

IN THE MATTER OF a consultative process regarding The Cost of Capital in Current Economic and Financial Market Conditions.

**SUBMISSION OF ONTARIO POWER GENERATION
DATED APRIL 17, 2009**

Introduction

On March 16, 2009 the OEB initiated a consultation to determine whether current economic conditions warrant an adjustment to the cost of capital values (i.e., ROE, long term debt rate, short term debt rate) set out in the Board's letter of February 24, 2009, and repeated below.

Parameter	Value for 2009 Cost of Service Applications (assuming May 1, 2009 implementation)
Return on Equity	8.01%
Long-Term Debt rate	7.62%
Short-Term Debt rate	1.33%

The current return on equity ("ROE") values resulting from the OEB's adjustment formula are of concern to OPG as this formula may be applied to it in the future. As a consequence, OPG proposes both long-term and short-term fixes to the OEB's current methodology for setting ROE. In contrast, OPG does not believe that a change to the calculated long-term debt rates for 2009 is necessary as the produced values seem reasonable in the current economic conditions.

Recommendation

OPG submits that the current economic and financial conditions meet the threshold test that the OEB established in RP-2002-0158 to determine whether a review of the ROE formula is warranted. In its Decision issued January 16, 2004, the OEB noted "two reasons which would

justify a review of the formula. The first justification would be significant changes in market conditions. The second justification would be significant changes in the utility risk. ... The Board recognizes that the ROE Guidelines are not binding and that it is always open to a party to propose a new approach.” (RP-2002-0158 Decision and Order, para. 114). OPG observes that a generic proceeding on the cost of capital is currently underway in Alberta, and that the National Energy Board has recently issued a request for comment to determine whether it should revisit its formula-based approach to adjusting the return on equity for utilities subject to its jurisdiction. OPG submits that the OEB should similarly initiate a generic review of its formulaic approach to determining the cost of equity.

OPG appreciates that such a review can not be conducted in time for those LDCs whose rates are subject to change effective May 1, 2008. OPG submits that a market adjustment factor should be added to the current formula pending the outcome of the generic review proceeding. To meet the OEB’s just and reasonable standard, LDC rates effective May 1, 2009 should include a return on equity that includes a market adjustment to enable the utility to earn a fair return on equity. In the alternative a market adjustment deferral account should be established to record an amount for recovery in a subsequent rate adjustment process.

OPG’s responses to the five questions posed by the Board in its letter of March 16, 2009 follow.

Q1. How do the current economic and financial conditions affect the variables (i.e., Government of Canada and Corporate bond yields, bankers’ acceptance rate, etc.) used by the Board’s Cost of Capital methodology?

The potential for worsening economic and financial conditions to impact credit risk, interest rates and the cost of capital was discussed during OPG’s payment amount proceeding. Ms. Kathleen McShane, OPG’s cost of capital expert, observed that rising aversion to risk among investors was manifest in a “flight to quality” that resulted in falling yields on safe government securities. Ms. McShane summarized the impact these economic and financial pressures were having on the cost of capital parameters used by the Board at that time.

“When I prepared my evidence originally, the long-term Canada bond yield was about 4-1/2 percent, and the yield on utility, long-term utility bonds rated in the A category by DBRS was 5.75 percent.

At the end of May 2008, the yield on long-term Canada bond yields had gone down, by 40 basis points, 4.1 percent. But the yield on long-term utility bonds had actually gone up to close to 6 percent.

So if we looked only at the CAPM, we would conclude that the cost of equity had gone down. But if we looked at the change in corporate bond yields as an indicator of where equity costs might have gone, we would have come to a totally different conclusion and determined that the cost of equity might have gone up. Indeed, it probably has because the whole reason that government bond yields were going down -- I shouldn't say the whole reason, but a large part of it -- was because investors were fleeing to risk-free securities, default-free securities, because of concerns with the risk level in the equity market, which would suggest that the equity risk premium was rising.” (EB-2007-0905, Vol. 10, pp. 17 – 18)

The continuing decline in economic and financial conditions and the corresponding flight to safe investments are reflected in the growing difference between the yields on 30-year GOC bonds and utility bonds. The cost of capital parameters established by the OEB for electricity distribution rates effective May 2008 reflected a 30-year GOC bond yield of 4.465% and a corporate long-term debt yield of 6.10%, a difference of 164.5 basis points. At the end of 2008, the 30-year GOC bond was yielding 3.45%, whereas the yield on long-term A/BBB rated utility bonds averaged approximately 7.5%, a difference of 405 basis points above the 30-year GOC bond. At the end of January 2009, the indicated spreads for new 30-year issues by utility issuers rated A/BBB averaged approximately 390 basis points.¹

