October 30, 2009

BY EMAIL & BY COURIER

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge St, Suite 2701
Toronto ON M4P 1E4

Dear Ms. Walli:

Board File No. EB-2009-0084
Consultation on Cost of Capital – Issues List
Final Written Comments of Energy Probe

Pursuant to the letter from the Board, issued October 5, 2009, please find attached three hard copies of the Final Written Comments of Energy Probe Research Foundation (Energy Probe) for the Board's consideration. An electronic copy of this communication in PDF format is being forwarded to your attention.

Should you require additional information, please contact me.

Yours truly,

David S. MacIntosh
Case Manager

cc. Lawrence Schwartz, Consulting Economist (By email)
Peter Faye, Counsel to Energy Probe (By email)
Interested Parties (By email)

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EB-2009-0084

Ontario Energy Board

IN THE MATTER OF a consultation by the Ontario Energy Board on the Cost of Capital for Electricity Distribution Companies.

FINAL WRITTEN COMMENTS OF
ENERGY PROBE RESEARCH FOUNDATION
("ENERGY PROBE")

October 30, 2009

EB-2009-0084

IN THE MATTER OF a consultation by the Ontario Energy Board on the Cost of Capital for Electricity Distribution Companies.

Final Written Comments

Background

In response to the Ontario Energy Board's letter of October 5, 2009 (the "Letter"), Energy Probe Research Foundation("Energy Probe") is pleased to offer the following comments on the issues of concern to the Board in light of the written submissions, the presentations and the discussions thereof in the Consultation on the Cost of Capital ("the Consultation").

As indicated in the Letter, the purpose of these consultations was to obtain further information in three key areas:

- **the potential need to adjust the established cost of capital methodology, based on the ERP approach, to adapt to changes in financial market and economic conditions;**
- **to determine the reasonableness of the results based on a formulaic approach for setting the cost of capital; and**
- **to guide the Board's discretion to adjust those result, if appropriate.**

The participants in consultations raised many issues, some of which were not of direct relevance to these concerns of the Board. In these final comments, Energy Probe will provide its views only in the areas of direct concern.

Introduction and Overview

Energy Probe supports Fair Return Standard as presented by the Board and believes that Ontario gas distribution utilities and electric distribution and transmission utilities should be allowed to earn returns that:

(i) Are fair to investors in light of returns available elsewhere on investments of comparable risk ("the Comparable Investment Standard")

(ii) Maintain their financial integrity (the "Financial Integrity Standard"), and

(iii) Enable them to continue to attract debt and equity capital on reasonable terms and conditions (the "Capital Attraction Standard").

Energy Probe supported the current formula for determining Return on Equity ("ROE") when the Board instituted the Equity Risk Premium ("ERP") approach in 1997 and is open to changes in that regime that are supported by both convincing facts and conventional finance theory.

The inadequacy of the Board's formula might be shown by evidence that:

(1) The formula is producing ROE's that are systematically below those returns that the Board would allow after conventional rate hearings

(2) The formula is producing ROE's that are systematically below those returns on comparable utilities in the United States

(3) Properly-calculated market:book ratios for Ontario utilities are below or are substantially above 1.0.

Energy Probe believes that the onus for producing this evidence falls on those who advocate that the cost of capital regime should be changed.

Energy Probe recognizes that participants in the Consultation have engaged knowledgeable experts who have prepared reports and submissions of high quality. However, on the basis of its participation in the Consultation and its review of the participants' submissions in response to the Issues List and oral presentations, Energy Probe believes that the case for significant adjustment to the Board's formula has not been made.

In Energy Probe's view, the Consultation has not provided direct evidence that Ontario utilities have been unable to attract capital on reasonable terms and conditions, even in the recent difficult economic and financial conditions, or that any such inability is the result of inadequate allowed ROE's determined by the Board's formula.

1. The Proponents' Positions

Participants in the Consultation have addressed the issues of concern to the Board throughout their written responses to the questions on the Issues List and in their presentations. As their comments are thus spread out, it would be confusing to discuss their responses to the Issues List simply on a question-by-question basis.

Accordingly, Energy Probe finds it useful to present an overall summary of the main themes of the participants who are critical of the Board's established cost of capital methodology.

It would be fair to say that most of the participants, excluding ratepayer groups, regard the Board's formula for determining the cost of equity capital as either flawed in some critically-important respects or "broken" entirely. These proponents buttress their views with information that shows or supports the following:

a. Allowed ROE's on Canadian utilities have been lower than those on comparable US utilities in recent years

b. The deemed capital structure for Canadian utilities is overly-reliant on debt whereas US utilities are allowed to have much more equity

c. The Board's formula errs in being focused only on the long-term Government of Canada bond yield to the exclusion of other factors that affect the cost of equity to utilities

d. The ERP should be determined with reference not only to the yields on long-term Government of Canada bonds but also with reference to yields on relevant corporate and utility debt.

e. The Board's formula requires adjustment in light of current economic and financial market conditions

f. The ERP used in the Board's formula is below similar premia found for US utilities

g. Unless the Board's formula is changed to allow higher ROE's, Canadian utilities will be unable to attract capital successfully in competition with US utilities.

