Volume 3, Section 1 – McShane, Cost of Capital

Q. (pages 50 and 51, page 37, lines 1008-1010, and page 47, lines 1280-1285)

a. Please explain why Ms. McShane thinks that it is valid to insert Canadian data input values into equity risk premium (ERP) regression models derived from U.S. data, especially when she has already acknowledged, at lines 1008-1010 on page 37, that historically there have been significant differences between Canadian and U.S. ERPs, and, on page 47 at lines 1280-1285, significant differences between Canadian and U.S. utility ERPs.

b. Generally speaking, when a time-series regression model is specified using a particular set of input data, the same data, or projections of the same data, are inputted to make estimates of future values for the dependent variables. For the referenced regressions on pages 50 and 51, Ms. McShane has not followed this standard procedure. Would Ms. McShane justify her unusual, if not invalid, statistical procedure?

c. Is it not true that the whole pseudo-scientific analysis outlined on pages 50 and 51 is simply a "smoke screen" for appearing to legitimize the proposition that, because U.S. utilities have historically had higher ERPs than those enjoyed by Canadian rate-regulated utilities, Canadian regulatory boards should simply raise the ERP awards for Canadian utilities to match those in the U.S. - regardless of the differences between the Canadian and U.S. environment?

A. (a) The passages cited in the question reference historic achieved equity risk premiums. With regard to the equity risk premiums for the overall market, the difference in the historical risk premiums between Canada and the U.S. is approximately 50% due to materially higher government bond yields in Canada, which has not been the case since 1997. The lower achieved utility risk premiums in Canada have been entirely attributable to higher bond yields and returns in Canada, not the level of the utility stock returns themselves. The adoption of inflation targets in 1991 and the dramatic improvement in the country's fiscal position over the past business cycle have resulted in interest rates that have more closely tracked U.S. rates, making the relationship between DCF costs for comparable risk U.S. utilities and Treasury bond yields a reasonable proxy for the risk premium for Canadian utilities going forward.

(b) See last sentence of response to 283 (a). As noted at p. 37 of Ms. McShane's evidence, the long-term forecasts of Canadian and U.S. government bond yields are within 20 basis points of each other. In addition, spreads between Canadian A rated utility bonds and Government of Canada bonds are similar to the corresponding spreads in the U.S. Prior to the elimination of the Foreign Property Rule (FPR) in Canada, the Canadian utility spreads were lower than the corresponding U.S.spreads, reflecting the then closed nature of the fixed income market in Canada. With the elimination of the FPR, and greater opportunities for fixed income investments by

Canadian investors, future spreads in Canada are more likely to track U.S. spreads than in the past.

(c) No. With respect to the implication that the Canadian and U.S. utilities are not comparable, please see Attachment A which is a study prepared for the Ontario Energy Board by Concentric Energy Advisors entitled A Comparative Analysis of Return on Equity of Natural Gas Utilities, dated June 14, 2007, whose conclusions include:

> Beyond the important interest rate determinant, this report looks to the companies themselves, as well as the jurisdictions and countries in which they operate, to determine whether there are any fundamental differences between Ontario gas utilities and those in the U.S. that would further explain ROE differences. While the specific characteristics of individual gas utilities and their respective regulatory environments can lead to differences in allowed returns, there are no apparent fundamental differences between gas utilities in Ontario and those of the U.S. that would cause the sizable gap in ROEs. In other words, taken as a whole, U.S. gas utilities are not demonstrably riskier than Canadian gas utilities. (Page 2)
>
> As a result of the interplay between the Canadian and U.S. markets, Canadian utilities compete for capital essentially on the same basis as utilities in the U.S. In the current market environment, no fundamental differences were identified that would indicate a significant difference in investor required returns between the two markets. (Page 3)

Concentric Energy Advisors
A Comparative Analysis of Return on Equity of Natural Gas Utilities

A COMPARATIVE ANALYSIS OF RETURN ON EQUITY OF NATURAL GAS UTILITIES

Prepared for:

The Ontario Energy Board

June 14, 2007

CONCENTRIC ENERGY ADVISORS

313 Boston Post Road West, Suite 210
Marlborough, MA 01752
508.263.6200 • 508.303.3290 *fax*
www.ceadvisors.com

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APPENDICES

Disclaimer:

The views expressed in this report are those of Concentric Energy Advisors and do not necessarily represent the views of, and should not be attributed to, the Ontario Energy Board, any individual Board Member, or Board staff.

I. INTRODUCTION

The Ontario Energy Board (the "Board" or "OEB") retained Concentric Energy Advisors ("CEA") pursuant to Request for Proposal ("RFP") RFPOEBRPD2007-0227, "A Review of the Return on Equity of Gas Utilities in Ontario". The Board indicated in the RFP that it was interested in investigating statements from natural gas utilities that the Return on Equity ("ROE") awards in Ontario are lower than those of surrounding jurisdictions. To perform this investigation, the Board has requested a report that provides a comparison of awarded ROEs in other jurisdictions to those awarded in Ontario, including an analysis of the forces that contribute to those differences. Specifically, the OEB requested a written report that:

(1) Compares recent ROE awards in jurisdictions outside of Ontario to those awarded by the Board for natural gas utilities in the Province;

(2) Provides a review and analysis of whether Canadian utilities compete for capital on the same basis as utilities in the U.S.; and

(3) Addresses whether stand-alone companies compete for capital on the same basis as subsidiaries of larger holding companies.

This report provides CEA's analysis and findings related to these topics. Throughout the analysis, the focus is on similarities and differences between Canadian and U.S. companies, as Canada and the U.S. are generally considered to be highly comparable from a business standpoint and have fairly integrated economies. To provide additional perspective, CEA has also conducted a limited survey of ROE awards and methodologies for gas utilities in the U.K., Australia, and the Netherlands.

CEA's research for this report is based on publicly available data, supplemented by interviews with knowledgeable sources regarding specific features of Ontario's gas utility regulation. The report is not intended to be a comprehensive examination of the ROE for any specific company, but rather an overall examination of the major factors contributing to differences between ROE awards in Ontario and those in other jurisdictions.

II. EXECUTIVE SUMMARY

A gap between allowed ROEs for Ontario gas distribution companies and U.S. gas utilities has developed over the last ten years, coincident with the implementation of the Board's "Draft Guidelines on a Formula-Based Return on Common Equity for Regulated Utilities" in 1997. The current ROE differential between Canada and the U.S. is in the range of 1.50 percent to 2.00 percent (*i.e.*, 150 to 200 basis points). The purpose of this report is to examine the factors leading to this difference in allowed returns.

To begin, CEA examines the historical, pre-1997 relationship between allowed ROEs in Ontario and those found in the U.S. This comparison suggests that ROEs were in approximate parity in 1997. Thereafter, a widening gap has developed placing Ontario ROEs below those in the U.S. CEA's analysis points to interest rate trends combined with differing ROE methodologies as the principal factors underlying this development. The relative decrease in allowed returns in Canada is directly related to the past ten-year decline in interest rates, and all else remaining equal, can be expected to narrow or reverse itself in a period of rising interest rates.

Beyond the important interest rate determinant, this report looks to the companies themselves, as well as the jurisdictions and countries in which they operate, to determine whether there are any fundamental differences between Ontario gas utilities and those in the U.S. that would further explain ROE differences. While the specific characteristics of individual gas utilities and their respective regulatory environments can lead to differences in allowed returns, there are no apparent fundamental differences between gas utilities in Ontario and those of the U.S. that would cause the sizable gap in ROEs. In other words, taken as a whole, U.S. gas utilities are not demonstrably riskier than Canadian gas utilities.

CEA also extends the analysis beyond Canada and the U.S., to determine whether other countries, specifically the U.K., Australia, and the Netherlands, might form an adequate basis of comparison and thus allow for a larger population of comparable companies. While the gas markets in these countries bear certain resemblances to those of Canada and the U.S., there are a few substantial differences that weaken the comparison. Thus, allowed returns in

these countries are not considered adequate benchmarks against which to examine ROEs in Ontario.

As a result of the interplay between the Canadian and U.S. markets, Canadian utilities compete for capital essentially on the same basis as utilities in the U.S. In the current market environment, no fundamental differences were identified that would indicate a significant difference in investor required returns between the two markets. Capital flows efficiently between these two markets, and over the long-term, equity investors earn nearly identical returns. On the issue of subsidiaries competing for capital we find that subsidiaries of larger holding companies ultimately compete for capital much like stand alone companies, as they must compete among their affiliates for parental investment. Nonetheless, the parental obligation to invest necessary capital to maintain system integrity will typically provide the wholly owned subsidiary sufficient capital to sustain operations, where no such provision exists for stand alone utilities. Over time, however, the equity returns must ultimately reward the parent or investor at the same rate as a similar investment of comparable risk. This "comparability standard" is a guiding principle in both Canadian and U.S. utility regulation.

It is important to note that this report does not attempt to estimate the "correct" ROE for the Ontario gas distributors, nor does it discuss which ROE calculation methodology or rate-setting approach is most appropriate for the Province. Lastly, no suggestions regarding future policy are proposed. Rather, this report quantifies the differences in existing allowed ROEs between jurisdictions and countries, and discusses the factors that most likely explain the disparity.

The information provided in this report is based on independent research and analysis of publicly available information, but is also guided by interviews with, and documentation provided by, key market participants and regulatory agencies, including the OEB, the National Energy Board ("NEB"), representatives from Union Gas ("Union"), Enbridge Gas Distribution ("Enbridge"), and other Canadian gas distributors, the Canadian Gas

Association ("CGA"), an industry analyst, and individuals who have represented customer groups and other interested parties in prior ROE proceedings.

Remainder of the Report

The remainder of this report is made up of five sections. Section III provides background on the theory and practice of ROE, including the applicable precedent and approaches used by various regulatory boards in Canada, the U.S., and the other countries studied. Section IV contains a discussion of ROE methodologies and a comparison of awards across different jurisdictions, as well as an assessment of risk factors for the companies in the sample population, and a discussion of what significant differences exist between gas distributors in Ontario and those in other jurisdictions. Section V presents a discussion of competition for capital in Canada versus the U.S., and in Section VI we provide a comparable assessment of stand-alone versus subsidiary companies. Section VII contains our overall conclusions.

III. ROE BACKGROUND

The setting of ROE, as a component of the rate of return on rate base for a regulated entity such as a natural gas distributor, meets three essential objectives: (1) to provide a return consistent with other businesses having similar or comparable risks; (2) to be adequate to support credit quality and access to capital; and (3) to balance investor and consumer interests. A return that is adequate to attract equity capital at reasonable terms enables the utility to provide safe, reliable service while maintaining its financial integrity and providing just and reasonable rates. The ROE should be commensurate with the risks incurred by investors and comparable to the returns available elsewhere in the market for investments of equivalent risk. If a utility is allowed to earn its fair and reasonable ROE, both ratepayers and investors should benefit.

ROE Precedent:

The Supreme Court of Canada set out the fundamental requirements that a fair and reasonable return on capital should be met in its decision *re.: Northwestern Utilities vs. City of Edmonton,* 1929. As stated by Mr. Justice Lamont in that case:

> The duty of the Board was to fix fair and reasonable rates; rates which, under the circumstances, would be fair to the consumer on the one hand, and which, on the other hand, would secure to the company a fair return for the capital invested. By a fair return is meant that the company will be allowed as large a return on the capital invested in its enterprise (which will be net to the company) as it would receive if it were investing the same amount in other securities possessing an attractiveness, stability and certainty equal to that of the company's enterprise…. [1]

The NEB has further summarized its view that the fair return standard can be met by fulfilling three particular requirements. Specifically, a fair or reasonable return on capital should:

- Be comparable to the return available from the application of the invested capital to other enterprises of like risk (the comparable investment standard);
- Enable the financial integrity of the regulated enterprise to be maintained (the financial integrity standard); and

[1] Northwestern Utilities v. City of Edmonton [1929] S.C.R. 186 (NUL 1929).

- Permit incremental capital to be attracted to the enterprise on reasonable terms and conditions (the capital attraction standard).[2]

For a more detailed discussion of significant ROE-related decisions in Canada and the U.S., please see Appendix C to this report.

In Canada, the NEB regulates interprovincial and international pipelines, and thus determines the allowed ROEs for pipeline companies. Regulatory boards at the provincial level, such as the OEB, regulate Canadian local distribution companies ("LDCs"). Similarly, in the U.S., the Federal Energy Regulatory Commission ("FERC") regulates energy-related interstate commerce, while state boards are responsible, for the most part, for the regulation of U.S. LDCs.

Over the past decade, the formulas used to determine ROE awards by the NEB and the Canadian provinces (including Ontario) have largely utilized the "risk premium" method. The basic mechanism involves summing the forecasted yield for the long Government of Canada bond (30-year) for the test year with an equity risk premium. Subsequent adjustments to the ROE are based upon the application of an adjustment factor (*e.g.*, 75 percent) to the year-over-year change in the long-term forecasted bond yield. This adjustment is added to/subtracted from the previous year's rate of return, to obtain the current year's ROE. The long-term bond yield forecast is determined by taking the average of the three month and twelve month 10-year Canadian Bond forecasts plus a historical yield spread between the ten-year and thirty-year bonds.

By contrast, ROEs in the U.S. are more typically determined through rate proceedings in which a variety of analytical techniques, including the Discounted Cash Flow ("DCF") Model (single and multi-stage), the Capital Asset Pricing Model ("CAPM"), risk premium, and comparable earnings analyses, are presented. The state utility commission or FERC (for cases involving interstate commerce) ultimately decides the ROE of the subject utility based upon the evidence in the proceeding.

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[2] Reasons for Decision, TransCanada PipeLines Limited, RH-2-2004, Phase II, April 2005, Cost of Capital.

While this report focuses on companies in Canada and the U.S., for further comparison it also provides a high level review of the methodologies for setting returns and the resulting ROEs in the U.K., Australia, and the Netherlands.

U.K.

In the U.K., the Office of Gas and Electricity Markets ("Ofgem") has adopted a price control, or "price cap", method for regulation of gas distributors. An alternative approach to rate-of-return regulation, the price-cap methodology allows for price increases owing to inflation, but also accounts for increases in productivity by the utilities, and shares those benefits with ratepayers. Under the price control, the Ofgem, the U.K.'s regulatory body, sets the initial base price of the utilities assets for a five year period. Price caps and related mechanisms are also utilized selectively in U.S. jurisdictions and in Canadian provinces.

One aspect of calculating the initial price level in the U.K. is to determine the cost of capital for the utilities. In 2000/2001, Ofgem set the cost of capital (utilizing the CAPM method to calculate the equity return component of the cost of capital) for the only gas distribution company existing as of that date (National Grid). National Grid has since divested four of its eight distribution networks, but the price controls have been maintained for the new owners. The 2000/2001 price control was to be in place from 2001 to 2006, but was recently extended through 2008. The ROEs for the U.K. gas distributors are provided in Table 4 of this report.

Australia

In Australia, the local gas distribution networks are regulated by each state's applicable regulatory commission. Most Australian states surveyed operate in a restructured gas market, in which the regulator has committed to retail competition and has unbundled (segregated) the utility's distribution function from the natural gas supply function. Similar to Ontario, utilities in these jurisdictions must compete with gas marketers for retail customers, and are often 'providers of last resort'. Gas distribution companies are subject to

price caps, with an annual adjustment for changes in inflation and productivity. For most jurisdictions the prices are reviewed every five years.

In Australia, the CAPM is heavily relied upon when setting the ROE component of the cost of capital. While in most instances the regulatory commissions focus on the overall cost of capital (as opposed to separately reporting the debt and equity returns, along with the capital structure), it is possible to apply the CAPM to calculate the implicit ROE utilizing the given parameters, as provided in Table 4.

Netherlands

In the Netherlands, there are 12 regional gas network companies, the vast majority of which are owned by municipalities. Gas distribution companies' rates are subject to price caps, with annual adjustments for inflation and changes in productivity. The Netherlands employs a "yardstick regime", whereby each company's rates for an upcoming period are dependent on overall industry averages for items such as costs and quality of service. The most recent price cap period in the Netherlands was for the period 2005 through 2007. The Netherlands Competition Authority ("NCA") released a report in December 2005 detailing the NCA's proposed methodology for setting the cost of capital for the next price cap period. In that report, the NCA stated, "the price cap to promote operational efficiency has the aim, amongst others, of ensuring that network managers in any event cannot obtain a return which is higher than that which is usual within the economy and ensuring that equivalent efficiency is promoted amongst network managers."[3]

In the Netherlands, the ROE component of the allowed cost of capital, as proposed by the NCA, is determined using the CAPM methodology. In its report, the NCA suggested a range of values for the various inputs of the CAPM, including an equity risk premium of between 4.0 percent and 6.0 percent, a Beta of between 0.47 and 0.74, and a risk-free rate of 3.8 percent to 4.3 percent, based on ten-year government bonds. Interestingly, in developing the Beta estimate, the NCA used a proxy group of comparison companies that included

[3] Netherlands Competition Authority, "Consultation Document on the Cost of Capital for Regional Network Managers," December 2005, at p. 6.

Australian, Canadian, Spanish, U.K., and U.S. companies. The resulting range of ROEs is provided in Table 4 to this report.

IV. COMPARISON OF ROE METHODOLOGIES AND AWARDS

Discussion of ROE Methodologies:

Methodological approaches differ in determining ROE, but the primary drivers of investor returns (interest rates and risk) are represented in each alternative methodology. While the scope of this report does not include an analysis of the merits or appropriateness of each methodology, it is useful to understand the differing influences of alternative methodologies. Ideally, alternative methodologies would yield comparable results. However, some methods are more influenced by certain economic and business specific factors than others. For example, the DCF approach is the predominant approach for setting ROEs in the U.S. Under this approach, the ROE is determined by adding the expected dividend yield to the long term projected growth in dividends. That formula is the functional equivalent of the rate of return on equity, which when used to discount the expected cash flows associated with stock ownership (*i.e.*, the receipt of dividends in perpetuity), yields the current stock price (typically measured as an average over a reasonable period of time). Under the DCF approach, therefore, the ROE result is a function of annualized dividends, current stock prices, and anticipated long term growth.

