

1 **SHARED SERVICES - CORNERSTONE CAPITAL**

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): Replace 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** (In-Service Q3 2009): Replace end of life Peoplesoft application for
17 Finance/Human Resources/Payroll processing with functionality provided by SAP that is
18 integrated with the EAM solution installed in Phase 1. Also address the currently
19 anticipated analytical and reporting business needs and requirements for International
20 Financial Reporting Standards (“IFRS”) compliance. It is expected that additional
21 releases will be required in late 2009 or early 2010 to address any late changes in IFRS
22 requirements.

23
24 **Phase 3** (In-Service 2012): Enhance integrated planning by expanding Hydro One’s SAP
25 solution and integrating key systems/technologies and specialized packaged point
26 solutions to drive additional business value, improve end-to-end process efficiency and
27 improve asset lifecycle management analytics/decisions. This includes adding SAP
28 functionality by turning on new SAP modules (including workflow for process control);

1 integrating specialized software applications for reliability centred maintenance
 2 optimization and scheduling/dispatch; interfacing key enterprise systems (e.g. graphical
 3 information system (“GIS”), operating, fleet, telecom, protection & control, etc);
 4 incorporating new assets into the asset registry (e.g. IT assets, real estate assets, metering
 5 assets, etc); deploying enterprise mobile strategy across the province; and consolidating
 6 end-user databases/applications.

7
 8 **Phase 4** (2016): Replace end of life customer service system (“CSS”) or Customer-1
 9 application.

10
 11 Table 1 below identifies the capital expenditures and savings for the Cornerstone
 12 program for the period 2006 to 2011.

13
 14 **Table 1**
 15 **Cornerstone Capital 2006 – 2011 (\$ Millions)**
 16

	Historic			Bridge	Test		Allocated to Distribution	
	2006	2007	2008	2009	2010	2011	2010	2011
Minor Fixed Assets	0	3.2	7.2	5.3	1.3	1.5	0.7	0.8
Development Projects	0	60.4	99.9	97.2	22.7	19.3	10.0	8.5
Total Capital Cost	0	63.6	107.1	102.5	24.0	20.8	10.7	9.3
Savings	0	0	0	(8.0)	(10.5)	(19.9)	(3.1)	(6.1)
Net Capital Cost	0	63.6	107.1	94.5.	13.5	0.9	7.6	3.2

17
 18 The Cornerstone capital expenditures consist of Minor Fixed Assets and Development
 19 Costs. The latter include all the costs to acquire, install and place into service the new
 20 Cornerstone systems. Cornerstone capital expenditures support the Sustainment,
 21 Development, and Operations work programs of Hydro One Networks Inc. As such they
 22 consist of assets that are largely shared by both the Transmission and Distribution

1 businesses. The differences in year to year expenditures are the result of the phasing of
2 Cornerstone implementation. This table also shows the forecast capital savings arising
3 from Cornerstone process improvements and the result of netting these savings against
4 the total capital costs. These savings are discussed later in this schedule.

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

10 11 **2.0 BACKGROUND**

12
13 The capital work program for Cornerstone commenced in 2007. Phase 1 of the project
14 was successfully completed in June 2008, Phase 2 is scheduled for completion in August
15 2009 and work has begun on Phase 3. The four phases of the Cornerstone Project are
16 discussed below:

17 18 **Phase 1 – Enterprise Asset Management Core Functionality (Completed June 2008)**

19
20 The EAM initiative replaced the existing Passport applications with a modern EAM
21 solution in June 2008. The result is an integrated EAM application to allow for more
22 effective information transfer within the Company and provide the basis for connectivity
23 with other core systems as they are replaced or upgraded.

24
25 Hydro One started Phase I after obtaining Hydro One Board of Director approval in
26 February 2007 and successfully implemented (“go-live”) Phase 1 on June 30, 2008.
27 Phase 1 delivers an EAM solution that replaces existing Passport functionality; provides
28 additional enhancement/capability to facilitate business process improvements;

1 establishes data governance and data structure for ongoing data collection and
2 management activities; addresses Bill 198 and other regulatory compliance requirements;
3 and provides the basis for future phases of the project by turning on and utilizing
4 additional modules within the same application suite.

5

6 The benefits from Phase 1 are based upon a complete understanding of the benefits from
7 the SAP application. These benefits are derived from three key value levers underpinned
8 by Cornerstone Phase 1 application, process and organizational changes. These value
9 levers are:

10

- 11 • Centralizing to a single asset registry with a uniform hierarchy and selective
12 integration to legacy databases;
- 13
- 14 • Providing greater process transparency, integration and collaboration (enabled
15 through the application and process changes) across Hydro One's lines of
16 business ("LOB"); and,
- 17
- 18 • Enhancing compliance to the underlying processes and data requirements.

19

20 Phase 1 savings (both Transmission and Distribution) total \$200 million over a seven
21 year period starting in 2009 to 2015. Total savings of \$50.4M are expected in the test
22 years 2010 and 2011 as shown in Table 2.

