitted previously in the original 2006 EDR filing, based on a forecast for 2006 and then subsequently modified to reflect the final Decision.

In order for the Rate Base used in the Cost Allocation model to balance with that used from the 2006 EDR model, one adjustment was required. In Cell G20 on Sheet I3, the Allowance for Working Capital was increased by $162,941 in order to match what was approved by the Board.

The only other adjustment to the accounting data was the inclusion of ($653,773) in Account 4082. This RPP Administration Charge Revenue was captured in the 2006 EDR Model on Sheet 5-3, however for Cost Allocation purposes it needed to be included in the accounting data.

Filing Questions

i) Hydro Ottawa capitalizes any expenditure associated with the acquisition, construction, development or betterment of an asset. The amount that is capitalized is the fully allocated cost to acquire, construct, develop or better the asset. The fully allocated cost includes all overhead costs based on full absorption costing. Included in Appendix A is a copy of Hydro Ottawa's capitalization policy.

ii) Outside Services Employed (Account 5630) is used only for audit and legal services.

iii) Customer Information System Expenses are currently recorded in Account 5315 – Customer Billing. This includes the following: salaries and benefits, IT maintenance contracts, training and outside services.

Chapter 5 Direct Allocation

Hydro Ottawa has no instances of clearly identifiable and significant distribution assets for which 100% of the use can be tracked directly to a single rate classification. Therefore Direct Allocation has not been used in either Run 1 or Run 2 of the Cost Allocation Informational Filing.

Chapter 6 Functionalization

6.1 Breakout of Accounts into Sub-accounts

In order to determine if Hydro Ottawa had any bulk assets, as defined for the cost allocation informational filing purposes, the functional approach was applied. This meant identifying any assets that were built with consideration of Hydro Ottawa's system peak. None of Hydro Ottawa's assets were built solely to support the system peak, nor do any of them currently support only the system peak. Therefore Hydro Ottawa has determined that it does not have any bulk assets.

All assets owned by Hydro Ottawa operating at < 750V are defined as Secondary. All remaining assets are therefore defined as Primary.

Filing Questions

- i) Hydro Ottawa has determined that it does not have any assets that were built solely to support the system peak; therefore there are no bulk assets.
- ii) A schematic of Hydro Ottawa's distribution system is attached in Appendix B.

6.2 Functionalization Implementation Issues

Hydro Ottawa has evaluated the costs for Accounts 1830 (Poles, Towers and Fixtures), 1835 (Overhead Conductors and Devices), 1840 (Underground Conduit) and 1845 (Underground Conductors and Devices) as follows: As there are no bulk assets, 0% of each account is assigned to bulk. Account 1855 (Services) includes all secondary conductors. Accounts 1835 and 1845, therefore, are all related to primary overhead and underground conductors respectively.

The calculation of the primary/secondary split for Account 1840 (Underground Conduit) was done by calculating the ratio of primary cable and secondary cable that was installed on representative projects over a period of one year. This ratio of primary to secondary cable was used to attribute the amount of underground conduit to be linked to either primary or secondary. The results indicated that the dollars in Account 1840 should be split 71% Primary and 29% Secondary.

To determine the appropriate primary/secondary split for account 1830 (Poles, Towers and Fixtures) the cost of overhead primary conductor used was compared to the amount of secondary conductor used in the representative group of projects. The result of 70% Primary and 30% Secondary was then applied to account 1830.

As there are no bulk assets in the Hydro Ottawa system, the Bulk Customer Base (CCB) for all classes is equal to zero. All customers are connected directly to or through the primary, therefore the Primary Customer Base (CCP) for all Classes is equal to the total number of customers from the 2006 EDR Model. For the Secondary Customer Base (CCS) the following logic was applied: all Residential, GS < 50 kW, Streetlights and

Sentinel light customers are connected to secondary assets. None of the Large Users nor GS > 1500 kW < 5000 kW customers are connected to the secondary assets. For GS > 50 kW < 1500 kW, the assumption was made that customers with peak loads < 200 kW are connected to the secondary and customers with peak loads > 200 kW are not. This results in a CCS for GS > 50 kW < 1500 kW of 2,146 (68%).

The load data provided by Hydro One was for Hydro Ottawa's entire distribution system. The bulk coincident peak ("BCP") is the coincident peak of those customers for whom power is delivered through any bulk assets. Hydro Ottawa has no bulk assets, as defined for the filing, therefore the BCP for each class is zero. As all customers in all classes use the primary system the Primary NCP (PNCP) was set equal to the System NCP (DNCP). Because all Residential, GS < 50 kV, Street light and Sentinel light customers use the secondary system, their Secondary NCP (SNCP) was set equal to the DNCP. Because there are no Large Use nor GS > 1500 kW < 5000 kW customers connected to the secondary system, their SNCP was set equal to zero. In order to determine the SNCP for the GS > 50 kW < 1500 kW class, the percentage of the sum of the non coincident peaks for customers < 200 kW of the class non coincident peak was used (38%).

6.3 >50 kV Assets Deemed to be Distribution

Hydro Ottawa does have > 50kV assets and therefore has split accounts 1805 (Land), 1806 (Land Rights) and 1808 (Buildings and Fixtures) between >50 kV and <50kV assets. This information was available from detailed accounting records. The results are as follows:

Table 5-Assets > 50 kV

	< 50 kV	> 50 kV
1805 (Land)	5.8%	94.2%
1806 (Land Rights)	0%	100%
1808 (Buildings and Fixtures)	86%	14%

6.4 Line Transformers

Customers that use line transformers ("CCLT") were based on the following assumptions: All Residential, GS < 50 kW, Street light and Sentinel light customers use line transformers; therefore the CCLT for these classes equals the total number of customers as per the 2006 EDR Model. For the GS > 50 kW < 1500 kW, GS > 1500 kW < 5000 kW and Large Use classes, the percentage of kW used for the Transformer Ownership Credit divided by the total kW for the class for the test year was considered representative of the number of customers in that class which did not use line transformers. Therefore the remaining customers would be included in the CCLT. The results are as follows:

Table 6-Line Transformer Customer Base

	TOC kW	Total Class kW	% in CCLT
GS>50kW < 1500 kW	971,043	7,516,923	87%
GS > 1500 kW < 5000 kW	896,867	1,605,452	44%
Large Use	641,473	1,222,386	47%

6.5 Capital Contributions

The breaking out of Contributed Capital into asset accounts was done using actual information from Hydro Ottawa's financial records, as per the recommended approach. As Hydro Ottawa was a forward test year filer for the 2006 EDR, it was necessary to apply the historical percentage of contributed capital for each account to the forecasted balance for 2006. For those assets that were subsequently broken out into primary and secondary, the related contributed capital was also broken out into primary and secondary using the same percentages as the original asset account, i.e. see Section 6.2.

6.6 Depreciation and Accumulated Depreciation

The average test year values for accumulated depreciation as well as the test year depreciation expenses were broken out into the Uniform Systems of Accounts ("USoA") accounts based on historical and forecasted values.

Chapter 7 Categorization

Hydro Ottawa has determined that the kilometers of road with distribution lines, to be used by the Model, is 4,100. With a total customer base of 281,113 this results in a density of 69 customers per km and defines Hydro Ottawa as 'high' density for cost allocation informational filing purposes. This means that the customer component of Accounts 1830 to 1845 and related O&M accounts will be 35% and the demand component will be 65%. For Line Transformers (Account 1850) and related operating and maintenance (O&M) accounts, the customer component will be 30% and the demand component will be 70%.

Filing Questions

i) Hydro Ottawa is an urban utility. While the downtown core does not have a secondary network system, there are some unique features, such as sidewalk vaults, which present additional challenges.

ii) Thirty seven per cent of Hydro Ottawa's distribution system is underground, located primarily in the downtown area and in newer residential subdivisions.

iii) The generic minimum system result and the generic PLCC adjustment appears to have contributed to an anomalous result in the calculation of the maximum limit for the Monthly Fixed Service Charge for GS > 50 kW< 1500 kW, GS > 1500 kW < 5000 kW and Large Use classes.

Hydro Ottawa has not completed its own minimum system study in the period during or after the unbundling of its rates.

7.1 Multi-unit Dwelling Adjustment(s)

Filing Questions

i) Hydro Ottawa has estimated that there are approximately 60,000 individually metered residential customers residing in multi-unit dwellings, which represent 4,500 distributor connection points.

ii) Hydro Ottawa has estimated that there are approximately 13,200 individually metered General Service customers located in 3,090 multi-unit complexes, which represent distributor connection points.

iii) Hydro Ottawa is not able to estimate the number of individually metered mixed use customers.

iv) It would be expected that all multi-unit connection points would be at primary voltages for residential and general service complexes.

Chapter 8 Allocation of Demand Related Costs

Using data provided by Hydro One for each classes' coincident peaks over 12 months, 4 months and 1 month, the formula in the Cost Allocation Model (Sheet I8, Cell C14) determined that the average of 12 monthly system peaks divided by the annual system peak is greater than 83% and Hydro Ottawa must therefore use 12CP for allocating those demand costs that are to be allocated on a CP basis.

As Hydro Ottawa does not have any bulk assets, the Bulk Deliver CP (BCP) is equal to zero. The Transformation CP (TCP), defined as the coincident peak of all customers that use the > 50 kV assets deemed to be distribution assets, was estimated based on the percentage contribution of the system peak in 2005 from the > 50 kV assets. This was calculated to be 19% and was applied to all classes.

Similarly using data provided by Hydro One for each classes' non-coincident peaks over 12 months, 4 months and 1 month, the formula in the Cost Allocation Model (sheet I8, Cell C15) determined that the average of 4 monthly non-coincident peaks divided by the annual non-coincidental peak is greater than 83% and Hydro Ottawa must therefore use 4NCP for allocating those demand costs that are allocated on a NCP basis.

Filing Questions

i) Hydro Ottawa has not done a detailed study of 'non-technical' distribution losses, however based on a review of typical values for the industry, a value of 0.6% would be considered a reasonable estimate. This would vary from year to year, based on estimates required to match time periods between purchased kWhs and sold kWhs.

ii) Based on 'non-technical' distribution losses representing 0.6% of total losses, in 2005 technical losses would represent 2.54% of purchases.

iii) Of the 2.54% technical losses, approximately 0.48% are attributable to Hydro Ottawa's >50 kV assets. This estimate is based on 19% of the peak load using the > 50 kV assets. Of the remaining 2.06% losses; approximately 1.60% can be attributed to primary assets and the remaining 0.46% to secondary assets.

Chapter 9 Allocation of Customer Related Costs

As per Section 9.2 of the Guidelines, Hydro Ottawa has divided the total number of streetlight fixtures by 15 to determine the actual number of "connections" to the distribution system.

Hydro Ottawa has used the default weightings for Billing Activities as provided in Appendix 9.1 of the Board Directions. No default weighting for Back-up/Standby Power is provided in the Appendix; however in the Model, the default weighted billing factor is 1.0. This has been changed to 7.0 to match the default for the GS > 50 kW < 1500 kW and GS > 1500 kW < 5000 kW classes, as the majority of the LDG customers are from these rate classifications.

Filing Questions

i)&ii) The expenses associated with the following activities: Call Centre, Customer (CIS) Information System, Key Accounts and Payment Processing are recorded in the following USoA accounts and represent the approximate percentage of that account:

Table 7

Activity	Account	Percentage
Call Centre	5410 Community Relations	56%
CIS	5315 Customer Billing	46%
Key Accounts	5510 Demonstration & Selling Expenses	15%
Payment Processing	5615 General Admin Salaries & Expenses	13%

For the installed meter capital costs, Hydro Ottawa has used its actual costs for a number of meter types as the costs are materially different from the default values provided in Appendix 9-2 of the Directions. The following table provides the default values and the Hydro Ottawa actual installed cost for those metering installations for which the default value was not used:

Table 8-Meter Capital Costs

Meter Type	Default Value	Hydro Ottawa Cost
Single Phase 200 Amp-Urban	$50	$88
Single Phase 200 Amp-Rural	$150	$164
Smart Meter-residential	$300	$134*
Smart Meter-commercial	$300	$571
Three phase – No demand	$210	$381
Demand without IT	$500	$381
Demand with IT	$2,100	$3,000

*Note: this value is based on current costs which may increase as meters are deployed in older neighbourhoods with meters inside the house.

Hydro Ottawa has actual meter reading costs from its contractor and actual expenses attributable to interval metered customers, therefore utility specific relationship factors related to meter reading costs have been calculated. The following table shows both the Board's default values and Hydro Ottawa's calculated values:

Table 9-Meter Reading Costs

Meter Type	Default Value	Calculated Value
Residential Urban Outside	1.00	1.00
Residential Urban Inside	2.00	6.00
Residential Rural Outside	2.00	14.00
GS Walking	2.00	8.00
GS Driving	3.00	14.00
Interval	49.00	167.00

Hydro Ottawa has used the default weightings for services as provided in Appendix 9.4 of the Board Directions. No default weighting for Back-up/Standby Power is provided in the Appendix; however in the Model, the default weighted billing factor is 1.0. This has been changed to10.0 to match the default for the GS > 50 kW < 1500 kW and GS > 1500 kW < 5000 kW classes, as the majority of the LDG customers are from these rate classifications. (Note that this change plus the one outlined above for the default weighted billing factor had an impact of less than 0.2% on the final revenue to expense ratio for the Back-up/Standby Power class).

Filing Questions

i) The definition in the USoA for Account 1855 is as follows:
This account shall include the cost installed of overhead and underground conductors leading from a point where wires leave the last pole of the overhead system or the transformers or manhole, or the top of the pole of the distribution line, to the point of connection with the customer's electrical panel. Conduit used for underground service conductors shall be included herein.
Hydro Ottawa follows this definition. For some projects, engineering related costs for system design may have been charged to this account. The actual amount of this time is not available but is estimated to be small.

ii) Account 1855 captures only service drops operated at the secondary voltages.

Chapter 10 Allocation of Other Costs

As per the Board's Directions, General Plant has been allocated on a pro rata basis using a composite of distribution net fixed assets (average of opening and closing balances for the test year), with no adjustment for contributed capital.

Administrative and General Expenses (A&G), except for property insurance and community safety programs, have been allocated on a pro rata basis using Operating and Maintenance Expenses with A&G expenses backed out.

Property insurance and community safety programs have been allocated on a pro rata basis using a composite of distribution net fixed assets (average opening and closing balances for the test year), with no adjustment for contributed capital.

As per the 2006 Decision, Hydro Ottawa's Working Capital Allowance (WCA) is $93,110,929. The cost of power ("COP") component of the WCA is allocated based on energy. Hydro Ottawa does not have wholesale market participants therefore it is not necessary to break out the COP component into transmission-related and non-transmission-related components.

The Operating, Maintenance and Administrative (OM&A) component in the WCA is allocated in the same manner as the allocated OM&A.

PILS, other taxes, cost of debt and return on equity are allocated based on a pro rata allocation of net fixed assets as per the Directions.

Bad debt expenses have been directly allocated to the specific customer rate classifications based on their respective contribution to historical write-offs, as shown below in Table 10. The forecast for bad debts in 2006 was significantly lower than historical trends. 2006 actual bad debts are closer to historical trends and therefore higher than forecasted. There are no extraordinary bad debts that have been excluded.

Table 10-Bad Debt

Class	3 year average Bad Debt	%
Residential	$718,795	67.7%
GS < 50 kW	$224,026	21.1%
GS > 50 kW < 1500 kW	$79,630	7.5%
GS > 1500 kW < 5000 kW	$39,284	3.7%

Collection expenses have been allocated on the same basis as billing costs, namely by using weighted number of bills as the allocator, as per the Directions.

Revenue from late payment charges has been allocated to classifications based on their respective contributions to historical payments, as show in Table 11.

Table 11-Late Payment Charges

Class	2 year average Late Payment Charges*	%
Residential	$672,128	56.2%
GS < 50 kW	$183,464	15.4%
GS > 50 kW < 1500 kW	$273,670	22.9%
GS > 1500 kW < 5000 kW	$52,201	4.4%
Large Use	$13,869	1.2%

*only two years were available due to the conversion of the CIS system in September 2004.

Filing Question

i) Records are not available to break out collection costs (Account #5320, 5325 and #5330) by rate classification.

Chapter 11 Cost Allocation and Unit Cost Calculations for Specialized Rate Classifications

11.1 Unmetered Scattered Load ("USL")

Filing Questions

i) Hydro Ottawa does provide some summary billing for Unmetered Scattered Load customers by allowing them to have more than one device per bill.
ii) Hydro Ottawa does not provide summary billing for customer classifications other than USL.
iii) Hydro Ottawa has not estimated the cost of making summary bills available and the overall savings.

Run 1 includes the Unmetered Scattered Load in the GS < 50 kW class. The Model also calculated an adjustment to the class rates to reflect the estimate in the reduction in rates that would occur when a customer is unmetered. The calculated metering credit is $5.32/month, which when applied to Hydro Ottawa's approved GS < 50 kW Fixed Monthly Service Charge of $9.35, results in a charge of $4.03/month. This compares favorably with the currently approved Fixed Monthly Charge for Unmetered Scattered Load of $4.26. Note that the current Distribution Volumetric Charge for Unmetered Scattered Load is $0.0198 per kW.

Run 2 of the Model has calculated a customer-related unit cost based on the number of connections of $0.72 and a demand-related unit cost based on the kWhs associated with the USL of $0.024.

11.2 Load Displacement Generation Rate Classification

Filing Questions

i) Hydro Ottawa has an approved administrative charge of $95/customer/month for standby rates. This amount is based on one hour of time per month of work to determine, bill and monitor Billed Backup Demands and Backup Overrun Adjustments.
ii) If Hydro Ottawa incurred extraordinary costs to provide service to a load displacement generator, these costs would be recovered by way of a capital contribution.
iii) Hydro Ottawa has interim standby rates approved, however at the present time cannot quantify any additional benefits and/or costs after reviewing Appendix 11.1 of the Board Directions. Any future study designed to document the distribution benefits and costs from load displacement facilities would have to include a detailed engineering analysis of the effect on the distribution system of each individual load displacement generation customer.

Chapter 12 Unit Cost Outputs

The Cost Allocation Model calculated the lower and upper end customer unit costs for all classes in Run 1 and Run 2. The results are shown in Table 2 in Chapter 1.

The Cost Allocation Model calculated the unit costs for both substation transformation and secondary transformation for Run 1 and Run 2. The results are shown in Table 3 in Chapter 1.

Filing Question

i) Hydro Ottawa does not have any customers that are connected to the distribution system but have chosen to be wholesale market participants (and who are not a generator).

Appendix A – Capitalization Policy

Policy Number: FIN5-001.01	Subject: Capitalization
Effective Date: July 26, 2005	Policy Owner: VP Finance

Applicability
This policy applies to the capitalization of assets for Hydro Ottawa Limited.

Purpose
This policy describes the process and specific criteria used for determining if expenditures should be capitalized on the Balance Sheet or expensed to operations in the period incurred.

Expenditures are capitalized to ensure that there is an equitable allocation of costs among existing and future customers. Assets are expected to provide future economic benefits for more than one year. Any expenditure associated with the acquisition, construction, development or betterment of an asset should be capitalized and allocated over the useful life of the asset.

Guidelines
Tangible Assets
Property, plant and equipment are identified as tangible assets provided that 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 an asset that lacks physical substance.

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
A betterment is a cost which 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 was incurred to maintain the service potential of a capital asset. Expenditures for repairs are expensed in the period in which they occurred.
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.
Materiality
All additions to capital 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 level is set, which if an expenditure falls below, it is not capitalized. This level is known as a materiality limit.

Policy Number: FIN5-001.01	Subject: Capitalization
Effective Date: July 26, 2005	Policy Owner: VP Finance

Materiality Limit
For identifiable assets the materiality value for capitalization for new assets or addition to existing assets will be $500.00 for distribution plant and $200 for general plant.

For grouped assets the value for capitalization will be $1000.00 based on a single occurrence for distribution plant and $200.00 for general plant. Where programs are established for ongoing betterment work this minimum will not be applicable.

Readily Identifiable Assets (Discrete)
An identifiable capital asset has a unit cost sufficiently high, and is easily indentifiable, for the asset to 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.

Cost
Cost is the amount of consideration given up to acquire, construct, develop or better a capital asset. Capital assets will be recorded at the fully allocated cost including AFUDC if applicable.

Fully Allocated Costs
Fully allocated costs include all expenditures necessary to put a capital asset in service including all overhead costs based on full absorption costing.

Capital Related Overhead Expenses
Per Allocation Policy
Allowance For Funds Used During Construction
For projects with a 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.

Depreciation
Capital assets are generally depreciated 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 depreciation.

