UNION GAS LIMITED

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PREFILED EVIDENCE OF

MICHAEL BROEDERS, MANAGER FINANCIAL PLANNING AND FORECASTING

This evidence addresses Union's cost of capital, capital structure, and financing plans. The cost of capital and capital structure approved by the Board for 2007 is as per the EB-2005-0520 Settlement Agreement, Appendix E, Schedule 3 (adjusted to reflect regulated services only and the 2007 Return on Equity ("ROE") as determined at the time using the October 2006 Consensus Forecast). The 2010 actual results are shown at Exhibit E6. The forecast for 2011 outlook, 2012 bridge and 2013 test years are shown at Exhibit E5, Exhibit E4, and Exhibit E3, respectively. Table 1 summarizes the cost of capital shown in these exhibits.

Table 1
Cost of Capital Summary

Line No.	$millions	Board Approved 2007 (a)	Actual 2010 (b)	Outlook 2011 (c)	Forecast 2012 (d)	Forecast 2013 (e)
1	Long-term debt	154.4	147.3	142.5	143.7	146.9
2	Short-term debt	(0.5)	1.1	1.4	1.6	(1.5)
3	Preferred equity	5.0	2.7	3.1	2.9	3.1
4	Common equity	100.6	109.7	103.9	107.4	143.4
5	Total	259.5	260.8	250.9	255.6	291.9

The $32.4 million increase in the 2013 cost of capital compared to the 2007 Board-approved cost is due to an increase in total rate base ($37.3 million), a proposed change in capital structure ($12.4

million[1]), and a proposed change to the ROE ($14.0 million[2]) which are offset by a lower average cost of debt ($31.3 million). These changes are discussed in more detail below.

OVERVIEW OF CAPITAL STRUCTURE AND FORMULA RETURN ON EQUITY RECOMMENDATION

Union's investment in rate base is financed by a combination of short-term and long-term debt, preferred shares and common equity. The current Board-approved capital structure is based on a 36% common equity component. The remaining 64% is financed by short-term and long-term debt and preferred shares.

Union is proposing an increase to its common equity component to 40%. Increasing Union's current 36% common equity to 40% will provide a capital structure that is comparable to the capital structures of other regulated utilities with whom Union competes in the capital markets. This will allow Union to finance capital expenditures at favourable debt rates.

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1 The pre-tax impact of the proposed capital structure change is $17.3 million. It is calculated using the 2013 rate base multiplied by the 4% change in equity multiplied by the difference between the pre-tax equity rate and the short-term interest rate of 1.31% ($3,741,542,000 x 4% x (9.58%/(1-0.255) – 1.31%)

2 The pre-tax impact of the proposed ROE change is $19.0 million. It is calculated using the 2013 rate base multiplied by the 2007 equity percentage and the change in ROE and grossed up by the 2013 tax rate ($3,741,542,000 x 36% x 1.04% / (1 - 25.5%)

Concurrent with the proposal to increase its common equity component, Union is requesting the use of the Board's current ROE formula to establish an appropriate allowed ROE. Please refer to the expert testimony of Mr. Steven Fetter and Mr. James Vander Weide, filed at Exhibit E2 and Exhibit F2 respectively. Mr. Fetter's testimony supports an increase to Union's common equity while Mr. Vander Weide supports Union applying the parameters of the Board's ROE formula in conjunction with the common equity increase.

Union's proposed capital structure for 2013 is compared to the most recently Board-approved capital structure in Table 2. The proposed capital structure which includes a 40% common equity component in 2013 and 9.58% ROE recognizes Union's business and financial risks and permits Union to finance the Company's investment needs.

Table 2
Comparison of Board-Approved and Proposed Capital Structure

Line No.		Board-Approved 2007		Proposed 2013	
		$ millions	%	$ millions	%
1	Long-term debt	2,016.8	61.66	2,258.0	60.35
2	Short-term debt	(28.9)	(0.89)	(115.3)	(3.08)
3	Preferred equity	105.5	3.23	102.2	2.73
4	Common Equity	1,177.5	36.00	1,496.6	40.00
5		3,270.9	100.00	3,741.5	100.00

The impact of the proposed 4% increase in common equity in 2013 is a $17.3 million increase to the 2013 revenue requirement (please refer to footnote 1 on page 2).

Financial Risk

Union assesses financial risk principally by reference to the ability to finance future growth. In Union's view, the approved capital structure must allow the Company to raise capital in the market when it is needed under reasonable terms and conditions. Union's proposal to increase the common equity component to 40% provides financing capacity for Union's investment growth forecast for 2013.

Assessment of Business Risk

Business risks lead to variations in operating income. The risk is the probability that the return to the Company will fall short of the expected return. Union's earnings are impacted by business risks inherent in the natural gas industry and energy marketplace. Specifically, Union's earnings may be adversely impacted by warmer than normal weather; decreases in customer's consumption beyond the level forecast; general economic conditions; and, cost escalation.

The determination of the appropriate capital structure should take into account the variability of returns from one year to the next to provide sufficient financing flexibility.

Each of these factors is discussed below.

a) Weather risk - Warmer than normal weather results in reduced delivered volumes and reduced operating income. As proposed in Mr. Paul Gardiner's evidence at Exhibit C1, Tab 5, the Company's normal weather forecast for the 2013 test year is based on a 20-year declining trend in heating degree days.

b) Consumption risk – Union's earnings can be reduced as a result of large commercial and industrial customers reducing natural gas consumption below the level built into the test year forecast.

c) Lower interest rates – Changes in interest rates have two significant impacts on earnings. First, a 50 basis point ("bps") drop in interest rates would reduce the ROE and therefore reduce available earnings by $5.0 million per year dropping the interest coverage ratio by approximately 0.03.

Secondly, a 50 bps drop in interest rates will increase pension and other post-employment benefits costs by $2.5 million per year reducing available earnings and dropping the interest coverage ratio by approximately 0.01.

d) Cost escalation risk – In addition to increases in pension and benefits costs identified above, the Company can experience potential increases in other costs that can have a significant impact on earnings. These include but are not limited to bad debt expense, vehicle fuel, Company-used gas and unaccounted for gas ("UFG").

Accordingly, it is Union's view that an increase in common equity from 36% to 40% is warranted and necessary. This increase provides Union with the ability to finance capital expenditures needed to serve customers at favourable debt costs.

FINANCING PLANS

This evidence summarizes Union's financing plans with respect to short-term debt, long-term debt, and preferred shares. Further details regarding Union's current cost of capital can be found in its 2010 Annual Report filed at Exhibit A3, Tab 2.

Short Term Debt

Union has a $500 million credit facility which will expire in July 2012. It is anticipated that it will be replaced with a $400 million credit facility. Short term borrowing levels fluctuate significantly during the year due to Union's need to fund construction activities; the timing of long-term debt issues and maturities; and, the seasonality of the Company's business. Peak borrowings are forecast to reach $353.9 million in 2013. The additional short-term borrowing capacity over the peak borrowing forecast is necessary to compensate for fluctuations in gas commodity prices.

The average amount of the short-term debt in the utility capital structure for 2013 is the difference between the average utility rate base and the total of the common equity component, the preferred share component, and the long-term debt component. The difference between the short-term debt included in the utility capital structure and the Company's average short-term borrowings for the period is related to the financing of items that are not included in utility rate base, primarily construction work in process ("CWIP").

The cost of short-term debt used in the cost of capital calculation reflects the projected Canadian Dealer Offered Rate ("CDOR") which represents the 1-month bankers' acceptances minus a spread of 0.10% (based on historical experience), plus issue costs of 0.10%.

In the past the fixed portion of short-term debt representing arrangement, facility and agency fees have been small and have been included within the short-term debt rate. The treatment in the past can cause variations in the debt rate depending on the magnitude of costs as well as the associated short-term debt level. These costs have grown and are now a larger proportion of the cost of short-term debt. Beginning in 2013, Union is proposing to move the fixed program costs to "Other financing" as shown on line 8 in Exhibit F3, Tab 2, Schedule 1. This change will result in the short-term debt rate being more reflective of market conditions and will eliminate the impact the level of short-term debt has on the short-term debt rate.

Exhibits E3 to E6, Tab 1, Schedule 4 show the cost of short-term debt for the years 2013, 2012, 2011 and 2010 respectively.

Long Term Debt

Union has a Medium Term Note ("MTN") program under a shelf prospectus that allows it to issue up to $500.0 million of debentures with terms ranging from 1 to 31 years. The MTN program allows Union to issue debt on a frequent basis to meet its financing needs. Debt can be issued with varying terms to manage the maturity profile, such that significant refinancing risk in any one period can be avoided while still prudently securing long-term financing for the long-lived assets of the Company. The MTN program also provides the flexibility to stagger maturities such that frequent refinancing of Union's long-term debt results in an embedded cost which reflects the average of market interest rates across economic cycles. The current shelf prospectus will expire in October 2012 and Union expects to file a new shelf prospectus, with similar terms, prior to expiration.

In June 2011, Union issued $300.0 million of MTNs with a 30-year term and a coupon rate of 4.88% (4.93% effective cost rate). Therefore, Union could issue an additional $200.0 million under the current shelf prospectus. The forecast reflects an additional issuance of $125 million in the last quarter of 2012 at a coupon rate of 3.85% (3.90% effective cost rate). There are no scheduled redemptions of long-term debt between the date of filing and December 31, 2013. The next maturity date of existing debt is February 24, 2014 for $150 million. A listing of Union's outstanding long term debt can be found at Exhibit E3, Tab 1, Schedule 2.

Union's embedded cost of long term debt is expected to decrease from 7.66% in 2007 to 6.50% in 2013.

Preferred Shares

The average embedded cost of preferred share capital for the 2013 test year is 3.05%. This is a decrease from the 2007 Board-approved level of 4.74%.

Union has four preference share issues which are all redeemable at the option of the Company. The dividend rate of the Class B, Series 10 Shares is floating at an annual rate equal to 80% of the prime rate until December 31, 2013.

Formula Based Return on Equity

As noted above, Union is requesting the use of the Board's current ROE formula to establish an appropriate allowed ROE. In applying the formula, Union's 2013 cost of service forecast has been prepared using an ROE of 9.58%, which aligns with the ROE provided by the Board for electricity distributors with a May 1, 2011 effective date for rate changes. The ROE embedded in Union's rates effective January 1, 2013 will be in accordance with the current ROE formula reflecting the September 2012 actual and forecast bond yields. A 50 bps change in the ROE changes the revenue deficiency by approximately $10.0 million. Please refer to the schedules at Exhibit F3, Tab 1 which summarize Union's ROE and revenue deficiency for 2013.

DEBT RATINGS

Union considers it prudent to plan for an "A" debt rating. This rating provides a safety net in the event of a rating downgrade and helps Union achieve the lowest risk adjusted cost of debt. The debt ratings of Union's capital instruments by Standard & Poor's and DBRS are shown below. Copies of these reports can be found at Exhibit A3, Tab 6. The Standard & Poor's debenture ratings are a Global Scale Rating while the commercial paper and preference share ratings are National Scale Ratings.

