

1 **SHARED SERVICES OM&A- ASSET MANAGEMENT**

2
3 **1.0 OVERVIEW**

4
5 The Transmission and Distribution businesses are operated using the Asset Management
6 model, which the company adopted in 1998. The model separates the planning, decision-
7 making and approvals associated with customer, system and asset needs from the services
8 functions including engineering, construction, as well as customer and grid operations
9 which carry out these plans. The functions work collaboratively in order to achieve
10 corporate strategic objectives. This separation of functions is a common industry practice
11 in today's utilities and reflects the different skills required for these functions. By
12 applying this model, Hydro One Networks Inc. can make management decisions
13 involving customer and asset requirements on a consistent basis across its entire service
14 territory. The Asset Management model is further discussed in Exhibit A, Tab 4,
15 Schedule 1.

16
17 Asset Management remains focused on ensuring, and being able to demonstrate, that the
18 necessary transmission and distribution assets are planned, acquired, constructed,
19 maintained and operated to deliver the required function and level of performance
20 expected by customers in a sustainable manner. The Asset Management function
21 balances the needs of customers, various economic and operational regulatory bodies, the
22 company's assets and systems, the shareholder and the people of Ontario in delivering on
23 the following accountabilities:

- 24
- 25 • Developing an asset plan for the sustainment, development and operation of the
 - 26 Transmission and Distribution system;
 - 27 • Optimizing the release, bundling and sequencing of the work to ensure the effective
 - 28 delivery of the programs and projects within the plan;

- 1 • Redirecting projects and programs in response to new or unforeseen factors and
2 drivers;
- 3 • Monitoring, evaluating and reporting upon progress, accomplishments and cost
4 metrics of the various programs and projects;
- 5 • Identifying, assessing and scoping system augmentation, load connections, generation
6 connections, and interconnections with neighbouring systems to address issues related
7 to reliability, customer supply security and changes in the province's generation
8 portfolio;
- 9 • Developing, integrating, and implementing asset strategies and investment plans to
10 support corporate objectives, executing OPA programs (such as conservation and
11 demand management, or the Feed-in-Tariff Program), and fulfilling government
12 policies;
- 13 • Pursuing business development opportunities, and productivity improvement
14 initiatives; and
- 15 • Influencing the business and regulatory environment to ensure customer needs and
16 business objectives (safety, regulatory compliance, environmental performance, etc.)
17 are met in an effective and efficient manner.

18
19 Effective delivery of these accountabilities is key to the Company's success in achieving
20 the balance noted above.

21
22 The Asset Management function is undertaking initiatives to improve the AM
23 information, reporting, analytics, processes and training that are required to support asset
24 lifecycle planning decisions, business planning processes, rate filings, regulatory
25 compliance and work execution..

26
27 The cost profile for Asset Management is presented in Table 1 below.

Table 1
Asset Management Function (\$ Millions)

Function/Service	Historic			Bridge	Test		TX Allocation	
	2007	2008	2009	2010	2011	2012	2011	2012
Strategy & Business Development	5.9	6.3	7.5	11.2	12.5	13.0	3.5	3.7
System Investment	21.7*	24.0	31.5	36.9	38.5	37.9	19.5	18.2
Work Program Optimization	3.8	3.4	3.1	4.5	4.9	5.0	3.9	4.0
Business Integration	9.1	9.4	11.8	10.2	11.9	12.4	6.5	6.8
Business Transformation	3.4	2.6	1.9	2.6	2.4	2.9	1.1	1.6
Real Estate & Facilities	-	-	-	-	-	-	-	-
Contract & Business Relations	-	-	-	-	-	-	-	-
Processes and Policies	1.0	1.3	3.5	4.4	4.6	4.6	1.0	1.9
Total Costs	44.8	47.1	59.3	69.7	74.9	75.8	35.5	36.0

* System Investment cost was adjusted downward by \$1.0 million in 2007, the amount is now shown in Processes and Policies.

As shown in Table 1, the cost associated with achieving Asset Management work in 2011 is \$74.9 million, and \$75.8 million in 2012. The portion of the total cost attributable to the Transmission business is \$35.5 million in 2011, and \$36.0 million in 2012. Refer to Exhibit C1, Tab 5, Schedule 1 for further details on the percentages used to allocate costs into Transmission and Distribution components.

