September 8, 2009

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge St., Suite 2700
Toronto, ON, M4P 1E4

Dear Ms. Walli:

RE: **Consultation on the Cost of Capital in Current Economic and Financial Market Conditions**
Board File No.: EB-2009-0084

Please find attached the submission of the Coalition of Large Distributors (the "CLD") and Hydro One Networks Inc., (together the "Utilities"), listed below, with respect to the above-captioned proceeding.

The second purpose of this letter is to register with the Ontario Energy Board the Utilities' request to make a presentation, with the assistance of our technical expert, Concentric Energy Advisors ("Concentric"), at the stakeholder conference scheduled for the week of September 21, 2009. We understand that the purpose of such a presentation is to allow participants and their respective experts to clarify and elaborate on their written comments, which Concentric will do on behalf of the Utilities.

The presentation panel from Concentric is:

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Presentation materials will be sent to the Board Secretary by September 14, 2009.

Yours truly,

(Original signed on behalf of the Utilities by)

Gia M. DeJulio

Attach.

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ONTARIO ENERGY BOARD

2009 CONSULTATIVE PROCESS ON COST OF CAPITAL REVIEW

EB-2009-0084

ON BEHALF OF:

THE COALITION OF LARGE DISTRIBUTORS

and

HYDRO ONE NETWORKS INC.

CONCENTRIC ENERGY ADVISORS, INC.

James M. Coyne, Dr. J. Stephen Gaske, and Julie F. Lieberman

SEPTEMBER 8, 2009

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GLOSSARY OF TERMS

ATWACC	After-Tax Weighted-Average Cost of Capital
bps	Basis points
CAPM	Capital asset pricing model
CLD	Coalition of Large Distributors
Concentric	Concentric Energy Advisors, Inc.
DBRS	Dominion Bond Rating Service
DCF	Discounted cash flow
EBIT	Earnings Before Interest and Taxes
EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortization
Enbridge	Enbridge Gas Distribution
ERP	Equity Risk Premium
FERC	Federal Energy Regulatory Commission (U.S.)
FFO	Funds from operations
Hydro One	Hydro One Networks Inc.
IRM	Incentive Regulation Mechanism
IRR	Internal Rate of Return
LDC	Local distribution company
Moody's	Moody's Investor Services
MRP	Market Risk Premium
NEB	National Energy Board
NPV	Net Present Value
OEB or the Board	Ontario Energy Board
Ontario	Minister of Energy for the Province of Ontario
ROE	Rate of return on common equity
RRA	Regulatory Research Associates
S&P	Standard & Poor's
The Act	Energy Competition Act
The Utilities	Coalition of Large Distributors and Hydro One Networks Inc.
TQM	Trans Québec & Maritimes Pipeline Inc.
Union	Union Gas Limited
U.S.	United States of America
WACC	Weighted-Average Cost of Capital

I. INTRODUCTION AND OVERVIEW

The Coalition of Large Distributors ("CLD")[1] and Hydro One Networks Inc. ("Hydro One") here forth referred to as "the Utilities" has retained Concentric Energy Advisors, Inc. ("Concentric") to assist with responding to the issues raised in the Consultative Process on Cost of Capital Review initiated by the Ontario Energy Board ("OEB" or the "Board"). In this document, Concentric provides written comments and supporting analysis in response to the issues list distributed by the Board concerning a review of its policy regarding the cost of capital.

In its March 16, 2009 letter, the OEB initiated a Consultative Process to determine whether current economic and financial market conditions warrant an adjustment to any of the Cost of Capital parameter values (i.e., the Return on Equity, Long-term Debt rate, and/or Short-term Debt rate) set out in the Board's letter of February 24, 2009. In addition to evaluating whether adjustments were warranted to the specified parameter values, the Board invited stakeholders to provide written comments on the following issues:

1. 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?
2. 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?
   2.1. If the values are not reasonable, what are the implications, if any, to a distributor?
3. 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?
4. Going forward, should the Board change the timing of its Cost of Capital determination, for instance, by advancing that determination to November? And,
5. 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?

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[1] The members of the CLD include: Enersource Hydro Mississauga Inc., Horizon Utilities Corporation, Hydro Ottawa Limited, Powerstream Inc., Toronto Hydro-Electric Systems Limited and Veridian Connections Inc.

A summary[2] of Concentric's written comments filed with the Board on April 17, 2009 on behalf of the Utilities follows:

> There is little doubt that the current economic and financial situation has had a material impact on the variables used by the Board in its methodology.
>
> The values produced by the current cost of capital methodology are not reasonable in the context of current market conditions. The deemed long-term debt rates follow more closely with actual market conditions since it is based on actual current spreads. The short-term borrowing spread no longer reflects actual market conditions and should be modified to incorporate current spreads over bankers' acceptances.
>
> The implications of a below market ROE for a distributor are several. Recognizing that Concentric's analysis indicates that a gap has existed for several years, there is a compounding effect over time. Among these implications are:
>
> - Reduced earnings to fund re-investment in the utility
> - Reduced earnings for dividends to shareholders
> - Negative impacts on debt coverage ratios and credit metrics
> - Inability to meet the fairness standard
>
> There is no quick fix that will put the Formula on solid ground. Ultimately, a more comprehensive proceeding should be initiated by the OEB to identify and resolve issues associated with the Formula that will ensure the consideration of corroborating factors and provide utilities an opportunity to earn a fair return under a variety of economic conditions. To properly estimate the cost of capital, with emphasis on the cost of equity, requires the use of financial market analytics and corroborating sources. This may be accomplished using traditional techniques such as the CAPM, DCF, Equity Risk Premium, and their variations, including ATWACC.
>
> The primary consideration with respect to timing is to establish parameters that are close enough to the test year to provide forward looking estimates, but allow adequate time to incorporate the parameters for the subject year into the necessary budgeting functions.
>
> Under the ROE Formula, as currently designed, the OEB depends on a single variable (government bond yields) as the platform for utility ROE and the regulator is precluded from exercising informed judgment in the determination of a fair return. Current turmoil in financial markets highlights this fundamental problem. A temporary fix may reduce the impact, but will not address the fundamental problem. Concentric believes the OEB and utility stakeholders will be better served by a comprehensive examination of alternative approaches to capital cost

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[2] For Concentric's full written comments, please see The Cost of Capital in Current Economic and Financial Market Conditions, Prepared For: The Coalition of Large Distributors and Hydro One Networks Inc., Comments in Response to Consultative Process, Board File EB-2009-0084, April 17, 2009.

> estimation. This will allow the Board to determine an approach that both allows sufficient flexibility to adapt to changing market conditions, and one that provides sustainably fair returns.

After reviewing the comments filed by interested stakeholders including the Utilities, on June 18, 2009 the OEB issued a letter indicating that it was proceeding with a review of its policy regarding the cost of capital. In support of this decision, the Board wrote: "Nevertheless, the Board is satisfied that further examination of its policy regarding the cost of capital is warranted to ensure that, on a going forward basis, changing economic and financial conditions are accommodated if required." The Board stated that it would provide a list of issues that would form the basis of its review, and invited interested stakeholders to file written comments identifying their views and positions on the listed issues.

On July 30, 2009, the OEB asked interested stakeholders to address 19 specific questions related to its policy regarding the cost of capital and whether any changes should be made to the ROE Formula to better reflect changing economic and financial conditions. The Board indicated that it would continue to place primary reliance on the Equity Risk Premium approach. However, the Board indicated that it would review the application and the derivation of the current ERP approach to determine if it is sufficiently robust to guide the Board's discretion in applying the Fair Return Standard.

Finally, the Board scheduled a stakeholder conference from September 21 to 25, 2009 to provide a forum for discussion on the issues identified by the Board. Participants will be granted an opportunity to make presentations during the stakeholder conference.

Concentric's research for this Report is supported by several recent studies and reports, developed by Concentric and others, which have evaluated the returns produced by the Formula. These studies include:

- Return on Equity: Allowed Returns for Canadian Gas Utilities, A Discussion Paper Developed by the Canadian Gas Association, May 2007;
- A Comparative Analysis of Return on Equity of Natural Gas Utilities, prepared for the Ontario Energy Board by Concentric Energy Advisors, June 14, 2007;

- Perspective on Canadian Gas Pipeline ROEs, Canadian Energy Pipeline Association, February 2008;
- Allowed Return on Equity in Canada and the United States, National Economic Research Associates, February 2008 (study commissioned by the Canadian Gas Association);
- The Fair Return Standard for Return on Investment by Canadian Gas Utilities: Meaning, Application, Results, Implications, The Honourable John C. Major Former Justice, Supreme Court of Canada and Roland Priddle, President, Roland Priddle Energy Consulting Inc. and Former Chair of the National Energy Board, March 2008; and
- A Comparative Analysis of Return on Equity for Electric Utilities, prepared for the Coalition of Large Distributors ("CLD") and Hydro One Networks Inc. by Concentric Energy Advisors, June 2008.

In addition, witnesses for Concentric have recently presented substantial evidence on this topic before the Alberta Utilities Commission in its Generic Cost of Capital proceeding (Proceeding ID.85).

II. EXECUTIVE SUMMARY

Concentric has determined that Ontario's currently allowed ROEs and capital structures do not meet an objective test of the Fair Return Standard. While it may be possible to rebase ROEs using the ERP method, Concentric recommends the utilization of multiple methods to determine ROE, and provides a detailed cost of capital analysis by sector to support this determination. The existing Formula tied to the Canadian Long Bond has not been an effective method for tracking equity costs.

In discussing the advantages and disadvantages of adopting a formula-based approach in its original Draft Guidelines, the Board observed: "A functional ROE formula should be capable of producing a rate of return that approximates the result which would have been produced through the traditional hearing process."[3] Concentric submits that the ROE formula has not met this test. We have demonstrated that alternative ROE estimation methods do not corroborate the results produced by the Formula. 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.

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[3] Ontario Energy Board, Draft Guidelines on a Formula-Based Return on Common Equity for Regulated Utilities, March 1997, at 7.

The growing disparity between U.S. and Ontario allowed returns and the recent economic crisis has illuminated three major flaws in the Ontario Formula. First, it is our opinion that any formula, based solely on government bond yields, without any means of corroboration, is highly prone to error. In 1997, when the Ontario Formula was placed into effect, utility capital costs and government bond yields were perceived to move in lock step. Indeed, there is a strong historical relationship between the two. However, despite that strong historical relationship, government bonds can and do move independently from corporate utility capital costs and may sometimes move in opposite directions. In recent years, government bond yields have virtually derailed from utility bond yields, resulting in reduced returns dictated by the Ontario Formula when any measure of the fair return standard would indicate that utility equity returns should be increased.

The absence of a "corporate" capital cost component in the Ontario Formula, either by using the corporate bond yield or the spread between government and corporate bond yields, has allowed the Ontario Formula to move in an opposite direction to the actual cost of utility equity capital. One is hard pressed to imagine a viable scenario where corporate bond yields do not provide a more reliable basis for utility cost of capital than do government bond yields. Considering the recent economic crisis as a stress test for the Ontario Formula, the performance of the corporate bond yield has provided a more stable and reliable measure of the utility equity return than has the more volatile government bond yield.

Second, as discussed in Part VI of this Report, the coefficient in the current Formula in Ontario is mis-specified at 0.75, rendering it overly-sensitive to changes in interest rates. Historical relationships between bond yields and allowed returns in the U.S. reflect no greater than a 0.50 relationship. The cumulative effect of this mis-specification has contributed to the growing gap between U.S. and Ontario allowed returns. Note that in 1997, when the Ontario Formula was put into effect, U.S. allowed returns and Ontario allowed returns were in virtual parity. The overt sensitivity to changes in interest rates, coupled with the consistent decline in government bond yields since the Ontario Formula was placed in service, have been the most significant contributing factors to the disparity between U.S. and Ontario allowed returns.

Third and finally, the current Formula provides no means of corroboration for reasonableness. The absence of such corroborating measures has allowed the Ontario Formula to steadily diverge from U.S. returns, resulting in new efforts to restore fairness to equity allowances. According to Canadian and Ontario precedent, a fair return must meet each of three tests: financial integrity, capital attraction, and comparability. Nothing in the current Ontario Formula provides a check or any assurance that any one of those three tests has been met. As dictated by *Hope* and decades of Canadian regulatory practice, it is the end result that determines fairness and not the methodology that is controlling.[4] Any methodology employed to achieve those ends would be superior to the current Ontario Formula.

To achieve those ends, Concentric's recommendation is to rebase ROE and utilize a more effective index. The recommended formula incorporates 0.50 of the change in the Canadian A-rated 30-year Utility Bond as published by Bloomberg, weighted equally with an index based on recent litigated ROE decisions in North America (per Regulatory Research Associates "RRA" Rate Case Statistics). This methodology incorporates comparable returns in North American ROE awards, while maintaining an important tie to the Canadian financial markets and the prevailing corporate risk environment. We recommend this approach be applied annually in place of the current Ontario Formula for a period of 3-5 years. After this period, the formula should be revisited and if deemed necessary by stakeholders, rebased to recalibrate the starting point for returns in the succeeding 3-5 year period. This methodology meets the objective of regulatory expediency and is most likely, of the index-based solutions, to satisfy the fairness standard over time.

The Board's questions fall into eight general topics, which are addressed in this Report in the following sections:

IV. Application of Fair Return Standard (Questions 1, 2, and 3);
V. Choosing a Comparator Group (Questions 4, 5, and 6);
VI. Formula-based Approaches and the Equity Risk Premium (Questions 7, 8, 9, and 10);
VII. Choosing an Appropriate Base for the Equity Risk Premium (Questions 11 and 12);
VIII. Calculating the Equity Risk Premium (Question 13);
IX. Adoption of a Dead Band and/or Trigger Mechanism (Questions 14 and 15);

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4 *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591, 603 (1944).

X. Methods to Corroborate Results Produced by the Formula (Questions 16 and 17); and

XI. Using Financial Market Indicators to Test Reasonableness of Results (Questions 18 and 19).

An abbreviated summary of Concentric's response to each of the Board's questions is provided below. In order to fully document and support responses to the Board's questions, Concentric has provided supporting analysis in several appendices. Summaries of these analyses are provided in the body of the report.

Question 1: *What method(s)/test(s) might the Board formally consider to determine whether the return on capital meets: (i) the comparable investment standard; (ii) the financial integrity standard; and (iii) the capital attraction standard?*

Comparable Investment Standard - There are three measures which are either observable or readily derived from financial market information: awarded ROEs for comparable companies, estimated ROEs for comparable companies, and actual ROEs earned by comparable companies.

Financial Integrity Standard - The minimum requirement of the standard is that the utility's return must be sufficient to meet its financial obligations and maintain sufficient credit metrics so that it may remain in good credit standing. Two primary indicators of credit quality that agencies focus on are interest coverage, expressed as a multiple of earnings before interest and taxes ("EBIT") or funds from operations ("FFO") in relation to debt interest payments.

Capital Attraction Standard - There are several tests that may be used to judge capital attraction. Sources that provide meaningful information on capital attraction for utilities include: equity analyst reports, credit rating reports, and direct market evidence.

Concentric presents several of these measures for Ontario's utilities in the report.

Question 2: *Is the current deemed capital structure appropriate? If not, what alternative(s) might the Board consider?*

No. The current deemed capital structure is not appropriate because it does not adequately recognize the relationship between the cost of common equity and the capital structure. Concentric recommends that the Board follow the NEB's lead in its recent TQM Decision and allow the

regulated utility's management to choose an optimal capital structure within certain parameters because management is in the best position to assess the business and operating risks of the utility, and it would allow the utility to maintain financial flexibility to more quickly respond to changes in capital market conditions. The Board should rely on the Equity Cost Curve and the weighted average cost of capital curve to inform its judgment on this matter, but this can be done to set common ROE's and capital structure for each risk class (e.g., electric distributors) as long as they share common risk profiles.

Question 3: *Should the approach to setting cost of capital parameter values differ depending on whether a distributor finances its business through the capital markets or through government lending such as Infrastructure Ontario or through bank lending? If so, what would be the implications, if any, of doing so?*

No. Although the cost-of-capital parameter values may differ among utilities, the approach to setting cost of capital should be the same for all utilities. Other than flowing through actual debt costs or any differences in taxes in rates, there is no economic reason to treat government-owned or government-financed utilities any differently than privately-owned utilities when it comes to setting an allowed rate of return on rate base.

Question 4: *Does the analysis in the Concentric Report provide a reasonable foundation for satisfying the comparable investment standard?*

Not entirely. The Concentric Report provided sufficient basis to conclude that U.S. and Canadian utilities were indeed comparable enough to use as comparator or proxy companies, but further analysis is required to select only those utilities determined to be of similar risk for comparison to Ontario's utilities.

Question 5: *If not, what might the Board use as a comparator group?*

Concentric has performed a full proxy group selection for each of the sectors of Ontario's utilities.

Question 6: *Were the Board to only consider the use of Canadian utilities as a comparator group, is there an issue with circularity, given that the ROEs of these utilities are, and have been established by a mechanism similar to that currently used by the Board?*

Yes. With the exception of new NEB Group 1 pipelines, Canadian utilities' authorized returns largely fail to provide meaningful information for comparison due to the circularity stemming from

the widespread use of the formulaic ROE model across Canada. Meaningful DCF and CAPM analyses can be done on publicly-traded Canadian companies that are of comparable risk. However, there are few such companies.

Question 7: *Should the ERP approach be reset given that when the formula was first established the reference bond rate was 8.75%?*

Yes, assuming the Board decides to continue to use the ERP approach. The misspecification of the sensitivity is one reason for the systematic understatement of utility ROEs and equity risk premiums over the past decade. Benchmarking the Formula-produced return using alternative measures of equity costs, with appropriate adjustments, is essential to ensuring a fair return.

Question 8: *Should the ERP approach be reset on a regular basis (e.g., every 4 or 5 years) to mitigate the issues described in the 1997 Compendium?*

Predetermined check-in periods should be maintained (every 3 – 5 years) to allow all parties the option (but not the requirement) to reset the Formula as well as providing a routine check on the performance of the Formula and a forum for suggesting improvements or enhancements to the Formula.

Question 9: *How might the Board address the potential issues arising from the application of the current methodology as a single, point-in-time calculation?*

ROEs determined through the appropriate methods are forward looking. Markets change continually. The best the Board could do, and should attempt to do, is to make its decisions based on the market conditions that exist at the time the Board establishes the rate of return and then monitor the results.

Question 10: *How should the Board establish the initial ROE for the purposes of resetting the methodology?*

Multiple approaches for determining ROE provide greater assurance that the end result will be just and reasonable, as conditions that may bias results could be detected or mitigated by considering alternative results. Primary reliance should be placed on the CAPM and DCF results, with corroboration provided by reviewing a risk premium approach, comparable earnings of low risk industrials and allowed returns in other jurisdictions. Concentric has provided a complete cost of capital study for the Ontario utilities, using the DCF and CAPM as our primary analyses and the

ERP and Comparable Returns as a means of benchmarking the reasonableness of the results of our primary analyses.

Question 11: *Is the government (of Canada) bond yield the appropriate base upon which to begin the return on equity calculation?*

Government bond yields in themselves are not an appropriate base for setting ROE; multiple methodologies must be employed and afforded appropriate weight to arrive at an ROE that meets the fair return standard and is indicative of utility equity costs. For indexing purposes, corporate bond yields are a superior measure that would more accurately track utility equity costs.

Question 12: *What is the relationship between corporate bond yields and the corporate cost of equity? Is this relationship sustainable?*

Historically, corporate bond yields and corporate costs of equity have enjoyed a strong historical relationship and reflect the market's perspective on corporate credit risk, which is an important component that has been missing from the existing Formula. Concentric finds that the corporate bond yield provides a more suitable basis for the ROE Formula than the government bond yield. Our analysis has indicated that the sensitivity of the corporate bond to allowed returns is roughly from 0.45 – 0.50. Monitoring and periodic reviews are necessary to ensure that these relationships continue in the future.

Question 13: *Does the current approach used by the Board to calculate the ERP remain appropriate? If not, how should the ERP be calculated?*

No, the Board's current approach to calculating the equity risk premium ("ERP") is not appropriate because it results in an ERP that is substantially lower than any of the corroborating benchmarks. The Board should not limit itself to one specific method of calculating an equity risk premium; rather, it should consider the results produced by multiple approaches in order to generate a range of reasonable results from which it may select an appropriate ERP.

Question 14: *Should the Board adopt a dead band? If so, what should the range of the dead band be?*

Though Concentric has not recommended a deadband in its formula, we accept that a deadband has the benefit of regulatory efficiency, and is appropriate when regulatory expediency can be optimized

without sacrificing a fair return. Deadbands may also serve a useful role when performance based rates ("PBR") are coupled with the base return.

Question 15: *Should the Board adopt trigger mechanism(s). If so, how often should the Board review the methodology?*

If the Board continues with a formula, and accepts Concentric's recommended index along with both an annual monitoring process and 3-5 year formal review of the methodology and ROE results, a trigger mechanism is not necessary. If the existing formula tied to government bond yields is used we would strongly urge a trigger mechanism tied to corporate bonds and awards from litigated jurisdictions.

Question 16: *What is the appropriate test(s) to ensure the FRS is met (e.g. corroborating results for reasonableness relative to other benchmarks or through other methods)?*

In order to definitively determine whether the fair return standard is being met, a cost of capital study is required. Recognizing that the Board desires an approach that is efficient to administer, it is relatively straightforward for Staff to update DCF and CAPM studies using readily available information. If the Formula return deviates significantly from the average results of the DCF and CAPM studies for a specified period of time, the Formula should be re-opened and a re-basing of the Formula should be considered. Similarly, if a utility has difficulty raising capital on reasonable terms, the Board should consider that special circumstances exist that would dictate either deviating from the Formula or re-basing the Formula as necessary.

Question 17: *What information might the Board need to definitively determine that market conditions are having an effect on the variables used by the Board's cost of capital methodology?*

In addition to the cost of capital monitoring outlined in response to Question 16, comparable returns analysis, changes in the level of corporate debt costs, as well as the level of yield spreads and the comments of professional equity analysts should corroborate or suggest that the Board's Formula does, or does not, continue to reflect the cost of common equity capital for Ontario electric utilities or gas utilities.

Question 18: *Should the Board consider monitoring indicators like these on an on-going basis to test the reasonableness of the results of its cost of capital methodology?*

Yes. The Board should remain an informed participant and apprised of trends in capital markets through practical routine monitoring of those factors mentioned in our responses to Questions 16 and 17 above.

Question 19: *What other key metrics used by financial market participants to determine whether financial markets conditions are or are not "normal" might the Board consider?*

Some basic indicators that might provide the Board with an early warning signal that it should conduct a more thorough DCF or CAPM analysis would include: changing credit spreads between corporate and government bonds, changes in equity market volatility indices, credit rating changes for Ontario utilities, divergence between Canadian and U.S. debt and equity market indices, and shifts in price/earnings ratios and dividend yields for publicly traded utilities.

III. BACKGROUND

In Ontario, the ROE Formula was first established for natural gas distribution utilities in 1997 with the OEB's "Draft Guidelines on A Formula-Based Return on Common Equity for Regulated Utilities" ("Draft Guidelines"). Up until 1999, Ontario's electric distributors were principally municipal utilities under the regulation of Ontario Hydro and earned no specified rate of return on equity. Not until 1998 and the passage of the *Energy Competition Act* ("the Act"), did the OEB have the authority to fix "just and reasonable" rates for Ontario's 270 plus municipal electric utilities that existed at that time. Based on methodological recommendations forwarded by Dr. William Cannon, a desire to align with existing methods for gas distributors, and the objective of implementing a performance-based ratemaking framework, the Board also established a formulaic risk premium approach to ROE for electric distribution utilities.[5]In 1997, the OEB established the benchmark ROE by taking the forecast yield for long-term Government of Canada bonds and adding an estimated risk premium to account for utility risk relative to long-term Government of Canada bonds. The equity risk premium test was used to determine the appropriate risk premium. Once established, the benchmark ROE has been adjusted annually using a formula. The change in the forecast yield for long-term Government of Canada bonds is multiplied by a factor of 0.75 to

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5 See*: A Discussion Paper on the Determination of Return on Equity and Return on Rate Base for Electric Distribution Utilities in Ontario*, Dr. William T. Cannon, December, 1998; and *Report of the Board on Cost of Capital and 2nd Generation Incentive Regulation for Ontario's Electric Distributors*, Ontario Energy Board, December 20, 2006.

determine the adjustment to the allowed ROE. This adjustment factor is then added to the utility's previous test year ROE and the sum is rounded to two decimal points to produce the new ROE.