Capital Spares
Spare 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 transformers and meters are held for the purpose of backing up transformers and meters in service in the existing distribution system. 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.

Policy Number: FIN5-001.01	Subject: Capitalization
Effective Date: July 26, 2005	Policy Owner: VP Finance

Extraordinary Items
Extraordinary items will be identified separately provided that they exceed the materiality threshold set by the OEB. Recovery of extraordinary items through rates as a Z factor expense will follow OEB guidelines.

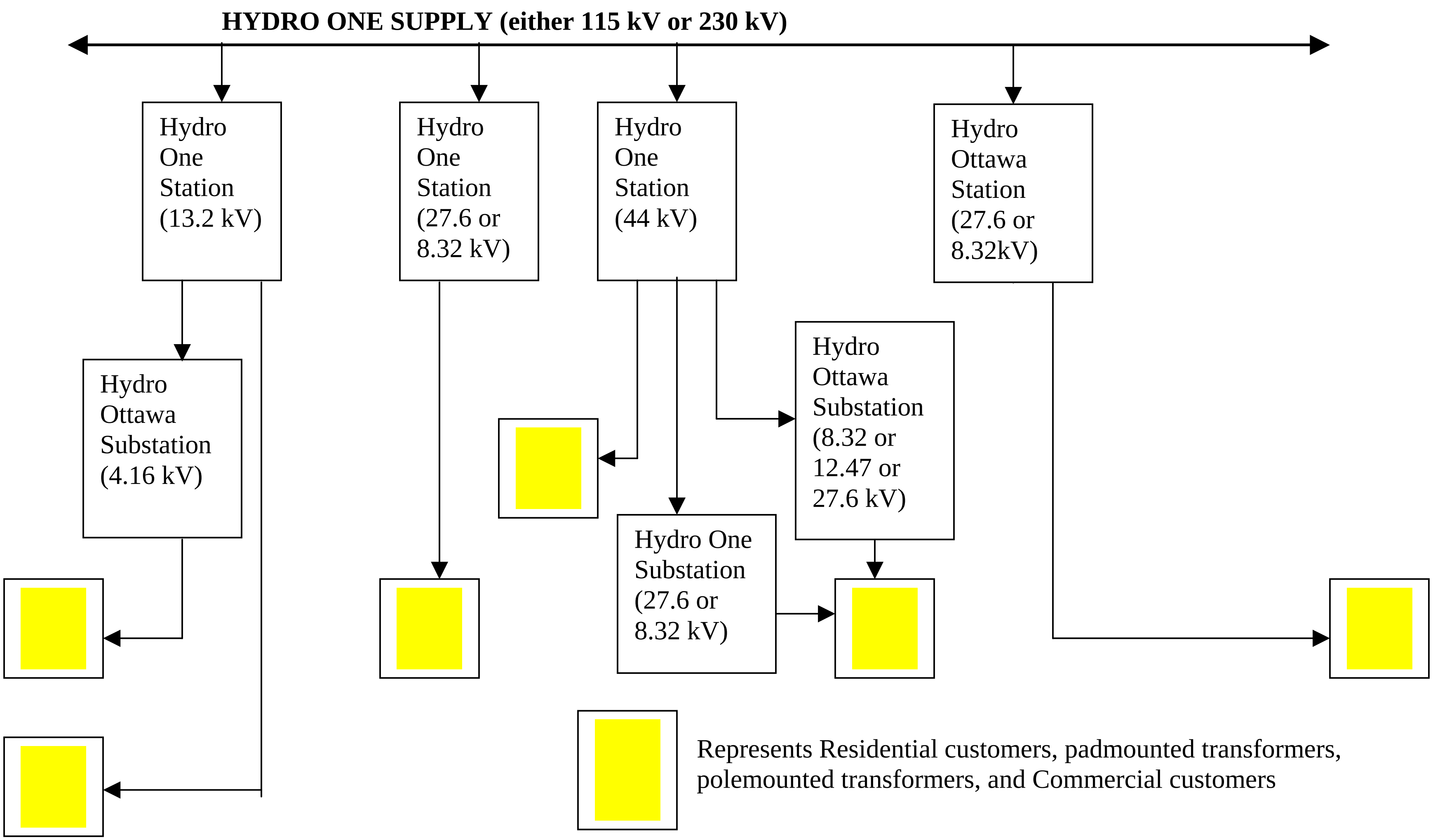
Other
Capital contributions paid to Hydro One for upgrades to the transmission system will be capitalized for inclusion in a future rate base, or recorded as directed by the OEB.

Approval Levels
As per Procurement Policy

Policy Compliance
All current practices will comply with the Accounting Procedures Handbook issued by the OEB and 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.

Acting Chief Operating Officer   Policy Owner   Vice President Finance

Appendix B – System Schematic



Ontario

2006 Cost Allocation Information Filing

Hydro Ottawa Limited

EB-2005-0381 EB-2007-0001

Monday, January 15, 2007

Sheet I2 Class Selection - First Run

Instructions:

Step 1: Pleae 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 → First Run

If desired, provide a summary of this run (40 characters max.)

		Utility's Class Definition	Current
1	Residential		YES
2	GS <50		YES
3	GS>50-Regular	GS > 50 kW < 1500 kW	YES
4	GS> 50-TOU	GS > 1500 kW < 5000 kW	YES
5	GS >50-Intermediate		NO
6	Large Use >5MW		YES
7	Street Light		YES
8	Sentinel		YES
9	Unmetered Scattered Load		NO
10	Embedded Distributor		NO
11	Back-up/Standby Power		NO
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

** **Space available for additional information about this run**

2006 Cost Allocation Information Filing
Hydro Ottawa Limited
EB-2005-0381 EB-2007-0001
Monday, January 15, 2007

Sheet I4 Break Out Worksheet - First 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	$411,205,323

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	$1,906,906		-	1,906,906					1,906,906	
1805	Land	$1,044,730		($1,044,730)	-						
1805-1	Land Station >50 kV		5.80%	$60,594	60,594					60,594	
1805-2	Land Station <50 kV		94.20%	$984,135	984,135					984,135	
1806	Land Rights	$2,170,306		($2,170,306)	-						
1806-1	Land Rights Station >50 kV		0.00%	$0	-					-	
1806-2	Land Rights Station <50 kV		100.00%	$2,170,306	2,170,306			($59,846)	($656,071)	1,454,389	$39,980
1808	Buildings and Fixtures	$8,324,317		($8,324,317)	-						
1808-1	Buildings and Fixtures > 50 kV		14.00%	$1,165,404	1,165,404		$364	($564,476)		601,292	$89,281
1808-2	Buildings and Fixtures < 50 KV		86.00%	$7,158,912	7,158,912		$2,239	($3,467,498)		3,693,653	$548,438
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	$29,449,131		$0	29,449,131	($803,282)	$28,254	($7,027,564)		21,646,540	$516,635
1820	Distribution Station Equipment - Normally Primary below 50 kV	$42,127,753		($42,127,753)	-					-	
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%	$42,127,753	42,127,753	($77,098)	$3,852	($24,031,988)		18,022,519	$988,764
1820-3	Distribution Station Equipment - Normally Primary below 50 kV (Wholesale Meters)		0.00%	$0	-	$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	-					-	
1830	Poles, Towers and Fixtures	$108,518,975		($108,518,975)	-						
1830-3	Poles, Towers and Fixtures - Subtransmission Bulk Delivery		0.00%	$0	-					-	
1830-4	Poles, Towers and Fixtures - Primary		70.00%	$75,963,283	75,963,283	($719,684)	$49,753	($41,463,230)		33,830,122	$2,716,032
1830-5	Poles, Towers and Fixtures - Secondary		30.00%	$32,555,693	32,555,693	($308,436)	$21,323	($17,769,956)		14,498,624	$1,164,014

2006 Cost Allocation Information Filing

Hydro Ottawa Limited
EB-2005-0381 EB-2007-0001
Monday, January 15, 2007

Sheet I4 Break Out Worksheet - First 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	**$411,205,323**

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**
1835	Overhead Conductors and Devices	$58,952,200		($58,952,200)	-						
1835-3	Overhead Conductors and Devices - Subtransmission Bulk Delivery		0.00%	$0	-					-	
1835-4	Overhead Conductors and Devices - Primary		100.00%	$58,952,200	58,952,200	($20,237,159)	$995,716	($27,789,855)		11,920,902	$790,198
1835-5	Overhead Conductors and Devices - Secondary		0.00%	$0	-	$0	$0	$0		-	$0
1840	Underground Conduit	$137,214,135		($137,214,135)	-						
1840-3	Underground Conduit - Bulk Delivery		0.00%	$0	-					-	
1840-4	Underground Conduit - Primary		71.00%	$97,422,036	97,422,036	($6,429,641)	$368,225	($54,285,213)		37,075,406	$3,193,111
1840-5	Underground Conduit - Secondary		29.00%	$39,792,099	39,792,099	($2,626,192)	$150,402	($22,172,834)		15,143,476	$1,304,229
1845	Underground Conductors and Devices	$118,513,175		($118,513,175)	-						
1845-3	Underground Conductors and Devices - Bulk Delivery		0.00%	$0	-					-	
1845-4	Underground Conductors and Devices - Primary		100.00%	$118,513,175	118,513,175	($7,812,130)	$447,185	($51,039,295)		60,108,935	$4,043,122
1845-5	Underground Conductors and Devices - Secondary		0.00%	$0	-	$0	$0	$0		-	$0
1850	Line Transformers	$126,722,784		$0	126,722,784	($8,487,091)	$489,615	($74,234,214)		44,491,094	$3,875,763
1855	Services	$64,582,782		$0	64,582,782	($12,783,720)	$736,606	($16,638,833)		35,896,835	$2,075,361
1860	Meters	$49,641,356		$0	49,641,356	($2,310,494)	$140,703	($24,138,005)		23,333,560	$1,667,963
	Total	**$749,168,550**		**$0**	**$749,168,550**	**($62,594,928)**	**$3,434,238**	**($364,682,806)**	**($656,071)**	**324,668,983**	**$23,012,889**
	SUB TOTAL from I3	**$749,168,550**									

											5705
General Plant		**Break out Functions**				**Contributed Capital - 1995**	**Accumulated Depreciation - 2105 Capital Contribution**	**Accumulated Depreciation - 2105 Fixed Assets Only**	**Accumulated Depreciation - 2120**	**Net Asset**	**Amortization Expense - Property, Plant, and Equipment**
1905	Land	$1,501,666			1,501,666					$ 1,501,666	
1906	Land Rights	$239,167			239,167			($12.00)	$ (98,267)	$ 140,888	$23
1908	Buildings and Fixtures	$44,832,022			44,832,022	($828,529)	$44,488	($8,074,287.00)		$ 35,973,694	$357,448
1910	Leasehold Improvements	$0			-					$ -	
1915	Office Furniture and Equipment	$6,192,253			6,192,253	($596,449)	$89,408	($4,116,450.00)		$ 1,568,763	$195,903

2006 Cost Allocation Information Filing
Hydro Ottawa Limited
EB-2005-0381 EB-2007-0001
Monday, January 15, 2007

Ontario

Sheet I4 Break Out Worksheet - First 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	$411,205,323

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
1920	Computer Equipment - Hardware	$9,018,386			9,018,386	($548,032)	$164,475	($4,201,477.00)		$ 4,433,352	$1,165,088
1925	Computer Software	$52,947,944			52,947,944	($4,434,680)	$993,353	($22,294,748.00)		$ 27,211,869	$6,667,098
1930	Transportation Equipment	$19,858,236			19,858,236			($13,584,334.00)		$ 6,273,902	$1,315,690
1935	Stores Equipment	$712,893			712,893			($520,693.00)		$ 192,200	$51,586
1940	Tools, Shop and Garage Equipment	$5,008,105			5,008,105	($31,955)	$4,793	($2,981,461.00)		$ 1,999,482	$395,132
1945	Measurement and Testing Equipment	$1,786,884			1,786,884			($1,006,129.00)		$ 780,755	$87,252
1950	Power Operated Equipment	$0			-					$ -	
1955	Communication Equipment	$1,387,701			1,387,701	($243,061)	$36,450	($560,964.00)		$ 620,126	$80,854
1960	Miscellaneous Equipment	$24,356			24,356			($43,308.00)		-$ 18,952	$23,728
1970	Load Management Controls - Customer Premises	$69,290			69,290			($69,275.68)		$ 14	$28
1975	Load Management Controls - Utility Premises	$25,008			25,008			($28,840.00)		-$ 3,832	$7,672
1980	System Supervisory Equipment	$12,190,250			12,190,250	($473,634)	$38,910	($5,836,018.00)		$ 5,919,508	$609,174
1990	Other Tangible Property	$0			-			$ (57,091)		-$ 57,091	
2005	Property Under Capital Leases	$0			-					$ -	
2010	Electric Plant Purchased or Sold	$0			-					$ -	
	Total	$155,794,159		$0	$155,794,159	($7,156,340)	$1,371,877	($63,375,088)	($98,267)	$86,536,341	$10,956,676
	SUB TOTAL from I3	$155,794,159									
	I3 Directly Allocated	$0									
	Grand Total	$904,962,708		$0	$904,962,708	($69,751,268)	$4,806,115	($428,057,894)	($754,338)	$411,205,324	$33,969,565

To be Prorated

1995	Contributed Capital - 1995	($69,751,268)				$69,751,268	Balanced				
2105	Accumulated Depreciation - 2105	($423,251,779)						$423,251,779	Balanced		
2120	Accumulated Depreciation - 2120	($754,338)							$754,338	Balanced	
	Total	**($493,757,385)**									
	Net Assets	**$411,205,323**	**Net Fixed Assets Match EDR**								

Amortization Expenses

5705	Amortization Expense - Property, Plant, and Equipment	$33,969,565	($33,969,565)

2006 Cost Allocation Information Filing
Hydro Ottawa Limited
EB-2005-0381 EB-2007-0001
Monday, January 15, 2007

Sheet I4 Break Out Worksheet - First 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	$411,205,323

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
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									
	Total Amortization Expense	**$33,969,565**									

2006 Cost Allocation Information Filing
Hydro Ottawa Limited
EB-2005-0381 EB-2007-0001
Monday, January 15, 2007

Sheet O1 Revenue to Cost Summary Worksheet - First Run

Class Revenue, Cost Analysis, and Return on Rate Base

Rate Base Assets		Total	1 Residential	2 GS <50	3 GS > 50 kW < 1500 kW	4 GS > 1500 kW < 5000 kW	6 Large Use >5MW	7 Street Light	8 Sentinel
crev	Distribution Revenue (sale)	$121,472,124	$64,498,012	$16,816,729	$28,106,016	$6,773,944	$4,838,184	$434,694	$4,543
mi	Miscellaneous Revenue (mi	$4,077,500	$2,798,515	$560,453	$635,849	$56,718	$23,056	$2,758	$151
	Total Revenue	$125,549,624	**$67,296,527**	**$17,377,182**	**$28,741,866**	**$6,830,662**	**$4,861,241**	**$437,452**	**$4,694**
	Expenses								
di	Distribution Costs (di)	$21,514,150	$10,828,570	$2,442,915	$5,989,094	$1,133,214	$929,733	$187,792	$2,831
cu	Customer Related Costs (cu)	$11,817,966	$8,586,801	$1,657,768	$1,450,913	$106,864	$14,689	$657	$274
ad	General and Administration (ad)	$11,784,616	$6,782,151	$1,441,489	$2,681,331	$456,008	$351,064	$71,372	$1,202
dep	Depreciation and Amortization (dep)	$33,969,565	$18,605,785	$4,039,757	$8,328,268	$1,505,032	$1,208,057	$277,680	$4,987
INPUT	PILs (INPUT)	$12,436,050	$6,740,633	$1,479,693	$3,088,631	$569,791	$456,710	$98,814	$1,777
INT	Interest	$15,871,890	$8,602,940	$1,888,504	$3,941,960	$727,213	$582,891	$126,114	$2,268
	Total Expenses	$107,394,237	**$60,146,881**	**$12,950,126**	**$25,480,197**	**$4,498,121**	**$3,543,144**	**$762,429**	**$13,339**
	Direct Allocation	$0	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
NI	Allocated Net Income (NI)	$18,155,385	$9,840,648	$2,160,204	$4,509,091	$831,837	$666,751	$144,258	$2,595
	Revenue Requirement (includes NI	$125,549,622	$69,987,529	$15,110,329	$29,989,288	$5,329,958	$4,209,895	$906,688	$15,934
		Revenue Requirement Input equals Output							
	Rate Base Calculation								
	Net Assets								
dp	Distribution Plant - Gross	$749,168,550	$405,347,105	$88,366,866	$187,586,636	$34,145,482	$27,466,947	$6,148,717	$106,797
gp	General Plant - Gross	$155,794,159	$85,318,064	$18,545,735	$38,013,123	$7,010,936	$5,627,948	$1,254,929	$23,423
accum dep	Accumulated Depreciation	($424,006,117)	($227,277,339)	($49,659,534)	($108,248,363)	($19,512,757)	($15,720,697)	($3,529,518)	($57,910)
co	Capital Contribution	($69,751,268)	($40,019,378)	($8,321,308)	($15,601,748)	($2,873,840)	($2,324,762)	($597,333)	($12,898)
	Total Net Plant	$411,205,324	**$223,368,452**	**$48,931,759**	**$101,749,648**	**$18,769,821**	**$15,049,436**	**$3,276,796**	**$59,411**
	Directly Allocated Net Fixed Assets	$0	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
COP	Cost of Power (COP)	$575,112,014	$172,846,971	$59,379,010	$232,979,344	$56,679,964	$50,348,581	$2,871,325	$6,819
	OM&A Expenses	$45,116,732	$26,197,522	$5,542,172	$10,121,339	$1,696,086	$1,295,486	$259,821	$4,307
	Directly Allocated Expenses	$0	$0	$0	$0	$0	$0	$0	$0
	Subtotal	*$620,228,746*	***$199,044,493***	***$64,921,181***	***$243,100,683***	***$58,376,049***	***$51,644,067***	***$3,131,147***	***$11,126***
	Adjustment for Working Capita	$162,940	$52,291	$17,055	$63,865	$15,336	$13,567	$823	$3
	Working Capital	$93,034,312	**$29,856,674**	**$9,738,177**	**$36,465,102**	**$8,756,407**	**$7,746,610**	**$469,672**	**$1,669**
	Total Rate Base	$504,402,576	**$253,277,417**	**$58,686,991**	**$138,278,616**	**$27,541,565**	**$22,809,613**	**$3,747,290**	**$61,083**
		Rate Base Input equals Output							
	Equity Component of Rate Base	$201,761,030	**$101,310,967**	**$23,474,797**	**$55,311,446**	**$11,016,626**	**$9,123,845**	**$1,498,916**	**$24,433**
	Net Income on Allocated Assets	$18,155,386	**$7,149,646**	**$4,427,056**	**$3,261,669**	**$2,332,541**	**$1,318,097**	**($324,977)**	**($8,645)**
	Net Income on Direct Allocation Assets	$0	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
	Net Income	$18,155,386	**$7,149,646**	**$4,427,056**	**$3,261,669**	**$2,332,541**	**$1,318,097**	**($324,977)**	**($8,645)**
	RATIOS ANALYSIS								
	REVENUE TO EXPENSES %	100.00%	96.16%	115.00%	95.84%	128.16%	115.47%	48.25%	29.46%
	EXISTING REVENUE MINUS ALLOCATED COSTS	$1	($2,691,002)	$2,266,853	($1,247,423)	$1,500,703	$651,345	($469,236)	($11,240)
	RETURN ON EQUITY COMPONENT OF RATE BASE	9.00%	7.06%	18.86%	5.90%	21.17%	14.45%	-21.68%	-35.38%

2006 Cost Allocation Information Filing

Ontario

Hydro Ottawa Limited

EB-2005-0381 EB-2007-0001

Monday, January 15, 2007

Sheet I2 Class Selection - Second Run

Instructions:

Step 1: Pleae 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 → Second Run

If desired, provide a summary of this run (40 characters max.)

