

CAPITAL PROJECTS – CORPORATE GROUPS

1.0 PURPOSE

This evidence provides descriptions and listings of capital projects, as well as business case summaries, for test period capital expenditures by OPG's corporate groups that support the regulated facilities. These capital expenditures form part of the capital budget for the corporate groups presented in Ex. D3-T1-S1.

2.0 CAPITAL PROJECTS LISTING

OPG has used a tiered structure for reporting on all capital projects. Information is presented for projects which have budgeted expenditures during the 2011 and 2012 test period or in-service amounts during 2010, 2011 or 2012.

The following information is provided for capital projects being undertaken by OPG's corporate groups:

- Tier 1: For projects with a total cost of \$10M or greater, summary level information is provided in Ex. D3-T1-S2 Table 1.
- Tier 2: For projects with a total cost of \$5M to \$10M, summary level information is provided in Ex. D3-T1-S2 Table 2.
- Tier 3: For projects with a total cost of less than \$5M, aggregated information is provided in Ex. D3-T1-S2 Table 3.

Supporting documentation, in the form of business case summaries, is provided for projects greater than \$10M in Attachment 1.

Exhibit D3-T1-S2 Table 1 presents one Tier 1 project that is being undertaken by the Real Estate group. The 700 University Avenue Chiller Replacement project is new and was not reported in EB-2007-0905. Real Estate has an approved project estimate of \$10.0M.

The 700 University Avenue Chiller Replacement project is being managed by Real Estate Services. OPG is required to replace the two existing heat reclaim chillers at OPG's head

1 office building at 700 University Avenue as the refrigerant used in the machines is prohibited
2 from use after 2011 under *O. Reg. 189/94* under the *Environmental Protection Act* (Ontario).
3 The project will be initiated in 2010 with an in-service date of 2011. As the project has not yet
4 been released, there is no business case summary available. A planning business case
5 summary is provided in Attachment 1.

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7 Exhibit D3-T1-S2 Table 2 presents three Tier 2 projects that are being undertaken by the IT
8 group. The Passport/Asset Suite Upgrade estimated at \$6.2M, the SAP R/3 Upgrade
9 estimated at \$7.0M, and the Energy Trading and Risk Management ("ETRM") and
10 Settlements Project with an approved estimate of \$5.4M. All of these projects are life cycle
11 investments to sustain existing capability.

12
13 The Passport system is the main enterprise asset management system supporting plant
14 maintenance and work management for Darlington, Pickering A and Pickering B. It was last
15 upgraded in 2006 and is planned to be upgraded in 2012 in order to maintain compatibility
16 with evolving technology standards and continued vendor support.

17
18 The ETRM and Settlements Project is required to sustain OPG's existing energy trade
19 capture, risk assessment, and reconciliation and settlement capability.

20
21 The SAP system is OPG's main enterprise resource planning system. The SAP system
22 provides, financial, human resources, payroll, supply chain, and real estate transactional
23 management support for all business units as well as plant maintenance and work
24 management functionality for regulated hydroelectric. The system was last upgraded in 2004.
25 OPG plans to upgrade it in 2012 to manage the risk to the reliability, availability and
26 performance through maintaining vendor support and technology compatibility.

27
28 Exhibit D3-T1-S2 Table 3 provides aggregated information for Tier 3 projects less than \$5M.
29 The initiatives include IT projects such as:

- 30 • The Warehouse Management Upgrade project which has an approved estimate of \$3.1M
31 (Nuclear).

- 1 • The Curator Migration to SharePoint project with an estimated spend of \$3.0M (Nuclear).
- 2 • Network Cabling upgrades - Darlington and Pickering have an approved estimate of
- 3 \$2.4M and \$3.2M respectively (Nuclear).
- 4 • Telecom infrastructure upgrades for with an estimated spend of \$1.0M (Niagara River
- 5 Control Centre - Fiber Cable upgrade).
- 6 • IT system application upgrades.
- 7
- 8 Real Estate Services projects such as paving, roofing, heating, ventilation and air
- 9 conditioning projects are also included.

LIST OF ATTACHMENTS

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Attachment 1: 700 University Avenue Chiller Replacement Program - Project
Number: HOChiller2010

Note: Paper copy of the business case summary is provided in a separate binder (EB-2010-0008 Volume 4).

Planning Business Case Summary (2010-2014 Business Plan)

Project Information

Project Number: *HOChiller2010*

Facility or Business Area: *700 University Ave., Toronto, ON*

Project Description: *Replacement of R-11 1300 lbs Heat Reclaim Chillers*

Expenditure Type: *Capital*

Planned Release Date: *May 2010*

Investment Type: *Regulator & Sustaining*

In-Service Date *Sept June 2011*

Estimate Quality: *Conceptual*

Investment Financial Measures: *\$10m (NPF2009\$)*

Recommended Alt.	LTD 2008	2009	2010	2011	2012	2013	2014	Future	Total
Project Cost Flow (k\$)			5000	5000					
Ongoing* OM&A (k\$)									

*Note: yearly OM&A and material costs to support the installed/upgraded facility

Results to be Delivered

Describe the proposal and a summary of expected business results.

- To be in compliance with O.Reg. 189/94 under the Environmental Protection Act, the two (2) existing R-11 Heat Reclaim Chillers at 700 University Ave must be replaced as the refrigerant used in the machines R-11 is prohibited from being used after 2011.
- Require design build drawings and specification for required units
- Construction for removal of the existing units and installation of the new units

Background

This section should address information, to the extent that they are relevant, such as the following:

- The existing two (2) R-11 1300 Ton Heat Reclaim Chillers, which are original, need to be removed from service. Under O.Reg. 189/94, R-11 equipment was to be phased out by Dec. 31, 2008. Pursuant thereto, OPG received approval to continue to use the R-11 Chillers until Dec. 31, 2011. All R-11 equipment is strictly banned from use commencing Jan. 1, 2012 regardless of government approvals.
- OPG will need to tender for an Engineering Design package to ensure all components can be accommodated within the existing overall building systems.
- OPG would then tender the removal and installation.
- The plan is to replace one Chiller late 2010 and the other Chiller early 2011 when cooling demand is reduced.

Alternatives - typical ones (if appropriate) to consider:

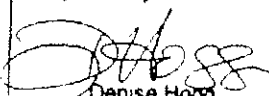
- Status Quo - OPG will not be compliant with the regulations as of Jan. 1, 2012
- Repair versus Replace - Existing units old, non-compliant, and cannot be retrofitted
- Proceed - it is recommended to proceed with this replacing the existing R-11 Heat Reclaim Chillers to ensure OPG is compliant

Evaluation of Alternatives

Impact/Risk Assessment

- If this project does not proceed, OPG will not be in compliance with O.Reg. 189/94 and the Chillers will be required to be shut down. This would result in no cooling and limited heating being available, violating lease agreements in place and rendering the building unusable.

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