The CAPM is a risk premium approach that specifies the required ROE for a given security as a function of the risk free rate of return, plus a risk premium that represents the non-diversifiable (sometimes referred to as "systematic") risk of the security. Non-diversifiable risk represents the variability in returns of a given security due to the combined macroeconomic forces in the economy. The fundamental notion underlying the CAPM is that risk adverse investors will require higher returns for assuming additional risk. This non-diversifiable risk is measured in terms of a company's Beta, or the covariance of the subject company's return relative to the broader market. Beta, therefore, is a measure of the extent to which the Company's returns are influenced by the same macroeconomic risks as the broader market, and thus can not be reduced by diversification. The CAPM formula is given by the following equation:

$$k_e = r_f + \beta (r_m - r_f)$$

The risk premium (r_m - r_f) portion of the CAPM is generally determined by subtracting the historical risk free rate from historical market returns.[4] The resulting ROE derived by the CAPM approach is driven by the current level of interest rates and the historical relationship between equity returns and risk free investments for the broader market.

An alternative equity risk premium approach is generally a statistically derived measure of the linear historical relationship between interest rates and the equity risk premium for the specific industry sector. Generally, for regulated utilities, this risk premium is calculated as the difference between authorized returns and the prevailing corporate or risk free bond yield. Using a corporate bond rate, the risk premium and recommended ROE would be given by the following formulas.

$$RP = a + (X_{RP} \times b_c), \text{ and}$$

$$k_e = b_c + RP$$

Where:

- RP = the risk premium
- a = the constant term in determining the risk premium, derived using an ordinary least squares regression model
- X_{RP} = the slope coefficient for the change in risk premium for a given change in the bond yield (this is generally negative indicating an inverse relationship), and
- b_c = the corporate bond yield.

As this formula indicates, the risk premium is a function of interest rates. Generally, as can be observed in U.S. and Ontario data, the risk premium decreases as interest rates increase. The resulting impact on ROE takes into account both the change in interest rates and the effect on the risk premium. With the typical estimation of this model, as interest rates change, the ROE changes by only a fraction of the change.

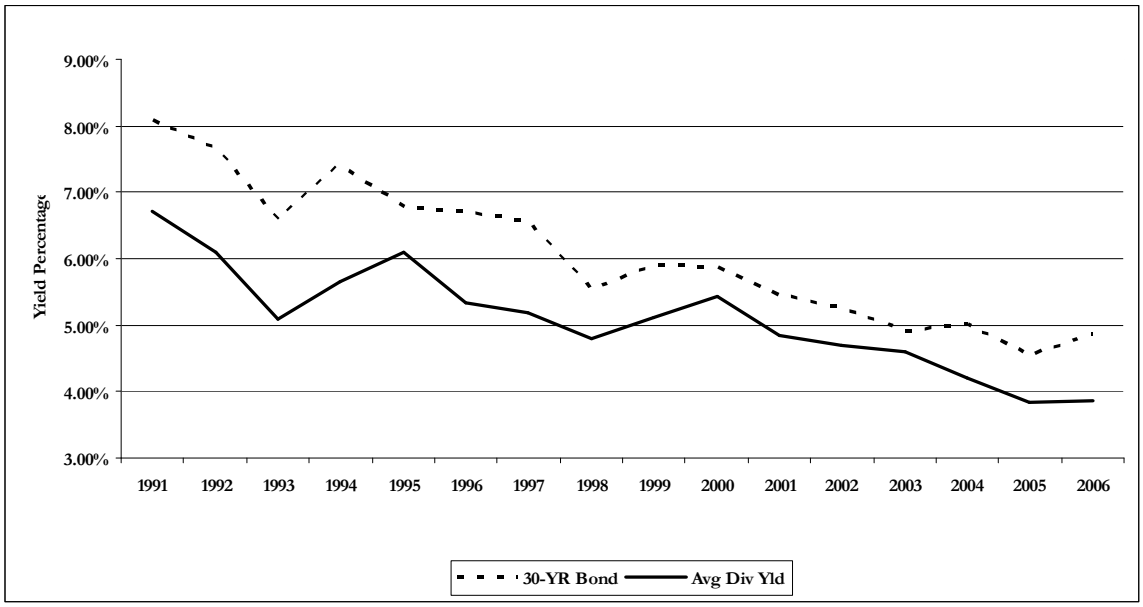
To understand why ROEs resulting from the DCF method might differ from a risk premium approach, such as the mechanism employed by the OEB, or a CAPM or other

[4] It should be noted that the determination of the market equity risk premium is a hotly contested subject among experts and academics. There are several competing theories as to what the appropriate forward looking equity risk premium should be.

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.

CHART 1: COMPARISON OF U.S. GAS UTILITY DIVIDEND YIELDS AND U.S. 30-YEAR BOND YIELDS FOR THE PERIOD 1991 – 2006[5]



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.

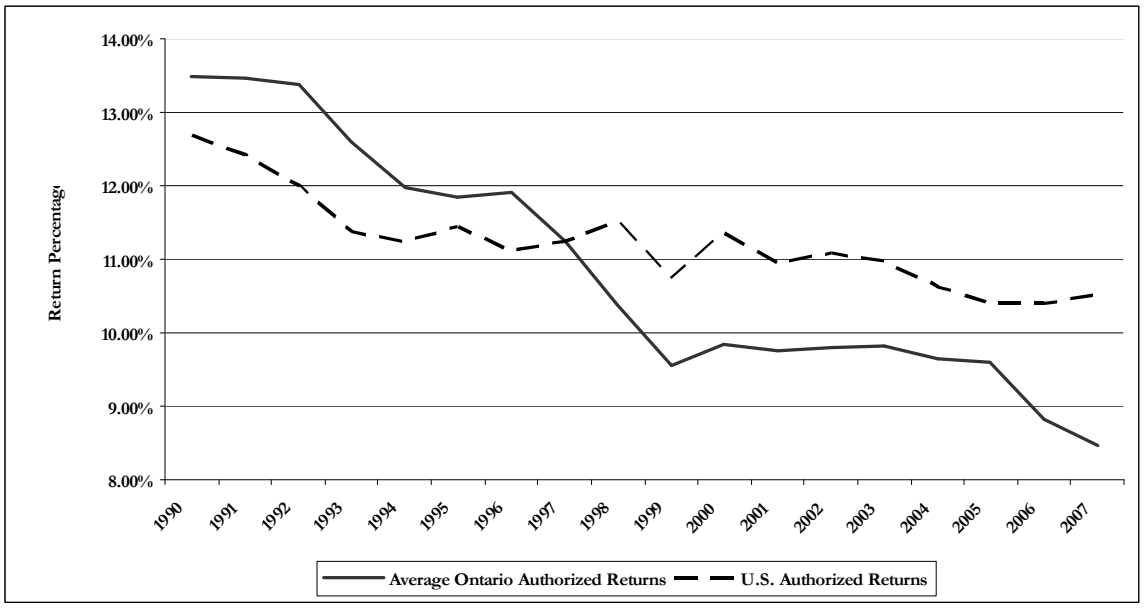
[5] Dividend yields are represented for the average of all 15 natural gas distribution utilities covered by the Value Line Investment Survey's March 16, 2007 publication. 30-Year Treasury bond yields obtained from Yahoo! Finance.

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.

Comparison of U.S. and Ontario Risk Premium Models

U.S. authorized returns and Ontario authorized returns were virtually in parity at the time the OEB implemented the ROE adjustment mechanism in 1997. Subsequently, U.S. and Canadian bond yields have declined significantly, and correspondingly the respective authorized returns declined as well. For example, the Canadian Long Bond yield decreased from 10.69 percent to 4.18 percent from 1990 to 2007, a difference of 651 basis points. The U.S. 30-year Treasury yield decreased from 8.62 percent to 4.81 percent, for the same period, a drop of 381 basis points. As shown in Chart 2, the more exaggerated decline in the Canadian Long Bond yield, coupled with the greater interest rate sensitivity of the OEB's ROE adjustment mechanism (discussed in further detail below), has led to a greater drop in Canadian authorized returns relative to U.S. authorized returns.

CHART 2: U.S. AUTHORIZED RETURNS VS. ONTARIO AUTHORIZED RETURNS – GAS DISTRIBUTION UTILITIES 1990 - 2007[6]



The OEB mechanism for adjusting ROE is most closely related to the previously described risk premium approach. By definition, the adjustment factor of 0.75 for a given change in interest rates implies that Ontario authorized ROEs are highly correlated to changes in bond yields and that the risk premium moves inversely to interest rates by a factor of 0.25 (1 - 0.75). Table 1 shows an illustrative example of how the OEB formula is applied.

[6] Authorized return data for the Ontario Utilities was provided by the respective Ontario utilities. Return data was available for Union Gas and Enbridge from 1985-2007. Return data was available for Centra from 1990-1997, prior to its consolidation with Union in 1997. Average annual U.S. authorized return data was available for the period 1990-2007, per RRA Associates, through the SNL database.

TABLE 1: MOST RECENT ROE AWARDS FOR ONTARIO GAS UTILITIES

	OEB Adjustment Mechanism
Allowed ROE for test year 1	9.78%
Test Year 2 Long Canada forecast (30-year)	4.00%
Test Year 1 Long Canada forecast (30-year)	5.00%
Change in Interest Rates	-1.00%
Adjustment Factor/Slope Coefficient	0.75
Adjustment to ROE	-0.75%
ROE for Test Year 2	9.03%

An analysis of historical authorized returns in Ontario prior to the implementation of the ROE adjustment formula (from 1985 through 1997), reveals that authorized returns exhibited greater sensitivity to changes in interest rates than the currently prescribed 0.75 adjustment factor inherently assumes.[7] In the U.S., the risk premium has been more sensitive to changes in interest rates such that ROEs themselves are less affected by changes in long-term interest rates.

To understand the historical relationship of long term bond yields and authorized returns in the U.S. and Ontario, a series of regressions were performed on Ontario and U.S. data, using similar parameters. The first regression described the relationship of the risk premium for regulated utilities as a function of prevailing long term bond yields. The annual risk premium was derived by subtracting the annual average long term bond yield from the concurrent average authorized return. The second regression model described the relationship of the respective authorized return (as opposed to the risk premium) as a function of the prevailing long term bond yield. The time period reviewed for the Ontario utilities was prior to the OEB's implementation of its mechanical ROE formula, from 1985 to 1997. This time period was selected in order to characterize the relationship of Ontario authorized returns and bond yields, without respect to the returns produced by the adjustment mechanism

7 Prior to 1997, per the Board's "Draft Guidelines on a Formula-Based Return on Common Equity for Regulated Utilities", at page 2, ROE for gas distributors in Ontario was set much the same as it is in the U.S. today, through rate proceedings. In the rate proceedings leading up to the "Draft Guidelines" issuance, "experts relied principally on [the equity risk premium approach], followed by [the comparable earnings approach] and then DCF. The CAPM is typically given the least weight, if it is relied on at all." [Clarification added].

subsequent to 1997. Similar analyses were performed on U.S. data, although the time period selected for the U.S. models was from 1990 to 2007. Though the autocorrelation present in these data sets would prohibit the inference of the impact on ROE of a given change in bond yields (at a 95 percent confidence level), the results do provide descriptive insight as to the historical relationship between interest rates and authorized returns in each market.[8] The results of these regression models are provided in Table 2:

TABLE 2: REGRESSION RESULTS – RISK PREMIUMS AND AUTHORIZED RETURNS AS A FUNCTION OF BOND YIELDS – ONTARIO VS. U.S.

	Intercept	t-stat$_\alpha$	X	t-stat$_x$	R^2
Risk Premium Regression Model = Intercept + (X * bond yield) = Risk Premium					
Ontario Data from 1985 – 1997	0.0546	3.1822	-0.1383	-0.7402	0.0474
U.S. Data from 1990 – 2007	0.0838	22.2059	-0.5365	-8.8984	0.8214
Authorized Return Regression Model = Intercept + (X * bond yield) = Authorized Return					
Ontario Data from 1985 – 1997	0.0546	3.1822	0.8617	4.6132	0.6593
U.S. Data from 1990 – 2007	0.0838	22.2059	0.4635	7.6862	0.7869

As the regression results illustrate, both the U.S. and the Ontario risk premiums reflect negative coefficients implying that changes in the risk premium have been inversely related to changes in interest rates. However, the Ontario risk premium coefficient is associated with a low level of statistical confidence. The Ontario risk premium coefficient is informative, however, in that it has a much weaker relationship to interest rates than is the case in the U.S., *i.e.*, -0.14 (and insignificant) in Ontario versus -0.54 in the U.S.

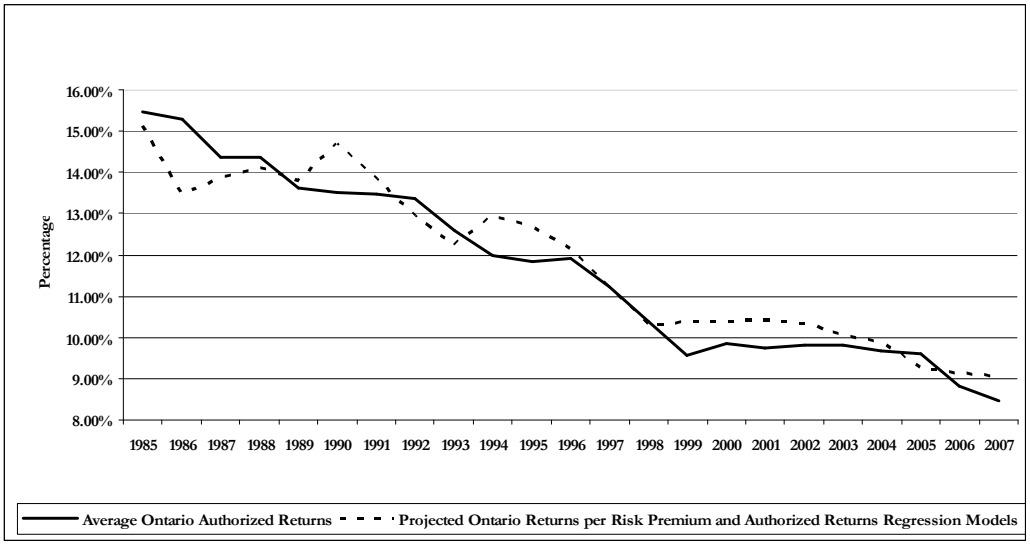
While the Ontario risk premium appears to have a much weaker link to interest rates than in the U.S., the Ontario authorized returns appear to have been more sensitive to interest rate fluctuations than in the U.S. The regression results above imply differences in interest rate sensitivity of the two models in that the variable coefficient for interest rates in the Ontario

[8] *See* Plane and Oppermann, Business and Economic Statistics, Revised Edition at 395, where the authors state: "…There is one particular difficulty that arises in the analysis of time series that limits many of the techniques of statistical inference …. The difficulty is that the individual observations in a time series often depend on previous observations….This phenomenon, called serial correlation, causes most time series to be descriptive rather than inferential."

model is 0.86 where as the U.S. coefficient is 0.46. (That is, for every one percentage point change in interest rates, the Ontario ROEs change by 86 basis points while U.S. ROEs change by 46 basis points).

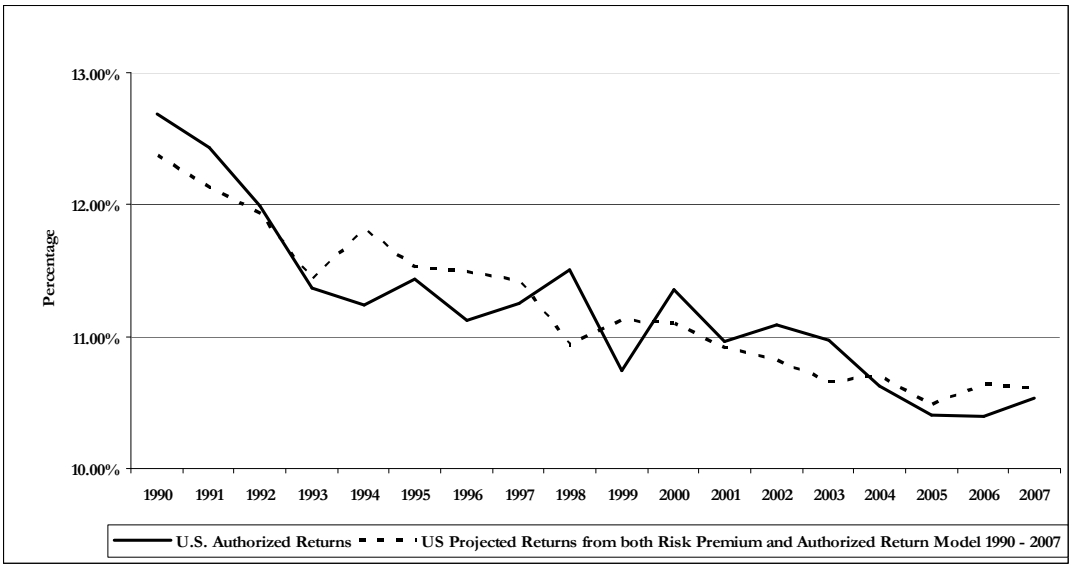
To assess whether the above regression models are informative in projecting authorized returns, CEA back-tested each of the models against actual data. Below are graphs for the U.S. and Ontario authorized returns that compare the actual returns to the estimated returns based on the respective Ontario and U.S. regression models. Charts 3 and 4 illustrate this comparison, showing that both regression models reasonably describe respective U.S. and Ontario authorized return issuances by the level of long term government bond yields, and may be informative in estimating the level of returns that would typically be authorized in each country for a given level of interest rates.

CHART 3: AVERAGE ONTARIO AUTHORIZED RETURNS VS. PROJECTED RETURNS PER REGRESSION MODEL – GAS DISTRIBUTION UTILITIES 1985 - 2007[9]



[9] Authorized return data for the Ontario Utilities was provided by the respective Ontario utilities. Return data was available for Union Gas and Enbridge from 1985-2007. Return data was available for Centra from 1990-1997, prior to its consolidation with Union in 1997. Canadian Long Bond data was obtained from the Bank of Canada.