		Utility's Class Definition	Current
1	Residential		YES
2	GS <50		YES
3	GS>50-Regular	GS>50 kW < 1500 kW	YES
4	GS> 50-TOU	GS>1500 kW < 5000 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

** **Space available for additional information about this run**

2006 Cost Allocation Information Filing

Hydro Ottawa Limited

EB-2005-0381 EB-2007-0001

Monday, January 15, 2007

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	$411,205,323

RATE BASE AND DISTRIBUTION ASSETS

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
				BALANCE SHEET ITEMS						
1565	Conservation and Demand Management	$1,906,906		-	1,906,906					1,906,906
1805	Land	$1,044,730		($1,044,730)	-					
1805-1	Land Station >50 kV		5.80%	$60,594	60,594					60,594
1805-2	Land Station <50 kV		94.20%	$984,135	984,135					984,135
1806	Land Rights	$2,170,306		($2,170,306)	-					
1806-1	Land Rights Station >50 kV		0.00%	$0	-					-
1806-2	Land Rights Station <50 kV		100.00%	$2,170,306	2,170,306			($59,846)	($656,071)	1,454,389
1808	Buildings and Fixtures	$8,324,317		($8,324,317)	-					
1808-1	Buildings and Fixtures > 50 kV		14.00%	$1,165,404	1,165,404		$364	($564,476)		601,292
1808-2	Buildings and Fixtures < 50 KV		86.00%	$7,158,912	7,158,912		$2,239	($3,467,498)		3,693,653
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	$29,449,131		$0	29,449,131	($803,282)	$28,254	($7,027,564)		21,646,540
1820	Distribution Station Equipment - Normally Primary below 50 kV	$42,127,753		($42,127,753)	-					-
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%	$42,127,753	42,127,753	($77,098)	$3,852	($24,031,988)		18,022,519
1820-3	Distribution Station Equipment - Normally Primary below 50 kV (Wholesale Meters)		0.00%	$0	-	$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	-					-
1830	Poles, Towers and Fixtures	$108,518,975		($108,518,975)	-					
1830-3	Poles, Towers and Fixtures - Subtransmission Bulk Delivery		0.00%	$0	-					-
1830-4	Poles, Towers and Fixtures - Primary		70.00%	$75,963,283	75,963,283	($719,684)	$49,753	($41,463,230)		33,830,122

2006 Cost Allocation Information Filing
Hydro Ottawa Limited
EB-2005-0381 EB-2007-0001
Monday, January 15, 2007

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	$411,205,323

RATE BASE AND DISTRIBUTION ASSETS

						BALANCE SHEET ITEMS				
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
1830-5	Poles, Towers and Fixtures - Secondary		30.00%	$32,555,693	32,555,693	($308,436)	$21,323	($17,769,956)		14,498,624
1835	Overhead Conductors and Devices	$58,952,200		($58,952,200)	-					
1835-3	Overhead Conductors and Devices - Subtransmission Bulk Delivery		0.00%	$0	-					-
1835-4	Overhead Conductors and Devices - Primary		100.00%	$58,952,200	58,952,200	($20,237,159)	$995,716	($27,789,855)		11,920,902
1835-5	Overhead Conductors and Devices - Secondary		0.00%	$0	-	$0	$0	$0		-
1840	Underground Conduit	$137,214,135		($137,214,135)	-					
1840-3	Underground Conduit - Bulk Delivery		0.00%	$0	-					-
1840-4	Underground Conduit - Primary		71.00%	$97,422,036	97,422,036	($6,429,641)	$368,225	($54,285,213)		37,075,406
1840-5	Underground Conduit - Secondary		29.00%	$39,792,099	39,792,099	($2,626,192)	$150,402	($22,172,834)		15,143,476
1845	Underground Conductors and Devices	$118,513,175		($118,513,175)	-					
1845-3	Underground Conductors and Devices - Bulk Delivery		0.00%	$0	-					-
1845-4	Underground Conductors and Devices - Primary		100.00%	$118,513,175	118,513,175	($7,812,130)	$447,185	($51,039,295)		60,108,935
1845-5	Underground Conductors and Devices - Secondary		0.00%	$0	-	$0	$0	$0		-
1850	Line Transformers	$126,722,784		$0	126,722,784	($8,487,091)	$489,615	($74,234,214)		44,491,094
1855	Services	$64,582,782		$0	64,582,782	($12,783,720)	$736,606	($16,638,833)		35,896,835
1860	Meters	$49,641,356		$0	49,641,356	($2,310,494)	$140,703	($24,138,005)		23,333,560
	Total	**$749,168,550**		**$0**	**$749,168,550**	**($62,594,928)**	**$3,434,238**	**($364,682,806)**	**($656,071)**	**324,668,983**
	SUB TOTAL from I3	**$749,168,550**								

2006 Cost Allocation Information Filing

Hydro Ottawa Limited

EB-2005-0381 EB-2007-0001

Monday, January 15, 2007

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	$411,205,323

RATE BASE AND DISTRIBUTION ASSETS

BALANCE SHEET ITEMS

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
General Plant		Break out Functions				Contributed Capital - 1995	Accumulated Depreciation - 2105 Capital Contribution	Accumulated Depreciation - 2105 Fixed Assets Only	Accumulated Depreciation - 2120	Net Asset
1905	Land	$1,501,666			1,501,666					$ 1,501,666
1906	Land Rights	$239,167			239,167			($12.00)	$ (98,267)	$ 140,888
1908	Buildings and Fixtures	$44,832,022			44,832,022	($828,529)	$44,488	($8,074,287.00)		$ 35,973,694
1910	Leasehold Improvements	$0			-					$ -
1915	Office Furniture and Equipment	$6,192,253			6,192,253	($596,449)	$89,408	($4,116,450.00)		$ 1,568,763
1920	Computer Equipment - Hardware	$9,018,386			9,018,386	($548,032)	$164,475	($4,201,477.00)		$ 4,433,352
1925	Computer Software	$52,947,944			52,947,944	($4,434,680)	$993,353	($22,294,748.00)		$ 27,211,869
1930	Transportation Equipment	$19,858,236			19,858,236			($13,584,334.00)		$ 6,273,902
1935	Stores Equipment	$712,893			712,893			($520,693.00)		$ 192,200
1940	Tools, Shop and Garage Equipment	$5,008,105			5,008,105	($31,955)	$4,793	($2,981,461.00)		$ 1,999,482
1945	Measurement and Testing Equipment	$1,786,884			1,786,884			($1,006,129.00)		$ 780,755
1950	Power Operated Equipment	$0			-					$ -
1955	Communication Equipment	$1,387,701			1,387,701	($243,061)	$36,450	($560,964.00)		$ 620,126
1960	Miscellaneous Equipment	$24,356			24,356			($43,308.00)		-$ 18,952
1970	Load Management Controls - Customer Premises	$69,290			69,290			($69,275.68)		$ 14
1975	Load Management Controls - Utility Premises	$25,008			25,008			($28,840.00)		-$ 3,832
1980	System Supervisory Equipment	$12,190,250			12,190,250	($473,634)	$38,910	($5,836,018.00)		$ 5,919,508
1990	Other Tangible Property	$0			-			$ (57,091)		-$ 57,091
2005	Property Under Capital Leases	$0			-					$ -
2010	Electric Plant Purchased or Sold	$0			-					$ -
	Total	$155,794,159		$0	$155,794,159	($7,156,340)	$1,371,877	($63,375,088)	($98,267)	$86,536,341
	SUB TOTAL from I3	$155,794,159								
	I3 Directly Allocated	$0								
	Grand Total	$904,962,708		$0	$904,962,708	($69,751,268)	$4,806,115	($428,057,894)	($754,338)	$411,205,324

2006 Cost Allocation Information Filing
Hydro Ottawa Limited
EB-2005-0381 EB-2007-0001
Monday, January 15, 2007

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	$411,205,323

RATE BASE AND DISTRIBUTION ASSETS

Account	Description	Break out Functions	BREAK OUT (%)	BREAK OUT ($)	After BO	BALANCE SHEET ITEMS 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
To be Prorated										
1995	Contributed Capital - 1995	($69,751,268)				$69,751,268	Balanced			
2105	Accumulated Depreciation - 2105	($423,251,779)						$423,251,779	Balanced	
2120	Accumulated Depreciation - 2120	($754,338)							$754,338	Balanced
	Total	**($493,757,385)**								
	Net Assets	**$411,205,323**	**Net Fixed Assets Match EDR**							

Amortization Expenses

5705	Amortization Expense - Property, Plant, and Equipment	$33,969,565
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
	Total Amortization Expense	**$33,969,565**

2006 Cost Allocati
Hydro Ottawa Lim
EB-2005-0381 EB-2
Monday, January 15,
Sheet I4 Break Ou

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

Account	Description	EXPENSE ITEMS 5705 Amortization Expense - Property, Plant, and Equipment	5710 Amortization of Limited Term Electric Plant	5715 Amortization of Intangibles and Other Electric Plant	5720 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	$39,980			
1808	Buildings and Fixtures				
1808-1	Buildings and Fixtures > 50 kV	$89,281			
1808-2	Buildings and Fixtures < 50 KV	$548,438			
1810	Leasehold Improvements				
1810-1	Leasehold Improvements >50 kV				
1810-2	Leasehold Improvements <50 kV				
1815	Transformer Station Equipment - Normally Primary above 50 kV	$516,635			
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)	$988,764			
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				
1830	Poles, Towers and Fixtures				
1830-3	Poles, Towers and Fixtures - Subtransmission Bulk Delivery				
1830-4	Poles, Towers and Fixtures - Primary	$2,716,032			

2006 Cost Allocati
Hydro Ottawa Lim
EB-2005-0381 EB-2
Monday, January 15,
Sheet I4 Break Ou

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			
		5705	5710	5715	5720
Account	**Description**	**Amortization Expense - Property, Plant, and Equipment**	**Amortization of Limited Term Electric Plant**	**Amortization of Intangibles and Other Electric Plant**	**Amortization of Electric Plant Acquisition Adjustments**
1830-5	Poles, Towers and Fixtures - Secondary	$1,164,014			
1835	Overhead Conductors and Devices				
1835-3	Overhead Conductors and Devices - Subtransmission Bulk Delivery				
1835-4	Overhead Conductors and Devices - Primary	$790,198			
1835-5	Overhead Conductors and Devices - Secondary	$0			
1840	Underground Conduit				
1840-3	Underground Conduit - Bulk Delivery				
1840-4	Underground Conduit - Primary	$3,193,111			
1840-5	Underground Conduit - Secondary	$1,304,229			
1845	Underground Conductors and Devices				
1845-3	Underground Conductors and Devices - Bulk Delivery				
1845-4	Underground Conductors and Devices - Primary	$4,043,122			
1845-5	Underground Conductors and Devices - Secondary	$0			
1850	Line Transformers	$3,875,763			
1855	Services	$2,075,361			
1860	Meters	$1,667,963			
	Total	**$23,012,889**	**$0**	**$0**	**$0**
	SUB TOTAL from I3				
		5705	**5710**	**5715**	**5720**

2006 Cost Allocati
Hydro Ottawa Lim
EB-2005-0381 EB-2
Monday, January 15,
Sheet I4 Break O

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			
		5705	5710	5715	5720
Account	Description	Amortization Expense - Property, Plant, and Equipment	Amortization of Limited Term Electric Plant	Amortization of Intangibles and Other Electric Plant	Amortization of Electric Plant Acquisition Adjustments
General Plant		Amortization Expense - Property, Plant, and Equipment	Amortization of Limited Term Electric Plant	Amortization of Intangibles and Other Electric Plant	Amortization of Electric Plant Acquisition Adjustments
1905	Land				
1906	Land Rights	$23			
1908	Buildings and Fixtures	$357,448			
1910	Leasehold Improvements				
1915	Office Furniture and Equipment	$195,903			
1920	Computer Equipment - Hardware	$1,165,088			
1925	Computer Software	$6,667,098			
1930	Transportation Equipment	$1,315,690			
1935	Stores Equipment	$51,586			
1940	Tools, Shop and Garage Equipment	$395,132			
1945	Measurement and Testing Equipment	$87,252			
1950	Power Operated Equipment				
1955	Communication Equipment	$80,854			
1960	Miscellaneous Equipment	$23,728			
1970	Load Management Controls - Customer Premises	$28			
1975	Load Management Controls - Utility Premises	$7,672			
1980	System Supervisory Equipment	$609,174			
1990	Other Tangible Property				
2005	Property Under Capital Leases				
2010	Electric Plant Purchased or Sold				

Total	$10,956,676	$0	$0	$0
SUB TOTAL from I3 I3 Directly Allocated				
Grand Total	$33,969,565	$0	$0	$0

Ontario

2006 Cost Allocati

Hydro Ottawa Lim

EB-2005-0381   EB-2

Monday, January 15,

Sheet I4 Break Ou

Instructions:

This is an input sheet for the Break Out

*****Please see Handbook for detailed instr***

Enter Net Fixed Assets from <u>approved</u> EDR, Sheet 3-1, cell F12

		EXPENSE ITEMS				
RATE BASE AND DISTRIBUTION ASSETS		5705	5710	5715	5720	
Account	**Description**	**Amortization Expense - Property, Plant, and Equipment**	**Amortization of Limited Term Electric Plant**	**Amortization of Intangibles and Other Electric Plant**	**Amortization of Electric Plant Acquisition Adjustments**	
<u>To be Prorated</u>						
1995	Contributed Capital - 1995					
2105	Accumulated Depreciation - 2105					
2120	Accumulated Depreciation - 2120					
	Total					
	Net Assets					
<u>Amortization Expenses</u>						
5705	Amortization Expense - Property, Plant, and Equipment	($33,969,565)	**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	**Balanced**
	Total Amortization Expense					

2006 Cost Allocation Information Filing
Hydro Ottawa Limited
EB-2005-0381 EB-2007-0001
Monday, January 15, 2007

Sheet O1 Revenue to Cost Summary Worksheet - Second Run

Class Revenue, Cost Analysis, and Return on Rate Base

			1	2	3	4	6	7	8
Rate Base Assets		Total	Residential	GS <50	GS>50 kW < 1500 kW	GS>1500 kW < 5000 kW	Large Use >5MW	Street Light	Sentinel
crev	Distribution Revenue (sale)	$121,472,124	$64,498,012	$16,170,329	$27,966,868	$6,241,479	$4,099,433	$434,694	$4,543
mi	Miscellaneous Revenue (mi)	$4,077,500	$2,798,480	$559,462	$633,701	$55,571	$21,001	$2,751	$152
	Total Revenue	**$125,549,624**	**$67,296,492**	**$16,729,791**	**$28,600,569**	**$6,297,050**	**$4,120,434**	**$437,446**	**$4,695**
	Expenses								
di	Distribution Costs (di)	$21,514,150	$10,766,239	$2,380,492	$5,956,756	$1,071,052	$780,279	$186,058	$2,839
cu	Customer Related Costs (cu)	$11,817,966	$8,585,449	$1,657,520	$1,447,430	$103,609	$13,253	$657	$274
ad	General and Administration (ad)	$11,784,616	$6,767,135	$1,417,166	$2,659,165	$431,638	$294,923	$70,826	$1,209
dep	Depreciation and Amortization (dep)	$33,969,565	$18,627,916	$3,938,329	$8,171,656	$1,421,729	$1,014,177	$276,454	$5,057
INPUT	PILs (INPUT)	$12,436,050	$6,760,810	$1,443,243	$3,019,440	$537,814	$383,431	$98,553	$1,807
INT	Interest	$15,871,890	$8,628,691	$1,841,984	$3,853,652	$686,402	$489,365	$125,782	$2,306
	Total Expenses	**$107,394,237**	**$60,136,240**	**$12,678,734**	**$25,108,099**	**$4,252,243**	**$2,975,429**	**$758,330**	**$13,493**
	Direct Allocation	$0	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
NI	Allocated Net Income (NI)	$18,155,385	$9,870,104	$2,106,991	$4,408,079	$785,155	$559,770	$143,878	$2,638
	Revenue Requirement (includes NI)	$125,549,622	$70,006,344	$14,785,724	$29,516,178	$5,037,398	$3,535,199	$902,207	$16,131
		Revenue Requirement Input equals Output							
	Rate Base Calculation								
	Net Assets								
dp	Distribution Plant - Gross	$749,168,550	$405,125,537	$86,187,421	$184,775,886	$32,261,721	$23,057,866	$6,113,443	$107,979
gp	General Plant - Gross	$155,794,159	$85,734,316	$18,089,147	$36,959,011	$6,620,000	$4,725,012	$1,253,986	$23,862
accum dep	Accumulated Depreciation	($424,006,117)	($226,187,001)	($48,433,047)	($107,637,680)	($18,444,929)	($13,196,160)	($3,496,213)	($58,175)
co	Capital Contribution	($69,751,268)	($40,546,450)	($8,116,973)	($14,739,462)	($2,718,936)	($1,951,937)	($601,746)	($13,233)
	Total Net Plant	**$411,205,324**	**$224,126,402**	**$47,726,547**	**$99,357,754**	**$17,717,856**	**$12,634,781**	**$3,269,470**	**$60,434**
	Directly Allocated Net Fixed Assets	$0	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
COP	Cost of Power (COP)	$575,112,014	$172,846,971	$58,028,026	$231,956,029	$51,957,953	$46,374,479	$2,871,325	$6,819
	OM&A Expenses	$45,116,732	$26,118,824	$5,455,178	$10,063,351	$1,606,298	$1,088,456	$257,541	$4,322
	Directly Allocated Expenses	$0	$0	$0	$0	$0	$0	$0	$0
	Subtotal	***$620,228,746***	***$198,965,794***	***$63,483,204***	***$242,019,380***	***$53,564,252***	***$47,462,935***	***$3,128,866***	***$11,142***
	Adjustment for Working Capital	$162,940	$52,270	$16,678	$63,581	$14,072	$12,469	$822	$3
	Working Capital	$93,034,312	**$29,844,869**	**$9,522,481**	**$36,302,907**	**$8,034,638**	**$7,119,440**	**$469,330**	**$1,671**

2006 Cost Allocation Information Filing
Hydro Ottawa Limited
EB-2005-0381 EB-2007-0001
Monday, January 15, 2007

Sheet O1 Revenue to Cost Summary Worksheet - Second Run

Class Revenue, Cost Analysis, and Return on Rate Base

Rate Base Assets			1	2	3	4	6	7	8
		Total	Residential	GS <50	GS>50 kW < 1500 kW	GS>1500 kW < 5000 kW	Large Use >5MW	Street Light	Sentinel
	Total Rate Base	$504,402,576	$254,023,541	$57,265,706	$135,724,242	$25,766,565	$19,766,690	$3,739,622	$62,108
		Rate Base Input equals Output							
	Equity Component of Rate Base	$201,761,030	$101,609,416	$22,906,282	$54,289,697	$10,306,626	$7,906,676	$1,495,849	$24,843
	Net Income on Allocated Assets	$18,155,386	$7,160,252	$4,051,057	$3,492,470	$2,044,807	$1,145,006	($320,884)	($8,798)
	Net Income on Direct Allocation Assets	$0	$0	$0	$0	$0	$0	$0	$0
	Net Income	$18,155,386	$7,160,252	$4,051,057	$3,492,470	$2,044,807	$1,145,006	($320,884)	($8,798)
	RATIOS ANALYSIS								
	REVENUE TO EXPENSES %	100.00%	96.13%	113.15%	96.90%	125.01%	116.55%	48.49%	29.10%
	EXISTING REVENUE MINUS ALLOCATED COSTS	$1	($2,709,852)	$1,944,067	($915,608)	$1,259,652	$585,235	($464,762)	($11,436)
	RETURN ON EQUITY COMPONENT OF RATE BASE	9.00%	7.05%	17.69%	6.43%	19.84%	14.48%	-21.45%	-35.41%

2006 Cost Allocation Information Filing
Hydro Ottawa Limited
EB-2005-0381 EB-2007-0001
Monday, January 15, 2007
Ontario

Sheet O1 Revenue to Cost Summary Workshee

Class Revenue, Cost Analysis, and Return on Rate Base

Rate Base Assets		Total	9 Unmetered Scattered Load	11 Back-up/Standby Power
crev	Distribution Revenue (sale)	$121,472,124	$646,400	$1,410,364
mi	Miscellaneous Revenue (mi)	$4,077,500	$2,060	$4,322
	Total Revenue	**$125,549,624**	**$648,460**	**$1,414,686**
	Expenses			
di	Distribution Costs (di)	$21,514,150	$80,210	$290,224
cu	Customer Related Costs (cu)	$11,817,966	$2,190	$7,584
ad	General and Administration (ad)	$11,784,616	$32,189	$110,364
dep	Depreciation and Amortization (dep)	$33,969,565	$136,035	$378,212
INPUT	PILs (INPUT)	$12,436,050	$48,995	$141,957
INT	Interest	$15,871,890	$62,532	$181,177
	Total Expenses	**$107,394,237**	**$362,152**	**$1,109,518**
	Direct Allocation	$0	**$0**	**$0**
NI	Allocated Net Income (NI)	$18,155,385	$71,528	$207,243
	Revenue Requirement (includes NI)	$125,549,622	$433,680	$1,316,760
		Revenue Re		
	Rate Base Calculation			
	Net Assets			
dp	Distribution Plant - Gross	$749,168,550	$2,929,281	$8,609,415
gp	General Plant - Gross	$155,794,159	$637,935	$1,750,890
accum dep	Accumulated Depreciation	($424,006,117)	($1,597,830)	($4,955,082)
co	Capital Contribution	($69,751,268)	($335,921)	($726,608)
	Total Net Plant	**$411,205,324**	**$1,633,465**	**$4,678,615**
	Directly Allocated Net Fixed Assets	$0	**$0**	**$0**
COP	Cost of Power (COP)	$575,112,014	$1,350,983	$9,719,428
	OM&A Expenses	$45,116,732	$114,590	$408,172
	Directly Allocated Expenses	$0	$0	$0
	Subtotal	***$620,228,746***	***$1,465,574***	***$10,127,600***
	Adjustment for Working Capital	$162,940	$385	$2,661
	Working Capital	$93,034,312	**$219,836**	**$1,519,140**

