

1                                   **SHARED SERVICES CAPITAL - CORNERSTONE**

2  
3           **1.0    OVERVIEW**

4  
5           The Cornerstone Project is part of the overall information technology (“IT”) strategy to  
6           replace several of Hydro One’s key enterprise information systems as they reach their  
7           ‘end of life’. The Cornerstone Project is also a major business process transformation  
8           initiative that provides a platform for further effectiveness and efficiency gains at Hydro  
9           One. The Cornerstone Project is to be carried out in four phases as summarized below:

10  
11           **Phase 1** (Completed June 2008): Replaced end of life Passport application and  
12           functionality associated with work management, supply chain, procurement, accounts  
13           payable and asset registry with a modern Enterprise Asset Management (“EAM”)  
14           solution using SAP. This phase was completed successfully in June 2008.

15  
16           **Phase 2** (Majority Completed August 2009, minor items to be completed in 2010):  
17           Replaced end of life PeopleSoft application for Finance / Human Resources / Payroll  
18           processing with functionality provided by SAP that is integrated with the EAM solution  
19           installed in Phase 1. The phase 2 implementation also addressed the analytical and  
20           reporting business needs for work management, finance, investment management, HR  
21           and Pay and requirements for International Financial Reporting Standards (“IFRS”)  
22           compliance. Additional releases will be required in 2010 to address the most recent  
23           requirements for IFRS and final phase 2 reporting and analytical requirements.

24  
25           **Phase 3** (In-Service 2010-2012): Enhance integrated planning, Enterprise Asset  
26           Management / Enterprise Resource Planning systems, tools and processes by expanding  
27           Hydro One’s SAP solution and integrating key systems/technologies and specialized  
28           packaged point solutions to drive additional business value, improve end-to-end process

1 efficiency and improve asset lifecycle management analytics/decisions. This includes  
 2 adding SAP functionality by turning on new SAP modules; integrating specialized  
 3 software applications for reliability centred maintenance & optimization, scheduling &  
 4 dispatch enhancements; interfacing key enterprise systems (e.g. geospatial information  
 5 system (“GIS”), operating, fleet, telecom, protection & control, etc); incorporating new  
 6 assets into the asset registry (e.g. IT assets, real estate assets, metering assets, etc);  
 7 integration with enterprise mobile technology, enhancing functionality for HR, Finance,  
 8 Work Management and Supply Chain and consolidating end-user databases/applications.

9  
 10 **Phase 4 (2016):** Replace end of life customer information system (“CIS”). Core product  
 11 is Customer-1 application with numerous best of breed and custom applications fulfilling  
 12 the remaining functionality of the CIS.

13  
 14 Table 1 below identifies the capital expenditures and savings for the Cornerstone  
 15 program for the period 2007 to 2012.

16  
 17 **Table 1**  
 18 **Cornerstone Capital 2007 – 2012 (\$ Millions)**

19

	Historic			Bridge	Test		TX Allocated	
	2007	2008	2009	2010	2011	2012	2011	2012
<b>Minor Fixed Assets</b>	3.2	7.2	0.2	2.0	1.5	2.1	0.6	0.9
<b>Development Projects</b>	60.4	99.9	90.8	32.9	19.4	27.2	10.9	15.2
<b>Total Capital Cost</b>	63.6	107.1	91.0	34.9	20.9	29.3	11.5	16.1
<b>Savings</b>	0	0	*	(10.8)	(13.9)	(22.1)	(9.5)	(15.9)
<b>Net Capital Cost</b>	<b>63.6</b>	<b>107.1</b>	<b>91.0</b>	<b>24.1</b>	<b>7.0</b>	<b>7.2</b>	<b>2.0</b>	<b>0.2</b>

20 \* 8.0 million in savings realized in 2009

1 The Cornerstone capital expenditures consist of Minor Fixed Assets and Development  
2 Costs. The latter include all the costs to acquire, install and place into service the new  
3 Cornerstone systems. Cornerstone capital expenditures support the Sustainment,  
4 Development, and Operations work programs of Hydro One Networks Inc. As such they  
5 consist of assets that are largely shared by both the Transmission and Distribution  
6 businesses. The differences in year to year expenditures are the result of the phasing of  
7 Cornerstone implementation. This table also shows the forecast capital savings arising  
8 from Cornerstone process improvements and the result of netting these savings against  
9 the total capital costs. These savings are discussed later in this schedule.