Asset Management is one of several work delivery lines of businesses and its focus is the work initiation stage of the work delivery chain. As such, the rising core sustaining, development, and operations work program volumes have necessitated increased work volumes for the units of business in the work delivery chain, including Asset Management resulting in upward cost pressures.

1 The primary activity influencing Asset Management costs in 2011 and 2012 is the growth
2 in the overall levels of core capital and OM&A sustainment, and development related
3 work, which is also driven by the initiatives outlined in the Green Energy and Green
4 Economy Plan, found in Exhibit A, Tab 11, Schedule 4.

5

6 The overall growth in the work program requires additional system and investment
7 planning, work scoping, controls, monitoring and reporting. Legislative initiatives (for
8 example, new LDC MW targets relating to CDM initiatives, and Smart Meters) and
9 compliance activities (e.g. NERC, NPCC, OSC, Bill 198 and IFRS) have contributed to
10 increased costs. The Cornerstone initiative has required experienced Asset Management
11 staff to ensure business processes are streamlined to improve business efficiency;
12 experienced staff will continue to be required for subsequent phases of Cornerstone.

13

14 **Asset Management Re-alignment (2007 to 2011)**

15

16 In the current application, some of the functions in the Asset Management have been re-
17 aligned compared to the previous distribution rate application EB-2009-0096. The
18 changes in this application are outlined in Table 2 below:

Table 2
Asset Management Re-alignment - \$M

	Historic	Historic	Historic	Bridge	Bridge
	2007	2008	2009	2010	2011
Asset Management OM&A in EB-2009-0096	93.8	100.3	120.4 ⁶	137.7	145.7
Minus:					
Real Estate & Facilities ¹	(37.4)	(41.8)	(50.6)	(58.6)	(54.0)
Contract & Business Relations ²	(5.1)	(4.9)	(5.1)	(6.2)	(6.3)
Groups from Business Integration transferred out of Asset Management:					
Outsourcing Services ³	(1.2)	-	-	-	-
Information Asset ⁴	(3.6)	(4.7)	(4.2)	-	-
Information System Support (half) ⁵	(1.7)	(1.8)	(1.2)	-	-
Asset Management Cost Reductions ⁷	-	-	-	(3.2)	(10.5)
Asset Management OMA in this Application	44.8	47.1	59.3	69.7	74.9

1

2 ¹Real Estate and Facilities cost for historic, bridge and test years was moved to Corporate Function and
 3 Services, see Exhibit C1, Tab 2, Schedule 7;

4 ²Contract and Business Relations cost for historic, bridge and test years was moved to Operations, see
 5 Exhibit C1, Tab 2, Schedule 5;

6 Business Integration cost was adjusted downward to reflect the costs associated with certain groups
 7 leaving the Asset Management function as follows:

8 ³Outsourcing Services cost of \$1.2 million for 2007 was moved to Corporate Function and Services, see
 9 Exhibit C1, Tab 2, Schedule 7;

10 ⁴Information Assets cost of \$3.6 million in 2007, \$4.7 million in 2008, and \$4.2 million in 2009 was moved
 11 to Shared Services OM&A - Information Technology, see Exhibit C1, Tab 2, Schedule 9.

12 ⁵A portion of Information System Support cost was moved to Shared Services OM&A - Information
 13 Technology, see Exhibit C1, Tab 2, Schedule 9.

14 ⁶Note that the 2009 figure is an actual value as opposed to the year end forecast value presented in EB-
 15 2009-0096

16 ⁷The cost reductions in the Asset management function of \$3.2 million in 2010 and \$10.5 million in 2011
 17 represents hiring delays associated with the staffing level requirements to accomplish the planned
 18 sustaining, development, and operation work programs. The reductions are primarily driven by delays to
 19 elements of the work program.

1 **2.0 STRATEGY AND BUSINESS DEVELOPMENT**

2
3 Table 3 provides a summary of the Strategy and Business Development functions.