CHART 4: AVERAGE U.S. ACTUAL AUTHORIZED RETURNS VERSUS PROJECTED RETURNS PER REGRESSION MODEL 1990 - 2007[10]

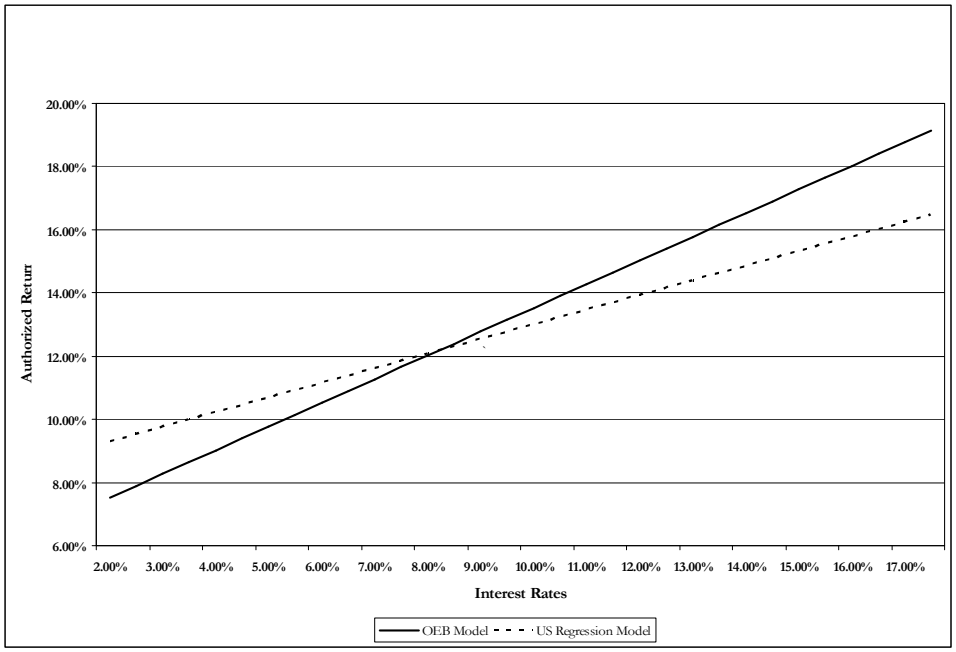


To summarize, the OEB's factor of 0.75 used in its automatic ROE adjustment mechanism is reasonably close to what the above analysis on Ontario data suggests is the historical relationship between Canadian Long Bonds and gas utility authorized returns. Specifically, the above analysis suggests these variables are historically correlated by a factor of 0.86 in contrast to the 0.75 used in the OEB adjustment formula. These results differ markedly from the model describing U.S. data, which suggests a coefficient between authorized returns and interest rates of 0.46. The reason for the difference between the Ontario coefficient of 0.86, implied by the regression model, and the historical U.S. implied factor of 0.46, is subject to speculation, but may be due in part to Canada's historical reliance on the risk premium approach in establishing authorized ROEs, as well as the use of a test year and less frequent ROE determinations in the U.S. (as opposed to the more frequent ROE determinations in Ontario). However, the difference in the interest rate sensitivity explained by the U.S. regression model and the Ontario adjustment mechanism at least partially explains the recent disparity between U.S. authorized returns and Ontario authorized returns. As interest rates have declined dramatically in Canada in the past ten years, one would expect the OEB formula to yield accordingly lower authorized ROEs.

[10] U.S. authorized return data was available from 1990 to 2007, per RRA Associates, through the SNL database. 30-Year Treasury yield data was obtained from Yahoo! Finance.

The formula, however, is symmetrical, and ROEs will most likely recover at a faster rate in Ontario than in the U.S., when interest rates begin to rise. In fact, if interest rates continue to steadily rise, the OEB adjustment formula could surpass and yield higher results than historical data suggest U.S. authorized returns would reach under the same circumstances. Below is a sensitivity analysis between U.S. authorized returns per the above regression model and the OEB adjustment formula. As Chart 5 illustrates, there is a greater difference between U.S. and Ontario returns at extreme high and low interest rates. It is important to note, however, that over the range of interest rates from 4.00 percent to 6.00 percent (a range of projected rates that is within the bounds of consensus forecasts), the OEB model yields results that are consistently and significantly below those implied by the U.S. regression model.

CHART 5: SENSITIVITY ANALYSIS – ROE DETERMINED BY OEB FORMULA VS. U.S. REGRESSION MODEL OF AUTHORIZED RETURNS EXPLAINED BY 30-YEAR TREASURY BOND YIELDS[11]



[11] Chart 5 assumes the U.S. and the Canadian long term government bond yields are in parity. U.S. authorized returns are calculated based upon the regression equation, k= 0.0838 + (0.4635 x *i*). The OEB adjustment formula assumes that the formula would yield a return of 12.25 percent when long Canada bond yields are 8.30 percent, as was the case when the mechanism was first proposed. The OEB model formula takes the change in the Canadian Long Bond for the period x 0.75, plus the previous return, so that when interest rates are at 8.30 percent, the ROE is 12.25 percent.

Quantification of Inter-jurisdictional Differences in ROE:

Beyond the methodological differences addressed in the prior section, the OEB requested that CEA examine other factors that explain differences in ROEs between Ontario and other jurisdictions. CEA began this portion of the analysis with the premise that a reasonable and practical benchmark against which to compare allowed ROEs in Ontario is a range of recently authorized ROEs for other gas distribution utility companies both in Canada and abroad. While there are a multitude of jurisdictional and company-specific business, operating, financial, and regulatory risks that must be taken into consideration when evaluating individual utility ROEs and estimating the equity returns expected by investors, CEA believes the ROEs awarded by a broad base of other regulatory commissions can form an adequate starting point for comparison.

To begin its analysis, CEA gathered data from approximately 50 different rate cases in Canada and the U.S. from 2005 to the present, including: (1) the utilities receiving the ROE awards and the jurisdictions in which they operate; and (2) the authorized ROEs and capital structures. CEA also gathered summary level data regarding ROE methodologies and allowed returns in the U.K., Australia, and the Netherlands. A summary of this data is presented in Tables 3, 4, and 5, and detailed information for all the Canadian and U.S. companies studied can be found in Exhibit 1. As discussed in greater detail later in this report, CEA narrowed the U.S. group of companies to a subset of companies more comparable to the Ontario gas distributors on the basis of size, degree of non-gas distribution (*e.g.*, electric or steam) operations, and credit rating (see the "Revised Comparison" discussion in this section of the report for a discussion of the process used to limit the population of U.S. companies to a more comparable group). The results for these eight companies are also presented in Table 4.

TABLE 3: MOST RECENT ROE AWARDS FOR ONTARIO GAS UTILITIES

Utility	2006 ROE/Equity Ratio	2007 ROE/Equity Ratio
Enbridge Gas Distribution	8.74% / 35.00%	8.39% / 35.00%[12]
Union Gas	8.89% / 35.00%	8.54% / 36.00%

[12] Per Enbridge Gas Distribution Inc.'s 2006 Annual Information Form, the company has requested an equity percentage of 38 percent in its pending 2007 rate application.

TABLE 4: MOST RECENT ROE AWARDS FOR GAS UTILITIES IN OTHER JURISDICTIONS

Jurisdiction	Utilities Receiving Recent ROE Awards	Average ROE /Equity %[A]	Primary Method for Setting ROE	Adjustment Mechanism
Canada				
British Columbia (PNG and Terasen)	5	8.85% / 37.40%	ERP/DCF[B]	Annual Adj.
Gaz Metropolitain – Québec.	1	8.95%[C] / 38.50%	CAPM/ERP[D]	Annual Adj.
Alberta (ATCO and Alta)	2	8.51% / 39.00%	CAPM[E]	Annual Adj.[F]
Canada (average)[G]	8	8.78% / 38.00%		
United States (average)	34	10.35% / 48.00%	DCF[H]	Case-by-Case
United States (average of 8 comparable cos.)	8	10.40% / 46.44%	DCF	Case-by-Case
U.K (estimated)[I]	4	6.25%[J] / 37.50%	CAPM	Fixed (5 Year Period)
Australia (estimated)[K]	8	11.70% - 12.70% / 40.00% - 45.00%	CAPM	Fixed (5 Year Period)
Netherlands (estimated)[L]	12	7.00% / 40.00%	CAPM	Fixed (3-5 Years)

Notes to Table:

[**A**] ROE award based on most recent award for applicable utilities.

[**B**] *See*, British Columbia Utilities Commission, "In the Matter of Terasen Gas Inc. and Terasen Gas (Vancouver Island) Inc. Application to Determine the Appropriate Return on Equity and Capital Structure and to Review and Revise the Automatic Adjustment Mechanism," Decision, March 2, 2006.

[**C**] 8.95 percent for Gaz Met does not include an adder to ROE of 0.38 percent, which represents an incentive amount based on expected productivity gains. *See*, Gaz Métro Limited Partnership, Analyst Annual Meeting Presentation, December 13, 2005.

[**D**] Per a representative at Regie de L'Energie, ROE was last reviewed in decision D-99-11, R-3397-98, in which the "the Regie put most of the weight towards [the] Capital Asset Pricing Model and the Equity Risk Premium."

[**E**] In its 2004 Generic Cost of Capital proceeding, the Alberta EUB relied on the CAPM, using other ERP methodologies as a check on reasonableness. *See* Alberta EUB, Decision 2004-052, July 2, 2004.

[**F**] Changes in an ROE, while annual, only take effect if a utility files an application for a change in rates for the applicable test year. *See*, ATCO Ltd. 2006 Annual Information Form, at p. 8.

[**G**] CEA purposefully omitted certain other provinces in Canada due to a general lack of comparability. For example, Enbridge Gas New Brunswick, with an ROE award of 13.00 percent, was not included due to its status as a "developing" distribution company. The group of Canadian companies studied by CEA appears to be consistent with groups used in ROE regulatory proceedings and by analysts.

[**H**] In CEA's experience, jurisdictions in the U.S. often rely on the DCF model, using other methodologies to validate the DCF results. The FERC's favored approach is a form of the DCF model.

[**I**] Rates of return will be reset for the 2008-2014 period. The 6.25 percent ROE was recently re-affirmed for an additional year-long period, after it was set to lapse in 2007. In a recent discussion regarding the cost of capital for U.K. gas distributors, the Ofgem stated, "Since this is a one year control, and we have explained that we will review the cost of capital for the main control, we are not sending any signal regarding long-term returns, so long-term investment decisions should not be unduly affected." *See*, Ofgem, "Gas Distribution Price Control Review One Year Control Final Proposals," December 4, 2006, at p. 31.

[**J**] The "Vanilla WACC" (equal to the pre-tax cost of debt plus the after tax cost of equity, adjusted for capitalization), was set at 5.25 percent, with 62.5 percent debt and a cost of debt of 4.65 percent. The implied ROE is thus 6.25 percent after-tax.

[**K**] Australian price cap reviews are performed every five years. Based on the most recent price cap reviews in the states surveyed, the range of implicit nominal ROEs range from 11.7 percent in Victoria (based on an October 2002 review) to 12.7 percent in Western Australia (based on a June 2000 review). The average for this group is 12.1 percent. The regulatory commission of New South Wales provides a range of parameters for which the ROE can be calculated, resulting in an implicit ROE range of 10.1 percent to 12.2 percent.

[**L**] In its report, the NCA suggested a range of values for the various inputs of the CAPM, including an equity risk premium of between 4.0 and 6.0 percent, a Beta of between 0.47 and 0.74, and a risk-free rate of 3.8 percent to 4.3 percent, based on ten-year government bonds. The resulting range of ROEs (based on an equity percentage of 40 percent), is from approximately 5.7 percent to 8.7 percent, with an average of 7.0 percent. It is important to note that this range of ROEs is based on proposed parameters for the CAPM provided by the NCA.

TABLE 5: ROE AND EQUITY PERCENTAGE DIFFERENTIALS

	ONTARIO (AVERAGE OF ENBRIDGE AND UNION)	OTHER CANADIAN PROVINCES	U.S.	U.S. (8 COMPARABLE COMPANIES)
ROE	8.82% ('06) 8.47% ('07)	9.15% ('06) 8.77% ('07)	10.35% ('05 – present)	10.40% ('05 – present)
Ontario ROE Differential[13]	--	(.33%) ('06) (.31%) ('07)	(1.53%) ('06) (1.89%) ('07)	(1.58%) ('06) (1.94%) ('07)
Equity %	35.50% (2007)	37.94%	48.00%	46.44%
Ontario Equity % Differential	--	(2.44%)	(12.50%)	(10.94%)

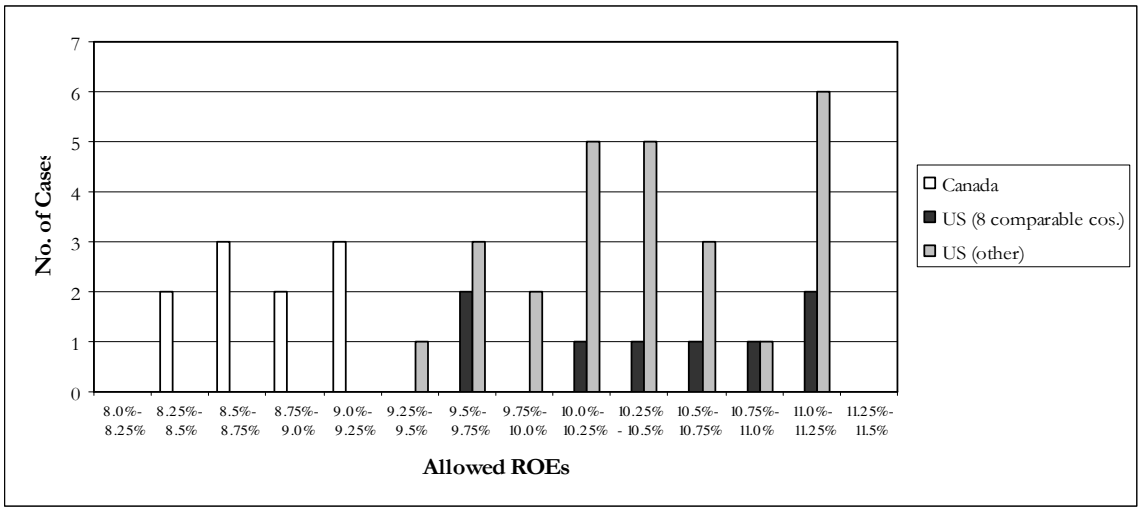
As can be seen in Table 5, the two major gas distribution utilities in Ontario have an average 2007 ROE of 8.47 percent, as compared to an average 2006 ROE of 8.82 percent. For the remaining provinces in Canada, the average ROE is 8.77 percent for 2007 and 9.15 percent for 2006. In the U.S., the overall average allowed ROE is 10.35 percent, and for a subgroup of more comparable U.S. companies (as discussed in more detail later in the report), the average ROE is 10.40 percent.

Chart 6 represents a histogram of allowed ROEs in Canada (for the five provinces studied) and the U.S. (for the group of eight comparable companies and for the remainder of the U.S. group). The two major gas distribution utilities in Ontario have 2007 ROEs of 8.39 percent for Enbridge, and 8.54 percent for Union, as compared to 2006 ROEs of 8.74 percent and 8.89 percent. For the remaining provinces in Canada, the ROEs range from 8.37 percent for Terasen's British Columbia operations to 9.07 percent for Terasen's Vancouver Island

[13] Due to the fact that the majority of U.S. companies adjust their ROEs on a case-by-case basis, depending on the timing of their rate cases, as opposed to the annual adjustment mechanism in place in Ontario and other Canadian jurisdictions, CEA has presented comparisons of U.S. ROEs to both 2006 and 2007 allowed ROEs in Canada. The breakdown by year of the U.S. rate cases is as follows: 2005 – 20 rates cases, average ROE of 10.35 percent; 2006 – 11 rate cases, average ROE of 10.32 percent; 2007 – 3 rate cases, average ROE of 10.53 percent.

operations (a 70 basis point spread). In the U.S., the recently allowed ROEs range from 9.45 percent for CenterPoint Energy Resource's Arkansas operations, to 11.20 percent for two utilities in Wisconsin (a 175 basis point spread), with a mean of 10.35 percent, and a median of 10.40 percent. For a subgroup of more comparable U.S. companies (as discussed later in the report), the range is from 9.50 percent for Southwest Gas Corp. in Arizona to 11.20 percent for Wisconsin Gas (a 170 basis point spread), with a mean of 10.40 percent and a median of 10.46 percent.

CHART 6: HISTOGRAM OF ALLOWED ROES IN CANADA AND THE U.S.

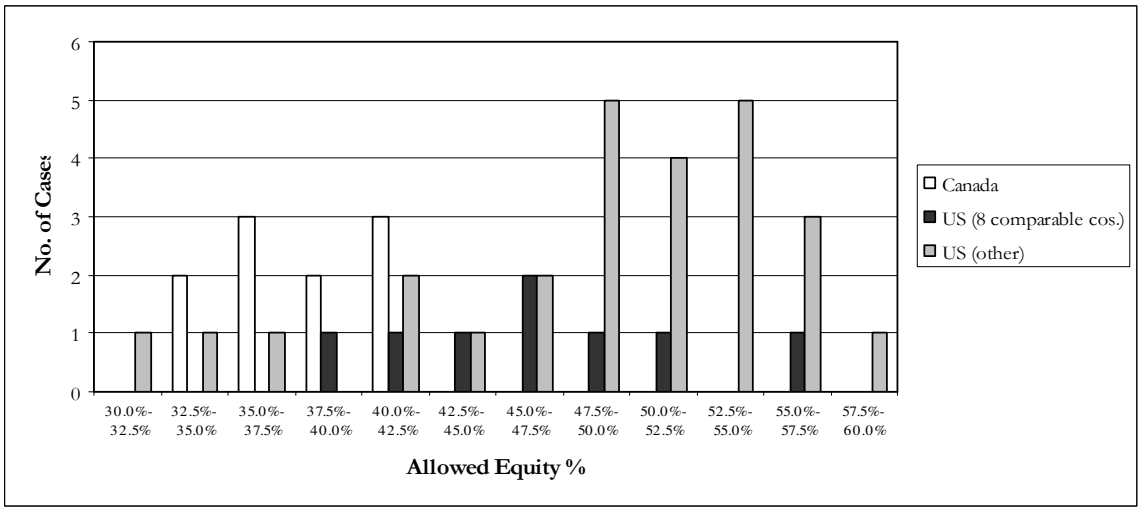


As can be seen in Chart 6, there is no overlap between the ranges of Canadian and U.S. ROEs, with Canadian ROEs being fairly evenly distributed between 8.25 percent and 9.25 percent, and U.S. ROEs clustering between 10.00 percent and 10.50 percent, with the mode (eight of the 34 total cases) being 11.00 percent. It is important to note that while the Canadian and U.S. ROE ranges do not overlap, the ranges themselves are also quite different, in terms of spread from top to bottom (*i.e.*, the 70 basis point spread in Canada versus the 170 to 175 basis point spread in the U.S.). Possible reasons for this additional divergence are provided in the Jurisdictional Analysis discussion presented later in this report.

