Daliana Coban
Lead Regulatory Counsel
Toronto Hydro-Electric System Limited
14 Carlton Street
Toronto, ON M5B 1K5

Telephone: 416.542.2627
Facsimile: 416.542.3024
regulatoryaffairs@torontohydro.com
www.torontohydro.com

February 27, 2015

via RESS – signed original to follow by courier

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
PO Box 2319
2300 Yonge Street, 27th floor
Toronto, ON M4P 1E4

Dear Ms. Walli:

Re: Toronto Hydro-Electric System Limited ("Toronto Hydro")
Custom Incentive Rate-setting Application for 2015-2019 Electricity Distribution Rates and Charges – Undertaking Responses
OEB File No. EB-2014-0116

Toronto Hydro writes to the Ontario Energy Board ("OEB") in respect of the above-noted matter.

Further to my letter dated February 26, 2015, enclosed are the following responses from Days 3, 6 and 7 of the Oral Hearings:

- J6.1, J6.2 and J7.5 – OEB Staff;
- J7.1 – VECC; and
- J3.1, J7.4, J7.6, J7.7 and J7.8 – SEC.

The responses for J6.4, J7.1-J7.3 and J7.9-J7.11 will be provided on March 2, 2015 together with the responses for the Day 8 Undertakings.

Please contact me if you have any questions.

Yours truly,

[original signed by]

Daliana Coban
Lead Regulatory Counsel
Toronto Hydro-Electric System Limited
regulatoryaffairs@torontohydro.com

encl.:DC\acc

cc: Charles Keizer, Torys LLP
Crawford Smith, Torys LLP
Amanda Klein, Toronto Hydro
Intervenors of Record for EB-2014-0116

ORAL HEARING UNDERTAKING RESPONSE TO SCHOOL ENERGY COALITION

UNDERTAKING NO. J3.1:

Reference(s):

To identify reasons for and quantify the difference in benchmark increases in the custom IR period versus the 12-year period prior to custom IR.

RESPONSE (Prepared by PSE):

As Mr. Fenrick indicated during the hearing, the primary drivers of the growth rate in the total cost benchmarks are inflation (capital input price and OM&A input price) and output growth (customers and peak demand). Other "outputs" that would increase costs such as reliability or safety improvement are not captured within the econometric total cost benchmarking framework.

Mr. Shepherd indicated two time periods for examination in this undertaking, 2002-2014 and 2015-2019. The primary differences in the cost benchmark growth rates during these two time periods are driven by the fact that the expected capital input price inflation is predicted to be higher in the custom IR period than during the historic years of 2002-2014 and measured outputs (customers and peak demand) are expected to increase more rapidly during the 2015-2019 period than the historic 2002-2014 time period. The capital input price was influenced by declining interest rates during the historic time period which is not forecasted to continue into the custom IR years.

Other variables will have a slight impact on the growth rates but the differences in those growth rates between time periods are negligible. The table below provides the estimates of the primary variables driving the cost benchmark growth rates. PSE notes that these are close approximations rather than exact impact estimates.

ORAL HEARING UNDERTAKING RESPONSE TO SCHOOL ENERGY COALITION

Time Period	PSE Reply Benchmark Average Annual Growth Rate	Contribution to the Average Annual Growth Rate*			
		Capital Price	OM&A Price	Customers	Peak Demand
2002-2014	2.7%	0.7%	0.9%	0.6%	0.1%
2015-2019	5.4%	2.7%	1.0%	1.1%	0.4%
Difference Between Periods	2.7%	2.0%	0.0%	0.5%	0.3%

*The table does not display the contribution to the growth rates from the trend variables and other variables with minor (< 0.1%) impact on the rate. As a result the numbers may not add.

ORAL HEARING UNDERTAKING RESPONSE TO ONTARIO ENERGY BOARD STAFF

UNDERTAKING NO. J6.1:

Reference(s):

To provide the proportion, in dollars, of asset renewal determined from the FIM for each of the years.

RESPONSE:

None of the dollars requested for asset replacement in the System Renewal category are "determined from the FIM." While Toronto Hydro used the Feeder Investment Model (FIM) to evaluate the business cases for the asset replacement programs proposed and to confirm the prioritization of the particular assets scheduled for replacement, the FIM was not the driver for asset replacement. The driver for all asset renewal projects is the age and condition of assets. The FIM is one of many decision-support systems that are used by Toronto Hydro as part of developing System Renewal investments. As discussed in Exhibit 2B, Section E2, the FIM is also used as part of the Long-Term System Review Process to produce the asset renewal portion of the economically-optimal capital investment approach, as provided on page 5, Figure 4 of this exhibit.

Figure 1 below shows the percentage of System Renewal category investments that were evaluated using the FIM. Table 1 below presents the same information on both a dollar and percentage basis.

For reference, Table 2 shows the programs in the System Renewal category and the dollars associated with each program.

ORAL HEARING UNDERTAKING RESPONSE TO ONTARIO ENERGY BOARD STAFF

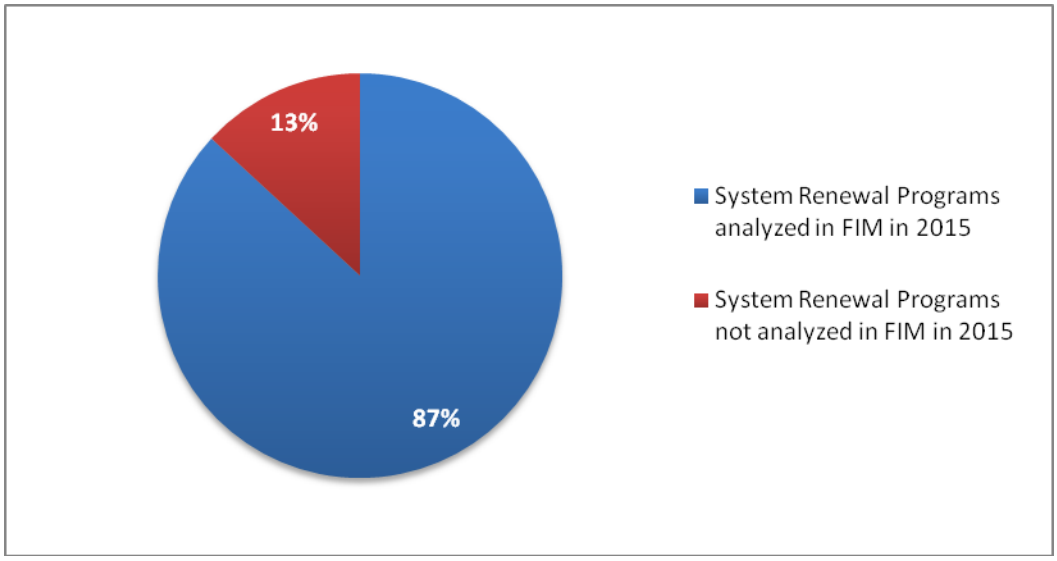


Figure 1: Percentage of system renewal assets in the proposed 2015 list that went through the FIM

Table 1: Percentage of system renewal assets in the proposed 2015 list that went through the FIM

	2015 Program (%)	2015 Program ($)
System Renewal Programs analyzed in FIM in 2015	87%	$ 218,663,254
System Renewal Programs not analyzed in FIM in 2015	13%	$ 33,076,868
Total	100%	$ 251,740,123

ORAL HEARING UNDERTAKING RESPONSE TO ONTARIO ENERGY BOARD STAFF

Table 2: System Renewal programs with associated planned 2015 spending.

Program	2015
SYSTEM RENEWAL	
Underground Circuit Renewal	$ 95,984,766.87
Underground Legacy Infrastructure	$ 2,060,559.51
Paper-Insulated Lead-Covered (PILC) Piece-outs and Leakers	$ 3,450,832.73
Overhead Circuit Renewal	$ 43,972,766.53
Overhead Infrastructure Relocation	$ 743,213.63
Rear Lot Conversion	$ 17,048,379.53
Box Construction Conversion	$ 16,796,984.32
SCADA-MATE R1 Replacement	$ 6,160,650.25
Network Vault Rebuild Program	$ 3,951,900.53
Network Unit Renewal Program	$ 5,183,766.31
Legacy Network Equipment Replacement (ATS & RPB)	$ 447,859.56
Stations Switchgear Renewal	$ 11,879,224.00
Stations Power Transformer Renewal	$ 1,676,258.29
Stations Circuit Breaker Renewal	$ 1,659,301.95
Stations Control & Monitoring	$ 79,437.36
Station Ancillary Systems	$ 687,786.21
Stations Buildings	$ 549,750.95
Stations DC Battery Replacement	$ 273,997.23
Distribution System Communication Infrastructure	$ 6,055,818.60
Reactive Capital	$ 31,896,048.38
Worst Performing Feeder	$ 1,180,819.95
SYSTEM RENEWAL TOTAL	$ 251,740,122.69

ORAL HEARING UNDERTAKING RESPONSE TO ONTARIO ENERGY BOARD STAFF

UNDERTAKING NO. J6.2:

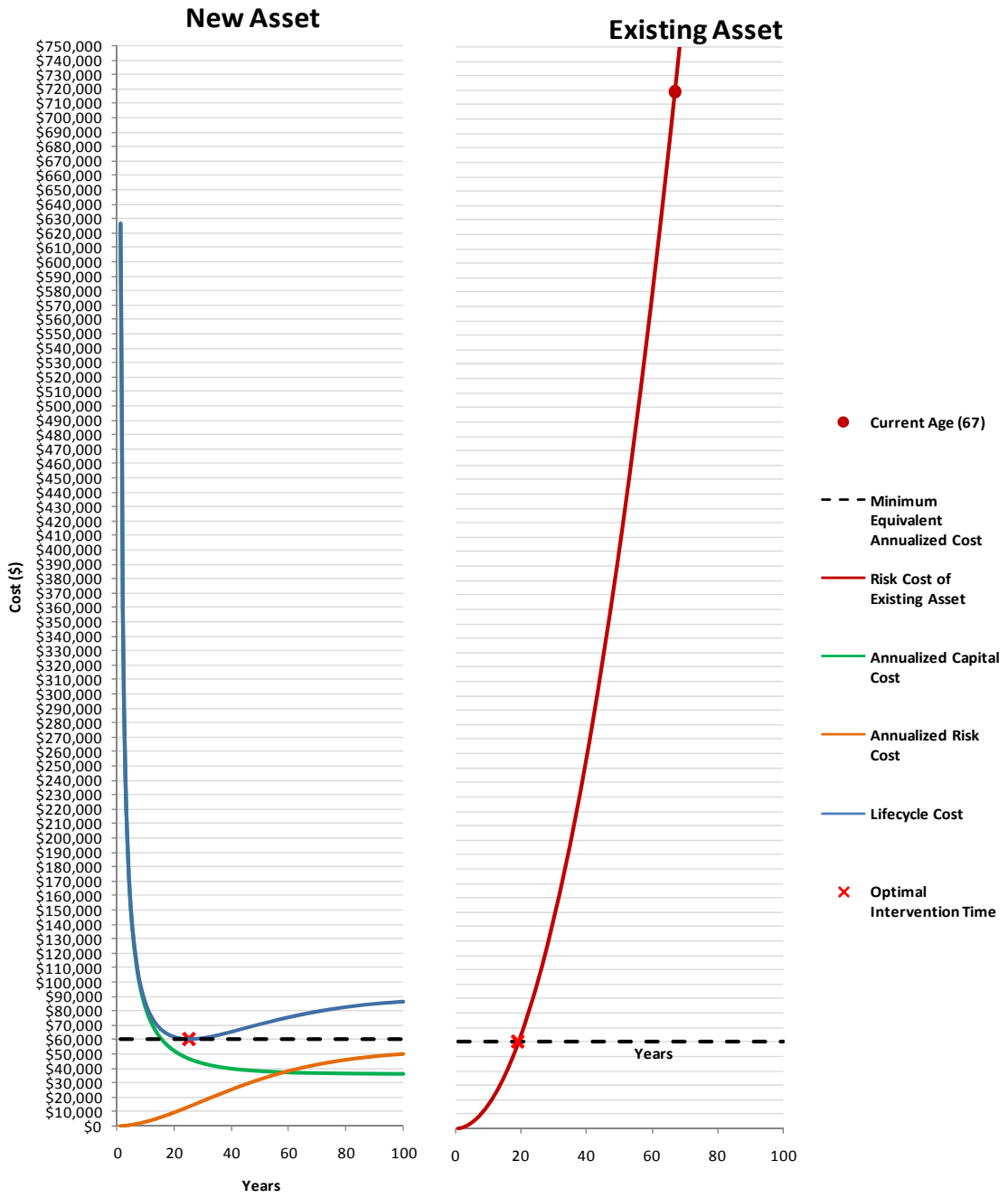
Reference(s):

To extrapolate the risk curve for TR2 transformers to the 60-year mark.