The Board concluded that it would review the rate of return formula as conditions arise that may call into question its validity, such as significant shift in business risk or market conditions. Parties to a proceeding may ask the Board to review the Formula when they feel it is appropriate or the Board may do so on its own initiative. In either case, it is the Board's decision as to the time for a review. The Board may request the presentation of other tests or require some weighting for other tests in the Formula should the Board want to assure itself that the ERP formula approach does not lead to perverse results and is directionally in line with other market indicators.

The allowed ROE for those utilities filing cost-of-service applications in 2009 is 8.01 percent. Allowed returns and equity ratios for Ontario's largest gas and electric utilities, are presented in Table 1.

Table 1: Authorized Returns and Equity Ratios for Ontario's Largest Utilities

	2009 Authorized ROE	2008 Authorized ROE	2009 Authorized Equity Ratio
Enersource Hydro Mississauga	8.57%	8.57%	40.00%
Horizon Utilities Corporation	8.57%	8.57%	40.00%
Hydro One Networks	8.57%	8.57%	40.00%
Hydro Ottawa Limited	8.57%	8.57%	40.00%
PowerStream Inc.	8.01%	9.00%	40.00%
Toronto Hydro-Electric System Limited	8.01%	8.57%	40.00%
Veridian Connections Inc.	9.00%	9.00%	40.00%
Enbridge Gas Distribution Inc.	8.39%	8.39%	36.00%
Union Gas Limited	8.54%	8.54%	36.00%

Note: Enersource, Horizon, Hydro One, Hydro Ottawa and Veridian did not rebase for 2009 and Veridian also did not rebase in 2008. Hydro One Transmission's approved return was 8.35% for 2008 and 8.01% for 2009.

In its 1997 Draft Guidelines, the OEB expressed its policy on capital structure as follows: "The Board believes that the capital structures should be reviewed only when there is a significant change in financial, business or corporate fundamentals."[6] In discussing the steps necessary to implement

[6] Ontario Energy Board, Draft Guidelines on a Formula-Based Return on Common Equity for Regulated Utilities, March 1997, at 4.

the new ROE formula, the Board further clarified its approach to capital structure: "The Board's guidelines also assume that the base capital structure will remain relatively constant over time and that a full reassessment of Consumers Gas' capital structure will only be undertaken in the event of significant changes in the company's business and/or financial risk."[7]

In 2006, the Board revised it policy on capital structure for electric distributors as follows: "The Board will deem a single capital structure for all distributors for rate-making purposes . . . The Board has determined that a split of 60% debt and 40% equity is appropriate for all distributors." Prior to this revision, the Board had allowed for different capital structures for electric distributors based on their size (in terms of operations, assets, and revenue base) and the geographic size and isolation of particular distributor service areas. The Board abandoned any distinction based on size noting that there had been considerable restructuring in the industry through mergers and acquisitions from 1999 through 2006, which reduced the number of distributors from over 300 to less than 90.[8]

Prior to 2007, the equity component of electricity distributors' capital structures ranged from 35% to 50% based on each utility's rate base. Beginning in 2007, the Board deemed a 40% common equity component for all electricity distributors. For natural gas distributors, the Board increased the equity component from 35% to 36% for the 2007 rate year.

Concentric notes that the OEB understood that there were potential disadvantages associated with formula-based ROE mechanisms. In its 1997 Draft Guidelines, the OEB wrote:

> There are a number of potential disadvantages of formula-based ROE mechanisms; however, if adequately controlled for, they can be minimized. Establishing the initial parameters of the generic formula (as implied in the initial ROE and the subsequent adjustment mechanism) will have a profound influence on the potential success or failure of the process. Over time these parameters and adjustment factors will have a cumulative or compounding effect on the results of the formulaic ROE mechanism. The use of an inappropriate initial ROE will either inflate or understate subsequent rate determinations. A second consideration which must be dealt with is that a formula ROE generally relies predominately (sic) on the equity risk premium method to the exclusion of other methods and, hence, sacrifices the unique contributions of these other approaches. A further potential challenge in setting a formula-based

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7 Ibid, at 30. Consumers Gas was the first to have the ROE Formula applied in Ontario.

8 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 5-6.

> ROE is adjusting for the impact of timing differences for utilities with different year-ends. Finally, a move to formula-based ROEs may restrict a regulator's ability to make discretionary adjustments to a utility's return for the purpose of creating incentives for particular behaviours or sending signals to the marketplace.[9]

Based on the deviation of the formula-based returns from other common ROE benchmarks, including allowed returns for utilities in other jurisdictions, it appears that the OEB's initial reservations about an ROE formula were well-founded. Many of the disadvantages anticipated by the Board have, in fact, come to fruition. This proceeding affords the OEB an opportunity to re-examine whether a formula-based approach satisfies the Fair Return Standard in Ontario. Concentric would urge the Board to consider the evidence presented in this report and others, demonstrating that the current Ontario Formula, which relies on government bond yields and an equity risk premium, is not appropriate for establishing a fair return for Ontario's regulated utilities.

IV. APPLICATION OF THE FAIR RETURN STANDARD

Question 1: What method(s)/test(s) might the Board formally consider to determine whether the return on capital meets: (i) the comparable investment standard; (ii) the financial integrity standard; and (iii) the capital attraction standard?

Response

As noted by the Board, and consistent with the Decision in *Northwestern Utilities vs. City of Edmonton, (*1929)[10], three tests are required in determining whether the fair return standard has been met, the "comparable investment" test, the "capital attraction" test, and the "financial integrity" test. Consistent with the widely accepted *Hope (*1944) standard in both the U.S. and Canada[11] the Board should ultimately consider the end result of its allowed returns in making this determination. The "comparable investment" test addresses the opportunity cost associated with equity capital and allows the utility the opportunity to earn a return sufficient to compete for equity capital among comparable risk companies. The capital attraction and financial integrity tests reflect the minimum standards for establishing a fair return and are related to ensuring the financial soundness of the utility with the ability to attract the necessary capital to maintain and expand its system.

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9 Ontario Energy Board, Draft Guidelines, at 7.

10 Supreme Court of Canada, *NORTHWESTERN UTILITIES LTD. VS. THE CITY OF EDMONTON* (1929 SCR192).

11 Cost of Capital, Dr. Bill Cannon, Presentation at CAMPUT's 2009 Energy Regulation Conference, July 3, 2009, p. 17.

Furthermore, the utility must be able to attract capital on reasonable terms as a stand-alone entity, regardless of the strength or weakness of its parent holding company. The authorized return must satisfy all three tests to meet the standards for a fair return in Ontario.

i. Comparable Investment Standard

This standard is based on the opportunity cost of capital principle. Investors in Ontario's utilities forego the opportunity to invest that same capital in alternatives, so they should be compensated so that their return on equity is at least equal to the return that could have been earned on an alternative investment of comparable risk. The NEB defines the standard as follows:[12]

> Comparable Investment Requirement: The aspect of the Fair Return Standard that requires that the return of a regulated utility be comparable to the return available from the application of the invested capital to other enterprises of like risk.

Because no two companies are identical in terms of operating and financial characteristics, regulators must make a reasoned judgment to weigh the impact of differences when making comparisons between companies that are fundamentally similar. All too often, companies are ruled as non-comparable due to their differences rather than factoring those differences into the comparison. The standard of "comparable investments" does not require that the investments be "identical", otherwise the standard would be impossible to meet.

Concentric believes that the regulator must look to equity returns from comparable businesses, just as an investor would. This may be done through examination of allowed returns, actual equity returns, or those expected by investors. There are three measures which are either observable or readily derived from financial market information.

1. **Awarded ROEs for comparable companies** – Most Canadian jurisdictions rely on the Formula which is the very subject of the Board's inquiry as well as investigations in BC, Alberta, and Quebec, and rejection in the case of the NEB for TQM. The Board must therefore look to non-formula based ROE awards to establish comparability, otherwise the exercise is completely circular. Concentric believes that ROE awards for North American gas and electric utilities, (U.S. utilities augmented by Canadian litigated ROEs when they

[12] NEB Reasons for Decision, RH-1-2008, TransQuebec and Maritimes Pipelines, Inc., Cost of Capital for 2007 and 2008, March 2009, p. vii.

occur), provide the best possible objective source for this comparison, and we present this comparison.

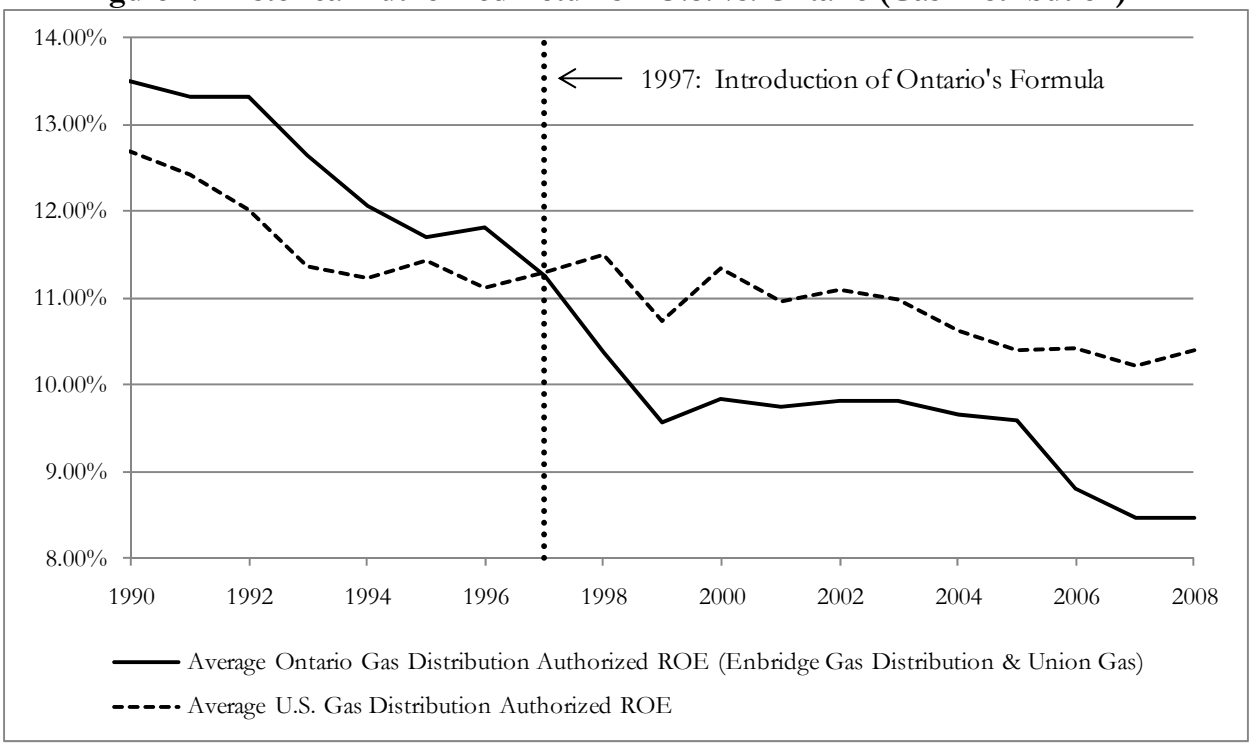
2. **Estimated ROEs for comparable companies** – the very purpose of cost of capital estimation is to determine required investor returns for a given investment. The CAPM, DCF and ERP methods are relied upon to produce these estimates. Financial and regulatory analysts typically rely on the DCF and CAPM models, or a combination of the two, applied to a group of proxy companies with similar business profiles. Concentric presents the results of its analysis based on these methods.
3. **Actual ROEs for comparable companies** – Data on "earned" or "actual" ROEs at the utility level are not uniformly reported, but this information can be helpful in understanding investor requirements for equity returns. In addition, it is possible to specify a group of low risk companies to serve as proxies for utility returns in order to determine the level of returns earned by companies with comparable risks.

As indicated subsequently in this report, the current allowed equity return produced by the Ontario Formula for 2009 in Ontario is 8.01% (based on the January 2009 Consensus Forecast), which is well below the benchmark return resulting from Concentric's ROE analyses. These analyses indicate that the Ontario authorized returns are deficient in meeting the comparable investment standard by a magnitude ranging from 140 to 294 basis points.

Concentric has established the comparability between U.S. and Canadian utilities by analyzing regulatory, financial and operational characteristics of the Ontario utilities compared to the proxy group utilities. The results of that analysis are discussed in our responses to Questions 4 and 5, but generally lead us to conclude that though there are differences in risks between the utilities, they are largely offsetting and do not explain the growing disparity in allowed returns. Rather, the more likely explanation has been the adoption of the ROE Formula in Ontario and what we would submit were unanticipated consequences.

As the Figure below illustrates, U.S. and Ontario authorized returns were in virtual parity when the Formula was first implemented in Ontario in 1997, and prior to that date exceeded U.S. returns. Since then, a growing gap has occurred which we would characterize as a "fairness deficit" in relation to the comparability standard.

Figure 1: Historical Authorized Returns – U.S. vs. Ontario (Gas Distribution)



ii. Financial Integrity Standard

The NEB defines the financial integrity standard as follows:[13]

> Financial Integrity Requirement: The aspect of the Fair Return Standard that requires that the return of a regulated utility enable the financial integrity of the regulated enterprise to be maintained.

There are many factors to consider when assessing whether the financial integrity standard has been met. The *minimum requirement* of the standard is that the utility's return must be sufficient to meet its financial obligations and maintain sufficient credit metrics so that it may remain in good credit standing. One could look to the utility's credit rating to verify that this minimal component of the three-pronged standard has been met. For most Canadian electric and gas utilities, an A level credit rating is considered adequate to provide favorable access to credit markets under a variety of market circumstances. All too often, regulators look only as far as the utility credit ratings for evidence that the fair return standard has been met. However, the credit rating measures only the utility's ability

[13] NEB, RH-1-2008, op. cit., p. viii.

to meet the minimum financial integrity standard, i.e. addressing only the risk of bond default. The credit rating has little to no implication on the residual risk to the shareholder in assessing its ability to earn its required return once debt holders have been paid.

As shown on Table 2, the returns generated by the generic allowed ROE in Canada and in Ontario, in many cases, do not provide sufficient financial metrics to satisfy the ratings criteria for an A-grade credit rating. Thus the return is deficient in meeting the minimum standards for financial integrity. The ratings agencies in Canada have allowed the Canadian utilities a higher degree of leverage than would generally be required of an investment grade utility company. Though the ratings agencies may be satisfied with the utility's ability to meet its debt obligations, the shareholders are left uncompensated for the increased risk associated with higher leverage.

Table 2 presents the financial metrics of Ontario's largest gas and electric utilities. This profile illustrates that the credit ratings of the electric utilities are all at the A level, generally considered the standard for Canadian utilities. The gas company ratings are lower, at A- and BBB+ on an S&P basis. Two primary indicators of credit quality that agencies focus on are interest coverage, expressed as a multiple of earnings before interest and taxes ("EBIT") or funds from operations ("FFO") in relation to debt interest payments. These cover a fairly broad range for Ontario's utilities. As a general principle, rating agencies look for debt/capital (regulated assets) in the 45-60 percent range[14], EBIT coverage in the 2x – 4x range[15] and FFO coverage in the 4.5x – 6.0x range[16] for regulated utilities to earn an A level credit rating. These are metrics that the Board can monitor, but it must be careful to realize that these ratings are for debt only and therefore represent a minimum standard of financial integrity.

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14 Rating Methodology, *Moody's Global Infrastructure Finance - Regulated Electric and Gas Utilities (*August 2009) at 17.
15 Rating Methodology, *Moody's Global Infrastructure Finance – Regulated Electric and Gas Networks* (August 2009) at 20.
16 Rating Methodology, *Moody's Global Infrastructure Finance - Regulated Electric and Gas Utilities (*August 2009) at 17.

Table 2: Financial and Credit Metrics for Ontario's Largest Utilities

Utility	S&P Credit Rating	DBRS Credit Rating	Moody's Credit Rating	EBIT Interest Coverage Ratio	FFO Interest Coverage Ratio	Deemed Equity Ratio
Enersource Hydro Mississauga Inc.	NR	A	NR	2.36	3.60	40.00%
Horizon Utilities Corporation	NR	NR	NR	3.23	5.05	40.00%
Hydro One Inc. (Distribution)	A+	A	Aa3	2.50	4.21	40.00%
Hydro One Inc. (Transmission)	A+	A	Aa3	3.29	4.53	40.00%
Hydro Ottawa Limited	A	A	NR	3.54	5.36	40.00%
PowerStream Inc.	NR	A	NR	2.58	4.08	40.00%
Toronto Hydro Electric System	A	A	NR	2.05	4.11	40.00%
Veridian Connections Inc.	NR	A	NR	2.03	4.41	40.00%
Enbridge Gas Distribution, Inc.	A-	A	NR	2.19	3.32	36.00%
Union Gas Limited	BBB+	A	NR	2.47	3.47	36.00%
CREDIT RATING STANDARD			**A**	**2.00–4.00**	**4.50–6.00**	**40.00 -55.00**

Circled items do not meet credit rating standard

Sources: 2008 Annual Reports and Bloomberg

FFO = net income + interest expense + depreciation and amortization expense + deferred income tax expense

The impact of the highly leveraged capital structure on the financial condition of the utilities has a pronounced effect on coverage ratios and debt/capital ratios, resulting in ratios that are insufficient in some cases or on the cusp of being sufficient to justify an A bond rating.

iii. Capital Attraction Standard

The NEB defines the capital attraction standard as follows:[17]

> Capital Attraction Requirement: The aspect of the Fair Return Standard that requires that the return of a regulated utility permit incremental capital to be attracted to the enterprise on reasonable terms and conditions.

There are several tests that may be used to judge capital attraction, but "reasonable terms and conditions" requires a more subjective assessment. It is important to note the emphasis on "incremental capital" in the NEB's definition. Evidence of sunk capital is not evidence of the ability to raise incremental capital. As has been witnessed over the past 18 months, creditworthy companies have struggled to raise incremental capital on reasonable terms during the economic and

[17] NEB, RH-1-2008, Op. cit., p. vii.

financial downturn. Sources that provide meaningful information on capital attraction for utilities include:

1. **Equity analyst reports** – the major banks and independent equity analysts provide opinions on the overall attractiveness of a utility's (or its holding company's) common stock. The major utilities are generally covered by equity analysts, but in Ontario, only Enbridge, Union and Fortis have publicly traded stocks (at the parent company level), limiting the availability of this source for the sector. While these reports may not be specific to the regulated utility (if under a holding company), they provide an informed view of the company's attractiveness compared to their peers. Positive investment reports suggest the ability to attract incremental investment capital; conversely, negative reports may portend loss of liquidity and increasing equity cost. In viewing equity reports, one must use caution to not let holding company affiliates mask weakness (or strength) of the underlying utility.
2. **Credit rating reports** – the major credit rating agencies, namely S&P, DBRS and Moody's regularly publish credit rating reports on covered utilities. These reports provide a view into the agency's perspective on the utility's (or its holding company's) credit quality, with a focus on debt issuance. Credit watches or downgrades are a cause for concern in maintaining credit quality.
3. **Direct market evidence** – the ability of the utility to issue debt and equity on terms comparable to their similarly situated and rated peers.

A fair return allows access to both equity and debt capital on reasonable terms. The return built into rates should be adequate to yield revenues that will cover all legitimate expenses, plus a return on investment sufficient to maintain sound corporate credit and attract new capital.[18] Canadian utilities are often owned by diversified holding companies that are charged with the responsibility of attracting equity capital at the holding company level. Parent company returns are often well above those allowed for regulated utilities in Ontario and thereby imply that the ability of the utility to attract new equity capital is aided by the diversification and higher returns of its parent. As described in the Capital Budgeting - Appendix A, subsidiaries must compete for capital at the holding company level. Lack of a fair return on the utility capital will ultimately lead to either underfunded utility subsidiaries or inadequate investment in growth.

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[18] Bonbright, Danielsen and Kamerschen, Principles of Public Utility Rates, at 610.

iv. Additional Evidence that Current Returns do not Satisfy the Fair Return Standard

There is evidence that equity investors and analysts find allowed returns in Canada and Ontario to be inadequate. A market research bulletin by RBC Capital Markets indicates that investors should be concerned about the low level of returns throughout Canada where the Formula has been implemented, especially in the current global credit crunch. They state:[19]

> Although the automatic adjustment formulas that annually calculate allowed returns on equity (ROE) for many pipelines and utilities in Canada have been good for transparency, developments over the past year in the equity and credit markets leave us wondering if the ROE formulas are broken. Despite investor concerns about access to credit, let alone higher overall corporate borrowing costs, in addition to higher equity risk premiums, these formulas appear set to further reduce the allowed ROEs for 2009 based on the inputs that the formulas use to calculate the annual ROEs….
>
> …While challenges to both the NEB and provincial ROE formulas have only been met with limited success, we believe that there could be support for higher allowed ROEs based on a decline in the formula return despite significant weakening in the debt and equity capital markets.

RBC Capital Markets' comments goes on to steer investors towards diversified pipeline stocks where capital is being diverted to higher ROE projects, as indicated below:

> All of the corporate names in our energy infrastructure coverage universe should have some degree of negative earnings impact from lower allowed ROEs, although the estimated impact to earnings is relatively modest across the group. Nevertheless, we believe that the negative impact of lower allowed ROEs on the companies with regulated utility assets provides additional support for our recommendation that investors overweight the pipeline stocks (Enbridge and TransCanada), which are directing a majority of their capital towards higher ROE projects (generally in the 10% to 15% range).

In a follow-up report, RBC goes on to state:

> We published a Research Comment on January 16, 2009, that examines the direction of the allowed ROE formulas in Canada and makes stock recommendations based on our outlook. The comment follows up on our 2009 ROE preview published last October, with regulators over the past month or so confirming that 2009 ROEs would decline by about 15 basis points. Against the backdrop of higher Energy Infrastructure long bond yields and rising equity risk premiums, we believe the ROE formulas are broken. Using current data as a preview for 2010 ROEs, we calculate

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[19] RBC Capital Markets, Equity Research, ROE Outlook for 2009, October 24, 2008.

> that ROEs could further decline by another 67 basis points. While regulators are currently examining the issue, historically they have been reluctant to change the formula, and we believe that the potentially meaningful decline for ROEs set by formulas in 2010 should cause investors to seek out companies with low exposure to the formulas.[20]

Upon reversal of the Formula in the NEB's TQM decision, BMO Capital Markets opined:

> We applaud the NEB for acknowledging that the RH-2-94 formula is no longer applicable given the changes in business risk, financial markets and economic conditions. In particular, the globalization of financial markets made it difficult for Canadian operators to compete for capital with such low ROE.[21]

Further punctuating the recent impacts of capital markets and the Formula, Scotia Capital denotes:

> The turmoil in financial markets over the last 18 months has had a material knock-on effect on a sector typically seen as a safe haven from adverse equity market volatility and valuations. Energy utilities across Canada have seen their regulated returns on equity squeezed by falling Government of Canada bond yields, even as the real-world cost of equity capital has risen dramatically.[22]

On the impact of declining ROE's on the financial health of formula-based utilities, DBRS concludes:

> The negative impact of declining levels of approved ROEs on credit metrics is illustrated in the generic example below, wherein a 2% decline in approved ROE translates into an approximate 30 bps reduction in EBITDA-to-interest and EBIT-to-interest, and a 130 bps reduction in cash flow-to-debt, all other parameters remaining equal.