CEA also gathered data related to the allowed equity percentages of the companies analyzed. The allowed equity percentages in 2007 are 35.00 percent and 36.00 percent for Enbridge

and Union, respectively, although Enbridge has requested a 38.00 percent equity ratio in its pending rate case. As shown in Exhibit 1, equity ratios in other Canadian provinces range from 37.00 percent to 39.00 percent, and those in the U.S. are 31.80 percent on the low end, for CenterPoint Energy Resource's Arkansas operations,[14] and 60.00 percent on the high end, for Wisconsin Public Service Corporation, with a mean and median of approximately 48.00 percent. The companies in the group of eight comparable U.S. gas distributors have equity percentages ranging from 39.31 percent for Michigan Consolidated Gas to 56.37 percent for Northern Illinois Gas, with a mean of 46.44 percent and a median of 46.77 percent. Summary level information is provided in Table 5, and Chart 7 shows the distribution of allowed equity percentages in Canada and the U.S.

CHART 7: HISTOGRAM OF ALLOWED EQUITY PERCENTAGES IN CANADA AND THE U.S.

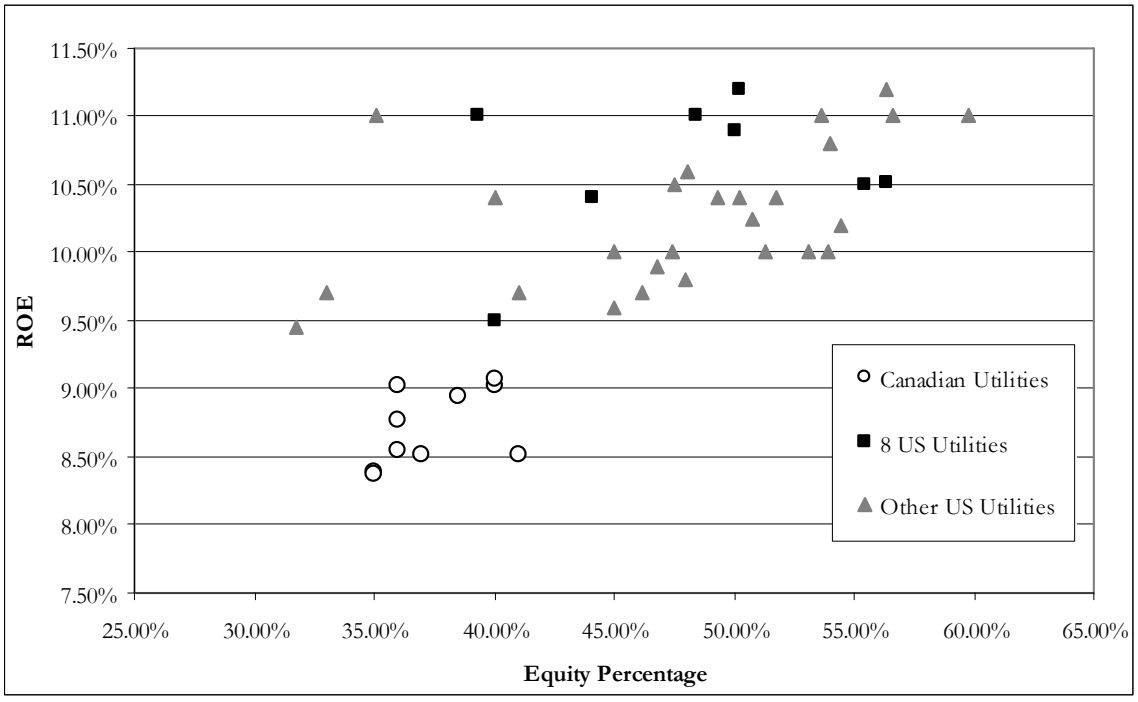


While there is some overlap between the allowed equity ratios in Canada and the U.S., the Canadian equity ratios are narrowly gathered between 32.50 percent and 42.50 percent, while the U.S. equity ratios are well spread throughout the range, with the most instances between 47.50 percent and 55.00 percent.

Chart 8 presents a scatter plot of ROEs and equity percentages in Canada and the U.S.

[14] It is worthy to note that Arkansas uses the Modified Balance Sheet Adjustment, which is unique among U.S. regulatory jurisdictions.

CHART 8: SCATTER PLOT OF ALLOWED ROES VS. ALLOWED CAP STRUCTURE



While pictorially Chart 8 may suggest a positive relationship between ROEs and equity percentages that runs counter to expectations (as, in general, financial theory would suggest that as equity ratios decrease, the cost of equity increases), a closer look at the data suggests that no such conclusion can be drawn. Table 6 shows the regression results for Canada and the U.S., based on the data presented in Chart 8, illustrating that in Canada, there is not a statistically significant relationship between equity ratios and ROEs (based on a t-statistic of 1.51), while in the U.S., a statistically significant relationship exists, but with little explanatory value (based on an R^2 of .186).

TABLE 6: REGRESSION RESULTS COMPARING ROES TO EQUITY RATIOS

	Intercept	t-stat$_\alpha$	X	t-stat$_x$	R^2
Canadian Data	.065	4.44	.059	1.51	.222
U.S. Data	.088	14.87	.033	2.70	.186

Assessment of Inter-jurisdictional Differences in ROE:

The fact that a disparity exists between ROEs for gas utilities in Ontario and other jurisdictions, particularly the U.S., is not disputed. As stated earlier, the OEB requested that CEA seek to gain an understanding of why the difference exists, and if there is some explanatory justification beyond the methodology employed in Ontario versus other jurisdictions. As return on equity is a measure of the return that investors seek for a given amount of risk, the key question is:

> ***Are gas distribution companies in other jurisdictions more risky than those in Ontario, as would be indicated by higher ROEs applied to larger equity percentages, and visa-versa?***

A key issue is therefore assessing comparative risk. To perform this assessment, CEA gathered further data regarding fundamental operating, financial, regulatory and business risks for the companies that were included in the analyses discussed earlier in this report.

Company-Specific Data

Both Dominion Bond Rating Service ("DBRS") and Standard & Poor's ("S&P") cite a series of factors used to determine the business risk of an LDC.[15] Table 7 is a summary of the factors provided by these two ratings agencies.

[15] *See*, Dominion Bond Rating Service, "Rating Utilities (Electric, Pipelines & Gas Distribution)", March 9, 2005; Standard & Poor's, "Key Credit Factors for U.S. Natural Gas Distributors," November 2006.

TABLE 7: DBRS AND S&P BUSINESS RISK FACTORS

DBRS	S&P
• Regulatory factors • Competitive environment • Supply/demand considerations • Regulated vs. non-regulated activities • Domestic vs. foreign operations • Capital spending program • Coverage ratios • Qualitative factors such as customer mix, economic strength in the service territory, and management expertise	• Regulation • Weather protection • Earnings sharing • Allowed ROE • Other regulatory factors • Financial protection from affiliates • Markets and competition (including service territory growth, saturation, customer mix, protection against bypass, and economic strength) • Factors related to supply, storage, system condition, and hedging • Management

Similarly, in developing a comparable, or "proxy", group of companies for the purposes of evaluating and estimating the required return on equity for utility companies, including gas distribution companies, various screening criteria and metrics of risk are used to arrive at a group of companies that are fundamentally comparable to the subject company. More specifically, when estimating the ROE for a regulated gas distribution company, such as Enbridge or Union, a combination of screening criteria typically is used by financial experts to identify utilities with similar business, financial, and regulatory risks. These criteria may include:

- *Similar Operating and Financial Characteristics*: The analyst uses companies that exhibit operating and financial characteristics similar to the subject company in that they have a specified percentage of regulated operations, and regulated natural gas operations contribute a majority of revenues and net income;

- *Credit Rating*: If the subject company is rated BBB- or above by Standard & Poor's, or a similar ratings agency, each selected company has senior bond and/or corporate credit ratings that are investment grade;
- *Beta*: The analyst may include only those companies with Betas that are within a reasonable range of the group average;
- *Customer Mix*: A concentration of customers in one particular class, such as large industrial customers, has certain risk ramifications, and thus customer mix by volume or revenue within certain ranges can assist in defining the proxy group;
- *Other*: Depending on specific details regarding the subject company and the environment in which it operates, other screens related to regulatory restructuring, geography, or other pertinent criteria may be employed.

While not all of this data is available for the companies studied, CEA gathered as much data as was publicly available along the lines discussed above. Beta, for example, is calculated using individual company stock returns as compared to the returns of a broader index. As the majority of the companies studied as part of this report are subsidiaries of larger corporations, no trading data is available at the subsidiary level, and thus Beta cannot be calculated.[16] In addition, where financial or other information was not available for companies in the study (for example, if the company were a small subsidiary for which no financial data were available), CEA used parent-level information, and applied it to the subsidiary based on reasonable assumptions of relative size.

CEA also recognizes the correlation between the size of a company and its investors' required returns. The financial and academic communities have long accepted the proposition that the cost of equity for small firms is subject to a "size effect."[17] While empirical evidence of the size effect often is based on studies of industries beyond regulated

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16 As an alternative, the Beta of a parent company may be used by a financial analyst as a proxy for that of a subsidiary in those cases in which the parent's operations are representative of the subsidiary's operations. However, in cases in which the parent has subsidiary affiliates with substantially different risk profiles (such as a holding company with a mix of regulated and unregulated subsidiaries), this approximation becomes less justifiable.

17 *See* Mario Levis, "The record on small companies: A review of the evidence," *Journal of Asset Management 2* (March 2002):368-397, for a review of literature relating to the size effect.

utilities, utility analysts also have noted the risks associated with small market capitalizations. Specifically, Ibbotson Associates noted:

> For small utilities, investors face additional obstacles, such as smaller customer base, limited financial resources, and a lack of diversification across customers, energy sources, and geography. These obstacles imply a higher investor return.[18]

Small size, therefore, leads to two categories of increased risk for investors: (1) liquidity risk (*i.e.*, the risk of not being able to sell one's shares in a timely manner due to the relatively thin market for the securities); and, (2) fundamental business risks. For this reason, CEA also gathered information for each company related the size of its operations. As the majority of the companies in our sample population are subsidiaries of larger corporations, all with differing types of regulated and unregulated affiliated companies, CEA could not gather market capitalization data, nor did we think applying an assumed market-to-book ratio to each of the companies would provide for a meaningful analysis. For that reason, CEA collected information related to book capitalization, total revenue, total customers, and gas throughput as proxies for the relative size of the individual companies.

CEA notes that the Board also requested that CEA gain an understanding of how varying degrees of forecasted capital expenditures might affect ROE. As this type of data is inconsistently available for the companies studied, it is difficult to perform a quantitative analysis from which any conclusions can be drawn. CEA has discovered in previous cases, however, that heightened capital requirements increase business risk for companies in several ways: (1) risk of cost under recovery associated with project cost over runs and/or poor performance of the new facilities; and (2) capital requirements to finance new construction can result in downward pressure on the Company's credit rating. Market data indicate that investors recognize these risks and discount the valuation multiples of companies with high ratios of capital expenditures to net plant. That is, the financial community acknowledges the risks associated with substantial capital expenditures and reflects those risks in lower valuation multiples, and therefore, higher required returns.

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[18] Michael Annin, "Equity and the Small-Stock Effect," *Public Utilities Fortnightly*, October 15, 1995.

In addition, as this is a study of *comparative* risk, as opposed to *absolute* risk, CEA has specifically not gathered information related to factors that by and large affect all gas utilities. For the most part, these factors include comparative costs between natural gas and other energy sources, as well as the effect of declining use due to improved efficiency in gas appliances and equipment.[19]

For Canadian companies, data was gathered from information provided by the OEB, Annual Information Forms and Annual Reports, company websites, and discussions with and documentation from company representatives and other market participants. In total, CEA studied ten Canadian gas utilities, including Enbridge and Union in Ontario, Gaz Metropolitain in Québec, three divisions of Pacific Northern Gas, Ltd. and two divisions of Terasen in British Columbia, and AltaGas Utility and ATCO in Alberta.

For U.S. companies, rate case and company data was gathered from the SNL Interactive database, the Regulatory Research Associates database, and company filings and websites. CEA studied 37 rate cases for 34 companies in 22 different states. For companies that had two or more decided rate proceedings in the past two years, CEA used the most recent proceeding for comparative purposes.

A full list of data sources is provided in Appendix B. The full data set of companies and rate proceedings is presented in Exhibits 1 and 2 to this report. A summary of the allowed ROEs is provided in Tables 4 and 5, and a summary of the remaining data is presented in Table 8.

[19] CEA recognizes that cost competition and declining use may affect some utilities more than others. However, an in depth analysis of these factors is outside the scope of this report.

TABLE 8: COMPARISON OF OPERATIONAL AND FINANCIAL DATA[20]

Company/ Jurisdiction	Most Recent ROE	Allowed Equity %	% Regulated Rev./% Gas Distribution Rev.	Book Value (million $CAD)	Total Revenue (million $CAD)	Gas Distribution Revenue (million $CAD, 2006)	Total Gas Dist. Customers (millions)	Gas Volume Sold (billion cubic meters, 2006)	Customer Mix	Credit Rating (DBRS/ S&P)
Enbridge Gas Distribution	8.39%	35%	100%/98%	$4,779	$3,016	$2,958	1.8	4.4 dist 7.1 trans 11.6 total	Ind 5% Com 23% Res 47% Whls 2% Trans 23%	A/A-
Union Gas	8.54%	36%	100%/91%	3,442	2,079	2,046	1.3	13.2 dist 20.6 trans 34.0 total	Ind 12% Com 20% Res 7% Whls 0% Trans 61%	A/BBB+
U.S (average of 34 companies)	10.35%	48%	84%/36%	2,882	2,238	1,175	.6	3.3	Ind 15% Com 19% Res 42% Whls 2% Trans 22%	BBB+ (average S&P rating of utilities)
U.S (average of 8 comparable companies – see discussion below)	10.40%	46.44%	89%/60%	2,767	2,418	1,307	1.1	5.2	Ind 11% Com 20% Res 47% Whls 0% Trans 22%	BBB+ (average S&P rating of utilities)

[20] As noted previously, certain data for the U.S. companies in the analysis are estimates based on data at the parent company or reporting segment level, allocated to the subject company based on a best estimate of the subject company's contribution to the overall parent or segment.

As a whole, based on the metrics presented above, the gas distribution companies in the U.S. can be seen to be largely comparable to Enbridge and Union. Notably, all of the companies in sample group, with the exception of Arkansas Western Gas Company, Consumers Energy, and Avista Corp. have investment grade ratings from S&P as of the writing of this report.

There are, however, a few notable differences between the Ontario utilities and those in other jurisdictions:

- *Size*: Enbridge and Union are comparatively larger than the majority of the other companies in the data set, when using total customers and total gas throughput as a basis of comparison, as well as book value.[21]

- *Diversification of Services and Non-regulated Affiliates*: Certain companies in the group have diversified operations, including electric operations and non-regulated operations. This is in contrast to Enbridge and Union, which are almost 100 percent regulated gas distributors. As noted by DBRS, "Companies that generate most of their earnings from regulated activities are typically more stable and predictable than those that have significant non-regulated operations."[22]

- *Approach to Setting ROE*: While ROE is an output of the rate-setting process, the approach used (formulaic versus case-by-case) may have some explanatory value in estimating investors' expected returns. In particular, there is some evidence from the market that the use of a formula for setting ROE provides for a more certain return (inasmuch as the only variable is the forecasted bond yield) than the case-by-case approach, regardless of the outcome of the calculation.

  For instance, S&P, in a review of Ontario's electric utilities, recently stated:

  > The stability, transparency, consistency, and timeliness of the Ontario regulatory regime and framework have been steadily improving as a result of ongoing amendments to the Ontario Energy Board Act…The OEB's decision to maintain its 1998 formula for determining ROEs

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21 For entities for which book value was not available (*i.e.*, subsidiaries of larger companies for which SEC reported financials are not available), CEA estimated book value by utilizing the book value of the parent company or reporting entity, and applying it to the subsidiary based upon an approximation of the subsidiary's relative size to the larger company.

22 Dominion Bond Rating Service, "Rating Utilities (Electric, Pipelines & Gas Distribution)", March 9, 2005.

> allowed for in the rate-setting process, while disappointing for equity holders and not likely to encourage privatization, is another example of stability and consistency."[23]

Inherent in these comments is the distinction between debt holders, who place significant emphasis on certainty, and equity investors, who are equally concerned with the adequacy of their return.

Additionally, in a presentation at a CAMPUT meeting in January of 2005, S&P cited regulatory clarity and certainty as affecting business risk and thus credit ratings.[24]

CIBC World Markets mirrored these statements in a recent research report on Spectra Energy Corporation, the parent of Union Gas. CIBC referred to Spectra overall as operating in a "stable" regulatory environment, and added, "Investments in Union Gas are low risk with capital cost and return on this capital pre-approved by the regulator. As such, we see Union Gas' regulated operations outside of storage as having a low earnings growth profile but a low-risk profile as well that generates stable cash flow."[25]

Thus, as shown above, market analysts look favorably upon regulatory certainty, but it should be noted that the predictability of authorized returns does not outweigh the necessity of an adequate return to attract needed capital.

- *Market Dynamics in Non-Canadian and Non-U.S. Countries*: While Canada and the U.S. are considered highly comparable, both economically and in terms of regulatory structure, there are fundamental differences in market dynamics

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23 Standard & Poor's, "Shining a Light on the Positive Outlooks for Ontario Electricity Distributors," March 26, 2007.

24 Standard & Poor's, "Attracting Capital – How Does Canada's Regulatory Environment Compare Internationally," CAMPUT Financial Seminar, January 14, 2005. It should be noted, also, that in the same presentation, S&P cited Canadian regulatory boards as a whole as providing for relatively more "consistency and predictability" than other countries' regulators, although Canadian regulators are, "slow to adapt to changes in external factors."

25 CIBC World Markets, "Spectra Energy Corporation, Attractive Energy Infrastructure Play; Commodity Headwinds a Near-term Issue," January 11, 2007.

in the other countries that CEA investigated (*i.e.*, the U.K., Australia, and the Netherlands). Whether it be regulatory framework (gas distributors in the U.K., Australia, and the Netherlands are currently operating under differing forms of price control regulation), ownership structure (the majority of gas utilities in the Netherlands are municipally owned, while all of the U.K. – approximately 22 million gas distribution customers – was until recently served by a single company, National Grid[26]), accounting rules, geography and climate, or other factors, the differing markets and regulatory environments in which these countries' gas distributors operate weaken the basis for comparison.