10  
11 The Cornerstone Project O&M spending and the percent allocation to Transmission over  
12 the Historic, Bridge, and Test years are shown in Exhibit C1, Tab 2, Schedule 10. In  
13 Exhibit C1, Tab 5, Schedule 3 the appropriate cost allocation drivers that have been  
14 utilized to derive the Distribution allocation of the Cornerstone Project are shown.

## 15 16 **2.0 BACKGROUND**

17  
18 The capital work program for Cornerstone commenced in 2007. Phase 1 of the project  
19 was successfully completed in June 2008. The majority of Phase 2 was completed in  
20 August 2009. Work has begun on Phase 3. The four phases of the Cornerstone Project  
21 are discussed below:

### 22 23 **Phase 1 – Enterprise Asset Management Core Functionality (Completed June 2008)**

24  
25 The EAM initiative replaced the existing Passport applications with a modern EAM  
26 solution in June 2008. The result is an integrated EAM application that has enabled more  
27 effective information transfer within the Company and provided the basis for  
28 connectivity with other core systems as they are replaced or upgraded.

1 Hydro One started Phase I after obtaining Hydro One Board of Director approval in  
2 February, 2007 and successfully implemented (“go-live”) Phase 1 on June 30, 2008.  
3 Phase 1 delivered an EAM solution that replaced legacy Passport functionality; provided  
4 additional enhancement/capability to facilitate business process improvements;  
5 established data governance and data structure for ongoing data collection and  
6 management activities; addressed Bill 198 and other regulatory compliance requirements;  
7 and provided the basis for future phases of the project by turning on and utilizing  
8 additional modules within the same application suite.

9

10 The benefits from Phase 1 are based upon a complete understanding of the benefits from  
11 the SAP application. These benefits are derived from three key value levers underpinned  
12 by Cornerstone Phase 1 application, process and organizational changes. These value  
13 levers are:

14

- 15 • Centralizing to a single asset registry with a uniform hierarchy and selective  
16 integration to legacy databases;
- 17 • Providing greater process transparency, integration and collaboration (enabled  
18 through the application and process changes) across Hydro One’s lines of business  
19 (“LOB”); and,
- 20 • Enhancing compliance to the underlying processes and data requirements.

21

22 Phase 1 savings (both Transmission and Distribution) total \$200 million over a seven  
23 year period starting in 2009 to 2015. Total savings of \$60.4M are expected in the test  
24 years 2011 and 2012 as shown in Table 2.

25

**Table 2**  
**Total Cornerstone Phase 1 Savings (\$M) (Transmission & Distribution)**

	<b>2011</b>	<b>2012</b>
OM&A	16.5	19.0
Capital	11.6	13.3
Total	28.1	32.3

The bulk of the total savings are through the following:

- Optimize O&M and Capital spend through enhanced asset analysis and maintenance by managing operational risks over the asset life cycle (Expected Savings \$50.3M).
- Enhanced crew productivity due to better materials availability through more efficient forecasting, planning and execution. The contribution to improvement in crew productivity results from having the right materials available at the right time and the right location (Expected Savings \$35.5M).
- Improve internal & supplier contract compliance through reduction in non – Purchase Order spend for direct purchase of materials and services. This benefit is derived from all users purchasing standardized materials and services off negotiated contracts at agreed prices and terms (Expected Savings \$35M).

Each of the future phases build on the foundation set by Phase 1. Each of Phases 1, 2 and 3 will utilize the interconnected SAP application platform. Each phase is stand-alone to the extent that each will add its own benefits to the overall Cornerstone program.

1 **Phase 2** – Replaced PeopleSoft Finance / Human Resources / Payroll Functionality  
2 (Majority Completed August 2009, minor items to be completed in Q1-Q3 2010)

3  
4 In August, 2009, Phase 2 replaced existing end-of-life PeopleSoft Finance, Human  
5 Resources (“HR”) and Payroll processing with functionality provided by SAP that is  
6 integrated with the EAM solution installed in Phase 1. Phase 2 also addressed analytical  
7 and reporting business needs and helped to fulfill the requirement to be compliant with  
8 International Financial Reporting Standards by January 1, 2011 as discussed in the  
9 project investment justification document shown in Exhibit D2, Tab 2, Schedule 3.  
10 Additional releases are currently underway to address additional changes in IFRS  
11 requirements and final reporting and analytical requirements.