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20 RBC Capital Markets, Equity Research, Power & Pipelines, January 16, 2009.
21 BMO Capital Markets, Corporate Debt – Pipelines & Utilities, March 23, 2009.
22 Scotia Capital, Capital Points, April 24, 2009.

Table 3: Impact on a Theoretical Utility of Declining Approved ROE*

Rate Base ($MM)	1,000	1,000	1,000
Debt Component	60%	60,0%	60,0%
Cost of Debt	6.5%	6.5%	6.5%
Equity Component	40%	40%	40%
Approved ROE	10%	9%	8%
Depreciation Rate	4%	4%	4%
Tax Rate	35%	35%	35%
EBITDA/Interest	3.6x	3.4x	3.3x
EBIT/Interest	2.6x	2.4x	2.3x
Cash Flow/Debt	13.3%	12.7%	12%

* Simplified example; all else remains the same, only variable is Approved ROE

> Overall, we note that an improvement to a regulated entity's ROE and/or equity thickness would be viewed positively in the context of its financial risk profile. However, as approved ROEs have declined in past years, ratings (to this point) have generally not been directly negatively impacted. Therefore any future increase in a pipeline or utility's approved ROE or equity thickness would in itself likely not result in positive rating actions unless the improvement was so significant as to be viewed as a material reduction in financial risk. It is more likely that ROE or equity thickness improvements would be viewed as being supportive of an entity's current ratings.[23]

To summarize, equity investors and analysts have broadly proclaimed that the Formula does not produce adequate returns. In some cases, subsidiary utilities may not be attracting incremental equity capital on their own merit. This is contrary to the stand-alone principle, which is fundamental to regulation in Ontario. Because utility affiliates in the unregulated sector are earning higher returns, utilities are drawing on parent company support for capital to withstand the low level of allowed regulated returns. 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. Sub-standard returns essentially subsidize the utility ratepayers at the expense of taxpayers. When the

[23] DBRS Canada Newsletter, Volume 1, Issue 4, May 6, 2009.

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.

Question 2: Is the current deemed capital structure appropriate? If not, what alternative(s) might the Board consider?

Response

The current deemed capital structure is not appropriate because it does not adequately recognize the relationship between the cost of common equity and the capital structure. The Board noted this important relationship in its 1997 Draft ROE Guidelines when it wrote: "The principle behind establishing the rate of return on a utility's debt and equity capital is that it should equal the corresponding rate of return that a comparable firm with a similar capital structure, facing similar aggregate business and financial risks, would expect to experience."[24] Having acknowledged that allowed return and capital structure are interdependent, it is surprising as illustrated in Table 1, previously, that the Board has deemed like ROEs and capital structures for all of the electric distributors. This "one-size-fits-all" approach fails to recognize that every regulated utility in Ontario is not exposed to the same business and operating risks. If capital structure is held constant for regulatory purposes, then there should be wider variations in allowed ROE to account for differences in risk profiles.

Concentric recommends that the Board follow the NEB's lead in its recent TQM Decision and allow the regulated utility's management to choose an optimal capital structure within certain parameters because management is in the best position to assess the business and operating risks of the utility, and it would allow the utility to maintain financial flexibility to more quickly respond to changes in capital market conditions.

> The Board's decision to grant an aggregate return on capital without specifying capital structure has the result of transferring to the pipeline company the decision to determine its optimal capital structure and choose specific financial instruments without regulatory oversight. The freedom for a company to choose its optimal capital structure is consistent with the Board's philosophy of regulating pipeline companies on a goal-oriented basis. Exercise of that freedom does not, in the

[24] Ontario Energy Board, Draft Guidelines, at 2 and 27.

> Board's view result in a wealth transfer, and is supported by the longstanding stand-alone principle.[25]

Alternatively, if the Board wishes to retain authority over the process of deeming a capital structure, it should consider whether the combination of allowed ROE and deemed equity ratio for a particular utility satisfies the Fair Return Standard. Concentric demonstrates in the attached Appendix B: *Capital Structure - Theory and Application* that this question can be answered by examining where the overall rate of return falls on the weighted average cost of capital curve that is described more fully in that explanation, and illustrated in Figure 2.

In summary, capital structure theory suggests that a company's capital structure and the return on equity are interdependent. The Board should not establish an allowed ROE without expressly considering that return in light of the financial risks associated with the utility's capital structure. Further, the Board should not rely on a bond rating analysis for purposes of determining whether the allowed ROE is adequate, because the return that might be sufficient to satisfy bond holders is not the same as the return required by equity holders. Therefore, the Board should rely on the Equity Cost Curve and the weighted average cost of capital curve to inform its judgment on this matter.

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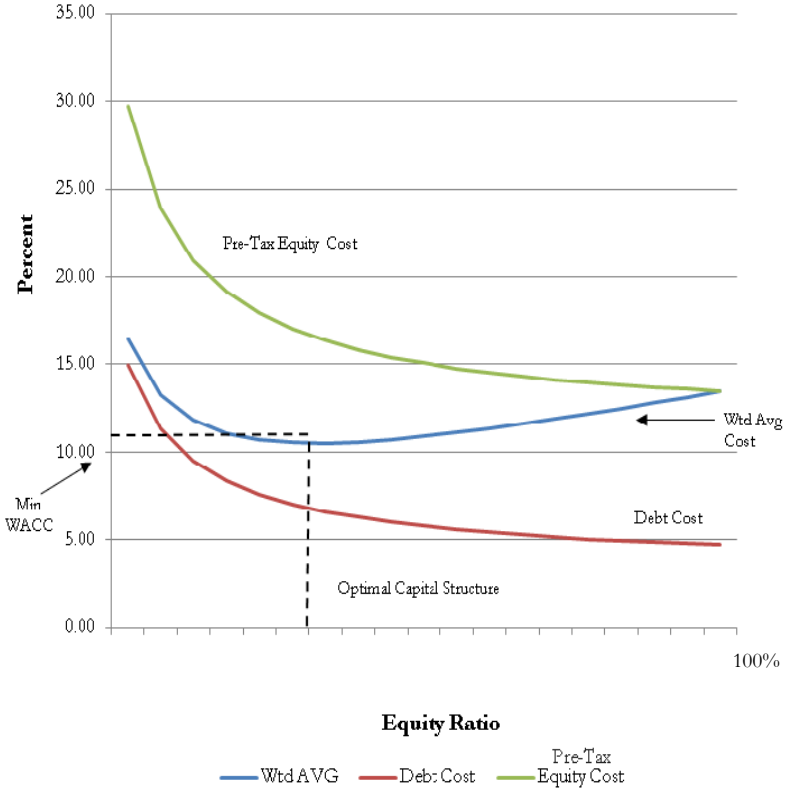
[25] National Energy Board, Reasons for Decision, Trans Quebec & Maritimes Pipelines, Inc., RH-1-2008, March 19, 2009, at 81.

Figure 2: Cost of Capital Curves According to Finance Theory

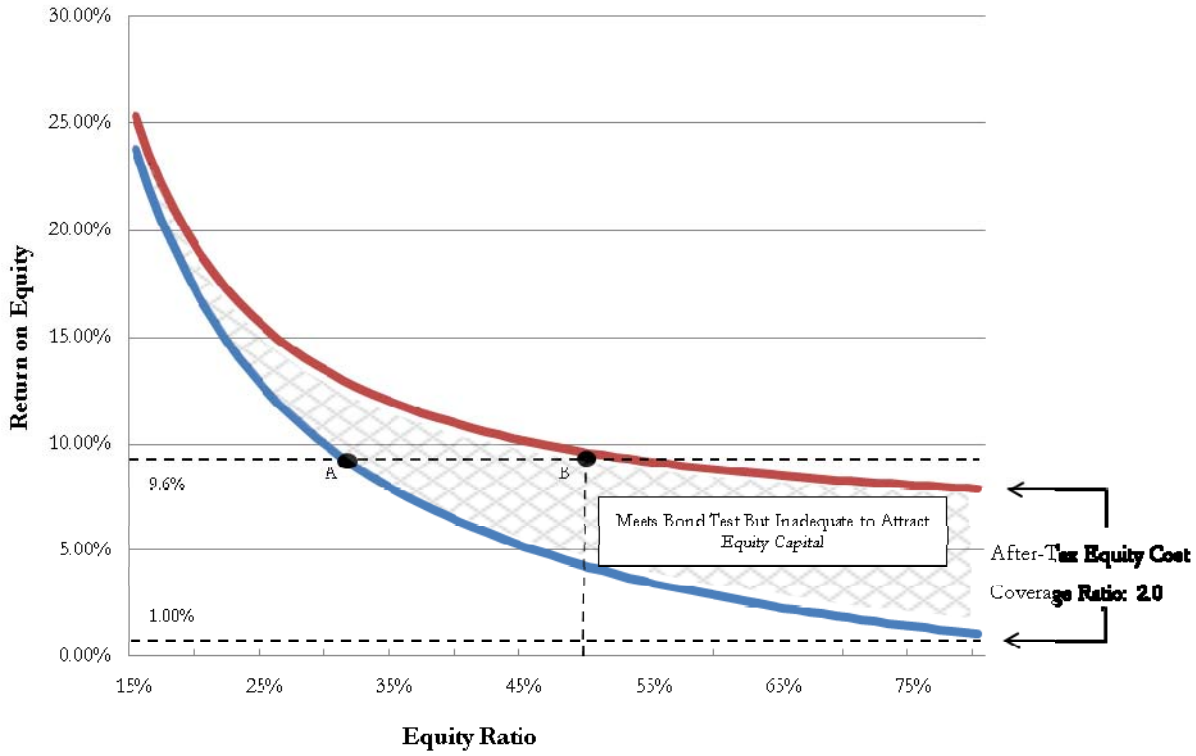


Determination of the cost of common equity at any point in time is too complex to be accomplished by merely tweaking allowed ROE or equity ratio for differences in risk. Instead, the observed ROEs in any given cost of capital study correspond to particular common equity ratios, and represent a specific risk class. Inferences from one risk class to another will require a separate cost of capital study for the particular risk class. However, within the same risk class differences in financial risk or leverage can be accounted for by moving up or down the pre-tax equity cost curve to the targeted equity ratio, by way of a leverage adjustment. This is not to say the Board needs to set different equity ratios for 82 LDCs. Our recommendation is to establish ROE guidelines for each sector, but give management some discretion based on their particular circumstances.

In addition, using a simple interest-rate related formula (i.e. interest coverage) to determine the adequacy of ROE and for use in adjusting the allowed ROE going forward is likely to understate ROE. As illustrated in Figure 3, the interest coverage curve falls well below the equity cost curve, except for the point where there is zero equity. Conversely, at 100 percent equity, the interest

coverage curve alone would instruct that ROE should be zero.[26] However, even at 100 percent equity there is a return due to equity investors. Interest coverage ratios provide security for debt holders, but say very little about the adequacy of what is left over to meet the requirements of equity holders. As discussed previously, required equity returns are based on expected returns given the prescribed level of risk and what is available for competing investments of like risk.

Figure 3: Difference Between Bond Coverage and the Cost of Equity



The NEB's recent TQM decision makes several important points related to capital structure and its relationship to the cost of common equity. The NEB noted:

> The Board is of the view that while estimating the equity ratio based on business risk, separately from the determination of the return on equity, can be useful in a regulatory context, it does not reflect the way that much of the business world approaches capital structure and capital budgeting decisions.[27]

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[26] The question used to draw an interest coverage curve is described in Appendix B.

[27] Op. cit., at 17.

Further, in endorsing the ATWACC approach, the NEB wrote: "This offers the potential to avoid separating two elements that are inevitably linked: capital structure and the return on equity."[28] Concentric is of the view that the OEB must reflect differences in capital structure in its ROE determinations, and this can be effectively accomplished through our recommended approach in Appendix D.

Question 3: Should the approach to setting cost of capital parameter values differ depending on whether a distributor finances its business through capital markets or through government lending such as infrastructure in Ontario or through bank lending? If so, what would be the implications, if any, of doing so?

Response

No. Although the cost-of-capital parameter values may differ between utilities, the approach to setting cost of capital should be the same for all utilities consistent with the stand-alone principle. For example within a reasonable range, the ratemaking capital structure should match the capital structure that the utility has adopted based on its own circumstances. Similarly, the cost of equity component of the rates should be based on the cost of capital determined for proxy companies, and then adjusted for any differences in capital structure or risk between the specific utility and the proxy group. To the extent that government lending allows a utility to borrow at below-market interest rates (although this is not evident in Ontario), that lower cost should be passed through to ratepayers. At the same time, equity that exists in the capital structure should receive a rate of return that is equivalent to what that equity could earn in an alternative investment of comparable risk.

There are several reasons for setting the allowed rate of return on common equity for government-owned utilities equal to the cost of common equity of independent utilities. First, to establish fair competition between utilities, a consistent approach is required. Otherwise, a subsidized electric utility, for example, would have an unfair competitive advantage in the same service area over a private gas utility. Second, to send proper price signals to consumers, rates should reflect full costs for all costs of service. Otherwise, the Board would be incentivizing consumption, counter to Provincial energy efficiency objectives such as those included in the Green Energy and Green Economy Act of 2009 (the "GEGEA").

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[28] Ibid, at 19.

The one exception would be if a government-owned utility was non-taxable In that case, the pre-tax cost of common equity would be lower for a government-owned utility. However, it is our understanding that Ontario's utilities pay federal and provincial taxes (PILs) equivalent to privately-owned utilities, so this is not a factor.

In summary, other than flowing through actual debt costs and eliminating the tax allowance from rates (to the extent the government or municipal utility has a tax advantage) there is no economic reason to treat government-owned or government-financed utilities any differently than privately-owned utilities when it comes to setting an allowed rate of return on rate base. In addition, to the extent that there is a government policy to encourage consolidation and/or privatization of small utilities, treating all utilities of the same type (i.e., electric utilities v. gas utilities) the same will eliminate the disincentive posed by an artificial advantage in the apparent cost of capital enjoyed by government-owned or financed utilities where risks are borne by taxpayers and not reflected in rates.

V. CHOOSING A COMPARATOR GROUP

Question 4: Does the analysis in the Concentric Report provide a reasonable foundation for satisfying the comparable investment standard?

Response

Not entirely. In the referenced Report, Concentric was engaged to assist the OEB in evaluating the claims of natural gas utilities that the Return on Equity ("ROE") awards in Ontario were lower than those of other jurisdictions. The Board requested Concentric to provide a report that, among other things, compared awarded ROEs in other jurisdictions to those awarded in Ontario and analyzed the forces that contributed to any differences. The Concentric Report noted that allowed returns between the U.S. and Canada were in virtual parity in 1997, when the Ontario ROE Formula was established, and that there had been a growing disparity in allowed returns between the two countries ever since. The Report sought to identify any fundamental risk differences between Ontario's utilities and those in other jurisdictions that would justify the growing disparity in allowed returns. Concentric analyzed operating and financial data for the companies themselves, as well as territory and country-specific factors for the jurisdictions and countries in which they operated, specifically, addressing: (1) operating and financial characteristics; (2) differences in regulatory

protection and rate stabilizing mechanisms; and (3) macro-economic factors including taxation policies.

On the whole, the Concentric analysis found that:

1. There were no evident fundamental differences in business and operating risks faced by Ontario utilities, compared to those faced by U.S. companies or other provinces' utilities that would explain the difference in ROEs;
2. That although regulated gas utilities in the U.K., the Netherlands, and Australia bear certain resemblances to Ontario's gas utilities, fundamental differences weaken the comparability of utilities in those markets, and accordingly those utilities should not be considered reasonable benchmarks for Ontario's utilities; and
3. Canadian utilities compete for capital essentially on the same basis as utilities in the U.S. In other words, taken as a whole, U.S. gas utilities were not found to be demonstrably riskier than Canadian gas utilities. Concentric's analysis identified interest rate trends combined with differing ROE methodologies as the principal factors underlying the disparity in returns.

Concentric's conclusions were seconded by the NEB TQM Decision which also found that U.S. utilities are useful proxies for investment opportunities and that they provide meaningful comparisons for Canadian utilities. The NEB decision affirmed that the U.S. and Canadian economies are interdependent, U.S. and Canadian companies are competing for investment capital, the North American energy markets are highly integrated, the U.S. and Canadian regulatory models are based on the same fundamental principles, and that the risks of regulated utilities in either of the two countries, though not identical, are sufficiently alike to render them meaningful comparators.[29] These findings suggest that it is reasonable and appropriate for the OEB to consider the investment returns provided by U.S. utilities when assessing whether the allowed ROE in Ontario satisfies the Fair Return Standard.

Although the Concentric report may have set a foundation for satisfying the comparable investment standard by establishing that U.S. and Canadian utilities were meaningful comparators, it did not in

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[29] NEB, RH-1-2008, Op. Cit., page 66-71.

itself, nor was it intended to, satisfy the comparable investment standard for purposes of evaluating the fairness of ROE determinations for Ontario's gas and electric utilities. The Comparable Investment Standard requires a comparison of the returns of like risk utilities. Although the Concentric Report provided sufficient basis to conclude that U.S. and Canadian utilities were indeed comparable enough to use as comparator or proxy companies, further analysis is required to select only those utilities determined to be of similar risk for comparison to Ontario's utilities.

Question 5: If not, what might the Board use as a comparator group?

Response

Satisfaction of the Comparable Investment Standard requires a detailed risk analysis in order to determine whether the average risks of the comparator group adequately represent the financial, regulatory and operating risks of the subject companies. The comparable group of utilities need not be identical in risk, but known differences that could impact the ROE determination should be factored into the analysis with an appropriate adjustment to the comparable group results. Generally, the first step in establishing comparability in cost of capital proceedings is selecting a proxy group from carefully specified screening criteria.

To select a proxy group for Ontario's gas and electric distribution utilities, the screening criteria should be sufficiently broad to include a representative group of companies, but narrow enough to hone in on dominant risk characteristics of the company, i.e. regulatory environment, business focus, credit rating, etc. This requires that companies used as comparators have businesses focused on regulated operations since only a specific set of risks are being evaluated, i.e. the risks associated with gas distribution, electric distribution or electric transmission. The more diversified the comparator the more inconclusive the risk analysis, as diversified businesses have offsetting risks within the holding company structure.

Screening criteria for electric and gas utilities would generally begin with the population of publicly traded, dividend-paying corporations within the same industry, with sufficient growth rate and market inputs to perform the various ROE analyses. At a minimum this would include, historical stock prices, historical dividends, forecast growth rates, and estimates of beta. These companies should share like credit ratings, and revenues should be primarily derived from the regulated

operations of the sector. Concentric has performed a full proxy group selection for each of the sectors of Ontario's utilities.

In summary, Concentric initially studied the risk attributes of Ontario's gas utilities relative to U.S. gas utilities, concluding generally that U.S. utilities were not found to be demonstrably riskier than Canadian gas utilities. Since the issuance of the referenced June 2007, Concentric Report, Concentric has been engaged in a number of studies which have similarly examined the business and regulatory risks of both U.S. and Canadian electric and gas utilities. Concentric's conclusions in the referenced Concentric 2007 Report are supported by these subsequent studies completed for Hydro One and the Coalition of Large Distributors ("CLD"), testimony before the AUC in the Alberta Generic Cost of Capital Proceedings, and recent submissions to the OEB in this consultative process. Similarly, a detailed comparative risk analysis of North American, publicly-traded, natural gas and electric distribution utilities, selected according to proxy group selection criteria, and Ontario's utilities has been performed in Concentric's filing in this proceeding on behalf of Enbridge. From that analysis the following conclusions were reached:

- Ontario utilities have much greater financial risk than do the North American proxy group companies,
- No business profile characteristics were identified that would in themselves render our proxy groups incomparable to the Ontario utilities. Generally, the gas and electric utility proxy groups share similar business profiles to the Ontario utilities.
- Ontario's utilities face enormous capital requirements to develop the necessary infrastructure to satisfy Ontario's green energy initiatives over the next several years. Concentric is aware of no single jurisdiction, outside of the Canadian provinces, that share the same upcoming capital burden.
- Lastly, an examination of the regulatory protection afforded the proxy group utilities and the Ontario utilities through their rates, based on a comparative analysis of risk-mitigating regulatory mechanisms, employed to: stabilize sales volumes, recover fuel costs, reduce regulatory lag, support financial stability, address cost increases, expedite cost recovery of large capital projects, and provide a means for recovering unexpected variations in expenses; found that although the Ontario utility group had differences in its regulatory mechanisms from the North American proxy groups, the differences were offsetting. The proxy group companies revealed a broader range of protection; but, on average, both groups shared comparable regulatory support in mitigating risks. We found no basis to conclude that an adjustment would be warranted to account for risk differences between the Ontario utilities and the proxy group other than for the additional debt leverage in Ontario. Their risks were, on average, the same.

Similarly, the NEB recent TQM decision is supportive of our analysis and conclusions that the regulatory models and risk characteristics between U.S. and Canadian utilities are comparable.[30] An excerpt from the TQM decision and the Board's findings on U.S. and Canadian utility comparability follows:

> In light of the Board's views expressed above on the integration of U.S. and Canadian financial markets, the problems with comparisons to either Canadian negotiated or litigated returns, and the Board's view that risk differences between Canada and the U.S. can be understood and accounted for, the Board is of the view that U.S. comparisons are very informative for determining a fair return for TQM for 2007 and 2008.[31]

Our analysis revealed, that though there are differences between the mechanisms employed to address the many risks a regulated utility faces, the level of risk mitigation via rate mechanisms between the Ontario utilities and proxy group utilities were comparable, though the mechanisms themselves may have been different. As the NEB indicated in the excerpt above, if differences in the level of risk between the two groups were identified, it would be appropriate to account for them in the cost of capital analysis with an adjustment. We, however, found no measureable differences between the proxy group average and the Ontario utilities that would warrant such an adjustment.

Question 6: Were the Board to only consider the use of Canadian utilities as a comparator group, is there an issue with circularity, given that the ROEs of these utilities are, and have been established by a mechanism similar to that currently used by the Board?

Response

Yes. The most significant difficulty in determining whether the comparable investment standard has been met for Ontario's utilities is finding comparable companies with comparable risks, whose returns are not subject to the Ontario Formula. With the exception of new NEB Group 1 pipelines, Canadian utilities' authorized returns largely fail to provide meaningful information for comparison due to the circularity stemming from the widespread use of the formulaic ROE model across Canada. To evaluate the fairness of those ROE awards by looking to other Canadian utilities who

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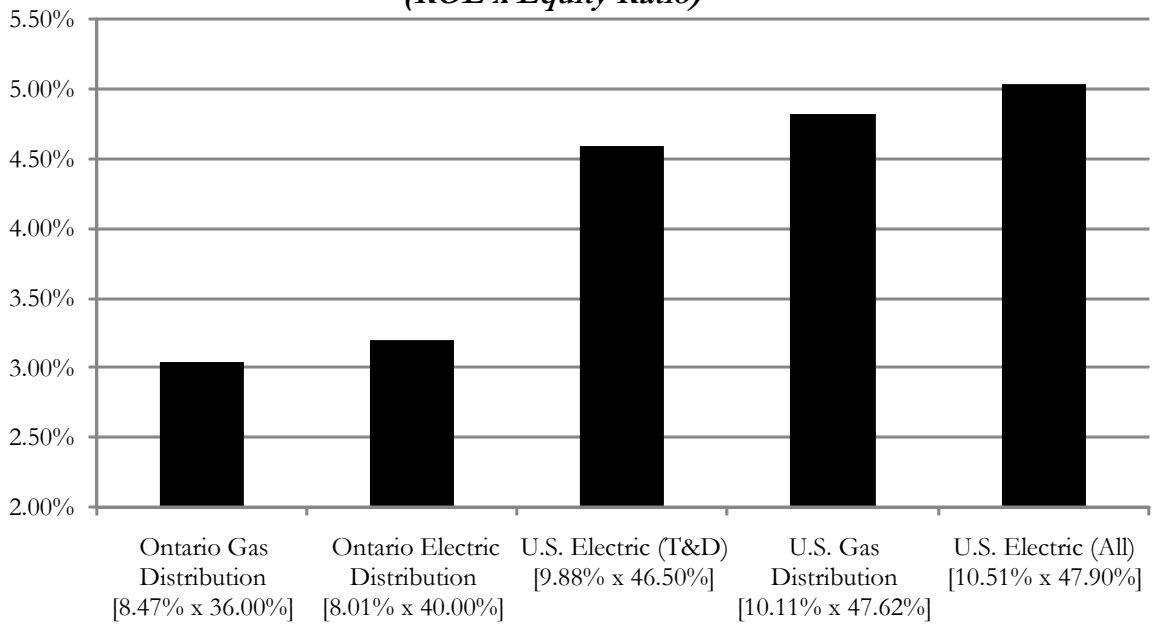
30 The North American proxy groups of publicly-traded natural gas and electric distribution utilities are comprised of U.S. companies.