2. Calculation of the Board's Formula

The Board's letter of February 2009 set out values for the updated Cost of Capital parameters as determined in accordance with the Board's established methodology. The values included an ROE of 8.01% for 2009 Cost of Service Applications assuming a May 1, 2009 implementation date for rate changes.[1]

Some participants in the Consultation have calculated the Board's formula as at the dates given in their reports; accordingly, the inputs to their calculations, such as the long-term government bond yield, may differ from those used by the Board in calculating parameter values shown in its February 24 letter. For example, Professor Booth finds that the formula produces an ROE of 8.34%.[2]

Professor Vander Weide finds that the Board's formula produces an ROE of 8.4%.[3]

Concentric Energy Advisors does not compute the formula-based ROE for 2009 but indicates that Ontario electric utilities were awarded an allowed ROE 8.01%

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[1] See Ontario Energy Board letter to All Licensed Electricity Distributors Re: Cost of Capital Parameter Updates for 2009 Cost of Service Applications, February 24, 2009.
[2] "The Ontario Energy Board's ROE Adjustment Mechanism: Questions to Consider and Answer", Comments of Professor Laurence D. Booth for the Stakeholder Conference on the OEB's ROE Adjustment Formula EB-2009-0084, September 2009 ("Booth Report"), at p.4
[3] Professor James Vander Weide, EB-2009-0084 Vander Weide Response to Issues List, ("Vander Weide Report"), at p.2 of 12

(assuming they were rebased to the Formula) and Ontario's gas utilities were awarded 8.47% (average generic return).[4]

Although there are some differences among these ROE's obtained by applying the Board's formula, such differences are quite small when compared to the appropriate ROE's for Ontario utilities that have been suggested in the Consultation.

3. MERP and UERP

As the Board accepts the ERP approach in its ROE formula, it is noteworthy that very little information has been provided on the appropriate ERP.

Professor Booth uses the Capital Asset Pricing Model ("CAPM") to establish the utility equity risk premium ("UERP") for Canadian utilities. He uses a 5% risk premium on the Canadian equity market as a whole ("MERP") and adds a "margin of error" of 0.25% in his ROE estimate to acknowledge that some finance experts believe the Canadian MERP is closer to 6%. Taking into account that utility shares are less volatile than the overall market, and indicating that utility betas are in the range 0.45-0.55, he adopts 0.5.[5] Accordingly, the UERP based on his MERP and beta is 2.5% before adjusting for his "margin of error" in the MERP.

Professor Vander Weide is one of the few experts who address this matter empirically. He reports that experienced utility equity risk premium for Canadian utilities is 5.5%.[6] Thus, Professor Vander Weide's experienced UERP estimate for Canadian utilities is higher than both Professor Booth's 2.5% UERP and 5% MERP.

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[4] J.M. Coyne et al., Submission on behalf of Enbridge Gas Distribution, Inc., Concentric Energy Advisors, Inc., September 8, 2009 (the "Concentric Report"), p.37

[5] Booth Report, at p.15.

[6] Vander Weide Report, at p.2 of 12.

As the estimate of UERP is a critical variable in evaluating the Board's formula, Energy Probe notes that Professors Brealy and Myers et al. in their updated finance textbook[7] show that the average annual rate of return on Canadian common stocks for the period 1926-2007 was 11.7% while the return on long-term government bonds was 6.5%.[8] Accordingly, the Canadian MERP over the long-term government bond yield was 5.2%. Thus, Professor Vander Weide's experienced UERP is also higher than the long-term MERP estimate based on the information provided by Brealy and Myers.

In the CAPM framework, the MERP, if an accurate reflection of the return on the market portfolio, should be associated with a beta of 1.0. Since utilities generally have betas of less than 1.0, the UERP should be less than the MERP. Hence, if the Canadian MERP is 5.2%, then it would be expected that the Canadian UERP would be less than 5.2%. On this basis, Professor Vander Weide's 5.5% estimate of the Canadian UERP appears to be too high.

The Concentric Report provides estimates of Canadian and US MERP's as 5.2% and 6.5% respectively from Morningstar Ibbotson data. They average these premia to obtain the 5.86% that they use in their subsequent CAPM analysis on the basis that the Canadian and US economies are highly integrated and that capital flows freely across the border.[9] Thus, their averaged 5.86% MERP estimate is also higher than both Professor Booth's (with or without his "margin of error") and the long-term estimate of the Canadian MERP in the Brealy and Myers text.