2006 Cost Allocation Information Filing
Hydro Ottawa Limited
EB-2005-0381 EB-2007-0001
Monday, January 15, 2007

Sheet O1 Revenue to Cost Summary Workshee

Class Revenue, Cost Analysis, and Return on Rate Base

Rate Base Assets		Total	9 Unmetered Scattered Load	11 Back-up/Standby Power
	Total Rate Base	$504,402,576	$1,853,686	$6,200,416
		Rate E		
	Equity Component of Rate Base	$201,761,030	$741,474	$2,480,166
	Net Income on Allocated Assets	$18,155,386	$286,307	$305,169
	Net Income on Direct Allocation Assets	$0	$0	$0
	Net Income	$18,155,386	$286,307	$305,169
	RATIOS ANALYSIS			
	REVENUE TO EXPENSES %	100.00%	149.52%	107.44%
	EXISTING REVENUE MINUS ALLOCATED COSTS	$1	$214,779	$97,926
	RETURN ON EQUITY COMPONENT OF RATE BASE	9.00%	38.61%	12.30%

Appendix 1.1

Filing Summary

Name of Utility:	Hydro Ottawa Limited
2006 EDR EB-2005-	0381
Contact:	Jane Scott
Phone number:	613-738-5499 ext 7499
e-mail:	janescott@hydroottawa.com

Item	**Ref.**	**Request**	**Response**
1	2.2.2 Unmetered Scattered Load and Metering Credit	Include an explanation supporting a separate rate classification if approach ii) for Run 1 is used for USL.	Approach i), i.e. treatment as part of the GS<50 kW rate classification, has been used for USL in Run 1.
2	2.2.3 Load Displacement Generation	Include an explanation supporting a separate rate classification if the distributor wishes to use approach ii) for LDG.	Approach i), i.e. treatment as part of the main rate classifications, has been used for LDG in Run 1.
3	2.3.1 Test Year and Rate Classifications for Run 2	Identify for future reference any significant changes to operations, following the 2006 EDR test year, that would materially impact rate classification statistics.	One additional large user, due to reclassification, and one less load displacement customer than originally forecasted could impact rate classification statistics, but not materially. In addition, two of the forecasted LDG customers are currently not using their generators for load displacement.
4	2.3.2 Elimination of Legacy Time of Use Rates Alternative 1	Explain placing legacy TOU customers in a GS>50 range classification in Run 2.	In the 2006 EDR Decision, Hydro Ottawa received approval to change the name of the GS > 50 kW TOU class to GS > 1500 kW < 5000 kW. This was a name change only and did not require changing the rate classification for any customers, since this class was always structured for customers between 1500 kW and 5000 kW.
5	ibid	Explain the modeling of any new TOU rate class.	N/A
6	ibid	Explain how the legacy TOU has been modeled.	N/A

Item	Ref.	Request	Response
7	2.3.4 Common Separate Classification of Embedded Distributors	If a host distributor believes that the resulting unit costs are not sufficiently distinctive, then the merit of creating a new rate classification or including embedded distributors in another suitable classification should be discussed.	N/A
8	2.3.6 LDG Load Data reliability	Identify and explain any concerns about the reliability of LDG load data.	The LDG load data is accurate, however as mentioned above, there is actually one less load displacement customer than originally forecasted and therefore this customer has not been included in the modeling of the rate classification.
9	2.3.6 LDG with no Load Data	If no reasonable LDG load data is available, the applicant must explain why.	N/A
10	2.4 Run 3 Class Deletions	Explain any class deletions.	N/A
11	2.4 Run 3 Addition New Class	Explain any new classes.	N/A
12	2.4 Run 3 Any Significant losses	Provide supporting rationale and cost and load data for any significant customer losses.	N/A
13	2.4 Run 3 Use of 12 NCP	Provide supporting justification for using the 12 NCP in Run 3 based on the cost characteristics of the distributor's system	N/A
14	2.4 Run 3 using different density stratum	Provide strong reasons to justify a minimum system classification using another density stratum.	N/A
15	2.4 Run 3 Use of distributor specific minimum system study	Provide supporting explanation of details for using a distributor specific system study and PLCC calculation.	N/A

Item	Ref.	Request	Response
16	2.4 Run 3 Alternative LDG Load Data	Provide an explanation for the alternative load data for an LDG.	N/A
17	2.4 Run 3 Additional costs and benefits for LDG.	Explain the details of the additional costs and benefits for LDG and associated rationale.	N/A
18	3.1 Load Data General	Specifically identify and discuss customers, aside from Run 1 USL and LDG Customers, for whom separate load data will not be provided.	N/A
19	3.1 Load Data Merchant Generation	Explain the suitability of the load data used to model merchant generation as a separate class.	N/A
20	3.1 ibid	Explain if the load data development methodology is different from that that used for the separate load displacement generation rate classification in Run 2 or Run 3.	N/A
21	3.1 Load Data Profile Changes	Identify any significant change in the relative load profiles for a historic test year filer.	N/A
22	3.3 Load Shapes Residential	Was an update of the appliance saturation survey done on the applicants customers?	YES
23	ibid	Did the applicant update its residential appliance saturation survey jointly or singularly?	Hydro Ottawa conducted the residential appliance saturation survey on its own.
24	ibid	If the applicant updated its appliance survey jointly, state with whom.	N/A

Item	Ref.	Request	Response
25	ibid	Did the applicant borrow the appliance survey?	N/A
26	ibid	If the survey was borrowed, from whom was it borrowed?	N/A
27	ibid	If the survey was borrowed, Confirm that a test was taken to prove that the markets were good matches.	N/A
28	ibid	Was the appliance survey estimated?	No, the residential appliance saturation was not estimated.
29	ibid	If the appliance saturation was estimated explain the basis for the estimate.	N/A
30	3.3 Load Profiles - Non-Hydro One Profiles	Provide the name of the service provider and its qualifications.	N/A
31	ibid	Provide the source of the data provided.	N/A
32	ibid	If the generic Residential and GS>50 kW load data information was used, then provide the methodology used to reliably create the utility-specific load profile.	N/A
33	3.4 Normalization	Any distributor who is not using the Hydro One Load Data Team is to confirm that the Hydro One methodology was used to weather normalize its load profile.	N/A
34	3.5 Additional Information	Provide the 2006 EDR revenue	$120,896,633 (Not including Smart Meters and Transformer Ownership Allowance)
35	ibid	Provide the normalized revenues	$120,896,633

Item	Ref.	Request	Response
36	ibid	Calculate the difference between the 2006 EDR and the normalized revenues	$0
37	ibid	A future test year applicant in the 2006 EDR is to explain how the methodology used to create the revenue requirement compares to the methodology used to weather normalize their respective load data for use in the cost allocation studies.	Hydro Ottawa's revenue requirement for the future test year in the 2006 EDR was established based on a forecast of capital and operating expenses. The rates resulting from that revenue requirement were determined using a weather normal load forecast for 2006.
38	3.6 Load Displacement General	Identify any concerns or qualifications about the reliability of the load data collected.	The only concern about the reliability of the load data collected is that two of the LDG customers in the class have not been using their generators for load displacement as was forecasted.
39	ibid	If the distributor believes it has not gathered minimally-acceptable load data, it must explain what efforts were made to collect the data.	N/A
40	ibid	If the distributor believes it has not gathered minimally-acceptable load data, then it must propose another treatment for its load displacement customers in Run 2 of its filing	N/A
41	ibid	Provide the basis and the calculations for the load estimates used in Run 3.	N/A
42	ibid	Indicate the number of customers in the service territory that have load displacement generation equipment above 500 kW.	Seven customers were identified as having load displacement generation equipment above 500 kW.
43	ibid	To the extent that the information is available, categorize these load displacement facilities by size and type of generation (wind, gas-fired, cogeneration etc.) and the associated LDG requirement.	All seven of the load displacement generators are natural gas have generator nameplate ratings of: 500, 750, 1000, 1500, 2000, 4000 and 5000 kW.

Item	Ref.	Request	Response
44	ibid	Indicate whether the load data developed for the load displacement generator customers is considered to be representative of the ongoing performance of the associated generation facilities.	Yes the load data developed for the load displacement generator customers is considered to be representative of the ongoing performance of the associated generation facilities.
45	ibid	Explain what steps were taken to gather relevant data to assess the existence of diversity if a separate load displacement generation rate classification has been modeled in Run 3.	N/A
46	ibid	Explain what steps were taken to reflect any diversity of generation in its filing if a separate load displacement generation rate classification has been modeled in Run 3.	N/A
47	ibid	Provide an explanation if the distributor believes diversity does not exist or if suitable data cannot reasonably be obtained to assess the question.	N/A
48	3.7 ii) USL Battery Mats	Explain any concern about the available information on the number and installed capacity of battery mats.	CATV power supply battery mats have only started to be installed in 2006. Hydro Ottawa is in the process of collecting actual load data for these devises.
49	ibid	If CATV power supply battery mats were not taken into account in a future test year filer's 2006 EDR application, discuss whether the approved revenue requirement needs to be corrected or not for present filing purposes and explain why or why not an adjustment is reasonable in its specific circumstances.	An adjustment has not been made for CATV power supply battery mats as there are only very few of these devices and their energy consumption is minimal.

Item	Ref.	Request	Response
50	4 Test Year Revenue	Identify any major changes to its distribution system that may have occurred since its 2006 EDR test year and which could materially impact its cost allocation results .	There have been no major changes to Hydro Ottawa's distribution system since the 2006 EDR test year. One additional large user, due to reclassification and one less load displacement customer than originally forecasted could impact rate classification statistics. In addition two of the forecasted LDG customers are currently not using their generators for load displacement.
51	4.1.3 Future Test Year Applicants trial balance.	Future test year filers for 2006 rates are to indicate whether the trial balance being used for its cost allocation filing was submitted previously as part of its EDR 2006 filings or was developed afterwards.	The accounting data being used for the cost allocation filing was submitted previously as part of the EDR 2006 filing, adjusted to exclude the Low Voltage Charges and to include the Regulated Price Plan Administration Charge revenue
52	4.1.6 Adjustment to the Trial Balances	If a distributor feels there has been a change in the operation of its utility that would significantly impact the approved revenue requirement and rates, then the distributor should disclose and discuss this information.	As per question 50, there have been changes to the rate classification for a few customers. The general operation of the utility in 2006 has not changed significantly from that forecasted.
53	4.7 Specific Questions	As a distributor, summarize your capitalization policies.	Hydro Ottawa capitalizes any expenditure associated with the acquisition, construction, development or betterment of an asset. The amount that is capitalized is the fully allocated cost to acquire, construct, develop or better the asset. The fully allocated cost includes all overhead costs based on full absorption costing.
54	ibid	Disclose the functions that are charged to Account 5630 Outside Services Employed .	Account 5630 includes legal and audit services.
55	ibid	Disclose in which account(s) Customer Information System Expenses are currently recorded and the activities it includes.	Customer Information System Expenses are recorded in Account 5315. This includes salaries and benefits, IT maintenance contracts, training and outside services.
56	5.2 Direct Allocation Methodology	Address whether or not an adjustment to the class allocation factors was considered appropriate to eliminate double charging and confirm it was undertaken where warranted.	N/A

Item	Ref.	Request	Response
57	5.2 Specific Questions	Support any direct allocation with a summary of supporting accounting records for the specific facility in question.	N/A
58	ibid	Provide single line diagram/schematic indicating the facility concerned, the customers served, and any other facilities serving the same customers.	N/A
59	ibid	If a direct assignment is applied to a customer that also receives back-up service, the filing must include an explanation and supporting documentation on how an appropriate share of back-up serve was determined and allocated.	N/A
60	ibid	If a direct assignment is applied to a customer that also receives back-up service, the filing must include an explanation and supporting documentation if an allocator other than the customer's NCP is used.	N/A
61	6.2.2.6 Filing Requirements	Explain how the distributor applied the Board’s bulk asset test to its system, and why it concluded it did or did not have bulk assets.	Hydro Ottawa reviewed all of its assets and determined that none of them were constructed solely to meet the system peak, therefore none of them were to be considered bulk.
62	ibid	All distributors will be required to include in their filings a single line diagram or schematic of their distribution system.	Attached as Appendix B.

Item	Ref.	Request	Response
63	ibid	Where a distributor believes it has assets that serve a bulk function under the Board's test, an explanation must also be added to the diagram or schematic filed indicating which specific assets have been identified as bulk and the customers by rate classification that are served from such bulk assets.	N/A
64	6.2.2.7 Hydro One	Hydro One is to provide an explanation (including supporting schematic diagram or equivalent) and justification of its LV cost pool, if this sub-Functionalization is employed.	N/A
65	ibid	Hydro one must discuss the impact(s) on its filing from using a "subtransmission" cost pool compared to the standard "bulk" asset cost pool, if employed.	N/A
66	ibid	If Hydro One wishes to use CP to allocate the subtransmission cost pool it must provide justification.	N/A
67	6.3.1 Bulk, Primary, and Secondary	Explain how the distributor broke out its costs between bulk, primary and secondary assets.	No costs were assigned to bulk. All underground and overhead conductors costs (Accounts 1835 and 1845) were assigned to primary as the corresponding secondary costs are in Account 1855. For poles, towers and fixtures (Account 1830) cost were prorated between primary and secondary based on the primary and secondary overhead conductors. For conduit (Account 1840) costs were prorated between primary and secondary based on the primary and secondary underground cable.
68	6.6 Capital Contributions - recommended approach	A distributor is to provide its methodology and supporting information to the detailed analysis of capital contributions by either rate class or asset type..	Capital contributions were allocated to 2006 forecasted asset accounts using percentages obtained from historical financial records.

Item	Ref.	Request	Response
69	ibid	When the capital contribution is assigned to asset type, explicitly identify capital contributions associated with bulk (if any), primary and secondary assets.	Primary and secondary splits for the asset class were also applied to the related capital contribution.
70	6.6 Capital Contributions - alternative approach	A distributor using the alternative approach must indicate the proportion of its total assets that contributed capital represents.	N/A
71	6.7 Depreciation and Accumulated Depreciation	Explain and justify any an alternate approach in regard to the break out of accumulated depreciation and depreciation expenses employed.	Accumulated depreciation and depreciation expenses were broken out based on actual financial records and forecasts of depreciation for the test year.
72	7.1.2 Density Thresholds	Urban distributors with a large downtown secondary network system are to provide a brief description.	Hydro Ottawa does not have a downtown secondary network system, however the downtown distribution system does have some unique features, such as sidewalk vaults, which present additional challenges.
73	ibid	Distributor having a significant underground distribution system are to provide a brief description.	Approximately 37% of Hydro Ottawa's distribution system is underground, located primarily in the downtown area and in new subdivisions.
74	ibid	If the distributor is a low density distributor for filing purposes, consider and advise if there is any factor(s) which may lead to the low density generic minimum system result not being reasonably reflective of the specific system's characteristics.	Hydro Ottawa is a high density distributor for filing purposes.
75	7.5.3 Filing Question	Provide and explanation If any distributor suspects its generic minimum system result and/or the generic Peak Load Carrying Capacity (PLCC) adjustment has contributed to an anomalous filing result for a rate classification.	It appears that the generic minimum system and the generic Peak Load Carrying Capacity adjustment has contributed to lower than expected maximum Monthly Fixed Service Charges for the larger rate classifications.

Item	Ref.	Request	Response
76	7.6 Distributor Specific Minimum System	Provide the date of the minimum system study.	N/A
77	ibid	Provide a general description of the methodology used in the minimum system study.	N/A
78	ibid	Provide the definition and size of the “minimum” system assumed in the study.	N/A
79	ibid	Provide the treatment of overhead and underground assets in the study.	N/A
80	ibid	Provide the treatment of any large urban network systems in the study.	N/A
81	ibid	Where the distributor amalgamated with another distribution company since the original minimum system study was completed, has the study been updated to reflect the amalgamation?	N/A
82	ibid	Provide the PLCC methodology followed and size of adjustment proposed in the study.	N/A
83	ibid	Provide a discussion of the materiality of the difference in filing results from use of the generic minimum system figures versus the distributor specific study.	N/A
84	7.7.2 Filing Questions	Estimate the number of individually metered Residential customers who reside in multi-unit dwellings and the number of distributor connection points which supply the multi-unit complexes.	Hydro Ottawa has approximately 60,000 individually metered residential customers who reside in multi-unit complexes representing 4,500 connection points.

Item	Ref.	Request	Response
85	ibid	Estimate the number of individually metered General Service customers that are located in multi-unit complexes and the number of distributor connection points which supply the multi-unit complexes.	Hydro Ottawa has approximately 13,200 individually metered General Service customers who reside in 3,090 multi-unit complexes representing connection points.
86	ibid	Estimate the number of individually metered mixed use customers (i.e. Residential and General Service).	Hydro Ottawa is not able to estimate the number of individually metered mixed use customers.
87	ibid	Estimate how many of the multi-unit connection points are at primary voltages and how many at secondary voltages for both residential and general service complexes.	It would be expected that all multi-unit connection points would be at primary voltages for residential and general service complexes.
88	8.1 Allocation of Demand Related Factors	Provide an estimation of "non-technical" energy losses (e.g. theft of power, billing accruals, metering problems) as a percentage of energy purchased	Hydro Ottawa has not done a detailed study of "non-technical" energy losses. Based on industry standards it is estimated that "non-technical" losses represent 0.6% of total losses on average. This would vary from year to year based on estimates required to match time periods between purchased kWhs and sold kWhs.
89	ibid	Provide an estimation of technical distribution system energy losses as a percentage of energy purchased. The sum of technical and non-technical losses is the total measure of distribution losses.	Based on "non-technical" losses representing 0.6% of total losses; in 2005 technical losses would represent 2.54% of purchases.
90	ibid	Provide an estimation of the technical line losses broken out according to the > 50 kV assets	Of the 2.54% technical losses, approximately 0.48% are attributable to > 50 kV assets
91	ibid	Provide an estimation of the technical line losses broken out according to the bulk assets	N/A

Item	Ref.	Request	Response
92	ibid	Provide an estimation of the technical line losses broken out according to the primary assets	Of the 2.54% technical losses, approximately 1.60% are attributable to primary assets
93	ibid	Provide an estimation of the technical line losses broken out according to the secondary assets	Of the 2.54% technical losses, approximately 0.46% are attributable to secondary assets.
94	ibid	If the 12 NCP is used in RUN 3, provide supporting justification based on the cost characteristics of the distribution system.	N/A
95	ibid	If the 12 NCP is used in RUN 3, highlight the impacts of the different NCP allocator used in Runs 1 and 2, versus Run 3.	N/A
96	9.3.1 Billing Activities	If better information to allocate costs associated with billing activities was used, provide an explanation and support of the alternative allocation methodology.	Default Weightings for Billing Activities, as provided in Appendix 9.1, were used.
97	ibid	Identify what accounts include the expenses associated with the Call Centre and indicate the percentage in each account	The expenses associated with the Call Centre are included in Account 5410 Community Relations. Approximately 56% of this account is directly associated with the Call Centre.
98	ibid	Identify what accounts include the expenses associated with the Customer Information System and indicate the percentage in each account.	The expenses associated with the Customer Information System (CIS) are included in Account 5315 Customer Billing. Approximately 46% of this account is associated with the CIS
99	ibid	Identify what accounts include the expenses associated with the Key Accounts and indicate the percentage in each account.	The expenses associated with the Key Accounts are included in Account 5510 Demonstrating & Selling Expenses. Approximately 15% of this account is associated with Key Accounts.
100	ibid	Identify what accounts include the expenses associated with the Payment Processing and indicate the percentage in each account.	The expenses associated with Payment Processing are included in Account 5615 General Administrative Salaries and Expenses and represents approximately 13% of this account.