	Standard & Poor's	Dominion Bond Rating Service
Commercial paper	A – 1 (low)	R – 1 (Low)
Debentures	BBB+	A
Preference shares	P – 2 (low)	Pfd – 2

The S&P debenture rating reflects the consolidated credit profile of Spectra Energy.

I. INTRODUCTION AND PURPOSE

Q. PLEASE STATE YOUR NAME, POSITION AND BUSINESS ADDRESS.

A. My name is Steven M. Fetter. I am President of Regulation UnFettered. My business address is P.O Box 280, Nordland, Washington 98358.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. I have been asked by Union Gas Limited ("Union Gas" or "Company") to use my experience as a state utility regulator and head of utility ratings at a major rating agency, followed by time as an energy consultant advising and assisting utilities, commissions, and consumer advocates, to recommend the appropriate equity thickness for the Company within this rate proceeding before the Ontario Energy Board ("OEB" or "Board"). As part of my direct testimony, I will focus on the manner in which credit rating agencies assess equity thickness within their financial analysis underlying their assignment of credit ratings.

I conclude that, with OEB support for an enhanced equity thickness within the range of 40 to 42%, Union Gas' financial profile would improve, ultimately benefiting its customers through the Company's enhanced ability to attract capital from investors when needed and upon reasonable terms.

II. BACKGROUND

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am President of Regulation UnFettered, a utility advisory firm I started in April 2002. Prior to that, I was employed by Fitch, Inc. ("Fitch"), a credit rating agency based in New York and London. Prior to that, I served as Chairman of the Michigan Public Service Commission ("Michigan PSC"). Earlier I served as Majority General Counsel to the Michigan State Senate and Assistant Legal Counsel to Michigan Governor William Milliken, and as Acting Deputy Under Secretary of Labor and appellate litigation attorney at the National Labor Relations Board in Washington, D.C.

Q. WHAT IS YOUR EDUCATIONAL BACKGROUND?

A. I graduated with high honors from the University of Michigan with a Bachelor of Arts degree in Communications in 1974. I graduated from the University of Michigan Law School with a Juris Doctor degree in 1979.

Q. PLEASE DESCRIBE YOUR SERVICE ON THE MICHIGAN PUBLIC SERVICE COMMISSION.

A. I was appointed as a Commissioner to the three-member Michigan PSC in October 1987 by Democratic Governor James Blanchard. In January 1991, I was promoted to Chairman by incoming Republican Governor John Engler, who reappointed me in July 1993. During my tenure as Chairman, timeliness of commission processes was a major focus and my colleagues and I achieved the goal of eliminating the agency's case backlog for the first time in 23 years.

Q. PLEASE BRIEFLY DESCRIBE YOUR ROLE AS PRESIDENT OF REGULATION UNFETTERED.

A. I formed a utility advisory firm to use my financial, regulatory, legislative, and legal expertise to aid the deliberations of regulators, legislative bodies, and the courts, and to assist them in evaluating regulatory issues. Since April 2002, I have participated as an expert witness in over 85 cases related to utilities, most of the time testifying as to credit rating issues and regulatory climate (see Appendix A). My clients include investor-owned and municipal electricity, natural gas and water utilities, state public utility commissions and consumer advocates, non-utility energy suppliers, international financial services and consulting firms, and investors.

Q. WHAT WAS YOUR ROLE DURING YOUR EMPLOYMENT WITH FITCH?

A. I was Group Head and Managing Director of the Global Power Group within Fitch. In that role, I served as group manager of the combined 18-person New York and Chicago utility team. I was originally hired to interpret the impact of regulatory, legislative, and political developments on utility credit ratings, a responsibility I continued to have throughout my tenure at the rating agency. In April 2002, I left Fitch to start Regulation UnFettered.

Q. HOW LONG WERE YOU EMPLOYED BY FITCH?

A. I was employed by Fitch from October 1993 until April 2002. In addition, Fitch retained me as a consultant for a period of approximately six months shortly after I resigned.

Q. HOW DOES YOUR EXPERIENCE RELATE TO YOUR TESTIMONY IN THIS PROCEEDING?

A. My experience as Chairman and Commissioner on the Michigan PSC and my subsequent professional experience analyzing the electricity and natural gas sectors – in jurisdictions involved in restructuring activity as well as those still following a traditional regulated path – have given me solid insight into the importance of a regulator's role in setting rates and also in determining appropriate terms and conditions of service for regulated utilities. These are among the factors that enter into the process of utility credit analysis and formulation of individual company credit ratings. It is undeniable that a utility's credit ratings significantly affect the ability of a utility to raise capital on a timely basis and upon reasonable terms It is also crucial that a regulated utility be in a position to raise capital in all phases of its business cycle and whatever the circumstances within the financial markets.

Q. HAVE YOU PREVIOUSLY GIVEN TESTIMONY BEFORE REGULATORY AND LEGISLATIVE BODIES?

A. Since 1990, I have testified on numerous occasions before the U.S. Senate, the U.S. House of Representatives, the Federal Energy Regulatory Commission

("FERC"), federal district and bankruptcy courts, and various state and provincial legislative, judicial, and/or regulatory bodies on the subjects of credit risk within the utility sector, electricity and natural gas utility restructuring, fuel and other energy cost adjustment mechanisms, construction work in progress and other interim rate recovery structures, utility securitization bonds, and nuclear energy. I recently testified before the Alberta Utilities Commission on behalf of AltaLink, L.P. in its General Tariff Application 2011-13. Also, during my tenure at Fitch, I served on a team that provided strategic advice to Ontario Hydro prior to its restructuring in 1999.

My full educational and professional background (including a list of prior testimony) is presented in Union Gas Exhibit SMF-1.

III. DISCUSSION

Q. YOU MENTION THE IMPORTANCE OF CREDIT RATINGS TO UNION GAS. CAN YOU PROVIDE AN OVERVIEW OF THE CREDIT RATING PROCESS?

A. Yes. Credit ratings reflect a credit rating agency's independent judgment of the general creditworthiness of an obligor or the creditworthiness of a specific debt instrument. While credit ratings are important to both debt and equity investors for a variety of reasons, their most important purpose is to communicate to investors the financial strength of a company or the underlying credit quality of a particular debt security issued by that company. Credit rating determinations are made through a committee process involving individuals with knowledge of a company, its industry, and its regulatory environment. Corporate rating designations of S&P and Fitch basically have 'AA', 'A' and 'BBB' category ratings within the investment-grade ratings sphere, with ‘BBB-’ as the lowest investment-grade rating and ‘BB+’ as the highest non-investment-grade rating. DBRS utilizes similar designations, but substitutes “high” / “low” in place of “+” or “-”. Comparable rating designations of Moody’s at the investment-grade dividing line are ‘Baa3’ and ‘Ba1’, respectively.

Corporate credit ratings analysis considers both qualitative and quantitative factors to assess the financial and business risks of fixed-income issuers. A credit rating is an indication of an issuer’s ability to service its debt, both principal and interest, on a timely basis. It also at times incorporates some consideration of the ultimate recovery of investment in case of default or insolvency. Ratings can also be used by contractual counterparties to gauge both the short-term and longer-term health and viability of a company. Credit ratings are very important to institutional investors because rating levels often dictate the types of investments that are appropriate and/or permissible for a specific investor.

Q. CAN YOU PROVIDE A BRIEF DISCUSSION ON WHY CREDIT RATINGS ARE IMPORTANT FOR REGULATED UTILITIES AND THEIR RATEPAYERS?

A. Yes. It is a well-established fact that a utility’s credit ratings have a significant impact as to whether that utility will be able to raise capital on a timely basis and upon reasonable terms. As respected economist Charles F. Phillips stated in his treatise on utility regulation:

> Bond ratings are important for at least four reasons: (1) they are used by investors in determining the quality of debt investment; (2) they are used in determining the breadth of the market, since some large institutional investors are prohibited from investing in the lower grades; (3) **they determine, in part, the cost of new debt, since both the interest charges on new debt and the degree of difficulty in marketing new issues tend to rise as the rating decreases**; and (4) they have an indirect bearing on the status of a utility’s stock and on its acceptance in the market.[1] [Emphasis supplied]

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[1] Phillips, Charles F., Jr., The Regulation of Public Utilities, Arlington, Virginia: Public Utilities Reports,

Thus, a utility with strong credit ratings is not only able to access the capital markets on a timely basis at reasonable rates – especially during periods of economic turmoil, it also is able to share the benefit from those attractive interest rate levels with ratepayers since cost of capital gets factored into utility rates. Conversely, the lower a regulated utility's credit rating, the more the utility will have to pay to raise funds from debt and equity investors to carry out its capital-intensive operations. In turn, the ratemaking process factors the cost of capital for both debt and equity into the rates that consumers are required to pay. This is especially true for a utility like Union Gas, with a large customer base that includes manufacturing companies whose natural gas usage has been affected by the current economic downturn.

Q. PLEASE DESCRIBE THE QUALITATIVE FACTORS USED BY THE RATING AGENCIES.

A. The most important qualitative factors include regulation, management and business strategy, and, for integrated electricity and natural gas utilities, access to energy, gas and fuel supply with recovery of associated costs.

Q. WOULD YOU ALSO IDENTIFY THE KEY QUANTITATIVE MEASURES?

A. Rating agencies use several financial measures within their utility financial analysis. S&P currently highlights the following three ratios as its key indicators: Funds from Operations / Debt [FFO/Debt]; Debt / Earnings Before Interest, Taxes, Depreciation and Amortization [Debt/EBITDA]; and Debt / Capital.[2] Rating

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Inc., 1993, at p. 250. See also Public Utilities Reports Guide: "Finance," Public Utilities Reports, Inc., 2004 at pp. 6-7 ("Generally, the higher the rating of the bond, the better the access to capital markets and the lower the interest to be paid.").

[2] S&P Research: "Criteria Methodology: Business Risk/Financial Risk Matrix Expanded," May 27, 2009.

agencies may adjust these key ratios to reflect imputed debt and interest-like fixed charges related to operating leases and certain other off-balance sheet obligations. While all three ratios are important, S&P has noted the agency's greater emphasis on level of cash flow, as indicated by the FFO / Debt ratio: "Cash flow analysis is the single most critical aspect of all credit rating decisions."[3]

Q. YOU HAVE DESCRIBED REGULATION AS A KEY COMPONENT OF THE CREDIT RATING PROCESS. PLEASE EXPLAIN YOUR THOUGHTS ON THE IMPORTANCE OF REGULATION WITHIN THE CREDIT RATING PROCESS.

A. Regulation is a critical factor in assessing the credit profile of a utility because a provincial public utility commission determines rate levels (recoverable expenses including depreciation and operations and maintenance, fuel cost recovery, and return on investment) and the terms and conditions of service.

With the onset of utility restructuring in the early 1990's[4], regulation has become an even more important factor as the nature of a utility's responsibilities in providing energy services to ratepayers has undergone dramatic change. This situation affects utility investors' decisions because, before major investors will be willing to put forward substantial sums of money, they will want to gain comfort that regulators understand the economic requirements and the financial and

[3] S&P Research: "A Closer Look at Ratings Methodology," November 13, 2006.