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[7] R. Brealy, S. Myers et al., Fundamentals of Corporate Finance: Fourth Canadian Edition, McGraw-Hill Ryerson, 2009, Table 10.1, p.309

[8] Note that while stock market returns dropped sharply during the financial crisis of 2008, government bond yields also declined as equity investors shifted to bonds driving up prices and depressing yields. How these changes have affected the long-term MERP is not clear, especially since equity prices have improved in 2009 to date.

[9] "Because the U.S. and Canadian economies are integrated and capital flows freely across the border, arguably the independent risk premiums for each nation have merged into one North American equity risk premium". Op. cit. Appendix F, p.F-10

Energy Probe notes that the 5.2% MERP estimate provided by Brealy and Myers is close to Professor Booth's once his "margin of error" is taken into account. It is also interesting to note that the Canadian MERP that the Concentric Report obtains from Morningstar Ibbotson is also 5.2%. On this basis, Energy Probe submits that 5.2% should be taken as the best MERP estimate available and should be used as the basis for establishing the UERP when using the CAPM framework.

In that framework, the UERP is established by multiplying the MERP by beta. As noted, Professor Booth indicates a range for beta of 0.45-0.55.

The Concentric Report uses adjusted betas of Canadian utilities (or holding companies) produced by Bloomberg and ValueLine. The former are in the range 0.58-0.68, while the latter provides only one relevant beta (0.65).[10]

Accordingly, Energy Probe regards a beta of 0.65 as conservative and likely an over-estimate. Applying this beta to the MERP of 5.2% results in a UERP of 3.38%.

4. Risk-Free Rate of Return

In the CAPM framework, the UERP calculated on the basis of the MERP and beta is added to the relevant measure of the risk-free rate of return. Although it is not explicitly stated in any of the expert reports, both the MERP and UERP will differ when different risk-free security returns are used to measure the risk-free rate. As indicated in the Brealy and Myers text, the MERP over the treasury bill rate is 7%.

However, the treasury bill yield is generally (and, certainly, at the present time) highly influenced by monetary policy considerations and may therefore not

[10] ValueLine provides a beta of 0.85 for TransCanada Corp. that arguably is not relevant since TransCanada Corp. has significant other business interest including non-regulated business. Op. cit., Exhibit Concentric-02, p.3 of 3

represent the true (undistorted) market yield for treasury bills. On this basis, it is customary for regulators to rely on the long-term Government of Canada bond yield which provides a more accurate assessment of the market's risk-free rate of return as it is less influenced by policy considerations.

The long-term bond yield will normally exceed the treasury bill yield, often by a considerable amount. Therefore, the MERP over the long-term bond yield *must* be lower than the MERP calculated on the basis of the treasury bill yield when the yield curve is upward-sloping. The 5.2% MERP accepted above is consistent with this condition because, as discussed, it was estimated as the long-term return on common stocks over the long-term bond yield.

The following table presents recent information on yields on long-term Government of Canada bond and U.S. Treasuries:

	U.S.[1]	CAN[2]
2006	4.91%	4.20%
2007	4.84%	4.22%
2008	4.28%	4.19%
2009-Feb[3]		3.69%
2009[4]	4.17%	3.92%

[1] US Federal Reserve System. Market yield on U.S. Treasury securities at 30-yr constant maturity (available at http://www.federalreserve.gov/releases/h15/data/Annual/H15_TCMNOM_Y30.txt)
[2] Bank of Canada. Selected Government of Canada Benchmark Bond Yields-Long-Term (January series) (available at: http://www.bank-banque-canada.ca/pdf/annual_page14.pdf)
[3] Average for February/09, obtained from Bank of Canada. Bank of Canada Banking and Financial Statistics, March 2009, Selected Government of Canada benchmark bond yields, Table F1, p.S61 (available at http://epe.lac-bac.gc.ca/100/201/301/bank_can_banking_fin_stats-ef/2009/2009-03.pdf)
[4] At October 20, 2009. National Post, October 21, 2009, FP8

The Board's formula calculation takes into account the changes in the bond yield from the previous period. Accordingly, a portion of any difference between returns allowed to Ontario utilities by the formula and returns allowed to US utilities will reflect differences in the risk-free rates used to establish these returns.

As shown in the above table, the yield differential between US 30-year Treasuries and the 30-year Canada bond has widened from 9 basis points in 2008 to 25 basis points currently. While this differential does not constitute the entire difference between allowed ROE's under the Board's formula and those in the U.S., Energy Probe suggests that the lower risk-free rate of return in Canada in recent years has not been sufficiently recognized in the Consultation.