12  
13 The PeopleSoft Finance, HR and Payroll processing modules were installed in 1998 and  
14 the HR module was upgraded in 2002 and subsequently customized. These systems were  
15 core to Hydro One’s financial reporting and human resource management capability.

16  
17 Cornerstone Phase 2 expanded Hydro One’s SAP solution footprint by replacing  
18 PeopleSoft; providing one integrated system of record for all finance, HR and asset data  
19 and bring a greater proportion of Hydro One’s core business systems under vendor  
20 support. The scope also covered the following:

- 21
- 22 • replaced the in-house application, Business, Regulatory Planning & Reporting  
23 (“BRPR”), which tracked the release of work from Asset Management to the field,  
24 with SAP investment management functionality;
  - 25 • replaced legacy data warehouse applications and databases with a single SAP  
26 business data warehouse and the business objects reporting suite, to provide one  
27 source of reliable business data; and

- 1 • Addressed International Financial Reporting Standards (“IFRS”) requirements to  
2 accommodate IFRS compliance by January 1, 2011. A parallel IFRS Project has  
3 been carried out to review Hydro One accounting policies/practices and recommend  
4 changes to meet IFRS compliance requirements. Many of these recommendations  
5 were incorporated into the Phase 2 SAP solution while others will be addressed in  
6 subsequent releases of SAP, to address any late changes in IFRS requirements so as  
7 to provide full IFRS compliance before the January 1, 2011 deadline. A full  
8 discussion of IFRS is provided in Exhibit A, Tab 13, Schedule 1.

9  
10 Phase 2 of Cornerstone was undertaken following a competitive RFP selection in late  
11 2007 / early 2008 and the discovery process completed in 2008, which was used to  
12 confirm cost and scope. Hydro One started Phase 2 discovery work after obtaining  
13 Hydro One Board approval in May, 2008 and continued project delivery after  
14 successfully completing Phase 1 in June 2008.

15  
16 As in Phase 1, the main objective was not only to install an off-the-shelf solution, but also  
17 to adopt industry-standard practices. Integration of the new finance and HR application  
18 with the modules installed in Phase 1 has enhanced reporting capabilities. This was done  
19 by providing Business Intelligence / Business Warehouse capability in Phase 2. Business  
20 intelligence is the capability of collecting and analyzing internal and external data to  
21 generate knowledge and value for the organization. Business Warehouse is making  
22 information readily accessible and available for analysis.

23  
24 Inergi worked closely with Hydro One, in its role as outsource business service provider  
25 and as an end user of the applications and revised business processes. Inergi and its  
26 parent company, Cap Gemini, worked with Accenture, the system integrator, to ensure  
27 the solution delivered met Hydro One’s needs. Accenture, SAP and Cap Gemini/Inergi  
28 committed to delivering the required solution and working in a collaborative and open

1 process. Governance over the project included oversight by a sub committee of the  
2 Hydro One Board of Directors, Executive and project level reviews and an ongoing  
3 Quality Assurance /Quality Control process implemented by Accenture.

4  
5 The Phase 2 benefits built on the benefits derived from three key value levers  
6 underpinned by the Cornerstone Phase 1 application for technology, process and  
7 organizational changes. The Phase 2 savings total approximately \$50 million with  
8 expected savings of about \$5.5 million in the test year 2011 and \$7.0 million in 2012 as  
9 shown in Table 3 below.

10  
11 **Table 3**  
12 **Total Cornerstone Phase 2 Savings (\$M) (Transmission & Distribution)**  
13

	<b>2011</b>	<b>2012</b>
OM&A	3.2	4.1
Capital	2.3	2.9
Total	5.5	7.0

14  
15 The Phase 2 savings are based upon the following benefits identified over a seven year  
16 period starting in 2010:

17  
18 **2.1 Replacement of the core Finance / Investment Management / Time Reporting**  
19 **/ Human Resources / Payroll Functionality**

20  
21 Expected Benefits \$20M:

- 22  
23 • Provide efficiency improvements that are driven by having a standardized platform  
24 for business process, technology and reporting and an integrated system of record  
25 within SAP for all asset and financial data;  
26 • Improve IT security and internal control; and



- 1 • Avoid costs associated with maintaining and reconciling two separate financial  
2 system applications and having to implement IFRS compliance requirements in both  
3 (the SAP financials implemented with Phase 1, and the legacy PeopleSoft  
4 application.).

