COST OF LONG-TERM DEBT

1.0 PURPOSE
This evidence describes the methodology used to determine the long-term debt and associated cost for OPG’s regulated operations for the test period. It also provides details of OPG’s existing and planned long-term borrowing and associated costs for 2010 - 2015.

2.0 OVERVIEW
The long-term debt supporting OPG’s regulated operations is comprised of existing and planned long-term debt issues plus a long-term debt provision required to reconcile OPG’s regulated debt to its OEB-approved capital structure. The summary of capitalization for the test period is provided in Ex. C1-1-1 Tables 1 and 2.

OPG has used the same methodology to determine the regulated portion of existing and planned long-term debt as was approved by the OEB in EB-2007-0905 and EB-02010-0008.

3.0 METHODOLOGY
3.1 Project-Related Long-Term Debt Issues
OPG assigns all existing and planned project-related financing to regulated or unregulated operations based on whether the project is related to its regulated assets. For example, project-related financing associated with nuclear projects or projects at R.H. Saunders or at the Niagara Plant Group, is assigned to OPG’s regulated operations. All project-related financing that is not associated with OPG’s regulated assets is assigned to unregulated operations. OPG also forecasts its financing requirements for projects that are still in the design/assessment phase; however these financing requirements are not assigned to OPG’s regulated operations unless, and until, they are specifically identified as a project in OPG’s capital budget for its regulated operations.

3.2 Corporate Long-Term Debt Issues
The portfolio of long-term debt remaining after project-related financing has been directly assigned must be allocated to regulated and unregulated operations. For the test period,
OPG has applied the allocation methodology approved by the OEB in EB-2007-0905 and EB-02010-0008.

Under this methodology, the book value of OPG’s net fixed assets (gross fixed assets less accumulated depreciation plus construction work in progress) is used to allocate the remaining portfolio of long-term debt. The net fixed asset values are adjusted to remove asset values that were financed pursuant to project-specific arrangements, and nuclear liabilities (the lesser of OPG’s asset retirement cost and unfunded nuclear liabilities). The adjusted relative net fixed asset ratio is then applied to OPG’s portfolio of long-term debt to determine the amount of existing/planned debt to be included in the long-term debt component of OPG’s capital structure for its regulated assets.

Consistent with the approach in EB-2007-0905 and EB-02010-0008, OPG has used information from its most recent audited financial statements (2012) to develop the allocation factor for 2013, 2014, and 2015. The use of audited 2012 financial information is appropriate because the ratio of regulated net fixed assets to corporate net fixed assets does not change significantly from year to year. The allocation ratio has decreased from the 55.5 per cent for 2009 (EB-2010-0008 Ex. C1-1-2, Table 1, line 13) to 52 per cent in 2012 (Ex. C1-1-2 Table 1, line 17) primarily as a result of financing the increase in construction-work-in-progress for OPG’s unregulated operations. The allocation ratio for newly regulated hydroelectric operations has been stable over the 2010 to 2012 period at approximately 25 per cent (Ex. C1-1-2, Table 1 line 18).

The allocation ratio determined in Ex. C1-1-2 Table 1 has been calculated for 2010 - 2012 with (line 19) and without (line 17) the newly regulated hydroelectric facilities. As these facilities do not become regulated until 2014, the allocation ratio applied during 2010 to 2013 does not include newly regulated hydroelectric facilities.

For 2010 – 2012, the allocation ratio is based on actual year-end values for net fixed assets in the year in question. For example, the allocation ratio for 2010 is determined by comparing
the regulated net fixed assets at December 31, 2010 as reflected in Ex. B1-1-1 Table 1\(^1\) and 2) to the total net fixed assets reflected in OPG’s 2010 audited financial statements. The allocation ratios without the newly regulated hydroelectric operations are used to allocate company-wide borrowing in Ex. C1-1-2 Table 2 (2010), Ex. C1-1-2 Table 3 (2011) and Ex. C1-1-2 Table 4 (2012). For 2014 and 2015, the allocation ratio includes the impact of newly regulated hydroelectric facilities in Ex. C1-1-2 Table 6 (2014) and Ex. C1-1-2 Table 7 (2015).