31 NEB Reasons for Decision, RH-1-2008, TransQuebec and Maritimes Pipelines, Inc., Cost of Capital for 2007 and 2008, March 2009, p. 71.

are subject to the same formula is a meaningless exercise. Differences would stem only from timing of the calculation. The certainty of circularity of such a benchmarking analysis renders it useless as an independent source of comparability. In Ontario, except for utilities operating under specific settlement agreements or litigated returns, all utilities are assigned ROEs based on formulaic results and deemed equity ratios. Though a Canadian DCF or CAPM analysis would incorporate market derived inputs (i.e. stock prices and beta estimates) arguably, a degree of circularity remains, as stock prices and beta estimates still reflect investors' expectations of formulaic returns. To alleviate any concerns over circularity in deriving Ontario utility returns, North American utilities that are comparable in terms of risk and operating environment, and whose ROEs are determined by litigated Commission decisions through the application of a fair return standard emanating from the same basic regulatory principles, provide the best means by which to assess fairness in terms of the comparable investment standard.

Figure 4: Ontario Authorized Returns vs. U.S. Utilities
2009 Equity Portion of WACC
(ROE x Equity Ratio)

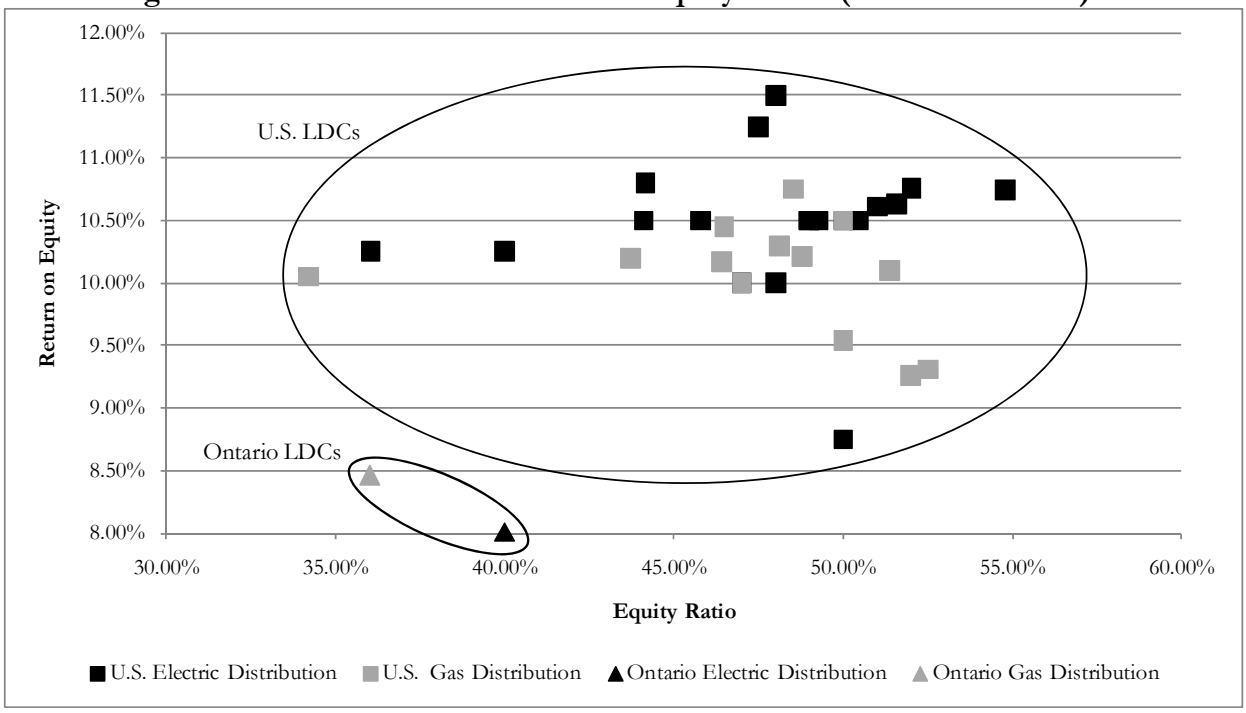


A snapshot of current ROE awards across Ontario and the U.S. indicates that the ROE awards for Ontario electric utilities of 8.01 percent (assuming they were rebased to the Formula) and for Ontario's gas utilities of 8.47 percent for 2009 are substantially below those for comparable utilities in the U.S. Because ROE and equity ratio determine the portion of the WACC attributable to

shareholders, allowed returns should be considered in the context of their equity ratios. Figure 4 above presents the products of the mean authorized returns and equity ratios of investment grade utilities in the following sectors: electric utility (including vertically integrated utilities), electric transmission and distribution (T&D) utilities, and natural gas distribution utilities. As Figure 4 indicates, the mean allowed ROE for all electric utilities in the U.S. in 2009 was 10.51 percent on 47.90 percent equity/capital; and for a subset of pure electric transmission and distribution companies was 9.88 percent on 46.50 percent equity/capital, 187 basis points above the Ontario Formula return. Similarly, natural gas distribution utilities in the U.S. received ROE awards averaging 10.11 percent on 47.62 percent equity/capital in 2009, 23 basis points above electric T&D, and 164 basis points above the average Ontario generic gas return of 8.47 percent. In Concentric's research on this topic, no macroeconomic factors, regulatory risks, operating risks, or financial conditions have been identified to justify the disparity in returns between Ontario utilities and their U.S. counterparts. As such, the end result achieved by the current Ontario Formula, in terms of overall return, measured against the *Hope* standard and Canadian principles of a fair return, is not comparable, and therefore does not satisfy the requirement of a fair return.

It is clear that limiting analysis only to other Canadian utilities, whose returns are also tied to the same Formula, would bias the results and falsely imply that the Formula is indeed meeting the requirements of the comparable investment standard, when it is virtually being compared to itself. Without viewing the results of the Formula in the context of equity returns determined by market forces or independent analysis (as opposed to a linear calculation tied to interest rates), a true comparison has not been effected. The primary question to consider is whether the Formula is producing results that equity investors would view as being comparable to those available for alternative investments of similar risk. Figure 5 below, which represents a scatter diagram of 2009 Ontario and U.S. allowed returns for individual operating companies in electric or natural gas distribution, suggests that the Formula is not producing such results. Again, as Figure 5 clearly shows, Ontario returns and equity ratios are much lower than litigated North American returns.

Figure 5: 2009 Authorized Returns and Equity Ratios (U.S. and Ontario)



VI. FORMULA-BASED APPROACHES AND THE EQUITY RISK PREMIUM

Question 7: Should the ERP approach be reset given that when the formula was first established the reference bond rate was 8.75%?

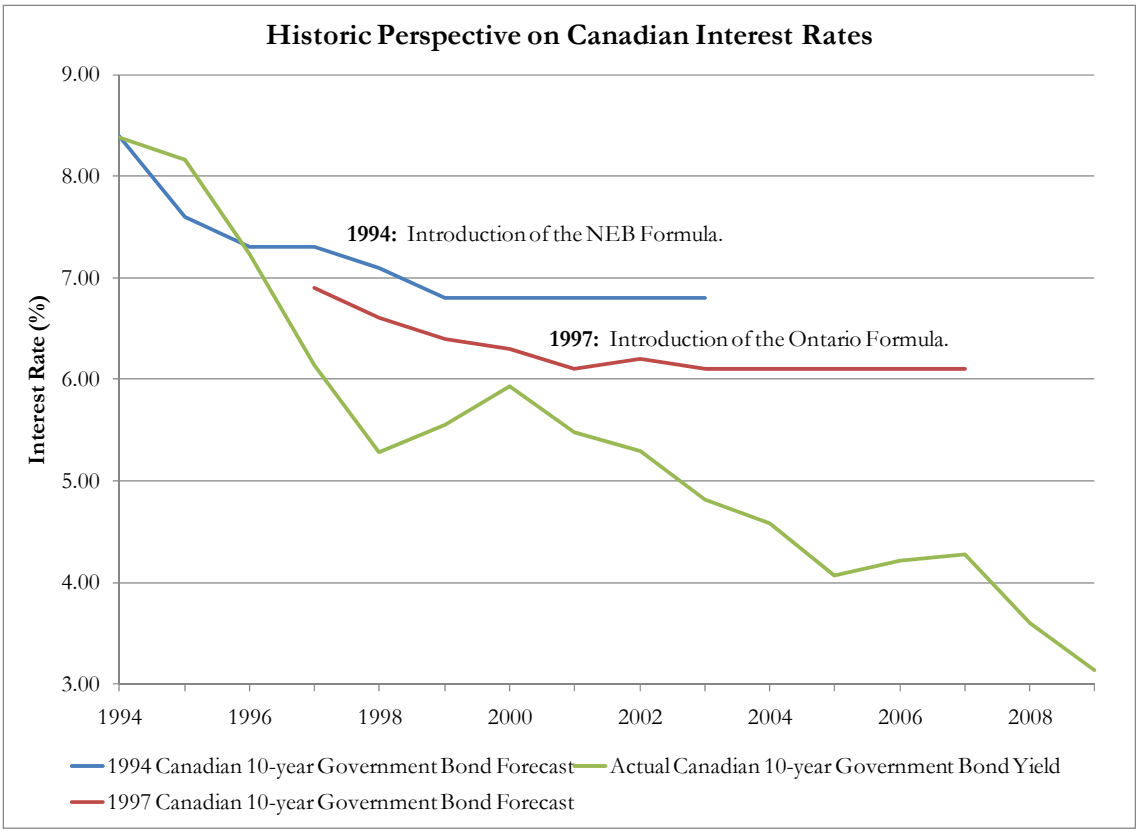
Response

Yes, assuming the Board decides to continue to use the ERP approach. As noted by the Board, the equity risk premium was established in 1997 when the Long Bond yield was approximately 8.75%. Since then, Long Bond yields have steadily declined. As a general premise, as bond yields decline, the required equity risk *premium* moves inversely or increases, but by a lesser amount. The Board attempted to account for this relationship with a formulaic factor of 0.75 to apply to the change in the Long Bond, thereby establishing some moderation in the relationship. Accordingly, although the formula return moves up and down with Long Bond yields, the effect is dampened because the equity risk premium implied by the Ontario Formula moves inversely to interest rates by a factor of 0.25 or (1 – 0.75).

If one were to examine the long bond forecast utilized when the Ontario Formula was originally adopted by the NEB, it is evident that bond yields were expected to remain relatively constant.

During periods of economic contraction and financial distress, there is invariably a "flight to quality" as investors seek the safety of government bonds which are backed by the faith and credit of the federal government. As the price of those government bonds is bid up, the yield, or interest rate, declines. Therefore, when the allowed ROE is based primarily upon a formula that relies on the Canadian Long Bond yield, it creates the perverse effect of reducing the allowed ROE at the precise moment that investors are becoming more risk averse and demanding a higher return to attract capital. In Concentric's view, this is an unintended consequence of the generic ROE Formula. Concentric suspects that Canadian regulators never envisioned the steady decline in government interest rates, relative to returns on other investments, that has occurred since the first generic formula was adopted in Canada in 1994 or in Ontario in 1997. Below, for example, are two long-term bond yield forecasts, widely used by utilities in regulatory proceedings that prevailed at the time commensurate with the NEB's original cost of capital decision adopting the formula benchmarked to long-bonds in 1994 and Ontario's similar decision in 1997.

Figure 6: 10-Year Government Bond Forecasts in 1994 and 1997 versus Actual



Sources: A Digest of International Economic Forecasts (October 1994), Consensus Economics (April 1997), Bloomberg

Figure 6 illustrates, at the time of the NEB decision, the expectation was that 10-year bond yields would fall from 8.8 percent in 1994 to 6.80 percent in 2004. In the case of Ontario, the expectation was that long-term government bond yields would fall from 6.9 percent in 1997 to 6.1 percent by 2007. Instead, government bond yields have fallen precipitously, and unexpectedly, to the 3.0 percent range embodied in the consensus forecast utilized in the current Formula. The low ROEs generated by the Ontario Formula today are the unexpected result of a seemingly reasonable methodology. The reciprocity, inherent in the Formula, reassured regulators that it would be fair. However, as government interest rates have done nothing but drop since its implementation in Ontario, it has become evident that the current Ontario Formula is not fair and is mis-specified by being tied too closely to government bond yields.

As demonstrated by Concentric's research on this topic and illustrated in the regression results shown below, the sensitivity of the equity risk premium to government bond yields is actually closer to 0.45. This has been one of the fundamental problems with the existing adjustment mechanism. The coefficient of 0.75, which was arrived at somewhat arbitrarily[32], appears to have mis-specified the historical relationship of government bond yields and authorized return. The cumulative effect of an unremitting downward trend in government bond yields in combination with a risk premium that is understated relative to changes in bond yields, has led to the growing disparity between U.S. authorized returns and Ontario authorized returns.

In our earlier comments to the OEB, we assessed the reasonableness of the elasticity factor of 0.75 in the Ontario Formula by performing a regression using U.S. utility authorized return data as the dependent variable to quantify this historical relationship. We selected U.S. LDC utility returns as they provide a robust data sample of North American litigated returns outside of the Canadian market dominated by the Formula. The regression results are replicated below:

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[32] OEB, *Draft Guidelines on a Formula-Based Return On Common Equity for Regulated Utilities* (March 1997), at 31-32, where the Board stated: "Ratios contained in the evidence from generic rate of return proceedings in other Canadian jurisdictions ranged from 0.5:1 to 1:1. In addition some experts contend that the nature of the ratios will vary depending on the level of forecast bond yields. Based on a review of this rather unscientific evidence, the Board is persuaded that a non-linear relationship between interest rates and equity risk premiums does in fact exist and believes that an adjustment factor of 0.75:1 is fair and reasonable, though admittedly somewhat arbitrary."

Table 4: Elasticity Factor Regression Results

	Intercept	t-stat$_\alpha$	β_1	t-stat$_1$	β_2	t-stat$_2$	R^2
Authorized Return Regression Model = Intercept + (B_1 * bond yield) = Authorized Return							
US LDCs (1989 – Q3 2008)	0.0855	33.385	0.446	10.809			0.6070
US LDCs (1989 – Q1 2009)	0.0868	36.634	0.426	11.034			0.6160
US LDCs (1989 – 2009 with) Dummy for (Q4 08 – Q1 09)	0.0855	33.637	0.445	10.859	0.467	1.349	0.6150

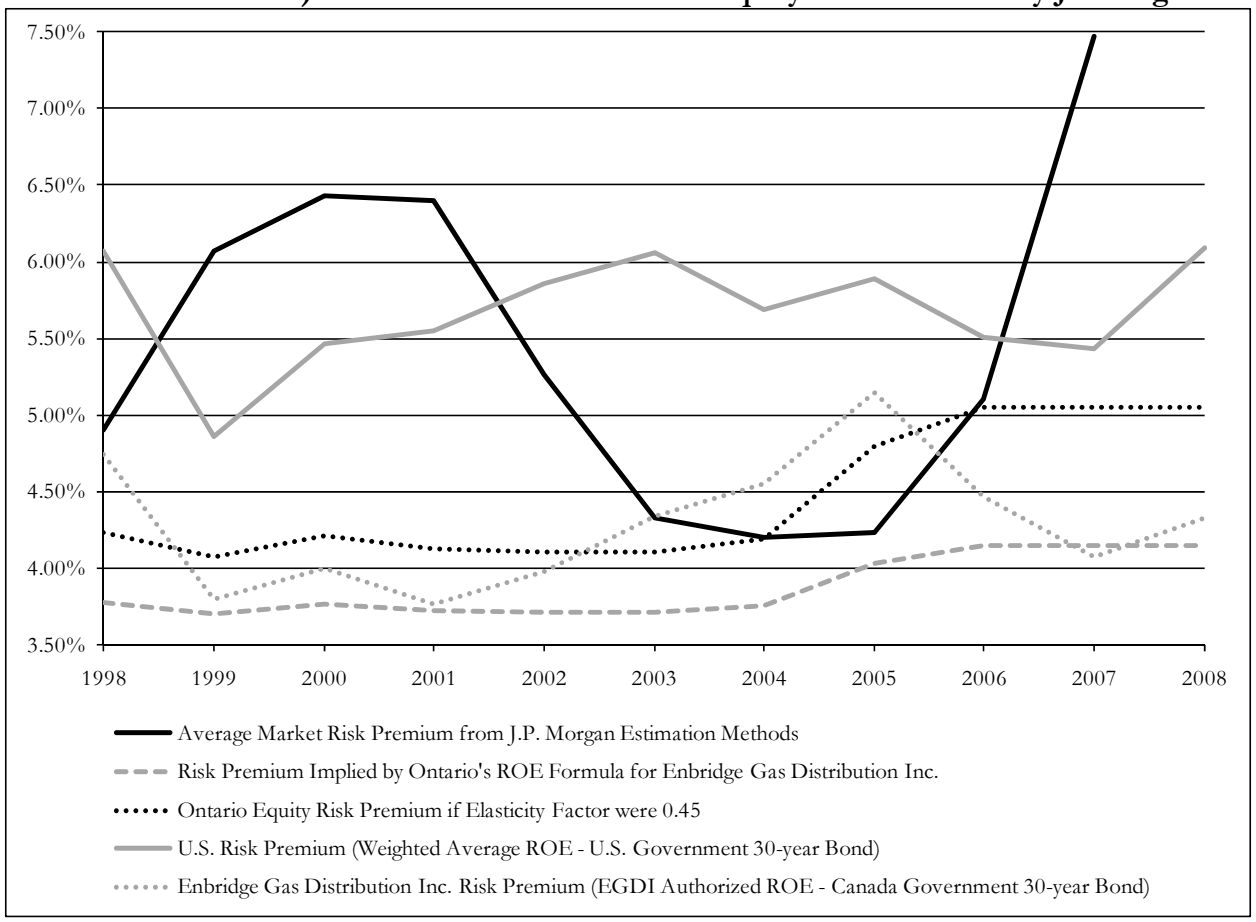
Although the above regression results do not address the current disassociation of government bonds and corporate capital costs, and one could argue that additional information is required that would improve the R^2s, they do indicate, consistent with those we have estimated previously,[33] that the typical elasticity factor of U.S. authorized returns to government bond yields has historically been closer to 0.45, versus the 0.75 elasticity factor set out in the Formula. This implies that the risk premium should have actually increased by approximately 0.55 for each percentage point drop in the government bond yield (as opposed to the 0.25 implied by the Formula). This mis-specification of the elasticity factor has resulted in the systematic understatement of utility ROEs and equity risk premiums over the past decade. However, as illustrated below, correcting for that misspecification, based on historical data, would still not provide an ROE result that is either sufficiently responsive to existing economic conditions or "fair".

In our earlier comments in this process before the Board, Concentric charted the equity risk premiums implied by the current Formula and that which would have been implied had the original elasticity factor of the Formula been set at 0.45 rather than 0.75. As the Figure shows, this difference alone could lead to differences in authorized returns over the period of nearly 100 basis points. We then compared those implied risk premiums to the forward-looking market risk premium estimates provided by JP Morgan. In that analysis, JP Morgan provided their estimates of the market risk premium under various methodologies. We reported the average of those annual estimates to compare with those produced by the actual and the hypothetical formulae. As the Figure below illustrates, the formulae, under either scenario, are not adequately responsive to the marked increase in equity risk premiums over the past two years. Past relationships do not necessarily result in a return that is fair under variable market conditions. Accordingly,

[33] Concentric performed similar regression analyses in each of the studies prepared for the OEB in 2007, and for Hydro One and the CLD in 2008, referenced earlier in this document.

benchmarking the Formula-produced-return with alternative measures of cost of equity, with adjustments as appropriate, are essential to ensuring a return that is "fair".

Figure 7: Comparison of Risk Premiums Implied by the Formula (using Elasticity Factors of 0.75 & 0.45) and Recent Estimates of the Equity Risk Premium by JP Morgan



Source: Risk Premiums implied by the current Formula and that implied assuming a elasticity of 0.45 were calculated by Concentric. The JP Morgan estimate is the average of three separate methodologies (Dividend Discount Model (DDM), Constant Sharpe ratio, and Bond-market implied risk premium) published in JP Morgan's November 2008 Presentation: The Most Important Number in Finance – The Market Risk Premium".

As indicated above in Figure 7, the equity risk premium (as measured through U.S. litigated returns) is much more responsive to interest rates than the Formula coefficient would indicate. Further, risk premiums do not always behave according to their past relationships and even a properly specified formula based on the past may not appropriately track current cost of equity capital. These factors suggest that an ERP approach tied to the Long Bond should be reset at more frequent intervals due to the volatility of the Long Bond yield and the inability of the Formula to adequately track capital costs in changing market circumstances. Even if accurate at the outset (i.e., the ERP was calculated

from a reliable ROE estimate in relationship to the Long Bond), the Formula has proven that it can quickly get off track.

Question 8: Should the ERP approach be reset on a regular basis (e.g., every 4 or 5 years) to mitigate the issues described in the 1997 Compendium?

Response

In its 1997 Compendium, the Board noted the potential for the automatic adjustment mechanism to potentially lead to inappropriate results due to the time-sensitive and volatile nature of ERP calculations. The Board also noted that the parameters and adjustment factors would have a cumulative or compounding effect on the results of the formulaic ROE mechanism. As such, it is appropriate to set guidelines for allowing review of the Formula. Concentric is of the opinion that it is appropriate for the utilities or other parties to apply to the Board at any time if they are not satisfied with the results of the generic ROE process. The merits of such application should be evaluated by the Board to determine if a formal review of the Formula is required. Concentric also recommends the establishment of a periodic review period, i.e., every three to five years for the Board to review the performance of the Formula and perhaps to address concerns that were raised but not deemed to be of immediate import during the interim period.

The periodic reviews need not necessarily lead to full generic cost of capital proceeding or a resetting of the ROE, or a generic proceeding per se, but should provide a forum for the Board to hear evidence concerning the adequacy of returns as well as future processes or mechanisms that might be utilized to improve the determination of ROE and capital structure issues in future years. In Concentric's view it is important to provide flexibility to address problems with the Formula as they arise and as the Board deems necessary. However, predetermined check in periods should be maintained (every 3 – 5 years) to allow all parties the option (but not the requirement) to reset the Formula as well as providing a routine check on the performance of the Formula over the period and a forum for suggesting improvements or enhancements to the Formula.

Question 9: How might the Board address the potential issues arising from the application of the current methodology as a single point-in-time calculation?