Revised Comparison

To further the analysis, CEA developed a more refined comparison group that could be considered to be more similar to Enbridge and Union based upon size and corporate structure (as measured by percentage of unregulated operations). By excluding certain less comparable companies, the resulting group could be considered to have business and operating profiles more similar to the Ontario utilities. It is important to note that the resulting group of eight "comparable companies" is not equivalent to a "proxy group" of comparable companies typically used in ROE analysis. In regards to the latter, in estimating the ROE for a company, a group of publicly-traded companies displaying similar characteristics to the subject company is analyzed using one or more of the approaches discussed above (*i.e.*, the DCF, CAPM, etc.) to develop a range of reasonable ROEs. In this case, however, we are beginning with a group of companies for which the ROE has already been estimated (*i.e.*, the allowed ROE), and then narrowing that group down to a subset of companies that are comparable to Enbridge and Union, based on certain criteria. Due to the fact that the data set is highly dependent on which companies have been awarded ROEs in the recent past, and also contains a large number of subsidiary companies for which accurate

[26] The current cost of capital in the U.K. was established in 2000/2001. In 2005, National Grid divested a large portion of its operating segments, cutting National Grid's distribution segment in half. The U.K. gas distribution price control, along with the associated cost of capital, however, was kept in place for the legacy companies. The fact that the cost of capital was set under a significantly different market structure, and is currently under review in the U.K., may indicate that the allowed ROE in the U.K. is not indicative of current market dynamics.

financial and operational data is unavailable, it can not be expected that this "comparables group" would yield definitive ROE results against which to benchmark Enbridge and Union's allowed returns. The purpose of this analysis, therefore, is not to provide an implied range of reasonable ROEs to apply to Enbridge and Union, but rather to more accurately quantify the existing difference in allowed ROEs.

This group of eight companies met the following criteria:

(1) Either between 500,000 to 2,200,000 gas distribution customers, or between three to approximately ten billion cubic meters in annual gas throughput (or both);

(2) Gas operations contribute at least approximately 40 percent of total revenues;

(3) A minimum BBB- (*i.e.*, investment grade) credit rating from S&P; and

(4) The companies currently have no earnings sharing mechanism in place. Similar to Enbridge and Union, therefore, shareholders are at risk for any deficiency in earnings below the allowed return, but also get to keep any amount exceeding the return.

Based on these screening criteria, the narrowed group of U.S. utilities contained the following companies[27]:

- Southwest Gas Corp. (Arizona)
- Atlanta Gas Light Company (Georgia)
- Northern Illinois Gas Company (Illinois)
- Michigan Consolidated Gas Company (Michigan)
- CenterPoint Energy Resources (Minnesota)
- Public Service Electric Gas (New Jersey)
- Puget Sound Energy, Inc. (Washington)
- Wisconsin Gas LLC (Wisconsin)

[27] With the exception of Atlanta Gas Light Company, all the companies in the narrowed group entered into their most recent rate proceeding under their own volition, generally seeking increases in rates. Atlanta Gas Light Company had a three-year performance-based ratemaking ("PBR") mechanism in place for the period of 2002 to 2005, after the expiration of which it was required to file a rate case. The PBR plan was not re-authorized.

The resulting ROE from this revised group is 10.40 percent with a 46.44 percent equity ratio, as shown in Table 9.

TABLE 9: MOST RECENT ROE AWARDS FOR U.S. GAS UTILITIES

Sample Group	2007 ROE
Entire Group of 34 U.S. Companies	10.35% / 48.00%
Revised Group of 8 U.S. Companies	10.40% / 46.44%

Conclusion Regarding Company-Specific Data

The first conclusion that can be drawn from the comparison of financial and operational profiles of gas distribution companies in Canada and the U.S. is that there are many similarities between these two groups of companies (*i.e.*, Canadian and U.S. gas distributors), and the ranges of sizes, types and number of customers, and credit ratings largely overlap. The largest difference, as shown in Table 8, is in amount of gas throughput. Enbridge, a pure distribution company, has nearly double the average gas throughput for the eight U.S. comparable companies, and Union's distribution throughput is similarly greater than that of the U.S. group. However, while this is one measure of the size of the companies, based on other metrics of size, such as book value and total revenue, the groups can be seen to be similar, especially in a direct comparison of Union to the U.S. companies. In other words, it does not appear that the Ontario gas distributors taken together are notably less risky from the standpoint of business and operational risk, and any differences in the metrics studied above do not appear to justify the overall ROE differential.

The second conclusion that can be drawn stems from the fact that, when certain less comparable companies were excluded from the overall U.S. group, the average ROE remains essentially unchanged. What this tells us is that while the screening criteria employed are important in analyzing the risk of a regulated enterprise (for the reasons discussed earlier), the relative risk level of an individual utility is based on a combination of these and many other, sometimes subtle, differences in business and operating profiles.

In terms of the difference between Ontario gas distributors and other Canadian gas distributors, it is important to note that differences in allowed ROEs are largely a function of equity risk premiums set at various points in time over the last ten years, and are subject to different provincial regulatory environments and business risks.

Due to the fact that company-specific data do not appear to explain the gap between inter-jurisdictional ROEs, CEA expanded the analysis to include territory and country-specific factors, as discussed below. Specifically, CEA addressed: (1) differences in rate design and rate stabilizing mechanisms; and (2) macro-economic factors.

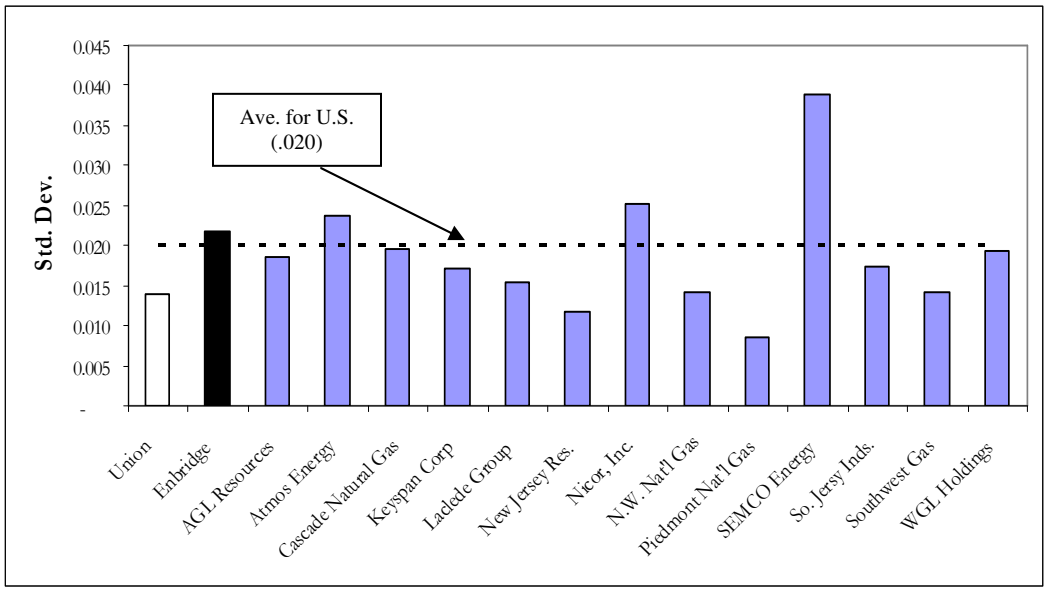
Jurisdictional Analysis

- *Rate Design and Rate Stabilization*: A common risk for gas utilities is under or over-recovery of revenue from ratepayers owing to changes in consumption, and variability in commodity costs. In addition, utility earnings can vary owing to these and other un-forecasted changes in revenues and costs. Across the companies studied as part of this report, there are many different forms of rate and cost stabilization mechanisms aimed at ensuring the utilities will be better able to earn forecasted revenues and recover forecasted costs. For example, some of the companies have weather normalization clauses that protect them from climatic variability; others are allowed to employ rate stabilization and cost deferral accounts to ensure rate and cost recovery.

  In a determination of the effect on earnings of different rate and earnings stabilization methods, weighing the various stabilizing mechanisms employed in the different jurisdictions against one another may not result in an "apples to apples" comparison, especially if all of the counterbalancing components of a company's rate design are not taken into account. Thus, to test whether the Ontario gas distributors have on the whole more stable earnings than their U.S. counterparts (and thus could be considered less risky), CEA analyzed recent earnings history for Enbridge and Union (as provided by the companies), as well as a group of U.S. gas utilities, to determine if there was a difference in variability in actual returns to equity holders.

As noted previously, there is not historical financial data readily available for the eight U.S. comparable companies since the majority of them are subsidiaries of larger holding companies. Thus, as a proxy for this group, CEA used the 15 gas utilities classified by Value Line as Natural Gas Distribution companies, as the required data is readily available. From this group, CEA removed two companies, Southern Union and UGI Corp., because they had relatively low percentages of gas operations as compared to total operations, and thus their earnings variability may be unduly affected by electric or other operations.[28] Chart 9 shows the variance in actual ROE for Enbridge, Union, and the 13 U.S. companies for the period 1997 to 2006.

CHART 9: ACTUAL ROE VARIABILITY FOR ONTARIO AND U.S. GAS DISTRIBUTORS, 1997 TO 2006



As shown in Chart 9, while the variability in ROE for the U.S. companies, as measured by the standard deviation in ROE, encompasses a large range of results (from .0084 to .0389), the average of .020, as measured by the square root of the mean variance, is not significantly different than that of Enbridge, while it is greater than that of Union. If SEMCO, a clear outlier, were to be removed from the U.S. group, the average would decrease to .018. Additionally, more than one-fourth of the U.S. companies (four of 13), fall at or below Union. Thus, while volatility in

[28] Southern Union reported, on average for 2005 and 2006, 36% of revenues and -11% of operating income to be earned from gas distribution operations. Similarly, UGI, on average over the past two years, derived only 11% of revenue and 17% of net income from their gas utility business.

earnings may affect the individual risk of U.S. utilities, or Ontario utilities for that matter, there is not a consistent difference across the markets that would explain the market-wide difference in average allowed ROEs.

As mentioned above, differences in volatility of actual ROEs between individual utilities can be attributed to a myriad of factors. These include but are not limited to: regulatory environment, revenue stabilization mechanisms (*e.g.,* weather normalization adjustments), operational environments, growth rates of territory and local economies, capital expenditures and associated uncertainties (*e.g.*, expansion projects), stability and significance of other business units, and corporate management.[29] The analysis performed above, as presented in Chart 9, was designed to account for the sum total of all of these factors on earnings, as opposed to weighing the individual influence of any one risk factor. For instance, in New Jersey, both New Jersey Resources and South Jersey Industries implemented conservation incentive programs in 2006, allowing the companies to promote energy conservation while insulating them from the negative impact of reduced customer usage (as a result of warmer weather, higher prices, or more efficient heating equipment, etc.). However, actual returns for New Jersey Resources decreased by 4.50 percent in 2006, from 17.00 percent to 12.50 percent, while those for South Jersey Industries increased by 3.90 percent, from 12.40 percent to 16.30 percent. Assuming the conservation incentive programs would have similar effects on each company's earnings, this difference in the directional movements of actual ROEs must be due to other factors. This demonstrates the need to analyze the overall effect of the many competing influences listed above in establishing the relative risk of a gas utility.

As noted above, the variability in earnings, measured by standard deviation, among the U.S. gas distributors in this analysis, ranges from 0.0084 (Piedmont) to .0389 (SEMCO). A similarly wide range of U.S. allowed ROEs was noted earlier in this

[29] While ability to recover commodity costs would also influence earnings, it is CEA's understanding that these 13 U.S. companies studied, as well as Union and Enbridge, all have at least some form of gas cost recovery mechanisms in place.

report. This may be explained in part by differences in approach to ROE setting in the U.S. versus Canada. Generally, U.S. commissions rely on the qualitative aspects of the rate proceeding, as well as quantitative aspects. Moreover, the lesser frequency of rate proceedings in the U.S. often requires consideration of the projection of capital requirements beyond one year in determining ROE. This is in contrast to the approach most widely used in Canada, whereby ROE is adjusted annually based on a purely quantitative calculation.

Economic Analysis

- *Tax Law*: Tax law can play a role in investors' expected returns, particularly as it relates to the taxation of dividends. This is especially true for utilities, as they typically have relatively high dividend payout ratios. Canada and the U.S. have varying degrees of favorable tax rates or tax credits related to dividend payments to individuals. In Canada, for instance, while corporations pay dividends with after-tax income, individuals receive a tax credit related to dividend income. Under the 2005 enhanced dividend tax credit, individuals receive a non-refundable tax credit of more than one-fourth of the dividend value. Depending on an individual's marginal tax rate, the dividend tax credit can result in effective tax rates on dividends as low as 3 percent, but up to 30 percent. In the U.S., most dividends are taxed at a maximum rate of 15 percent for individuals (referred to below as the "dividend tax cut") effective with the passage of the Jobs and Growth Tax Relief Reconciliation Act of 2003. This favorable rate is currently set to expire after 2010, if not renewed.

  It is important to note that the tax advantages related to dividends may be diminished or not available to international investors. Cross-border taxation of dividends also differs depending on the direction of the investment (*i.e.*, a U.S. investment in a Canadian security, a Canadian investment in a U.K. security, etc.), as well as the type of account in which the investment is held (*i.e.*, retirement versus taxable).[30] Similarly, institutional investors tend to constitute a large portion of utility

[30] For a description of cross-border taxation of dividends, *see*, Susan E.K. Christoffersen, et al., "Crossborder dividend taxation and the preferences of taxable and nontaxable investors: Evidence from Canada," *Journal of Financial Economics*, August 24, 2004.

stock ownership of U.S. utilities. Since many of those institutions are tax-exempt investors, it is not clear that the dividend tax cut beneficially affected all utility investors. Moreover, many U.S. investors hold utility stocks in tax-advantaged 401-k accounts; here again, the effect of the dividend tax cut on current income is not definitive.

Thus, the true effect of dividend taxation, if any, requires knowledge of the individual investor's tax position. In and of itself, it is not evident that the dividend tax rules in one country versus another would lead to differences in ROE on a comparative basis.

- *Other Macroeconomic Factors*: Table 10 provides data for Canada and the U.S. regarding indicators of economic growth and stability, as well as market returns.

TABLE 10: MACROECONOMIC FACTORS[31]

	GDP Growth		Return on:		CPI		Exchange Rate
	Canada	U.S.	S&P/TSX (TSE 300)	S&P 500	Canada	U.S.	
1981	3.05	2.50	(0.14)	(0.10)	12.40	10.32	0.83
1982	(2.94)	(1.90)	0.02	0.15	10.90	6.16	0.81
1983	2.75	4.50	0.29	0.17	5.80	3.21	0.81
1984	5.67	7.20	(0.06)	0.01	4.30	4.32	0.77
1985	5.40	4.10	0.21	0.26	4.00	3.56	0.73
1986	2.64	3.50	0.06	0.15	4.10	1.86	0.72
1987	4.10	3.40	0.03	0.02	4.40	3.65	0.75
1988	4.86	4.10	0.07	0.12	4.00	4.14	0.81
1989	2.54	3.50	0.17	0.27	5.00	4.82	0.85
1990	0.27	1.90	(0.18)	(0.07)	4.80	5.40	0.86
1991	(1.87)	(0.20)	0.08	0.26	5.60	4.21	0.87
1992	0.91	3.30	(0.05)	0.04	1.50	3.01	0.83
1993	2.30	2.70	0.29	0.07	1.80	2.99	0.78
1994	4.73	4.00	(0.02)	(0.02)	0.20	2.56	0.73
1995	2.77	2.50	0.12	0.34	2.20	2.83	0.73
1996	1.54	3.70	0.26	0.20	1.60	2.95	0.73
1997	4.37	4.50	0.13	0.31	1.60	2.29	0.72
1998	3.31	4.20	(0.03)	0.27	0.90	1.56	0.67
1999	4.54	4.50	0.30	0.20	1.70	2.21	0.67
2000	4.68	3.70	0.03	(0.10)	2.70	3.36	0.67
2001	1.50	0.80	(0.14)	(0.13)	2.60	2.85	0.65
2002	3.90	1.60	(0.14)	(0.23)	2.20	1.58	0.64
2003	2.60	2.50	0.24	0.26	2.80	2.28	0.72
2004	2.50	3.90	0.12	0.09	1.90	2.66	0.77
2005	3.10	3.20	0.22	0.03	2.20	3.39	0.83
2006	1.90	3.30	0.15	0.14	2.00	3.23	0.88
25 Year Ave.	2.74	3.12	0.08	0.11	3.58	3.52	
10 Year Ave.	3.24	3.22	0.09	0.08	2.06	2.54	
5 Year Ave.	2.80	2.90	0.12	0.06	2.22	2.63	
Standard Deviation			0.145	0.152			
Correlation	0.81		0.65		0.87		

As can be seen in Table 10, the correlation between GDP growth in the two countries is quite high, as is the correlation between the consumer price indices for each country, indicating that these metrics tend to vary together over time between the two countries. For returns on broad market indices (*i.e.*, the Toronto Stock Exchange/S&P and the S&P 500), the correlation is not as robust; however, there still is a strong positive correlation. In addition, the returns on these two indices show a similar volatility as measured by their standard deviations. Based on these macroeconomic factors, there are no obvious

[31] Sources: Canada GDP, Exchange Rate, and CPI – Statistics Canada as of April 17, 2007; U.S. GDP – U.S. Bureau of Economic Analysis as of March 29, 2007; S&P 500 returns – Yahoo! Finance; S&P/TSX (TSE 300) –Yahoo! Finance (2000-2007), finance.sauder.ubc.ca/courses/comm472/TSE300.xls (pre-2000); U.S. CPI – U.S. Bureau of Labor Statistics.

dissimilarities between Canada and the U.S. (*i.e.*, in terms of volatility in growth, inflation, or exchange rates) which could explain significant differences in investors' expectations. Based on the past five years, investors in the Toronto exchange stocks have enjoyed a six percent greater return than those investing in the U.S. S&P 500. Over the long term, however, returns in the respective markets have been more similar. Furthermore, the magnitude and significance of trade between the two countries would indicate the integration of the two markets. In 2006, Canada exported 81.6 percent of its total exports to the U.S. and imported from the U.S. 54.9 percent of its total imports.[32]

[32] Strategis, Industry Canada, February 2007.

V. COMPETITION FOR CAPITAL IN CANADA VERSUS THE U.S.

A company's access to capital is a key consideration in setting a fair return. Without access to capital (at reasonable cost rates), a utility would be challenged to maintain its basic systems, and ultimately system integrity would be jeopardized, let alone any future capital expansion plans. Companies obtain capital in a variety of ways, through debt or equity issuances, or in the form of equity infusions from their parent. Regardless of where capital is coming from, there is a cost for providing that capital that compensates either the creditor, the investor, or the parent for the risk they take on in providing capital to the entity, and that compensation should be no less than what could be received by an alternative investment target of comparable risk.