4.0 COST OF EXISTING AND PLANNED NEW DEBT ISSUES

4.1 Existing Debt Issues

OPG’s debt continuity schedules (Ex. C1-1-2 Tables 2 through 4) provide the actual cost of debt issued and outstanding between January 1, 2010 and December 31, 2012.\(^2\) The average remaining term of these long-term debt issues is approximately 8.4 years as at December 31, 2012.

Existing Ontario Electricity Financial Corporation (“OEFC”) debt will be retired or refinanced at maturity depending on OPG’s liquidity at that time. OPG does not plan to redeem the debt prior to its maturity since its agreements with the OEFC contain call provisions that make it more expensive to redeem the debt compared to the potential benefit of refinancing in a lower interest rate environment.

OPG’s long-term debt outstanding at December 31, 2012, as reflected in OPG’s audited financial statements, is $5,114M. This balance consisted of corporate debt held by the OEFC of $2,460M, and project-related debt held by the OEFC related to regulated operations of $1,025M. The remaining $1,629M of OPG’s long-term debt obligation outstanding as of December 31, 2012 is OEFC and non-OEFC project-related financing associated with OPG’s unregulated operations.

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\(^1\) Ex B1-1-1 Table 1 excludes newly regulated hydroelectric assets for the 2010 to 2013 period.

\(^2\) Long-term debt outstanding prior to January 1, 2010 is detailed in EB-2010-0008 Ex C1-1-2 Tables 2 (2007), Table 3 (2008) and Table 4 (2009)
At December 31, 2010 almost all of OPG’s long-term debt outstanding is of 10 year duration\(^3\) (issues 16 to 23 and Niagara 1 to 14). In 2011 and 2012, OPG issued 30 year debt in the amount of $500M. This lengthened the term of OPG’s debt portfolio to better match the term of the underlying assets, and reduced refinancing risk\(^4\).

All corporate long-term debt issued in 2011, 2012 and 2013 (year to date actual information to June 30 and planned to December 31, 2013) has been refinancing of OEFC debt issues, as required. No new debt has been issued with either OEFC or in the external market. Project-related debt for OPG’s regulated operations is limited to borrowing for the Niagara Tunnel under an agreement with the OEFC as described in section 4.4.

### 4.2 Interest Rate on Planned New Debt Issues

The rate of interest on OPG’s debt is determined under the same methodology as described in EB-2007-0905 and EB-2010-0008. It is based on the prevailing benchmark Government of Canada bond for the corresponding term of the debt, as published by a verifiable market monitoring service on the day prior to the date funds are advanced, plus a credit margin determined five business days before the date funds are advanced. The credit margin is determined based on a sample of quotes for OPG’s credit margin as provided by a selected group of Canadian banks. The credit margin will be the same for corporate and project-related debt as the credit margin evaluates OPG as a borrowing entity rather than the project. The interest rate for project-related debt will be the same as the interest rate for corporate debt issued on the same date for the same terms and conditions.

The cost of planned new and refinanced corporate debt and project-related debt for 2013, 2014 and 2015 is based on a forecast of the 10-year Long Canada Bond as published in April 2013 by Global Insight, a third party independent market source.

\(^3\) Ex C1-1-2 Table 2, Corporate Borrowing Issues 16 to 23 and Project Financing Niagara 1 to 14

\(^4\) Ex C1-1-2 Table 3a, Issue 26 ($150M) and Issue 27 ($150M) and ExC1-1-2 Table 4a Issue 28 ($200M)
The long-term interest rates forecast for the 10-year Government of Canada bonds are provided in Chart 1. As discussed below, a credit risk spread for OPG of 132 basis points is added to the Global Insight rates noted in Chart 1 to determine the forecast rate for OPG’s OEFC debt in 2013, 2014 and 2015.