Item	Ref.	Request	Response
101	2.3.2 Meter Capital	Provide an explanation and supporting detail when distributor-specific information is used in the model in lieu of the default weighting provided.	Hydro Ottawa used its actual installed meter costs in lieu of the default weightings provided for the following meter types: Single Phase 200 Amp-Urban: $88, Single Phase 200 Amp-Rural $164, Smart Meter-residential: $134, Smart Meter-commercial: $571, 3 phase-no demand: $381, Demand without IT:$ 381, Demand with IT: $3,000. Note that the Smart Meter costs are expected to increase once installation of 'inside' meters begins.
102	9.3.3 Meter Reading	Provide documentation where materially better information exists for meter reading costs.	Hydro Ottawa used actual contractor meter reading costs to develop Meter Reading Factors
103	9.3.4 Services	Provide supporting information where actual cost factors are materially better than the defaults.	Hydro Ottawa has used the default weighting factors for services
104	ibid	If there are no costs in Account 1855, explain why.	N/A
105	ibid	Services (Account 1855): What facilities are included in this account?	All secondary assets are included in Account 1855. In addition, some of the labour related to designing the distribution system has been included.
106		Services (Account 1855): Do these facilities match the definition in the USoA?	Yes, except for the design time identified above.
107	ibid	Services (Account 1855): If the accounting treatment is different than described in the USoA, explain the accounting treatment of this account and estimate the impact on the account.	The impact of the minor difference explained above is minimal.
108	ibid	Services (Account 1855): Does this account capture the service drops for all customers or only the costs of service drops operated at secondary voltage (<750 volts)?	Account 1855 captures all service drops operated at secondary voltage (<750 volts).

Item	Ref.	Request	Response
109	ibid	Services (Account 1855): Are there any distributor-owned service drops to customers served from primary or bulk facilities and, if so, where are the costs of these facilities reported?	There are no Hydro Ottawa owned service drops to customers served from primary facilities.
110	ibid	Services (Account 1855): If there are distributor owned primary or bulk drops, but not recorded in this account, where are the costs of these facilities reported?	N/A
111	10.2 General Plant	Provide supporting explanation and documentation of the detailed analysis used for the allocation of General Plant, if the default is not used.	Default allocation for General Plant is used.
112	10.6 Bad Debt Expenses	Highlight and discuss any excluded extraordinary bad debt.	No extraordinary bad debt has been excluded. The forecast for bad debts in 2006 was significantly lower than historical trends. 2006 actual bad debts are closer to historical trends and therefore higher than forecasted.
113	10.7.3 Late Payment Charges and Collection Expenses	Indicate whether the records are available to break out collection costs (Accounts #5320, #5325 and #5330) by rate classification.	No, records are not available to break out collection costs by rate classification.
114	11.1 Embedded Distributor	Address any special situation that arises for a host distributor serving several embedded distributors.	N/A
115	ibid	If a host distributor models an alternative in Run3, justify the need.	N/A
116	11.1.2 Methodology for Embedded Distributors	Discuss reasons if a host distributor believes the results of the cost allocation study do not warrant creating (or maintaining) a separate rate classification for embedded distributor(s).	N/A

Item	Ref.	Request	Response
117	11.2 Density-Based Classifications	Include more detailed analysis with rationale to support the different allocation of costs to the various density classifications if a distributor plans to maintain density rates in the future.	N/A
118	ibid	Provide a rationale for the density threshold used for the rate classification, if a distributor intends to maintain its density-based rates.	N/A
119	11.3.2 Seasonal Rate Classification	Provide a supporting justification for applying 12 NCP in Run 3 based on the cost characteristics of the system.	N/A
120	11.4.1 USL	As a distributor, is there summary billing for USL customers?	Hydro Ottawa allows USL customers to have multiple connections on one account.
121	ibid	If the distributor provides summary billing for customer classifications other than USL provide number of customers by classification and number of customer “sub-accounts” that the summary bills include.	Hydro Ottawa does not provide summary billing for customer classifications other than USL.
122	ibid	Provide the estimated cost of making summary bills available and the overall savings (i.e. savings on extra costs) realized by the distributor.	Hydro Ottawa has not done a cost/benefit analysis of providing summary bills.
123	11.5.3 LDG Run 1	Any concerns as to the stability of customer usage is to be noted.	There are no concerns with respect to the stability of customer usage for LDGs in Run 1.
124	11.5.4 LDG Run 2	Explain why there is no detailed information on the LDG's rated capacity.	N/A
125	11.5.5 LDG Run 2 & Run 3	Discuss the reliability of load data for LDG's modeled separately.	The load data for LDGs modeled separately in Run 2 is the actual from 2005.

Item	Ref.	Request	Response
126	ibid	Provide the number of customers in LDG rate classification by the rate classifications to which the customers were previously assigned before they were placed in a separate classification.	GS > 50 kW < 1500 kW - 3 customers; GS > 1500 kW < 5000 kW - 3 customers; Large Use - 1 customer
127	ibid	Identify and explain any additional significant benefits or costs used in Run 3.	N/A
128	11.5.5 Filing Questions	If a distributor has an approved administrative charge in respect of standby rates, then it is to explain the basis and components of this charge.	The approved administrative charge of $95/month was calculated based on one hour per month of work to determine, bill and monitor Billed Backup Demands and Backup Overrun Adjustments.
129	ibid	If the distributor incurs other extraordinary costs to provide service to a load displacement generator, how will these extraordinary costs be recovered?	If other extraordinary costs are incurred to provide service to a load displacement generator, Hydro Ottawa would expect the customer to pay directly for them.
130	ibid	Where a distributor with a currently approved standby rate (including interim standby rate) cannot presently quantify any additional benefits and/or costs after reviewing Appendix 11.1, then the distributor is to outline the elements that could be included in any future study designed to document the distribution benefits and costs from load displacement facilities, or indicate any other means by which it could estimate such distribution benefits and costs.	A future study designed to document the distribution benefits and costs from load displacement facilities would need to include a detailed engineering analysis of the effect on the distribution system of each individual load displacement generation customer.
131	11.5.8 Merchant Generation	Discuss the need to support the load requirement of the merchant generation station and to provide whatever power is required to start the merchant generator.	N/A

Item	Ref.	Request	Response
132	11.5.8 Merchant Generation - Specific Distributor	Discuss the general approach used (e.g. whether a fully separate rate classification was established), which differs from what is approved in the present Report.	Hydro Ottawa does not have approved Merchant Generation rates.
133	ibid	Document supporting accounting which differs from what is approved in the present Report.	N/A
134	ibid	Document supporting load data which differs from what is approved in the present Report.	N/A
135	ibid	Explicitly identify and justify if any cost allocation method was utilized which differs from what is approved in the present Report.	N/A
136	11.5.9 Hybrid Facilities	Discuss the general approach used (e.g. whether a fully separate rate classification was established), which differs from what is approved in the present Report.	N/A
137	ibid	Document supporting accounting which differs from what is approved in the present Report.	N/A
138	ibid	Document supporting load data which differs from what is approved in the present Report.	N/A

Item	Ref.	Request	Response
139	ibid	Explicitly identify and justify if any cost allocation method was utilized which differs from what is approved in the present Report.	N/A
140	11.6 Other Specialized Rate Classes	If any changes or additions are made to the cost allocation methodology applied to specialized rates by the distributor, the alternative method followed is to be explained and justified (and supporting information provided in the filing).	N/A
141	ibid	Provide an explanation on considering eliminating a distributor specific rate classification in the future.	N/A
142	12.3 Wholesale Market Participants	Provide the number of customers and delivery points, annual kWhs, and kWs (if applicable) by rate classification for those customers that are wholesale market participants.	N/A
143	ibid	Identify the additional cost items and estimate the incremental cost amounts if there are any other additional costs of providing service to customers who are wholesale market participants, over and above the costs associated with a comparable customer who is not a wholesale market participant?	N/A
144	ibid	Identify the avoided cost items and estimate the value of any costs that are avoided in providing service to customers who are wholesale market participants?	N/A

Item	Ref.	Request	Response
145	10.6.1 Bad Debt	Express any concerns that might exist from the normalization of bad debt.	Allocating bad debt expenses to specific customer rate classifications based on their respective contribution to historical (3 year) write-offs is appropriate. Note that for Hydro Ottawa the forecast for bad debts in 2006 was significantly lower than historical trends. 2006 actual bad debts are closer to historical trends and therefore higher than forecasted.
146	11.2.2 Density Based Rates	The distributor must identify and explain those costs that are influenced by density such as lines, poles and possibly line transformers.	N/A
147	11.2.2 Density Based Rates	For the costs that have been identified in 146, the distributor should weight the allocation factors used to allocate the cost to the various rate classifications by a density factor and explain.	N/A
148	11.5.3 LDG	Provide details on how to co-ordinate the collection of the revenue requirement with the provision of an appropriate level of a new LDG credit or charge if implementation of a credit or charge proceeds.	Should the Board proceed with the implementation of a credit or charge for LDG customers, the resulting offsetting amount could be collected from all other customer groups (including the class(es) that the LDG customer is in).
149	ibid	If in Run 3, multiple LDG rates are modeled, then discuss the reliability of the load data for each LDG class	N/A

Item	Ref.	Request	Response
150	12.2.1 Substation and secondary transformer Ownership.	Concern was expressed about the potential for anomalous appearing results. Highlight any specific concerns that do materialize.	The line transformer allowance as calculated is based on the forecast of transformer operations and maintenance costs for the test year. For Hydro Ottawa, this forecast is higher than normal due to an increased emphasis on transformer oil testing and a projected increase in transformers requiring repair due to a comprehensive transformer inspection program. A more appropriate calculation for this rate would examine the costs over several years to normalize these maintenance expenses. There is also the question of whether the cost to operate and maintain the utility owned transformers is representative of the avoided costs, as the customer owned transformers tend to be larger in size. Collection of the transformer ownership credit is allocated to the customers that don't own their own transformers. A more appropriate approach would be to allocate this revenue recovery across all customers.
151	1.7 Model Runs	Explain any changes to the standard model during Run 1 or Run 2 (for example, where the methodology adopted in this Report does not cover some unique circumstance).	Hydro Ottawa has only made corrections to the model in order to ensure that it matches the Board approved methodology. The changes are listed in Section 1.3 of the Manager's Summary.
152	1.6 Filing Model	If a distributor finds it necessary to supplement or adjust the Board-approved methodology, a full explanation must be provided.	Hydro Ottawa has not made any adjustments to the Board approved methodology.

EXISTING RATE SCHEDULE

Hydro Ottawa's current Tariff of Rates and Charges for the 2007 rate year is attached. It was approved by the Board on April 12, 2007.

Hydro Ottawa Limited
TARIFF OF RATES AND CHARGES
Effective May 1, 2007

This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors

EB-2007-0544

APPLICATION

- The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Codes, Guidelines or Orders 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, Guideline or Order of the Board, and amendments thereto as approved by the Board, or as specified herein.
- This schedule does not contain any rates and charges relating to the electricity commodity (e.g. the Regulated Price Plan).

EFFECTIVE DATES

DISTRIBUTION RATES - May 1, 2007 for all consumption or deemed consumption services used on or after that date.
SPECIFIC SERVICE CHARGES - May 1, 2007 for all charges incurred by customers on or after that date.
LOSS FACTOR ADJUSTMENT – May 1, 2007 unless the distributor is not capable of prorating changed loss factors jointly with distribution rates. In that case, the revised loss factors will be implemented upon the first subsequent billing for each billing cycle.

SERVICE CLASSIFICATIONS

Residential
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.

General Service Less Than 50 kW
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.

General Service 50 to 1,499 kW
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.

General Service 1,500 to 4,999 kW
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.

Large Use
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.

Unmetered Scattered Load
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.

Standby Power
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.

Sentinel Lighting
This classification refers to accounts that are an unmetered lighting load supplied to a sentinel light.

Hydro Ottawa Limited
TARIFF OF RATES AND CHARGES
Effective May 1, 2007

This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors

EB-2007-0544

Street Lighting

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.

MONTHLY RATES AND CHARGES

Residential

Service Charge	$	9.24
Distribution Volumetric Rate	$/kWh	0.0183
Regulatory Asset Recovery	$/kWh	0.0013
Retail Transmission Rate – Network Service Rate	$/kWh	0.0057
Retail Transmission Rate – Line and Transformation Connection Service Rate	$/kWh	0.0038
Wholesale Market Service Rate	$/kWh	0.0052
Rural Rate Protection Charge	$/kWh	0.0010
Standard Supply Service – Administrative Charge (if applicable)	$	0.25

General Service Less Than 50 kW

Service Charge	$	10.30
Distribution Volumetric Rate	$/kWh	0.0180
Regulatory Asset Recovery	$/kWh	0.0010
Retail Transmission Rate – Network Service Rate	$/kWh	0.0052
Retail Transmission Rate – Line and Transformation Connection Service Rate	$/kWh	0.0035
Wholesale Market Service Rate	$/kWh	0.0052
Rural Rate Protection Charge	$/kWh	0.0010
Standard Supply Service – Administrative Charge (if applicable)	$	0.25

General Service 50 to 1,499 kW

Service Charge	$	249.13
Distribution Volumetric Rate	$/kW	2.5463
Regulatory Asset Recovery	$/kW	0.6098
Retail Transmission Rate – Network Service Rate	$/kW	2.1676
Retail Transmission Rate – Line and Transformation Connection Service Rate	$/kW	1.4373
Wholesale Market Service Rate	$/kWh	0.0052
Rural Rate Protection Charge	$/kWh	0.0010
Standard Supply Service – Administrative Charge (if applicable)	$	0.25

General Service 1,500 to 4,999 kW

Service Charge	$	3,979.63
Distribution Volumetric Rate	$/kW	2.3357
Regulatory Asset Recovery	$/kW	(0.3146)
Retail Transmission Rate – Network Service Rate	$/kW	2.2508
Retail Transmission Rate – Line and Transformation Connection Service Rate	$/kW	1.5360
Wholesale Market Service Rate	$/kWh	0.0052
Rural Rate Protection Charge	$/kWh	0.0010
Standard Supply Service – Administrative Charge (if applicable)	$	0.25

Hydro Ottawa Limited
TARIFF OF RATES AND CHARGES
Effective May 1, 2007

This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors

EB-2007-0544

Large Use

Service Charge	$	14,448.42
Distribution Volumetric Rate	$/kW	2.5918
Regulatory Asset Recovery	$/kW	(0.4299)
Retail Transmission Rate – Network Service Rate	$/kW	2.4952
Retail Transmission Rate – Line and Transformation Connection Service Rate	$/kW	1.7297
Wholesale Market Service Rate	$/kWh	0.0052
Rural Rate Protection Charge	$/kWh	0.0010
Standard Supply Service – Administrative Charge (if applicable)	$	0.25

Unmetered Scattered Load

Service Charge (per connection)	$	4.28
Distribution Volumetric Rate	$/kWh	0.0191
Regulatory Asset Recovery	$/kWh	0.0008
Retail Transmission Rate – Network Service Rate	$/kWh	0.0052
Retail Transmission Rate – Line and Transformation Connection Service Rate	$/kWh	0.0035
Wholesale Market Service Rate	$/kWh	0.0052
Rural Rate Protection Charge	$/kWh	0.0010
Standard Supply Service – Administrative Charge (if applicable)	$	0.25

Standby Power – APPROVED ON AN INTERIM BASIS

Service Charge	$	95.41
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	1.2732
General Service 1,500 to 4,999 kW customer	$/kW	1.1679
General Service Large Use customer	$/kW	1.2960

Sentinel Lighting

Service Charge (per connection)	$	1.68
Distribution Volumetric Rate	$/kW	6.3974
Regulatory Asset Recovery	$/kW	(0.6224)
Retail Transmission Rate – Network Service Rate	$/kW	1.6083
Retail Transmission Rate – Line and Transformation Connection Service Rate	$/kW	1.0900
Wholesale Market Service Rate	$/kWh	0.0052
Rural Rate Protection Charge	$/kWh	0.0010
Standard Supply Service – Administrative Charge (if applicable)	$	0.25

Street Lighting

Service Charge (per connection)	$	0.32
Distribution Volumetric Rate	$/kW	2.4671
Regulatory Asset Recovery	$/kW	(0.3882)
Retail Transmission Rate – Network Service Rate	$/kW	1.6002
Retail Transmission Rate – Line and Transformation Connection Service Rate	$/kW	1.0677
Wholesale Market Service Rate	$/kWh	0.0052
Rural Rate Protection Charge	$/kWh	0.0010
Standard Supply Service – Administrative Charge (if applicable)	$	0.25

Hydro Ottawa Limited
TARIFF OF RATES AND CHARGES
Effective May 1, 2007

This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors

EB-2007-0544

Specific Service Charges

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
Returned Cheque (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	
Allowances		
Transformer Allowance for Ownership - per kW of billing demand/month	$/kW	(0.45)
Primary Metering Allowance for transformer losses – applied to measured demand and energy	%	(1.00)

LOSS FACTORS

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 May 1, 2007

This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors

EB-2007-0544

Dry Core Transformer Losses

Transformers	No Load Loss (W)	Load Loss (W)	Monthly No Load Loss (kW)	Monthly No Load Loss (kWH)	Monthly No Load Loss (kW)	Monthly No Load Loss (kWH)	Monthly Total Loss (kW)	Monthly Total Loss (kWH)	Cost of Transmission (per kW)	Cost of Energy and Wholesale Market (per kWh)	Total Monthly cost of power	Cost of Distribution (per kW)
Rates									$2.60	$0.0642	na	$2.61
25 KVA 1 PH	150	900	0.113	82	0.480	9	0.161	91	$0.42	$5.84	$6.26	$0.42
37.5 KVA 1 PH	200	1200	0.150	110	0.064	12	0.214	121	$0.56	$7.77	$8.33	$0.56
50 KVA 1 PH	250	1600	0.188	137	0.086	16	0.273	152	$0.71	$9.76	$10.47	$0.71
75 KVA 1 PH	350	1900	0.263	192	0.102	18	0.364	210	$0.95	$13.48	$14.43	$0.95
100 KVA 1 PH	400	2600	0.300	219	0.139	25	0.439	244	$1.15	$15.66	$16.81	$1.15
150 KVA 1 PH	525	3500	0.394	287	0.187	34	0.581	321	$1.52	$20.61	$22.12	$1.52
167 KVA 1 PH	650	4400	0.488	356	0.236	43	0.723	399	$1.89	$25.62	$27.50	$1.89
200 KVA 1 PH	696	4700	0.522	381	0.252	46	0.774	427	$2.02	$27.41	$29.43	$2.02
225 KVA 1 PH	748	5050	0.561	410	0.270	49	0.831	459	$2.17	$29.47	$31.64	$2.17
250 KVA 1 PH	800	5400	0.600	438	0.289	53	0.889	491	$2.32	$31.52	$33.84	$2.32
*15 KVA 3 PH	125	650	0.094	68	0.035	6	0.129	75	$0.34	$4.82	$5.15	$0.34
*45 KVA 3 PH	300	1800	0.225	164	0.096	8	0.321	182	$0.84	$11.68	$12.52	$0.84
*75 KVA 3 PH	400	2400	0.300	219	0.129	23	0.429	242	$1.12	$15.54	$16.66	$1.12
*112.5 KVA 3 PH	600	3400	0.450	329	0.182	33	0.632	362	$1.65	$23.24	$24.89	$1.65
*150 KVA 3 PH	700	4500	0.525	383	0.241	44	0.766	427	$2.00	$27.41	$29.41	$2.00
*225 KVA 3 PH	900	5300	0.675	493	0.284	52	0.959	544	$2.50	$34.92	$37.43	$2.50
*300 KVA 3 PH	1100	6300	0.825	602	0.337	61	1.162	664	$3.03	$42.63	$45.66	$3.03
*500 KVA 3 PH	1500	9700	1.125	821	0.519	94	1.644	916	$4.29	$58.81	$63.10	$4.29
*750 KVA 3 PH	2100	12000	1.575	1150	0.643	117	2.218	1267	$5.79	$81.34	$87.13	$5.79

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

CALCULATION OF REVENUE PER RATE CLASS

Hydro Ottawa is requesting approval of a Base Revenue Requirement of $147,951k and Transformer Ownership Credit of $1,159k for total revenue for distribution rates of $149,110k. It is proposed that this revenue be collected from the customer classes in the same percentage as the current rates, which are based on the class allocators from the 2006 EDR Model, Sheet 7-1. Table 1 provides the calculation of revenue per rate class using the proposed rates and the forecasted 2008 load and customers/connections.