5. CAPM-Based Estimate of ROE

The Board adopted its formula approach in order to reduce the number of rate hearings. As suggested above, one way to determine whether the Board's formula is flawed is to compare it with ROE's that would have been allowed by the Board at such hearings. Typically in such hearings, the Board considers expert evidence based on different approaches to estimating the cost of equity, one of which is the CAPM.

With the information provided above, the CAPM estimate of the cost of equity is easily derived. Adding the 3.69% yield on the Government of Canada 30-year bond in February 2009 to the UERP of 3.38% as shown above, a CAPM estimate of the cost of equity to Canadian utilities is 7.07%.

When utility regulators determine the allowed ROE, they typically add 50 basis points to such "bare bones" estimates of the cost of equity to account for flotation costs and/or financial integrity concerns. While the Board's formula does not do this explicitly, the adjustment is contained in the formula's base-year ROE calculation[11] and so is carried forward to future years implicitly. To make the above CAPM estimate comparable to the ROE produced by the formula, it is necessary to increase the 7.07% cost of equity similarly. Hence, the CAPM-based

[11] The Board describes this part of the formula as the "initial setup". See Ontario Energy Board. Draft Guidelines on a Formula-Based Return on Common Equity for Regulated Utilities", March 1997.

estimate of ROE was 7.57% when the Board's formula ROE was 8.01% as discussed above. On this basis, the Board's formula awards higher ROE's than would be justified by CAPM, and may therefore be considered generous.

Conflicting CAPM evidence is common in rate hearings, and so it is not surprising that there is some variability among the estimates thereof produced by participants in the Consultation. Professor Booth's CAPM-based estimate is 7.75%. This is below his 8.38% calculation of the formula-based ROE and he also concludes that the formula ROE is generous.

The Concentric Report provides CAPM estimates of the required equity returns for Canadian utilities of 8.1% (proxy group mean) and 7.98% (proxy group median).[12] Adjusting these returns for flotation costs, the CAPM-based ROE's are 8.6% and 8.48% respectively.

The Concentric Report's CAPM-based ROE's indicate that the Board's formula understates the required return on equity. However, that report's higher betas and MERP are likely the reasons for this finding.

In Energy Probe's view, the CAPM-based estimates of ROE are similar to the ROE produced by the Board's formula when the appropriate MERP and beta are used.

6. Equity Risk Premium Approach

The Board is critical of the CAPM approach to measuring the cost of equity and endorses the more general ERP approach. In its 2006 report on cost of capital for electricity distributors, the Board indicates that the ERP to be used in determining the cost of capital is 3.80%.[13] The Board's ERP is thus significantly higher than the

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[12] Op. cit., Exhibit Concentric-06, p.3 of 3

[13] See Ontario Energy Board. Report of the Board on Cost of Capital and 2nd Generation Incentive Regulation for Ontario's Electricity Distributors, December 20, 2006 at p.4.

UERP of 3.38% that is the product of beta and the MERP discussed above in developing the CAPM estimate.

On the basis of his calculation of the formula ROE, Professor Vander Weide concludes that the implied ERP is 4.17% as of the date of his calculations.[14] This is significantly higher than both the Board's own ERP estimate and the UERP.

The cost of equity is found by adding the Board's estimated ERP of 3.80% to the appropriate yield on long-term government bonds. As shown above, that yield was 3.69% in February 2009, and the resulting cost of equity is 7.49%. Adding a further 50 basis points for flotation costs and financial integrity, the ERP approach produces an ROE of 7.99%.

As this ROE is close to the Board's formula-based ROE of 8.01% as of February 2009, the ERP approach indicates that the Board's formula is producing an appropriate ROE.

7. Differences between Ontario and US Utilities

Several advocates of changes to the Board's formula believe that Ontario and US utilities are sufficiently comparable as to suggest that allowed ROE's and capital structures should be similar. Indeed, the detailed statistical and financial analyses are premised on this view. Energy Probe is not convinced of this conclusion but, apart from Concentric's detailed consideration of this important matter, there is little evidence on the matter.

That Ontario and US gas and electric distribution utilities use similar technologies in providing service to their customers and that they are regulated in broadly similar ways are, of course, suggestive but in Energy Probe's view they are not dispositive.

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[14] Vander Weide Report, at p.2 of 12.

As suggested in its response to question 4 on the Issues List, Energy Probe suggests that if Ontario and US utilities were truly comparable, then investor portfolios in both countries would be expected to hold both Ontario and US utilities in similar proportions. However, making this determination would be very difficult even if information on the portfolio holdings were readily available.

One consideration would be that there are simply more US utilities (and utility holding companies) with traded stock than Canadian utilities, which could lead to an overrepresentation of US utilities in investor portfolios. A second consideration is that government-imposed restrictions on foreign shareholdings (including tax treatment of dividends) may cause individual and institutional investors in both countries to hold more domestic utilities than they would prefer based solely on expected returns. A third consideration is the currency risk (i.e. exchange-rate volatility) that may encourage investment in domestic securities generally.