23

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

	2010	2011
OM&A	13.0	16.5
Capital	9.2	11.8
Total	22.2	28.3

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** – Replace PeopleSoft Finance/Human Resources/Payroll Functionality (In-
2 Service Q3 2009)

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4 By Q3 2009, Phase 2 will replace 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 addresses the current
7 anticipated analytical and reporting business needs and the requirement to be compliant
8 with 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. It is
10 expected that additional releases will be required in late 2009 or early 2010 to address
11 any late changes in IFRS 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 are
15 core to Hydro One’s financial reporting and human resource management capability.

16
17 Cornerstone Phase 2 proposes to expand Hydro One’s SAP solution footprint to replace
18 PeopleSoft; provide 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 covers the following:

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

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

10

11 Phase 2 of Cornerstone was undertaken following a competitive RFP selection and
12 discovery process completed in 2007 and early 2008, respectively, which was used to
13 confirm cost and scope. Hydro One started Phase 2 after obtaining Hydro One Board
14 approval in April 2008 and after successfully completing Phase 1 in June 2008.

15

16 As in Phase 1, the main objective is 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 will enhance reporting capabilities. This will be
19 done by providing Business Intelligence / Business Warehouse capability in Phase 2.
20 Business intelligence is the capability of collecting and analyzing internal and external
21 data to generate knowledge and value for the organization. Business Warehouse is
22 making information readily accessible and available for analysis.

23

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

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

4
5 The Phase 2 benefits build on the benefits derived from three key value levers
6 underpinned by the Cornerstone Phase I application for technology, process and
7 organizational changes. The Phase 2 savings total approximately \$50 million with
8 expected savings of about \$9.4 million in the test years 2010 and 2011 as shown in Table
9 3 below.

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

	2010	2011
OM&A	2.6	3.2
Capital	1.3	2.3
Total	3.9	5.5

13
14 The Phase 2 savings are based upon the following benefits identified over a seven year
15 period starting in 2010:

16
17 1. Replacement of the core Finance / Human Resources / Payroll Functionality

18
19 Expected Benefits \$20M:

- 20
21
- 22 • Provide efficiency improvements that are driven by having a standardized
23 platform for business process, technology and reporting and an integrated system
24 of record within SAP for all asset and financial data;
 - 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
3 both (the SAP financials implemented with Phase 1, and the legacy PeopleSoft
4 application.).

5

6 2. Business Intelligence/Business Warehouse

7

8 Expected Benefits \$30M:

9

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

17

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

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

1 IT assets, real estate assets, metering assets, etc); deploying enterprise mobile strategy
2 across the province; and consolidating end-user databases.

3
4 Hydro One business information consists of many different components that reside in
5 many different sources even after completion of Phases 1 and 2. The key is to integrate
6 these sources to allow for asset and other business data to be captured once and used
7 consistently throughout the Company to provide asset and asset work information from a
8 variety of perspectives e.g. system performance, asset condition, labour, cost (historical
9 and forecasted), work accomplishment, performance and work metrics, customer
10 reliability, outage management, etc. This facilitates breaking down the information silos
11 and driving enterprise integration and improvements via process, people and technology.
12 An essential element of this vision is to provide seamless integration of data between the
13 asset registry, work orders, scheduling/dispatch and GIS system using mobile technology.
14 This phase enhances and streamlines end-to-end business processes by expanding and
15 leveraging the SAP application functionality to implement workflow for process control,
16 consolidate and eliminate duplicative and disparate end-user databases/applications to
17 increase the assets being managed in SAP and integrating/interfaces key systems (e.g.
18 operating, real estate, fleet, protection & control, telecom, metering, etc) to provide a
19 centralized asset repository and single source of truth across all lines of business.

20
21 Phase 3 will also integrate SAP to the enterprise GIS system and to operating scheduling/
22 dispatch using standard mobile technology that is deployed to field staff across the
23 province. It will integrate legacy historical information with current SAP data to
24 facilitate trend analysis and performance forecasts and integrate new reliability centred
25 maintenance optimization software to provide ongoing analysis of preventative
26 maintenance results, validation of asset models, and facilitate strategic/scenario planning
27 that is focused on improving asset lifecycle management decisions.

1 Hydro One expects savings from improved processes, elimination of duplicative data
2 systems and improved transparency across the organization. The Phase 3 savings total
3 approximately \$130 million over a seven year period with expected savings of \$14
4 million starting to flow in the test year 2011 as shown in table 4 which follows.

5
6 **Table 4**
7 **Total Cornerstone Phase 3 Savings (\$M) (Transmission & Distribution)**
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	2010	2011
OM&A	0	8.7
Capital	0	5.2
Total	0	14.0

9
10 **Phase 4 (In-Service 2016) - Replace Customer Information System Functionality**

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

18
19 To obtain full functionality with the newer systems, and to improve workflow and
20 improve customer satisfaction, the intent of Phase 4 is to replace the existing Customer-1
21 system with a more integrated application which would interface with the application
22 suite implemented in Phases 1, 2 and 3.