[4] Natural gas competition in the U.S. was introduced in the early 1990's timeframe relatively smoothly as a result of regulatory policymaking at the Federal Energy Regulatory Commission – basically deregulating and separating the natural gas supply function from the pipelines' transmission function from the local distribution utilities' regulated distribution activities. On the electricity side, California in 1995 was the first U.S. state to separate electricity generation from the transmission and distribution functions of regulated electricity utilities, an ultimately flawed initiative due to a structure that froze retail rates while allowing wholesale rates to fluctuate, sometimes as a result of gaming by wholesale generators and marketers.

operational risks of a rapidly changing industry and that their decision-making will be fair and will have a significant degree of predictability.

For these reasons, rating agencies look for the consistent application of sound economic regulatory principles by utility regulators. If a regulatory body were to encourage a company to make investments based upon an expectation of the opportunity to earn a reasonable return, and then did not apply regulatory principles in a manner consistent with such expectations, investor interest in providing funds to such utility would decline, debt ratings would likely suffer, and the utility's cost of capital would increase.

Q. HAVE THE RECENT FINANCIAL AND OPERATIONAL CHALLENGES FACING ALL UTILITY MANAGEMENTS INCREASED THE FINANCIAL COMMUNITY'S FOCUS ON THE ACTIONS OF UTILITY REGULATORS?

A. Yes, without a doubt. The recent turmoil in the financial markets has tested the financial standing of the utility sector like never before. Liquidity, or access to cash when needed, has always been a major issue for regulated utilities, but it has leaped to the forefront of utility financial and operational concerns and has driven structural decisions on the part of utility executives. As the Wall Street Journal reported at the beginning of the financial crisis, "Disruptions in credit markets are jolting the capital-hungry utility sector, forcing companies to delay new borrowing or to come up with different – and often more costly – ways of raising cash."[5]

[5] "Utilities' Plans Hit by Credit Markets," Wall Street Journal, October 1, 2008.

Thus, while “Regulation” has always garnered the attention of the financial community, years ago it seemed to be a focus only during the days leading up to a regulator’s rate case decision. This began to change around the time that Fitch hired me in 1993 to serve in the role of regulatory analyst and assess regulatory, legislative and political factors that could affect a utility’s financial strength. When California announced its ultimately ill-fated restructuring plan in 1994, the entire financial community took much greater notice of regulators and how they carried out their responsibilities, not only with regard to rate-setting, but also the manner in which they considered restructuring of the entire utility industry. And of course the recent stresses within the credit markets I referred to earlier with their huge financial repercussions have increased the stakes substantially beyond regulators merely having to adjust their policies to deal with flawed restructuring initiatives.

Q. DO THE RATING AGENCIES AGREE THAT UTILITY REGULATORS AND THEIR DECISION-MAKING CONTINUE TO BE IMPORTANT WITHIN THE CREDIT RATING PROCESS?

A. Yes. S&P highlighted the critical role that regulators play in a November 26, 2008 report entitled “Key Credit Factors: Business and Financial Risks in the Investor-Owned Utilities Industry”:

> Regulation is the most critical aspect that underlies regulated integrated utilities’ creditworthiness. Regulatory decisions can profoundly affect financial performance. Our assessment of the regulatory environments in which a utility operates is guided by certain principles, most prominently consistency and predictability, as well as efficiency and timeliness. For a regulatory process to be considered supportive of credit quality, it must limit uncertainty in the recovery of a utility’s investment.

Q. IS IT REASONABLE TO EXPECT THAT THESE STATEMENTS ABOUT THE IMPORTANCE OF REGULATION FIND SPECIFIC APPLICABILITY WITH REGARD TO THE POLICIES OF THE OEB?

A. Yes, very much so. Virtually every time a rating agency modifies or affirms a utility credit rating, mention is made of the regulatory body within the relevant jurisdiction and how its policies are factored into the rating determination. For example, in a May 4, 2011 report issued on Union Gas, S&P stated:

> Our view that regulatory protection is robust reflects the OEB's power and the provisions in the undertakings agreement. The regulator has what we believe are exceptional powers (from the Minister of Energy) to ensure that Union Gas continues to operate safely and efficiently, through a sound financial base. This is particularly important in the event that the parent company faces financial distress. The undertakings agreement between Spectra Energy and the OEB governs the financial and business activity of Union Gas to ensure operating sustainability. Some major provisions include a minimum equity level requirement (which can limit dividend payouts), quarterly capital structure forecasts, asset sale restrictions, and financial penalties for noncompliance.[6]

With all of these protections, S&P goes on to note a refinement within its traditional consolidated rating methodology:

> We continue to equalize [Union Gas'] ratings with those of the parent, which is consistent with our consolidated rating methodology and our usual treatment of regulated subsidiaries. Nevertheless, in our view, regulatory protection (through the OEB) of Union Gas is such that the ratings on it might not remain limited by the ratings on Spectra Energy in the event that the latter begins to deteriorate – which is consistent with our rating methodology that allows the separation of a utility and its parent in specific circumstances. We base this on the premise that under financial distress, Spectra Energy would have limited ability to withdraw cash

[6] S&P Research: "Union Gas Ltd.," May 4, 2011.

> or increase debt at Union Gas, protecting the utilities' financial risk profile.

This distinction is important, because, contrary to S&P's usual treatment of a regulated utility's ratings being tied to the ratings of its unregulated parent, the rating agency acknowledges that there is a degree of insulation for Union Gas' ratings vis-à-vis its parent, and also that financial support for Union Gas coming out of this proceeding could benefit the regulated utility's ratings without necessarily having any impact on the parent company's ratings.

Similarly, in January 2011, DBRS published its views on the importance of regulatory support:

> [T]he Company operates in a stable, supportive regulatory environment that allows it to recover prudently incurred operating expenses and capital expenditures in a timely manner and earn a reasonable return on its investments.[7]

Q. YOU DESCRIBED EARLIER THREE KEY QUANTITATIVE MEASURES USED BY THE RATING AGENCIES. CAN YOU DISCUSS HOW S&P FRAMES THE QUALITATIVE AND QUANTITATIVE FACTORS INTO A MATRIX TO ASSIST ANALYSTS AND INVESTORS?

A. Yes. As can be seen in the rating agency statements above, financial performance continues to be a very important element in credit rating analysis. Building upon the three indicative ratios, S&P has explained how it views the interplay between quantitative and qualitative factors. As part of its utility credit rating process, S&P arrives at a "Business Risk Profile" designation that it

[7] DBRS Research: "Union Gas Limited," January 31, 2011.

considers in concert with its "Financial Risk Profile." Financial Risk is assessed based upon indicative ratios for the three key credit measures described above; the weaker the Business Risk Profile designation, the stronger the financial ratios must be in order to support an investment-grade rating.[8]

Q. WHAT DOES S&P'S BUSINESS RISK PROFILE DESIGNATION REFLECT?

A. The Business Risk Profile designation reflects S&P's assessment of qualitative factors such as country risk, industry risk, competitive position, and profitability / peer group comparisons. In the past, S&P explained that assessment of regulation, markets, operations, competitiveness, and management enters into the determination of a Business Risk designation.[9] Under the S&P Methodology, Business Risk Profiles are ranked as 'Excellent', 'Strong', 'Satisfactory', 'Fair', 'Weak', or 'Vulnerable'. Similarly, under S&P's current framework, the Financial Risk designation captures risks related to accounting, financial governance and policies / risk tolerance, cash flow adequacy, capital structure / asset protection, and liquidity / short-term factors. Financial Risk Profiles are designated as 'Minimal', 'Modest', 'Intermediate', 'Significant', 'Aggressive', or 'Highly Leveraged', words that are used more for ranking than they are accurate descriptions of the strategies adopted by regulated utilities or the actions taken by their regulators.

Union Gas has been assigned an S&P Business Risk Profile of 'Strong', and a Financial Risk Profile of 'Intermediate'. As shown in S&P's Table 1 printed

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[8] S&P Research: "Canadian Utilities: Strongest to Weakest," May 9, 2011.

[9] S&P Research: "U.S. Utilities Ratings Analysis Now Portrayed in the S&P Corporate Ratings Matrix," November 30, 2007.

below, Union Gas' risk profile normally would equate to a credit rating of "A-". Because S&P does not assign ratings solely on this matrix, but uses it as a guide, most outcomes will fall within a range of one notch on either side of the indicated rating. Union Gas' current corporate credit rating of "BBB+" stands one notch below the "Strong" / "Intermediate" midpoint.[10]

Table 1

Business And Financial Risk Profile Matrix

Business Risk Profile	Financial Risk Profile					
	Minimal	Modest	Intermediate	Significant	Aggressive	Highly Leveraged
Excellent	AAA	AA	A	A-	BBB	--
Strong	AA	A	A-	BBB	BB	BB-
Satisfactory	A-	BBB+	BBB	BB+	BB-	B+
Fair	--	BBB-	BB+	BB	BB-	B
Weak	--	--	BB	BB-	B+	B-
Vulnerable	--	--	--	B+	B	CCC+

Q. WHY IS S&P'S METHODOLOGY MEANINGFUL TO YOU?

[10] S&P Research: "Canadian Utilities: Strongest to Weakest," May 9, 2011.

A. S&P's methodology helps facilitate a general understanding of how a credit rating agency carries out the process of formulating a credit rating and the factors that go into such a determination.[11]

Q. CAN YOU DISCUSS HOW S&P'S METHODOLOGY CAN PROVIDE GUIDANCE TO THE OEB IN THIS CASE?

A. Yes I can. With my background as former head of the Fitch utility ratings practice, I certainly appreciate that the credit rating process goes beyond the mere matching up of ratios with rating ranges. However, the S&P Financial Risk Indicative Ratios (Table 2 below) combined with the business and financial risk profiles (in Table 1) are very helpful with regard to indicating rating trends. By combining both quantitative factors (in the form of financial ratios) with qualitative assessments (in the form of a business risk profile ranking), S&P is able to provide useful tools to assess potential credit rating outcomes for individual utility companies. Most important in this case, as discussed below, the S&P matrix clearly illustrates that Union Gas' current equity thickness of 36% stands far below S&P's guidelines for the utility sector, which covers a range from 55 to 65%.

Table 2

[11] I focus here on S&P's ratings methodology, as opposed to those at Moody's or Fitch, due to the greater transparency of S&P's ratings process owing to its explanation of the methodology and how it is implemented in published reports. See, for example, S&P Research: "U.S. Utilities Ratings Analysis Now Portrayed in the S&P Corporate Ratings Matrix." November 30, 2007 and S&P Research: "Canadian Utilities: Strongest to Weakest," May 9, 2011.

Financial Risk Indicative Ratios (Corporates)

	FFO/Debt (%)	Debt/EBITDA (x)	Debt/Capital (%)
Minimal	greater than 60	less than 1.5	less than 25
Modest	45-60	1.5-2	25-35
Intermediate	30-45	2-3	35-45
Significant	20-30	3-4	45-50
Aggressive	12-20	4-5	50-60
Highly Leveraged	less than 12	greater than 5	greater than 60

Q. HOW DO YOU VIEW UNION GAS WITHIN THE CONTEXT OF THE S&P MATRIX?

A. It is clear that Union Gas' equity thickness should be enhanced. As I discuss below, my consideration of recent equity thickness determinations by Canadian regulators leads me to set a floor of 40% for Union Gas' authorized equity level going forward, with expansion of that level to a range of 40 to 42% upon consideration of common equity levels recently authorized by US regulators and the utility financial guidelines publicly disseminated by S&P.