RESPONSE:

TR2 is an individual transformer located at High Level MS. It is currently 67 years old. Figure 1 from Technical Conference Undertaking Response J1.15 has been reproduced in Figure J6.2-1 below in order to illustrate where the Existing Asset's Risk Cost curve for TR2 High Level MS intercepts with the 67-year age on the horizontal axis, which is illustrated with a red dot. At that point, the risk cost for the TR2 High Level MS power transformer reaches a value of $719,281.

ORAL HEARING UNDERTAKING RESPONSE TO ONTARIO ENERGY BOARD STAFF



1 **Figure J6.2-1: Lifecycle Cost for TR2 High Level MS**

ORAL HEARING UNDERTAKING RESPONSE TO SCHOOL ENERGY COALITION

UNDERTAKING NO. J7.4:

Reference(s):

To produce the Financial Planning Process update presentation if there are notes, or if there are no notes, to advise that it will not be produced.

RESPONSE:

The file does not contain notes and thus need not be produced.

ORAL HEARING UNDERTAKING RESPONSE TO ONTARIO ENERGY BOARD STAFF

UNDERTAKING NO. J7.5:

Reference(s):

To provide the business case on web portal consolidation.

RESPONSE:

Please see the attached Business Case provided in Appendix A. Toronto Hydro notes that the project scope as reflected in the Business Case has been modified at the later stages of the project due to competing priorities and the associated resourcing constraints.

Business Case Template

Customer Self Service II

Document Version: 1.0

Print Date: 1/31/2013

Organization: Toronto Hydro Electric System Ltd.

Confidentiality Notice

Business Case Objectives

The purpose of this document is to provide a common business case template that will be used for r programs within the Toronto Hydro organization. The objectives of the proceeding sections are to provide a framework to use when describing the initiative within the relevant section.

Toronto Hydro relies on the business case as the defining document to establish the business specific context for undertaking a project or program initiative. The business case is a deliverable created in parts during the initial feasibility study phase of the overall Toronto Hydro Governance Lifecycle; prior to commencing program work. All business cases must be of value to the organization.

The business case must be written in a clear and concise manner, while providing sufficient information to confirm program efficiency, adequate information to prioritize the program among other initiatives, and ensuring due diligence (for risk, scope, cost, strategy, benefits, responsibilities, etc). Any other necessary information must be provided for executive level decisions to be aligned with corporate strategic direction.

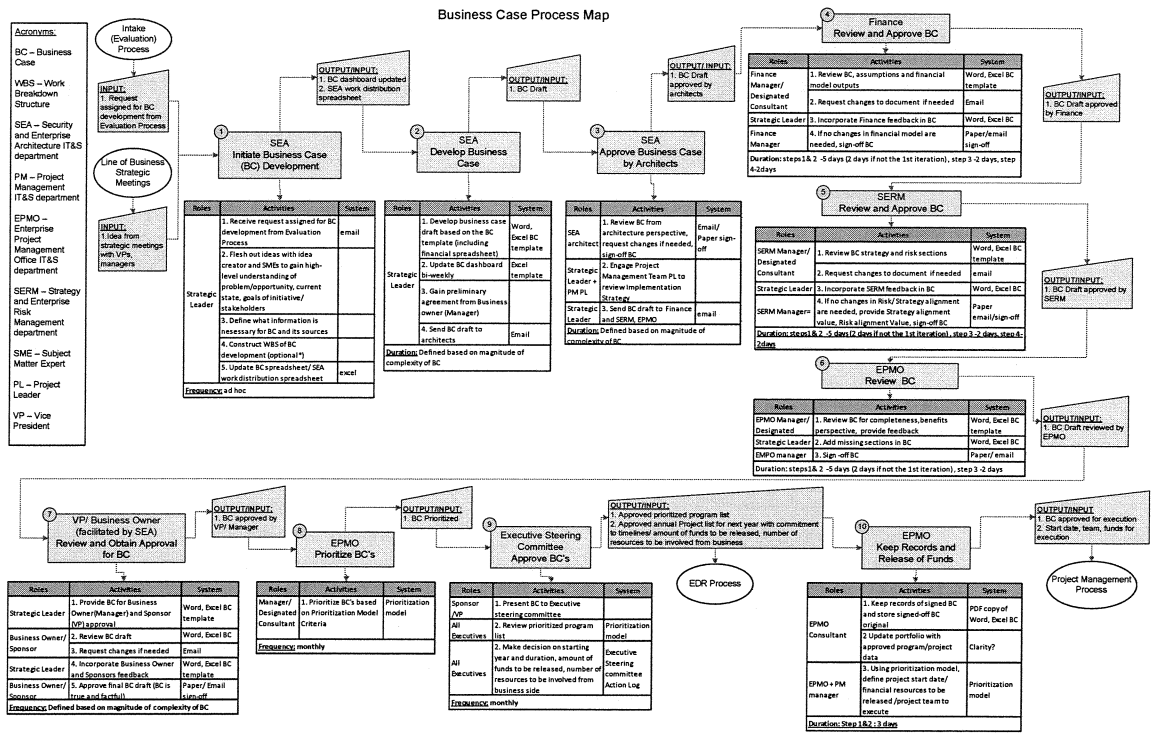
Business Case Tolerance

The Business Case sensitivity tolerance value for costs and benefits should be 25%.

Business Case Change Control

Change control tolerances are cumulative and are set to +10% for cost, and -10% for benefits. Cost and Benefit changes are considered mutually exclusive entities; therefore changes from approved baselines cannot be combined to arrive at a net change value.

Business Case Approval Process



Business Case Re-approval

Program/ project forecasting a 10% cost increase from the approved baseline, and/or a 10% reduction in benefits will be required to receive approval through an established change control process. Business case re-approval is not normally required until a 25% increase or 25% reduction of cumulative changes in cost or benefits exceed the sensitivity tolerance of 75%.

Feedback on the Business Case Template

All suggestions and inquiries on this template should be directed to the Enterprise Project Management Office (EPMO) at Toronto Hydro.

Signatures

Reviewed By:

Group	Name	Title	Date (DD/MM/YY)	Email
IT&S Architecture	Steve Jacka	Sr Infrastructure Consultant	10/10/12	Phone
Finance	Ramona Jadunauth-Khan	Sr Fin Analyst	12/09/12	Yes
SERM	Firas Arafat Valerie Shen	Strategic Planning Consultant ERM & Policy Analyst	06/09/12 05/09/12	Yes
EPMO	Syd Carter	Enterprise Project Management Consultant	07/09/12	Yes

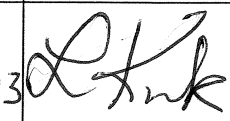
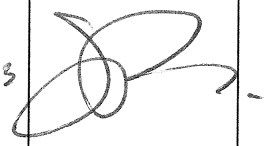
IT Portfolio *(please check the box below)*:

IT	Customer Services & CDM	Operations	Corporate
	X		

Sponsored By:

Role	Name	Title	Date (DD/MM/YY)	Signature
Executive Sponsor	Chris Tyrrell	Vice President, Customer Care and Chief Conservation Officer	13/02/13	
Co-Sponsor	Rob Wong	Vice President, IT and Strategy	15/02/13	

Approved By:

Role	Name	Title	Date (DD/MM/YY)	Signature
Business Manager & Decommissioned Systems Owner	Lauren Kirk	Manager, Call Centre	13/02/2013	
Architecture - Technical Governance	Sam Zurzolo	Manager, Security & Enterprise Architecture	28/01/2013	
EPMO – Project Governance	Anthony Policicchio	Manager, Project Management Offices	08/02/2013	

Document Control Information

Version	Date (MM/DD/YY)	Accountability (Last, First Name)	Change Comments
1	08/15/12	Tichbon, Warwick	Initial draft and incorporation of I.T. Project Management and Customer Care, Strategic Project comments
2	11/29/12	Tichbon, Warwick	Updated timelines and delivery approach
3	01/07/13	Tichbon, Warwick	Included additional CSS1 enhancements, CSR console enhancements and Customer Isolations Work Request Form
4			
5			
6			
7			
8			

Table of Contents

1 EXECUTIVE SUMMARY

The Customer Self Service (CSS) II program contains enhancements to the newly developed customer self service portal. It consists of four core improvements:

1. Merging the three customer portals (Time of Use, CSS and eBills) into a single portal simplifying data security and greatly improving the customer experience;
2. Providing the means for customers to pay their bills directly through the CSS portal;
3. Automate the processing of Move-In requests performed within the CSS portal by customers who do not have an existing Toronto Hydro account; and
4. Automate the processing of lawyer initiated move requests.

In addition to these four elements there are also minor changes and enhancements related to the original portal and agent console.

The technical changes required to achieve this objective also align to Information Technology strategies in terms of improved data security, elimination of end-of-life applications and they support the move to a standards based environment.

As a result of this alignment, the program directly contributes to mitigating two corporate risks; Information Technology and Cyber Security, a top 10 risk. The Information Technology risk is mitigated through the decommissioning of aging and end-of-like hardware and software. The Cyber Security risk is mitigated through the implementation of a single, standards-compliant security solution of customer online data and transactions.

From the strategic alignment perspective this program is specifically focused on the customer service pillar. However due to the cost reduction and productivity improvements, the program also shows alignment to the financial pillar. The completion of the program will contribute to improvements in the Call Centre Service Response and Enhanced Customer Engagement corporate KPIs by diverting calls from the Call Centre and enabling increased productivity within the call centre.

Investment Total		
Net Capital Invested	$	(1,700,000)
Chargeable (program capital budget)	$	(1,580,000)
Non-chargeable time	$	(120,000)

Total Corporate Value		
Comprehensive Net Present Value (all costs, all benefits)	$	690,000

Total Cash Value		
Net Present Value (all costs, cash benefits only)	$	690,000

Dollar-Equivalent Non-Cash Benefits		
Productivity (time saving, increased throughput, etc.)	$	0
Carbon Savings	$	0
Reliability Improvements	$	0
Community Contributions	$	0

Other Prioritization Criteria	
Internal Rate of Return	22.04%
Payback Period	4.31 years
Strategic Alignment Score	
KPI Alignment	No Alignment
Pillar Alignment	No Alignment
Risk Alignment Score	9

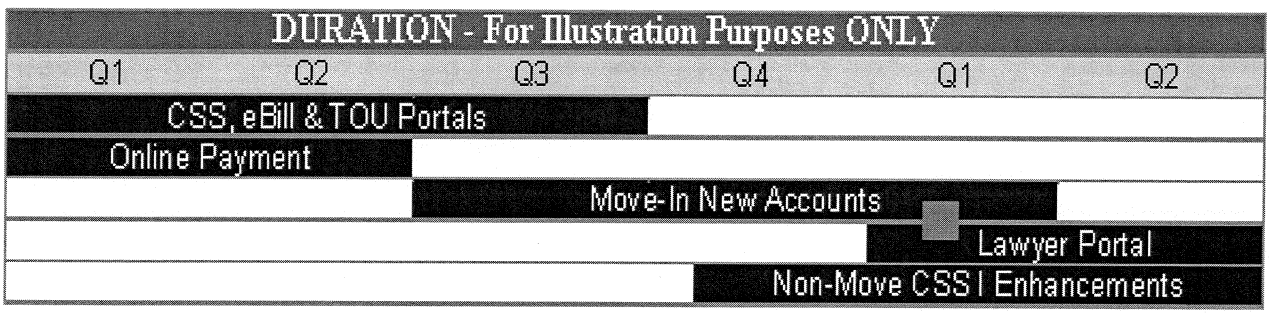
The program is to be managed as four projects to balance the organizational change and delivery risk with achieving the benefits as early as possible. The Lawyer Portal project will follow the Move-In New Accounts project as it utilizes the new functionality being built.