The equity market has also been affected by increasing risk. During the EB-2007-0905 proceeding, Ms. McShane discussed various equity risk metrics. She noted in her testimony that:

“The VIX index, an equity volatility index calculated by the Chicago Board Option Exchange (often referred to as the “Fear Gauge”), indicates that, during much of 2004-2006, the equity market was perceived as unusually stable; that is no longer the case. The VIX index has been rising throughout 2007, increasing by approximately 150% from the beginning of the 2007 to the middle of the 4th Quarter, with much of the increase in the latter half of the year. During November of 2007, the VIX index

¹ RBC Capital Markets, Indicative New Issue Pricing, January 26, 2009.

reached its highest levels since 2003. An increase in the VIX index signals rising risk aversion and an increase in the required equity risk premium.” (EB-2007-0905 Ex. C2-T1-S1, p. 23).

The average of the VIX was 18 in 2007, 23 in December 2007/January 2008 and 47 in December 2008/January 2009. OPG is also aware that for Canada specifically, the Montreal Exchange publishes the MVX which it states is “a good proxy of investor sentiment for the Canadian equity market: the higher the Index, the higher the risk of market turmoil. A rising Index therefore reflects the heightened fears of investors for the coming month.” The average of the MVX was 17 in 2007, 20 in December 2007/January 2008 and 46 in December 2008/January 2009. The increasing value of both these indexes is direct evidence of the need for higher returns on equity to attract capital.

The risk premium above safe government securities required by investors for riskier utility equity has risen in the financial markets; however the OEB’s ROE formula yields the opposite result. This strongly suggests that the formula result is wrong.

Q2. In the context of the current economic and financial conditions, are the values produced by the Board’s Cost of Capital methodology and the relationships between them reasonable? Why, or why not?

Long Term Debt

OPG submits that the OEB’s approach to determining a long-term debt rate has resulted in a value that is reasonable and consistent with corporate and utility credit spreads observed in the capita markets in Q1, 2009. The 391 basis point difference between the long-term debt rate (7.62%) and the 30-year Government of Canada (“GOC”) bond yield (3.714%) reflected in the OEB’s letter of Feb 24 seems reasonable based on long-term (30 year) debt issues by Canadian utilities during February, 2009, as shown in Table 1, below.

Table 1

Canadian Utility Long-Term Debt Issues – February 2009

Date	Issuer	Size (C\$Millions)	Coupon	Spread	Ratings (DBRS / S&P)
10 Feb	FortisAlberta	100	7.06%	320	AL/A-
11 Feb	TransCanada	400	8.05%	430	A/A-
19 Feb	Terasen Gas	100	6.55%	285	A/-

Source: BMO Capital Markets, *Domestic Utility Issuance (Jan 2008-09 YTD)*, April 6, 2009

While OPG would have preferred to use data from a time period more closely matching the January data used by the OEB to establish parameter values, the data above still provides a useful comparison. The average spread for the two issues closest in time to that used in the OEB formula is 408 basis points weighted by size of issue. Including the third observation results in an average spread of 388 basis points weighted by size of issue. Both results are consistent with the 391 basis point spread reflected in the OEB’s calculations of parameter values.

As noted in OPG’s evidence in EB-2007-0905, “The market has continued to evolve from one characterized by an abundance of capital being made available at low credit spreads to one where corporate borrowers are seeing upward pressure on credit spreads as investors re-price credit risk and reduce capital. This upward pressure on OPG’s corporate risk premium is expected to continue throughout the test period.” (Ex. C1-T1-S2 p. 5). The evidence from recent issues leads to the conclusion that the long-term debt rate established by the OEB’s methodology for distribution utilities is reasonable.

Return on Equity

The OEB's formula for adjusting ROE is linked directly to changes in the 30-year GOC bond yield. As the flight to safe investments has driven down the yield on these bonds, the formula produces a lower return on equity than is reasonable.

At the same time, the increase in risk and flight away from riskier investments has required borrowers to increase the returns offered to investors in order to attract capital. The cost to borrow has gone up markedly since 2008. As debt is fundamentally less risky than equity, then the cost of equity should similarly increase, arguably by a larger amount. Unfortunately, the link between the increase in the cost of long-term debt and a corresponding necessary increase in ROE is not recognized in the automatic adjustment formula, results.

Worse, the formula has produced an ROE which has moved in the wrong direction. OPG submits that the adjustment formula produces counter-intuitive and unreasonable results for ROE in the current market circumstances where the yields on long-term GOC debt and utility long-term debt have moved in opposite directions.

Q2.1 If the values are not reasonable, what are the implications, if any, to a distributor?