A fourth consideration is regulatory. While recognizing that Ontario and US utilities have broadly common regulatory frameworks, it may well be that the regulatory regimes differ in important ways on specific issues related to the cost of capital.[15] For example, Energy Probe has suggested that different approaches to allowing the recovery of investments deemed not to be "used and useful" would certainly affect investor attitudes on the risks and expected returns available in the two jurisdictions. There may be other such differences that regulators should consider.

Energy Probe suggests that the relevant criteria for comparability between Ontario and US utilities are regulatory, financial and capital-market related, rather than technological. The fact that there are production similarities is less important than

[15] There is an analogy here between Canadian and US approaches to securities regulation, where there is broad similarity in the goals and objectives but significant differences in important details that affect investor and issuer behaviour.

these differences. Among the financial/capital market differences are:

a. The MERP appears to be lower in Canada than in the US (as indicated in the Concentric Report which averaged the two)[16]
b. The long-term Government of Canada bond yield is below the yield on equivalent U.S. Treasuries[17]
c. Preferential tax treatment of dividends received by individual Canadian investors

Such considerations suggest that investor portfolios in Canada and the U.S. will not hold Ontario and US utilities in similar proportions.

However, the Board cannot be expected to take account of all of these and other pertinent factors in determining whether Ontario and US utilities are good substitutes for each other in the eyes of investors. In Energy Probe's view, the main issues then are (i) whether Ontario utilities are able to attract capital on reasonable terms and conditions under the current formula, and (ii) whether US investors are actively supplying that capital.

8. North American Capital Market Integration

The degree of comparability of Canadian and US utilities turns, in Energy Probe's view, mainly on regulatory and financial market similarities. These similarities and dissimilarities are important because several participants have suggested that, due to lower allowed ROE's for Ontario utilities under the Board's formula, both Canadian and US investors, particularly institutional investors, would increase their portfolio holdings of US utilities and decrease their holdings of Ontario utilities which would then find it difficult to attract capital on reasonable terms and conditions.

[16] See above, s.3 MERP and UERP at p.4
[17] See above, s.4 Risk-Free Rate of Return at p.5

To illustrate, the Macquarie presentation[18] shows that allowed returns in the United States have generally been higher than such returns in Canada. It also provides the following information on ownership of Canadian regulated utility companies by US/international investors:

Fortis Inc.	5%
Canadian Utilities Ltd.	3%
ATCO Ltd.	2%
Emera Inc.	1%

Macquarie concludes that "getting international investors interested in Canada is a major challenge".[19] However, these ownership figures are not dispositive in themselves. It may be that these US/international investors have similar-size investments in US utilities. Correspondingly, it may be that Canadian institutional investors have similarly small stakes in US utilities.

In the same vein, the Concentric Report states:

> **In addition, the allowed ROEs in Ontario do not allow the Province's regulated utilities to compete effectively with comparable North American utilities for equity capital.[20]**
>
> **Over time, however, the utility is at a disadvantage when it comes to competing internally for incremental capital in these diversified companies, and at an international disadvantage when seeking to attract equity from North American investors who can readily seek higher returns in the U.S.**
>
> **The same can be said for Ontario's government and municipally owned electric utilities. Substandard returns essentially subsidize the utility ratepayers at the expense of taxpayers. When the taxpayer and utility customer is the same, the subsidy may not be problematic, but it does not send proper price signals and creates a barrier to the competitive environment in Ontario.[21]**

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[18] M. Akman, "What the stock market is saying about utility regulated returns", Presentation to the Ontario Energy Board, September 21, 2009, Macquarie Equities Research, at p.12.
[19] ibid.
[20] Op. cit., at p.4-5.
[21] ibid., at p.25.

Energy Probe agrees with these experts that it is a serious matter whether Canadian utilities can continue to attract capital on favourable terms and conditions. Energy Probe also recognizes the growing integration of Canadian and US capital markets, although there are differences that may be significant for the cost of capital as noted above.

Given the significance of this matter, Energy Probe is of the view that the information provided during the consultations is not strong enough to support the conclusion that Canadian utilities will not be able to attract equity capital on reasonable terms.

The ownership data cited by Macquarie should be complemented with data on portfolio holdings of US and Canadian utilities by both Canadian and US institutional investors. Until this data is examined, it will be difficult to determine the extent to which US investors are more interested in US utilities than Canadian utilities and whether any preference for US utility shares is a result of anything but "home country bias".

Energy Probe regards this issue as so important that the Board should begin to collect ownership information from its regulated companies on a regular basis. The companies themselves or their holding companies will be the best source of this information. The Board should place the onus on the companies for providing this information.