It is recommended to proceed with the CSS II program due to the financial benefits, the achievable gains in Information Technology security and reliability, and considerable customer experience improvements. The customer experience improvements will drive greater adoption and usage of the website, which is ultimately a lower cost channel than the Call Centre for Toronto Hydro.

1.1 Details for Program Constraints

Portfolio	Program	Project Name	Baseline Budget		Duration/ Timeline (In months)	Dependency
			CAPEX*	OPEX		
Customer Care	**Billing / Energy Management**	**Customer Self Service II**	**$ 1,580,000**	**$ -**	**6**	
Customer Care	Billing / Energy Management	CSS, eBill & TOU Portals	$ 480,000	$ -	7-9	N/A
Customer Care	Billing / Energy Management	Online Payment	$ 150,000	$ -	6	N/A
Customer Care	Billing / Energy Management	Move-In/New Accounts	$ 510,000	$ -	7-9	N/A
Customer Care	Billing / Energy Management	Lawyer Portal	$ 250,000	$ -	4	Move-In New Accounts
Customer Care	Billing / Energy Management	CSS I Enhancements	$ 190,000	$ -	2	N/A

High-level schedule and dependencies for this program (within the program, to other programs) are shown below:



Note: In this case, since there is only 1 Dependancy, individual project start dates will be defined per IT Portfolio constraints.

2 BACKGROUND, CURRENT and FUTURE STATE

This section profiles the rationale for the initiative and is comprised of five focal point sections:

2.1 Problem/ Opportunity Statement

2.2 Current State

2.3 Stakeholders / Requirements

2.4 Future State

2.5 Options to Achieve Future State

2.1 Problem / Opportunity Statement

The Customer Self Service (CSS) I project delivered a foundation and initial set of customer self service transactions. CSS II is the follow up program and further increases the value of the CSS Portal to both the customers and to Toronto Hydro (TH).

The primary area of opportunity covered in this business case is cost avoidance, and is achieved through performing customer interactions through a less expensive channel and through simplification of technology support requirements. This project will improve the integration between the Time of Use (TOU), eBill and CSS portals with the intention of greatly improving the customer experience.

2.2 Current State

2.2.1 CSS, eBill & TOU Portals

With the launch of CSS I, customers may have up to three different accounts with TH; one for the new CSS portal, one for eBill and one for the TOU portal.

To further complicate this for the customers, there are now different methods to register an account between the various portals. The TOU and eBill portals both use an e-mail registration process where the customer is e-mailed a confirmation note containing an access code. The CSS portal utilizes information about the customer and an immediate e-mail based confirmation to establish the customer identity.

Furthermore there is significant functionality overlap between the CSS and eBill portals since both present customer bills; this functionality should be consolidated into a single location.

Clearly these factors create complexity that has the potential to create massive customer confusion and therefore generate numerous calls to the call centre and greatly decrease customer use of the portals.

From a technology perspective elements of the eBill and TOU portals exist on aging, complicated and non-standard architecture. This increases the support costs incurred by the Application Support group and increases the risks of a customer impacting failure of the underlying systems. The eBill portal is built on a ColdFusion platform, one of the technologies TH is eliminating, and features integration to the customer information system, Customer Care and Billing (CC&B), eDirectory, Kubra, ePost and other systems using several different integration approaches.

At present there are approximately 50,000 commercial and residential customers who use the eBill portal to receive and view their bills. The TOU portal has over 120,000 registered users, most who do not regularly access the system, and currently has a different appearance and branding than the other portals.

Gaps	Risks	Opportunities
• Overlapping functionality • Multiple customer registration processes • Multiple security methodologies	• Extended outage due to system failure and complexity of recovery • Increase in customer complaints	• Simplification and standardization of I.T. architecture • Reduced support cost both

• Non-standard and aging architecture and technology platform	• Negative impacts to brand and reputation • Compromised security and inappropriate access to customer information	Customer Care and Information Technology • Single portal for all customer requests

2.2.2 Online Payment

The initial version of the CSS portal displays customer bills; however it does not provide the ability for the customer to make payments. The proposed online payment solution will allow customers to make bill payments using a Kubra (the outsourced bill print and storage provider) maintained link to a third party payment processing website. As mentioned above, as the bill functionality is consolidated into a single location, the ability to make online payments should also be consolidated.

Gaps	Risks	Opportunities
• Inability to make payments within the CSS portal	• Customer confusion leading to additional calls and complaints • Late or lost revenue since the customer cannot pay their bill as they desire • Negative impacts to brand and reputation	• Increase the likelihood that customers will make on time payments • Provide additional payment options to customers, for example credit card and debit card

2.2.3 Move-In New Accounts

With the introduction of CSS I, existing customers are able to perform move out and transfers online. These transactions are automatically processed by CC&B and all relevant updates to customer accounts are made without the intervention of a CSR.

Customers moving into the TH service area, who have never been customers of TH previously, may also use the website to enter the relevant information. In this case the information is not automatically processed by CC&B and must be manually entered by a CSR. This is an area of significant potential productivity improvement.

This functionality was excluded from CSS I due to the time and cost constraints on the project.

Gaps	Risks	Opportunities
• No automated processing of move-in transactions entered online	• Customer confusion leading to additional calls and complaints • Duplicated requests, through the call centre and website • Errors, rework and delay caused by manual handling of customer move requests • Potential for lost revenue due to consumption prior to account creation • Negative impacts to brand and reputation	• Improved CSR productivity • Reduction in the number of customer errors • Reduction in the number of idle accounts • Greater acceptance and use of the CSS portal

2.2.4 Lawyer Portal

In 2011 TH received over 37,000 letters from lawyers, informing TH of customer moves. These were a combination of traditional letter and facsimiles. An online form for lawyers to enter the relevant information was introduced in 2010 however like the Move-In New Account transaction, these requests are printed and processed manually.

This is an area of significant potential productivity improvement.

Gaps	Risks	Opportunities
• No automated processing of lawyer initiated move requests	• Negative impacts to brand and reputation, poor customer service due to focus on repetitive requests • Errors, rework and delay caused by manual handling of customer move requests • Potential for lost revenue due to delay in entering customer moves into CC&B	• Improved CSR productivity • Reduction in the number of customer errors • Reduction in the number of idle accounts • Greater acceptance and use of the CSS portal

2.3 Stakeholders / Requirements

This section lists the key interested parties (internal/ external) impacted by this solution. It identifies who is involved directly (as a recipient of the solution outcome) or indirectly (through integration/alignment with other programs and/or work processes), and their high level requirements for the solution to meet their expectations.

Process(es) Impacted by Solution	Process Owner (Stakeholder)	Department	Division	Requirements
Bill Payment	Chris Tyrrell	Call Centre/Accounts Receivable	Customer Care	• Ensure customers are aware and acknowledge privacy concerns related to providing password to third parties (Lowfoot, Quinzee, etc) • Provide payment option linked securely to Kubra payment application (debit and credit cards) • Populate relevant information directly into the payment form • Ensure any payment processing/credit card fee is incorporated in the Kubra transaction and not within Toronto Hydro's cost structure • Transfer between Toronto Hydro sites and Kubra payment sites should be seamless for the customer • Receive and load payment file from RBC into CC&B, process against customer accounts
Integration of CSS / eBill / TOU registration, move to	Chris Tyrrell	Call Centre/Accounts Receivable	Customer Care	• Online and immediate account registration • Default existing data held by TH into registration forms • Single account and password for all

Process(es) Impacted by Solution	Process Owner (Stakeholder)	Department	Division	Requirements
single portal single CIAM				residential customer interactions with TH • Customers and call centre representatives (CSR) to view bill inserts • Ensure that the customer is subscribed to all portals automatically • Ensure all necessary integration is enabled between CC&B and Kubra • Access TOU portal from the CSS portal for both applicable commercial and residential customers. TOU functionality to automatically be provided to all customers subject to TOU billing • Capture and confirm a single, primary email address per account • For existing eBill customers who log on once CSS II is live, additional validation is required to bring their accounts up to CIAM standards • Modifications to the TOU portal to ensure access only from CSS portal, redirect customers who access TOU directly • Provide the ability to use the CSS portal as a communication tool, for example landing page message such as changes to suite meter rate classes • CIAM will be modified to support commercial customers, portals will be available to appropriate commercial customers • Provide the ability to navigate to key functionality within other portals from the CSS portal home page (e.g. TOU alerts and PowerLens Calculator)
Bill Inquiry	Chris Tyrrell	Call Centre	Customer Care	• Update the bill presentation • Enable the customer to sign up for alerts and notifications based on cost and consumption at a customer selected threshold • Nightly process alerts and notify customer where selected threshold is exceeded • Develop necessary integration to store and retrieve information from CC&B • Provide access to historic bill inserts • Provide advanced bill presentment options such as graphs, flags and trend analysis • Provide available to opt in or out of receiving an electronic or paper bill.

Process(es) Impacted by Solution	Process Owner (Stakeholder)	Department	Division	Requirements
eBill Support	Rob Wong	Application Support	Information Technology	• Transfer the existing MIMO Oracle Forms into the CSS portal to more consistently handle move requests from customers who do not currently have a TH account • Migrate existing eBill / TOU eDirectory data to the CSS portal Active Directory system • Operate all customer self service portals without the use of eDirectory • Decommission current ebill portal
CSR Support	Chris Tyrrell	Call Centre	Customer Care	• Ensure CSRs can track the new customer interactions through the CSR interface, including view bill inserts, view payments, view bill type, etc • Update all necessary customer facing documentation (screen copy, FAQs, etc) to align with portal changes • Enable CSRs to follow customer transactions step-by-step through the CSR view
Move-In New Account	Chris Tyrrell	Call Centre	Customer Care	• Provide new customers an online tool to perform a move in; ensure all information is collected and validated • Validate the premise has been configured in CC&B and direct the customer appropriately if not • Automate the creation of the CC&B person, account and any other required elements • Complete the creation of a CCS portal account • Identify overlaps and gaps between old occupier and new occupier and enable user to resolve prior to submission • Support rapid data collection and entry, no requirement for real-time processing • Support pre and post-dated moves
Lawyer Move Request	Chris Tyrrell	Call Centre	Customer Care	• Provide move functionality consistent with existing CSS I move functionality and additional Move-In New Account functionality • Ensure necessary steps are in place to identify the lawyer performing the transaction (potential for lawyer CSS account type) – these steps should be consistent with the existing manual process • Allow for notification to law office when move transaction is completed • Automatically process transactions through CC&B and create any necessary account elements (person,

Process(es) Impacted by Solution	Process Owner (Stakeholder)	Department	Division	Requirements
				account, etc) and system transactions (service start, stop, etc)

2.4 Future State

Future State presents the vision of the desirable end state after the proposed change is implemented.

2.4.1 CSS, eBill & TOU Portals

The proposed future state sees the elimination of the multiple registration processes for each of the CSS, eBill and TOU portals. This would be replaced with the Customer Identify Access Management (CIAM) solution implemented with CSS I.

In additional the current eBill portal (Biller Direct) technology is to be decommissioned and customer information migrated to the new CSS portal. Any missing information will be captured when the customer next logs into the portal. Additional functionality will also be added to the CSS portal to allow customers to sign up for consumption and cost based alerts, pay their bills and elect to receive electronic or paper bills.

The TOU portal will no longer be a standalone portal and customers will access it from within the CSS portal.

2.4.2 Online Payment

Customers will be presented with a link to Kubra's online payment solution when viewing their bills through the CSS portal. Relevant data will be passed to the Kubra site and customers can process transactions directly from their bank accounts using debit cards or through a credit card payment. This has some similarities with the Telpay solution currently built into the Biller Direct solution.

Banking transactions will be captured by RBC, and the bank will provide TH with a nightly file for reconciliation and loading into CC&B. The design will incorporate both credit and debit card functionality, although the timing of the launch for each may differ. A service fee will be charged by the third party provider.

2.4.3 Move-In New Accounts

In the future state the Move-In New Accounts screen will not be significantly different from that which currently exists as a result of CSS I. The majority of the change will occur after the customer enters the relevant information. At this point integration and web services will be required to create the new entries within CC&B and other I.T. systems.

Included in this transaction will be the creation of a web portal account and access to the functionality included there. It is expected that no manual intervention will be required to complete the request. Where validation detects a potential or actual error, the customer will be asked to correct the data or alternatively directed to contact the call centre depending on the nature of the error.