Table 1 – Revenue per Rate Class

Class	Proposed 2008 Revenue for Distribution Rates $000	%
Residential	$78,169	52.42
General Service < 50 kW	19,601	13.15
General Service > 50 kW < 1500 kW	34,364	23.05
General Service > 1500 kW < 5000 kW	9,600	6.44
Large Use	5,935	3.98
Unmetered Scattered Load	658	0.44
Sentinel Lighting	4	0.003
Street Lighting	537	0.36
Standby > 50 kW < 1500 kW	27	0.02
Standby > 1500 kW < 5000 kW	211	0.14
Standby Large Use	9	0.01
TOTAL[1]	$149,115	100.00

[1] Total does not equal revenue requirement due to rounding of rates.

RATE DESIGN

1.0 INTRODUCTION

This exhibit explains how the proposed rates have been designed in order to collect the requested revenue requirement in 2008. A Distribution Rate schedule for 2007 rates is provided in Exhibit I1-1-1. Exhibit I1-6-1 contains the proposed Tariff of Rates and Charges for the 2008 rate year and Exhibit I1-7-1 contains tables showing the bill impacts for typical customers and for each customer class as a whole.

Hydro Ottawa has determined the proposed 2008 rates by multiplying both the 2007 approved Monthly Service Charge (net of the Smart Meter adder, if applicable) and the Distribution Volumetric Rate by the identified revenue deficiency of 20.33%[1]. A modified version of the 2006 EDR Model was used for this purpose; a copy of which is attached. The results are shown in Tables 1 and 2.

Table 1 – Service Charge

	2007 $/month	Minus Smart Meter Adder of $1.74 $/month (if applicable)	2008 $/month
Residential	9.24	7.50	9.02
General Service < 50 kW	10.30	8.56	10.30
General Service > 50 kW < 1500 kW	249.13	247.39	297.69
General Service > 1500 kW	3,979.63	3,977.89	4,786.70
Large Use	14,448.82	14,446.68	17,384.06
Unmetered Scattered Load	4.28	4.28	5.15
Sentinel Lights	1.68	1.68	2.02
Street Lights	0.32	0.32	0.39
Standby > 50 kW < 1500 kW	95.41	95.41	114.81
Standby > 1500 kW	95.41	95.41	114.81
Standby Large Use	95.41	95.41	114.81

[1] In the 2008 EDR Model, the rates are calculated using the full precision revenue deficiency/sufficiency percentage, which is slightly higher.

Table 2 – Distribution Volumetric Rate

	2007 $/kWh or $/kW	2008 $/kWh or $/kW
Residential	0.0183	0.0220
General Service < 50 kW	0.0180	0.0217
General Service > 50 kW < 1500 kW	2.5463	3.0640
General Service > 1500 kW	2.3357	2.8106
Large Use	2.5918	3.1188
Unmetered Scattered Load	0.0191	0.0230
Sentinel Lights	6.3974	7.6982
Street Lights	2.4671	2.9687
Standby > 50 kW < 1500 kW	1.2732	1.5321
Standby > 1500 kW	1.1679	1.4054
Standby Large Use	1.2960	1.5595

As discussed in Exhibit H1-1-1, Hydro Ottawa has not made any adjustments to the rates as a result of the cost allocation study.

2.0 STANDBY RATES

Hydro Ottawa’s Standby Rates are currently approved on an interim basis. The Board is in the process of reviewing rates for load displacement and distributed generation through EB-2007-0630. As a result, Hydro Ottawa understands that the proposed Standby Rates for 2008 would also be approved on an interim basis.

HYDRO OTTAWA LIMITED

2008 ELECTRICITY DISTRIBUTION RATES

Name of Utility:	Hydro Ottawa Limited		
License Number:	ED-2002-0556		
File Number:	EB-2007-0713		
Name of Contact:	Jane Scott		
Phone Number:	(613) 738-5499	Ext:	7499
E-Mail Address:	janescott@hydroottawa.com		
Date:	18-Sep-07		
Version Number:	V1		

Name of Utility:	Hydro Ottawa Limited
License Number:	ED-2002-0556
File Numbers:	EB-2007-0713
Name of Contact:	Jane Scott (613) 738-5499

DISTRIBUTION ASSETS:

	2006	2007	2008
Land and Buildings	12,372,655	13,715,453	19,809,283
TS Primary Above 50	29,989,685	38,428,956	49,085,698
DS	42,135,412	45,149,879	49,257,812
Poles, Wires	446,274,970	478,239,187	502,245,020
Line Transformers	131,094,322	142,336,008	149,122,643
Services and Meters	133,592,598	158,410,401	177,382,348
General Plant	45,576,963	48,647,469	50,876,752
Equipment	35,500,764	40,256,682	43,304,290
IT Assets	65,097,357	73,955,843	77,847,617
CDM Assets	0	0	0
Other Distribution Assets	11,454,290	13,908,585	15,001,701
Contributions and Grants	(91,709,862)	(107,514,492)	(122,767,467)
TOTAL DISTRIBUTION ASSETS	**861,379,155**	**945,533,969**	**1,011,165,697**

NET FIXED DISTRIBUTION ASSETS:

	2006	2007	2008
Total Distribution Assets (as above) - LESS:			
Accumulated Amortization	(429,949,862)	(467,441,287)	(511,195,196)
NET FIXED DISTRIBUTION ASSETS	**431,429,292**	**478,092,683**	**499,970,501**

Name of Utility:	Hydro Ottawa Limited	
License Number:	ED-2002-0556	
File Numbers:	EB-2007-0713	
Name of Contact:	Jane Scott	Phone Number: (613) 738-5499

2-4 FINANCIAL INFORMATION

DISTRIBUTION ASSETS:

Land and Buildings	16,762,368
TS Primary Above 50	43,757,327
DS	47,203,845
Poles, Wires	490,242,103
Line Transformers	145,729,325
Services and Meters	167,896,374
General Plant	49,762,110
Equipment	41,780,486
IT Assets	75,901,730
CDM Assets	0
Other Distribution Assets	14,455,143
Contributions and Grants	(115,140,980)
TOTAL DISTRIBUTION ASSETS	**978,349,833**

NET FIXED DISTRIBUTION ASSETS:

Total Distribution Assets (as above) - LESS:	
Accumulated Amortization	(489,318,241)
NET FIXED DISTRIBUTION ASSETS	**489,031,592**

NET SALES REVENUE

Sales of Electricity	(0)
Power Supply Expenses	558,894,683
SALES OF ELECTRICITY NET OF COST OF POWER	558,894,683

DISTRIBUTION REVENUE

Distribution Services Revenue	(0)
Late Payment Charges	(1,600,000)
Specific Service Charges	(2,956,045)
Other Distribution Revenue	(341,400)
TOTAL DISTRIBUTION REVENUE	**(4,897,445)**

DISTRIBUTION EXPENSES (before PILS):

Operation	14,562,448
Maintenance	5,111,153
Billing and Collection	9,716,811
Community Relations	4,515,270
Community Relations - CDM	(0)
Smart Meter Expenses	740,018
Administrative and General Expenses	20,313,829
Insurance Expense	325,692
Bad Debt Expense	2,000,008
Advertising Expenses	(0)
Charitable Contributions	40,000
Amortization of Assets	43,753,909
Other Distribution Expenses	2,002,832
TOTAL DISTRIBUTION EXPENSES (before PILs)	**103,081,970**

WORKING CAPITAL CALCULATION

Cost of Power	
Power Supply Expenses	558,894,683
TOTAL COST OF POWER	558,894,683
Expenses	
Operation	14,562,448
Maintenance	5,111,153
Billing and Collection	9,716,811
Community Relations	4,515,270
Community Relations - CDM	(0)
Smart Meter Expenses	740,018
Administrative and General Expenses	20,313,829
Insurance Expense	325,692
Bad Debt Expense	2,000,008
Advertising Expenses	(0)
Charitable Contributions	40,000
Other Distribution Expenses	2,002,832
TOTAL EXPENSES	59,328,061
TOTAL FOR WORKING CAPITAL CALCULATION	**618,222,744**

Name of Utility:	Hydro Ottawa Limited
License Number:	ED-2002-0556
File Numbers:	EB-2007-0713
Name of Contact:	Jane Scott Phone Number: (613) 738-5499

3-1 RATE BASE

Net Fixed Assets		**489,031,592**
Working Capital Allowance		
Working Capital *(from Sheet 2-4)*	618,222,744	
Working Capital Allowance @ 15%	92,733,412	**92,733,412**
RATE BASE		**581,765,003**

Name of Utility:	Hydro Ottawa Limited
License Number:	ED-2002-0556
File Numbers:	EB-2007-0713
Name of Contact:	Jane Scott Phone Number: (613) 738-5499

3-2 COST OF CAPITAL (Input)

Cost of Capital

Deemed Debt Rate and D/E Structures

Rate Base: (from Sheet *Ratebase Calc.*)	**$581,765,003**
Debt Long-term Rate	**5.26%**
Deemed Long-term Deb	**56%**
Debt Short-term Rate	**4.93%**
Deemed Short-term Deb	**4%**
Deemed Equity	**40%**

Debt Rate (DR)

Deemed or proposed Debt Rate for Revenue Requirement calculation.	**5.26%**

Return on Equity

Utility's	**8.81%**

Cost of Capital

Cost of Capital	**6.67%**

Name of Utility: Hydro Ottawa Limited
License Number: ED-2002-0556
File Numbers: EB-2007-0713
Name of Contact: Jane Scott Phone Number: (613) 738-5499

3-4 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	Promissory Note	Hydo Ottawa Holding Inc.	Y	1-Jul-2005	$ 200,000,000	> 1 year	5.140%	3.643%
2	Promissory Note	Hydo Ottawa Holding Inc.	Y	1-Jul-2005	$ 32,185,000	> 1 year	5.900%	0.673%
3	Promissory Note	Hydo Ottawa Holding Inc.	Y	20-Dec-2006	$ 50,000,000	> 1 year	5.318%	0.942%
Total					$ 282,185,000			
Weighted Average Long-Term Debt Rate							**5.258%**	**5.258%**

Deemed Short-term Debt

Bank of Canada 90 day BA rate V39071 at July 27, 2007	4.680%
Add 25 basis points	0.250%
OEB Deemed Short term rate	**4.930%**

Name of Utility:	Hydro Ottawa Limited
License Number:	ED-2002-0556
File Numbers:	EB-2007-0713
Name of Contact:	Jane Scott

Phone Number: (613) 738-5499

4-1 DATA for PILS MODEL

Item	Source		$
Net Income before consideration of PILS			
Revenue Requirement other than PILS	*Sheet 5-1*		141,861,288
Distribution Expenses other than PILS and interest	*Sheet 2-4*		103,081,970
			38,779,318
Calculated Interest			
Rate Base	*Sheet 3-1*	581,765,003	
x Debt Component	*Sheet 3-2*	56.00%	
x Debt Rate reflected in Revenue Requirement	*Sheet 3-2*	5.26%	18,277,919
x Debt Component		4.00%	
x Debt Rate reflected in Revenue Requirement		4.93%	
Target Net Income before consideration of PILS			**20,501,399**

4-2 OUTPUT from PILS MODEL

	$
PILS Amount from PILS Model	13,675,906

5-1 SERVICE REVENUE REQUIREMENT

	$	$
Rate Base (*from sheet 3-1)*	581,765,003	
x Cost of Capital	6.67%	
Return on Ratebase		**38,779,318**
Distribution Expenses (*from sheet "2-4 ADJUSTED ACCOUNTING DATA"*		**103,081,970**
Revenue Requirement Before Income Taxes		**141,861,288**
Income Taxes - from PILS Model		**13,675,906**
SERVICE REVENUE REQUIREMENT		**155,537,194**

Name of Utility: Hydro Ottawa Limited
License Number: ED-2002-0556
File Numbers: EB-2007-0713
Name of Contact: Jane Scott Phone Number: (613) 738-5499

5-3 OTHER REGULATED CHARGES (Input)

Description		Charge Determinant		Total $	Comments
RETAIL SERVICES REVENUE					
Establishing Service Agreements Distributor-Consolidated Billing Retailer-Consolidated Billing				331,000	account 4082
SERVICE TRANSACTION REQUEST REVENUES				10,400	account 4084
RPP (formerly SSS)ADMINISTRATION CHARGE REVENUE				768,826	account 4080b
DISTRIBUTION WHEELING SERVICE REVENUE					account 4080c, if applicable in 2004
OTHER COMPONENTS OF "OTHER DISTRIBUTION REVENUE"				0	accounts 4090, 4205-4215, 4220, 4240-5
OTHER DISTRIBUTION REVENUE				**1,110,226**	

Name of Utility: Hydro Ottawa Limited
License Number: ED-2002-0556
File Numbers: EB-2007-0713
Name of Contact: Jane Scott
Phone Number: (613) 738-5499

5-5 BASE REVENUE REQUIREMENT

	$	$
Service Revenue Requirement *(from Sheet 5-1)*		**155,537,194**
LESS:		
Revenue Offsets:		
Board Approved Charges		
Specific Service Charges	2,956,045	
Late Payment Charges *(from Sheet 2-4 ADJUSTED ACCOUNTING DATA)*	1,600,000	
Other Distribution Revenue *(from Sheet 5-3)*	1,110,226	
Other Income & Deductions	1,919,869	
TOTAL REVENUE OFFSETS	7,586,140	**7,586,140**
Base Revenue Requirement		**147,951,054**

(defined as SERVICE REVENUE REQUIREMENT NET OF REVENUE OFFSETS)

Name of Utility:	Hydro Ottawa Limited
License Number:	ED-2002-0556
File Numbers:	EB-2007-0713
Name of Contact:	Jane Scott Phone Number: (613) 738-5499

6-1 CUSTOMER CLASSES (Input)

Enter current and proposed customer classes

Customer Classification

Please update: "X" if applicable (delete if not applicable)

Customer Classification		Current	Proposed
RESIDENTIAL			
Regular		X	X
Time of Use			
Urban			
Suburban			
Other (specify)			
Other (specify)			
Other (specify)			
Other (specify)			
Other (specify)			
GENERAL SERVICE			
Less than 50 kW		X	X
Less than 50 kW Time of Use			
Other < 50 kW (specify) .			
Greater than 50 kW < 1500 kW		X	X
Greater than 1500 < 5000 kW		X	X
Other > 50 kW (specify) .			
Other > 50 kW (specify) .			
Other > 50 kW (specify) .			
Intermediate Use	(3000 - 5000 kW)		
Large Use (> 5000 kW)		X	X
Unmetered Scattered Load		X	X
Sentinel Lighting		X	X
Street Lighting		X	X
Standby	**GS > 50 < 1500 kW**	X	X
Standby	**GS > 1500 kW**	X	X
Standby	**Large User (> 5000 kW)**	X	X

Name of Utility: Hydro Ottawa Limited
License Number: ED-2002-0556
File Numbers: EB-2007-0713
Name of Contact: Jane Scott Phone Number: (613) 738-5499

6-2 DEMAND, RATES

	Number of Customers (Connections)			Demand Data - kWh			Demand Data - kW			Volumetric Rate Type
			2008 average			2008			2008	
	#	#	#	kWh	kWh	kWh	kW	kW	kW	
RESIDENTIAL										
Regular			264,080			2,251,011,794				kWh
GENERAL SERVICE										
Less than 50 kW			23,051			773,402,410				kWh
Greater than 50 kW < 1500 kW			3,296			3,114,747,107			7,373,199	kW
Greater than 1500 < 5000 kW			81			835,944,416			1,757,782	kW
Large Use (> 5000 kW)			11			648,616,244			1,167,362	kW
Unmetered Scattered Load			3,115			20,244,150				kWh
Sentinel Lighting			95			92,512			257	kW
Street Lighting			47,219			40,114,500			107,220	kW
Standby GS > 50 < 1500 kW			3						15,000	kW
Standby GS > 1500 kW			5						144,960	kW
Standby Large User (> 5000 kW)			1						4,800	kW
TOTALS	0	0	340,957	0	0	7,684,173,133	0	0	10,570,581	

Total Customers 290519

Name of Utility: Hydro Ottawa Limited
License Number: ED-2002-0556
File Numbers: EB-2007-0713
Name of Contact: Jane Scott Phone Number: (613) 738-5499

6-3 Transformer Ownership

	2006			2007			2008		
	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
Greater than 50 kW < 1500 kW	1,863,496	0.45	838,573.03	1,816,846	0.45	817,580.78	1,843,300	0.45	829,484.89
Greater than 1500 < 5000 kW	444,260	0.45	199,917.10	433,139	0.45	194,912.52	439,446	0.45	197,750.48
Large Use (> 5000 kW)	295,038	0.45	132,767.11	287,652	0.45	129,443.51	291,841	0.45	131,328.23
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 < 1500 kW			0.00			0.00			0.00
Standby GS > 1500 kW			0.00			0.00			0.00
Standby Large User (> 5000 kW)			0.00			0.00			0.00
TOTALS	2,602,794		1,171,257.24	2,537,637		1,141,936.80	2,574,586		**1,158,563.59**

Name of Utility: Hydro Ottawa Limited
License Number: ED-2002-0556
File Numbers: EB-2007-0713
Name of Contact: Jane Scott Phone Number: (613) 738-5499

7-2 ALLOCATION - Low Voltage Costs

Amount allocated on this sheet:--
Low Voltage Wheeling Costs
$1,394,232

	Retail Transmission Connection Rate ($) per KWh	Retail Transmission Connection Rate ($) per kW	Basis for Allocation ($) (rate x volume from 6-2)	Allocation Percentages	Allocated $	Charge Deteminant	Rate per kWh/kW
RESIDENTIAL							
Regular	0.0038		8,553,844.82	31.96%	445,617	2,251,011,794	$0.0002
GENERAL SERVICE							
Less than 50 kW	0.0035		2,706,908.44	10.11%	141,018	773,402,410	$0.0002
Greater than 50 kW < 1500 kW		1.4373	10,597,498.92	39.60%	552,082	7,373,199	$0.0749
Greater than 1500 < 5000 kW		1.5360	2,699,953.77	10.09%	140,655	1,757,782	$0.0800
Large Use (> 5000 kW)		1.7297	2,019,186.79	7.54%	105,191	1,167,362	$0.0901
Unmetered Scattered Load	0.0035		70,854.53	0.26%	3,691	20,244,150	$0.0002
Sentinel Lighting		1.0900	280.13	0.00%	15	257	$0.0568
Street Lighting		1.0677	114,478.72	0.43%	5,964	107,220	$0.0556
Standby GS > 50 < 1500 kW							
Standby GS > 1500 kW							
Standby Large User (> 5000 kW)							
TOTALS			26,763,006.11	100.00%	1,394,232		

Name of Utility: Hydro Ottawa Limited
License Number: ED-2002-0556
File Numbers: EB-2007-0713
Name of Contact: Jane Scott Phone Number: (613) 738-5499

10-1 RATES SCHEDULE (Part 1)

Schedule of Distribution Rates and Charges

Effective May 1, 2007

Customer Class	Item Description	Unit	Rate $
RESIDENTIAL			
	Monthly Service Charge	per month	$9.24
	Distribution Volumetric Rate	per kWh	$0.0183
GENERAL SERVICE			
Less than 50 kW	Monthly Service Charge	per month	$10.30
	Distribution Volumetric Rate	per kWh	$0.0180
GENERAL SERVICE			
Greater than 50 kW < 1500 kW	Monthly Service Charge	per month	$249.13
	Distribution Volumetric Rate	per kW	$2.5463
GENERAL SERVICE			
Greater than 1500 < 5000 kW	Monthly Service Charge	per month	$3,979.63
	Distribution Volumetric Rate	per kW	$2.3357
Large Use (> 5000 kW)			
	Monthly Service Charge	per month	$14,448.42
	Distribution Volumetric Rate	per kW	$2.5918
Unmetered Scattered Load			
	Monthly Service Charge	per month	$4.28
	Distribution Volumetric Rate	per kWh	$0.0191
Sentinel Lighting			
	Monthly Service Charge	per month	$1.68
	Distribution Volumetric Rate	per kW	$6.3974
Street Lighting			
	Monthly Service Charge	per month	$0.32
	Distribution Volumetric Rate	per kW	$2.4671
Standby			
Greater than 50 kW < 1500 kW	Monthly Service Charge	per month	$95.41
	Distribution Volumetric Rate	per kW	$1.2732
Standby			
Greater than 1500 < 5000 kW	Monthly Service Charge	per month	$95.41
	Distribution Volumetric Rate	per kW	$1.1679
Standby			
Large Use (> 5000 kW)	Monthly Service Charge	per month	$95.41
	Distribution Volumetric Rate	per kW	$1.2960

Name of Utility: Hydro Ottawa Limited
License Number: ED-2002-0556
File Numbers: EB-2007-0713
Name of Contact: Jane Scott Phone Number: (613) 738-5499