9. Other Estimates of ROE

Participants have submitted ROE estimates obtained by methods other than CAPM and ERP.

(i) Concentric Report: CIBC Capital Markets Valuation

Referring to a recent valuation report on Enbridge by CIBC Capital Markets, the Concentric Report concludes that allowed returns in Ontario are too low:

> **The implication for Ontario is that the OEB should consider the returns the company could earn on the equity portion of the book value of its capital investments if it were operating in a competitive unregulated or comparable regulated environment elsewhere. One measure of such returns is suggested, in a report concerning Enbridge in which CIBC Capital Markets conducted a valuation analysis of Enbridge in which the analysts "assumed a 12% after-tax, unlevered ROE, which is a typical hurdle rate (and typically achieved) for Enbridge." *This suggests that returns currently allowed in Ontario are far below any sort of reasonable comparable earnings.* Nevertheless, because the utility has an obligation to serve customers within its defined service territory, it must pursue capital projects that are necessary for it to satisfy that obligation to serve, even when capital budgeting theory, and the comparable return standard, both indicate that the project should be rejected.[22]**

It is not clear whether the 12% after-tax unlevered return noted in the CIBC report refers to Enbridge as a whole or to Enbridge Gas Distribution, Inc. ("EGDI"). In either case, the levered return will be higher, and would appear to be even higher than the ROE's allowed to the utilities in Concentric's US comparator sample.

That said, the Concentric Report is likely correct in concluding that EGDI must undertake certain investments in Ontario that provide equity returns that are below both the return under the Board's formula and the 12% after-tax unlevered hurdle rate. However, it cannot be ruled out that EGDI may also be undertaking investments that offer more than those equity returns in order to achieve the allowed ROE for its investors and continue to attract capital.

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[22] Concentric Report, Appendix A, p.A-4. Italics emphasis added.

In Energy Probe's view, the discussion of the CIBC Capital Market valuation of EGDI in the Concentric Report is uninformative.

(ii) Vander Weide Report

Professor Vander Weide also provides information and analysis on ROE's produced by the Board's formula relative to ROE's allowed on US utilities. By his calculations as of August 2009, the Board formula produces an ROE of 8.4% whereas allowed returns on US utilities average 10.4%.[23] He concludes that US utilities are comparable to Ontario utilities and, accordingly, Ontario utilities should be allowed ROE's 10%-11% on deemed equity of 40%-50% and return on rate base of 8%.[24]

Professor Vander Weide's evaluation of utility returns by six different studies is quite thorough. One such study is his analysis of experienced utility equity risk premiums on Canadian utility stocks which, as noted above, is 5.5%. He obtains this result by first calculating, and then averaging, the 4.3% observed premium on S&P/TSX utilities index and the 6.6% observed premium on BMO Capital Markets basket of Canadian utility stocks. Since, by his calculation, the Board's formula's implied ERP is only 4.17%, Professor Vander Weide concludes that the allowed ROE's under the formula are too low.

The calculated 5.5% utility risk premium is too high for the purposes of the Consultation. As Professor Vander Weide points out, the TSX utility index begins in 1956 whereas the BMO Capital Markets basket begins in 1983. For this reason, a time-weighted average of these two time-series premia would be more informative than the simple average of those premia, and would have been lower than 5.5%. In addition, Professor Vander Weide states that 6 of the 9 companies currently

[23] Vander Weide Report, at p.2 of 12.
[24] Vander Weide Report, at p.3 of 12.

included in TSX utility index operate mainly in "non-traditional" utility markets, which may indicate that returns thereon are not regulated.

In another analysis, Professor Vander Weide estimates the cost of equity to Ontario utilities based on the forward-looking required equity risk premium on utility stocks. On the basis of his ex ante risk premium studies, he finds that the forward-looking required equity risk premium on "utility stocks" is 7.5%-8% through February 2009, and 7%-7.5% using more recent data. However, as he clearly states in his report, he uses data only on US gas and electric utilities because his DCF analysis requires analysts' growth estimates and these are not available for Canadian utilities. Nevertheless, he used these premia to calculate the cost of equity to Ontario utilities of 11.3%.[25]

Energy Probe considers that Professor Vander Weide's estimate of the experienced utility equity risk premium is too high and his cost of equity to Ontario utilities is flawed by virtue of its reliance on estimates of US forward-looking UERPs.

10. Deemed Capital Structure

The Board's interest in deemed capital structure is intertwined with the appropriate ROE, as certain submissions simultaneously argue that not only are the formula-based allowed ROE's below those in the US, but that equity ratios are higher in the US.