The implication of the unreasonably low ROE resulting from the current formula is that utilities will not have the opportunity to earn a fair return as required by the fair return standard. As noted in OPG's Argument in Chief in EB-2007-0905:

“Mr. Justice Lamont, of the Supreme Court of Canada, defined a fair return as follows:

“By a fair return is meant that the company will be allowed as large a return on the capital invested in its enterprise (which will be net to the company) as it would receive if it were investing the same amount in other securities

possessing an attractiveness, stability and certainty equal to that of the company's enterprise.²”

The Supreme Court of Canada reaffirmed this definition in 1960.³ Mr. Justice Locke concluded that “the [return] must be sufficient to enable it to pay reasonable dividends and attract capital...”. He also concluded that “the obligation to approve rates which will give a fair and reasonable return is absolute”.⁴

The absolute nature of the obligation to apply the fair return standard was also endorsed by the Federal Court of Appeal. In *TransCanada Pipelines Ltd. v. National Energy Board*, the Court agreed that the “absolute” nature of the obligation to approve rates that will enable the company to earn a fair return means that the required return must be determined solely on the basis of the company's cost of equity and is not influenced by any resulting rate impact on customers.⁵

The legal requirement to apply the fair return standard has also been recognized by the OEB. In EB-2005-0421 (Toronto Hydro), the OEB noted that “as a matter of law, utilities are entitled to earn a rate-of-return that not only enables them to attract capital on reasonable terms but is comparable to the return granted other utilities with a similar risk profile” (April 12, 2006, pages 32 to 33).

The Supreme Court of the United States has also adopted the fair return standard. Rates that are not sufficient to yield a reasonable return on the value of a utility's property used to provide service are unjust, unreasonable, and confiscatory. The return must correspond to the return to other businesses of similar risk, be sufficient to assure confidence in the financial integrity of the utility and be adequate to support its credit and enable it to raise money for the conduct of its business.⁶” (EB-2007-0905, OPG Argument-in-Chief, pp. 14-15)

² *Northwestern Utilities Ltd. v. Edmonton (City)*, [1929] S.C.R. 186 at 193.

³ *British Columbia Electric Railway Co. Ltd. v. British Columbia (Utilities Commission)*, [1960] S.C.R. 837 at 854.

⁴ *Ibid.*; see also *Union Gas Ltd. v. Ontario (Energy Board)* (1983), 1 D.L.R. (4th) 698 at 711 and *Hemlock Valley Electrical Services Ltd. v. British Columbia (Utilities Commission)* (1992), 66 B.C.L.R. (2d) 1 (B.C.C.A.).

⁵ 2004 FCA at para. 36; see also *Hemlock Valley*, *supra*.

⁶ *Bluefield Water Works & Improvement Company v. Public Service Commission of the State of West Virginia et al.*, 262 U.S. 679 (1923) at 692; *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944) at 603.

OPG recommends that a market adjustment factor (described in response 3 below) be added to the formula so that distributors will have the opportunity to earn a fair rate of return as required for rates to meet the OEB's just and reasonable standard. OPG recommends that this adjustment apply to LDC rates effective May 1, 2009 or that the difference be recorded in a deferral account for subsequent disposition by the OEB.

Q3. What adjustments, if any, should be made to the Cost of Capital parameter values to compensate or correct for the current economic and financial conditions?

Pending the outcome of a generic review, OPG recommends that a market adjustment factor ("MA") be added to the formula to address the counter-intuitive and unreasonable ROE values produced by the formula. In the current circumstances, the return on equity produced by the formula and the spread between it and the long-term debt cost decreases when both equity and credit risks are increasing. The proposed market adjustment would directionally maintain the relationship between the utility cost of long-term debt and the return on equity; thereby addressing the counter-intuitive results that can and currently do result from the application of the formula.

The adjusted formula would become:

$$ROE_t = ROE_{ref} + .75 (LTC_t - LTC_{ref}) + MA$$

The MA proposed by OPG would reflect the change in the financial risk of riskier securities. The market adjustment is calculated by first determining the difference between the current long-term utility debt spread (i.e. the long-term debt rate determined using the OEB's current methodology and the underlying long-term GOC bond yield) and the average long-term utility debt spread since the establishment of the current ROE adjustment formula. The difference is then multiplied by a factor of 75% to determine the market adjustment. As the ROE adjustment formula is based on a 75% correlation between changes in long-term GOC bond yields (which are included in the above spread calculation) and ROE, OPG submits that use of this factor is a reasonable balance between the significantly higher risks (which would intuitively apply to more

risky investments) which are not addressed by the automatic adjustment formula, and the other factors which impact the required return on equity which are reflected in the relationship between 30-year GOC bond yields and return on equity.

In the current circumstances, the long-term debt rate established in the OEB's letter of February 24, 2009 is 7.62% while the long-term GOC bond yield is 3.714% resulting in a current spread of 3.91% (LTS_t).