### Chart 1

**Forecast 10-year Long Canada Bond Rates**

<table>
<thead>
<tr>
<th>Year</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>1.87</td>
<td>2.10</td>
<td>2.38</td>
<td>2.39</td>
</tr>
<tr>
<td>2014</td>
<td>2.50</td>
<td>2.65</td>
<td>2.76</td>
<td>2.80</td>
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<tr>
<td>2015</td>
<td>2.87</td>
<td>3.05</td>
<td>3.22</td>
<td>3.44</td>
</tr>
</tbody>
</table>

* Annual forecast

OPG’s credit spread at the end of 2012 was 132 basis points and this spread has been used for 2013, 2014 and 2015.

As described in EB-2010-0008, OPG’s interest rate hedging for Niagara Tunnel debt was completed by early January, 2010. It was undertaken to mitigate OPG’s exposure to interest rate fluctuations. All of these hedge transactions have either been closed-out or settled by April 2013. The financial impact of the hedge transactions is amortized over the life of the underlying debt issue, in accordance with accounting requirements, and is reflected in the effective interest rate cost of the debt issue. To the extent a forecast debt issue is hedged and OPG does not ultimately require the underlying debt issue, the impact of the hedge transaction is charged to unregulated operations.

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5 Generally Accepted Accounting Principles of both Canada and the United States.
4.3 Planned Corporate Long-Term Debt Issues

The total amounts of planned debt issues are listed in Ex. C1-1-2 Table 5a (2013), Table 6a (2014), and Table 7a (2015). OPG plans to retire Issue 22 ($300M) and Issue 24 ($200M) at maturity on March 22, 2015 and September 22, 2015 respectively, as shown in Ex. C1-1-2 Table 7. No other debt issues reach maturity during the 2013 - 2015 period. Maturing and new debt issues are summarized in Chart 2 below.

### Chart 2

**Planned Corporate Long-Term Debt Retirements and Issues ($M)**

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debt Issues Maturing</td>
<td>0</td>
<td>0</td>
<td>500</td>
<td>500</td>
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<tr>
<td>New Debt Issues</td>
<td>400</td>
<td>300</td>
<td>500</td>
<td>1,200</td>
</tr>
</tbody>
</table>

4.4 Planned Project-Related Long-Term Debt Issues

OPG has an agreement with the OEFC to provide debt financing for the Niagara Tunnel project (“NTP”). This agreement allows OPG to issue notes each quarter with a term of up to 10 years to meet OPG’s financing obligations for this project. The agreement enables OPG to issue NTP debt until the end of 2014 as long as the cumulative debt issued does not exceed the cost of the project. OPG is planning to borrow $100M in 2013 as detailed in Ex. C1-1-2 Table 5a (Niagara 23 to Niagara 26). No further borrowing is planned beyond 2013.

OPG does not plan any other project-related financing for the regulated assets during the test period.

5.0 OTHER LONG-TERM DEBT

As discussed above, OPG finances long-term assets with long-term financing. Consistent with the methodology approved in EB-2007-0905 and EB-2010-0008, OPG has used a provision for long-term debt to reconcile the debt component of its regulated capital structure with the proposed rate base that financing supports. OPG’s other long-term debt provision is determined based on the following approach:
• The total debt for regulated operations is determined by applying OPG’s proposed capital structure to its proposed regulated rate base.

• The actual and projected project-related and corporate long-term debt assigned or allocated to OPG’s regulated operations is deducted.

• The actual and projected portion of short-term debt allocated to regulated operations is deducted. This calculation is described in Ex. C1-1-3.

• The result is the residual long-term debt.

Consistent with the OEB’s findings in EB-2010-0008, OPG has applied the rate for its existing and planned long-term debt to the other long term debt provision.