10-4 Deficiency/Sufficiency Calculation

	Volumes from 6-2			Rates from 10-1			Calculated Revenue
	Number of Customers (Connections)	2008 total kWh	2008 total kW	Rate per kWh ($)	Rate per kW ($)	Fixed Service Charge ($)	Full Precision $
RESIDENTIAL							
Regular	264,080	2,251,011,794	0	0.0183	0.0000	7.50	64,960,716
GENERAL SERVICE							
Less than 50 kW	23,051	773,402,410	0	0.0180	0.0000	8.56	16,289,042
Greater than 50 kW < 1500 kW	3,296	0	7,373,199	0.0000	2.5463	247.39	28,559,146
Greater than 1500 < 5000 kW	81	0	1,757,782	0.0000	2.3357	3,977.89	7,972,161
Large Use (> 5000 kW)	11	648,616,244	1,167,362	0.0000	2.5918	14,446.68	4,932,532
Unmetered Scattered Load	3,115	20,244,150	0	0.0191	0.0000	4.28	546,650
Sentinel Lighting	95	92,512	257	0.0000	6.3974	1.68	3,559
Street Lighting	47,219	40,114,500	107,220	0.0000	2.4671	0.32	445,843
Standby GS > 50 < 1500 kW	3	0	15,000	0.0000	1.2732	95.41	22,533
Standby GS > 1500 kW	5	0	144,960	0.0000	1.1679	95.41	175,023
Standby Large User (> 5000 kW)	1	0	4,800	0.0000	1.2960	95.41	7,366

TOTALS

Revenue Requirement with 2008 Load at 2007 Rates	$123,914,571
2008 Base Revenue Requirement	$147,951,054
Transformer Ownership Credit	$1,158,564
	$149,109,618
Revenue Deficiency	20.33%
Calendar Year Rate Rider	$3,502,724
(Percentage on Variable only)	3.56%
Total Revenue Requirement	152,612,342

10-1 RATES SCHEDULE (Part 1)

Schedule of Distribution Rates and Charges
Effective May 1, 2008

Customer Class	Item Description	Unit	2007	2008	LV	Rate Year Rider
				20.33%		3.56%
RESIDENTIAL						
	Monthly Service Charge	per month	$7.50	$9.02		
	Distribution Volumetric Rate	per kWh	$0.0183	$0.0220	$0.0002	$0.0008
GENERAL SERVICE						
Less than 50 kW	Monthly Service Charge	per month	$8.56	$10.30		
	Distribution Volumetric Rate	per kWh	$0.0180	$0.0217	$0.0002	$0.0008
GENERAL SERVICE						
Greater than 50 kW < 1500 kW	Monthly Service Charge	per month	$247.39	$297.69		
	Distribution Volumetric Rate	per kW	$2.5463	$3.0640	$0.0749	$0.1089
GENERAL SERVICE						
Greater than 1500 < 5000 kW	Monthly Service Charge	per month	$3,977.89	$4,786.70		
	Distribution Volumetric Rate	per kW	$2.3357	$2.8106	$0.0800	$0.0999
Large Use (> 5000 kW)						
	Monthly Service Charge	per month	$14,446.68	$17,384.06		
	Distribution Volumetric Rate	per kW	$2.5918	$3.1188	$0.0901	$0.1109
Unmetered Scattered Load						
	Monthly Service Charge	per month	$4.28	$5.15		
	Distribution Volumetric Rate	per kWh	$0.0191	$0.0230	$0.0002	$0.0008
Sentinel Lighting						
	Monthly Service Charge	per month	$1.68	$2.02		
	Distribution Volumetric Rate	per kW	$6.3974	$7.6982	$0.0568	$0.2737
Street Lighting						
	Monthly Service Charge	per month	$0.32	$0.39		
	Distribution Volumetric Rate	per kW	$2.4671	$2.9687	$0.0556	$0.1056
Standby						
Greater than 50 kW < 1500 kW	Monthly Service Charge	per month	$95.41	$114.81		
	Distribution Volumetric Rate	per kW	$1.2732	$1.5321		$0.0545
Standby						
Greater than 1500 < 5000 kW	Monthly Service Charge	per month	$95.41	$114.81		
	Distribution Volumetric Rate	per kW	$1.1679	$1.4054		$0.0500
Standby						
Large Use (> 5000 kW)	Monthly Service Charge	per month	$95.41	$114.81		
	Distribution Volumetric Rate	per kW	$1.2960	$1.5595		$0.0554

CALENDAR YEAR RATE RIDER

1.0 INTRODUCTION

Hydro Ottawa's fiscal year is the calendar year, as directed by the Board. As a result, all budgets and forecasts are prepared for the calendar year. However, the rates, which will be approved by the Board, will be effective May 1, 2008, resulting in a deficiency in the revenue received in 2008 compared to the revenue requirement. Hydro Ottawa is requesting approval of a rate rider that would compensate the utility for the lost revenue resulting from the difference in the rate year and the calendar year. Section 2.0 outlines the calculation of the proposed rate rider.

2.0 RATE RIDER CALCULATION

Exhibit A3-2-1, Attachment N provides Hydro Ottawa's proforma income statement for 2008. As can be seen, this includes a forecasted distribution revenue of only $139M despite the 2008 Base Revenue Requirement of $148M. This deficiency of $9M is created because of the difference between the fiscal/calendar year and the rate year (May 1, 2008 to April 30, 2009). Hydro Ottawa is seeking approval for a rate rider to recover a portion of this deficiency.

Table 1 outlines the adjustments that Hydro Ottawa has made to its Base Revenue Requirement to determine the revenue deficiency for which recovery will be sought. These adjustments are related to the following:

- Smart Meters

Hydro Ottawa recognizes that Smart Meter costs will continue to be tracked separately and that Smart Meter variance accounts still exist. In addition, Hydro Ottawa's proposed 2008 Service Revenue does not include Smart Meter OM&A

costs for January 1, 2008 to April 30, 2008 since this is part of the 2007 rate year for which the 2007 Smart Meter rate adder will still apply. An adjustment is therefore made to remove the incremental amounts related to Smart Meters.

- Recovery of Stranded Meters

As discussed in Exhibit D3-1-1, Hydro Ottawa has proposed that stranded meter costs be recovered over a four-year period ending April 30, 2012, and that there will be a final reconciliation to ensure that there is no residual balance. Therefore, an adjustment has been made to remove the recovery costs for stranded meters.

- Workforce Management / Apprentices

Hydro Ottawa plans to continue to expand its apprenticeship program in 2008 as discussed in Exhibit D1-5-2. The plan is to commence the recruitment in the fall of 2007 with the apprentices hired at the beginning of 2008. However, given the material impact of these additions on Hydro Ottawa's costs, it is possible that Hydro Ottawa will delay the actual job offers until Board approval to recover the costs has been received. For this reason, Hydro Ottawa has backed out these costs from the determination of the revenue deficiency caused by the rate year.

Table 1 – Revenue Deficiency

	2008 Rate Year	2008 Calendar Year	Revenue Deficiency
Base Revenue Requirement	$147,951,054		
Smart Meters	(5,983,684)		
Accelerated Depreciation	(6,199,873)		
Apprentices	(1,579,481)		
	$134,188,016	$130,685,292	$3,502,724

In order to minimize the impact on the bills of customers with small consumption, a rate rider on the distribution volumetric rate is preferable. There are two options for recouping this revenue deficiency; request approval of a rate rider to be applied to the present approved 2007 rates for the period January 1, 2008 to April 30, 2008, or to request approval of a rate rider to be applied to the 2008 rates for the period May 1, 2008 to April 30, 2009. Hydro Ottawa does not wish to revise rates for the Deficiency Period between January 1, 2008 and April 30, 2008, therefore is proposing that:

1. the current approved 2007 rates be declared interim effective January 1, 2008,

2. the 2007 rates be subsequently declared final for the Deficiency Period with approval for recovery through class-specific rate riders of the resultant revenue deficiency,

3. the class-specific rate rider from Table 2 be implemented effective May 1, 2008 for the 2008 rate year.

Table 2 – Rate Riders for May 1, 2008 to April 30, 2009

Class		Rider
Residential	per kWh	$0.0008
General Service < 50 kW	per kWh	$0.0008
General Service > 50 kW < 1500 kW	per kW	$0.1089
General Service > 1500 kW < 5000 kW	per kW	$0.0999
Large Use	per kW	$0.1109
Unmetered Scattered Load	per kWh	$0.0008
Sentinel Lighting	per kW	$0.2737
Street Lighting	per kW	$0.1056
Standby > 50 kW < 1500 kW	per kW	$0.0545
Standby > 1500 kW < 5000 kW	per kW	$0.0500
Standby Large Use	per kW	$0.0554

Table 2 presents the rate riders that would be required in order to recoup the 2008 revenue deficiency during the period May 1, 2008 to April 30, 2009. The proposed riders would be limited time specific and would end as of April 30, 2009.

Hydro Ottawa has included the riders shown on Table 2 in the proposed rate schedule in Exhibit I1-6-1.

LOW VOLTAGE CHARGES

1.0 INTRODUCTION

Hydro Ottawa receives low voltage ("LV") charges from Hydro One for a number of Shared Distribution Stations, Specific Lines and Shared Lines. In the 2006 EDR Application, LDCs were directed to include LV charges in Account 5665, which is Miscellaneous General Expenses. Hydro Ottawa followed this direction. The Board's decision dated March 21, 2006 (EB-2005-0529) determined that it was appropriate for an embedded 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 USoA. 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). By using these new accounts instead of Account 5665, LV charges no longer form part of the Base Revenue Requirement for LDCs, but are treated in a similar manner to Transmission rates. Hydro Ottawa has therefore removed the charges from the revenue requirement and is proposing that a separate charge be calculated to recover the LV charges from the customer.

2.0 PROPOSED LV CHARGE FOR 2008

The proposed charge is based on actual costs of $1,394,232 from July 2006 to June 2007 as shown in Table 1. It should be noted that as part of the 2006 EDR Application, Hydro Ottawa significantly underestimated the LV charges that it would incur.

Table 1 – LV Charges July 2006-June 2007

	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Dec-06
HVDS-HIGH	$50,618	$35,917	$27,303	$28,021	$28,582	$30,748
HVDS-LOW	24,642	20,828	17,535	20,034	21,074	24,313
Shared LV Line	5,457	4,901	4,037	4,396	5,747	6,160
Shared LVDS	61,670	48,446	34,732	37,613	40,711	42,762
Specific LV Line	15,400	15,400	15,400	15,400	15,400	11,004
Total	$157,787	$125,492	$99,007	$105,464	$111,514	$114,987

	Jan-07	Feb-07	Mar-07	Apr-07	May-06	Total
HVDS-HIGH	$27,984	$28,736	$23,454	$31,322	$41,349	$384,938
HVDS-LOW	24,158	29,238	20,063	16,866	20,937	$262,779
Shared LV Line	6,260	6,384	4,641	4,414	5,380	$63,412
Shared LVDS	42,291	44,322	33,696	40,224	59,718	$528,986
Specific LV Line	11,004	11,004	11,007	11,046	11,046	$154,117
Total	$111,698	$119,684	$92,861	$103,871	$138,430	$1,394,232

The LV charge has been allocated to the customer classes based on the class percentage of Retail Transmission Connection dollars (using 2007 rates), as shown in Table 2. This is the same methodology for allocation used in the 2006 EDR Model.

Table 2 – Calculation of LV Charge

	Retail Transmission Connection Rate ($) kWh/kW	Basis for Allocation [1]($)	Allocation %	Allocated $	Charge Determinant kWh/kW	Rate kWh/kW
Residential	0.0038	$8,553,845	31.96%	$445,617	2,251,011,794	$0.0002
General Service < 50 kW	0.0035	2,706,908	10.11%	141,018	773,402,410	$0.0002
General Service > 50 kW < 1500 kW	1.4373	10,597,499	39.60%	552,082	7,373,199	$0.0749
General Service > 1500 kW	1.5360	2,699,954	10.09%	140,655	1,757,782	$0.0800
Large Use (> 5000 kW)	1.7297	2,019,187	7.54%	105,191	1,167,362	$0.0901
Unmetered Scattered Load	0.0035	70,855	0.26%	3,691	20,244,150	$0.0002
Sentinel Lighting	1.0900	280	0.00%	15	257	$0.0568
Street Lighting	1.0677	114,479	0.43%	5,964	107,220	$0.0556
TOTALS		$26,763,006	100.00%	$1,394,232		

[1] The Basis for Allocation is the retail transmission connection rates applied to the 2008 forecasted loads (kW or kWh as appropriate).

TRANSMISSION RATES

Hydro Ottawa is not proposing any changes to Retail transmission network or connection rates as part of this Rate Application.

PROPOSED RATE SCHEDULE

Hydro Ottawa's proposed Tariff of Rates and Charges for the 2008 rate year is attached. There are no proposed changes to the Specific Service Charges, with two exceptions: changing of the name 'Returned Cheque Charge' to 'Unprocessed Payment Charge' as described in Exhibit C2-1-1, Section 2.1.5 and the revisions to the Dry Core Transformer Charges as described in Exhibit C2-1-1, Section 2.3.

Hydro Ottawa Limited
TARIFF OF RATES AND CHARGES
Effective May 1, 2008
This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors

EB-2007-0713

APPLICATION

- The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Codes, Guidelines or Orders 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, Guideline or Order of the Board, and amendments thereto as approved by the Board, or as specified herein.
- This schedule does not contain any rates and charges relating to the electricity commodity (e.g. the Regulated Price Plan).

EFFECTIVE DATES

DISTRIBUTION RATES - May 1, 2008 for all consumption or deemed consumption services used on or after that date.
SPECIFIC SERVICE CHARGES - May 1, 2008 for all charges incurred by customers on or after that date.
LOSS FACTOR ADJUSTMENT – May 1, 2008 unless the distributor is not capable of prorating changed loss factors jointly with distribution rates. In that case, the revised loss factors will be implemented upon the first subsequent billing for each billing cycle.

SERVICE CLASSIFICATIONS

Residential
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.

General Service Less Than 50 kW
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.

General Service 50 to 1,499 kW
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.

General Service 1,500 to 4,999 kW
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.

Large Use
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.

Unmetered Scattered Load
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

Hydro Ottawa Limited
TARIFF OF RATES AND CHARGES
Effective May 1, 2008
This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors

EB-2007-0713

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.

Standby Power
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.

Sentinel Lighting
This classification refers to accounts that are an unmetered lighting load supplied to a sentinel light.

Street Lighting
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.

MONTHLY RATES AND CHARGES

Residential

Service Charge	$	9.02
Distribution Volumetric Rate	$/kWh	0.0220
Calendar Year Rate Rider[1]	$/kWh	0.0008
Regulatory Asset Recovery [1]	$/kWh	(0.0002)
Low Voltage Services Charge	$/kWh	0.0002
Retail Transmission Rate – Network Service Rate	$/kWh	0.0057
Retail Transmission Rate – Line and Transformation Connection Service Rate	$/kWh	0.0038
Wholesale Market Service Rate	$/kWh	0.0052
Rural Rate Protection Charge	$/kWh	0.0010
Standard Supply Service – Administrative Charge (if applicable)	$	0.25

General Service Less Than 50 kW

Service Charge	$	10.30
Distribution Volumetric Rate	$/kWh	0.0217
Calendar Year Rate Rider[1]	$/kWh	0.0008
Regulatory Asset Recovery[1]	$/kWh	(0.0005)
Low Voltage Services Charge	$/kWh	0.0002
Retail Transmission Rate – Network Service Rate	$/kWh	0.0052
Retail Transmission Rate – Line and Transformation Connection Service Rate	$/kWh	0.0035
Wholesale Market Service Rate	$/kWh	0.0052
Rural Rate Protection Charge	$/kWh	0.0010
Standard Supply Service – Administrative Charge (if applicable)	$	0.25

[1.] Riders are time specific and end on April 30, 2009

Hydro Ottawa Limited
TARIFF OF RATES AND CHARGES
Effective May 1, 2008
This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors

EB-2007-0713

General Service 50 to 1,499 kW

Service Charge	$	297.69
Distribution Volumetric Rate	$/kW	3.0640
Calendar Year Rate Rider[1]	$/kW	0.1089
Regulatory Asset Recovery[1]	$/kW	(0.2963)
Low Voltage Services Charge	$/kW	0.0749
Retail Transmission Rate – Network Service Rate	$/kW	2.1676
Retail Transmission Rate – Line and Transformation Connection Service Rate	$/kW	1.4373
Wholesale Market Service Rate	$/kWh	0.0052
Rural Rate Protection Charge	$/kWh	0.0010
Standard Supply Service – Administrative Charge (if applicable)	$	0.25

General Service 1,500 to 4,999 kW

Service Charge	$	4,786.70
Distribution Volumetric Rate	$/kW	2.8106
Calendar Year Rate Rider[1]	$/kW	0.0999
Regulatory Asset Recovery[1]	$/kW	(0.3311)
Low Voltage Services Charge	$/kW	0.0800
Retail Transmission Rate – Network Service Rate	$/kW	2.2508
Retail Transmission Rate – Line and Transformation Connection Service Rate	$/kW	1.5360
Wholesale Market Service Rate	$/kWh	0.0052
Rural Rate Protection Charge	$/kWh	0.0010
Standard Supply Service – Administrative Charge (if applicable)	$	0.25

Large Use

Service Charge	$	17,384.06
Distribution Volumetric Rate	$/kW	3.1188
Calendar Year Rate Rider[1]	$/kW	0.1109
Regulatory Asset Recovery[1]	$/kW	(0.4022)
Low Voltage Services Charge	$/kW	0.0901
Retail Transmission Rate – Network Service Rate	$/kW	2.4952
Retail Transmission Rate – Line and Transformation Connection Service Rate	$/kW	1.7297
Wholesale Market Service Rate	$/kWh	0.0052
Rural Rate Protection Charge	$/kWh	0.0010
Standard Supply Service – Administrative Charge (if applicable)	$	0.25

Unmetered Scattered Load

Service Charge (per connection)	$	5.15
Distribution Volumetric Rate	$/kWh	0.0230

1. Riders are time specific and end on April 30, 2009

Hydro Ottawa Limited
TARIFF OF RATES AND CHARGES
Effective May 1, 2008
This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors

EB-2007-0713

Calendar Year Rate Rider[1]	$/kWh	0.0008
Regulatory Asset Recovery[1]	$/kWh	(0.0005)
Low Voltage Services Charge	$/kWh	0.0002
Retail Transmission Rate – Network Service Rate	$/kWh	0.0052
Retail Transmission Rate – Line and Transformation Connection Service Rate	$/kWh	0.0035
Wholesale Market Service Rate	$/kWh	0.0052
Rural Rate Protection Charge	$/kWh	0.0010
Standard Supply Service – Administrative Charge (if applicable)	$	0.25

Standby Power – APPROVED ON AN INTERIM BASIS

Service Charge	$	114.81
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	1.5321
Calendar Year Rate Rider[1]	$/kW	0.0545
General Service 1,500 to 4,999 kW customer	$/kW	1.4054
Calendar Year Rate Rider[1]	$/kW	0.0500
General Service Large Use customer	$/kW	1.5595
Calendar Year Rate Rider[1]	$/kW	0.0554

Sentinel Lighting

Service Charge (per connection)	$	2.02
Distribution Volumetric Rate	$/kW	7.6982
Calendar Year Rate Rider[1]	$/kW	0.2737
Regulatory Asset Recovery[1]	$/kW	(0.1102)
Low Voltage Services Charge	$/kW	0.0568
Retail Transmission Rate – Network Service Rate	$/kW	1.6083
Retail Transmission Rate – Line and Transformation Connection Service Rate	$/kW	1.0900
Wholesale Market Service Rate	$/kWh	0.0052
Rural Rate Protection Charge	$/kWh	0.0010
Standard Supply Service – Administrative Charge (if applicable)	$	0.25

Street Lighting

Service Charge (per connection)	$	0.39
Distribution Volumetric Rate	$/kW	2.9687
Calendar Year Rate Rider[1]	$/kW	0.1056
Regulatory Asset Recovery[1]	$/kW	(0.2538)
Low Voltage Services Charge	$/kW	0.0556
Retail Transmission Rate – Network Service Rate	$/kW	1.6002
Retail Transmission Rate – Line and Transformation Connection Service Rate	$/kW	1.0677
Wholesale Market Service Rate	$/kWh	0.0052
Rural Rate Protection Charge	$/kWh	0.0010
Standard Supply Service – Administrative Charge (if applicable)	$	0.25

1. Riders are time specific and end on April 30, 2009

Hydro Ottawa Limited
TARIFF OF RATES AND CHARGES
Effective May 1, 2008
This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors

EB-2007-0713

SPECIFIC SERVICE CHARGES

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	
Allowances		
Transformer Allowance for Ownership - per kW of billing demand/month	$/kW	(0.45)
Primary Metering Allowance for transformer losses – applied to measured demand and energy	%	(1.00)

LOSS FACTORS

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 May 1, 2008
This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors

EB-2007-0713

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

BILL IMPACTS

Bill impacts for typical customers have been calculated using the proposed rates, including the calendar year rider and are shown in Table 1 of this Exhibit. Also included are the revised Regulatory Asset Rate Rider and the Low Voltage Charge. 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. Table 2 provides the impact to each class under the same conditions.