4
5 **Table 3**
6 **Strategy and Business Development Functions (\$ Millions)**

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	Historic			Bridge	Test		TX Allocation	
	2007	2008	2009	2010	2011	2012	2011	2012
Total Costs	5.9	6.3	7.5	11.2	12.5	13.0	3.5	3.7

8
9 **2.1 Overview**

10
11 This area consists of the strategy, conservation, business development and asset
12 management costs and most of the activities in this function relates to Hydro One
13 Distribution. Funding for property, boiler and machinery insurance costs is also included
14 in this budget. The insurance amounts are \$3.8 million in 2009, \$3.9 million in 2010,
15 \$4.2 million in 2011 and \$4.5 million in 2012.

16
17 **2.2 Strategy, Conservation and Business Development Activities**

18
19 The Strategy and Conservation function activities include:

- 20
- 21 • development and coordination of strategic plans for Hydro One transmission and
22 Distribution businesses;
 - 23 • initiation and coordination of Greener Choices program relating to internal energy
24 efficiency for transmission and distribution;
 - 25 • developing strategies that support corporate goals related to the Transmission and
26 Distribution functions;
 - 27 • assisting with improving industry efficiencies within the utility sector;

- 1 • overseeing the operation of the Customer Advisory Board for both transmission and
- 2 distribution businesses;
- 3 • developing innovative conservation and demand management programs that meet the
- 4 needs of Hydro One Networks' customer base;
- 5 • managing the design, development, and delivery of conservation and demand
- 6 management customer programs funded by external agencies (such as the OPA or the
- 7 Ministry of Energy and Infrastructure), for transmission and distribution customers.

8

9 Business Development activities include:

10

- 11 • planning and implementing business improvement initiatives (for example, smart
- 12 networks);
- 13 • planning and implementing utility industry efficiency initiatives (for example, utility
- 14 rationalization);
- 15 • supporting the development of opportunities to optimize leveraging of Hydro One
- 16 Networks' assets (for example, secondary land use, utility rationalization, and utility
- 17 boundary adjustments); and
- 18 • coordinating field activities, regulatory-driven activities (e.g. elimination of long-term
- 19 load transfers) and programming of the transmission business.

20

21 **3.0 SYSTEM INVESTMENT**

22

23 The following Table 4 provides a summary of System Investment costs:

24

25

26

27

Table 4
System Investment Function (\$ Millions)

	Historic			Bridge	Test		TX Allocation	
	2007	2008	2009	2010	2011	2012	2011	2012
Total Costs	21.7	24.0	31.5	36.9	38.5	37.9	19.5	18.2

28

1 **3.1 Overview**

2

3 System Investment develops and scopes transmission and distribution plans to address
4 equipment performance, system reliability, compliance obligations, customer requests,
5 OPA and government initiatives.

6

7 System Investment costs in test years 2011 and 2012 are increasing by 4% and 3%
8 respectively compared to bridge year 2010. The cost increases are driven by the
9 following:

10

- 11 • The increasing levels of transmission and distribution capital and OM&A sustainment
12 and development work relating to the refurbishment and replacement of assets
13 required to maintain the condition and reliability of assets, as well as implement
14 improvements;
- 15 • Additional development of the Technical Interconnection Requirements for
16 distributed generation and consultation with generators concerning the application of
17 these requirements;
- 18 • Additional preparation of engineering protection and control specifications required
19 to accommodate generators on a distribution system that was primarily design for
20 load customers;
- 21 • Additional studies to determine the impacts of reverse flow on power equipment,
22 as new local generation may exceed the load on a feeder which will result in power
23 flows in the opposite direction to that designed;
- 24 • Development of P&C standards for transmission and distribution stations, and
25 controllable elements. This level of complexity is new for the distribution system;
- 26 • An increase in the number of requests for generation applications, requiring

- 1 connection impact assessments;
- 2 • The need to develop new standards related to configurations or connections to the
3 Transmission and Distribution networks;
- 4 • The need to develop, scope and obtain approvals for distribution plans in response to
5 Government policy decisions related to the province's generation mix, in consultation
6 with the OPA;
- 7 • The greater number and complexity of Section 92 and Environmental Approvals
8 required for new facilities or expenditures;
- 9 • The need to ensure the processes are in place to comply with new industry standards
10 and codes; and
- 11 • The significant involvement in the work initiation stage of the delivery chain for the
12 growing levels of transmission and distribution capital and OM&A work programs.