Several submissions to the Consultation compare certain Canadian utilities with a sample of US utilities judged comparable in terms of business and regulatory risk. The differences, apparently, are that the US utilities have both higher allowed

[25] Vander Weide Report, Appendix A to Responses of James H. Vander Weide, Ph.D., EB-2009-0084, Pages 19 and 32 of 87

ROE's and lower debt ratios than the Canadian utilities studied.[26] These submissions recommend similar changes for Ontario utilities.

As noted above, the Board's formula currently provides an allowed ROE of 8.01% and a deemed equity ratio of 40%. If this provision inadequately compensates equity investors for the financial risk associated with the debt level, the situation could be addressed in either of two ways. First, if Ontario utilities' ROE's are too low in relation to the debt they carry, then it might be appropriate to allow higher ROE's in order to compensate equity investors adequately for the financial risk. The Board's formula could be adjusted to produce higher ROE's consistent with the current level of financial risk.

A second approach is to increase the deemed equity ratio from its current 40% to a level consistent with ROE's provided by the Board's formula as it currently stands. Hence, if the 8.01% ROE currently allowed by the formula is judged too low in relation to the deemed capital structure, then equity might be increased to the level consistent with that ROE.

However, to increase both the allowed ROE and the equity ratio of Ontario utilities from their current levels to those in the US implies that equity investors in Ontario utilities require higher returns for bearing less financial risk. Thus, if the Board determines that some adjustment is required, it should adopt a "marginal" perspective that brings risk and return into a better balance from the current situation, rather than simply jumping to the relationship observed in US utilities.

On the basis of the information provided to the Consultation about allowed ROE's and equity ratios in US utilities, it cannot be ruled out that either (i) US utility equity investors are over-compensated for the risk they bear, or if not then (ii) the US utilities are, for whatever reasons, not comparable to Ontario utilities.

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[26] Concentric Report. Appendix C-Proxy Groups, at p.C-1 and Appendix D-Summary of the Risk Environment for Ontario's Utilities Relative to the Proxy Group Companies, at D-1.

11. Connection between Corporate Bond Yields and Cost of Equity

The Board's Issues List asks: "What is the relationship between corporate bond yields and the corporate cost of equity? Is this relationship stable?" (Issue 12). Several participants attempt to answer these questions with statistical evidence indicating, inter alia, that corporate bond yields are the preferred basis for evaluating the allowed ROE produced by the Board's formula.

Such evidence is unhelpful because a utility's corporate bond yield is uninformative of its cost of equity. This point may be seen more clearly by considering the yield on a corporation's "junk bond". Such bonds are generally considered below investment-grade and hence provide a much higher yield to maturity than investment-grade bonds to compensate bond investors for the higher risk.

As an illustration, consider a situation in which a junk bond offers a yield of 17% when investment-grade, unsecured corporate bonds are yielding 10%. It is tempting to infer that the junk-bond issuer has a much higher cost of equity than the issuer of the unsecured corporate bond. This inference is incorrect because the junk-bond yield does not measure the issuer's cost of junk debt.

Junk-bond investors understand that they may receive the promised yield if they hold the bond to maturity. However, they also realize that there is some probability that the issuer will default before maturity, and there will be a spectrum of returns depending on when the bond default occurs. The "cost" of the junk bond is not the promised yield, because this yield measures the return on only one scenario, i.e. no default. The investor's expected return on the bond will be the average of possible returns and that expected return is the "cost" of the junk bond.

As with the cost of equity, the cost of junk debt is the minimum required rate of return that will induce investors to acquire it, and it is clear that such cost, being an

average of different possible returns, will be lower, and quite possibly much lower, than the promised yield to maturity.

The same conclusion holds for any form of risky debt including the conventional unsecured corporate bond. The only bond for which the yield equals the cost of debt is a bond for which there is no possibility of default, i.e. the risk-free government bond.

Energy Probe suggests that criticisms of the Board's formula on the basis that the allowed ROE's therefrom exceed corporate bond yields by relatively small amounts are mistaken. The only relevant premium for determining the ERP is the premium over the relevant risk-free rate of return.

12. Market:Book Ratio

Energy Probe requested its expert, Dr. L. Schwartz, to give a presentation illustrating the applicability of the market:book ratio in evaluating the ROE produced by the Board's formula. He demonstrated that when a utility is allowed to earn the equity investors' required rate of return on book equity, then the utility's stock price should equal the book value of equity per share. Hence, if the Board's formula were not producing the correct ROE, the market:book ratio would not equal 1.0.[27] However, he recommended that a small premium of 5-10% over book value be allowed so as to ensure that the Capital Attraction Principle was met.

Thus, the market:ratio could be used as an indicator of whether the ROE's produced by the Board's formula were consistent with the Fair Return Standard. As indicated in the presentation, there are no "pure-play" Ontario utilities with listed shares, and accordingly, the stock prices of utility holding companies may not give the right information. Indeed, one participant indicated that the market:book ratios of utility holding companies was significantly above 1.0.