5  
6 **2.2 Business Intelligence/Business Warehouse**

7  
8 Expected Benefits \$30M:

- 9  
10 • Provide field supervisors with key operational data, standard reports and analytical  
11 tools to enable further workforce productivity improvements;
- 12 • Provide the centralized Asset Management group with a common and single source  
13 for information and better analytical tools to improve asset investment decisions;  
14 and
- 15 • Provide the Company with a tool to help realize and measure progress in realizing the  
16 business benefits of Cornerstone.

17  
18 **Phase 3 (In-Service 2010-2012): Enhance Integrated Planning**

19  
20 Phase 3 will enhance integrated planning and Enterprise Asset Management / Enterprise  
21 Resource Planning systems, tools and processes by expanding Hydro One's SAP solution  
22 and integrating key systems/technologies and specialized packaged point solutions to  
23 drive additional business value, improve end-to-end process efficiency and improve asset  
24 lifecycle management analytics/decisions. This includes adding SAP functionality by  
25 turning on new SAP modules; integrating specialized software applications for reliability  
26 centred maintenance & optimization, scheduling & dispatch enhancements; interfacing  
27 key enterprise systems (e.g. geospatial information system ("GIS"), operating, fleet,  
28 telecom, protection & control, etc); incorporating new assets into the asset registry (e.g.

1 IT assets, real estate assets, metering assets, etc); integration with enterprise mobile  
2 technology and enhancing functionality for HR, Finance, Work Management and Supply  
3 Chain and consolidating end-user databases/applications.

4  
5 Hydro One business information consists of many different components that reside in  
6 many different sources even after completion of Phases 1 and 2. The key is to integrate  
7 these sources to allow for asset and other business data to be captured once and used  
8 consistently throughout the Company to provide asset and asset work information from a  
9 variety of perspectives e.g. system performance, asset condition, labour, cost (historical  
10 and forecasted), work accomplishment, performance and work metrics, customer  
11 reliability, outage management, etc. This facilitates breaking down the information silos  
12 and driving enterprise integration and improvements via process, people and technology.  
13 An essential element of this vision is to provide seamless integration of data between the  
14 asset registry, work orders, scheduling/dispatch and GIS system with mobile integration.  
15 This phase enhances and streamlines end-to-end business processes by expanding and  
16 leveraging the SAP application functionality to implement workflow for process control,  
17 consolidate and eliminate duplicative and disparate end-user databases/applications to  
18 increase the assets being managed in SAP and integrating/interfacing key systems (e.g.  
19 operating, real estate, fleet, protection & control, telecom, metering, etc) to provide a  
20 centralized asset repository and single source of truth across all lines of business.

21  
22 Phase 3 will also integrate SAP to the enterprise GIS system and to operating scheduling/  
23 dispatch leveraging enterprise mobile technology that is deployed to field staff across the  
24 province. It will integrate legacy historical information with current SAP data to  
25 facilitate trend analysis and performance forecasts and integrate new reliability centred  
26 maintenance optimization software to provide ongoing analysis of preventative  
27 maintenance results, validation of asset models, and facilitate strategic/scenario planning  
28 that is focused on improving asset lifecycle management decisions.

1 Phase 3 will be completed late in 2011 and savings are not expected to be realized until  
2 2012. Hydro One expects savings from improved processes, elimination of duplicative  
3 data systems and improved transparency across the organization. The Phase 3 expected  
4 savings total approximately \$130 million over a seven year period with expected savings  
5 of \$14.1 million starting in 2012 as shown in table 4.

6  
7 **Table 4**  
8 **Total Cornerstone Phase 3 Savings (\$M) (Transmission & Distribution)**  
9

	<b>2011</b>	<b>2012</b>
OM&A	0.0	8.2
Capital	0.0	5.9
Total	0.0	14.1

10  
11 **Phase 4 (In-Service 2016) - Replace Customer Information System Functionality**

12  
13 The CSS or Customer-1 application was purchased in 1997 from Andersen Consulting  
14 (now Accenture). The application has undergone significant modifications in order to  
15 address the changes in the Ontario regulatory environment and to meet Ontario Energy  
16 Board requirements. This is an extensively customized product which is very costly to  
17 maintain and very costly to modify to meet new regulatory and business needs.  
18 Accenture no longer supports the application.

19  
20 To obtain full functionality with the newer systems, and to improve workflow and  
21 improve customer satisfaction, the intent of Phase 4 is to replace the existing Customer-1  
22 system with a more integrated application which would interface with the application  
23 suite implemented in Phases 1, 2 and 3.