A typical residential customer using 1,000 kWhs per month would see the distribution portion of their bill increase 9.7%, with an overall bill increase of 2.7%. Both Tables illustrate that with Hydro Ottawa's proposed rates and rate riders, the bill impacts are not material enough to require rate mitigation.

Table 1 - Bill Impacts (Monthly Consumption)

				2007			2008		
Annualized/Current Commodity Prices				800	$0.053	$0.062	800	$0.053	$0.062

Class	Charge Description		Current Rates	Monthly Bill at Current rate		Revised Rates	Monthly Bill at new rates	Increase $	Increase %
Residential	Service Charge	1	$9.2400	$9.24	1	$9.02	$9.02	$2.03	8.5%
750 kWh	Distribution Charge	750	$0.0183	$13.73	750	$0.0220	$16.50		
	Calendar Rate Rider				750	$0.0008	$0.60		
	Regulatory Asset Rate Rider	750	$0.0013	$0.98	750	-$0.0002	-$0.15		
	Network Charge	776	$0.0057	$4.42	776	$0.0057	$4.42		
	Connection Charge	776	$0.0038	$2.95	776	$0.0038	$2.95		
	LV Services Charge	776			776	$0.0002	$0.15		
	Electricity Charge	776		$41.12	776		$41.12		
	Wholesale Market Charge	776	$0.0062	$4.81	776	$0.0062	$4.81		
	Debt Retirement Charge	750	$0.00694	$5.21	750	$0.00694	$5.21		
	Total Loss Factor		1.0344			1.0344			
	Total without GST			$82.44			$84.63	$2.19	2.7%
Residential	Service Charge	1	$9.2400	$9.24	1	$9.02	$9.02	$2.78	9.7%
1,000 kWh	Distribution Charge	1,000	$0.0183	$18.30	1,000	$0.0220	$22.00		
	Calendar Rate Rider				1,000	$0.0008	$0.80		
	Regulatory Asset Rate Rider	1,000	$0.0013	$1.30	1,000	-$0.0002	-$0.20		
	Network Charge	1,034	$0.0057	$5.90	1,034	$0.0057	$5.90		
	Connection Charge	1,034	$0.0038	$3.93	1,034	$0.0038	$3.93		
	LV Services Charge	1,034			1,034	$0.0002	$0.20		
	Electricity Charge	1,034		$56.93	1,034		$56.93		
	Wholesale Market Charge	1,034	$0.0062	$6.41	1,034	$0.0062	$6.41		
	Debt Retirement Charge	1,000	$0.00694	$6.94	1,000	$0.00694	$6.94		
	Total Loss Factor		1.0344			1.0344			
	Total without GST			$108.95			$111.94	$2.99	2.7%
General Service < 50 kW	Service Charge	1	$10.3000	$10.30	1	$10.30	$10.30	$3.00	10.2%
1,000 kWh	Distribution Charge	1,000	$0.0180	$18.00	1,000	$0.0217	$21.70		
	Calendar Rate Rider				1,000	$0.0008	$0.80		
	Regulatory Asset Rate Rider	1,000	$0.0010	$1.00	1,000	-$0.0005	-$0.50		
	Network Charge	1,034	$0.0052	$5.38	1,034	$0.0052	$5.38		
	Connection Charge	1,034	$0.0035	$3.62	1,034	$0.0035	$3.62		
	LV Services Charge	1,034			1,034	$0.0000	$0.00		
	Electricity Charge	1,034		$57.38	1,034		$57.38		
	Wholesale Market Charge	1,034	$0.0062	$6.41	1,034	$0.0062	$6.41		
	Debt Retirement Charge	1,000	$0.00694	$6.94	1,000	$0.00694	$6.94		
	Total Loss Factor		1.0344			1.0344			
	Total without GST			$109.04			$112.04	$3.00	2.8%
General Service < 50 kW	Service Charge	1	$10.3000	$10.30	1	$10.30	$10.30	$6.00	12.4%
2,000 kWh	Distribution Charge	2,000	$0.0180	$36.00	2,000	$0.0217	$43.40		
	Calendar Rate Rider				2,000	$0.0008	$1.60		
	Regulatory Asset Rate Rider	2,000	$0.0010	$2.00	2,000	-$0.0005	-$1.00		
	Network Charge	2,069	$0.0052	$10.76	2,069	$0.0052	$10.76		
	Connection Charge	2,069	$0.0035	$7.24	2,069	$0.0035	$7.24		
	LV Services Charge	2,069			2,069	$0.0002	$0.38		
	Electricity Charge	2,069		$121.52	2,069		$121.52		
	Wholesale Market Charge	2,069	$0.0062	$12.83	2,069	$0.0062	$12.83		
	Debt Retirement Charge	2,000	$0.00694	$13.88	2,000	$0.00694	$13.88		
	Total Loss Factor		1.0344			1.0344			
	Total without GST			$214.52			$220.90	$6.38	3.0%

Table 1 - Bill Impacts (Monthly Consumption)

				2007			2008		
Annualized/Current Commodity Prices				800	$0.053	$0.062	800	$0.053	$0.062
Class	**Charge Description**		**Current Rates**	**Monthly Bill at Current rate**		**Revised Rates**	**Monthly Bill at new rates**	**Increase $**	**Increase %**
General Service > 50 kW < 1,500 kW	Service Charge	1	$249.1300	$249.13	1	$297.69	$297.69	-$7.34	-0.8%
200 kW and 100,000 kWh	Distribution Charge	200	$2.5463	$509.26	200	$3.0640	$612.80		
	Calendar Rate Rider				200	$0.1089	$21.78		
	Regulatory Asset Rate Rider	200	$0.6098	$121.96	200	-$0.2963	-$59.26		
	Network Charge	200	$2.1676	$433.52	200	$2.1676	$433.52		
	Connection Charge	200	$1.4373	$287.46	200	$1.4373	$287.46		
	LV Services Charge	200			200	$0.0749	$14.98		
	Electricity Charge	103,440	$0.0584	$6,040.90	103,440	$0.0584	$6,040.90		
	Wholesale Market Charge	103,440	$0.0062	$641.33	103,440	$0.0062	$641.33		
	Debt Retirement Charge	100,000	$0.00694	$694.00	100,000	$0.00694	$694.00		
	Total Loss Factor		1.0344			1.0344			
	Total without GST			$8,977.55			$8,985.19	$7.64	0.09%
General Service > 1,500 kW < 5,000 kW	Service Charge	1	$3,979.6300	$3,979.63	1	$4,786.70	$4,786.70	$1,923.67	24.0%
2,000 kW and 800,000 kWh	Distribution Charge	2,000	$2.3357	$4,671.40	2,000	$2.8106	$5,621.20		
	Calendar Rate Rider				2,000	$0.0999	$199.80		
	Regulatory Asset Rate Rider	2,000	-$0.3146	-$629.20	2,000	-$0.3311	-$662.20		
	Network Charge	2,000	$2.2508	$4,501.60	2,000	$2.2508	$4,501.60		
	Connection Charge	2,000	$1.5360	$3,072.00	2,000	$1.5360	$3,072.00		
	LV Services Charge	2,000			2,000	$0.0800	$160.04		
	Electricity Charge	827,520	$0.0584	$48,327.17	827,520	$0.0584	$48,327.17		
	Wholesale Market Charge	827,520	$0.0062	$5,130.62	827,520	$0.0062	$5,130.62		
	Debt Retirement Charge	800,000	$0.00694	$5,552.00	800,000	$0.00694	$5,552.00		
	Total Loss Factor		1.0344			1.0344			
	Total without GST			$74,605.22			$76,688.93	$2,083.71	2.8%
Large User > 5,000 kW	Service Charge	1	$14,448.4200	$14,448.42	1	$17,384.06	$17,384.06	$6,929.24	25.3%
6,000 kW and 2,000,000 kWh	Distribution Charge	6,000	$2.5918	$15,550.80	6,000	$3.1188	$18,712.80		
	Calendar Rate Rider				6,000	$0.1109	$665.40		
	Regulatory Asset Rate Rider	6,000	-$0.4299	-$2,579.40	6,000	-$0.4022	-$2,413.20		
	Network Charge	6,000	$2.4952	$14,971.20	6,000	$2.4952	$14,971.20		
	Connection Charge	6,000	$1.7297	$10,378.20	6,000	$1.7297	$10,378.20		
	LV Services Charge	6,000			6,000	$0.0901	$540.66		
	Electricity Charge	2,034,000	$0.0584	$118,785.60	2,034,000	$0.0584	$118,785.60		
	Wholesale Market Charge	2,034,000	$0.0062	$12,610.80	2,034,000	$0.0062	$12,610.80		
	Debt Retirement Charge	2,000,000	$0.00694	$13,880.00	2,000,000	$0.00694	$13,880.00		
	Total Loss Factor		1.0170			1.0170			
	Total without GST			$198,045.62			$205,515.52	$7,469.90	3.8%

Table 2 - Bill Impacts (Classes)

				2007			2008		
Annualized/Current Commodity Prices				800	$0.053	$0.062	800	$0.053	$0.062

Class	Charge Description	Statistics 2008	Current Rates	Revenue at Current rate	Statistics 2008	New Rates	Revenue at new rates	Increase from Current rate $	Increase from Current rate %
Residential	Service Charge	264,080	$9.24	$29,281,190	264,080	$9.02	$28,599,688	-$681,502	8.3%
	Distribution Charge	2,251,011,794	$0.0183	$41,193,516	2,251,011,794	$0.0220	$49,522,259	$8,328,744	
	Calendar Rate Rider				2,251,011,794	$0.0008	$1,800,809	$1,800,809	
	Regulatory Asset Rate Rider	2,251,011,794	$0.0013	$2,926,315	2,251,011,794	-$0.0002	-$450,202	-$3,376,518	
	Network Charge	2,328,446,600	$0.0057	$13,272,146	2,328,446,600	$0.0057	$13,272,146	$0	
	Connection Charge	2,328,446,600	$0.0038	$8,848,097	2,328,446,600	$0.0038	$8,848,097	$0	
	LV Services Charge				2,328,446,600	$0.0002	$460,946	$460,946	
	Electricity Charge	2,328,446,600	$0.0620	$121,547,177	2,328,446,600	$0.0620	$121,547,177	$0	
	Wholesale Market Charge	2,328,446,600	$0.0062	$14,436,369	2,328,446,600	$0.0062	$14,436,369	$0	
	Debt Retirement Charge	2,251,011,794	$0.00694	$15,622,022	2,251,011,794	$0.00694	$15,622,022	$0	
	Total Loss Factor		1.0344			1.0344			
	Total without GST			$247,126,832			$253,659,311	$6,532,479	2.6%
General Service < 50 kW	Service Charge	23,051	$10.30	$2,849,104	23,051	$10.30	$2,849,234	$130	13.2%
	Distribution Charge	773,402,410	$0.0180	$13,921,243	773,402,410	$0.0217	$16,782,832	$2,861,589	
	Calendar Rate Rider				773,402,410	$0.0008	$618,722	$618,722	
	Regulatory Asset Rate Rider	773,402,410	$0.0010	$773,402	773,402,410	-$0.0005	-$386,701	-$1,160,104	
	Network Charge	800,007,453	$0.0052	$4,160,039	800,007,453	$0.0052	$4,160,039	$0	
	Connection Charge	800,007,453	$0.0035	$2,800,026	800,007,453	$0.0035	$2,800,026	$0	
	LV Services Charge				800,007,453	$0.0002	$145,869	$145,869	
	Electricity Charge	800,007,453	$0.0620	$47,733,331	800,007,453	$0.0620	$47,733,331	$0	
	Wholesale Market Charge	800,007,453	$0.0062	$4,960,046	800,007,453	$0.0062	$4,960,046	$0	
	Debt Retirement Charge	773,402,410	$0.00694	$5,367,413	773,402,410	$0.00694	$5,367,413	$0	
	Total Loss Factor		1.0344			1.0344			
	Total without GST			$82,564,604			$85,030,810	$2,466,206	3.0%
General Service > 50 kW < 1500 kW	Service Charge	3,296	$249.13	$9,853,590	3,296	$297.69	$11,774,267	$1,920,677	-0.4%
	Distribution Charge	7,373,199	$2.5463	$18,774,377	7,373,199	$3.0640	$22,591,482	$3,817,105	
	Calendar Rate Rider				7,373,199	$0.1089	$802,941	$802,941	
	Regulatory Asset Rate Rider	7,373,199	$0.6098	$4,496,177	7,373,199	-$0.2963	-$2,184,679	-$6,680,856	
	Network Charge	7,373,199	$2.1676	$15,982,146	7,373,199	$2.1676	$15,982,146	$0	
	Connection Charge	7,373,199	$1.4373	$10,597,499	7,373,199	$1.4373	$10,597,499	$0	
	LV Services Charge				7,373,199	$0.0749	$552,082	$552,082	
	Electricity Charge	3,221,894,407	$0.0584	$188,158,633	3,221,894,407	$0.0584	$188,158,633	$0	
	Wholesale Market Charge	3,221,894,407	$0.0062	$19,975,745	3,221,894,407	$0.0062	$19,975,745	$0	
	Debt Retirement Charge	3,114,747,107	$0.00694	$21,616,345	3,114,747,107	$0.00694	$21,616,345	$0	
	Total Loss Factor		1.0344			1.0344			
	Total without GST			$289,454,512			$289,866,462	$411,950	0.1%
General Service > 1500 kW < 5000 kW	Service Charge	81	$3,979.63	$3,868,200	81	$4,786.70	$4,652,671	$784,470	23.8%
	Distribution Charge	1,757,782	$2.3357	$4,105,652	1,757,782	$2.8106	$4,940,423	$834,771	
	Calendar Rate Rider				1,757,782	$0.0999	$175,602	$175,602	
	Regulatory Asset Rate Rider	1,757,782	-$0.3146	-$552,998	1,757,782	-$0.3311	-$582,002	-$29,003	
	Network Charge	1,757,782	$2.2508	$3,956,417	1,757,782	$2.2508	$3,956,417	$0	
	Connection Charge	1,757,782	$1.5360	$2,699,954	1,757,782	$1.5360	$2,699,954	$0	
	LV Services Charge				1,757,782	$0.0800	$140,655	$140,655	
	Electricity Charge	864,700,904	$0.0584	$50,498,533	864,700,904	$0.0584	$50,498,533	$0	
	Wholesale Market Charge	864,700,904	$0.0062	$5,361,146	864,700,904	$0.0062	$5,361,146	$0	
	Debt Retirement Charge	835,944,416	$0.00694	$5,801,454	835,944,416	$0.00694	$5,801,454	$0	
	Total Loss Factor		1.0344			1.0344			
	Total without GST			$75,738,357			$77,644,853	$1,906,496	2.5%

Table 2 - Bill Impacts (Classes)

Class	Charge Description	Statistics 2008	Current Rates	Revenue at Current rate	Statistics 2008	New Rates	Revenue at new rates	Increase from Current rate $	Increase from Current rate %
Large User	Service Charge	11	$14,448.42	$1,907,191	11	$17,384.06	$2,294,697	$387,505	26.3%
	Distribution Charge	1,167,362	$2.5918	$3,025,570	1,167,362	$3.1188	$3,640,770	$615,200	
	Calendar Rate Rider				1,167,362	$0.1109	$129,460	$129,460	
	Regulatory Asset Rate Rider	1,167,362	-$0.4299	-$501,849	1,167,362	-$0.4022	-$469,513	$32,336	
	Network Charge	1,167,362	$2.4952	$2,912,803	1,167,362	$2.4952	$2,912,803	$0	
	Connection Charge	1,167,362	$1.7297	$2,019,187	1,167,362	$1.7297	$2,019,187	$0	
	LV Services Charge				1,167,362	$0.0901	$105,191	$105,191	
	Electricity Charge	659,642,720	$0.0584	$38,523,135	659,642,720	$0.0584	$38,523,135	$0	
	Wholesale Market Charge	659,642,720	$0.0062	$4,089,785	659,642,720	$0.0062	$4,089,785	$0	
	Debt Retirement Charge	648,616,244	$0.00694	$4,501,397	648,616,244	$0.00694	$4,501,397	$0	
	Total Loss Factor		1.0170			1.0170			
	Total without GST			$56,477,218			$57,746,910	$1,269,692	2.2%
Streetlighting-Class	Service Charge	47,219	$0.32	$181,321	47,219	$0.39	$220,985	$39,664	29.5%
	Distribution Charge	107,220	$2.4671	$264,522	107,220	$2.9687	$318,304	$53,782	
	Calendar Rate Rider				107,220	$0.1056	$11,322	$11,322	
	Regulatory Asset Rate Rider	107,220	-$0.3882	-$41,623	107,220	-$0.2538	-$27,212	$14,410	
	Network Charge	107,220	$1.6002	$171,573	107,220	$1.6002	$171,573	$0	
	Connection Charge	107,220	$1.0677	$114,479	107,220	$1.0677	$114,479	$0	
	LV Services Charge				107,220	$0.0556	$5,961	$5,961	
	Electricity Charge	41,494,439	$0.0580	$2,406,677	41,494,439	$0.0580	$2,406,677	$0	
	Wholesale Market Charge	41,494,439	$0.0062	$257,266	41,494,439	$0.0062	$257,266	$0	
	Debt Retirement Charge	40,114,500	$0.00694	$278,395	40,114,500	$0.00694	$278,395	$0	
	Total Loss Factor		1.0344			1.0344			
	Total without GST			$3,632,610			$3,757,750	$125,140	3.4%
Sentinel Lights-Class	Service Charge	95	$1.68	$1,915	95	$2.02	$2,303	$388	21.5%
	Distribution Charge	257	$6.3974	$1,644	257	$7.6982	$1,978	$334	
	Calendar Rate Rider				257	$0.2737	$70	$70	
	Regulatory Asset Rate Rider	257	-$0.6224	$0	257	-$0.1102	-$28	-$28	
	Network Charge	257	$1.6083	$413	257	$1.6083	$413	$0	
	Connection Charge	257	$1.0900	$280	257	$1.0900	$280	$0	
	LV Services Charge				257	$0.0568	$15	$15	
	Electricity Charge	95,694	$0.0580	$5,550	95,694	$0.0580	$5,550	$0	
	Wholesale Market Charge	95,694	$0.0062	$593	95,694	$0.0062	$593	$0	
	Debt Retirement Charge	92,512	$0.00694	$642	92,512	$0.00694	$642	$0	
	Total Loss Factor		1.0344			1.0344			
	Total without GST			$11,038			$11,817	$779	7.1%
Unmetered Scattered Load-Class	Service Charge	3,115	$4.28	$159,986	3,115	$5.15	$192,507	$32,521	21.5%
	Distribution Charge	20,244,150	$0.0191	$386,663	20,244,150	$0.0230	$465,615	$78,952	
	Calendar Rate Rider				20,244,150	$0.0008	$16,195	$16,195	
	Regulatory Asset Rate Rider	20,244,150	$0.0008		20,244,150	-$0.0005	-$10,122	-$10,122	
	Network Charge	20,940,549	$0.0052	$108,891	20,940,549	$0.0052	$108,891	$0	
	Connection Charge	20,940,549	$0.0035	$73,292	20,940,549	$0.0035	$73,292	$0	
	LV Services Charge				20,940,549	$0.0002	$4,188	$4,188	
	Electricity Charge	20,940,549	$0.0580	$1,195,862	20,940,549	$0.0580	$1,195,862	$0	
	Wholesale Market Charge	20,940,549	$0.0062	$129,831	20,940,549	$0.0062	$129,831	$0	
	Debt Retirement Charge	20,244,150	$0.00694	$140,494	20,244,150	$0.00694	$140,494	$0	
	Total Loss Factor		1.0344			1.0344			
	Total without GST			$2,195,020			$2,316,754	$121,734	5.5%
All Classes[1]				$757,200,193			$770,034,668	$12,834,475	1.7%

Distribution Revenue[1] $148,850,015

Note 1: not including Standby Classes