The process will follow the identical steps to the current move-in process and must be consistent with the CSR functionality included in the CC&B Release 4 business case.

2.4.4 Lawyer Portal

The lawyer portal will operate in a very similar fashion to the move functionality in the CSS portal, including that being added in the Move-In New Accounts project and subsequent back end processing. The major difference being that the identity of the law office requesting the move must be verified to existing standards and captured for future records.

2.5 Options to Achieve Future State

This section profiles the options considered to mitigate the problem or further develop the opportunity. It describes the strategically focused choices available for integrating the problem / opportunity into the existing business environment and provides the rationale leading to the preferred solution. Detailed analysis supporting these options should be referenced here, and included in the Appendices.

2.5.1 CSS, eBill & TOU Portals

Two options were considered for addressing the three unique portals:

1) Rebuilding the eBill and TOU portals on the same technology platform, to current branding standards and decommission older technology.
2) Develop a single sign-on screen and redirect customers seamlessly to existing platforms.

Option 1 represents the ideal strategic solution however to successfully implement it requires an additional 8-12 months and an estimated additional $1.5M in capital funding. Given the current budget constraints and timeline commitments for solution delivery this is not a feasible option.

Option 2 is therefore selected for implementation. It will take the existing portals and alter the manner a customer logs onto them. This option involves modification to the CSS portal to include links to the TOU portal and the information it contains. The TOU portal would then require modification to accept the customer's credentials and automatically log them into the portal. The change to each portal is relatively minor and should be developed comparatively quickly.

The major shortcomings with option 2 related to the short term focus and inability to decommission all older technologies. That said, it will result in a customer online digital usability improvement due to the decommissioning of the old eBill portal.

2.5.2 Online Payment

At a high level two approaches were considered:

1) A complete review and enhancement of all customer payment handling at Toronto Hydro, including all channels (web, IVR, call centre, in person), and also adding debit and credit cards to the payment options.
2) Focus specifically on taking payments on the website via credit and debit cards.

While option 1 is the preferred strategic approach, to achieve the desired launch dates and budget, option 2 is the only viable approach. Option 1 is investigated as part of an overall long term strategy.

Within option 2, two alternative approaches exist. Firstly TH can develop an internal payment portal, with integration to a third party payment provider such as Moneris. The second alternative is to engage an external vendor to provide an off-the-shelf solution that meets TH's requirements. Numerous such solutions exist in the marketplace.

Given the maturity of these solutions, TH's experience with them via Telpay, the lower development cost and speed to market, the option of using an external vendor's payment solution has been selected.

Concerns with this approach are predominately around user experience and a different look and feel between the TH web pages and the external vendors pages. However it is expected that this can be addressed through branding requirements and guidelines being incorporated in the vendor contract.

2.5.3 Move-In New Accounts

From a technology and delivery perspective, no options were considered for this for the automation of the existing manual process. The technology and integration between systems has been developed in CSS I and the same approach will be used for CSS II. A consistent approach minimizes cost, delivery time, technology complexity and support requirements.

Maintaining the existing manual handling of move-in requests was considered as an option, however the requirements, productivity gains and strategic benefits of the initiative cannot be achieved without automation.

2.5.4 Lawyer Portal

The future state options for the Lawyer Portal repeat those stated above for the Move-In New Account future state options.

3 PROPOSAL DESCRIPTION

The business case from this section onwards is focused on the recommended implementation option "Proposed Solution" based on the options considered and acceptable risk. This first section outlines the solution along the following focal point sections;

3.1 Scope

3.2 Proposed Decommission of Systems

3.3 Goals and Benefit Attainment Metrics

3.1 Scope

The Scope section outlines the program deliverables. For the purpose of this business case, we need only identify basic elements of a successfully implemented solution. The five box model (people, process, and systems – leading to behavior change and sustainment) can be applied when describing the scope of work. In essence, program scope is tied to the achievement of the deliverables.

3.1.1 In scope

This section lists the key work elements that <u>will be</u> delivered as part of the responsibility commitment

Requirements	Scope
Bill Payment Process Requirements CSS / eBill / TOU Registration and Usage Process Requirements eBill Support	• **People:** No scope elements are required for the people component. • **Process:** No process changes have been factored into the business case, it is assumed that the payment reconciliation process will be unchanged from the existing TelPay reconciliation process. • **Systems:** Modifications to the new CSS portal will be required to meet the requirements and include the external link to the vendor's payment solution. Integration between various the third parties, CC&B and RBC bank will be built. Modification to CSS and CIAM to allow eBill and TOU customer to register though the new CSS portal will be required. Data migration and system flows will be built to support the migration of customers from the existing portals. Migration of existing alerts from eDirectory. Web services to/from CC&B to store and retrieve the necessary information. The various systems that currently perform the eBill functionality will be decommissioned. Navigation and minor modification to existing customer tools and alert programs to operate in conjunction with the new portal structure. • **Behaviour Change:** User training will be

Requirements	Scope
	required to ensure the new functionality is effectively supported by the CSRs. • **Sustainment:** Sustainment activities will include follow on customer communication and notification that the functionality exists.
CSR Support Process Requirements	• **People:** No scope elements are required for the people component. • **Process:** No process changes have been identified. • **Systems:** Modification to the existing CSR view to incorporate the new functionality. • **Behaviour Change:** User training will be required to ensure the new functionality is effectively utilized. • **Sustainment:** No sustainment activities identified.
Move-In New Account Requirements	• **People:** Reassignment of resources to other tasks. • **Process:** The process of printing and manually processing online move-in requests for new accounts will be halted and replaced with an entirely automated version. • **Systems:** New and modified CC&B web services and associated portal integration will be required to create the necessary account elements. Minor presentation changes to the CSS portal will be required. • **Behaviour Change:** Not applicable as the transaction will no longer be available to be performed manually. • **Sustainment:** Sustainment activities will include follow on customer communication and notification that the functionality exists.
Lawyer Portal Requirements	• **People:** Reassignment of resources to other tasks. • **Process:** The process of printing and manually processing lawyer move requests will be halted and replaced with an entirely automated version. • **Systems:** New flow and functionality is required with the portal to perform the necessary transactions from a third party, lawyer

Requirements	Scope
	perspective. Re-use of existing move functionality is expected. • **Behaviour Change:** Not applicable as the transaction will no longer be available to be performed manually. • **Sustainment:** Sustainment activities will include follow on customer communication and notification that the functionality exists.
CRQ 148973 – CSR Interface enhancements	• **People:** No people changes are expected. • **Process:** Minor process changes will result in the CSR resolving the customer issue directly rather than forwarding the call to I.T. • **Systems:** Interface will indicate the status of a registration, account number and email address will be added as search criteria and the CSR will be able to reset passwords. • **Behaviour Change:** Not applicable. • **Sustainment:** Not applicable.

Additional items related to CSS I enhancements are also in the scope of the project

CSS I Defect Number	Enhancement
95	• Handle services with multiple meters when moving in, transferring of moving out
125	• Process forced move-outs when another customer is moving into the premise
200	• Allow customers on Non-Budget Billing to fully process transactions
281	• Ensure creation of CMMIMOEX to-do in CCB only when the customer has an **arrears** balance over $300
334	• Provide additional verification options for business customers (such as property management organisations) rather than using personal information such as date of birth or drivers license number

3.1.2 Out of Scope

This section lists the key work elements that <u>will not be</u> delivered as part of the responsibility commitment

- No changes will be made to the ePost accounts or interactions. ePost is an external application run and managed by Canada Post. Bill and account information is provided to ePost by Kubra on TH's behalf. This will continue without change.
- Changes to paper or online bill presentation.
- Credit or debit card payments processed via the call centre.
- CSR use of the portal to process transactions on behalf of a customer.
- No redesign or branding changes to the eBill or TOU portals.

3.2 Proposed Decommissioning of Systems

This section lists systems that should be decommissioned after implementation of the solution

System name	Impacted Process	System Owner	Duration of overlap period after new system is implemented
eBills (CSR)	CSR Support Process	Customer Care	No overlap
eBills (Customer)	Bill Inquiry	Customer Care	No overlap
TOU Registration & Authentication	TOU Registration and Login	Customer Care	No overlap
Original MIMO portal	MIMO (transfer within province)	Customer Care	No overlap
Customer Profile (eDirectory)	Customer Data profiles	Information Technology	No overlap
Access Manager (Siteminder)	Customer Self Service Access	Information Technology	No overlap

3.3 Goals and Benefit Attainment Metrics

The Goals section profiles commitments that the solution will deliver with respect to the current state analysis baselines (section 2.2 Current State). These goals provide the foundation for defining program benefits (section 4.3 Benefits evaluation, section 7.5 Benefits attainment metric). Well defined goals contain attributes similar to the framework known as S.M.A.R.T.

S – specific (clear and well defined)

M – measurable (numeric or descriptive, and quality control)

A – agreed upon (to ensure acceptance by all parties involved)

R – relevant (useful, valuable, aligned with strategic goals)

T – time-bound (time scale, target date)

#	Goal	Description	Benefit Attainment Metrics

#	Goal	Description	Benefit Attainment Metrics
1	Cost savings: reduced cost to outsource call volume	Decrease expenses associated with outsourcing call by 1 FTE ($55,500/year) following go-live	1) Maintain payment related call volumes 5% below 2011 volumes (25,500 annually) for 5 years following go-live. 2) Maintain unknown[1] call volumes 5% below 2011 volumes (76,000 annually) for 5 years following go-live.
2	Cost savings: reduced cost to handle manual transactions	Reduce Call Centre headcount (combined internal and outsourced) by 8 FTE following go-live	1) Process 25% of 115,000 annual Move-In New Account transactions without manual intervention for 5 years following go-live. 2) Process 50% of lawyer initiated moves without manual intervention for 5 years following go-live.
3	Productivity Improvements	Reduce the number of IT incidents related to customer bills	1) Reduce the number of I.T. incidents associated with customer billing by 150 per year for the first complete year following project launch (estimated 2012 total: 1750).
4	Improve I.T. and customer data security	Improve the security design of externally facing customer systems and implement current security standards	1) No security breaches related to customer portals within 3 years of project launch.

[1] eBill/TOU portal calls are coded as 'Unknown' due to their relatively low volume

4 COST / BENEFIT ANALYSIS

This section is focused on profiling the costs associated with delivering the proposed solution, and the subsequent offsets realized in the form of financial and non-financial benefits. It outlines this perspective of the solution along the following focal point sections;

4.1 General Assumptions

4.2 Cost Estimations

4.3 Benefits Evaluation

4.4 Sensitivity Analysis

4.5 Summary

4.1 General Assumptions

Assumptions listed in this section are considered generally accepted facts at the time this business case version was approved.

- A weighted labour cost of $35/hour has been used for outsourced transactions, $51/hour for transactions performed both internally and outsourced and $75/hour for internal only transactions.
- A 4% call volume growth has been included in benefit calculations, where appropriate.
- Navigation to elements within the TOU portal can be easily achieved from the CSS portal without significant code modifications to the TOU portal – functionality remains unchanged.

4.2 Costs Estimations

This section lists the associated cost due to equipment, labor, and material estimates required to deliver the high level proposed solution. The format follows the appropriate corporate Business Case model. It will also explain how costs were determined with underlying assumptions.