13

14 **3.2 System Investment Activities**

15

16 System Investments activities include:

17

- 18 • Identifying, scoping and obtaining approval for projects and programs related to new
19 and existing Transmission and Distribution assets. Such investments must meet
20 defined needs in an economic and cost-efficient fashion, and be consistent with
21 corporate objectives, regulatory requirements and government policy;
- 22 • Obtaining necessary approvals or endorsement of investment plans;
- 23 • Redirecting and re-prioritizing projects and programs in response to unforeseen
24 events and work execution opportunities;
- 25 • Performing technical studies to assess the viability of proposed connections,
26 alternatives or investment plans;

- 1 • Investigating power system disturbances;
- 2 • Conducting asset condition assessments;
- 3 • Monitoring and managing equipment and network performance;
- 4 • Establishing performance standards that establish the foundation for detailed
5 engineering designs;
- 6 • Responding to customer requests for new or expanded connections or customer
7 concerns regarding connection security or power quality;
- 8 • Advising external agencies and customers of the Transmission and Distribution
9 impacts of their plans;
- 10 • Consulting with affected stakeholders regarding new Transmission and Distribution
11 facilities;
- 12 • Participating in the development of North American or regional reliability standards;
- 13 • Supporting regulatory filings; and
- 14 • Specifying technical requirements and work in such areas as new technologies,
15 animal abatement, transformer refurbishment (core heating) and remote monitoring.

1 **4.0 Work Program Optimization**

2
3 The following Table 5 provides a summary of Work Program Optimization costs:

4
5 **Table 5**
6 **Work Program Optimization Function (\$ Millions)**
7

	Historic			Bridge	Test		TX Allocation	
	2007	2008	2009	2010	2011	2012	2011	2012
Total Costs	3.8	3.4	3.1	4.5	4.9	5.0	3.9	4.0

8
9 **4.1 Overview**

10
11 Work Program Optimization focuses on execution planning, integrating and bundling of
12 awarded transmission and distribution work across Hydro One Networks. As shown in
13 Table 5, the 2011 cost for this activity is \$4.9 million with \$3.9 million allocated to
14 Transmission, and the 2012 cost is \$5.0 million with \$4.0 million allocated to
15 Transmission. The cost increases in 2011 and 2012 over bridge year 2010 are due to the
16 support requirements associated with the growth in the levels of transmission and
17 distribution capital and OM&A sustainment and development work. Specific examples
18 include the significant increases in Generation Connections. In addition to the direct
19 connection work, there is a corresponding increase in work associated with making our
20 transmission and distribution stations ready to accommodate more Distributed Generation
21 connections.
22

1 **4.2 Work Program Optimization Activities**

2

3 Activities of the function include:

4

5 • Work Approval and Release – Administer the business case approval process and
6 associated release of work to the services lines of business. Monitor and report the
7 work release status and provide quality assurance of all work set-up.

8 • Work Execution Planning, Bundling & Integration - Work closely with functions
9 across the organization to bundle and schedule work in ways that minimize outages,
10 resources, schedule and costs. Lead cross functional teams to drive collaboration and
11 continuously improve business processes.

12 • Develop work collaboration tools, systems and processes to drive continuous
13 improvements across the corporation

14 • Resource Modeling – Determine overall resource needs for planned work and
15 determine the impacts of outsourced work on internal staffing requirements.

16 • Quality Management- Develop and implement an Asset Management Quality
17 Management System (QMS) that can be applied to projects/programs and strategic
18 initiatives.

19 • Perform Quality Assurance Reviews of project/program work to verify performance
20 levels, identify and implement improvements and facilitate monitoring and control of
21 work quality

22 • Implement a Compliance Management System (CMS) to manage Regulatory
23 (NERC/NPCC) and Business Compliance standards.