Q. HOW DO YOU COME TO THAT RECOMMENDATION?

A. Equity levels for regulated utilities within the United States are rarely set below the 40% level. In Concentric Energy Advisors' research report[12] prepared for the OEB in 2007 – *I note, prior to the global financial crisis* – they found that the average authorized equity level for U.S. natural gas utilities was 48%, with a level of 46.44% for companies comparable to Union Gas. I have supplemented that data with a review of recent US regulatory decisions from January 1, 2010 through September 30, 2011 (See Appendix B) which shows 48 natural gas utility decisions with authorized equity levels averaging 49.46% with a median level of 50%. In addition, a review of Canadian rate decisions since the time of the Concentric Report also shows positive movement in authorized equity thickness. For example, the OEB set a 40% equity thickness for Natural Resource Gas in 2010, stating that "NRG has presented no evidence that its risk profile is significantly different from other utilities in Ontario."[13] Also, on April 13, 2011, the Alberta Utilities Commission ("AUC") issued a decision for ATCO Electric's electric distribution activities with an equity level of 39%. Other recent AUC decisions during 2009 and 2010 also show consistency with the 40 to 42% equity thickness range I recommend here: AltaGas at 43%; Fortis Alberta, Enmax disco, and Epcor disco, all at 41%; and ATCO Gas at 39%. Finally, the Manitoba Public Utilities Board found that Centra Gas Manitoba, a gas distribution utility, was entitled to a 30% equity level if a provincial guarantee was applicable, but a 40% equity thickness if no such guarantee existed. These equity determinations lead me to conclude that an authorized equity thickness for Union Gas in this

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[14] S&P Research: "Union Gas Ltd.," May 4, 2011.
[14] S&P Research: "Union Gas Ltd.," May 4, 2011.

proceeding should be no lower than 40%, and could appropriately be set anywhere within my recommended range of 40 to 42%.

Q. WHAT UNDERLIES YOUR RECOMMENDATION THAT UNION GAS' EQUITY THICKNESS BE AUTHORIZED WITHIN A RANGE OF 40 TO 42%?

A. Having served as a utility commissioner for six years, I appreciate that there does not exist within the ratemaking process such precision that there can only be one right result. Ratemaking is more an art than a science. Regulators in carrying out their ratemaking responsibilities are called upon to make difficult fairness judgments concerning current and future economic conditions. They have to strike a reasonable balance between the rates that ratepayers must pay, and the rate levels necessary to attract ongoing funding from investors. With increasing global competition for investment capital, I feel strongly that analysis beyond Canadian regulatory decisions is appropriate, especially with the recent financial crisis not discriminating by sovereign boundaries. If one were to look at S&P's ratings matrix and the equity levels authorized for U.S. regulated utilities, one would think that an equity level in the range of 48 to 52% might be appropriate. My 40 to 42% recommended range attempts to strike a fair balance that factors in recent Canadian and US regulatory decisions, along with a recognition of S&P's point of view with regard to current norms for utility financial measures. Taken together, that evidence supports enhancement of the Company's equity thickness, thereby improving Union Gas' financial strength. That positive factor, considered along with the current constructive regulatory climate in Ontario, will have a major influence upon investors when they decide where to invest their capital.

Q. HAS S&P POINTED TO THE COMPANY'S CURRENT EQUITY THICKNESS AS A NEGATIVE FACTOR?

A. Yes. In its May 2011 report on Union Gas, S&P stated:

> Influencing our view of Union Gas' significant financial risk profile are higher balance-sheet leverage and generally weaker financial metrics. The amount of equity on which the regulators allow Union Gas to earn an equity rate of return drives the capital structure.[14]

While S&P goes on to say that the Company's "stable cash flow generation allows it to withstand greater-than-normal financial leverage for its financial profile," such a low equity component certainly influences the rating agencies and debt and equity investors.

IV. CONCLUSION

Q. DO YOU HAVE CONCLUDING THOUGHTS?

A. Yes. The concept of utility regulation is to provide a surrogate for the competitive market that is not present when a utility possesses monopoly or near-monopoly status with regard to an essential good, such as utility service. With all the turmoil that has occurred within the utility sector during the past decade, utilities and their regulators should strive to maintain strong financial profiles, so as to be able to withstand virtually all of the setbacks that have financially harmed certain

[14] S&P Research: "Union Gas Ltd.," May 4, 2011.

companies within the utility sector during the recent past. On the other side of the coin here, absence of regulatory support can cause very severe problems for a utility with a weaker financial profile. Accordingly, my recommendation in this testimony is that both Union Gas and the Board should take the steps necessary to enhance the Company's financial strength, with a key first step being authorization of an equity thickness level within the range of 40 to 42%, consistent with current regulatory and economic circumstances.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

Appendix A

STEVEN M. FETTER

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Education University of Michigan Law School, J.D. 1979
Bar Memberships: U.S. Supreme Court, New York, Michigan
University of Michigan, A.B. (Communications) 1974

April 2002 – Present
President – REGULATION UnFETTERED – Nordland, WA / Henderson, NV

Founder of advisory firm providing regulatory, legislative, financial, legal and strategic planning advisory services for the energy, water and telecommunications sectors, including public utility commissions and consumer advocates; federal and state testimony; credit rating advisory services; negotiation, arbitration and mediation services; skills training in ethics, negotiation, and management efficiency.

Service on Boards of Directors of: CH Energy Group (Chairman, Governance and Nominating Committee; Member, Audit Committee; Previous Lead Independent Director and Chairman, Audit Committee and Compensation Committee), National Regulatory Research Institute, Keystone Energy Board, and Regulatory Information Technology Consortium; Member, Wall Street Utility Group; Participant, Keystone Center Dialogues on RTOs and on Financial Trading and Energy Markets.

October 1993 – April 2002
Group Head and Managing Director; Senior Director -- Global Power Group, Fitch IBCA Duff & Phelps -- New York / Chicago

Manager of 18-employee ($15 million revenue) group responsible for credit research and rating of fixed income securities of U.S. and foreign electricity and natural gas companies and project finance; Member, Fitch Utility Securitization Team.

Led an effort to restructure the global power group that in three years time resulted in 75% new personnel and over 100% increase in revenues, transforming a group operating at a substantial deficit into a team-oriented profit center through a combination of revenue growth and expense reduction.

Achieved national recognition as a speaker and commentator evaluating the effects of regulatory developments on the financial condition of the utility sector and individual companies; Cited by Institutional Investor (9/97) as one of top utility analysts at rating agencies; Frequently quoted in national newspapers and trade publications including The New York Times, The Wall Street Journal, International Herald Tribune, Los Angeles Times, Atlanta Journal-Constitution, Forbes and Energy Daily; Featured speaker at conferences sponsored by Edison Electric Institute, Nuclear Energy Institute, American Gas Assn., Natural Gas Supply Assn., National Assn. of Regulatory Utility Commissioners (NARUC), Canadian Electricity Assn.; Frequent invitations to testify before U.S. Senate (on C-Span) and House of Representatives, and state legislatures and utility commissions.

Participant, Keystone Center Dialogue on Regional Transmission Organizations; Member, International Advisory Council, Eisenhower Fellowships; Author, "A Rating Agency's Perspective on Regulatory Reform," book chapter published by Public Utilities Reports, Summer 1995; Advisory Committee, Public Utilities Fortnightly.

March 1994 – April 2002
Consultant -- NYNEX -- New York, Ameritech -- Chicago, Weatherwise USA -- Pittsburgh

Provided testimony before the Federal Communications Commission and state public utility commissions; Formulated and taught specialized ethics and negotiation skills training program for employees in positions of a sensitive nature due to responsibilities involving interface with government officials, marketing, sales or purchasing; Developed amendments to NYNEX Code of Business Conduct.

October 1987 - October 1993
Chairman; Commissioner -- Michigan Public Service Commission -- Lansing

Administrator of $15-million agency responsible for regulating Michigan's public utilities, telecommunications services, and intrastate trucking, and establishing an effective state energy policy; Appointed by Democratic Governor James Blanchard; Promoted to Chairman by Republican Governor John Engler (1991) and reappointed (1993).

Initiated case-handling guideline that eliminated agency backlog for first time in 23 years while reorganizing to downsize agency from 240 employees to 205 and eliminate top tier of management; MPSC received national recognition for fashioning incentive plans in all regulated industries based on performance, service quality, and infrastructure improvement.

Closely involved in formulation and passage of regulatory reform law (Michigan Telecommunications Act of 1991) that has served as a model for other states;

Rejuvenated dormant twelve-year effort and successfully lobbied the Michigan Legislature to exempt the Commission from the Open Meetings Act, a controversial step that shifted power from the career staff to the three commissioners.

Elected Chairman of the Board of the National Regulatory Research Institute (at Ohio State University); Adjunct Professor of Legislation, American University's Washington College of Law and Thomas M. Cooley Law School; Member of NARUC Executive, Gas, and International Relations Committees, Steering Committee of U.S. Environmental Protection Agency/State of Michigan Relative Risk Analysis Project, and Federal Energy Regulatory Commission Task Force on Natural Gas Deliverability; Eisenhower Exchange Fellow to Japan and NARUC Fellow to the Kennedy School of Government; Ethics Lecturer for NARUC.

August 1985 - October 1987
Acting Associate Deputy Under Secretary of Labor; Executive Assistant to the Deputy Under Secretary -- U.S. Department of Labor -- Washington DC

Member of three-person management team directing the activities of 60-employee agency responsible for promoting use of labor-management cooperation programs. Supervised a legal team in a study of the effects of U.S. labor laws on labor-management cooperation that has received national recognition and been frequently cited in law reviews (<u>U.S. Labor Law and the Future of Labor-Management Cooperation</u>, w/S. Schlossberg, 1986).

January 1983 - August 1985
Senate Majority General Counsel; Chief Republican Counsel -- Michigan Senate -- Lansing

Legal Advisor to the Majority Republican Caucus and Secretary of the Senate; Created and directed 7-employee Office of Majority General Counsel; Counsel, Senate Rules and Ethics Committees; Appointed to the Michigan Criminal Justice Commission, Ann Arbor Human Rights Commission and Washtenaw County Consumer Mediation Committee.

March 1982 - January 1983
Assistant Legal Counsel -- Michigan Governor William Milliken -- Lansing

Legal and Labor Advisor (member of collective bargaining team); Director, Extradition and Clemency; Appointed to Michigan Supreme Court Sentencing Guidelines Committee, Prison Overcrowding Project, Coordination of Law Enforcement Services Task Force.