OPG does not have the information to determine the average spread between the utility long-term debt cost and the long-term GOC bond yield (LTS_{base}). For the purpose of illustration, the relationship reflected in the OEB's 2008 values will be used. The long-term debt rate in the OEB's letter of March 7, 2008 is 6.10% while the long-term GOC bond yield was 4.465% resulting in an illustrative base long-term spread of 1.64% (LTS_{base}).

As noted above, the MA would be $0.75 * (LTS_t - LTS_{base})$.

The resulting ROE for 2009 would be:

$$\begin{aligned} ROE_t &= 9.35\% + .75 (LTC_t - 5.50\%) + MA \\ &= 9.35\% + .75 (3.714\% - 5.50\%) + 0.75(3.91\% - 1.64\%) \\ &= 9.71\% \end{aligned}$$

As the current economic and financial situation starts to return to a more typical state, investors will begin to move from safer investments to riskier investments offering higher returns. The shift to riskier investments will typically result in an increase in the 30-year GOC bond rate and a decrease in the cost of utility long-term debt (on a relative basis). The gradual return to more normal market conditions will result in a decrease in the MA. The reduction of the market adjustment to zero implies that the markets have returned to a more typical state. Therefore there would be no further need for a market adjustment and the automatic adjustment formula would return to its original construction.

OPG submits that the proposed market adjustment mechanism:

- is consistent with the current formula;
- uses information to adjust the result that has been accepted by the OEB;
- uses a relatively simple and transparent approach to determine the adjustment; and
- produces results that are more intuitive than the current formula result, as they recognize changes in equity risk, balancing the existing formula outcome with the impact of other factors impacting the required return on equity.

While the adjustment mechanism would have some enduring value, a generic review of both the approach to setting cost of capital and the adjustment mechanism itself is still required to address the problems with the current method for establishing and adjusting ROE. OPG submits that the proposed market adjustment factor continue to be added to the ROE formula until a long-term solution is determined through a generic proceeding. The market adjustment factor would be calculated and published by the OEB annually along with the other cost of capital parameter values and would be reflected in the rate calculations of utilities having their cost of capital adjusted during that period.

Q4. Going forward, should the Board change the timing of its Cost of Capital determination, for instance, by advancing that determination to November?

OPG has no comment as this is a timing issue affecting the annual distribution rate setting process.

Q5. Are there other key issues that should be considered if the Board were to adjust any or all of the Cost of Capital parameter values produced by the application of its established formulaic methodology?

OPG recommends that the OEB initiate a generic review of its approach to setting the cost of capital. As noted earlier, OPG submits that the current economic and financial conditions meet the threshold test established in RP-2002-0158 to determine whether a review of the ROE

formula is warranted. OPG further notes that a generic proceeding on the cost of capital is currently underway in Alberta, and that the National Energy Board (“NEB”) has recently adopted a different approach to establish the cost of capital for TQM and has issued a request for comment to determine whether it should revisit its formula-based approach to adjusting the return on equity for utilities subject to its jurisdiction.

The NEB has recently issued a Decision that uses an After Tax Weighted Average Cost of Capital (“ATWACC”) approach to set the cost of capital for Trans Québec and Maritimes Pipelines, Inc. (“TQM”). The ATWACC method is based on debt and equity components which are based on market rather than book values of debt and equity. The NEB said in its TQM Decision that ATWACC “is more aligned with the way capital budgeting decision making takes place in the business world as compared to an approach by component that would include a stand-alone cost of equity estimate.”⁷ In the Alberta proceeding, intervenors and ATCO Utilities have been asked to provide their views on the significance to its proceeding of the NEB Decision. The willingness of these regulators to consider alternate approaches to the setting of the cost of capital should provide the OEB with support for a similar review in the Ontario context.

4. Conclusion

OPG submits that the problem at hand requires both the immediate application of a short term fix as well as an effort to reach a longer term solution through a generic review. To summarize:

- The long term debt rate produced by the OEB methodology is reasonable;
- The ROE produced by the current OEB methodology is not consistent with the fair return standard in the current financial market;
- OPG proposes a market adjustment mechanism using well-known and understood inputs as a short term solution.

⁷ National Energy Board, Reasons for Decision, Trans Québec and Maritimes Pipelines Inc., RH-1-2008, March 19, 2009, page 18.

In addition to the proposed short-term solution, a longer-term fix is required and thus a generic review is necessary to consider the problems associated with the current benchmark return on equity and the adjustment formula. The OEB's threshold test for initiating such a review has been met in light of current financial market circumstances, and a review is consistent with the actions of other prominent regulators including the AUB and the NEB.