Response

ROEs determined through the appropriate methods are forward looking at the time they are made. The Fair Return Standard applies regardless of whether or not market conditions are "normal." Markets change continually and the Board should base its decisions on the market conditions that exist at the time of the evidence to be considered in any given proceeding. The fact that market conditions are likely to change in the future is virtually a given. However, the very nature of markets ensures that the direction and magnitude of such future changes cannot be known with any certainty. For example, the Efficient Markets hypothesis suggests that if it is *known* that a stock price will increase in the near future, investors would immediately bid up the price to a level where there are approximately as many buyers who believe the price will go up, as there are sellers who believe the price will go down. The same is true for bond prices, yields and other observable conditions in the market.

The Efficient Markets hypothesis suggests that the "normal" condition is for market conditions to be an unbiased indicator of future expectations. There is no known way for a person to determine whether the current judgments in the market will ultimately be right or wrong. Hence, there is no known way that the Board could determine that markets are not "normal" at the time it makes a decision. Instead, the best the Board could do, and should attempt to do, is to make its decisions based on the market conditions that exist at the time the Board establishes the rate of return.

Question 10: How should the Board establish the initial ROE for the purposes of resetting the methodology?

Response

To ensure that the utility is provided with a fair return that enables it to meet its obligations and maintain its ability to attract capital, the Board must set a rate of return that compensates investors for the aggregate business and financial risks that they would expect to experience from a similarly structured firm with a comparable risk profile. Utilities typically fund their investments with a mix of debt, common equity and to a lesser extent preferred stock. The cost of debt can be directly determined by the interest rate charged by the lender and the cost of preferred stock can be determined by its dividend rate, but the ROE cannot be directly observed and must be estimated or inferred from other indicators. Estimation methods commonly employed by financial analysts in regulatory proceedings include the ERP Method, the Discounted Cash Flow ("DCF") Method, the

Capital Asset Pricing Model ("CAPM"), Comparable Earnings of like-risk companies, and Comparable Authorized Returns.[34] As there is no single, widely-adopted and precise method for determining the ROE, more than one of these methods should be utilized in order to bracket the appropriate ROE for a given utility.

The bellwether *Hope* decision established a standard for the return on equity that remains the guiding principle for regulatory proceedings in both the U.S. and Canada:

> … [T]he return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital.[35]

Hope offers guidance on the methodology for setting ROE, whereby the Court distinguished between the methods employed and end results in terms of overall return for determination of a fair rate of return:

> Under the statutory standard of 'just and reasonable' it is the result reached not the method employed which is controlling.[36]

Hence, the methodologies employed to set the return are not the controlling factor, but only whether the result is "just and reasonable". We are called upon to review our results in the context of other benchmarks to establish their reasonableness. We have already observed that one methodology – the ERP formula – can run afoul of the fair return standard in the absence of corroborating or reasonable checks from other inputs.

In its 1997 Draft Guidelines Compendium, the Board noted a number of considerations in applying the formula-based approach. First, the Board noted the importance of establishing the initial parameters, which it stated "will have a profound influence on the potential success or failure of the process."[37] Secondly, the Board noted that the "formula ROE generally relies predominately on the equity risk premium method to the exclusion of these other methods and, hence, sacrifices the

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34 These methods are described in greater detail in Thompson, *Regulatory Finance: Financial Foundations of Rate of Return Regulation*, Kluwer Academic Publishers, pp. 27- 55; Morin, *New Regulatory Finance: Public Utilities Reports*, pp. 145-319; and Harrington and Wilson, *Corporate Financial Analysis*, Third Edition, BPI/Irwin, pp. 120-130.

35 Op. cit.

36 Ibid.

37 Draft Guidelines at 7.

unique contributions of these other approaches."[38] However, although the Board recognized the merit of alternative approaches, it stipulated that the ERP approach should be used to evaluate the appropriate ROE for the Ontario utilities, due to its overriding concerns with the application of the DCF, Comparable Earnings and CAPM methodologies for Ontario's utilities. Those primary concerns were based on the lack of direct market inputs for Ontario utilities and the lack of an appropriate group of comparators. Specifically, the Board stated:

> The Board anticipates that, in assessing the initial implied risk premium and appropriate ROE for Consumers Gas, interested parties may consider all relevant issues with respect to the application of the equity risk premium test. This may include matters such as the nature of the relationship between interest rates and the implied risk premium, the need to adjust "bare bones" ROE for financing flexibility and the riskiness of Consumers Gas' equity relative to long Canada bonds and to the overall stock market. In addition, parties may wish to consider the results of the DCF test and the Comparable Earnings test as a means of checking the validity of the equity risk premium results.[39]

Consistent with its stated approach in the Compendium to the Draft Guidelines, the Board established the initial risk premium for the Formula, in its decision for Consumers Gas in EBRO 495, by considering an array of risk premium estimates put forward by experts and selecting a risk premium within the range of results presented. The risk premiums put forth by experts were either the result of directly measuring the historical relationship between bond yields and equity returns; or alternatively by deriving an implied risk premium, by backing-out forward looking bond yields from ROE estimates produced by using other methodologies, i.e. DCF, CAPM or Comparable Earnings.

Multiple approaches for determining ROE provide greater assurance that the end result will be just and reasonable, as conditions that may bias results could be detected or mitigated by considering alternative results. In Concentric's testimony before the AUC for ATCO utilities, primary reliance was placed on the CAPM and DCF results, with corroboration provided by reviewing a risk premium approach, comparable earnings of low risk industrials and allowed returns in other jurisdictions. Generally, for Ontario's utilities, the primary concerns noted by the OEB in its Draft Guidelines concerning alternative approaches, specifically the DCF and CAPM approach, remain: "common shares of the OEB-regulated utilities are no longer traded on the open market and, hence, only non-regulated company data is available to perform the test. This precludes the acquisition of

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[38] Ibid.
[39] Ibid at 30.

the market data required to undertake a utility –specific discounted cash flow analysis."[40] And for the CAPM approach, "The fact that the OEB-regulated utilities are not traded on the market precludes the calculation of the beta value required to undertake the CAPM cost of equity analysis directly for these companies."[41] However, the Board's concerns can be addressed by using carefully specified comparable groups from other jurisdictions. It is not necessary that Ontario utilities have direct market inputs, when like companies of comparable risk exist that do have such inputs. Once a proper comparable group or series of groups is formed, fundamental ROE analyses can be performed using any combination of approaches to reset or recalibrate an appropriate and fair return. It should be noted that initial ROE results should be adjusted for differences in risk between the proxy group and the target utilities. Such risk differences might include significant differences in financial leverage, which can be adjusted either by using the Hamada equation to unlever and relever beta in the CAPM model to account for such differences, or could be adjusted through the ATWACC equation, solving for ROE.

As is matter-of-factly stated in Bonbright's Principles of Public Utility Rates, *The Fair Rate of Return*, "despite the apparent rigor and precision of the financial models used to estimate the cost of equity, much judgment is required in the application of these models. Elaborate modeling gives a false sense of precision", where in fact "no single group or technique is conclusive". *Hope* dictates that it is the end result that is important and not the methods used to arrive at the ends. Accordingly, the test of reasonableness and fairness to ratepayers and investors should be evaluated based upon the results it produces. "Determining cost of capital is not an exact science. It is based on as objective and comparable data as possible, but experience and judgment must be used in drawing conclusions".[42] Employing multiple methodologies to inform the analyst's recommendation, and to serve as a basis for evaluating the fairness of the results produced, is the appropriate course for setting the initial ROE.

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40 Ibid at 5.
41 Ibid at 6.
42 Quoted sections are from Bonbright, Danielsen and Kamerschen, Principles of Public Utility Rates, Second Edition, *The Fair Rate of Return*, at 317.

VII. CHOOSING AN APPROPRIATE BASE FOR THE EQUITY RISK PREMIUM

Question 11: Is the government (of Canada) bond yield the appropriate base upon which to begin the return on equity calculation?

Response

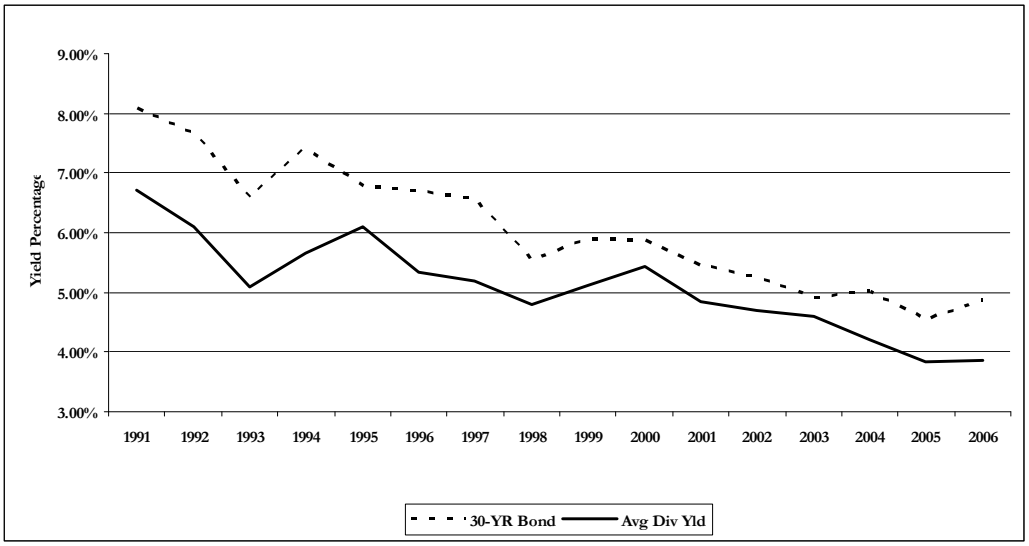
The answer to this question is provided in two parts: 1) examining the role of the government (of Canada) bond yield in setting the base ROE under the DCF, CAPM or ERP methodology; and 2) managing the change to the base ROE in future years.

i. Role of Government Bond Yields in Setting the Base ROE

As we detailed in our Report for the OEB in 2007, the primary approaches to estimating ROE are inter-related. One factor, such as bond yields should similarly impact all methodologies. However, factors driven by economic cycles influence interest rates and equity valuations differently, thereby leading to differing results. Excerpts from that Report are repeated below:

> To understand why ROEs resulting from the DCF method might differ from a risk premium approach, such as the mechanism employed by the OEB, or a CAPM or other alternative equity risk premium approach, it is important to understand the relationship between utility dividend yields and bond yields.
>
> There is significant academic research that establishes that utility stock prices are inversely related to the level of interest rates, and likewise that dividend yields and the level of interest rates are positively correlated. Chart 1 depicts the strong positive relationship between average annual 30-year U.S. Treasury yields and the average annual dividend yields for a representative group of U.S. gas distribution utilities.

Figure 8: Comparison of U.S. Gas Utility Dividend Yields and U.S. 30-Year Bond Yields for the Period 1991 – 2006[43]



This strong positive relationship is attributed both to the capital (and debt) intensive nature of a utility, such that a decrease in debt capital costs will result in higher earnings and higher stock prices (lowering dividend yields), and to the fact that utilities' equity returns compete with debt yields in capital markets, as utilities are generally considered among investors to be relatively stable, lower risk investments.

There is a measurable relationship between the utility equity risk premium and the prevailing bond yield. With this typical relationship, as interest rates rise utility stock prices tend to fall and, accordingly, dividend yields rise. When stock prices behave in accordance with their historical behavior to movements in interest rates, the DCF methodologies and the risk premium methodologies will yield comparable results. However, stock prices and growth rates do not always move in accordance with historical norms, relative to interest rates, which creates differences between historical risk premium methodologies and the DCF approach. Economic factors that affect the utility sector, but not the broader market, such as stock price inflation due to speculation of merger and acquisition activities, or conversely, a sector-specific credit contraction such as that which occurred during the Enron bankruptcy, would yield a much different DCF result than that of an alternative risk premium approach. In short, the DCF approach is influenced to a substantial degree by industry specific factors that are reflected in stock prices, but are not accounted for by the level of interest rates.

Government bond yields are heavily influenced by changes in fiscal and monetary policy, as central banks use short-term interest rates to respond to economic conditions, which tend to decrease government interest rates while corporate capital costs may be increasing. The influences of fiscal

[43] Dividend yields are represented for the average of all 15 natural gas distribution utilities covered by the Value Line Investment Survey's March 16, 2007 publication. 30-Year Treasury bond yields obtained from Yahoo! Finance.

and monetary policy on interest rates are likely to be profoundly different from the impact on corporate capital costs. This would lead to ERP and CAPM results based on government bond yields that differ substantially from results based on equity valuations, i.e. the DCF approach. For this reason, it is important to use multiple methodologies and weight the results of those methodologies based upon available market information. In today's economic environment an ROE estimate derived entirely on the historical relationship of government bond yields and equity returns will not provide adequate results due to abnormally low interest rates and abnormally high credit spreads. In summary to answer the first part of this question, government bond yields in themselves are not an appropriate base for setting ROE, multiple methodologies must be employed and afforded appropriate weight to arrive at an ROE that meets the fair return standard and is indicative of utility equity costs.

ii. Role of Government Bond Yields in Managing the Change to the Base ROE

In the recent market environment, corporate capital costs rose as a result of investors' response to the weakening of the economy and their increased aversion to risk. During periods of monetary easing and economic uncertainty, investors typically move out of more risky asset classes such as common equities and corporate bonds into safer asset classes such as government bonds and money market funds. This phenomenon, known as the "flight to quality" or the "flight to safety," drives down the yield on government bonds. Corporate bond yields, however, would be expected to increase during this same period because economic weakness increases the probability that some issuers will fail to meet their repayment obligations. This heightened default risk causes bond purchasers to require a higher risk premium on corporate bonds. It stands to reason if corporate bond purchasers require a higher risk premium on corporate bonds, and bond holders' claims are superior to those of equity holders, the risk premium required by equity holders would correspondingly increase.

The "flight to safety" phenomenon works in the opposite direction as well. When investors are more confident about economic growth and corporate earnings, they are willing to move money out of safer asset classes such as government bonds and money market funds and into more risky asset classes such as common equities and corporate bonds. Under this scenario, yields on government bonds would increase, but yields on corporate bonds would be expected to decrease as bond

investors would become less concerned with the default risk of issuers. Thus, credit spreads between government and corporate bonds are not static and may diverge depending on the economic cycle. As a result, long term government bonds are not always good predictors of corporate capital costs. Even if the Ontario ROE Formula failed to capture the magnitude of the change in the cost of equity capital, it should, at minimum, be directionally accurate. However, the recent economic recession and credit crisis illuminated the flaws in the Ontario ROE Formula. Namely, almost every market participant agrees that the cost of equity capital has risen in 2008 and 2009. However, the ROE Formula in Ontario generates a reduced allowed return because yields on the Government of Canada Long-Bond have fallen due to the "flight to safety" described above. The Formula has failed to accurately reflect the dramatic increase in investors' risk aversion and the associated upward movement in the equity risk premium. Had the ROE Formula been tied to corporate bond yields, the allowed ROE in Ontario would have risen slightly to reflect the higher risk premium. This higher ROE would be appropriate because it would properly reflect increased investor uncertainty as evidenced in the equity market by lower price/earnings ratios, higher dividend yields, and increased market volatility, and in the credit market by increased credit spreads to compensate for additional credit risk, default risk and liquidity risk.

This period of economic uncertainty should be viewed as an opportunity to "stress test" the ROE Formula because the Fair Return Standard requires that a utility be able to attract capital and maintain its financial integrity and flexibility under a variety of market conditions. Some will predictably argue that this period of uncertainty and volatility in the capital markets has ended, and that markets have now stabilized. However, the relevant point is that the ROE Formula is flawed and has failed to accurately track the cost of equity since before the economic crisis of the past two years. The OEB is not alone in relying on a financial model that failed to predict return requirements; however the failure of the Formula became acutely obvious when the financial market came under extreme stress and investors' risk aversion increased. Many investment banks and financial market participants are using this new information to recalibrate their own financial models in an effort to more accurately and precisely reflect investor behavior and market conditions. Likewise, the OEB should utilize this opportunity to make appropriate changes to its ROE method so that it will more accurately reflect the cost of common equity for regulated utilities in Ontario. Among those changes the Board should consider, is including a measure of corporate capital costs in the Formula.

The NEB provided the following justification for moving away from a formula that no longer appears to adequately track utility cost of capital.

> The RH-2-94 Formula relies on a single variable which is the long Canada bond yield. In the Board's view, changes that could potentially affect TQM's cost of capital may not be captured by the long Canada bond yields and hence, may not be accounted for by the results of the RH-2-94 Formula. Further, the changes discussed above regarding the new business environment are examples of changes that, since 1994, may not have been captured by the RH-2-94 Formula. Over time, these omissions have the potential to grow and raise further doubt as to the applicability of the RH-2-94 Formula result for TQM for 2007 and 2008.[44]

Question 12: What is the relationship between corporate bond yields and the corporate cost of equity? Is this relationship sustainable?

Response

Historically, corporate bond yields and corporate costs of equity have enjoyed a strong correlation that reflects the market's perspective on corporate credit risk, an important component that has been missing from the existing Formula. Assuming the Board wishes to continue its reliance on a formulaic approach, Concentric believes that the corporate bond yield would be better suited for the ROE calculation under a variety of different market conditions, and would bring the market's perspective on risk into the equation.

i. Historical relationship between corporate bonds and allowed returns

Corporate bonds enjoy a strong relationship with regulated utility allowed returns. Linear regression of allowed returns of utilities included in the RRA database and the associated corporate bond yield average (for the 6 months prior to the ROE decision date, which could go back as far as 1989 to present), indicate that there is a statistically significant relationship between ROE and corporate bond yields. The results of those analyses, provided below, indicate that the corporate bond yield has a slightly higher level of statistical significance as it relates to utility authorized returns compared with the long term Treasury bond (see Table 4).

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[44] Op. cit., at 17.

Table 5: Regression Results Authorized Returns as a Function of Corporate Bond Yields

	Intercept	t-stat$_\alpha$	β_1	t-stat$_1$	β_2	t-stat$_2$	R^2
Authorized Return Regression Model = Intercept + (B_1* bond yield) = Authorized Return							
Moody's Corporate A-Rated Bond Yields (641 data points)	7.717	39.334	0.454	16.024			0.286
Moody's Utility A-Rated Bond Yields (641 data points)	7.627	39.976	0.464	16.960			0.310

Beyond the slightly stronger statistical relationship between corporate bonds and authorized returns compared to government bonds, the corporate bond is more suitable as a basis for the formulaic ROE determination, due to its lower volatility compared to government bonds, which provides a more stable basis for purposes of computing authorized returns. Since January 1997, in Canada, the average yield on the Moody's A-rated utility bond has been 6.44 percent and standard deviation has been 0.66, which is 10.31 percent of the average. By contrast, the average yield on the 30-year government bond has been 5.15 percent, but the standard deviation has been 0.85, which is 16.35 percent of the average. In the U.S., the average yield on the Moody's A-rated utility bond has been 6.86 percent, and the standard deviation has been 0.83, which is 12.06 percent of the average. By contrast, the average yield on the benchmark 10-year Treasury bond has been 4.80 percent, but the standard deviation has been 0.92, which is 19.22 percent of the average. In other words, Treasury bonds have been more volatile than corporate bonds since January 1997. This volatility can be attributed to the fact that Treasury bond yields tend to be more sensitive to changes in the business cycle and short-term changes in monetary policy and investor sentiment, while corporate bond yields reflect the long-term ability of corporations to meet their interest and debt repayment obligations. This is reflected in the difference in the coefficients in Table 5 above.[45]

The Moody's A-rated utility bond has been utilized by the state of California in a formulaic ROE determination and has withstood the stresses of the recent economic crisis reflected by its continuing ability to provide fair returns despite the changed economic conditions. The major points of the California formula are as follows:

- The initial authorized ROE is based on the DCF and CAPM approaches;

[45] One might correctly observe that the R^2's on these equations are relatively low, suggesting that other information is required to adequately predict the relationship between allowed ROEs and bonds. We address this issue with our index formulation that includes ROEs from North American litigated proceedings.

- The adjustment is based on 0.50 of the annual changes in Moody's utility bond yields, not government bond yields;
- There is a 100 basis point deadband, meaning that if interest rates change by less than 100 basis points, either up or down, the ROE remains unchanged;
- A full ROE hearing is conducted every three years; and
- The decision emphasizes the importance of informed judgment by the regulator in setting the appropriate ROE.

In a recent decision, the California Administrative Law Judge discussed the relative merits of using a government bond yield or a corporate bond yield as the platform for the ROE formula:

> The purpose of an interest rate benchmark is to gauge changes in interest rates that also indicate changes in the equity costs of utilities. U.S. Treasuries are more sensitive to economic changes and risks in the international capital markets than utility bonds because they are bought and sold globally. However, U.S. utility bonds are generally affected less than Treasuries as a result of major shifts of international capital because a majority of U.S. utility bonds are traded with the U.S.
>
> Consistent with our use of utility bond interest rates in ROE, PBR, and MICAM proceedings and desire to use an index that more likely correlates and moves with utility industry risk, utility bonds should be adopted for the CCM (Cost of Capital Mechanism) index. In this regard, the Moody's Aa utility bond rates should be used for those utilities having an A credit rating and Moody's Baa utility bond interest rates for utilities having a B credit rating.[46] (Emphasis added.)

As the California ALJ's decision correctly observes, utility bond interest rates are more likely to correlate and move with the utility industry risk. Since the purpose of the generic ROE formula is to gauge changes in interest rates that correspond to changes in the cost of equity for utilities, the interest rate on corporate utility bonds is the correct benchmark.

ii. Historical relationship between government bonds and corporate bonds

Table 6 below shows that although corporate bond yields are highly correlated and enjoy a strong historical relationship to government bond yields, they do differ. In Concentric's opinion, those differences are attributable to factors such as economic business cycle and influences of federal

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[46] *Application of Southern California Edison Company (U338E) for Authorized Cost of Capital for Utility Operations for 2008 and Related Matters*, Decision of ALJ Michael J. Galvin, mailed April 29, 2008, at 13.

monetary policy, that do not enhance the fairness of a government bond derived ROE, but rather detract from it.