October 1979 - March 1982
Appellate Litigation Attorney -- National Labor Relations Board -- Washington DC

Other Significant Speeches and Publications

The “A” Rating (Edison Electric Institute Perspectives, May/June 2009)

Perspective: Don’t Fence Me Out (Public Utilities Fortnightly, October 2004)

Climate Change and the Electric Power Sector: What Role for the Global Financial Community (during Fourth Session of UN Framework Convention on Climate Change Conference of Parties, Buenos Aires, Argentina, November 3, 1998)(unpublished)

Regulation UnFettered: The Fray By the Bay, Revisited (National Regulatory Research Institute Quarterly Bulletin, December 1997)

The Feds Can Lead…By Getting Out of the Way (Public Utilities Fortnightly, June 1, 1996)

Ethical Considerations Within Utility Regulation, w/M. Cummins (National Regulatory Research Institute Quarterly Bulletin, December 1993)

Legal Challenges to Employee Participation Programs (American Bar Association, Atlanta, Georgia, August 1991) (unpublished)

Proprietary Information, Confidentiality, and Regulation's Continuing Information Needs: A State Commissioner's Perspective (Washington Legal Foundation, July 1990)

Prior Testimony
Steven M. Fetter
President
Regulation UnFettered

Proceedings

- Union Electric Company d/b/a AmerenUE, Case No. EC-2002-1 Before the Missouri Public Service Commission – 2002 [rate case – credit quality issues]

- PSI Energy, Inc., Cause No. 42195 Before the Indiana Utility Regulatory Commission – 2002 [transfer of generation from unregulated affiliate to regulated utility]

- Entergy New Orleans, Inc., Docket No. ENO 2002 Rate Case Before the Council of the City of New Orleans – 2002 [hypothetical capital structure to allow for return to financial health]

- In re Pacific Gas and Electric Company, Case No. 01-30923DM Before the U.S. Bankruptcy Court for the Northern District of California -- 2002 & 2003 [credit quality issues with regard to the several restructuring plans]

- PSI Energy, Inc., Cause No. 42200 Before the Indiana Utility Regulatory Commission – 2003 [fuel and purchased power adjustment mechanism]

- PSI Energy, Inc., Cause No. 42359 Before the Indiana Utility Regulatory Commission – 2003 [rate case – credit quality issues]

- In re Pacific Gas and Electric Company, Proceeding No. I.02-04-026, Before the California Public Utilities Commission – 2003 [fairness of PG&E restructuring plan]

- Consolidated Edison Company of New York, Gas Case 03-G-1671 Before the New York Public Service Commission – 2003 [rate case – credit quality issues]

- Consolidated Edison Company of New York, Steam Case 03-S-1672 Before the New York Public Service Commission -- 2003 [rate case – credit quality issues]

- Nevada Power Company, Docket Nos. 03-10001/03-10002 Before the Nevada Public Utilities Commission – 2004 [rate case – credit quality issues]

- Sierra Pacific Power Company, Docket No. 03-12002 Before the Nevada Public Utilities Commission – 2004 [rate case – credit quality issues]

- Arizona Public Service Company, Docket No. E-01345A-03-0437 Before the Arizona Corporation Commission – 2004 [rate case – credit quality issues]

- Detroit Edison Company, Case No. U-13808 Before the Michigan Public Service Commission – 2004 [rate case – credit quality issues]

- In re Enron Corp. Enron Power Marketing, Inc. v. Nevada Power Company and Sierra Pacific Power Company, Case No. 01-16034 (02-2520) Before the U.S. Bankruptcy Court for the Southern District of New York – 2004 [negative financial impact from posting cash bond pending ultimate judgment]

- Consolidated Edison Company of New York, Electric Case 04-E-0572 Before the New York Public Service Commission – 2004 [rate case – credit quality issues]

- Georgia Power Company, Docket No. 18300-U Before the Georgia Public Service Commission – 2004 [rate case – credit quality issues]

- Laclede Gas Company Case (on behalf of AmerenUE), No. GR-99-315 Before the Missouri Public Service Commission – 2004 [depreciation methodology – treatment of net salvage]

- Nevada Power Company and Sierra Pacific Power Company v. Enron Power Marketing Inc., Docket No. EL04-1-000 Before the Federal Energy Regulatory Commission – 2004 [contract issues related to bankruptcy]

- Devon Power LLC, et al. (on behalf of Maine Public Utilities Commission, Vermont Department of Public Service, Maine Public Advocate, and Vermont Public Service Board), Docket Nos. ER03-563-000 and EL04-102-000 Before the Federal Energy Regulatory Commission – 2005 [difficulty of financing merchant generation in absence of contractual commitment]

- PSI Energy, Inc., Cause No. 42718 Before the Indiana Utility Regulatory Commission – 2005 [environmental compliance -- impact on credit quality]

- Southwest Gas Corporation, Docket No. G-01551A-04-0876 Before the Arizona Corporation Commission – 2005 [rate case – credit quality issues; conservation revenue decoupling]

- Vectren Energy Delivery of Ohio, Inc., Case Nos. 04-571-GA-AIR and 04-794-GA-AAM Before the Public Utilities Commission of Ohio – 2005 [conservation revenue decoupling]

- Nevada Power Company and Sierra Pacific Power Company v. Enron Power Marketing Inc., Docket No. EL03-180-000 Before the Federal Energy Regulatory Commission – 2005 [contract issues related to bankruptcy]

- Illinois Power Company d/b/a AmerenIP, Docket No. 05-0162 Before the Illinois Commerce Commission – 2005 [power supply auction]

- In re Enron Corp. Enron Power Marketing, Inc. v. Nevada Power Company and Sierra Pacific Power Company, Case No. 01-16034 (02-2520) Before the U.S. Bankruptcy Court for the Southern District of New York – 2005 [contract issues related to bankruptcy]

- Entergy Gulf States, Inc., Docket No. 30123 Before the Texas Public Utility Commission – 2005 [whether rate case would be allowed to proceed]

- Entergy New Orleans, Inc., Docket Nos. UD-01-4 & UD-03-1 Before the Council of the City of New Orleans – 2005 [rate case – credit quality issues]

- Baltimore Gas and Electric Company, Case No. 9036 Before the Maryland Public Service Commission – 2005 [rate case – credit quality issues]

- Cinergy/Cincinnati Gas & Electric Company and Union Light, Heat and Power Company – Duke Energy Corporation, Merger Case No. 2005-00228 Before the Kentucky Public Service Commission – 2005 [merger approval]

- Cinergy/Cincinnati Gas & Electric Company – Duke Energy Corporation, Merger Case Nos. 05-732-EL-MER/05-733-EL-AAM Before the Public Utilities Commission of Ohio – 2005 [merger approval]

- Nevada Power Company v. Morgan Stanley Capital Group, Docket No. CV-S-03-338-RCJ(RJJ) Before the U.S. District Court for the District of Nevada – 2005 [contract issues related to bankruptcy]

- Cinergy/PSI Energy – Duke Energy Corporation, Merger Case No. 42873 Before the Indiana Utility Regulatory Commission – 2006 [merger approval]

- Arizona Public Service Company, Docket No. E-01345A-05-0816 Before the Arizona Corporation Commission -- 2006 [rate case – credit quality issues]

- Arizona Public Service Company, Docket No. E-01345A-06-0009 Before the Arizona Corporation Commission – 2006 [emergency rate filing]

- Central Vermont Public Service Co., Docket No. 7191 Before the Vermont Public Service Board – 2006 [rate case – credit quality issues]

- In re Enron Corporation Securities Litigation, Docket No. MDL-1446 Before the U.S. District Court for the Southern District of Texas – 2006 [credit quality issues related to bankruptcy]

- Entergy Gulf States, Inc., Docket No. 32907 Before the Texas Public Utility Commission – 2006 [storm restoration expenses]

- Entergy Arkansas, Inc., Docket Nos. 05-116-U/06-055-U Before the Arkansas Public Service Commission – 2006 [fuel and purchased power adjustment mechanism]

- Empire District Electric Co., Docket No. ER-2006-0315 Before the Missouri Public Service Commission – 2006 [fuel and purchased power adjustment mechanism]

- Entergy Arkansas, Inc., Docket No. 06-101-U Before the Arkansas Public Service Commission – 2006 [rate case -- capacity management rider]

- Rulemaking Concerning Relationship Between California Energy Utilities and Their Holding Companies and Non-regulated Affiliates, Rulemaking No. 05-10-030 Before the California Public Utilities Commission – 2006 [affiliate relations]

- Technical Conference Docket No. 07-2-000 Before the Federal Energy Regulatory Commission – 2006 [Implementation of Energy Policy Act of 2005 & PUHCA reform]

- Taylor Energy Center, Docket No. 142601 Before the Florida Public Service Commission – 2007 [need for power application]

- Duke Energy Indiana, Cause Nos. 43114 & 43114 – S1 Before the Indiana Utility Regulatory Commission – 2007 [IGCC construction incentives and approval]

- Entergy Gulf States, Inc., Docket No. 33687 Before the Texas Public Utility Commission – 2007 [transition to competition plan]

- Progress Energy Florida, Inc., Docket No. 060658 – EI Before the Florida Public Service Commission – 2007 [fuel expense refund petition]

- Potomac Electric Power Co., Case No. 9092 Before the Maryland Public Service Commission – 2007 [rate case – credit quality issues]

- Delmarva Power & Light Co., Case No. 9093 Before the Maryland Public Service Commission – 2007 [rate case – credit quality issues]

- Aquila, Inc., Case No. ER-2007-0004 Before the Missouri Public Service Commission – 2007 [rate case – fuel adjustment mechanism]

- Kinder Morgan/Goldman Sachs, Application Nos. 06-09-016 & 06-09-021 Before the California Public Utilities Commission – 2007 [private equity buyout]

- TXU Corp./Oncor Electric Delivery Co./Texas Energy Future Holdings Limited, Docket No. 34077 Before the Texas Public Utility Commission – 2007 [private equity transaction]

- Duke Energy Carolinas, Docket No. E-7, Sub 828 Before the North Carolina Utilities Commission – 2007 [rate case – credit quality issues]

- Oklahoma Gas & Electric Company (on behalf of OG&E Shareholders' Assn.), Case No. PUD 200700012 Before the Oklahoma Corporation Commission – 2007 [generation pre-approval & CWIP]

- Pacific Gas and Electric Company, Proceeding No. A. 07-05-003 Before the California Public Utilities Commission – 2007 [rebuttal of opposing ROE testimony for cost of capital in 2008]

- Entergy Louisiana, Docket No. U-30192 Before the Louisiana Public Service Commission – 2007 [credit quality issues -- CWIP on plant repowering]

- Public Service Company of New Mexico, Case No. 07-00077-UT Before the New Mexico Public Regulation Commission – 2007 [rate case – credit quality issues – fuel adjustment mechanism]

- Entergy Louisiana, Docket No. U-30192 (Phase II) Before the Louisiana Public Service Commission – 2008 [credit quality issues -- CWIP on plant repowering]

- Iberdrola S.A. – Energy East Corporation, Merger Case No. 07-M-0906 Before the New York State Public Service Commission – 2008 [merger approval]

- Sierra Pacific Resources/Nevada Power v. Merrill Lynch/Allegheny Energy Inc., Docket No. CV-S-03-0357-RCJ(LRL) Before the U.S. District Court for the District of Nevada – 2008 [credit rating issues]

- Nicor Gas Company, Docket No. 08-0363 Before the Illinois Commerce Commission – 2008 [rate case – ROE issues – gas cost recovery riders]

- Public Service Company of New Mexico, Case No. 08-00092-UT Before the New Mexico Public Regulation Commission – 2008 [emergency fuel adjustment mechanism – credit rating issues]