This section of the report examines whether capital for utility investment between the Canadian and U.S. markets is integrated, and whether Canadian companies must compete with U.S. companies for capital. To answer this question, consideration has been given to three primary questions: (1) Are there fundamental differences between the securities markets of the U.S. and Canada that would result in corresponding differences in the countries' required returns? (2) Do the investment bases in U.S. and Canadian gas utilities suggest that the markets are integrated? (3) Is capital migrating to jurisdictions with the higher returns? In the following section, those questions will be analyzed and discussed.

International Market Return on Equity – Canada vs. U.S.

Morningstar, Inc. (formerly Ibbotson Associates) identifies several methods for determining the international cost of capital, highlighting differences between countries. Of those methodologies described by Morningstar, four are employed below to ascertain if there are fundamental differences in the required returns between Canada and the U.S. that are attributable to the countries' equity markets themselves. Such differences would address inflation, political risk, exchange rate risk, and other macroeconomic factors.

The first methodology employed is the "International CAPM". Morningstar states that the principles of the CAPM can also be applied to the international market. The definition of the market portfolio can be expanded to include the equity markets of all countries of the

world. Morningstar's International CAPM model uses the country specific risk free rate and Beta, and uses an equity risk premium calculated on a world wide basis.[33] Beta is estimated using the world equity market as the benchmark. Morningstar determined the world equity risk premium to be 7.73 percent, and the Betas for the U.S. and Canada are determined to be 0.99 and 0.96, respectively.[34] Using both countries current respective long term government bonds for the risk free rate results in an ROE for the U.S. of 12.45 percent and for Canada, 11.62 percent, 83 basis points below the U.S.[35]:

U.S. CAPM = 4.80 + 0.99 (7.73) = 12.45%

Canada CAPM = 4.20 + .96 (7.73) = 11.62%

A second approach to estimating the required return in international markets, put forward by Morningstar, is the "Country Risk Rating Model", which takes into account a forward-looking measure of risk for alternative markets. This approach uses a linear regression model on a sample of returns as the dependent variable and the natural log of country credit ratings as the independent variable. This analysis indicates that the U.S. required equity return should be 16 basis points lower than that of the Canadian return, based upon the relationship of the relative country credit rating and historical returns:

U.S. credit rating = 94.5, U.S. required equity return = 10.60%[36]

Canada credit rating = 93.7, Canadian required equity return = 10.76%[37]

A third approach to estimating the international required return on equity, according to Morningstar, uses a spread methodology, between countries. This approach adds a country specific spread to a cost of equity determined from more conventional means. The spread between long term government bonds is added or subtracted to the U.S. cost of equity estimate obtained through a normal CAPM assuming a market Beta of 1.00. This approach results in a 60 basis point spread, where the U.S. long term government bond is 60 basis points above its Canadian counterpart:

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33 Morningstar relied upon the Morgan Stanley Capital International (MSCI) world index as a proxy for world markets, *see* SBBI Morningstar 2007 Yearbook, Valuation Edition, at p. 178.

34 SBBI Morningstar 2007 Yearbook, Valuation Edition, at p. 179.

35 Taking the average monthly bond yield for the preceding 12 months, results in increases in the U.S. and Canada risk free rates of 5 basis points and 4 basis points, respectively, resulting in a negligible impact on the ROE. Hence, for purposes of this analysis, current spot yields are reasonably representative of 12 month averages.

36 SBBI Morningstar 2007 Yearbook, Valuation Edition, at p. 181.

37 Ibid.

U.S. Required Equity Return = 4.80 + 1 (7.13) = 11.93%

Spread = U.S. 30-Year Treasuries – Canada Long Bond = 4.80% - 4.20% = 0.60%

Canadian Equity Return = 11.93% - .60% = 11.33%

The last of the methodologies proposed by Morningstar is a "Relative Standard Deviation Model". In this model, the standard deviation of international markets is indexed to the standard deviation of the U.S. market. Countries with higher standard deviations than the U.S. are given a higher equity risk premium in proportion to their relative standard deviation. Morningstar's study indicates that the Canadian standard deviation relative to the U.S. market is 1.25[38], hence Canada's risk premium should be the product of the U.S. risk premium and the Canada/U.S. index, or 7.13 x 1.25 = 8.91. This increased risk premium would yield a higher Canadian return than that in the U.S. by 117 basis points (13.11 percent - 11.94 percent), derived below:

U.S. Required Equity Return = 4.80 + 1 (7.13) = 11.93%

Canadian Required Equity Return = 4.20 + 1(8.91) = 13.11%

The four Morningstar approaches identified above are summarized in the Table 11:

TABLE 11: INTERNATIONAL COST OF CAPITAL SUMMARY

Morningstar Methodology	U.S. Return	Canadian Return	Difference
International CAPM	12.45%	11.62%	0.83%
Country Risk Rating Model	10.60%	10.76%	(0.16%)
Country-Spread Model	11.93%	11.33%	0.60%
Relative Standard Deviation Model	11.93%	13.11%	(1.18%)
Average – Arithmetic	11.73%	11.71%	0.02%
Average – Geometric	11.71%	11.67%	0.04%

As Table 11 indicates, the four international cost of capital methodologies yield diverse results depending on the drivers of the methodology employed (*i.e.*, bond yields or relative risk metrics), with results ranging from a Canadian required return exceeding the U.S. required return by 118 basis points, to a U.S. required return exceeding the Canadian

38 Ibid., at p. 183.

required return by 83 basis points. However, the arithmetic and geometric average of all approaches indicate nearly identical results for both the Canadian and the U.S. required returns, with the average difference of all methods being between two and four basis points. These results imply that the impact of the currently lower Canadian bond yield is offset by the increased relative risk of Canadian returns (as determined under these methodologies).[39] As a result, there do not appear to be determinative market differences between the U.S. equities market and the Canadian equities market at this time to justify any sustained differences in required returns on equity.

In a 2002 study performed by Dimson, Marsh and Staunton, the authors indicate that when deriving a forward looking projection of required return on equity from a purely historical estimate of the risk premium, it is necessary to "reverse-engineer" the facts that impacted stock returns over the past 102 years, backing out factors that could not be anticipated to be recurring in the future, such as unanticipated growth or diminished business risk through technological advances. To this point, the authors state:

> While there are obviously differences in risk between markets, this is unlikely to account for cross-sectional differences in historical premia. Indeed much of the cross-country variation in historical equity premia is attributable to country-specific historical events that will not recur. When making future projections, there is a strong case, particularly given the increasingly international nature of capital markets, for taking a global rather than a country by country approach to determining the prospective equity risk premium…
>
> ...Indeed it is difficult to infer expected premia from any analysis of historical excess returns. It may be better to use a "normal" equity premium most of the time, and to deviate from this prediction only when there are compelling economic reasons to suppose expected premia are unusually high or low.[40]

The current disparity between Canadian and U.S. long term bond yields is informative at least in part in understanding the recent differences in authorized ROE's in the U.S. and

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[39] According to the Country Risk Rating Model and the Relative Standard Deviation Model Canadian returns should be higher than those of the U.S. Consideration of the lower Canadian bond yield in the International CAPM Model and the Country-Spread Model, indicates that Canadian returns should be lower than U.S. returns. As such, it appears that the higher risk of Canadian returns as evidenced by the credit rating and standard deviation of Canadian returns, is mitigated by the lower bond yield relative to that of the U.S.

[40] Elroy Dimson, Paul Marsh and Mike Staunton, Global Evidence on the Equity Risk Premium, Copyright September 2002.

Canada. Historically, however, as discussed below, these bond yields have been highly correlated, and based on historical performance, the current spread may not be sustainable.

Bond Yields

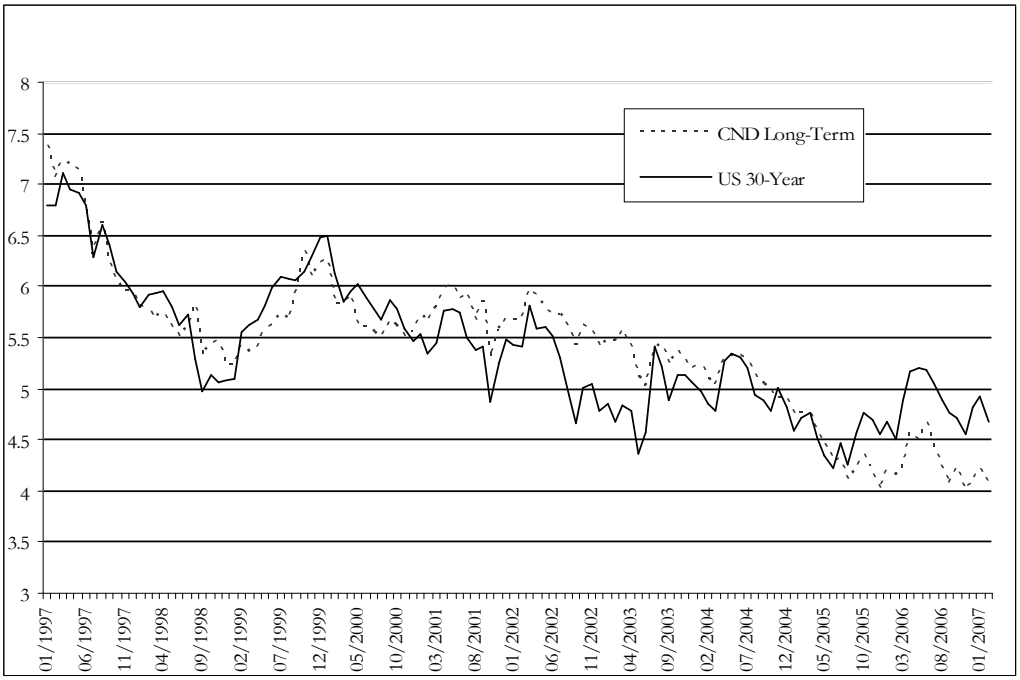
The correlation between the Canadian and U.S. Treasury bonds was noted by the NEB in its decision establishing an ROE formula for NEB-regulated pipelines. "[T]he Board is of the view that inflationary expectations in the U.S. are likely to put upward pressure on U.S. interest rates. This, in turn, is likely to exert upward pressure on Canadian interest rates."[41]

While the spread between Canadian and U.S. long-term bond yields has averaged three and two basis points over the past five and ten-year periods, respectively (with Canadian bond yields exceeding U.S. yields, on average), Canadian bond yields have decreased relative to U.S. bond yields over the past year. In addition, the forecast ten-year bond rate is 4.15 percent in Canada, as compared to the 4.85 percent forecast for the U.S. ten-year Note.[42] Inasmuch as this spread is expected to continue, it accounts for some of the current difference in ROEs between Canada and U.S. However, as the two yields have historically been very highly correlated, with a minimal spread between them, the difference in yields may not persist over the long run.

41 National Energy Board, Reasons for Decisions, RH-2-94, March 1995, at p. 6.

42 The ROE formula in Ontario uses the average of the three and 12 month forward ten-year Canadian bond forecasts, plus the historical spread between the ten and the 30-year bonds. For an approximation of the ten-year U.S. Note forecast of 4.85 percent, CEA used an average of the three and 12 month forward ten-year Treasury Note as supplied by Blue Chip Economic Indicators, October 10, 2006.

CHART 10: COMPARISON OF YIELDS ON THE CANADIAN LONG-TERM BOND VS. THE U.S. 30-YEAR BOND



Investor Base of Canadian Gas Utilities

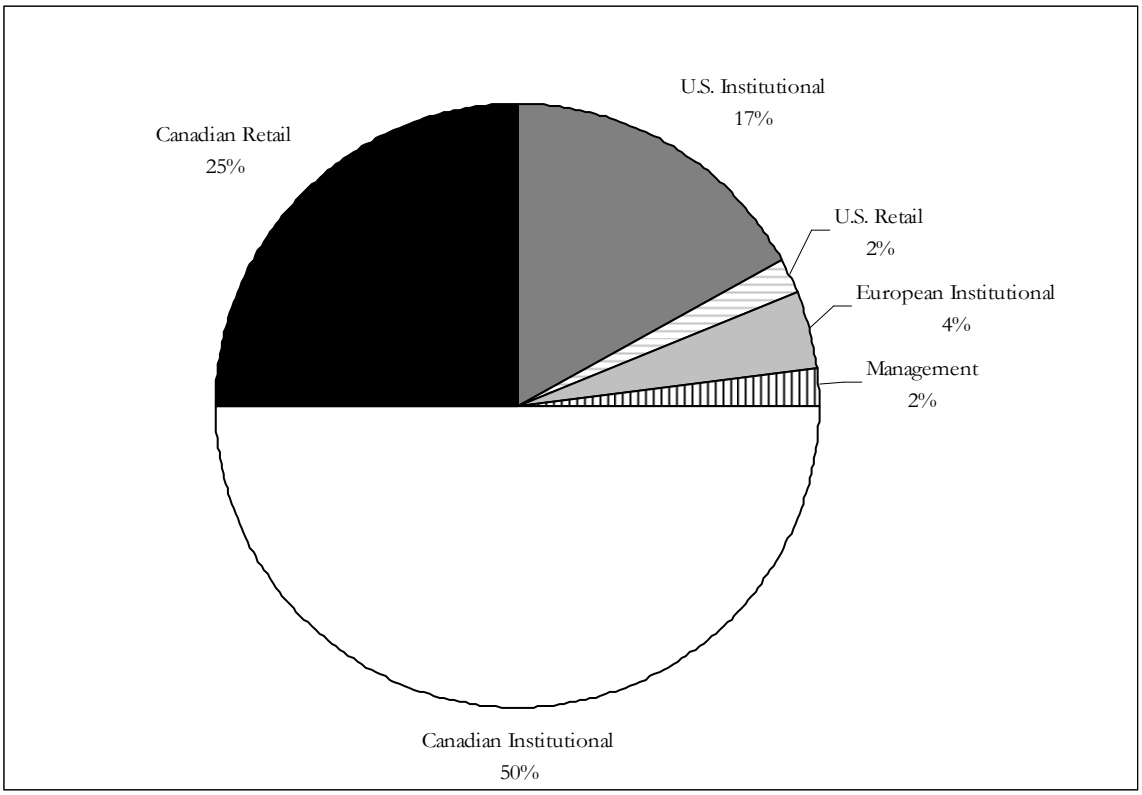
CEA has found evidence that there is a high degree of integration of the capital markets between the U.S. and Canada, though there appears to be evidence of a "home country" bias for investors, in that investors tend to seek investments in their home countries before investing abroad, using foreign holdings as a means of balancing portfolios. This may be due in part to preferential tax treatment encouraging local investment or reluctance on the part of the investor to invest in unfamiliar territory. Nonetheless, there is substantial institutional investment flowing across borders.

For example, according to a December 2003 CGA study, the average pension fund in Canada was invested 56 percent in equities and 44 percent in debt and other instruments, or roughly 60 percent equity and 40 percent debt. The assumed asset allocation was 35 percent Canadian equities, 12.5 percent U.S. equities, 12.5 percent International equities, and 40 percent bonds.[43] Similarly, the capitalization of Enbridge further illustrates the bias towards

[43] Andrews, Doug, An Examination of the Equity Risk Premium Assumed by Canadian Pension Plan Sponsors, July 2004, at p. 4.

investing in local companies, as indicated by a breakdown of the investor base in Enbridge Inc. As can be seen in Chart 11, 75 percent of Enbridge Inc.'s equity investors are Canadian. However, the U.S. share of investment is still significant at 19 percent of Enbridge's investor base. It is worthy to note that U.S. investors do play a significant role in the capitalization of Canadian companies. Even though the U.S. share is a minority, one could argue that in order to attract this incremental capital, Canadian companies are competing on the margin for the same capital as U.S. gas utilities.

CHART 11: ENBRIDGE INC. INVESTOR BASE[44]



Migration of Capital across U.S. and Canadian Border

The question remains, if the current differences between the Canadian and the U.S. equities markets are completely offsetting, and there is significant integration between U.S. and Canadian markets, how is it that Ontario utilities are not required to meet U.S. higher returns to attract capital in Ontario? Through interviews with key market participants and representatives of customer groups, and other individuals with past involvement in ROE

44 Source: Enbridge Inc.

proceedings, as well as analysis of the factors discussed above, there appear to be four primary reasons why capital is retained in Canada: (1) the home country bias; (2) Canadians perceive the U.S. regulatory environment to be more unpredictable than the Canadian regulatory environment; (3) most Canadian investor owned utilities are part of a greater holding company structure, where the parent has an obligation to maintain system integrity; and (4) market participants recognize the reciprocity of the ROE adjustment mechanism, and believe that returns are currently at the bottom.

On the issue of home country biases, some of the individuals among those surveyed for this study indicated that the average Canadian retail investor would not invest across the border to the U.S., despite the fact that returns might be higher. This may be due in part to tax incentives that are lost when investing in a foreign company. Further, pension funds have various internal restrictions that limit investment in foreign nations, to keep jobs and income in Canada. As such, large investors such as pension funds and mutual funds have prescribed investment levels in foreign markets.

To the second point of relative risk between the Canadian and the U.S. regulatory environments, certain of the individuals who were interviewed as part of this study alluded to the greater unpredictability of the U.S. regulatory environment versus that of Canada. The California energy crisis and changing and evolving regulatory structures in the U.S. were mentioned in discussions of relative risk of the U.S. versus the Canadian utility markets. It seems that despite the lower ROEs, the Canadian regulators are perceived by investors and analysts as being highly supportive. Some participants offered that even though current ROEs in Ontario were low, the protection afforded by the OEB to enable the utility to actually earn the authorized return was much more certain than in the U.S. Nothing was identified in this analysis to justify a differential between U.S. and Canadian returns on the basis of relative risk. Nonetheless, Canadian investors apparently perceive greater risk in investing in a U.S. utility versus that of a Canadian utility, and prefer to hold investments in their home country, where they believe returns are currently low but are not subject to the same risks of non-recovery as those of U.S. returns.

With respect to the third point, the natural gas distribution sector in Ontario and throughout much of Canada is comprised of several gas utilities that are part of a larger holding company structure. Though utilities that are part of a holding company structure may issue debt at the utility level, the flow of equity capital to these utilities typically comes from the parent in the way of equity infusions. While it is true that companies in a holding company structure compete for capital in much the same way as stand alone companies, an equity holder in a stand alone company can sell that investment, whereas there is little risk that utilities in a holding company structure would not be provided adequate capital by the parent to sustain their operations.