24

1 **5.0 BUSINESS INTEGRATION**

2
3 The following Table 6 provides a summary of Business Integration costs:

4
5 **Table 6**
6 **Business Integration Function (\$ Millions)**
7

	Historic			Bridge	Test		TX Allocation	
	2007	2008	2009	2010	2011	2012	2011	2012
Total Costs	9.1	9.4	11.8	10.2	11.9	12.4	6.5	6.8

8
9 **5.1 Overview**

10
11 The Business Integration function integrates planning, budgeting, releasing, monitoring,
12 reporting, and control of the growing capital and OM&A work programs and related
13 processes for the major lines of business of Hydro One Networks, including Asset
14 Management, Engineering and Construction Services (“E&CS”), Grid Operations and
15 Customer Operations. As shown in Table 6, the 2011 cost for this activity is estimated at
16 \$11.9 million, with \$6.5 million allocated to Transmission, and the 2012 cost is estimated
17 at \$12.4 million, with \$6.8 million allocated to Transmission. Business Integration has
18 experienced an increase in 2011 and 2012 compared to 2010 due to the support
19 requirements associated with the growth in the levels of transmission and distribution
20 capital and OM&A sustainment, development and operations work.

21
22 Additional costs will be incurred in both 2011 and 2012 to support the implementation
23 and roll-out of the Cornerstone SAP project.

1 **5.2 Business Integration Activities**

2

3 Business Integration Activities include:

4

5 • Developing multi-year Hydro One Network Business Plans;

6 • Developing and leading the OM&A and capital Investment Planning process;

7 • Supporting regulatory processes, for Transmission and Distribution filings, within
8 Asset Management;

9 • Performing business analytics and conducting special studies in such areas as
10 productivity and cost savings management;

11 • Developing work program costing rates;

12 • Managing integrated processes for releasing and monitoring program results through
13 common systems;

14 • Reporting and analyzing work program costs and results, and managing necessary
15 program redirection;

16 • Reporting and analyzing Transmission and Distribution systems and component
17 reliability;

18 • Developing and managing financial and customer reports;

19 • Managing corporate and line of business performance measurement and reporting
20 processes;

21 • Performing detailed performance benchmarking and productivity studies in support of
22 corporate objectives and regulatory filings;

23 • Managing distribution rationalization and Work Execution Program (“WEP”) rollout
24 and implementation; and

25 • Providing support to Cornerstone Phases 1, 2 and 3, and managing operational
26 readiness of Phase 2 on behalf of Asset Management.

27

1 **6.0 BUSINESS TRANSFORMATION**

2
3 The following Table 7 provides a summary of Business Transformation costs:
4

5 **Table 7**
6 **Business Transformation Function (\$ Millions)**
7

	Historic			Bridge	Test		TX Allocation	
	2007	2008	2009	2010	2011	2012	2011	2012
Total Costs	3.4	2.6	1.9	2.6	2.4	2.9	1.1	1.6

8
9 **6.1 Overview**

10
11 The Business Transformation function identifies emerging issues, develops appropriate
12 responses, and implements selected time-limited initiatives that change the current
13 operations of the Company and are critical to the future of Hydro One Networks Inc.
14 Opportunities for improvement and especially projects that require an intensive,
15 integrated approach across Hydro One Networks Inc. are a focus of this function. The
16 total cost in 2011 for this function is \$2.4 million, with \$1.1 million allocated to
17 Transmission and the cost for 2012 is \$2.9 million, with \$1.6 million allocated to
18 Transmission.
19

20 **6.2 Business Transformation Activities**

21
22 Corporate Projects / Business Transformation Activities include:
23

- 24 • participating in the definition and scoping of cross-functional priority projects, or
25 directly managing and mobilizing resources for large projects;
26 • managing cross-corporate initiatives to ensure an integrated approach to data, systems,
27 and processes as well as contributing to change management within Hydro One; and

- 1 • managing Hydro One’s integrated approach to Emergency Preparedness and Business
2 continuity, including liaison with other industry organizations and various levels of
3 governments;

4
5 Business Transformation’s current priority is planning the replacement of a corporate
6 core IT systems. The first phase, which went live on June 2, 2008, replaced the existing
7 purchasing, inventory, work management, labour time entry, and Accounts Payable
8 modules. The second phase of Cornerstone replaced the Financial, Human Resources
9 and Pay systems; it was implemented in August 2009. (See Exhibit D1, Tab 3, Schedule
10 7 for further details on the Cornerstone project).