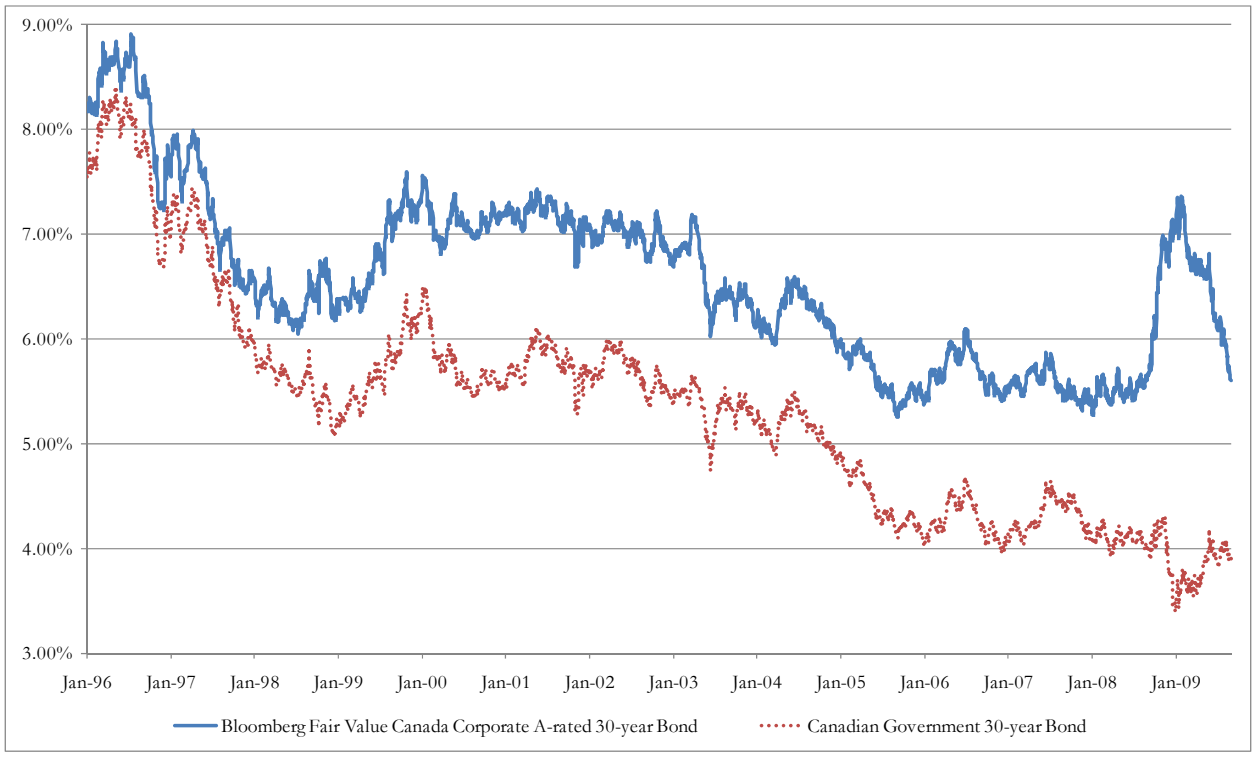
Table 6: Regression Results – Moody's 30-Year Corporate A Rated Bond Yields as a Function of U.S. 30-Year Treasury Bond Yields

	Intercept	t-stat$_\alpha$	β	t-stat$_x$	R^2
Moody's Corporate A-Rated Yield = Intercept + (β * Treasury Yield)					
Daily Yields December 24, 1992 – present (4,150 data points)	3.117	71.593	0.70	91.693	0. 669

As the regression results above suggest, statistically, there is a 311.7 basis point historical spread between U.S. 30-Year Treasury bond yields and the Moody's Corporate A bond yield, which increases or decreases by a factor of 0.70, with the change in long term government bond yields.

The graph below in Figure 9 shows the divergence between corporate bonds and government bonds that occurred from September 2008 through early 2009. Likewise, the credit spreads increased dramatically as the corporate bond moved higher and the government bond moved lower. For example, in December 2008, the average spread between A-rated utility bonds and 30-year Treasury bonds was 368 basis points compared to the historical average of 166 basis points since March 1997, when the ROE Formula was first adopted in Ontario. A proper determination for regulated utilities in Ontario requires a formula that is more responsive to the higher risk premiums required by investors for the increase in credit spreads than that currently provided by the Formula.

Figure 9: Government and Corporate Interest Rates January 1996 – August 2009



Although much of the data gathered for the above analysis has been performed using U.S. allowed returns, and U.S. bond yields, the figures below reflect that the U.S. and Canadian debt markets move in tandem. Based on the positive relationship between U.S. and Canadian debt markets illustrated below in Figures 10 and 11, we would not expect the results for a purely Canadian analysis to be materially different.

In summary, Concentric finds that the Corporate bond yield provides a more suitable basis for the ROE Formula than the government bond yield. Our analysis has indicated that the sensitivity of the corporate bond to allowed returns is roughly from 0.45 – 0.50.

Figure 10: U.S. and Canada Long Term Federal Bond Yields 1996 - 2009

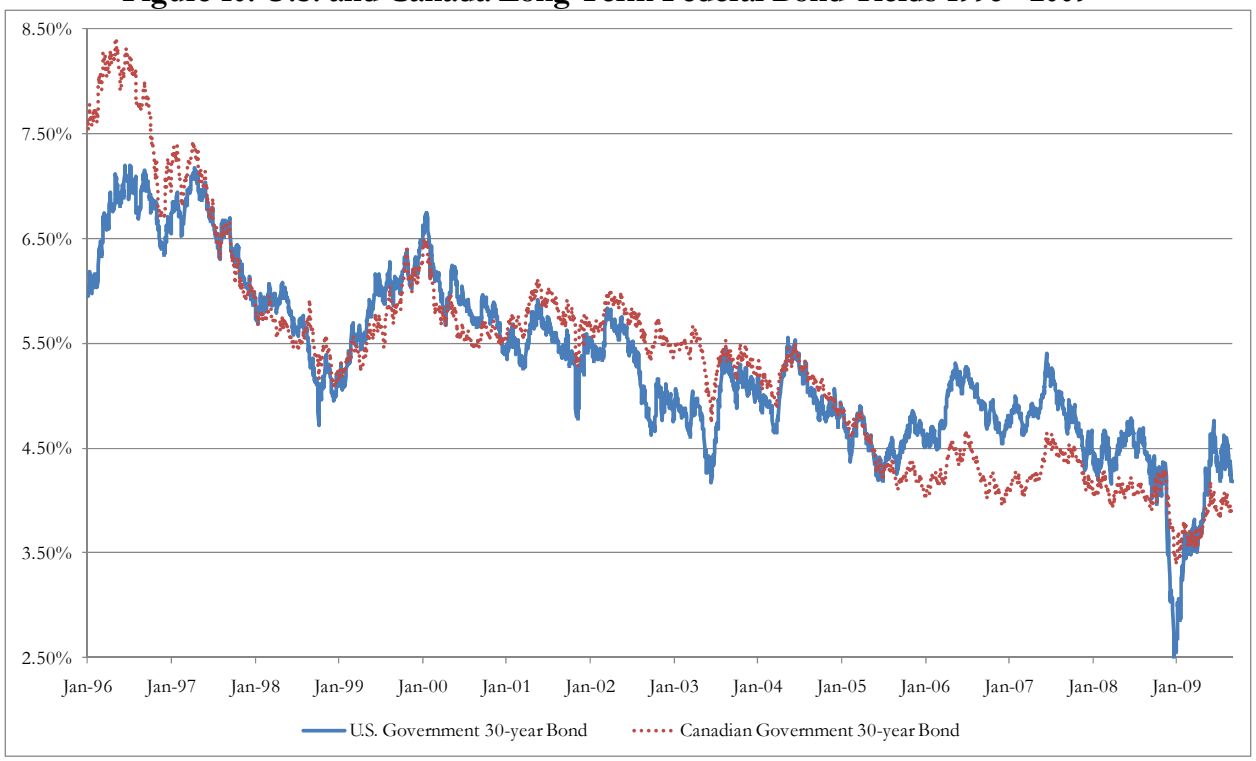
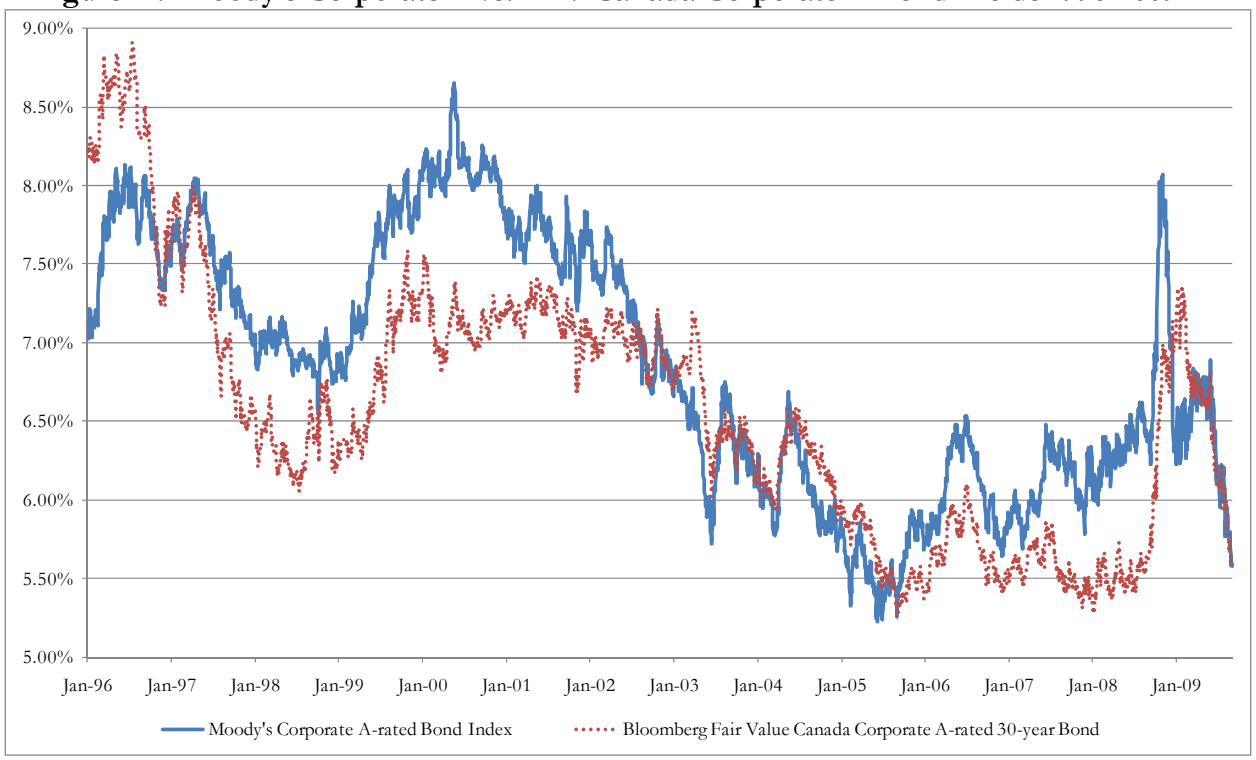


Figure 11: Moody's Corporate A vs. BFV Canada Corporate A Bond Yields 1996-2009



VIII. CALCULATING THE EQUITY RISK PREMIUM

Question 13: Does the current approach used by the Board to calculate the ERP remain appropriate? If not, how should the ERP be calculated?

Response

No, the Board's current approach to calculating the equity risk premium ("ERP") is not appropriate because it results in an ERP that is substantially lower than any of the corroborating benchmarks. The Board should not limit itself to one specific method of calculating an equity risk premium; rather, it should consider the results produced by multiple approaches in order to generate a range of reasonable results from which it may select an appropriate ERP. This process requires the exercise of informed judgment, and is necessarily imprecise and imperfect. However, the Board can improve the accuracy of its ERP estimate by reviewing market evidence and considering expert opinion. As the Board observed in its Draft Guidelines, the current ROE Formula limits the OEB's ability to exercise its informed judgment. This concern argues for a more frequent review of the Formula results to ensure that the ROE Formula continues to reflect investor expectations and return requirements.

i. How does OEB determine the ERP?

After considering the evidence presented by numerous interested parties, the Board determined that the appropriate risk premium for Consumers Gas, at a long Canada yield of 7.25%, was 340 basis points. The Board ultimately reduced this amount by 35 basis points due to timing differences related to implementation of the settlement proposal in regard to the implementation of the ROE Formula results.[47] However, the Board did not explicitly indicate how it arrived at an equity risk premium of 340 basis points.

In the Board's 2002 review of its ROE guidelines, it explained how the equity risk premium was derived as follows:

> The equity risk premium test is also designed to measure the cost of equity capital from the capital attraction perspective. It relies on the assumption that common equity is riskier than debt and that investors will demand a higher return on shares, relative to the return required on bonds, to compensate for that risk. The premium required by an investor to assume the additional risk associated with an equity

[47] Ontario Energy Board, E.B.R.O. 495, Decision with Reasons, Consumers Gas, August 21, 1997, at 136-137.

> investment is taken to be the difference between the relevant debt rate, usually the yield on long-term government bonds, and some estimate of the stock's cost of equity. The recommended cost of equity value under the equity risk premium approach is therefore usually computed as the sum of the test-period forecast for the government and the utility-specific risk premium the analyst has estimated based on historical equity risk premium evidence and forward-looking considerations.[48]

ii. Board's comments regarding ERP in 1997 Draft Guidelines

The OEB's Draft Guidelines contained several important observations about the equity risk premium, which have shaped the Board's policy on cost of capital since the ROE Formula was adopted. These include:

> A utility's test year ROE will consist of the projected yield for the 30-year long Canada bonds plus an appropriate premium to account for the utility's risk relative to long Canada bonds. The resulting ROE should not compromise the utility's financial integrity and should be consistent with the returns being earned on other regulated utilities of similar risk. However, it will not necessarily be consistent with the returns being earned by comparably risky non-regulated enterprises. (page 29)
>
> The Board recognizes that while the equity risk premium test is conceptually quite simple, the quantification of the test can be rather complex. Factors such as business cycle trends, inflationary expectations and changing investor requirements result in a significant variation with respect to how the risk premium test is derived. Clearly, the use of informed judgment is required, and it is because of this element of judgment that expert witnesses regarding the test's conclusions often differ. (page 30)
>
> The Board anticipates that, in assessing the initial implied risk premium and appropriate ROE for Consumers Gas, interested parties may consider all relevant issues with respect to the application of the equity risk premium test. This may include matters such as the nature of the relationship between interest rates and the implied risk premium, the need to adjust "bare bones" ROE for financing flexibility, and the riskiness of Consumers Gas' equity relative to long Canada bonds and to the overall stock market. In addition, parties may wish to consider the results of the DCF test and the Comparable Earnings test as a means of checking the validity of the equity risk premium test results. (page 30)

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[48] Ontario Energy Board, RP-2002-158, In the Matter of Applications by Union Gas Limited and Enbridge Gas Distribution, Inc. for a Review of the Board's Guidelines for Establishing Their Respective Return on Equity, Decision and Order, issued January 16, 2004, at paragraph 44.

> Applying ERP unquestionably involves judgment and subjectivity; however, it is the Board's view that the requirement for ongoing subjective judgments can be limited by the careful initial setting of the formula. Once risk premiums are determined, the only change would be to the forecast bond rate. In the Board's view, the risk premiums will only change if there is a significant change in the utilities' business operations or capital structure, or if there is a material change in the markets. While it is not the Board's opinion that the ERP is a more accurate method of determining the ROE, the Board believes that, in comparison with the other ROE tests, the results of the ERP approach generally require fewer judgmental adjustments. (page 27)

There are a number of different methods to estimate the risk premium that equity investors require. Subtracting the forecasted yield on the Government of Canada long bond from the results of cost of capital analyses, derived by alternative methods, would result in an implied ERP. Several investment banks have published research reports indicating that the equity risk premium has risen significantly to reflect investors' risk aversion. J.P. Morgan, for instance, recently estimated the current equity risk premium as being between 8 and 10 percent. The average spread between government bonds and A-rated corporate bonds has been 2.66 percent in the U.S. and 2.60 percent in Canada from August 2008 through August 2009. Therefore, one would expect the equity risk premium to be significantly higher than the credit spread in order to reflect the additional risks associated with equity ownership.

iii. Adjusting the ERP Going Forward

Concentric has evaluated several options for updating the ROEs resulting from the Board's determination, factoring in three primary considerations:

- The probability of meeting all three elements of the fairness standard
- Regulatory efficiency
- Transparency

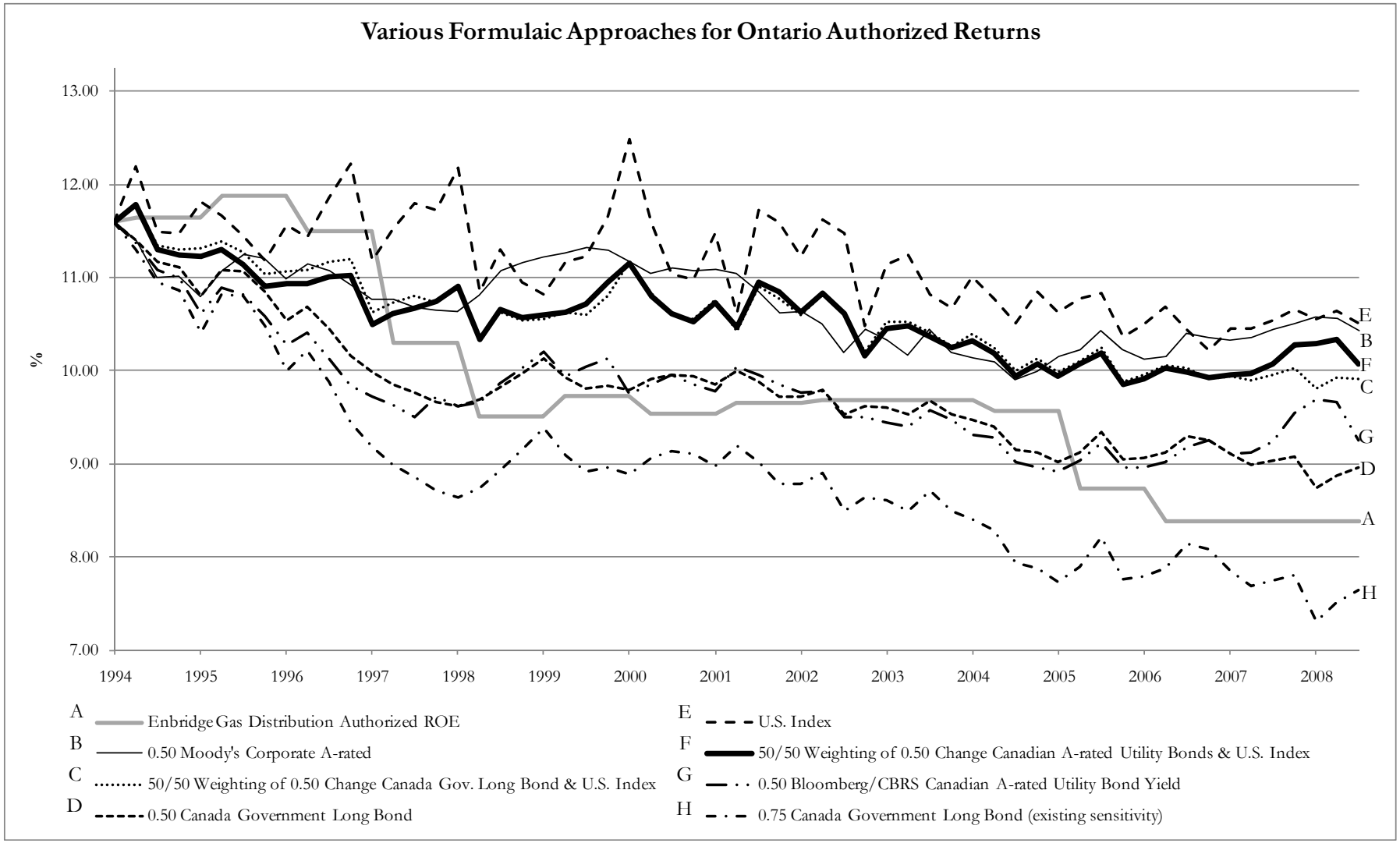
The options considered were:

1. Recalibrate the Formula to yield a generic ROE consistent with the ROEs we have estimated, and re-estimate the Formula, lowering the sensitivity to changes in interest rates (with an off-ramp tied to an appropriate measure, such as ROE awards in other jurisdictions).

2. Create a new ROE adjustment mechanism, indexed to ROE awards for an appropriate group of comparable utilities, bond yields, or a combination of the two.
3. Reset ROE, with no prescribed rate hearing schedule, but hearings may be requested by either the Board or utility with "x" days notice.

In our opinion, option 3, above, provides the greatest assurance of meeting the fairness standard over time, but it is less likely to satisfy the Board's objective for regulatory efficiency. To help examine the remaining alternatives, we have performed a "back cast" analysis using Ontario's 1994 allowed ROE of 11.60 percent as our starting point.

Figure 12: Back Cast Analysis



As demonstrated in Figure 12, these methods yield results over time that may diverge considerably. By mid-2009, the difference between utilizing a factor of 0.50 on government bond yields versus the 0.75 factor currently in effect would have resulted in a 131 basis point difference in itself. As mentioned previously, our analyses suggest that the factor on government bond yields should be lower than 0.50 and more in the range of 0.40. We have illustrated a variety of combinations as if they had been implemented in 1994, the year of adoption by the NEB and the last fully litigated case before the 1997 base and Formula were applied in Ontario. First, we have illustrated the outcome of the present Formula which results in the lowest level of ROEs on the chart (at the far right) due to its high sensitivity to falling government bond yields. Next, we depicted what the result would have been by reducing the sensitivity to interest rates, applying a coefficient of 0.50 to the change in government bond yields. That result is represented by the third lowest line on our chart. In our opinion, neither of those approaches, based solely on the change in government bond yields, provides adequate premiums over corporate borrowing costs or returns commensurate with investment alternatives of comparable risk.

To compensate for these shortcomings, we have equally weighted the result of the government bond yield approach (using a coefficient of 0.50) with an index representing the change in North American litigated allowed returns.[49] This index provides a directional measure of comparability with other North American utilities. Though this index is currently made up of predominantly U.S. authorized returns, as litigated returns are available in Canada they should be considered in this index. This methodology would have resulted in the fourth line from the top on the figure above, had it been implemented in 1994. We have also computed the Canadian ROE based entirely on the North American index. That result is generally represented by the top line on Figure 12.

As the disparity between corporate bond yields and government bond yields becomes more pronounced in the current economic crisis, it is evident that government bond yields are an inadequate index for ROE as a single factor. As demonstrated in response to Question 11, corporate borrowing costs may diverge markedly from government bond yields. This failing sheds

[49] This index was derived by determining the weighted average of gas and electric utility ROE decisions per RRA for the period under review; and dividing that average by the average of the previous period. The resulting index was applied to the previous year return in Canada to obtain the current year return.

light on the benefits of an ROE formula that incorporates credit risk into the equation. Accordingly, we have analyzed an approach based on Moody's Corporate A-rated bond yields (using a coefficient of 0.50 applied to the change in bond yields); and an approach based on 0.50 of the change in the Canadian A-rated 30-year Utility Bond as published by Bloomberg.[50] Lastly, we have weighted the Canadian A-rated 30-year utility bond index (Bloomberg) 50/50 with the litigated return index. That result is the heavy line on the chart and our recommended formula. In our opinion, the similarity and high correlation between U.S. and Canadian equity markets (shown below in Figure 13), debt markets (illustrated in Figure 11), and government bond yields (illustrated in Figure 10), is sufficient basis to assume that U.S. utility equities and Canadian utility equities will also move in tandem as they have since 2002.

Figure 13: Comparison of U.S. and Canadian Utility Equity Indices

Observing the back cast results, one cannot be sure that any of the formulaic approaches would satisfy the fairness standard over time. To provide a safeguard against the formula resulting in

[50] The Bloomberg 30-Year Canadian Utility Bond Yield series is only available for 2002 to present. We have filled in back periods with a CBRS Canadian Utility Bond Index that covers 1994 – 2000. We have estimated the period from 2000 to 2002 based on the historical relationship between Canadian government bond yields and the A-rated Canadian utility yields.

deficient returns in a period of unanticipated capital market circumstances, we recommend that the ROE mechanism be reviewed annually by the Board against suitable market indicators as described in our responses to Questions 17 and 19 (government and corporate bond yields, ROE awards in litigated jurisdictions, etc.). As indicated previously in our response to Question 8, in Concentric's view, it is important to provide flexibility to address problems with the formula as they arise and to make adjustments as the Board deems merited. Additionally, formal reviews should be conducted every 3 – 5 years with a complete cost of capital analysis to recalibrate ROEs.

The recommended formula adjustment would work as described in Appendix D.

IX. ADOPTION OF A DEAD-BAND AND/OR TRIGGER MECHANISM

Question 14: Should the Board adopt a dead band? If so, what should the range of the dead band be?

Response

In the context of the OEB's ROE determination, as suggested in the Board's preamble, a deadband might be adopted where approved ROEs remain in effect until a deadband is reached. In Concentric's view, an implicit deadband exists with most ROE determinations. Once set by a commission, the ROE remains in effect until either a re-set date is reached (such as the typical annual formula adjustment prevalent in Canada) or in the U.S. where the utility or Commission can initiate a rate hearing when circumstances warrant. In the interim, the utility and customers bear the risk that market circumstances have changed, warranting a change in ROE.