[27] "Fair Return Standard and the "Market:Book" Controversy". Presentation by L. Schwartz, Ph.D., Cost of Capital Consultation, EB-2009-0084

It would therefore be necessary for the Board to analyze the holding company operations and determine how much of its share price was due to its utility earnings. As Dr. Schwartz indicated, this analysis is the "bread and butter" of financial analysis and should be within the Board's existing expertise to undertake, if only for its internal indicative purposes.

13. Board's Discretion to Change the Formula

Questions 13 and 16-19 on the Board's Issues List address whether and how the formula should be changed and how the Board can determine whether changes are needed, particularly when financial and economic conditions are not "normal". Here, the Board is seeking to determine whether it should use its discretion to alter the results of the formula and how it could determine when the exercise of this discretion is appropriate.

As a purely formal matter, Energy Probe recognizes that the Board has, and must, retain discretion to change its policies and procedures. In the area of cost of capital, however, it should be reluctant to exercise this discretion unless it is convinced that "structural change" has rendered the formula or the parameter estimates thereof no longer valid.

Energy Probe submits that the Board should not exercise its discretion to adjust the formula simply because of the business cycle. If, as some have suggested, allowed ROE's should now be adjusted upward because of the current difficult economic and financial conditions, then it would be reasonable for the Board to have adjusted the formula to reduce allowed ROE's during the preceding years when the economy was buoyant and growing rapidly.

It is noteworthy that no participants in the Consultation have suggested this latter course of action, even though the Consultation has received statistical evidence that the ERP is sensitive to changes in interest rates.

Indeed, adjusting the formula and/or its parameters over the course of the business cycle could well affect the investment incentives of the regulated utilities. For example, they may choose to defer some investment until the economic conditions are so difficult as to warrant the Board's allowing higher ROE's than the formula would produce.

Energy Probe feels that cyclical changes in themselves do not warrant changes in the formula. Cycles vary in length and amplitude and indeed in the factors producing them, all of which would have to be clearly understood when the Board exercised its discretion. Forecasting these variables is a most difficult endeavour and the chances of mistakes are high.

The bigger risk is that exercising discretion on a cyclical basis creates uncertainty for the regulated utilities as it would become necessary for them to forecast such cycles.

Thus, for example, cyclical changes in the ERP should not lead the Board to change that parameter. However, if the evidence, presumably accumulated over many years, is that the ERP has changed in a permanent way, then the Board should take that change into consideration.

14. Final Observation on the Board's Formula

Several participants in the Consultation criticized the formula for its apparent failure to include "critical variables that influence the required returns for utility equities"[28].

[28] See report of Power Advisory LLC, Evaluation of the Ontario Energy Board's Equity Risk Premium Formula, Prepared for Great Lakes Power Transmission LP, September 8, 2009, at p.1.

Such observations are correct; the Board's formula does not include all the relevant determinants of the cost of equity. Instead, it focuses on the ERP and changes in risk-free rate of return.

However, the Board's formula is not intended to calculate ROE's based on all relevant variables. The analogy with a thermometer is apposite: conventional thermometers are used because they measure changes in temperature accurately without taking into account all of the factors that cause those changes.

As presented in these final written submissions, Energy Probe submits that the appropriate tools for measuring the success of the Board's formula are (1) whether its results approximate those that would be achieved by direct measures of the cost of equity, such as CAPM, and (2) whether the resulting ratio of the utility's stock price to its equity book value per share is tolerably close to 1.0.

Energy Probe respectfully disagrees with those who advocate evaluating the Board's formula by the extent to which it produces ROE's similar to those on "comparable" US utilities. As indicated above, the main issues of comparability are those of the financial and capital markets and utility regulation. In Energy Probe's view, the financial/capital markets in Canada and the United States as less than completely integrated and there are important differences in MERP's, taxation and interest rates between the two jurisdictions. While investment patterns require further study, Energy Probe would not expect that Ontario and US utilities are equally good substitutes in the eyes of equity investors in both jurisdictions.

The similarity of the regulatory environments for utilities in both countries is undoubted. The important issue that remains is whether there are important regulatory differences that have a bearing on the cost of capital. Before harmonizing with US returns and capital structure, it will be important for the Board to assure itself that the costs of capital to utilities in Canada and the US are essentially equivalent.

Energy Probe Research Foundation appreciates the opportunity to submit final written comment following the Stakeholder Conference. Energy Probe was greatly assisted in the preparation of its Comments by Lawrence P. Schwartz PH.D.

ALL OF WHICH IS RESPECTFULLY SUBMITTED

October 30, 2009

Energy Probe Research Foundation