11
12 **7.0 PROCESSES AND POLICIES**

13
14 Table 8 provides a summary of Asset Management Processes and Policies costs:

15
16 **Table 8**
17 **Asset Management Processes and Policies Function (\$ Millions)**
18

	Historic			Bridge	Test		TX Allocation	
	2007	2008	2009	2010	2011	2012	2011	2012
Total Costs	1.0	1.3	3.5	4.4	4.6	4.6	1.0	1.9

19
20
21 **7.1 Overview**
22

23 The Asset Management Processes and Policies Division (AMPP) strives to ensure the
24 efficient and effective functioning of Asset Management and Hydro One through process
25 improvement initiatives and tools; long-term transmission and distribution perspectives;
26 leading-edge asset and system-related policies, strategies and procedures; regulatory
27 support to Asset Management and Hydro One to ensure alignment with long-term
28 corporate strategies; research and development activities; and liaison with external
29 industry organizations, government and universities.

1 The budget for bridge year 2010 is \$4.4 million, and the budget for 2011 and 2012 is
2 \$4.6M in each year.

3

4 **7.2 Asset Management Processes and Policies Activities**

5

6 Asset Management Processes and Policies activities include:

7

- 8 • Identifying, prioritizing and project-managing process improvement projects
9 throughout Asset Management and the broader organization. Projects include
10 seeking out and applying better approaches and tools in such areas as asset
11 management analyses, strategy and risk management, data governance and change
12 control, asset registry and asset condition assessment data, work execution,
13 maintenance planning, and life cycle planning. Support is also provided for the
14 planning and implementation of Cornerstone-related projects;
- 15 • Developing, reviewing and revising asset-related policies, strategies, and procedures
16 for Hydro One;
- 17 • Contributing to work related to the smart grid project, including the ADS (Advanced
18 Distribution Solution) initiative, and Hydro One's associated "Living Lab" in the
19 Owen Sound and Walkerton areas;
- 20 • Providing regulatory support for Asset Management including evidence development
21 for regulatory filings, expert witness support, and interrogatory response and
22 undertaking preparation, and through preparing documentation and supporting the
23 Section 92 Leave to Construct process for major transmission projects;
- 24 • Acting as a liaison with governmental agencies such as the OPA, ORF (Ontario
25 Research Fund) and OCE (Ontario Centres of Excellence) on asset management
26 matters, and research and development issues affecting the electricity industry.
27 AMPP staff also contribute to the development of OPA-initiated long-term supply
28 studies and provide coordination as required;

- 1 • Providing expert participation in, and representing Hydro One’s interests on, various
2 national and international industry entities and standard-setting bodies including
3 CIGRE, CEA, CEATI, IEEE, NERC, NPCC, the North American Transmission
4 Forum, NIST, and the IESO. For example, AMPP staff participate in reliability
5 standards development and compliance monitoring with NERC and the NPCC, and
6 its staff also represents Canada at the International Electrotechnical Commission
7 (IEC). In addition, AMPP staff serve as the transmitter representative on the
8 Independent Electricity System Operator (“IESO”) Technical Panel, which reviews
9 and recommends amendments to the Ontario wholesale electricity market rules, and
10 advises the IESO Board of Directors on specific technical issues related to the
11 operation of the Ontario Electricity Market;.
- 12 • Having the overall responsibility of monitoring and advising Hydro One’s business
13 units on reliability standards compliance obligations as stated in our license and in the
14 market rules, and coordinating compliance activities;
- 15 • Providing the longer-term perspectives for Transmission and Distribution facilities in
16 terms of sustainment, development, and operating work programs;
- 17 • Managing or contributing to research and development in such areas as smart grid,
18 electrical vehicles, and distributed generation, through industry and research
19 organizations (e.g. EPRI and CEATI) and Ontario universities
- 20 • Liaising with Ontario universities with an electrical or power-systems engineering
21 focus.