Program cost summary

Project Name	Baseline Budget	
	CAPEX*	OPEX
Customer Self Service II	**$ 1,580,000**	**$ -**
CSS, eBill & TOU Portals	$ 480,000	$ -
Online Payment	$ 150,000	$ -
Move-In/New Accounts	$ 510,000	$ -
Lawyer Portal	$ 250,000	$ -
CSS I Enhancements	$ 190,000	$ -

Please refer to Appendix A for details of cost calculation per project

Overlapping systems maintenance costs

System name	System owner	Annual maintenance costs paid to vendor	Internal maintenance cost (FTE)
None identified			

4.3 Benefits Evaluation

4.3.1 Financial Benefits

Goal	Component	Assumptions	First Year Savings	5 Year Total[2] Savings
1. Cost savings: reduced cost to outsource call volume	Single CSS, eBill & TOU Portal	5% reduction in 'Unknown' call category 2011 Call Volume: 76,000 Average Call Handle Time: 10 min Labour Cost: $51/hour	$44,650	$296,000
	Online Payment	5% reduction in 'Make Payment' call category 2011 Call Volume: 25,500 Average Call Handle Time: 10 min Labour Cost: $51/hour	$10,850	$71,850
2. Cost savings: reduced cost to handle manual transactions	Move-In New Accounts	115,000 new accounts are created each year via white mail, the website and call centre. 25% of these (14,000) will be diverted to the website and processed without manual intervention Average Handle Time: 15 min Labour Cost: $51/hour	$366,500	$2,431,400
	Lawyer Portal	On average 35,000 lawyer-initiated move requests have been received over the last 4 years. 50% (17,500) will be diverted to the website and processed without manual intervention Average Handle Time: 15 min Labour Cost: $51/hour	$223,000	$1,338,750

[2] 5 Year Total includes 4% annual call volume growth, not discounted

Goal	Component	Assumptions	First Year Savings	5 Year Total[2] Savings
3. Productivity Improvements 4. Improve I.T. and customer data security	Single CSS, eBill & TOU Portal	Avoid the replacement cost and associated labour costs associated with the end-of-life eBill server infrastructure. Server hardware CAPEX, 8 servers: $66,000 Server hardware maintenance cost OPEX: $12,000 (annually) Software purchase CAPEX, 8 servers: $62,000 Software maintenance cost OPEX: $12,000 (annually) Server hardware and software installation labour: 5 FTE for 50 hours each at $100 per hour	$172,000	$292,000
		Reduce I.T. eBill related support costs. 3 incidents per week, averaging 10 hours (3 people) at $100 per hour	$54,600	$327,600

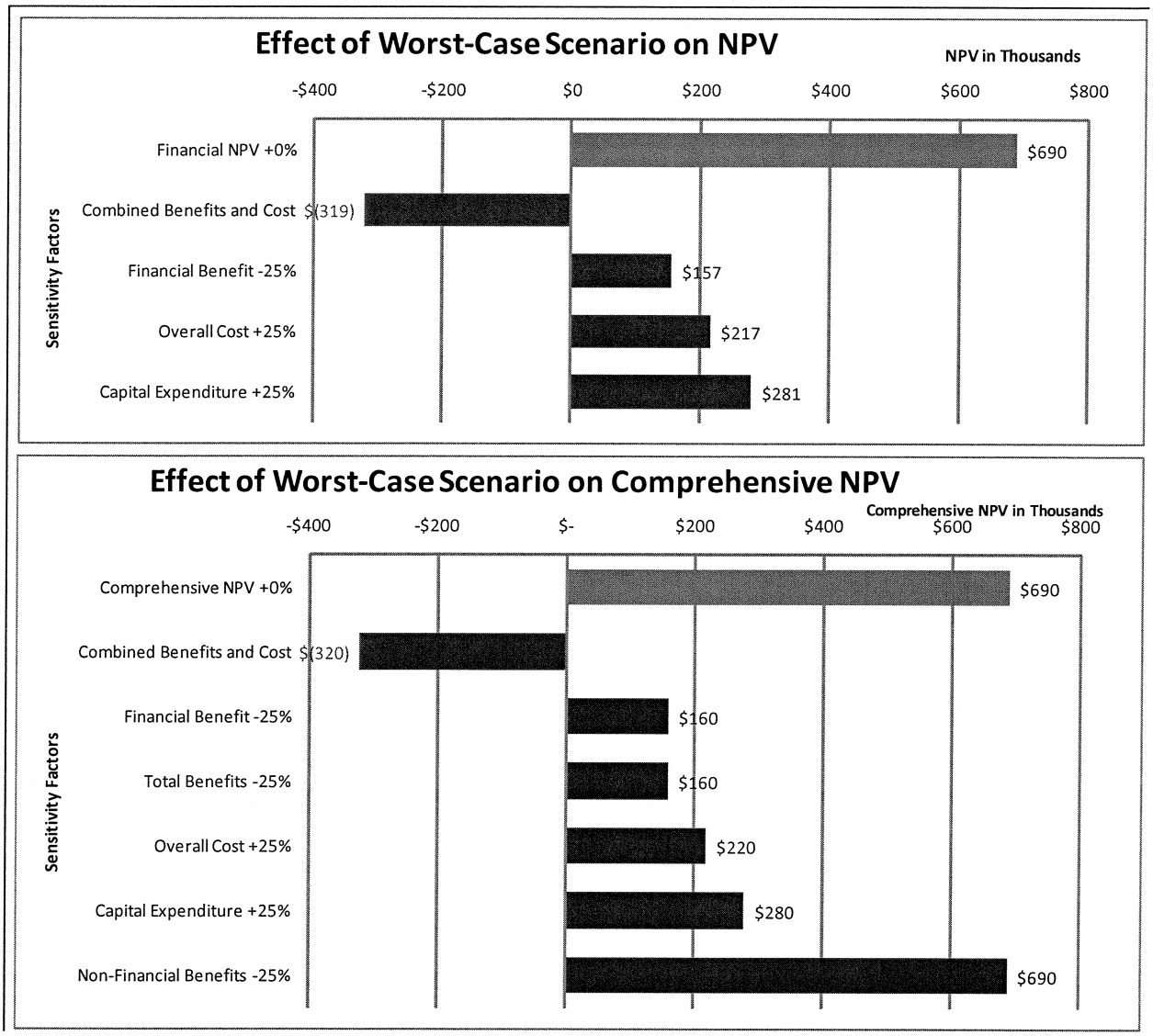
4.3.2 Non-Financial Benefits

Other benefits that TH will obtain from the delivery of this business case include:

- Significantly improved customer data security, with industry leading and easy to use security toolset; single website security model;
- Decommissioning of end-of-life and unsupported hardware and software; simplification of the I.T. environment with a reduced number of applications requiring support;
- Improved customer satisfaction through greater access to TH services, specifically enhancements to 24/7 service account management convenience;
- Improved customer awareness of electricity consumption patterns;
- Potential to significantly increase tier ranking in 2013 eSource North American Utility Website survey (currently ranked in Tier 3); and
- Increased digital engagement on Toronto Hydro website due to integrated online experience, resulting in higher awareness of Toronto Hydro programs and services (i.e. conservation and demand management).

4.4 Sensitivity Analysis

This section provides a sensitivity analysis of the program based on cost projections and benefits realization. Both costs and benefits have a -25% sensitivity to illustrate the worst-case scenario. The analysis will ensure confidence in the programs' efficiency, and will be done with the corporate Business Case model. A list of program criteria is included to reflect the sensitivity analysis.



4.5 Summary

The summary section summarizes the net cost / benefit outcome anticipated by the delivery of this solution as profiled in the sections above. It provides an input to proposal efficiency check and prioritization model.

Investment Total		
Net Capital Invested	$	(1,700,000)
Chargeable (program capital budget)	$	(1,580,000)
Non-chargeable time	$	(120,000)

Total Corporate Value		
Comprehensive Net Present Value (all costs, all benefits)	$	690,000

Total Cash Value		
Net Present Value (all costs, cash benefits only)	$	690,000

Dollar-Equivalent Non-Cash Benefits		
Productivity (time saving, increased throughput, etc.)	$	0
Carbon Savings	$	0
Reliability Improvements	$	0
Community Contributions	$	0

Other Prioritization Criteria	
Internal Rate of Return	22.04%
Payback Period	4.31 years
Strategic Alignment Score	
KPI Alignment	No Alignment
Pillar Alignment	No Alignment
Risk Alignment Score	9

5 STRATEGIC ALIGNMENT

This section gives a descriptive account of how this program will contribute to strengthening our corporate strategic pillars, and if possible, determine the impact on the pillars through the KPIs.

The four Corporate Pillars are:

- **Customer Service Pillar:** Value for money
- **Operations Pillar:** Improve reliability though optimal and sustainable system management
- **People Pillar:** Fully-engaged, safe and healthy workforce that meets the changing business requirements
- **Financial Strength Pillar:** Meet financial objectives of the Shareholder

Strategic Alignment Summary			
Pillar	*KPI Alignment*	*Pillar Alignment*	*Rationale*
Customer Pillar	*High Alignment*	*High Alignment*	*Enhanced customer self-service will lead customers to use the portal and directly impact the ECE metric. This in turn has benefits for the Service Response metric. Significantly improved customer experience*
Operations Pillar	*No Alignment*	*No Alignment*	*No alignment to Operations pillar or related KPIs*
People Pillar	*No Alignment*	*No Alignment*	*No alignment to People pillar or related KPIs*
Financial Pillar	*Some Alignment*	*Some Alignment*	*Provides Cost avoidance by allowing customers to utilize less expensive channels and increases likelihood of customers paying on time reducing arrears*
Overall Strategic Alignment Assessment	***No Alignment***	***No Alignment***	***Focused Customer Care initiative and provides cost avoidance***

6 RISK ALIGNMENT / IMPACT ANALYSIS

The CSS II project has not been created to directly address any enterprise risks; however it does have the benefit of reducing the exposure to two of the enterprise risks.

- Information Technology: this risk exposure is reduced as a result of the decommissioning of aging eBills, ColdFusion and other supporting technologies. A new solution, aligned with corporate standards ensures a lower total cost of ownership. The reliability of the solution is also greatly improved.
- Cyber Security: with the launch of CSS I, online customer security is split between two different processes, across multiple accounts and in some instances involves manual, paper-based steps. CSS II introduces a consolidated, automated and industry standard security solution. This in turn reduces the likelihood of Toronto Hydro systems being electronically compromised.

Risk Alignment Summary

Risk Area	Initiative reduces Risk exposure (YES/NO)	Initiative increases Risk exposure (YES/NO)	Overall Risk Category Rationale Summary
Operations	Yes	No	This project reduces the Operations risk exposure through replacement of aging, disjointed technology and improves the online security model
Finance	No	No	This project does not change the Finance area risk exposure
People	No	No	This project does not change the People area risk exposure
Strategy	No	No	This project does not change the Strategy area risk exposure
External	No	No	This project does not chang ethe External area risk exposure

7 IMPLEMENTATION APPROACH

This section is focused on profiling the approach associated with delivering the proposed solution. It outlines this perspective of the solution along the following focal point sections;

7.1 Implementation Strategy and High-Level Timeline
7.2 Execution Risks and Critical Success Factors
7.3 Accountabilities
7.4 Execution Success Metrics
7.5 Metrics to Measure Benefits Attainment

7.1 Implementation Strategy and High-level Timeline

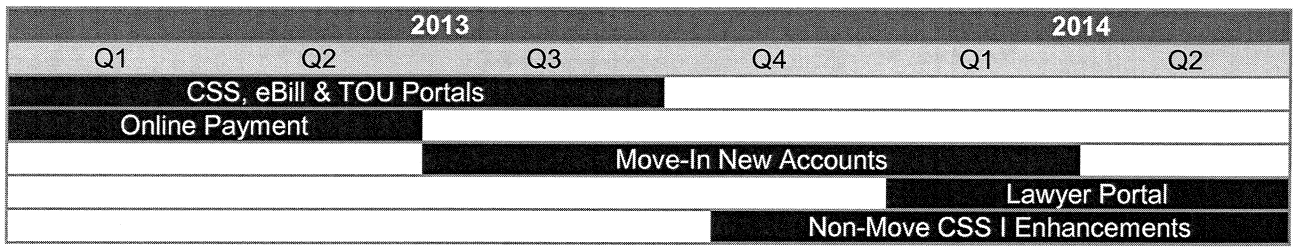
The four components of this business case; CSS, eBill & TOU Portals, Online Payment, Move-In New Account and Lawyer Portal will be delivered as four projects. The CSS I enhancements will be incorporated into the Move-In stream where appropriate and those remaining will be treated as a separate stream.

Splitting the work lowers the risks to delivery by creating manageable work volumes and business changes. It also allows greater flexibility in adjusting to a changing business environment.

The Lawyer Portal is positioned after the Move-In New Account project since that functionality will also be included in the Lawyer Portal and this sequence minimizes rework and testing.

The project deliverables have been split across years to spread the impact to the overall I.T. capital portfolio.

The table below contains an initial timeline for the project as of the time of writing the business case. Its primary use is to estimate project cost however it also illustrates expected durations. Delivery date commitments will be provided by the project delivery team and recorded in project planning documents.