- Hawaiian Electric Company, Docket No. 2008-0083 Before the Hawaii Public Utilities Commission – 2008 [rate case -- financial integrity issues]

- Entergy Texas Inc., Docket No. 34800 Before the Texas Public Utility Commission – 2008 [rate case – financial integrity issues]

- Indiana Michigan Power Company, Cause No. 43306 Before the Indiana Utility Regulatory Commission – 2008 [rate case -- tracking mechanisms]

- Entergy New Orleans, Inc., Docket No. UD-08-03 Before the Council of the City of New Orleans – 2008 [rate case – credit quality issues]

- Georgia Power Company, Docket No. 27800-U Before the Georgia Public Service Commission – 2008 [nuclear certification/CWIP]

- Central Hudson Gas & Electric Corporation, Case Nos. 08-E-0887 & 08-G-0888 Before the New York State Public Service Commission – 2008 [expense recovery issues]

- Oklahoma Corporation Commission v. American Electric Power Service Corporation, Docket No. EL08-80-000 Before the Federal Energy Regulatory Commission – 2008 [contract interpretation]

- Concord Capital Funding v. HSH Nordbank AG, Index No. 603764/08 Before the New York State Supreme Court – 2008 [contract interpretation – credit rating terminology]

- Mississippi Power Company, Docket No. 2009-UA-14 Before the Mississippi Public Service Commission – 2009 [IGCC certification/CWIP]

- Entergy Services, Inc., Docket No. ER-08-1056-002 Before the Federal Energy Regulatory Commission – 2009 [capital structure issues]

- New York State Electric & Gas Corporation and Rochester Gas & Electric Corporation, Case Nos. 09-E-0082, 09-G-0083, 09-E-0084 & 09-G-0085 Before the New York State Public Service Commission – 2009 [rate cases – financial integrity issues]

- Duke Energy Carolinas, Docket No. E-7, Sub 909 Before the North Carolina Utilities Commission – 2009 [rate case -- credit quality issues]

- Oklahoma Gas & Electric Company (on behalf of OG&E Shareholders' Assn.), Case No. PUD 2008-00398 Before the Oklahoma Corporation Commission – 2009 [rate case -- credit quality issues]

- Northern Indiana Public Service Co., Cause No. 43526 Before the Indiana Utility Regulatory Commission – 2009 [rate case – ring-fencing issues]

- Duke Energy Carolinas, Docket No. 2009-226-E Before the South Carolina Public Service Commission – 2009 [rate case -- credit quality issues]

- Peoples Gas Light and Coke Co./North Shore Gas Co., Docket 09-0167 & 09-0166 Before the Illinois Commerce Commission – 2009 [rate case – ROE and credit quality issues]

- Town of Edinburgh v. Indiana Municipal Power Agency, Cause No. 29D03-0608-PL-806 Before the Hamilton County (IN) Superior Court – 2010 [regulatory framework]

- Southwestern Electric Power Co., Docket No. 37364 Before the Texas Public Utility Commission – 2010 [rate case – financial integrity issues]

- Empire District Electric Co. Iatan 2 Arbitration – 2010 [contract interpretation]

- Portland General Electric Co., Docket No. UE 215 Before the Oregon Public Utility Commission – 2010 [rate case – fuel adjustment mechanism]

- Public Service Company of New Mexico, Case No. 10-00086-UT Before the New Mexico Public Regulation Commission – 2010 [rate case – future test year -- fuel adjustment mechanism]

- Delmarva Power & Light Co., Docket Nos. 09-414/09-276T Before the Delaware Public Service Commission – 2010 [rate case – ring fencing issues]

- Hawaiian Electric Company, Docket No. 2010-0080 Before the Hawaii Public Utilities Commission – 2010 [rate case -- financial integrity issues]

- Indiana Michigan Power Co., Case No. U-16180 Before the Michigan Public Service Commission – 2010 [rate case – tracking mechanisms]

- Georgia Power Company, Docket No. 31958 Before the Georgia Public Service Commission – 2010 [rate case – credit quality issues – support of settlement]

- Oklahoma Gas & Electric Company (on behalf of OG&E Shareholders' Assn.), Technical Conference Before the Oklahoma Corporation Commission – 2010 [possible rulemaking re pre-approval]

- Commonwealth Edison Company, Docket 10-0467 Before the Illinois Commerce Commission – 2011 [rate case – ROE and credit quality issues]

- AltaLink, L.P., General Tariff Application 2011-13 Before the Alberta Utilities Commission – 2011 [rate case – credit quality issues – CWIP]

- Georgia Power Company, Docket No. 29849 Before the Georgia Public Service Commission – 2011 [nuclear construction risk-sharing incentive mechanism]

- Duke Energy Indiana, Cause Nos. 43114 IGCC 4S1 Before the Indiana Utility Regulatory Commission – 2011 [consideration of sanctions related to IGCC plant construction]

Appendix B

U.S. Natural Gas Utility	Date Decided	Common Equity %	
Texas Gas Service Co.	14/12/2010	59.24	
Madison Gas & Electric Co.	12/01/2011	58.06	
Public Service Co. of Colorado	01/09/2011	56.00	
North Shore Gas Co.	21/01/2010	56.00	
Peoples Gas Light & Coke Co.	21/01/2010	56.00	
CenterPoint Energy Res. (TX)	23/02/2010	55.60	
CenterPoint Energy Res. (TX)	18/04/2011	55.44	
Questar Gas Co.	08/04/2010	52.91	
CenterPoint Energy Res. (MN)	11/01/2010	52.55	
Northern States Power (MN)	06/12/2010	52.46	
Yankee Gas Services Co.	29/06/2011	52.20	
Pacific Gas and Electric Co.	13/05/2011	52.00	
Black Hills Nebraska Gas	17/08/2010	52.00	
Baltimore Gas & Electric Co.	06/12/2010	51.93	
Wisconsin Public Service Corp.	13/01/2011	51.65	
Public Service Electric Gas	18/06/2010	51.20	
South Jersey Gas Co.	16/09/2010	51.20	
Atlanta Gas Light Co.	03/11/2010	51.00	
Source Gas Distribution (CO)	01/12/2010	50.48	
SourceGas Distribution (WY)	23/12/2010	50.34	
New England Gas Company	31/03/2011	50.17	
Boston Gas Co.	02/11/2010	50.00	
Colonial Gas Co.	02/11/2010	50.00	
Avista Corp. (OR)	10/03/2011	50.00	
SourceGas Distribution (NB)	09/03/2010	49.96	
UNS Gas Inc.	01/04/2010	49.90	
Atmos Energy Corp. (TX)	26/01/2010	48.91	
Ameren Illinois (CIPS)	29/04/2010	48.67	
Northwestern Energy	09/12/2010	48.00	
Central Hudson Gas & Electric	16/06/2010	48.00	
Consolidated Edison of NY	16/09/2010	48.00	
New York State Electric & Gas	16/09/2010	48.00	
Rochester Gas & Electric	16/09/2010	48.00	
Atmos Energy Corp. (GA)	31/03/2010	47.70	
MidAmerican Energy Co.	24/03/2010	47.08	
Avista Corp. (WA)	19/11/2010	46.50	
Chattanooga Gas Company	24/05/2010	46.06	
Puget Sound Energy Inc.	02/04/2010	46.00	
Delta Natural Gas Co.	21/10/2010	44.49	
Sierra Pacific Power Co.	20/12/2010	44.11	
Ameren Illinois (CILCO)	29/04/2010	43.61	
Fitchburg Gas & Electric Light	01/08/2011	42.88	
Columbia Gas of Virginia Inc.	17/12/2010	42.70	
Consumers Energy Co.	17/05/2010	40.78	
Michigan Consolidated Gas Co.	03/06/2010	38.78	
Missouri Gas Energy	10/02/2010	38.66	
		49.46	Average
		50.00	Median

UNION GAS LIMITED
Summary of Cost of Capital
Year Ending December 31, 2013

Line No.	Particulars	Utility Capital Structure ($000's)	Utility Capital Structure (%)	Cost Rate %	Requested Return ($000's)
		(a)	(b)	(c)	(d)
1	Long-term debt	2,257,972	60.35	6.50%	146,868
2	Unfunded short-term debt	(115,296)	(3.08)	1.31%	(1,510)
3	Total debt	2,142,676	57.27		145,358
4	Preference shares	102,248	2.73	3.05%	3,117
5	Common equity	1,496,617	40.00	9.58%	143,376
6	Total rate base	3,741,542	100.00		291,851

Filed: 2011-11-10
EB-2011-0210
Exhibit E3
Tab 1
Schedule 2

UNION GAS LIMITED
Cost of Long-Term Debt Capital
Year Ending December 31, 2013

Line No.	Offering Date	Coupon Rate	Maturity Date	Principal Amount Offered ($000's)	Premium Discount and Expenses ($000's)	Net Capital Employed Total Amount ($000's)	Net Capital Employed Per $100 Principal Amount (in Dollars)	Effective Cost Rate (1)	Total Amount Outstanding at 12/31/12 ($000's)	Total Amount Outstanding at 12/31/13 ($000's)	Avg. Monthly Averages ($000's)	Carrying Cost ($000's)	Projected Average Embedded Cost Rates
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)
1	08/28/90	11.50	08/28/15	150,000	1,620	148,380	98.92	11.63	150,000	150,000	150,000	17,445	
2	11/06/92	9.70	11/06/17	125,000	1,500	123,500	98.80	9.83	125,000	125,000	125,000	12,288	
3	08/05/93	8.75	08/03/18	125,000	1,275	123,725	98.98	8.90	125,000	125,000	125,000	11,125	
4	10/19/93	8.65	10/19/18	75,000	908	74,092	98.79	8.79	75,000	75,000	75,000	6,593	
5	02/24/93	7.90	02/24/14	150,000	1,869	148,131	98.75	8.04	150,000	150,000	150,000	12,060	
6	11/10/95	8.65	11/10/25	125,000	1,612	123,388	98.71	8.79	125,000	125,000	125,000	10,988	
7	09/21/05	4.64	06/30/16	200,000	1,100	198,900	99.45	4.70	200,000	200,000	200,000	9,400	
8	09/11/06	5.46	09/11/36	165,000	898	164,102	99.46	5.51	165,000	165,000	165,000	9,092	
9	11/23/06	4.85	04/25/22	125,000	854	124,146	99.32	4.91	125,000	125,000	125,000	6,138	
10	04/28/08	5.35	04/27/18	200,000	1,060	198,940	99.47	5.42	200,000	200,000	200,000	10,840	
11	09/02/08	6.05	09/02/38	300,000	2,076	297,924	99.31	6.10	300,000	300,000	300,000	18,300	
12	07/23/10	5.20	07/23/40	250,000	2,455	247,545	99.02	5.27	250,000	250,000	250,000	13,175	
13	06/21/11	4.88	06/21/41	300,000	2,171	297,829	99.28	4.93	300,000	300,000	300,000	14,790	
14	09/01/12	3.85	09/01/22	250,000	1,030	248,970	99.59	3.90	125,000	125,000	125,000	4,875	
15									2,415,000	2,415,000	2,415,000	157,109	6.51%
16	Regulated Portion										2,257,972	146,868	6.50%

Note:

(1) Computation of effective cost rate takes into account sinking fund requirements and the amortization of any premium/discount and issue expenses, on the average life of each issue.