Deadbands used within a certain range promote regulatory efficiency by not litigating ROE. With a formula, this efficiency could be further realized by setting narrow deadbands that balance the desired goal of improved efficiency with the interests of shareholders and ratepayers.. Recognizing that the ultimate objective is a fair return, a dead band is viable as long as all three tests are met: 1) comparable investment; 2) capital attraction; and 3) financial integrity. Utility investors are accustomed to earnings swings within a relatively narrow band. This assumes the base ROE is fair, the expected deviation from the allowed return is neutral and fluctuations do not jeopardize the financial integrity of the utility. Though Concentric does not recommended a deadband in its formula, we accept that a deadband has the benefit of regulatory efficiency, and is appropriate when

regulatory expediency can be optimized without sacrificing a fair return. On balance, if the Board adopts Concentric's recommended approach, we do not believe a deadband is required by the Formula, but may be a useful tool for promoting performance based regulation (PBR) objectives.

Question 15: Should the Board adopt trigger mechanism(s)? If so, how often should the Board review the methodology?

Response

Observing the back cast results in 12, one cannot be sure that any of the formulaic approaches would satisfy the fairness standard over time. To provide a safeguard against the formula resulting in deficient returns in a period of unanticipated capital market circumstances, we recommend a routine monitoring process (no less frequent than annually) that incorporates those factors identified in Questions 16 through 19 of this Document and establishes specific thresholds for identifying changed market conditions prompting a benchmark study of the adequacy of returns. Additionally, we believe a formal review proceeding should be implemented every three to five years, where ROE may be recalibrated and reset, among other things. Absent these review processes we recommend, it is appropriate to set rails for the Formula to trigger a formal review of the Formula. Appropriate trigger mechanisms may include a 150 to 200 basis point symmetrical ceiling and floor established from the starting ROE for each utility, or a specified deviation from average North American litigated allowed returns. Concentric suggests an overall review of the entire ROE framework and adjustment mechanism every three to five years.

X. METHODS TO CORROBORATE RESULTS PRODUCED BY THE FORMULA

Question 16: What is the appropriate test(s) to ensure the FRS is met (e.g., corroborating results for reasonableness relative to benchmarks or through other methods)?

Response

In order to definitively determine whether the fair return standard is being met, a cost of capital study is required. The required return on common equity, using multiple analyses, such as the DCF and CAPM, will indicate whether an equity risk premium approach is accurately tracking the cost of common equity. In addition, comparable returns analysis, changes in the level of corporate debt costs, as well as the level of yield spreads and the comments of professional equity analysts should

corroborate or suggest that the Board's Formula does, or does not, continue to reflect the cost of common equity capital for Ontario electric utilities and gas utilities.

Recognizing that the Board desires an approach that is efficient to administer, it is relatively straightforward for Staff to update DCF and CAPM studies using readily available information. If the Formula return deviates significantly from the average results of the DCF and CAPM studies for a specified period of time, the Formula should be re-opened and a possible re-basing of the Formula should be considered. Similarly, if a utility has difficulty raising capital on reasonable terms, the Board should consider that special circumstances exist that would dictate either deviating from the Formula or re-basing the Formula as needed.

Question 17: What information might the Board need to definitively determine that market conditions are having an effect on the variables used by the Board's cost of capital methodology?

Response

It should be noted that market conditions always affect cost of capital variables. The question is whether the Formula and variables used by the Board continue to adequately reflect the changing cost of capital. As stated in response to Question 16, to definitively determine the effect of market conditions on the cost of capital variables used by the Board, a cost of capital study using multiple approaches and inputs is required. However, equity analyst reports, comparable litigated returns for utilities in other North American jurisdictions, and comparisons of the equity risk premium implied by the Formula to those projected by analysts, all provide meaningful input into whether a change in market conditions is skewing the results of the Formula in one direction or the other.

XI. USING FINANCIAL MARKET INDICATORS TO TEST REASONABLENESS OF RESULTS

Question 18: Should the Board consider monitoring indicators like these on an on-going basis to test the reasonableness of the results of its cost of capital methodology?

Response

Yes. The Board should remain an informed participant and apprised of trends in capital markets through practical routine monitoring of those factors mentioned in our responses to Questions 16 and 17. Furthermore, a regulatory process that provides sufficient flexibility for stakeholders to request a review of the Formula should enable an informed and constructive dialogue between regulators and stakeholders to assess the reasonableness of the results from the Board's cost of capital methodology. Lastly, Concentric is of the opinion that the focus of the monitoring effort should not be on whether market conditions are having an effect on the variables used by the Board's cost of capital methodology, but on whether the three required standards for fairness are being met. As indicated in our response to Question 17, market conditions do affect cost of capital variables; it is only when those conditions result in unfair returns for utilities that this is of concern.

Question 19: What other key metrics used by financial market participants to determine whether financial market conditions are or are not "normal" might the Board consider?

Response

As noted in the response to Question 9, Concentric believes that the allowed ROE must satisfy the Fair Return Standard regardless of whether current market conditions are deemed to be "normal." However, Concentric understands the Board's desire to have some indicators that would help it to monitor financial market conditions. In that regard, there are some basic indicators that might provide the Board with an early warning signal that it should conduct a more thorough DCF or CAPM analysis to compare the results of those approaches against those produced by the ROE Formula. These indicators would include things such as changing credit spreads between corporate and government bonds, changes in equity market volatility indices, credit rating changes for Ontario utilities, divergence between Canadian and U.S. debt and equity market indices, or shifts in price/earnings ratios and dividends yields. Generally if there is a shift in the financial markets, Concentric would expect most, if not all, of these indicators would send the same signal. In conclusion, Concentric's view is that the Board should not attempt to modify or fine tune the Formula results based on these market indicators, but they may provide the Board with valuable insight about major disruptions in financial markets that would impact the cost of equity or debt capital.

XII. APPENDICES

Appendix A: Capital Budgeting and Implications for the Comparable Return Standard

The Fair Return Standard encompasses three tests: (1) capital attraction, (2) financial integrity, and (3) comparable return. In applying the comparable return standard a regulator ought to be aware of the decision-making rules that are used in capital budgeting by companies when they decide which capital investments to make. A common assumption in regulation is that companies in a competitive market cannot earn more than their cost of capital, and regulators generally attempt to replicate that assumption about competitive markets when they set the allowed rate of return for regulated companies. For example, the CAPM and DCF approaches are designed to estimate how much the marginal investors expect to earn when they buy or sell common stocks in the market, and that result is considered to be the cost of capital. However, the assumption that companies cannot earn more than their cost of capital misstates the relevant economic theory which actually holds that the *marginal* investment in a competitive market should be unable to earn more than its cost of capital. It is quite common for highly competitive companies to earn more than their cost of capital on the average dollar invested. In fact, standard textbook capital budgeting rules suggest that a company should not invest in a project that is expected to earn no more than its cost of capital. Nevertheless, regulators often use the results of CAPM, DCF or ERP analyses to set the allowed rate of return equal to the marginal cost of capital without regard for the earnings available to the average investment of comparable risk, or the rules that are employed in making capital budgeting decisions. As this Appendix explains, a proper application of capital budgeting principles requires that the allowed rate of return should be set somewhat higher than the marginal cost of capital in order to meet the comparable return test.

i. Capital Budgeting Techniques

1. Net Present Value and Internal Rate of Return

A corporation determines whether to invest in a particular capital project based on whether it is expected to have a Net Present Value ("NPV") higher than the company's marginal cost of capital. Another method is to calculate the Internal Rate of Return ("IRR") for the project, which is the average annual rate of profitability for the project.[51] If the project is expected to generate returns

[51] The IRR is the discount rate that gives a NPV equal to zero.

that exceed the firm's marginal cost of capital, then it will add economic value to the corporation. Standard financial theory indicates that:

> "… we have two equivalent decision rules for capital investment.
>
> 1. *Net Present value rule.* Accept investments that have positive net present values.
> 2. *Rate-of-return rule.* Accept investments that offer rates of return in excess of their opportunity costs of capital."[52]

Both of these rules require that an investment must be anticipated to earn more than its cost of capital in order to be acceptable. Beyond this bare minimum of acceptability, when the corporation's capital budget is constrained, it generally ranks and prioritizes the various projects according to their NPV or anticipated IRR. In general, those capital projects with the highest NPV or IRR should be pursued first because they maximize the value of the firm.

2. Hurdle Rate

In financial theory, a "hurdle rate" is the minimum rate of return required for accepting a capital project. Stated another way, it is the cutoff or screening rate for capital budgeting purposes. The general decision making rule is that if a project's internal rate of return exceeds the project's hurdle rate, then the financial manager should accept the project. If not, then the project should be rejected.[53]

3. Returns Available on Alternative Investments

The concept of ranking capital projects based on whether they meet a specified hurdle rate is illustrated in Figure 1. A project in that figure is considered to add economic value to the firm if the projected IRR exceeds the cost of capital. In the figure below, Projects A through C have IRRs that are higher than the hurdle rate and would be acceptable from a financial theory perspective. Conversely, because Projects D and E have IRRs equal to or lower than the hurdle rate, basic textbook theory suggests that those projects should be rejected.

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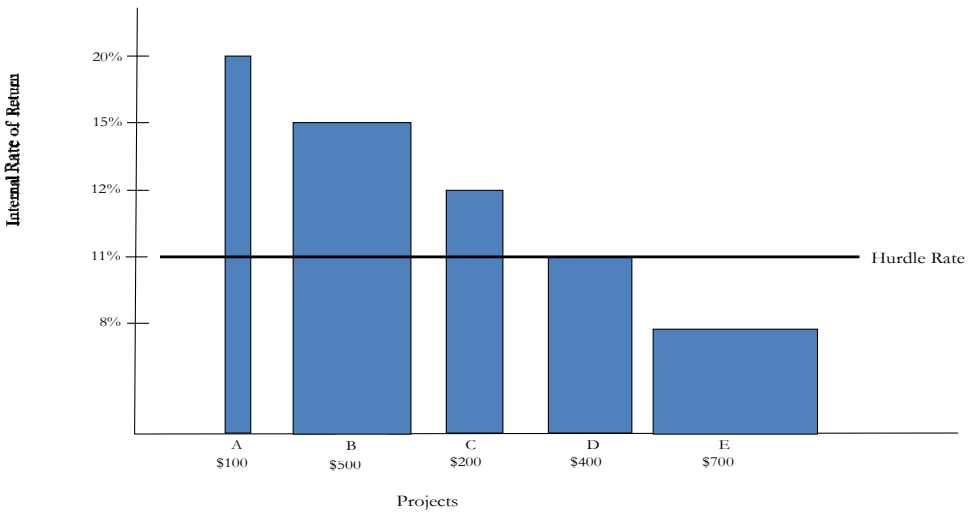
[52] R. Brealey and S. Myers, *Principles of Corporate Finance*, 2nd ed., McGraw-Hill (1984), p. 13.

[53] Business Financial Management, "Capital Budgeting," published by The Dryden Press, Philip L. Cooley and Peyton Foster Roden, at 330.

Figure 1: **Ranking Capital Projects by Internal Rate of Return**



Although projects A, B and C all pass the hurdle rate test, a company might not pursue all three projects if other constraints apply. For example, if managers have time to work on only two projects, then project C might be rejected. Similarly, if the company's cash flow and balance sheet allow it to comfortably spend no more than $600 million on capital projects in the next year, then project C might be rejected.

4. Relevance of Capital Budgeting Concepts for Applying Regulatory Standards

Investors in regulated utility assets adhere to the same capital budgeting process in terms of ranking capital projects according to their expected profitability. However, because regulators generally attempt to set the rate of return on utility assets at a level equivalent to the utility's cost of capital, utility investments would be equivalent to project D in the above example. Project D satisfies the rate of return goal pursued by most regulators, but capital budgeting theory says that a company should reject such a project. At best, an allowed rate of return equal to the cost of capital (i.e., the hurdle rate) should make investors indifferent as to whether investments are made to provide utility services to the public. In order to correctly apply the comparable earnings standard, a project should have an allowed rate of return comparable to those of projects A, B and C, which all *exceed* the hurdle rate or cost of capital. Therefore the allowed rate of return should be somewhat higher than the cost of capital.

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."[54] 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.

54 CIBC World Markets, Enbridge Inc., *Equity Research Company Update*, December 17, 2008.

Appendix B: Capital Structure Theory and Application

i. Capital Structure Theory

1. Capital Structure Concepts

a. Relationship between capital structure and cost of common equity

The cost of common equity capital and the fair rate of return depend in part on the company's capital structure. Other factors being equal, firms with lower common equity ratios have higher costs of common equity and require higher rates of return to compensate for the additional financial risks to which their shareholders are exposed. Consequently, when a regulator selects a deemed capital structure, that decision impacts the required rate of return on common equity.

Application of capital structure theory indicates that the use of bond rating criteria as the primary determinant of deemed common equity ratios can lead to allowed rates of return on common equity that are inadequate and unfair to the common stockholders. Consequently, when conducting an analysis of the required rate of return on common equity and the appropriate capital structure it is essential to distinguish between enabling a company to: (1) attract common equity on fair and reasonable terms; and (2) maintain investment-grade bond ratings.

b. Effect of Capital Structure on Cost of Doing Business

Most large companies are financed using a mix of debt and equity capital. Debt in the capital structure can provide a low-cost source of funds because the common equity holders shield lenders from a portion of the risks of the company. However, the requirement to pay a fixed level of interest and repay principal as scheduled causes the possibility of bankruptcy or other financial distress to increase as the firm takes on more debt. Financial "leverage" provided by fixed debt payments also tends to translate relatively small fluctuations in a company's operating income into much larger variations in the net income available to common stockholders. When the proportion of debt is increased beyond some level, both lenders and stockholders require greater rates of return to compensate for the greater risks involved. In theory, there is an optimal range of equity ratios that minimizes the overall cost of capital of a company.

c. Important Factors for Determining Appropriate Capital Structure

The amount of debt that is economical for a firm depends on its business risks and the perceived probability that it could experience unexpected difficulties that would render it unable to meet its debt obligations. Although firms in the same industry generally tend to have similar business risks, there is often a general, very broad range of equity ratios associated with companies in particular industries. Firms in the same industry have different capital structures for many reasons. For example, within a given industry, there may be wide differences in the vintages of capital and operating strategies of individual companies. Another important factor is the quality of a firm's earnings in terms of cash flow and continuing operations. **When all factors are considered, the managers of a company are usually in the best position to evaluate the prospective risks and operating needs of their company and determine the most appropriate capital structure.**

Another important factor is the transaction cost of raising new capital. In order to borrow funds from outside sources a company typically pays issuance costs that are close to one percent of the amount borrowed. In contrast, raising new common equity funds from outside sources generally involves flotation costs that are 3-5 percent of the amount of capital raised. In addition, on a percentage basis, flotation and issuance costs generally are proportionately lower for larger issues. The higher flotation costs associated with raising equity capital from external sources means that, up to a point, it is less expensive to issue debt for as much external financing as possible before turning to the external equity markets.

Different companies also have different patterns of needs for financing. A company might take on large amounts of debt to finance new projects, but then pay down its debt and increase its equity ratio over time after the project is in service. **When a company's debt ratio is high, its financial flexibility is restricted.** This means that its ability to undertake additional projects is limited and it may not be able to refinance its debt or raise new capital if adverse circumstances arise.

Thus, when one considers financing costs and the often uneven pattern of capital investments, there may be times when achieving the target capital structure may not be as desirable as minimizing the issuance costs that the firm incurs as it operates on a dynamic basis. A well-managed company might reasonably maintain a relatively high equity ratio for extended periods of time and then undertake a large amount of additional debt to finance a new project. The important point is that

wide differences in capital structures exist within any given industry from time to time and a **determination of the "appropriate" capital structure for a particular company should not be made in a vacuum which ignores that company's unique history, business needs and circumstances.**

2. Modigliani-Miller and the Optimal Capital Structure

The cost of capital for a company depends upon both its business risks and the amount of debt in its capital structure. At one point in the development of the theory of capital structure, Professors Modigliani and Miller (1958) questioned why the mix of debt and equity in the capital structure should have any effect upon the overall weighted cost of capital of the firm. They argued that the risks and operating income of a company should be the same regardless of how the company is financed. They reasoned that any change in capital structure would merely shift the risks and rights to operating income between lenders and shareholders without changing the overall risks or income of the company and therefore should have no effect upon the overall cost of capital. This conjecture that capital structure theoretically should not affect the overall cost of capital of a company is known as the Modigliani-Miller Theory.

The Modigliani-Miller Theory set off a great deal of research in finance and it is now widely agreed that the theory failed to recognize several important effects of capital structure decisions. First, the theory incorrectly assumed that operating income is split only between lenders and shareholders. However, the government, through corporate income taxes, typically is a third claimant on a portion of the company's operating income. Because interest payments are tax deductible, but dividend payments generally are not, as a company takes on more debt it increases the amount of its tax deductions and reduces the share of operating income claimed by the government. Thus, the size of the government's share of income depends upon the capital structure of the firm.

Second, Modigliani and Miller originally assumed incorrectly that the business risk and level of operating cash flows of a company are the same, regardless of how the company is financed. However, increasing the amount of debt in the capital structure increases the probability of bankruptcy or financial distress, which would trigger large legal fees and other costs that can greatly reduce the share of operating income available to shareholders and lenders. Large amounts of debt also may have other less-obvious costs to the company such as bond covenant restrictions on its

ability to make additional investments and requirements that it maintain higher interest coverage ratios. These restrictions can prevent a company from pursuing profitable new opportunities and may constrain its ability to make capital investments that improve its existing operations. In addition, when a company is in danger of being unable to make interest payments or repay its loans, its suppliers often will refuse to do business with it or require prepayment or other onerous trade conditions. Similarly, customers may refuse to do business with a company in distress for fear that they will not receive their goods. In both instances, **a high debt ratio increases the probability that operating income will be less than expected.**

3. Effects of Leverage on Debt Costs

    a. Why Companies Borrow to Finance Operations

Companies tend to borrow money because the interest rate on loans is less than the return that equity investors require. In addition, because the interest paid on debt generally is tax deductible, a company can reduce its tax liability by relying on debt. However, a higher debt ratio increases the risk that a company could be unable to make interest payments and repay its loans and common stockholders must agree to shoulder a disproportionate share of the risk in order to obtain the benefits of debt financing. **Interest rates on debt tend to increase once a company's debt ratio exceeds a certain level, but the amount of debt that a company can take on before its interest rates begin to increase rapidly is different for different industries, and also different for different companies.**

    b. Importance of Bond Ratings in Raising Capital

Bonds rated BBB (or Baa) or higher are referred to as "investment grade," which means that financial institutions with a fiduciary duty may invest in these low-risk bonds. Many institutional investors in Canada have limits on the proportion of BBB (or Baa) rated debt they are allowed to hold in their portfolios or cannot invest in BBB (or Baa) rated debt at all. The average yields on corporate bonds are progressively higher as the bond ratings decline. **When the bond rating falls below investment grade (i.e., less than Baa), the required interest rate increases markedly as fewer investors are able or willing to purchase lower-rated bonds.**

c. Correlation between Bond Ratings and Interest Rates

Although there is a tendency for companies with the same bond ratings to cluster around similar yields, most companies have yields that are either higher or lower than the average for their bond rating. There are many possible reasons for these variations, but this sometimes occurs when investors perceive that a company has either higher or lower risks than its bond rating would suggest. In fact, a great deal of **financial research has shown that the market yields of bonds are often a better indicator of the risks perceived by investors than the ratings assigned by bond rating agencies.**

4. Effects of Leverage on Equity Costs

Because common stockholders do not make a profit until all of the other obligations of the company are paid, **additional debt obligations in the capital structure increase the probability that the common stockholders will not recover their investment plus a reasonable rate of return.** At moderate debt levels the cost of common equity increases only slightly as additional debt is added to the capital structure. At some point, however, the probability of bankruptcy or inadequate returns begins to rise rapidly and investors require a commensurately large increase in the possible returns in order to compensate for the greater risk.

5. Optimal Capital Structure

a. How Debt and Equity Costs Create Optimal Capital Structure

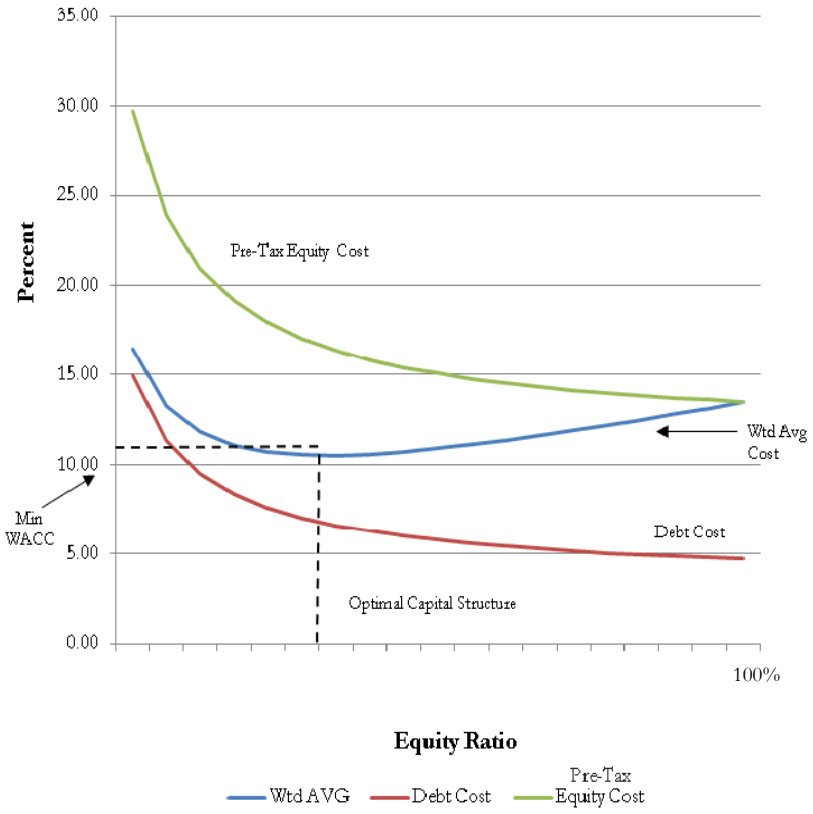
Greater debt in the capital structure reduces the amount of income taxes that must be paid to the government, but increases the probability of financial distress which can lead to onerous bond covenants, high legal expenses and even destroy a business to the extent that suppliers and customers refuse to deal with a company in financial distress. These countervailing effects – reduced taxes v. higher distress costs – mean that **there is an economic tradeoff associated with increasing the amount of debt in the capital structure and this tradeoff suggests that there is a theoretically optimum capital structure that balances tax costs against financial distress costs.**

Figure 1 shows the optimum capital structure when these tradeoffs are considered. There are two factors involved that cause the weighted average cost of capital to decline in the beginning and then turn upward. First, declining financial risk creates a downward pull on the cost of both debt and

equity when the equity ratio is increased. Second, because equity costs more than debt there is an upward pull on the weighted average as an increasing proportion of equity is introduced into the mix. When the equity ratio is small the first factor dominates and the weighted average cost of capital decreases. However, at some point the debt and equity cost curves level out and the second factor becomes dominant. At that point the weighted average cost curve turns upward. **The theoretically optimum capital structure corresponds to the lowest point on the weighted average cost of capital (WACC) curve.**

Generally there is a relatively wide range of capital structures surrounding the lowest point on the WACC curve in which the weighted average cost of capital is essentially the same at every corresponding equity ratio. Although there are small changes in the WACC along the flat part of the curve, a WACC that is less than 25 basis points above the minimum point would be within a reasonable margin of error for a cost of capital study.