7.2 Execution Risks and Critical Success Factors

The following are critical success factors for the project and the risks associated with achieving each of them:

- **Project Cost and Timelines:** Development of project deliverables is likely to involve external vendors; this creates a risk for the project and its ability to deliver on time and budget. This risk will be mitigated by using vendors that have a working relationship with TH and through the use of contract tools such as fixed price commitments and formal quality measurement.
- **Transfer of commercial customers to portal based solution:** The original CSS design parameters cover residential accounts only, with the proposed changes commercial customers will also be included. This creates a risk to the project's cost, schedule and quality assumptions should this create unforeseen complexity. This has been addressed through pre-business case investigation by the current CSS development vendors.
- **Decommissioning of aging technology:** Many of the project benefits are as a result of decommissioning a portion of the aging technology installed at TH. There is a risk to targeted project benefits if the technology cannot be decommissioned. The project will develop detailed requirements early in the project to ensure that there is sufficient lead-time to address this risk.

7.3 Accountabilities

Accountabilities and responsibilities of stakeholders in the solution delivery:

Stakeholder title	Role	Responsibilities
C. Tyrrell	Sponsor	• Program sponsorship • Primary business case approval
R. Wong	Co-Sponsor	• Sign-Off Business Case • Provide support resources for Business Case creation and project execution • Support technology solution following launch
L. Kirk	Stakeholder Manager	• Provide Call Centre strategy and direction • Provide Call Centre Supervisor resources • Sign-Off Business Case, Requirements, Design, Training and Implementation • Provide prioritization, delivery direction and departmental alignment
E. Page	Stakeholder Manager	• Provide Accounts Receivable strategy and direction • Provide Accounts Receivable Supervisor resources
C. Floriano R. Eveleigh	Manager	• Sign-Off Requirements, Infrastructure, Training and Implementation • Establish ongoing support structure, knowledge and skills
A. Policicchio	Manager	• Governance of program
S. Jacka	Enterprise Architect	• Approve Architecture Documents • Validate final solution for compliance with corporate technology standards
W. Tichbon	Project Leader	• Development and support of business case • Coordinate program dependencies during business case development
T.B.D.	Project Leader	• Management of project delivery team and plans • Preparation of reporting material • Management of project scope

7.4 Execution Success Metrics

The metrics stated in this section are proxies to gauge efficiency of the solution towards achieving the expected goals. They are used by the project leader to report progress and success during solution delivery.

ID	Metric Name	Target	Formula	Realization Timing	Owner
1	Maintain progress of project in accordance with the plan for each of the project streams				
1.1	E&C Stream KPI	Achieve or exceed the planned number of activities	# of E&C Stream activities complete / Total # E&C Stream activities in project schedule	Planned Stream End Date	I.T. Project Management
1.2	Business Stream KPI	Achieve or exceed the planned number of activities	# of Business Stream activities complete / Total # Business Stream activities in project schedule	Planned Stream End Date	I.T. Project Management
1.3	IT Support Stream KPI	Achieve or exceed the planned number of activities	# of IT Support Stream activities complete / Total # IT Support Stream activities in project schedule	Planned Stream End Date	I.T. Project Management
1.4	IT Technical Stream KPI	Achieve or exceed the planned number of activities	# of IT Technical Stream activities complete / Total # IT Technical Stream activities in project schedule	Planned Stream End Date	I.T. Project Management

7.5 Metrics to Measure Benefits Attainment

The metrics stated in this section are designated to track post implementation benefit realization (responsibility of project owners / beneficiaries). They would correlate to the benefits evaluation in section 0 and be aligned with the goals stated in section 3.2. Additional details, such as targets for each period, should be included to provide the ability to monitor and assess their realization during the stages of solution delivery.

- Project Goal: A description of what the program wants to achieve (see Section 3.2)
- Metric Name: Name of the measure used to track performance
- Formula: Formula used or other means to identify performance
- Realization Timing: The start date and performance timeline to full benefit realization
- Beneficiary: The stakeholder (Division / Department) with responsibility for sustaining the benefit once the enabling system, people, and process deliverables are complete and accepted

All realization timing entries in this section assume the project is delivered according to the very high-level timeline present in section 7.1. Changes to this timeline will also need to be reflected in the expected realization timing captured below.

ID	Metric Name	Formula	**Target overall**	Realization Timing	Beneficiary
Goal 1: Cost savings; reduced cost to outsource call volume					

ID	Metric Name	Formula	**Target overall**	Realization Timing	Beneficiary
1.1	Make Payment	Call Activity Report 'Collections – Make Payment' category call volume (2011: 25,500)	24,225 25,200 26,200 27,250 28,350	2014 2015 2016 2017 2018	Call Centre
1.2	eBill/TOU	Call Activity Report 'Unknown' category call volume (2011: 76,000)	72,200 75,100 78,100 81,225 84,500	2014 2015 2016 2017 2018	Call Centre
Goal 2: Cost savings; reduced cost to manual transactions					
2.1	Move-In New Account	Number of Online Move-In New Account transactions / Total Move-In New Account transactions	25%	2014-2018	Call Centre
2.2	Lawyer Portal	Number of online lawyer move transactions / total lawyer move transactions	50%	2014-2018	Call Centre
Goal 3: Productivity Improvements					
3.1	I.T. support calls	Total of 2014 incidents related to electronic bills (2012 estimate: 1750)	750	2014	Application Support
Goal 4: Improve I.T. and customer data security					
4.1	Customer data security	Number of externally initiated customer data security incidents	0	2013 to 2015	Application Support

The following section breaks the metrics down by project to show the contribution made by each project.

7.5.1 CSS, eBill & TOU Portal Targets

ID	Metric Name	Formula	**Project Target**	Realization Timing	Beneficiary
Goal 1: Cost savings; reduced cost to outsource call volume					
1.1	Make Payment	Call Activity Report 'Collections – Make Payment'	N/A	2014 2015	Call Centre

ID	Metric Name	Formula	**Project Target**	Realization Timing	Beneficiary
		category call volume (2011: 25,500)		2016 2017 2018	
1.2	eBill/TOU	Call Activity Report 'Unknown' category call volume (2011: 76,000)	72,200 75,100 78,100 81,225 84,500	2014 2015 2016 2017 2018	Call Centre
Goal 2: Cost savings; reduced cost to manual transactions					
2.1	Move-In New Account	Number of Online Move-In New Account transactions / Total Move-In New Account transactions	N/A	2014-2018	Call Centre
2.2	Lawyer Portal	Number of online lawyer move transactions / total lawyer move transactions	N/A	2014-2018	Call Centre
Goal 3: Productivity Improvements					
3.1	I.T. support calls	Total of 2014 incidents related to electronic bills (2012 estimate: 1750)	750	2014	Application Support
Goal 4: Improve I.T. and customer data security					
4.1	Customer data security	Number of externally initiated customer data security incidents	0	2013 to 2015	Application Support

7.5.2 Online Payment Targets

ID	Metric Name	Formula	**Project Target**	Realization Timing	Beneficiary
Goal 1: Cost savings; reduced cost to outsource call volume					
1.1	Make Payment	Call Activity Report 'Collections – Make Payment' category call volume (2011: 25,500)	24,225 25,200 26,200 27,250 28,350	2014 2015 2016 2017 2018	Call Centre

ID	Metric Name	Formula	**Project Target**	Realization Timing	Beneficiary
1.2	eBill/TOU	Call Activity Report 'Unknown' category call volume (2011: 76,000)	N/A	2014 2015 2016 2017 2018	Call Centre
Goal 2: Cost savings; reduced cost to manual transactions					
2.1	Move-In New Account	Number of Online Move-In New Account transactions / Total Move-In New Account transactions	N/A	2014-2018	Call Centre
2.2	Lawyer Portal	Number of online lawyer move transactions / total lawyer move transactions	N/A	2014-2018	Call Centre
Goal 3: Productivity Improvements					
3.1	I.T. support calls	Total of 2014 incidents related to electronic bills (2012 estimate: 1750)	N/A	2014	Application Support
Goal 4: Improve I.T. and customer data security					
4.1	Customer data security	Number of externally initiated customer data security incidents	N/A	2013 to 2015	Application Support

7.5.3 Move-In New Account Targets

ID	Metric Name	Formula	**Project Target**	Realization Timing	Beneficiary
Goal 1: Cost savings; reduced cost to outsource call volume					
1.1	Make Payment	Call Activity Report 'Collections – Make Payment' category call volume (2011: 25,500)	N/A	2014 2015 2016 2017 2018	Call Centre

ID	Metric Name	Formula	**Project Target**	Realization Timing	Beneficiary
1.2	eBill/TOU	Call Activity Report 'Unknown' category call volume (2011: 76,000)	N/A	2014 2015 2016 2017 2018	Call Centre
Goal 2: Cost savings; reduced cost to manual transactions					
2.1	Move-In New Account	Number of Online Move-In New Account transactions / Total Move-In New Account transactions	25%	2014-2018	Call Centre
2.2	Lawyer Portal	Number of online lawyer move transactions / total lawyer move transactions	N/A	2014-2018	Call Centre
Goal 3: Productivity Improvements					
3.1	I.T. support calls	Total of 2014 incidents related to electronic bills (2012 estimate: 1750)	N/A	2014	Application Support
Goal 4: Improve I.T. and customer data security					
4.1	Customer data security	Number of externally initiated customer data security incidents	N/A	2013 to 2015	Application Support

7.5.4 Lawyer Portal Targets

ID	Metric Name	Formula	**Project Target**	Realization Timing	Beneficiary
Goal 1: Cost savings; reduced cost to outsource call volume					
1.1	Make Payment	Call Activity Report 'Collections – Make Payment' category call volume (2011: 25,500)	N/A	2014 2015 2016 2017 2018	Call Centre

ID	Metric Name	Formula	**Project Target**	Realization Timing	Beneficiary
1.2	eBill/TOU	Call Activity Report 'Unknown' category call volume (2011: 76,000)	N/A	2014 2015 2016 2017 2018	Call Centre
Goal 2: Cost savings; reduced cost to manual transactions					
2.1	Move-In New Account	Number of Online Move-In New Account transactions / Total Move-In New Account transactions	N/A	2014-2018	Call Centre
2.2	Lawyer Portal	Number of online lawyer move transactions / total lawyer move transactions	50%	2014-2018	Call Centre
Goal 3: Productivity Improvements					
3.1	I.T. support calls	Total of 2014 incidents related to electronic bills (2012 estimate: 1750)	N/A	2014	Application Support
Goal 4: Improve I.T. and customer data security					
4.1	Customer data security	Number of externally initiated customer data security incidents	N/A	2013 to 2015	Application Support

8 APPENDICES

8.1 Appendix A: Program Cost Details

8.1.1 Project 1 - CSS, eBill & TOU Portals

Chargeable labour costs

Project 1 -Chargeable Labour		Number of SMEs	% of utilization	Rate per hour	Duration of participation (month)	Hours	Cost
SW labour	External Quot	4.00	85%	$100	5.00	2,380	$ 238,000
	Proj Mgmt	2.00	50%	$100	5.00	700	$ 70,000
	BA	1.00	33%	$90	5.00	231	$ 20,790
	Developer	1.00	50%	$90	5.00	350	$ 31,500
	QA Spec	1.00	25%	$80	5.00	175	$ 14,000
	External Extir	2.00	50%	$150	5.00	700	$ 105,000
	Role 7					-	$ -
	Role 8					-	$ -
	Role 9					-	$ -
	Role 10					-	$ -
	TOTAL SW labour						**$ 479,290**
HW labour	Role 1					-	$ -
	Role 2					-	$ -
	Role 3					-	$ -
	Role 4					-	$ -
	Role 5					-	$ -
	Role 6					-	$ -
	Role 7					-	$ -
	Role 8					-	$ -
	Role 9					-	$ -
	Role 10					-	$ -
	TOTAL HW labour						**$ -**

Non-chargeable labour costs

Project 1 -Non-chargeable Labour		Number of SMEs	% of utilization	Rate per hour	Duration of participation (month)	Hours	Cost
SW labour	Bus Mgr	1.00	10%	$120	5.00	70	$ 8,400
	SME	1.00	25%	$100	4.00	140	$ 14,000
	Tester	1.00	25%	$70	3.00	105	$ 7,350
	Role 4					-	$ -
	Role 5					-	$ -
	Role 6					-	$ -
	Role 7					-	$ -
	Role 8					-	$ -
	Role 9					-	$ -
	Role 10					-	$ -
	TOTAL SW labour						**$ 29,750**
HW labour	Role 1					-	$ -
	Role 2					-	$ -
	Role 3					-	$ -
	Role 4					-	$ -
	Role 5					-	$ -
	Role 6					-	$ -
	Role 7					-	$ -
	Role 8					-	$ -
	Role 9					-	$ -
	Role 10					-	$ -
	TOTAL HW labour						**$ -**