UNION GAS LIMITED
Cost of Preference Share Capital
Year Ending December 31, 2013

Line No.	Particulars ($000's)	Class A Shares 5-1/2% Cumulative Series A	Class A Shares 6% Cumulative Series B	Class A Shares 5% Cumulative Series C	Class B Shares Floating Rate Cumulative Redeemable Convertible Series 10	Total	Regulated Portion
		(a)	(b)	(c)	(d)	(e)	(f)
1	Date of issuance	02/16/59	07/25/60	07/28/64	01/01/09		
	Number of shares issued (quantity)						
2	Par $50	170,000	90,000	140,000			
3	Par $25				4,000,000		
4	Dividend rate ($/year)	2.75	3.00	2.50	0.60		
5	Net proceeds of issue	8,225	4,878	6,922	100,000		
6	Cost rate of net proceeds	5.50%	6.00%	5.00%	2.40%		
	Amount outstanding at:						
7	12/31/12	2,384	4,500	2,475	100,000	109,359	
8	12/31/13	2,384	4,500	2,475	100,000	109,359	
9	Average of monthly averages	2,384	4,500	2,475	100,000	109,359	102,248
10	Year cost	131	270	124	2,400	2,925	
11	Profit on share redemption					-	
12	Preference dividend tax credit					(409)	
13	Net cost					3,334	3,117
14	Average embedded cost rate					3.05%	3.05%

UNION GAS LIMITED
Combined Weighted Average
Cost of Short-Term Debt
Year Ending December 31

Line No.	Particulars	Forecast 2013
1	Cost of borrowings other than bank loans:	
2	Canadian Dealer Offered Rate (CDOR)	1.31%
3	Add:	
4	Spread	-0.10%
5	Costs	0.10%
6	Total cost	1.31%

UNION GAS LIMITED
Summary of Cost of Capital
Year Ending December 31, 2012

Line No.	Particulars	Utility Capital Structure ($000's)	(%)	Cost Rate %	Requested Return ($000's)
		(a)	(b)	(c)	(d)
1	Long-term debt	2,171,790	58.97	6.62%	143,680
2	Unfunded short-term debt	82,673	2.24	2.03%	1,679
3	Total debt	2,254,463	61.22		145,359
4	Preference shares	102,548	2.78	2.82%	2,892
5	Common equity	1,325,819	36.00	8.10%	107,391
6	Total rate base	3,682,830	100.00		255,643

UNION GAS LIMITED
Cost of Long-Term Debt Capital
Year Ending December 31, 2012

Line No.	Offering Date	Coupon Rate	Maturity Date	Principal Amount Offered ($000's)	Premium Discount and Expenses ($000's)	Net Capital Employed: Total Amount ($000's)	Net Capital Employed: Per $100 Principal Amount (in Dollars)	Effective Cost Rate (1)	Total Amount Outstanding at 12/31/11 ($000's)	Total Amount Outstanding at 12/31/12 ($000's)	Avg. Monthly Averages ($000's)	Carrying Cost ($000's)	Projected Average Embedded Cost Rates
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)
1	08/28/90	11.50	08/28/15	150,000	1,620	148,380	98.92	11.63	150,000	150,000	150,000	17,445	
2	11/06/92	9.70	11/06/17	125,000	1,500	123,500	98.80	9.83	125,000	125,000	125,000	12,288	
3	08/05/93	8.75	08/03/18	125,000	1,275	123,725	98.98	8.90	125,000	125,000	125,000	11,125	
4	10/19/93	8.65	10/19/18	75,000	908	74,092	98.79	8.79	75,000	75,000	75,000	6,593	
5	02/24/93	7.90	02/24/14	150,000	1,869	148,131	98.75	8.04	150,000	150,000	150,000	12,060	
6	11/10/95	8.65	11/10/25	125,000	1,612	123,388	98.71	8.79	125,000	125,000	125,000	10,988	
7	09/21/05	4.64	06/30/16	200,000	1,100	198,900	99.45	4.70	200,000	200,000	200,000	9,400	
8	09/11/06	5.46	09/11/36	165,000	898	164,102	99.46	5.51	165,000	165,000	165,000	9,092	
9	11/23/06	4.85	04/25/22	125,000	854	124,146	99.32	4.91	125,000	125,000	125,000	6,138	
10	04/28/08	5.35	04/27/18	200,000	1,060	198,940	99.47	5.42	200,000	200,000	200,000	10,840	
11	09/02/08	6.05	09/02/38	300,000	2,076	297,924	99.31	6.10	300,000	300,000	300,000	18,300	
12	07/23/10	5.20	07/23/40	250,000	2,455	247,545	99.02	5.27	250,000	250,000	250,000	13,175	
13	06/21/11	4.88	06/21/41	300,000	2,171	297,829	99.28	4.93	300,000	300,000	300,000	14,790	
14	09/01/12	3.85	09/01/22	250,000	1,030	248,970	99.59	3.90	-	125,000	26,042	1,016	
15									2,290,000	2,415,000	2,316,042	153,250	6.62%
16	Regulated Portion										2,171,790	143,680	6.62%

Note:

(1) Computation of effective cost rate takes into account sinking fund requirements and the amortization of any premium/discount and issue expenses, on the average life of each issue.

UNION GAS LIMITED
Cost of Preference Share Capital
Year Ending December 31, 2012

Line No.	Particulars ($000's)	Class A Shares 5-1/2% Cumulative Series A	Class A Shares 6% Cumulative Series B	Class A Shares 5% Cumulative Series C	Class B Shares Floating Rate Cumulative Redeemable Convertible Series 10	Total	Regulated Portion
		(a)	(b)	(c)	(d)	(e)	(f)
1	Date of issuance	02/16/59	07/25/60	07/28/64	01/01/09		
	Number of shares issued (quantity)						
2	Par $50	170,000	90,000	140,000			
3	Par $25				4,000,000		
4	Dividend rate ($/year)	2.75	3.00	2.50	0.60		
5	Net proceeds of issue	8,225	4,878	6,922	100,000		
6	Cost rate of net proceeds	5.50%	6.00%	5.00%	2.20%		
	Amount outstanding at:						
7	12/31/12	2,384	4,500	2,475	100,000	109,359	
8	12/31/13	2,384	4,500	2,475	100,000	109,359	
9	Average of monthly averages	2,384	4,500	2,475	100,000	109,359	102,548
10	Year cost	131	270	124	2,200	2,725	
11	Profit on share redemption					-	
12	Preference dividend tax credit					(360)	
13	Net cost					3,085	2,892
14	Average embedded cost rate					2.82%	2.82%

UNION GAS LIMITED
Combined Weighted Average
Cost of Short-Term Debt
Year Ending December 31

Line No.	Particulars	Forecast 2012
1	Cost of borrowings other than bank loans:	
2	Canadian Dealer Offered Rate (CDOR)	1.04%
3	Add:	
4	Spread	-0.10%
5	Costs	1.09%
6	Total cost	2.03%

UNION GAS LIMITED
Summary of Cost of Capital
Year Ending December 31, 2011

Line No.	Particulars	Utility Capital Structure ($000's)	Utility Capital Structure (%)	Cost Rate %	Requested Return ($000's)
		(a)	(b)	(c)	(d)
1	Long-term debt	2,108,817	59.15	6.76%	142,468
2	Unfunded short-term debt	70,098	1.97	2.04%	1,428
3	Total debt	2,178,915	61.12		143,896
4	Preference shares	102,668	2.88	2.99%	3,074
5	Common equity	1,283,391	36.00	8.10%	103,955
6	Total rate base	3,564,974	100.00		250,925

UNION GAS LIMITED
Cost of Long-Term Debt Capital
Year Ending December 31, 2011

Line No.	Offering Date	Coupon Rate	Maturity Date	Principal Amount Offered ($000's)	Premium Discount and Expenses ($000's)	Net Capital Employed Total Amount ($000's)	Net Capital Employed Per $100 Principal Amount (in Dollars)	Effective Cost Rate (1)	Total Amount Outstanding at 12/31/10 ($000's)	Total Amount Outstanding at 12/31/11 ($000's)	Avg. Monthly Averages ($000's)	Carrying Cost ($000's)	Projected Average Embedded Cost Rates
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)
1	08/28/90	11.50	08/28/15	150,000	1,620	148,380	98.92	11.63	150,000	150,000	150,000	17,445	
2	11/06/92	9.70	11/06/17	125,000	1,500	123,500	98.80	9.83	125,000	125,000	125,000	12,288	
3	08/05/93	8.75	08/03/18	125,000	1,275	123,725	98.98	8.90	125,000	125,000	125,000	11,125	
4	10/19/93	8.65	10/19/18	75,000	908	74,092	98.79	8.79	75,000	75,000	75,000	6,593	
5	02/24/93	7.90	02/24/14	150,000	1,869	148,131	98.75	8.04	150,000	150,000	150,000	12,060	
6	11/10/95	8.65	11/10/25	125,000	1,612	123,388	98.71	8.79	125,000	125,000	125,000	10,988	
7	05/04/01	6.65	05/04/11	250,000	1,574	248,426	99.37	6.74	250,000	-	93,750	6,319	
8	09/21/05	4.64	06/30/16	200,000	1,100	198,900	99.45	4.70	200,000	200,000	200,000	9,400	
9	09/11/06	5.46	09/11/36	165,000	898	164,102	99.46	5.51	165,000	165,000	165,000	9,092	
10	11/23/06	4.85	04/25/22	125,000	854	124,146	99.32	4.91	125,000	125,000	125,000	6,138	
11	04/28/08	5.35	04/27/18	200,000	1,060	198,940	99.47	5.42	200,000	200,000	200,000	10,840	
12	09/02/08	6.05	09/02/38	300,000	2,076	297,924	99.31	6.10	300,000	300,000	300,000	18,300	
13	07/23/10	5.20	07/23/40	250,000	2,455	247,545	99.02	5.27	250,000	250,000	250,000	13,175	
14	06/21/11	4.88	06/21/41	300,000	2,171	297,829	99.28	4.93	-	300,000	162,500	8,011	
15									2,240,000	2,290,000	2,246,250	151,774	6.76%
16	Regulated Portion										2,108,817	142,468	6.76%

Note:

(1) Computation of effective cost rate takes into account sinking fund requirements and the amortization of any premium/discount and issue expenses, on the average life of each issue.