As many market participants stated during the survey phase of this study, a company makes a strategic commitment when deciding to invest in gas distribution in Canada. Most of the holding companies with Canadian utilities have diverse energy portfolios with a blend of returns. Even in an environment of lower allowed returns, key market participants indicated that they would either stay the course and provide all the capital necessary to provide a safe and efficient gas distribution system, or they would make a case to the regulatory authorities for regulatory relief. Few market participants indicated that they would divert capital to higher return jurisdictions, in order to minimize the effect of low returns. None indicated that they had considered abandoning utility operations in Canada due to the current return environment. As one key market participant stated, "you are either in the game or you are not". Thus, the regulator is largely in the driver's seat in this relationship, relying on principals of a fair return in setting allowed returns.

With respect to the final point, market participants recognize the symmetrical nature of the OEB adjustment mechanism and believe that interest rates are at historical lows and eventually will rebound. As demonstrated earlier in this report, the ROE adjustment mechanism may in fact be approaching its lowest point and its greatest disparity from U.S. returns. While CEA did not perform an analysis of the effect of allowed returns on the financial integrity of regulated utilities or on customers' rates, we do note that, all else being equal, at extremely low interest rates and correspondingly low returns, unexpected earnings variations (*i.e.*, deviations from those conditions that would have been anticipated when

setting rates) will generally have a more pronounced effect on the financial condition of the utilities, as those deviations would be applied to a smaller earnings base. Accordingly, in an extreme low (or high) interest rate environment (*i.e.*, at those points in which the ROEs in Canada and the U.S. would most greatly diverge), further consideration is warranted to assess whether the allowed return is consistent with the established standards.

VI. COMPETITION FOR CAPITAL FOR STAND-ALONE COMPANIES VERSUS SUBSIDIARIES

In general, subsidiaries of larger corporations compete for capital in much the same way that stand-alone entities would. Specifically, investment decisions at the parent level involve seeking a certain amount of return for a given amount of risk, much the same as investment decisions are made by investors when buying stakes in stand-alone companies or purchasing assets. Inasmuch as one subsidiary can provide a better return to the parent than another subsidiary of comparable risk, it is reasonable to assume the parent would prefer to invest in the more profitable company, all else being equal.

One important distinction, however, between stand-alone and subsidiary investments is the difference in relative liquidity of the investments. A parent company may have to accept lower returns from a subsidiary than it would demand from "outside", or third party, investments, especially if the parent has no easy, cost-effective method for exiting the business. In the words of one industry participant, a parent company is not going to let a subsidiary "flounder" because it offers substandard returns. In some ways, this effect is compounded for a utility company, in that it must maintain safe, dependable operations. However, a parent company would most likely seek to minimize additional capital investment in its underperforming subsidiary if a more attractive return were available elsewhere.

Additionally, affiliated companies can generate certain types of tax savings that stand-alone entities cannot. These tax savings can materialize in the form of one affiliated company being able to offset its taxable income with a loss from the operations of another affiliate. It is important to realize, however, that these tax savings do not affect the relative risk of the individual affiliated companies, and there is much debate as to the degree that these savings can and should affect the cost of capital at the subsidiary level.[45]

To test whether a "stand-alone" premium exists within the companies studied as part of this report, CEA segregated the Canadian and U.S. companies into stand-alone and subsidiary

[45] Please note that CEA is not offering an opinion regarding the issue of consolidated taxes as it pertains to utility rate-making in this report.

groupings. As stated previously, there are a multitude of jurisdictional and company-specific business, operating, financial, and regulatory risks that must be taken into consideration when evaluating individual utility ROEs and estimating the equity returns expected by investors. However, because the data set used comprises the entire population of recently set ROEs for gas distribution companies in Canada and the U.S., CEA used this as a starting point to determine if any discernible trend exists. A summary of these results is presented in Table 12.

TABLE 12: ROEs FOR STAND-ALONE VERSUS SUBSIDIARY COMPANIES

Utility Group	Stand-Alone	Subsidiary
Canada	8.94% (average for PNG companies)	8.62% (7 subsidiaries)
U.S.	9.86% (6 companies)	10.46% (28 subsidiaries)

As shown, the lone stand-alone company in Canada, Pacific Northern Gas ("PNG"), has, on average for its operating divisions, a higher allowed ROE than the remainder of the Canadian utilities, all of which are subsidiaries of larger corporations.[46] It should be noted, however, that PNG, with its three gas distribution companies, is known as being generally riskier than other Canadian utilities, due to its relative small size and reliance on large customers.

Conversely, in the U.S., over the last two years, stand-alone companies have, on average, been awarded lower ROEs than subsidiary companies. The spread between the mean ROEs of these two groups is 60 basis points. These conflicting results demonstrate two things: (1) that while corporate structure may influence ROE, its effect is not consistent within this group of companies; and (2) there are many other factors with greater effects on ROE. This result is consistent with the "independent firm approach" to ratemaking, whereby the subsidiary is treated as if it was an independent firm and requires the subsidiary to earn its stand-alone cost of equity. Required rates of return are thus considered a function of the risk of the asset, regardless of stock ownership.

[46] PNG is comprised of three divisions each with separate ROEs. However, as PNG has no other active operations, the company is considered "stand-alone" for purposes of this analysis.

VII. CONCLUSIONS AND SUMMARY OF FINDINGS

Based on the foregoing analyses, CEA's general conclusions are as follows:

(1) The average ROEs for Enbridge and Union (8.82 percent for 2006 and 8.47 percent for 2007) are approximately 150 to 185 basis points (1.50 percent to 1.85 percent) lower than average allowed U.S. ROEs for gas distribution utilities. When certain U.S. companies that are less comparable to the Ontario utilities are excluded from the comparison, the gap between Canadian and U.S. ROEs remains relatively constant, at between approximately 160 and 200 basis points.

(2) While the ranges of ROEs in Canada and the U.S. do not overlap, allowed returns in the U.S. are dispersed over a wider spectrum than in Canada, from 9.45 percent to 11.20 percent in the U.S. (*i.e.*, 175 basis points) versus from 8.37 percent to 9.07 percent in Canada (*i.e.*, 70 basis points). The range of ROEs for the narrower group of more comparable U.S. utilities is from 9.50 percent to 11.20 percent (*i.e.*, 170 basis points), roughly equivalent to that of the larger U.S. group.

(3) Enbridge and Union also have lower allowed equity ratios than U.S. companies, on average. Enbridge and Union's allowed equity percentages are currently 35.00 percent and 36.00 percent, as compared to 46.00 percent on average for the eight comparable U.S. companies (48.00 percent for the entire U.S. group). In general, financial theory would suggest that as equity ratios decrease, the cost of equity increases.

(4) The OEB's formulaic adjustment factor of .75 is reasonably reflective of the historical (*i.e.*, pre-1997) relationship between Canadian authorized returns and long term government bond yields. It also is significantly more sensitive to changes in interest rates than is suggested by regression results based on U.S. data. The difference in the interest rate sensitivity of each, the U.S. regression model and the Ontario adjustment mechanism, at least partially explains the recent disparity between U.S. authorized returns and Ontario authorized returns. The OEB ROE adjustment mechanism, however, is

reciprocal; as interest rates recover ROEs will rise at a faster rate in Ontario than in the U.S. Ontario authorized returns could eventually surpass U.S. authorized returns, if interest rates rise above the point at which they were when the mechanism was established in 1997.

(5) Through our research, CEA has identified a strong positive historical relationship between long term Canadian Bond yields and Canadian authorized returns. The ROE adjustment formula employed by the OEB appropriately characterizes that historical relationship. While CEA did not perform an analysis of the effect of allowed returns on the financial integrity of regulated utilities or on customers' rates, we do note that, all else being equal, at extremely low interest rates and correspondingly low returns, unexpected earnings variations (*i.e.*, deviations from those conditions that would have been anticipated when setting rates) will generally have a more pronounced effect on the financial condition of the utilities, as those deviations would be applied to a smaller earnings base. Accordingly, in an extreme low (or high) interest rate environment (*i.e.*, at those points in which the ROEs in Canada and the U.S. would most greatly diverge), further consideration is warranted to assess whether the allowed return is consistent with the established standards. This may require the consideration of additional qualitative and financial metrics in making the ROE determination.

(6) On the whole, there are no evident fundamental differences in the business and operating risks facing Ontario utilities as compared to those facing U.S. companies or other provinces' utilities that would explain the difference in ROEs.

(7) Other market related distinctions and resulting financial risk differences, particularly between Canada and the U.S., do exist. These factors, including differences in market structure, investor bases, regulatory environments, and other economic factors may have an impact on investors' return requirements for Canadian versus U.S. utility investments. However, through analysis and interviews with key market participants, representatives of customer groups, and other individuals with past involvement in ROE

proceedings in Canada and the U.S., these differences are determined to be negligible.

(8) While the gas markets in the U.K., the Netherlands, and Australia bear certain resemblances to those of Canada and the U.S., there are a few substantial differences that weaken the comparison. Thus, allowed returns in these countries are not considered adequate benchmarks against which to examine ROEs in Ontario.

(9) As a result of the interplay between the Canadian and U.S. markets, Canadian utilities compete for capital essentially on the same basis as utilities in the U.S.

(10) CEA concludes that stand-alone companies compete for capital just as subsidiaries of larger holding companies do, as the latter must compete among their affiliates for parental investment. Nonetheless, the parental obligation to invest necessary capital to maintain system integrity will typically provide the wholly owned subsidiary sufficient capital to sustain operations, where no such provision exists for stand alone utilities as external investors have no similar obligation to invest. Thus, one could argue that subsidiaries enjoy the benefit of more patient capital, but over time, the equity returns must ultimately reward the parent for investments of comparable risk.

VIII. LIST OF APPENDICES

Appendix A – Listing of market participants interviewed

Appendix B – Listing of data sources and documents considered

Appendix C – Discussion of significant ROE-related decisions in Canada and the U.S.

IX. LIST OF EXHIBITS

Exhibit 1 – "ROE Database" of Canadian and U.S. gas distribution companies

Exhibit 2 – Complete listing of U.S. gas distribution ROE awards, 2005 to present

APPENDIX A
LISTING OF INDIVIDUALS INTERVIEWED

As part of the research phase of this report, CEA interviewed many market participants, consumer group representatives, and other individuals with past or current involvement in ROE proceedings in Ontario and other jurisdictions. In addition, while not listed here, we would also like to thank the many individuals at the OEB, other regulatory boards, and companies who provided us documentation and other information during the process.

- Professor Laurence Booth, CIT Chair in Structured Finance, Rotman School of Management, University of Toronto
- Brad Boyle, Treasurer, Enbridge Gas Distribution Inc.
- R. J. Campbell, Manager, Regulatory Policy & Research, Enbridge Gas Distribution Inc.
- Bryan Gormley, Director, Policy & Economics, Canadian Gas Association
- Mike Packer, Director, Regulatory Affairs, Union Gas Limited
- Jay Shepherd, Counsel to the School Energy Coalition, Shibley Righton LLP
- Karen J. Taylor, Managing Director, Pipelines & Utilities Equity Research, BMO Capital Markets
- Peter Thompson Q.C., Counsel for the Industrial Gas Users Association, Borden, Ladner, Gervais LLP.
- An additional market participant who requested to remain anonymous.

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APPENDIX C
DISCUSSION OF SIGNIFICANT ROE-RELATED DECISIONS IN CANADA AND THE U.S.

The United States Supreme Court's precedent-setting *Hope* and *Bluefield* decisions established the standards for determining the fairness and reasonableness of a utility's allowed return on common equity. Among the standards established by the Court in those cases are: (1) consistency with other businesses having similar or comparable risks; and (2) adequacy of the return to support credit quality and access to capital.

The *Hope* and *Bluefield* cases read, in pertinent part:

> A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties; but it has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures. The return should be adequate, under efficient and economic management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties. A rate of return may be reasonable at one time and become too high or too low by changes affecting opportunities for investment, the money market and business conditions generally.[47]
>
> Rates which are not sufficient to yield a reasonable return on the value of the property used at the time it is being used to render the service are unjust, unreasonable and confiscatory…[48]
>
> From the investor or company point of view, it is important that there be enough revenue not only for operating expenses, but also for the capital costs of the business. These include service on the debt and dividends on the stock. By that standard the 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.[49]

The Supreme Court of Canada in *Northwestern Utilities vs. City of Edmonton* established a similar definition of fair return. As stated by Mr. Justice Lamont in that case:

> The duty of the Board was to fix fair and reasonable rates; rates which, under the circumstances, would be fair to the consumer on the one hand, and which, on the other hand, would secure to the company a fair return for the

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47 Bluefield Waterworks & Improvement Company v. Public Service Commission of West Virginia, 262 U.S. 679, 1923, at 692-693 ("Bluefield").

48 Id., at 690-692.

49 Federal Power Commission v. Hope Natural Gas Co., 320 U.S. 591, 1944, at 603 ("Hope").

> capital invested. By a fair return is meant that the company will be allowed as large a return on the capital invested in its enterprise (which will be net to the company) as it would receive if it were investing the same amount in other securities possessing an attractiveness, stability and certainty equal to that of the company's enterprise…[50]

The standards set out in these court cases are endorsed and used by the Federal Court of Canada and the NEB.[51] In its December 1971 Decision, the NEB concluded as follows in respect of the framework for consideration of an appropriate rate of return for TransCanada:

> The Board is of the opinion that in respect of rate regulation, its powers and responsibilities include on the one hand a responsibility to prevent exploitation of monopolistic opportunity to charge excessive prices, and equally include on the other hand the responsibility so to conduct the regulatory function that the regulated enterprise has the opportunity to recover its reasonable expenses, and to earn a reasonable return on capital usefully employed in providing utility service. Further, it holds that to be reasonable such return should be comparable with the return available from the application of the capital to other enterprises of like risk. The Board accepts that, with qualifications, the rate of return is the concept perhaps most commonly used to project for some future period the ratio of return which has been found appropriate for the capital employed usefully by a regulated enterprise in providing utility service in a defined test period. The expectation is that, pending major changes, that ratio will provide a return, notwithstanding changes in the amount of capital invested, which will be fair both from the viewpoint of the customers and from the viewpoint of present and prospective investors.

An example of how the NEB describes their utilization of the fair return standard is seen in the RH-2-2004 (Phase II) proceeding.[52]

> The Board is of the view that the fair return standard can be articulated by having reference to three particular requirements. Specifically, a fair or reasonable return on capital should:
> - be comparable to the return available from the application of the invested capital to other enterprises of like risk (the comparable investment standard);
> - enable the financial integrity of the regulated enterprise to be maintained (the financial integrity standard); and

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50 Northwestern Utilities v. City of Edmonton [1929] S.C.R. 186 (NUL 1929)

51 *See* TransCanada PipeLines Limited v. Canada (National Energy Board), [2004] F.C.A. 149, paragraphs 35 and 36; AO-1-RH-1-70 Reasons for Decision, pp. 6-6 through 6-9; RH-4-2001 Decision, pages 10-12.

52 Reasons for Decision, TransCanada PipeLines Limited, RH-2-2004, Phase II, April 2005, Cost of Capital.

- permit incremental capital to be attracted to the enterprise on reasonable terms and conditions (the capital attraction standard).[53]

Capital Structure:

The U.S. Supreme Court and various utility commissions have long recognized the role of capital structure in the development of a just and reasonable rate of return for a regulated utility. In particular, a utility's leverage, or debt ratio, has been explicitly recognized as an important element in determining a just and reasonable rate of return:

> Although the determination of whether bonds or stocks should be issued is for management, the matter of debt ratio is not exclusively within its province. Debt ratios substantially affect the manner and cost of obtaining new capital. It is therefore an important factor in the rate of return and must necessarily come within the authority of the body charged by law with the duty of fixing a just and reasonable rate of return.[54]

The NEB, in the RH-2-94 Multi-Pipeline Cost of Capital Decision, established the ROE for a benchmark pipeline to be applied to all pipelines in that hearing. It then determined that any risk differentials between the pipelines could be accounted for by adjusting the common equity ratio.[55]

The NEB stated that, "case law establishes that it is the overall return on capital to the company which ought to meet the comparable investment, financial integrity and capital attraction requirements of the fair return standard." Yet they indicated that this does not in the NEB's view, "require that the Board make the necessary determinations solely by means of examining evidence on overall return."[56]

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53 Id., at p. 17.

54 New England Telephone & Telegraph Co. v. State, 98 N.H. 211, 220, 97 A.2d 213, 1953, at 220-221 citing New England Tel. & Tel. Co. v. Department of Pub. Util., (Mass.) 327 Mass. 81, 97 N.E. 2d 509, 514; Petitions of New England Tel. & Tel. Co. 116 Vt. 480, A.2d 671 and Chesapeake & Potomac Tel. Co. v. Public Service Comm'n, (Md.) 201 Md. 170, 93 A..2d 249, 257.