Computer equipment and Software application costs

Project 1 -Equipment		Number of units	Price per unit	Cost
SW application	Enterprise SW			$ -
	Client SW			$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
	TOTAL SW application			**$ -**
HW Equipment	Client Devices HW			$ -
	Network HW			$ -
	Printer HW			$ -
	Storage HW			$ -
	Telecom HW			$ -
	Radio HW			$ -
	Servers: P series HW			$ -
	Servers: X86 HW			$ -
				$ -
				$ -
	TOTAL HW equipment			**$ -**

Chargeable Operating costs

Project 1 - chargeable operating cost	Number of SMEs	Rate per hour	Number of Hours	Cost
Trainings				$ -
Op cost 2				$ -
Op cost 3				$ -
Op cost 4				$ -
Op cost 5				$ -
Op cost 6				$ -
Op cost 7				$ -
Op cost 8				$ -
Op cost 9				$ -
Op cost 10				$ -
Total Operating Cost				-

Non-chargeable Operating costs

Project 1 - non-chargeable operating cost	Number of SMEs	Rate per hour	Number of Hours	Cost
Trainings				$ -
Op cost 2				$ -
Op cost 3				$ -
Op cost 4				$ -
Op cost 5				$ -
Op cost 6				$ -
Op cost 7				$ -
Op cost 8				$ -
Op cost 9				$ -
Op cost 10				$ -
Total Operating Cost				-

8.1.2 Project 2 - Online Payment

Chargeable labour costs

Project 2 -Chargeable Labour		Number of SMEs	% of utilization	Rate per hour	Duration of participation (month)	Hours	Cost
SW labour	External Quot	3.00	35%	$100	5.00	735	$ 73,500
	Proj Mgmt	2.00	25%	$100	5.00	350	$ 35,000
	BA	1.00	25%	$90	5.00	175	$ 15,750
	Developer	1.00	25%	$90	5.00	175	$ 15,750
	QA Spec	1.00	25%	$80	5.00	175	$ 14,000
	Role 6					-	$ -
	Role 7					-	$ -
	Role 8					-	$ -
	Role 9					-	$ -
	Role 10					-	$ -
	TOTAL SW labour						**$ 154,000**
HW labour	Role 1					-	$ -
	Role 2					-	$ -
	Role 3					-	$ -
	Role 4					-	$ -
	Role 5					-	$ -
	Role 6					-	$ -
	Role 7					-	$ -
	Role 8					-	$ -
	Role 9					-	$ -
	Role 10					-	$ -
	TOTAL HW labour						**$ -**

Non-chargeable labour costs

Project 2 -Non-chargeable Labour		Number of SMEs	% of utilization	Rate per hour	Duration of participation (month)	Hours	Cost
SW labour	Bus Mgr	1.00	10%	$120	5.00	70	$ 8,400
	SME	1.00	25%	$100	4.00	140	$ 14,000
	Tester	1.00	25%	$70	3.00	105	$ 7,350
	Role 4					-	$ -
	Role 5					-	$ -
	Role 6					-	$ -
	Role 7					-	$ -
	Role 8					-	$ -
	Role 9					-	$ -
	Role 10					-	$ -
	TOTAL SW labour						**$ 29,750**
HW labour	Role 1					-	$ -
	Role 2					-	$ -
	Role 3					-	$ -
	Role 4					-	$ -
	Role 5					-	$ -
	Role 6					-	$ -
	Role 7					-	$ -
	Role 8					-	$ -
	Role 9					-	$ -
	Role 10					-	$ -
	TOTAL HW labour						**$ -**

Computer equipment and Software application costs

Project 2 -Equipment		Number of units	Price per unit	Cost
SW application	Enterprise SW			$ -
	Client SW			$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
	TOTAL SW application			**$ -**
HW Equipment	Client Devices HW			$ -
	Network HW			$ -
	Printer HW			$ -
	Storage HW			$ -
	Telecom HW			$ -
	Radio HW			$ -
	Servers: P series HW			$ -
	Servers: X86 HW			$ -
				$ -
				$ -
	TOTAL HW equipment			**$ -**

Chargeable Operating costs

Project 2 - chargeable operating cost	Number of SMEs	Rate per hour	Number of Hours	Cost
Trainings				$ -
Op cost 2				$ -
Op cost 3				$ -
Op cost 4				$ -
Op cost 5				$ -
Op cost 6				$ -
Op cost 7				$ -
Op cost 8				$ -
Op cost 9				$ -
Op cost 10				$ -
Total Operating Cost				-

Non-chargeable Operating costs

Project 2 - non-chargeable operating cost	Number of SMEs	Rate per hour	Number of Hours	Cost
Trainings				$ -
Op cost 2				$ -
Op cost 3				$ -
Op cost 4				$ -
Op cost 5				$ -
Op cost 6				$ -
Op cost 7				$ -
Op cost 8				$ -
Op cost 9				$ -
Op cost 10				$ -
Total Operating Cost				-

8.1.3 Project 3 - Move-In New Account

Chargeable labour costs

Project 3 -Chargeable Labour		Number of SMEs	% of utilization	Rate per hour	Duration of participation (month)	Hours	Cost
SW labour	External Quot	5.00	75%	$100	6.00	3,150	$ 315,000
	Proj Mgmt	2.00	60%	$100	6.00	1,008	$ 100,800
	BA	1.00	33%	$90	6.00	277	$ 24,948
	Developer	1.00	25%	$90	6.00	210	$ 18,900
	QA Spec	1.00	25%	$80	6.00	210	$ 16,800
	External Estir	1.00	20%	$100	6.00	168	$ 16,800
	Role 7					-	$ -
	Role 8					-	$ -
	Role 9					-	$ -
	Role 10					-	$ -
	TOTAL SW labour						**$ 493,248**
HW labour	Infrastructure	1.00	25%	$90	6.00	210	$ 18,900
	Role 2					-	$ -
	Role 3					-	$ -
	Role 4					-	$ -
	Role 5					-	$ -
	Role 6					-	$ -
	Role 7					-	$ -
	Role 8					-	$ -
	Role 9					-	$ -
	Role 10					-	$ -
	TOTAL HW labour						**$ 18,900**

Non-chargeable labour costs

Project 3 -Non-chargeable Labour		Number of SMEs	% of utilization	Rate per hour	Duration of participation (month)	Hours	Cost
SW labour	Bus Mgr	1.00	10%	$120	6.00	84	$ 10,080
	SME	1.00	25%	$100	5.00	175	$ 17,500
	Tester	1.00	25%	$70	4.00	140	$ 9,800
	Role 4					-	$ -
	Role 5					-	$ -
	Role 6					-	$ -
	Role 7					-	$ -
	Role 8					-	$ -
	Role 9					-	$ -
	Role 10					-	$ -
	TOTAL SW labour						**$ 37,380**
HW labour	Role 1					-	$ -
	Role 2					-	$ -
	Role 3					-	$ -
	Role 4					-	$ -
	Role 5					-	$ -
	Role 6					-	$ -
	Role 7					-	$ -
	Role 8					-	$ -
	Role 9					-	$ -
	Role 10					-	$ -
	TOTAL HW labour						**$ -**

Computer equipment and Software application costs

Project 3 -Equipment		Number of units	Price per unit	Cost
SW application	Enterprise SW			$ -
	Client SW			$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
	TOTAL SW application			**$ -**
HW Equipment	Client Devices HW			$ -
	Network HW			$ -
	Printer HW			$ -
	Storage HW			$ -
	Telecom HW			$ -
	Radio HW			$ -
	Servers: P series HW			$ -
	Servers: X86 HW			$ -
				$ -
				$ -
	TOTAL HW equipment			**$ -**

Chargeable Operating costs

Project 3 - chargeable operating cost	Number of SMEs	Rate per hour	Number of Hours	Cost
Trainings				$ -
Op cost 2				$ -
Op cost 3				$ -
Op cost 4				$ -
Op cost 5				$ -
Op cost 6				$ -
Op cost 7				$ -
Op cost 8				$ -
Op cost 9				$ -
Op cost 10				$ -
Total Operating Cost				-

Non-chargeable Operating costs

Project 3 - non-chargeable operating cost	Number of SMEs	Rate per hour	Number of Hours	Cost
Trainings				$ -
Op cost 2				$ -
Op cost 3				$ -
Op cost 4				$ -
Op cost 5				$ -
Op cost 6				$ -
Op cost 7				$ -
Op cost 8				$ -
Op cost 9				$ -
Op cost 10				$ -
Total Operating Cost				-

8.1.4 Project 4 - Lawyer Portal

Chargeable labour costs

Project 4 -Chargeable Labour		Number of SMEs	% of utilization	Rate per hour	Duration of participation (month)	Hours	Cost
SW labour	External Quot	3.00	70%	$100	4.00	1,176	$ 117,600
	Proj Mgmt	2.00	40%	$100	4.00	448	$ 44,800
	BA	1.00	33%	$90	4.00	185	$ 16,632
	Developer	1.00	25%	$90	4.00	140	$ 12,600
	QA Spec	1.00	25%	$80	4.00	140	$ 11,200
	External Estir	3.00	20%	$100	4.00	336	$ 33,600
	Role 7					-	$ -
	Role 8					-	$ -
	Role 9					-	$ -
	Role 10					-	$ -
	TOTAL SW labour						**$ 236,432**
HW labour	Infrastructure	1.00	25%	$90	4.00	140	$ 12,600
	Role 2					-	$ -
	Role 3					-	$ -
	Role 4					-	$ -
	Role 5					-	$ -
	Role 6					-	$ -
	Role 7					-	$ -
	Role 8					-	$ -
	Role 9					-	$ -
	Role 10					-	$ -
	TOTAL HW labour						**$ 12,600**

Non-chargeable labour costs

Project 4 -Non-chargeable Labour		Number of SMEs	% of utilization	Rate per hour	Duration of participation (month)	Hours	Cost
SW labour	Bus Mgr	1.00	10%	$120	4.00	56	$ 6,720
	SME	1.00	25%	$100	3.00	105	$ 10,500
	Tester	1.00	25%	$70	2.00	70	$ 4,900
	Role 4					-	$ -
	Role 5					-	$ -
	Role 6					-	$ -
	Role 7					-	$ -
	Role 8					-	$ -
	Role 9					-	$ -
	Role 10					-	$ -
	TOTAL SW labour						**$ 22,120**
HW labour	Role 1					-	$ -
	Role 2					-	$ -
	Role 3					-	$ -
	Role 4					-	$ -
	Role 5					-	$ -
	Role 6					-	$ -
	Role 7					-	$ -
	Role 8					-	$ -
	Role 9					-	$ -
	Role 10					-	$ -
	TOTAL HW labour						**$ -**

Computer equipment and Software application costs

Project 3 -Equipment		Number of units	Price per unit	Cost
SW application	Enterprise SW			$ -
	Client SW			$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
	TOTAL SW application			**$ -**
HW Equipment	Client Devices HW			$ -
	Network HW			$ -
	Printer HW			$ -
	Storage HW			$ -
	Telecom HW			$ -
	Radio HW			$ -
	Servers: P series HW			$ -
	Servers: X86 HW			$ -
				$ -
				$ -
	TOTAL HW equipment			**$ -**

Chargeable Operating costs

Project 3 - chargeable operating cost	Number of SMEs	Rate per hour	Number of Hours	Cost
Trainings				$ -
Op cost 2				$ -
Op cost 3				$ -
Op cost 4				$ -
Op cost 5				$ -
Op cost 6				$ -
Op cost 7				$ -
Op cost 8				$ -
Op cost 9				$ -
Op cost 10				$ -
Total Operating Cost				-

Non-chargeable Operating costs

Project 3 - non-chargeable operating cost	Number of SMEs	Rate per hour	Number of Hours	Cost
Trainings				$ -
Op cost 2				$ -
Op cost 3				$ -
Op cost 4				$ -
Op cost 5				$ -
Op cost 6				$ -
Op cost 7				$ -
Op cost 8				$ -
Op cost 9				$ -
Op cost 10				$ -
Total Operating Cost				-