Figure 1: Cost of Capital Curves According to Finance Theory



b. Static and Dynamic Considerations

Important considerations for capital structure decisions fall into two general categories: static and dynamic. Figure 1 depicts the combination of debt and equity that theoretically minimizes the overall cost of capital only if the company is either static (i.e., not changing) or if every source of financing has the same economic costs for the firm. However, dynamic considerations – such as the different costs associated with raising different types of capital and the fluctuating financing needs of the company – mean that **a capital structure that is theoretically "optimal" from a *static* perspective usually is not truly optimal from a *dynamic* perspective at any given point in time.** For that reason, it is common to refer to the static capital structure concept shown on Figure 1 as the "target" capital structure around which a company's actual capital structure should fluctuate in order to efficiently finance an ongoing, dynamic operation. The concept of a dynamically optimal capital structure, generally referred to as the "Pecking-Order Theory," is discussed below.

6. "Pecking-Order" Theory of Optimality

The "Pecking Order" Theory states that it is most efficient for companies to raise as much capital as possible from retained earnings, then to issue debt and, lastly, to issue new common equity. In other words, the dynamic order and pattern of financing is often more important than the need to maintain a static, theoretically optimal cap ital structure. Unlike the concept of a static optimal capital structure suggested by the outgrowth of the Modigliani-Miller theory, the "Pecking-Order" theory relies on real-world dynamic considerations such as the varied timing of the company's investment needs, the transaction costs incurred in raising capital, and the fact that financing decisions convey valuable information to the financial markets. Consequently, **static considerations are useful for establishing a long-run "target" capital structure for a company, but they are not adequate for determining the optimal capital structure for the company at any given point in time.** Taken together, the two theories help explain why particular industries have significantly different *average* capital structures from other industries, but also there often is a large variation in the capital structures of individual firms within the same industry.

ii. Interaction between Capital Structure and Required Return

1. Impact of ROEs and Capital Structure on Financial Metrics and Bond Ratings

Bond rating agencies effectively use both capital structure and return on equity in their credit analyses. They use embedded accounting book values in evaluating the debt and equity ratios of the

capital structure, but they also use interest coverage ratios that reflect the rate of return that a company actually earns. The analysis of interest coverage ratios captures the effect caused when one company has lower interest rates or higher equity ratios than another company. Finally, ratings agencies account for differences in operating/business risks through a variety of objective and subjective analyses. However, **bond rating agencies do not explicitly analyze or render an opinion as to whether the allowed rate of return on common equity is fair, just or reasonable.**

2. Relationship Between Bond Ratings and Cost of Equity

The allowed rate of return and the deemed common equity ratio can be used to calculate a pro forma interest coverage ratio, but there is no well-defined theoretical relationship between the cost of common equity and interest coverage tests. Consequently, none of the commonly-used methods for estimating the cost of common equity (e.g., DCF, CAPM, and ERP) relies upon interest coverage ratios. For example, pro forma interest coverage ratios generally are calculated using four variables: the interest rate on debt, the rate of return actually *earned* on common equity[55], the income tax rate and the proportion of debt and equity in the capital structure. None of these variables is the cost of common equity. Moreover, a change in any one of these four variables will change the interest coverage ratio, but the magnitude of the effect on the cost of common equity is indeterminate. In summary, for a given cost of debt and a given tax rate, there are numerous combinations of capital structure and equity returns that will all produce the same interest coverage ratio.

3. Relationship between the Equity Cost Curve and the Interest Coverage Curve

Figure 2 depicts the fundamentally different shapes of the theoretical Equity Cost Curve and the Interest Coverage Curve. In this example, the Equity Cost Curve is drawn with the assumption that any rate of return that is greater than or equal to the cost of common equity capital will achieve a coverage ratio greater than 2.0.

The difference between these two concepts is shown most clearly by examining the ROE values associated with high equity ratios. If we set equity returns based only on the Interest Coverage

[55] The rate of return on common equity used in the calculation is the actual rate of return that the company is expected to earn and is not necessarily the rate of return that investors require as the cost of providing common equity capital.

Curve, some problems immediately arise. On the right (high equity ratio) side of the Interest Coverage Curve the equity return that achieves a 2.0 coverage ratio is less than the interest rate on debt. For example, notice that according to the Interest Coverage Curve, an allowed rate of return on common equity of *one percent (1.0%)* will be sufficient to achieve an adequate bond rating if the equity ratio exceeds approximately 80 percent. However, **basic finance theory says that the cost of equity is always greater than the cost of debt.** When debt is yielding 6.0 percent, as this example assumes, it is obvious that no one would consider investing common equity in an enterprise that has an expected ROE of one percent.

In Figure 2, the shaded area between the two curves represents the area in which the capital structure-ROE combination is sufficient to produce an adequate bond rating, but is inadequate to attract common equity capital on reasonable terms. Thus, **it is critical to distinguish between bond analyses and common equity analyses.**

Figure 2: Difference Between Bond Coverage and Cost of Equity

A: Proxy Co. ROE, associated with Proxy Co. Eq. Ratio

B: Proxy Co. ROE, associated with Eq. Ratio that gives 2.0 Coverage Ratio

4. Cannot Derive Reasonable Equity Ratios from Interest Coverage Ratios

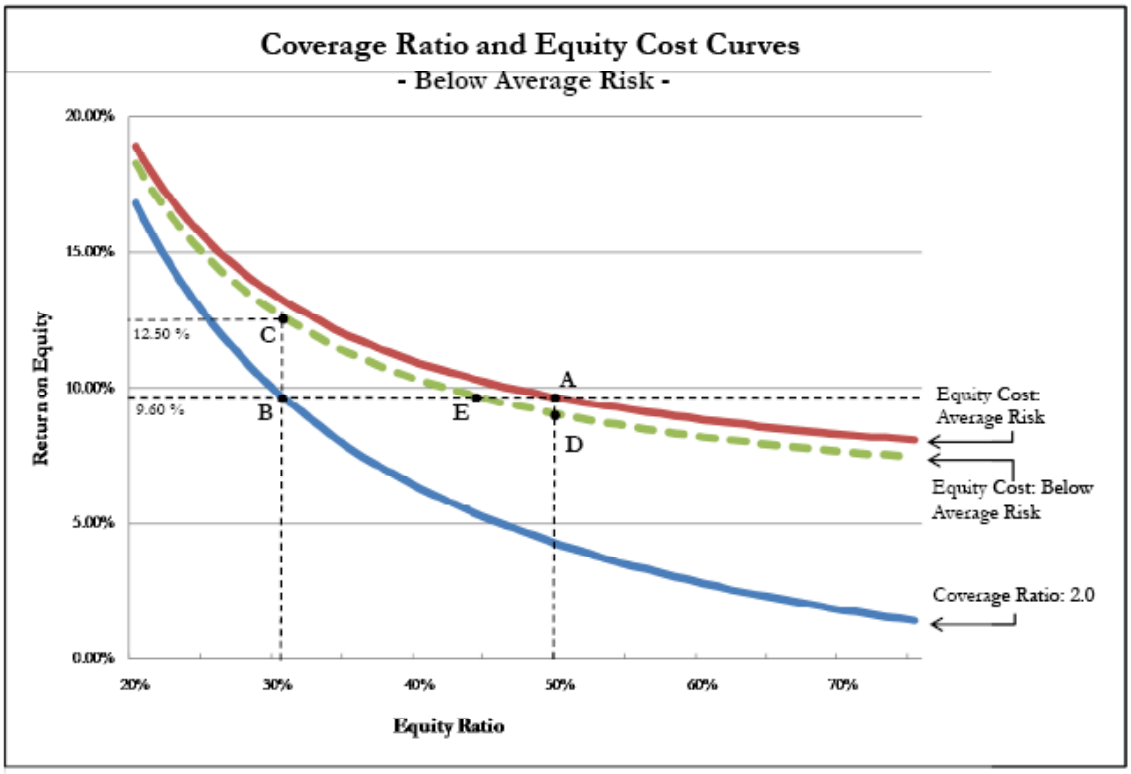
Although an allowed ROE and deemed equity ratio must be adequate to attract debt, as delineated by the Interest Coverage Curve, the correct deemed equity ratios must be determined by applying analytical concepts associated with an Equity Cost Curve. Figure 3 illustrates the conceptual analysis that should be employed if one wants to start with an average ROE and capital structure for a diverse proxy group and then attempt to infer the correct ROE and deemed capital structure for a utility that has below-average risk.

The top curve shown on Figure 3 is the illustrative Equity Cost Curve for the average utility in the proxy group. The middle curve, shown as a dashed line, is the Equity Cost Curve for a utility that has below-average *business* risks. And, the bottom curve is the Interest Coverage Curve for a utility with below-average business risks.

If a rate of return analysis of a group of proxy companies indicates that the cost of common equity is 9.6 percent when the average company has a 50 percent equity ratio, that information would correspond to point "A" on Figure 3. Because point "A" was determined using a cost of equity analysis, it is presumed to be somewhere on the Equity Cost Curve for a hypothetical utility with average risks.

A utility with below-average risks should be on a different Equity Cost Curve that is essentially parallel to, but below and to the left of, the average curve. In Figure 3 the dashed curve represents the Equity-Cost Curve of the below-average utility.

Figure 3: Coverage Ratio and Equity Cost Curves



A: Proxy Co. ROE, associated with Proxy Co. Equity Ratio

B: Proxy Co. ROE, associated with Equity Ratio that gives 2.0 Coverage Ratio

C: Low Risk ROE, associated with same Equity Ratio as point "B"

D: Low Risk ROE, associated with Proxy Co. Equity Ratio

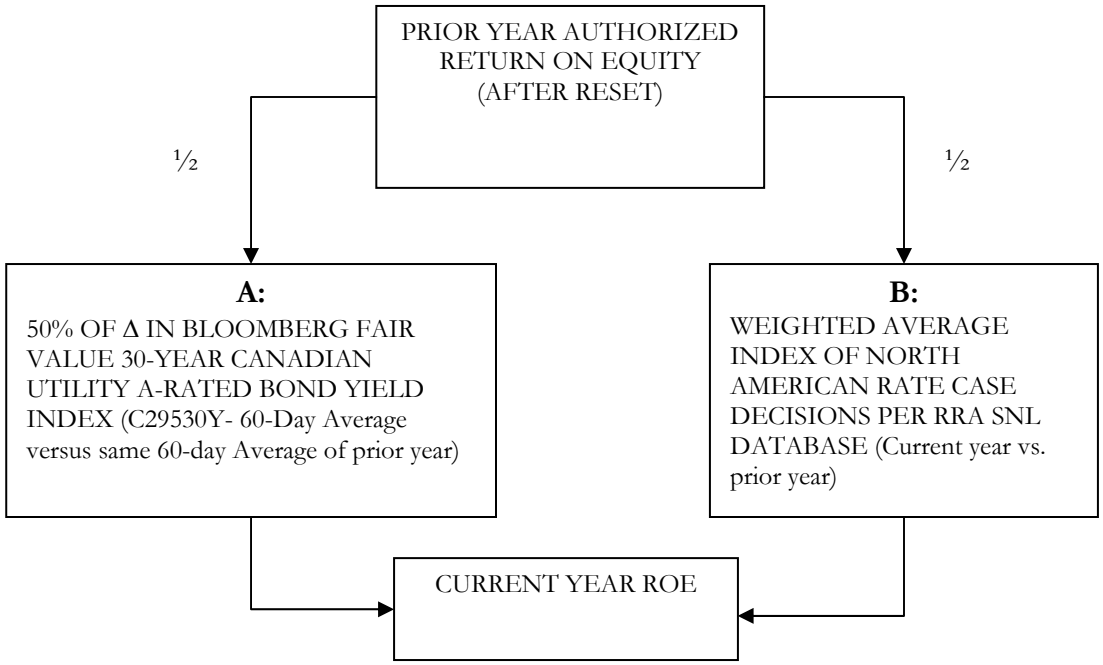
E: Proxy Co. ROE, associated with Low Risk Equity Ratio

Conceptually, there are several ways that one might attempt to use point "A" to determine the required combination of ROE and deemed equity ratio for a utility that has below-average business risks. For example, if one uses point "A" to determine that 9.6 percent is a required ROE for average utilities with a 50 percent equity ratio, one could determine that a below-average utility could achieve an adequate bond rating by moving to point "B" on the Interest Coverage Curve. At point "B" the deemed equity ratio could be approximately 31 percent, but in all likelihood the required ROE would be considerably above point "B." In this example, for utilities with below-average risk, the required ROE would be at point "C" on the Equity-Cost Curve. As shown, an appropriate allowed ROE likely would not fall on both the Interest Coverage Curve and the Equity Cost Curve simultaneously and the Equity Cost Curve would be substantially above the Interest Coverage

Curve. In this example, a 31 percent equity ratio would correspond to a required ROE of approximately 12.5 percent for a utility with below-average business risks.

Appendix C: Proposed Formula Adjustment Mechanism

INPUTS TO THE PROPOSED FORMULA:



PART A: BLOOMBERG 30-YEAR CANADA A-RATED UTILITY BOND INDEX:

The Bloomberg Fair Value Canada 30-Year A-rated Utility (C29530Y) curve is a yield curve based upon the below listed yields and maturities of Canadian dollar-denominated fixed-rate bonds, issued by Canadian utility companies, with ratings of A+, A, A- from S&P, Moody's, Fitch and/or DBRS. The index is not comprised solely of 30-year bonds, but rather is "derived" using an optimization model that solves simultaneously for all yields and maturity points in constructing the term structure of Canadian A-rated utility bond Issuances to best fit the existing bond yield data. The bond yields and maturities listed below serve as inputs to the optimization model and cannot be traced directly to the curve, *i.e.* the specific points on the curve are derived from the optimization model and do not correspond to any specific bond yield. The yields are from the secondary market (not new issues), thereby eliminating the ability of an issuing company to skew results. The same group of bonds is used to derive the Canadian Utility A-rated bond index for each maturity category. As each of the bonds rolls down the curve, new longer maturities are added.

Bloomberg Fair Value Curve - Canada Utility A-Rated			
Utility	**Issue Date**	**Maturity Date**	**Coupon Rate**
Canadian Utilities Ltd.	8/8/1990	8/15/2010	11.40%
Canadian Utilities Ltd.	11/28/1990	11/30/2020	11.77%
Canadian Utilities Ltd.	12/18/1991	4/1/2022	9.92%
Canadian Utilities Ltd.	12/8/1992	5/1/2023	9.40%
CU Inc.	5/16/2000	6/1/2011	7.05%
CU Inc.	11/1/2007	11/1/2012	4.88%
CU Inc.	1/23/2004	1/23/2019	5.43%
CU Inc.	11/20/2006	11/22/2021	4.80%
CU Inc.	3/6/2009	3/6/2024	6.22%
CU Inc.	5/26/2008	5/26/2028	5.56%
CU Inc.	11/18/2004	11/20/2034	5.90%
CU Inc.	11/21/2005	11/21/2035	5.18%
CU Inc.	11/20/2006	11/20/2036	5.03%
CU Inc.	11/1/2007	10/30/2037	5.56%
CU Inc.	3/6/2009	3/7/2039	6.50%
Enbridge Gas Distribution Inc.	12/3/1990	11/30/2010	11.95%
Enbridge Gas Distribution Inc.	4/23/1991	4/15/2011	10.80%
Enbridge Gas Distribution Inc.	11/12/2008	1/29/2014	5.57%
Enbridge Gas Distribution Inc.	9/24/2004	9/24/2014	5.16%
Enbridge Gas Distribution Inc.	12/3/2007	12/4/2017	5.16%
Enbridge Gas Distribution Inc.	12/19/2006	12/17/2021	4.77%
Enbridge Gas Distribution Inc.	7/3/1998	7/5/2023	6.05%
Enbridge Gas Distribution Inc.	11/22/1994	12/2/2024	9.85%
Enbridge Gas Distribution Inc.	10/2/1995	10/2/2025	8.85%
Enbridge Gas Distribution Inc.	10/29/1996	10/29/2026	7.60%
Enbridge Gas Distribution Inc.	11/3/1997	11/3/2027	6.65%
Enbridge Gas Distribution Inc.	11/15/2002	11/15/2032	6.90%
Enbridge Gas Distribution Inc.	12/16/2003	12/16/2033	6.16%
Enbridge Gas Distribution Inc.	2/24/2006	2/25/2036	5.21%
FortisAlberta Inc.	10/25/2004	10/31/2034	6.22%
Gaz Metro Inc.	11/2/1999	11/2/2009	6.95%
Gaz Metro Inc.	10/14/2008	4/15/2013	5.40%
Gaz Metro Inc.	7/10/2006	7/12/2021	5.45%
Gaz Metro Inc.	5/16/1995	5/16/2025	9.00%

Bloomberg Fair Value Curve - Canada Utility A-Rated			
Utility	**Issue Date**	**Maturity Date**	**Coupon Rate**
Gaz Metro Inc.	7/10/2006	7/10/2036	5.70%
Gaz Metro L.P.	10/25/1991	10/31/2016	10.45%
Gaz Metro L.P.	10/26/2000	10/30/2030	7.05%
Gaz Metro L.P.	10/31/2003	10/31/2033	6.30%
Hydro One Inc.	6/1/2000	6/3/2010	7.15%
Hydro One Inc.	11/19/2008	11/19/2010	3.89%
Hydro One Inc.	6/22/2001	12/1/2011	6.40%
Hydro One Inc.	9/17/2002	11/15/2012	5.77%
Hydro One Inc.	11/10/2008	11/12/2013	5.00%
Hydro One Inc.	3/3/2006	3/3/2016	4.64%
Hydro One Inc.	10/18/2007	10/18/2017	5.18%
Hydro One Inc.	6/1/2000	6/3/2030	7.35%
Hydro One Inc.	6/22/2001	6/1/2032	6.93%
Hydro One Inc.	1/31/2003	1/31/2034	6.35%
Hydro One Inc.	5/19/2005	5/20/2036	5.36%
Hydro One Inc.	3/13/2007	3/13/2037	4.89%
Hydro One Inc.	3/3/2009	3/3/2039	6.03%
Hydro One Inc.	4/22/2003	4/22/2043	6.59%
Hydro Ottawa Holdings Inc.	2/9/2005	2/9/2015	4.93%
Newfoundland Power Inc.	8/9/1989	8/1/2014	10.55%
Newfoundland Power Inc.	5/2/1991	5/2/2016	10.90%
Newfoundland Power Inc.	6/15/1992	6/15/2022	10.13%
Newfoundland Power Inc.	10/31/2002	11/1/2032	7.52%
Terasen Gas Inc.	12/3/1990	9/30/2015	11.80%
Terasen Gas Inc.	11/21/1991	9/30/2016	10.30%
Terasen Gas Inc.	9/21/1999	9/21/2029	6.95%
Terasen Gas Inc.	4/29/2004	5/1/2034	6.50%
Terasen Gas Inc.	2/25/2005	2/26/2035	5.90%
Terasen Gas Inc.	9/25/2006	9/25/2036	5.55%
Terasen Gas Inc.	10/2/2007	10/2/2037	6.00%
Terasen Gas Inc.	5/13/2008	5/13/2038	5.80%
Terasen Gas Inc.	2/24/2009	2/24/2039	6.55%
Terasen Gas Vancouver Island Inc.	2/15/2008	2/15/2038	6.05%

PART B: NORTH AMERICAN RATE CASE STATISTICS

The companies included in the SNL RRA database for 2008 are listed below:

Electric Rate Case Statistics Details

State	Company	Case Identification
Arizona	Tucson Electric Power Co.	D-E-01993A-07-0402
Arizona	UNS Electric Inc.	D-E-04204A-06-0783
California	San Diego Gas & Electric Co.	Ap-06-12-009 (elec.)
Connecticut	Connecticut Light & Power Co.	D-07-07-01
District of Columbia	Potomac Electric Power Co.	FC-1053
Hawaii	Hawaiian Electric Co.	D-04-0113
Idaho	Avista Corp.	C-AVU-E-08-01
Illinois	Central Illinois Light Co.	D-07-0585
Illinois	Central Illinois Public	D-07-0586
Illinois	Commonwealth Edison Co.	D-07-0566
Illinois	Illinois Power Co.	D-07-0587
Massachusetts	Fitchburg Gas & Electric Light	DPU-07-71
Michigan	Consumers Energy Co.	C-U-15245
Michigan	Detroit Edison Co.	C-U-15244
Minnesota	Otter Tail Corp.	D-E-017/GR-07-1178
Missouri	Empire District Electric Co.	C-ER-2008-0093
Montana	MDU Resources Group Inc.	D-D2007.7.79
North Dakota	Northern States Power Co. - MN	C-PU-07-776
New Mexico	Public Service Co. of NM	C-07-00077-UT
New Mexico	Southwestern Public Service Co	C-07-00319-UT
Nevada	Sierra Pacific Power Co.	D-07-12001
New York	Consolidated Edison Co. of NY	C-07-E-0523
New York	Orange & Rockland Utlts Inc.	C-07-E-0949
Oregon	Portland General Electric Co.	D-UE-197
Utah	PacifiCorp	D-07-035-93
Virginia	Appalachian Power Co.	C-PUE-2008-00046
Vermont	Central Vermont Public Service	D-7321
Washington	Avista Corp.	D-UE-08-0416
Washington	Puget Sound Energy Inc.	D-UE-07-2300
Wisconsin	Northern States Power Co - WI	D-4220-UR-115 (elec)
Wisconsin	Wisconsin Electric Power Co.	D-5-UR-103 (WEP-EL)
West Virginia	Appalachian Power Co.	C-08-0278-E-P
Wyoming	PacifiCorp	D-20000-277-ER-7

Natural Gas Rate Case Statistics Details

State	Company	Case Identification
Arizona	Southwest Gas Corp.	D-G-01551A-07-0504
California	San Diego Gas & Electric Co.	AP-06-12-009 (gas)
California	Southern California Gas Co.	AP-06-12-010
California	Southwest Gas Corp.	A-07-12-022 (SoCalDiv)
California	Southwest Gas Corp.	A-07-12-022 (NoCalDiv)
California	Southwest Gas Corp.	A-07-12-022 (LkTah)
Colorado	SourceGas Distribution LLC	D-08S-108G
Delaware	Chesapeake Utilities Corp.	D-07-186
Georgia	Atmos Energy Corp.	D-27163-U
Idaho	Avista Corp.	C-AVU-G-08-01
Illinois	Central Illinois Light Co.	D-07-0588
Illinois	Central Illinois Public	D-07-0589
Illinois	Illinois Power Co.	D-07-0590
Illinois	North Shore Gas Co.	D-07-0241
Illinois	Peoples Gas Light & Coke Co.	D-07-0242
Indiana	Indiana Gas Co.	Ca-43298
North Carolina	Piedmont Natural Gas Co.	D-G-9, Sub 550
North Carolina	Public Service Co. of NC	D-G-5, Sub 495
New Jersey	New Jersey Natural Gas Co.	D-GR-07110889
Ohio	Columbia Gas of Ohio Inc	C-08-0072-GA-AIR
Ohio	Duke Energy Ohio Inc.	C-07-0589-GA-AIR
Oregon	Avista Corp.	D-UG-181
Rhode Island	Narragansett Electric Co.	D-3943
Texas	Atmos Energy Corp.	GUD-9762
Texas	CenterPoint Energy Resources	GUD 9791
Utah	Questar Gas Co.	D-07-057-13
Washington	Avista Corp.	D-UG-08-0417
Washington	Northwest Natural Gas Co.	D-UG-08-0546
Washington	Puget Sound Energy Inc.	D-UG-07-2301
Wisconsin	Northern States Power Co - WI	D-4220-UR-115 (gas)
Wisconsin	Wisconsin Electric Power Co.	D-5-UR-103 (WEP-GAS)
Wisconsin	Wisconsin Gas LLC	D-5-UR-103 (WG)