55 RH-2-94, at p.25.

56 Reasons for Decision, TransCanada PipeLines Limited, RH-2-2004, Phase II, April 2005, Cost of Capital, at p. 19.

EXHIBIT 1 - ROE Database of Canadian and U.S. Gas Distribution Companies

					Parent Company							Customer Mix [1]								
Company	Jurisdiction	Most Recent ROE	Date	Allowed Equity %	Percent Regulated Revenue	Percent Regulated Net Income	Percent Gas Distribution Revenue	Book Value (million $CAD)	Total Revenue (million $CAD)	Gas Distribution Revenue (million $CAD)	Total Gas Distribution Customers	Ind.	Comm.	Res.	Whlsl & Other	Trans-portation	Gas Volume Sold ($10^9 m^3$)	Credit Rating (DBRS/ S&P)	Interest Cov. Ratio [2]	Un-bundled
CANADIAN COMPANIES																				
Enbridge Gas Distribution [3]	Ontario, CAN	8.39%	2007	35.00%	100%	100%	98%	$4,779	$3,016	$2,958	1,819,765	5%	23%	47%	2%	23%	11.55	A/A-	1.84	Y
Union Gas	Ontario, CAN	8.54%	2007	36.00%	100%	100%	91%	$3,442	$2,079	$2,046	1,268,000	12%	20%	7%	0%	61%	13.21	A/BBB+	1.91	Y
PNG, Ltd. (PNG West Division)	BC, CAN	9.02%	2007	40.00%	100%	100%	89%	$157	$139	$124	39,511	10%	22%	25%	0%	43%	0.33	BBB/BBB	2.47	Y
PNG, Ltd. (PNG Tumbler Ridge)	BC, CAN	9.02%	2007	36.00%	100%	100%	89%	[4]	[4]	[4]	[4]	[4]	[4]	[4]	[4]	[4]	[4]	BBB/BBB	[4]	Y
PNG, Ltd. (PNG Ft. St. John/Dawson Creek/FortisBC)	BC, CAN	8.77%	2007	36.00%	100%	100%	89%	[4]	[4]	[4]	[4]	[4]	[4]	[4]	[4]	[4]	[4]	BBB/BBB	[4]	Y
Terasen Gas Inc. (BCGU)	BC, CAN	8.37%	2007	35.00%	98%	100%	86%	$2,468	$1,525	$1,525	815,000	2%	18%	31%	0%	48%	5.72	A/A	2.06	Y
Terasen Gas (Vancouver Island) Inc.	BC, CAN	9.07%	2007	40.00%	98%	100%	86%	$2,124	[5]	$216	89,400	[5]	[5]	[5]	[5]	[5]	[5]	[5]	[5]	N
Gaz Metropolitain	Québec, CAN	8.95%	2006	38.50%	97%	100%	94%	$2,358	$2,004	$1,886	205,903	[5]	[5]	[5]	[5]	[5]	[5]	A/A	2.13	Y
Alta	Alberta, CAN	8.51%	2007	41.00%	100%	100%	100%	$151	$131	$126	63,532	1%	35%	64%	0%	0%	0.31	BBB	2.44	Y
ATCO [6]	Alberta, CAN	8.51%	2007	37.00%	38%	30%	31%	$4,123	$2,861	$903	969,877	7%	45%	48%	0%	0%	5.90	A/A	3.52	Y
AVERAGES		**8.72%**		**37.45%**	**93%**	**93%**	**85%**	**$2,450**	**$1,679**	**$1,223**	**658,874**	**6%**	**27%**	**37%**	**0%**	**29%**	**6.17**	**A-**	**2.34**	
Median		**8.86%**		**37.75%**																
Minimum		**8.37%**		**35.00%**																
Maximum		**9.07%**		**41.00%**																
U.S. COMPANIES [7]																				
U.S. Companies Determined to be More Comparable to Enbridge and Union																				
Southwest Gas Corp.	Arizona, U.S.	9.50%	2006	40.00%	85%	85%	85%	$887	$775	$661	588,720	6%	18%	28%	0%	48%	2.28	BBB-	2.34	N
Atlanta Gas Light Company	Georgia, U.S.	10.90%	2005	47.93%	97%	81%	62%	$2,250	$2,068	$1,281	1,546,000	3%	3%	94%	0%	0%	5.98	BBB+	3.77	Y
Northern Illinois Gas Company	Illinois, U.S.	10.51%	2005	56.37%	86%	100%	85%	$1,753	$2,845	$2,423	2,166,000	1%	10%	42%	0%	47%	12.43	AA	2.32	Y
Michigan Consolidated Gas Company	Michigan, U.S.	11.00%	2005	39.31%	94%	94%	83%	$2,139	$2,101	$1,751	1,300,000	29%	29%	29%	0%	12%	3.82	BBB	1.96	Y
CenterPoint Energy Resources	Minnesota, U.S.	9.71%	2006	46.14%	48%	26%	48%	$929	$1,456	$23.98	521,199	30%	30%	40%	0%	0%	1.78	BBB	2.83	N
Public Service Electric Gas	New Jersey, U.S.	10.00%	2006	47.40%	98%	98%	40%	$5,932	$5,465	$2,212.12	1,700,000	4%	36%	60%	0%	0%	8.98	BBB	2.29	Y
Puget Sound Energy, Inc.	Washington, U.S.	10.40%	2007	44.13%	100%	99%	39%	$5,982	$3,372	$1,300	713,000	4%	22%	49%	0%	25%	3.07	BBB-	1.89	N
Wisconsin Gas LLC	Wisconsin, U.S.	11.20%	2006	50.20%	100%	100%	36%	$2,268	$1,258	$803	588,800	11%	11%	36%	0%	43%	3.45	A-	3.82	N
AVERAGES		**10.40%**		**46.44%**	**89%**	**85%**	**60%**	**$2,767**	**$2,418**	**$1,307**	**1,140,465**	**11%**	**20%**	**47%**	**0%**	**22%**	**5.22**	**BBB+**	**2.65**	
Median		**10.46%**		**46.77%**																
Minimum		**9.50%**		**39.31%**																
Maximum		**11.20%**		**56.37%**																

					Parent Company							Customer Mix [1]								
Company	Jurisdiction	Most Recent ROE	Date	Allowed Equity %	Percent Regulated Revenue	Percent Regulated Net Income	Percent Gas Distribution Revenue	Book Value (million $CAD)	Total Revenue (million $CAD)	Gas Distribution Revenue (million $CAD)	Total Gas Distribution Customers	Ind.	Comm.	Res.	Whlsl & Other	Trans-portation	Gas Volume Sold ($10^9 m^3$)	Credit Rating (DBRS/ S&P)	Interest Cov. Ratio [2]	Un-bundled
Other U.S. Companies																				
Arkansas Oklahoma Gas Corp.	Arkansas, U.S.	9.70%	2005	41.04%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N
Arkansas Western Gas Company	Arkansas, U.S.	9.70%	2005	33.03%	23%	2%	2%	$413	$200	$200	151,000	26%	22%	34%	0%	18%	0.62	BB+	22.01	N
CenterPoint Energy Resources	Arkansas, U.S.	9.45%	2005	31.80%	51%	65%	48%	$929	$1,456	$24	521,199	30%	30%	40%	0%	0%	1.78	BBB	2.83	N
Public Service Company of CO	Colorado, U.S.	10.50%	2006	55.49%	99%	95%	33%	$6,183	$4,416	$1,464	1,255,330	8%	8%	35%	0%	49%	6.99	BBB	2.53	Partial
Southern Connecticut Gas Company	Connecticut, U.S.	10.00%	2005	51.28%	90%	99%	32%	$477	$364	$1,970	176,000	N/A	N/A	N/A	N/A	N/A	N/A	BBB+	2.35	N
Illinois Power Company	Illinois, U.S.	10.00%	2005	53.09%	89%	70%	13%	$2,711	$1,966	$630	430,000	19%	24%	57%	0%	0%	1.29	BBB+	4.68	Y
Interstate Power & Light Company	Iowa, U.S.	10.40%	2005	49.35%	96%	100%	20%	$2,650	$2,037	$417	239,372	6%	17%	24%	0%	53%	1.76	BBB+	4.37	N
Duke Energy Kentucky, Inc.	Kentucky, U.S.	10.20%	2005	54.45%	45%	45%	15%	$4,793	$1,874	$5,248	250,000	N/A	N/A	N/A	N/A	N/A	N/A	BBB+	12.52	Partial
Entergy Gulf States, Inc.	Louisiana, U.S.	10.50%	2005	47.52%	84%	61%	2%	$5,351	$4,270	$98	92,000	N/A	N/A	N/A	N/A	N/A	0.19	BBB	3.08	N
Baltimore Gas and Electric Company	Maryland, U.S.	11.00%	2005	48.40%	100%	100%	30%	$4,155	$3,499	$1,044	640,600	18%	32%	32%	0%	17%	3.26	BBB+	1.38	Y
Bay State Gas Company	Massachusetts, U.S.	10.00%	2005	53.95%	80%	68%	63%	$1,328	$363	$5,452	337,502	44%	20%	29%	0%	7%	2.34	BBB	2.25	Y
Consumers Energy Company	Michigan, U.S.	11.00%	2006	35.06%	99%	100%	41%	$8,372	$6,639	$2,755	1,714,000	N/A	N/A	N/A	N/A	N/A	8.75	BB	1.58	Y
Northern States Power Company - MN	Minnesota, U.S.	10.40%	2005	50.24%	100%	93%	19%	$5,234	$4,206	$864	418,994	22%	22%	43%	2%	11%	2.02	BBB	3.65	N
Central Hudson Gas & Electric	New York, U.S.	9.60%	2006	45.00%	66%	79%	16%	$845	$765	$181	367,000	N/A	N/A	N/A	N/A	N/A	N/A	A	3.76	Y
Orange & Rockland Utilities, Inc.	New York, U.S.	9.80%	2006	48.00%	100%	100%	29%	$989	$949	$675	125,589	5%	5%	63%		26%	0.35	A	2.64	Y
Vectren Energy Delivery Ohio	Ohio, U.S.	10.60%	2005	48.10%	81%	84%	60%	$933	$663	$401	318,000	47%	27%	27%	0%	0%	1.45	A-	2.46	Y
Oklahoma Natural Gas Co	Oklahoma, U.S.	9.90%	2005	46.76%	16%	14%	16%	$2,863	$5,436	$895	800,047	0%	9%	29%	8%	54%	10.74	BBB	2.16	N
PPL Gas Utilities Corp	Pennsylvania, U.S.	10.40%	2007	51.79%	69%	39%	5%	$7,244	$3,844	N/A	110,000	N/A	N/A	N/A	N/A	N/A	N/A	BBB	3.46	Y
South Carolina Electric & Gas	South Carolina, U.S.	10.25%	2005	50.75%	100%	100%	21%	$5,750	$2,775	$586	297,165	41%	28%	25%	0%	6%	1.23	A-	3.34	N
Virginia Natural Gas, Inc.	Virginia, U.S.	10.00%	2006	44.96%	97%	81%	62%	$525	$365	$1,702	264,000	4%	4%	92%	0%	0%	0.93	BBB+	3.77	Y
Avista Corp.	Washington, U.S.	10.40%	2005	40.00%	84%	89%	41%	$1,850	$1,386	$604	304,000	2%	19%	31%	25%	24%	1.78	BB+	2.12	N
Madison Gas and Electric Company	Wisconsin, U.S.	11.00%	2005	56.65%	103%	74%	40%	$794	$589	$237	138,000	4%	38%	55%	0%	3%	N/A	AA-	5.55	N
Wisconsin Public Service Corp	Wisconsin, U.S.	11.00%	2005	59.73%	100%	92%	31%	$449	$349	$515	306,293	10%	10%	30%	0%	50%	1.94	A+	3.60	N
Northern States Power Co-WI	Wisconsin, U.S.	11.00%	2006	53.66%	100%	101%	21%	$941	$853	$173	100,000	22%	22%	32%	5%	18%	0.50	BBB+	3.89	N
Wisconsin Electric Power Company	Wisconsin, U.S.	11.20%	2006	56.34%	100%	100%	19%	$5,199	$3,617	$685	452,600	12%	12%	39%	0%	38%	2.30	A-	6.12	N
Wisconsin Power and Light Co	Wisconsin, U.S.	10.80%	2007	54.00%	100%	100%	20%	$1,984	$1,626	$318	182,098	2%	19%	26%	0%	53%	1.23	A-	31.88	N
AVERAGES		**10.34%**		**48.48%**	**83%**	**78%**	**28%**	**$2,918**	**$2,180**	**$1,131**	**399,632**	**17%**	**19%**	**39%**	**2%**	**22%**	**2.57**	**BBB+**	**3.14**	
Median		**10.40%**		**49.80%**																
Minimum		**9.45%**		**31.80%**																
Maximum		**11.20%**		**59.73%**																
ALL U.S. - AVERAGES		**10.35%**		**48.00%**	**84%**	**80%**	**36%**	**$2,882**	**$2,238**	**$1,175**	**579,228**	**15%**	**19%**	**42%**	**2%**	**22%**	**3.33**	**BBB+**	**2.98**	
ALL U.S. - Median		**10.40%**		**48.10%**																
ALL U.S. - Minimum		**9.45%**		**31.80%**																
ALL U.S. - Maximum		**11.20%**		**59.73%**																

					Parent Company							Customer Mix [1]								
Company	Jurisdiction	Most Recent ROE	Date	Allowed Equity %	Percent Regulated Revenue	Percent Regulated Net Income	Percent Gas Distribution Revenue	Book Value (million $CAD)	Total Revenue (million $CAD)	Gas Distribution Revenue (million $CAD)	Total Gas Distribution Customers	Ind.	Comm.	Res.	Whlsl & Other	Trans-portation	Gas Volume Sold ($10^9 m^3$)	Credit Rating (DBRS/ S&P)	Interest Cov. Ratio [2]	Un-bundled

Notes:

[1] Customer mix is based on the best available information for each of the companies analyzed. For the most part, customer mix is based on volume of throughput per customer class. Where throughput information was not available, revenue by customer class was used. If neither of these types of information was available, CEA used number of customers by customer class. Enbridge's customer mix is based on revenue by customer type, based on Enbridge's 2007 test year rate case, EB-2006-0034, Exhibit C3, Tab 1, Schedule 1, p. 2. Union's customer mix is based on total 2007 forecast throughput for industrial, commercial, and residential customers, taking into account the approximate percentage of transportation throughput based on Union's 2006 MD&A. See EB-2005-0520, Exhibit C1, Summary Schedule 1, and Union Gas 2006 Annual Report.

[2] The mean interest coverage ratio for the U.S. companies is 4.8 times, but includes certain outlier data, such as 22 times for Arkansas Western Gas Company, 31.9 times for Wisconsin Power and Light Co, and 12.5 times for Duke Energy Kentucky. For this reason, CEA excluded the outlier data to arrive at the presented mean.

[3] While technically a gas distribution company, Enbridge classifies certain of it revenues as "transportation" revenues. Per Enbridge's 2006 Annual Information Form, "Under the transportation service, arrangement, a customer supplies natural gas at a TransCanada receipt point in western Canada or at a TransCanada delivery point in Ontario, and [Enbridge] redelivers an equal amount of gas to the customer's end-use location."

[4] Certain of Pacific Northern Gas, Ltd.'s information was presented at the holding company level only. For purposes of this table, that information is provided under PNG's West Division.

[5] Certain of Terasen Gas Inc.'s information was presented at the holding company level only. For purposes of this table, that information is provided under Terasen Gas Inc.

[6] Transportation volumes were unavailable for ATCO.

[7] Note: for U.S subsidiary companies for which financial statements were not available at the subsidiary level, CEA approximated book value and total revenue based on an estimate of the subsidiary's total contribution to the parent's consolidated operations. Estimates were made based on the best available data, which included customer numbers, revenue, and fixed assets.

EXHIBIT 2 - Complete Listing of U.S. Gas Distribution ROE Awards, 2005 to Present

State	Company	Case Identification	Date	Rate Increase ($M)	Return on Rate Base(%)	Return on Equity (%)	Equity /Total Cap (%)
Arizona	Southwest Gas Corp.	D-G-01551A-04-0876	2/15/2006	49.3	8.40%	9.50%	40.00%
Arkansas	CenterPoint Energy Resources	D-04-121-U	9/19/2005	-11.3	5.31%	9.45%	31.80%
Arkansas	Arkansas Western Gas Co.	D-04-176-U	11/2/2005	4.6	5.93%	9.70%	33.03%
Arkansas	Arkansas Oklahoma Gas Corp.	D-05-006-U	12/9/2005	4.4	6.61%	9.70%	41.04%
Colorado	Public Service Co. of CO	D-05S-264G	1/19/2006	22.5	8.70%	10.50%	55.49%
Connecticut	Southern Connecticut Gas Co.	D-05-03-17PH01	12/28/2005	26.7	8.85%	10.00%	51.28%
Georgia	Atlanta Gas Light Co.	D-18638-U	6/10/2005	0.0	8.53%	10.90%	47.93%
Illinois	Illinois Power Co.	D-04-0476	5/17/2005	11.3	8.18%	10.00%	53.09%
Illinois	Northern Illinois Gas Co.	D-04-0779	9/30/2005	54.2	8.85%	10.51%	56.37%
Iowa	Interstate Power & Light Co.	D-RPU-05-1	10/14/2005	14.0	8.68%	10.40%	49.35%
Kentucky	Duke Energy Kentucky Inc.	C-2005-00042	12/22/2005	8.1	8.10%	10.20%	54.45%
Louisiana	Entergy Gulf States Inc.	D-U-28035	7/6/2005	5.8	8.11%	10.50%	47.52%
Maryland	Baltimore Gas and Electric Co.	C-9036	12/21/2005	35.6	8.49%	11.00%	48.40%
Massachusetts	Bay State Gas Co.	DTE-05-27	11/30/2005	11.1	8.22%	10.00%	53.95%
Michigan	Michigan Consolidated Gas Co.	C-U-13898	4/28/2005	60.8	7.19%	11.00%	39.31%
Michigan	Consumers Energy Co.	C-U-14547	11/21/2006	80.8	6.69%	11.00%	35.06%
Minnesota	Northern States Power Co. - MN	D-G-002-GR-04-1511	8/11/2005	5.8	8.76%	10.40%	50.24%
Minnesota	CenterPoint Energy Resources	D-G-008/GR-051380	11/2/2006	21.0	7.54%	9.71%	46.14%
New Jersey	Public Service Electric Gas	D-GR05100845	11/9/2006	40.0	7.96%	10.00%	47.40%
New York	Central Hudson Gas & Electric	C-05-G-0935	7/24/2006	8.0	7.05%	9.60%	45.00%
New York	Orange & Rockland Utlts Inc.	C-05-G-1494	10/18/2006	12.0	7.99%	9.80%	48.00%
Ohio	Vectren Energy Delivery Ohio	C-04-571-GA-AIR	4/13/2005	15.7	8.94%	10.60%	48.10%
Oklahoma	Oklahoma Natural Gas Co	Ca-PUD-200400610	10/4/2005	57.5	8.74%	9.90%	46.76%
Pennsylvania	PPL Gas Utilities Corp	C-R-00061398	2/8/2007	8.1	8.44%	10.40%	51.79%
South Carolina	South Carolina Electric & Gas	D-2005-113-G	10/31/2005	22.9	8.43%	10.25%	50.75%
Virginia	Virginia Natural Gas Inc.	C-PUE-2005-00057	7/24/2006	0.0	7.83%	10.00%	44.96%
Washington	Avista Corp.	D-UE-05-0483	12/21/2005	1.0	9.11%	10.40%	40.00%
Washington	Puget Sound Energy Inc.	D-UG-060267	1/5/2007	29.5	8.40%	10.40%	44.13%
Wisconsin	Madison Gas and Electric Co.	D-3270-UR-114	12/12/2005	3.8	8.88%	11.00%	56.65%
Wisconsin	Wisconsin Public Service Corp	D-6690-UR-117 (elec.)	12/22/2005	7.2	8.83%	11.00%	59.73%
Wisconsin	Northern States Power Co-WI	D-4220-UR-114 (gas)	1/5/2006	3.9	9.97%	11.00%	53.66%
Wisconsin	Wisconsin Electric Power Co.	D-05-UR-102 (WEP-GAS)	1/25/2006	21.4	8.94%	11.20%	56.34%
Wisconsin	Wisconsin Gas LLC	D-05-UR-102 (WG)	1/25/2006	38.7	11.38%	11.20%	50.20%
Wisconsin	Wisconsin Power and Light Co	D.6680-UR-115 (gas)	1/11/2007	1.0	NA	10.80%	54.00%

Source: Regulatory Research Associates.