8.1.5 Project 5 – Remaining CSS I Enhancements

Chargeable labour costs

Project 5 -Chargeable Labour		Number of SMEs	% of utilization	Rate per hour	Duration of participation (month)	Hours	Cost
SW labour	Navantis	3.00	50%	$180	2.00	420	$ 75,600
	Oracle	1.25	50%	$150	2.00	175	$ 26,250
	PM/PL	2.00	50%	$100	2.00	280	$ 28,000
	BA	1.00	100%	$90	2.00	280	$ 25,200
	Developer	1.00	50%	$90	2.00	140	$ 12,600
	QA	1.00	50%	$80	2.00	140	$ 11,200
	Role 7					-	$ -
	Role 8					-	$ -
	Role 9					-	$ -
	Role 10					-	$ -
	TOTAL SW labour						**$ 178,850**
HW labour	Infrastructure	1.00	25%	$90	2.00	70	$ 6,300
	Role 2					-	$ -
	Role 3					-	$ -
	Role 4					-	$ -
	Role 5					-	$ -
	Role 6					-	$ -
	Role 7					-	$ -
	Role 8					-	$ -
	Role 9					-	$ -
	Role 10					-	$ -
	TOTAL HW labour						**$ 6,300**

Non-chargeable labour costs

Project 5 -Non-chargeable Labour		Number of SMEs	% of utilization	Rate per hour	Duration of participation (month)	Hours	Cost
SW labour	Role 1					-	$ -
	Role 2					-	$ -
	Role 3					-	$ -
	Role 4					-	$ -
	Role 5					-	$ -
	Role 6					-	$ -
	Role 7					-	$ -
	Role 8					-	$ -
	Role 9					-	$ -
	Role 10					-	$ -
	TOTAL SW labour						**$ -**
HW labour	Role 1					-	$ -
	Role 2					-	$ -
	Role 3					-	$ -
	Role 4					-	$ -
	Role 5					-	$ -
	Role 6					-	$ -
	Role 7					-	$ -
	Role 8					-	$ -
	Role 9					-	$ -
	Role 10					-	$ -
	TOTAL HW labour						**$ -**

Computer equipment and Software application costs

Project 5 -Equipment		Number of units	Price per unit	Cost
SW application	Enterprise SW			$ -
	Client SW			$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
	TOTAL SW application			**$ -**
HW Equipment	Client Devices HW			$ -
	Network HW			$ -
	Printer HW			$ -
	Storage HW			$ -
	Telecom HW			$ -
	Radio HW			$ -
	Servers: P series HW			$ -
	Servers: X86 HW			$ -
				$ -
				$ -
	TOTAL HW equipment			**$ -**

Chargeable Operating costs

Project 5 - chargeable operating cost	Number of SMEs	Rate per hour	Number of Hours	Cost
Trainings				$ -
Op cost 2				$ -
Op cost 3				$ -
Op cost 4				$ -
Op cost 5				$ -
Op cost 6				$ -
Op cost 7				$ -
Op cost 8				$ -
Op cost 9				$ -
Op cost 10				$ -
Total Operating Cost				-

Non-chargeable Operating costs

Project 5 - non-chargeable operating cost	Number of SMEs	Rate per hour	Number of Hours	Cost
Trainings				$ -
Op cost 2				$ -
Op cost 3				$ -
Op cost 4				$ -
Op cost 5				$ -
Op cost 6				$ -
Op cost 7				$ -
Op cost 8				$ -
Op cost 9				$ -
Op cost 10				$ -
Total Operating Cost				-

8.2 Appendix B: Detailed Financial Summary[3]

This section will include a detailed breakdown of financial and dollar-equivalent non-financial benefits and of costs and capital investments made and used in this program (see also following page)

Financial Cashflows		YEAR 0	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10	YEAR 11	YEAR 12	YEAR 13	YEAR 14	YEAR 15	YEAR 16	YEAR 17	YEAR 18	YEAR 19	YEAR 20	YEAR 21	YEAR 22	YEAR 23	YEAR 24	YEAR 25	YEAR 26
Capital Cash Flow																												
Distribution System Assets	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Buildings	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Computer Equipment	$ K	(38)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Applications Software	$ K	(1,661)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rolling Stock	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Leasehold Improvements	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Office Equipment	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Land	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Annual Capital Expenditures	$ K	(1,699)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Annual Capital Offsets	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Capital Cash Flow	**$ K**	**(1,699)**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Operating Cash Flow																												
Revenue	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Revenue Loss Avoidance	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cost Avoidance	$ K	-	172	24	24	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cost Savings	$ K	-	189	795	812	830	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Annual Financial Benefits	**$ K**	**-**	**361**	**819**	**836**	**854**	**872**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Labour	$ K	-	(88)	(88)	(88)	(88)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Contractor	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Material	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Equipment	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maintainence	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Repair	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Annual Operating Costs	**$ K**	**-**	**(88)**	**(88)**	**(88)**	**(88)**	**(88)**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Net Operating Cash Flow	**$ K**	**-**	**273**	**731**	**748**	**766**	**785**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Total Cash Flow																												
Net Capital Cash Flow	$ K	(1,699)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Operating Cash Flow	$ K	-	273	731	748	766	785	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Taxes	$ K	-	(77)	(207)	(211)	(216)	(222)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CCA Tax Shield	$ K	237	238	2	1	0.620	0.341	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Cash Flow	$ K	(1,462)	434	527	538	550	563	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Discount Factors		1.03	1.09	1.16	1.23	1.31	1.39	1.48	1.57	1.67	1.77	1.88	1.99	2.12	2.25	2.39	2.53	2.69	2.86	3.03	3.22	3.42	3.63	3.86	4.09	4.35	4.62	4.90
Discounted Cash Flow	**$ K**	**(1,418)**	**397**	**453**	**436**	**420**	**405**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Financial Summary																												
Net Present Value	**$**	**693,006**																										
Internal Rate of Return	**%**	**22.04%**																										
Payback Period	**Years**	**4.31**																										

[3] Insert project financial tables as required

Dollar-Equivalent Non-Financial Benefits		YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10	YEAR 11	YEAR 12	YEAR 13	YEAR 14	YEAR 15	YEAR 16	YEAR 17	YEAR 18	YEAR 19	YEAR 20	YEAR 21	YEAR 22	YEAR 23	YEAR 24	YEAR 25	YEAR 26	YEAR 27
Productivity Benefits																												
Productivity Benefits 1	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Productivity Benefits 2	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Productivity Benefits 3	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Productivity Benefits 4	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Productivity Benefits 5	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Productivity Benefits 6	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Productivity Benefits 7		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Productivity Benefits 8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Annual Savings	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Discount Factors		0.97	1.03	1.09	1.16	1.23	1.31	1.39	1.48	1.57	1.67	1.77	1.88	1.99	2.12	2.25	2.39	2.53	2.69	2.86	3.03	3.22	3.42	3.63	3.86	4.09	4.35	4.62
Discounted Savings	**$ K**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon Savings																												
SF6 Leak	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Line Losses	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Facilities Electricity Usage	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Facilities Natural gas Usage	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fuel Diesel	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fuel Bio-diesel (Canola)	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fuel Gasoline	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fuel Natural Gas	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Annual Savings	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Discount Factors		0.97	1.03	1.09	1.16	1.23	1.31	1.39	1.48	1.57	1.67	1.77	1.88	1.99	2.12	2.25	2.39	2.53	2.69	2.86	3.03	3.22	3.42	3.63	3.86	4.09	4.35	4.62
Discounted Savings	**$ K**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reliability Improvement																												
SAIFI improve	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SAIDI improve	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Outage Events Avoided	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Outage Duration Time Avoided	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Annual Savings	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Discount Factors		0.97	1.03	1.09	1.16	1.23	1.31	1.39	1.48	1.57	1.67	1.77	1.88	1.99	2.12	2.25	2.39	2.53	2.69	2.86	3.03	3.22	3.42	3.63	3.86	4.09	4.35	4.62
Discounted Savings	**$ K**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Community Contributions																												
Community Events and Sponsorships	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Economic Strength	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Education	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Environment	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Health and Safety	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Social Services	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Volunteerism	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Annual Contributions	$ K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Discount Factors		0.97	1.03	1.09	1.16	1.23	1.31	1.39	1.48	1.57	1.67	1.77	1.88	1.99	2.12	2.25	2.39	2.53	2.69	2.86	3.03	3.22	3.42	3.63	3.86	4.09	4.35	4.62
Discounted Contributions	**$ K**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dollar-Equivalent Non-Financial																												
Savings from Productivity Improvement		-																										
Savings form Carbon Reduction	**$**	-																										
Savings from Reliability Improvement	**$**	-																										
Contributions to Community	**$**	-																										
Comprehensive Net Present Value	**$**	690,000																										

ORAL HEARING UNDERTAKING RESPONSE TO SCHOOL ENERGY COALITION

UNDERTAKING NO. J7.6:

Reference(s):

To determine whether there was an analysis prepared to show the difference between using internal Toronto hydro employees versus contract employees and if there [is] such an analysis, to produce it.

RESPONSE:

Toronto Hydro's analytical approach to the cost comparison between construction projects completed by the utility's internal crews and those delivered by the external Design and Construction (D&C) contractors is presented in Exhibit 2B, Section C3.4.1.1. In short, the analysis involves disaggregation of a set of internally delivered "reference projects" into the activity-based units utilized by contractors, followed by a series of adjustments to account for the differences in the scope of activities and cost structures between a regulated utility such as Toronto Hydro and the D&C contractors operating in a competitive marketplace.

Further information on the utility's external contractor benchmarking process is provided in the response to Interrogatory 2B-CUPE-2, which showcases a numerical example of the methodology underlying the cost comparison, outlines the scope of the factors considered in the assessment, and clarifies the intended use of the assessment's results. As discussed in the Exhibit 2B Section C3.4.1, "given that Toronto Hydro's external contractors operate in the same environment as the utility's internal crews, and use materials paid for and procured by the utility, comparisons between the costs of externally and internally constructed projects constitute an appropriate form of

ORAL HEARING UNDERTAKING RESPONSE TO SCHOOL ENERGY COALITION

construction cost benchmarking."[1] As of the latest (2013) assessment, the costs of the utility's internal project construction were materially higher than the costs of the same projects had they been constructed by the external D&C contractors.

As discussed in Exhibit 2B Section C, "as the utility continues conducting these comparative exercises over the 2015-2019 planning horizon, it may undertake more detailed assessments of individual cost drivers that make up the cost gap between contractor-delivered and internally constructed projects."[2]

[1] Exhibit 2B, Section C3.4.1, page 22.
[2] Exhibit 2B, Section C3.4.3, page 25.

ORAL HEARING UNDERTAKING RESPONSE TO SCHOOL ENERGY COALITION

UNDERTAKING NO. J7.7:

Reference(s):

To provide the effective date for Table 2, Exhibit 4A, Tab 4, Schedule 3, page 12 of 25.

RESPONSE:

The Statistics Canada data in Table 2 is based on Statistics Canada's Age Distribution of Labour Force in Canada/All Industries (2013). The Toronto Hydro data in Table 2 is current as of December 31, 2013.

ORAL HEARING UNDERTAKING RESPONSE TO SCHOOL ENERGY COALITION

UNDERTAKING NO. J7.8:

Reference(s):

To provide a breakdown by age of Toronto Hydro employees on a per-year basis.

RESPONSE:

Age	% Per Age
22	0.06%
23	0.78%
24	0.90%
25	1.87%
26	2.07%
27	2.07%
28	1.55%
29	2.78%
30	2.65%
31	2.33%
32	2.65%
33	2.20%
34	2.00%
35	1.81%
36	1.62%
37	1.75%
38	1.68%
39	1.29%
40	1.10%
41	0.97%
42	1.36%
43	1.49%
44	1.36%
45	2.39%
46	2.78%

ORAL HEARING UNDERTAKING RESPONSE TO SCHOOL ENERGY COALITION

Age	% Per Age
47	2.59%
48	4.14%
49	4.07%
50	4.85%
51	5.75%
52	4.98%
53	5.56%
54	5.11%
55	3.94%
56	3.04%
57	2.39%
58	2.00%
59	2.00%
60	1.36%
61	1.29%
62	1.29%
63	0.71%
65	0.58%
66	0.39%
67	0.19%
68	0.13%
70	0.06%
71	0.06%