UNION GAS LIMITED
Cost of Preference Share Capital
Year Ending December 31, 2011

Line No.	Particulars ($000's)	Class A Shares 5-1/2% Cumulative Series A	Class A Shares 6% Cumulative Series B	Class A Shares 5% Cumulative Series C	Class B Shares Floating Rate Cumulative Redeemable Convertible Series 10	Total	Regulated Portion
		(a)	(b)	(c)	(d)	(e)	(f)
1	Date of issuance	02/16/59	07/25/60	07/28/64	01/01/09		
	Number of shares issued (quantity)						
2	Par $50	170,000	90,000	140,000			
3	Par $25				4,000,000		
4	Dividend rate ($/year)	2.75	3.00	2.50	0.60		
5	Net proceeds of issue	8,225	4,878	6,922	100,000		
6	Cost rate of net proceeds	5.50%	6.00%	5.00%	2.40%		
	Amount outstanding at:						
7	12/31/12	2,384	4,500	2,475	100,000	109,359	
8	12/31/13	2,384	4,500	2,475	100,000	109,359	
9	Average of monthly averages	2,384	4,500	2,475	100,000	109,359	102,668
10	Year cost	131	270	124	2,400	2,925	
11	Profit on share redemption					-	
12	Preference dividend tax credit					(350)	
13	Net cost					3,275	3,074
14	Average embedded cost rate					2.99%	2.99%

UNION GAS LIMITED
Combined Weighted Average Cost of Short-Term Debt Year Ending December 31

Line No.	Particulars	Outlook 2011
1	Cost of borrowings other than bank loans:	
2	Canadian Dealer Offered Rate (CDOR)	1.05%
3	Add:	
4	Spread	0.05%
5	Costs	0.94%
6	Total cost	2.04%

UNION GAS LIMITED
Summary of Cost of Capital
Year Ending December 31, 2010

Line No.	Particulars	Utility Capital Structure ($000's)	(%)	Cost Rate %	Requested Return ($000's)
		(a)	(b)	(c)	(d)
1	Long-term debt	2,084,697	58.39	7.07%	147,329
2	Unfunded short-term debt	97,542	2.73	1.10%	1,074
3	Total debt	2,182,238	61.12		148,403
4	Preference shares	102,756	2.88	2.60%	2,670
5	Common equity	1,285,309	36.00	8.54%	109,765
6	Total rate base	3,570,303	100.00		260,839

UNION GAS LIMITED
Cost of Long-Term Debt Capital
Year Ending December 31, 2010

Line No.	Offering Date (a)	Coupon Rate (b)	Maturity Date (c)	Principal Amount Offered ($000's) (d)	Premium Discount and Expenses ($000's) (e)	Net Capital Employed: Total Amount ($000's) (f)	Net Capital Employed: Per $100 Principal Amount (in Dollars) (g)	Effective Cost Rate [(1)] (h)	Total Amount Outstanding [(2)] at 12/31/09 ($000's) (i)	Total Amount Outstanding [(2)] at 12/31/10 ($000's) (j)	Avg. Monthly Averages ($000's) (k)	Carrying Cost ($000's) (l)	Projected Average Embedded Cost Rates (m)
1	10/07/88	11.55	10/15/10	100,000	1,100	98,900	98.90	11.69	37,000	-	29,292	3,424	
2	08/28/90	11.50	08/28/15	150,000	1,620	148,380	98.92	11.63	150,000	150,000	150,000	17,445	
3	11/06/92	9.70	11/06/17	125,000	1,500	123,500	98.80	9.83	125,000	125,000	125,000	12,288	
4	08/05/93	8.75	08/05/18	125,000	1,275	123,725	98.98	8.90	125,000	125,000	125,000	11,125	
5	10/19/93	8.65	10/19/18	75,000	908	74,092	98.79	8.79	75,000	75,000	75,000	6,593	
6	02/24/93	7.90	02/24/14	150,000	1,869	148,131	98.75	8.04	150,000	150,000	150,000	12,060	
7	11/10/95	8.65	11/10/25	125,000	1,612	123,388	98.71	8.79	125,000	125,000	125,000	10,988	
8	06/01/00	7.20	06/01/10	185,000	1,644	183,356	99.11	7.33	185,000	-	84,792	6,215	
9	05/04/01	6.65	05/04/11	250,000	1,574	248,426	99.37	6.74	250,000	250,000	250,000	16,850	
10	09/21/05	4.64	06/30/16	200,000	1,100	198,900	99.45	4.70	200,000	200,000	200,000	9,400	
11	09/11/06	5.46	09/11/36	165,000	898	164,102	99.46	5.51	165,000	165,000	165,000	9,092	
12	11/23/06	4.85	04/25/22	125,000	854	124,146	99.32	4.91	125,000	125,000	125,000	6,138	
13	04/28/08	5.35	04/28/18	200,000	1,060	198,940	99.47	5.42	200,000	200,000	200,000	10,840	
14	09/02/08	6.05	09/02/38	300,000	2,076	297,924	99.31	6.10	300,000	300,000	300,000	18,300	
15	07/23/10	5.20	07/23/40	250,000	2,455	247,545	99.02	5.27	-	250,000	114,583	6,039	
16									2,212,000	2,240,000	2,218,667	156,797	7.07%
17	Regulated Portion										2,084,697	147,329	7.07%

Note:

(1) Computation of effective cost rate takes into account sinking fund requirements and the amortization of any premium/discount and issue expenses, on the average life of each issue.
(2) Includes sinking fund requirements due within one year.

UNION GAS LIMITED
Cost of Preference Share Capital
Year Ending December 31, 2010

		Class A Shares			Class B Shares		
Line No.	Particulars ($000's)	5-1/2% Cumulative Series A	6% Cumulative Series B	5% Cumulative Series C	Floating Rate Cumulative Redeemable Convertible Series 10	Total	Regulated Portion
		(a)	(b)	(c)	(d)	(e)	(f)
1	Date of issuance	02/16/59	07/25/60	07/28/64	01/01/09		
	Number of shares issued (quantity)						
2	Par $50	170,000	90,000	140,000			
3	Par $25				4,000,000		
4	Dividend rate ($/year)	2.75	3.00	2.50	0.52		
5	Net proceeds of issue	8,225	4,878	6,922	100,000		
6	Cost rate of net proceeds	5.50%	6.00%	5.00%	2.07%		
	Amount outstanding at:						
7	12/31/12	2,384	4,500	2,475	100,000	109,359	
8	12/31/13	2,384	4,500	2,475	100,000	109,359	
9	Average of monthly averages	2,384	4,500	2,475	100,000	109,359	102,756
10	Year cost	131	270	124	2,067	2,592	
11	Profit on share redemption					-	
12	Preference dividend tax credit					(250)	
13	Net cost					2,842	2,670
14	Average embedded cost rate					2.60%	2.60%

UNION GAS LIMITED
Combined Weighted Average
Cost of Short-Term Debt
Year Ending December 31

Line No.	Particulars	Actual 2010
1	Cost of borrowings other than bank loans:	
2	Actual Bankers' Acceptances - 3 Month	0.81%
3	Add:	
4	Spread	0.20%
5	Costs	0.09%
6	Total cost	1.10%

UNION GAS LIMITED

Table of Contents

PREFILED EVIDENCE OF

MICHAEL BROEDERS, MANAGER FINANCIAL PLANNING AND FORECASTING

This evidence summarizes Union's rate of return and delivery-related revenue deficiency for the 2013 test year. The revenues and cost of gas in the 2013 test year forecast are based on the transportation tolls, gas commodity prices, and rates approved by the Board in the January 1, 2011 Quarterly Rate Adjustment Mechanism ("QRAM"). Variances between the 2013 forecast cost of gas and the costs approved in the January 1 QRAM are forecast in the gas supply-related deferral accounts. The result is to separate the delivery-related revenue deficiency in this evidence from those items that are addressed in the QRAM process.

Union's 2013 test year forecast results in an overall requested rate of return on rate base of 7.80%[1] assuming a return on equity ("ROE") of 9.58%. The final rate of return on rate base for 2013 will be determined once the September 2012 actual and forecast bond yields are available. Union is proposing that the ROE for the 2013 test year be established using the formula as determined in the "Report of the Board on the Cost of Capital for Ontario's Regulated Utilities" dated December 11, 2009 (EB-2009-0084). The Board's findings in the Report maintain a formulaic approach to setting ROE levels. However, the formula (originally established in the Board's "Draft Guidelines on a Formula-Based Return on Common Equity for Regulated Utilities" released in March 1997) was reset primarily to address relatively low ROE levels as well as to reduce its sensitivity to changes in government bond yields.

[1] This compares to the 2007 Board-Approved rate of return on rate base of 7.93%.

Union's request to use the Board's formula to establish an appropriate allowed ROE for 2013 is supported by the expert testimony filed by James Vander Weide at Exhibit F2.

Calculations supporting this request are found at Exhibit F3, Tab 1, Schedule 1. Details of Union's 2012, 2011 and 2010 returns on rate base are found at Exhibits F4, F5 and F6 respectively.

Union's revenue deficiency for 2013 is forecast to be $65.6 million ($63.5 million before adjusting for the shareholder portion of short-term storage and balancing services) as shown at Exhibit F3, Tab 1, Schedule 1.

As shown on Table 1, the revenue deficiency of $65.6 million is primarily the result of increasing costs required to provide service to customers that have not been fully offset by increased revenues, and the impact of continued declines in use per customer.

Table 1
Summary of the Components of the Revenue Deficiency
($millions)

Line No.		Board-Approved 2007 (a)	Actual 2010 [1] (b)	Outlook 2011[1] (c)	Forecast 2012 (d)	Forecast 2013 (e)
1	Operating revenue [2]	831.0	929.6	924.0	920.0	891.8
2	Revenue requirement:					
3	Operating costs [3]	568.0	608.1	623.3	643.3	638.8
4	Cost of capital [4]	259.5	260.8	250.9	255.6	291.9
5	Income taxes [5]	20.8	16.5	17.6	17.1	24.6
6	Revenue Requirement	848.3	885.4	891.8	916.0	955.3
7	Revenue (Sufficiency) Deficiency [6]	17.3	(44.2)	(32.2)	(4.0)	63.5
8	Long-term storage premium subsidy[6]	(19.2)	(5.3)	0.0	0.0	0.0
9	Shareholder portion of transactional S&T margin [6]	1.9	4.8	2.3	1.4	2.1
10	Adjusted Revenue (Sufficiency)/Deficiency [6]	0.0	(44.7)	(29.9)	(2.6)	65.6

Note:

(1) 2010 actual and 2011 outlook are not weather normalized.
(2) Provided at Exhibits C3-C6, Tab 1, Schedule 1, line 5 less Cost of Gas in Exhibit D1, Summary Schedule 1, line 1.
(3) Provided at Exhibit D1, Summary Schedule 1, lines 2-5.
(4) Provided at Exhibit E1, Tab 1, Table 1, line 5.
(5) Provided at Exhibit D1, Summary Schedule 1, line 6 (Income Tax) + Exhibits F3-F6, Tab 1, Schedule 1, line 6 (Provision for Income Tax).
(6) Provided at Exhibits F3–F6, Tab 1, Schedule 1, lines 7-11.

Operating costs have increased $70.8 million primarily as a result of increased O&M expenses of $51.0 million, increased depreciation of $22.7 million, increased other financing of $0.8 million and, decreased property and capital taxes of $3.7 million. Depreciation and taxes have increased as a result of additional investment in property, plant and equipment. The increases in O&M expenses are detailed in the evidence of Ms. Beth Cummings filed at Exhibit D1, Tab 2.

Cost of capital has increased $32.4 million primarily as a result of increased investment in rate base, a proposed increase in ROE resulting from the formula noted earlier, and a proposed increase in the equity component of Union's capital structure. These increases are partially offset by a decrease in interest rates which resulted from the refinancing of long term debt. The changes in rate base are discussed in the evidence of Ms. Linda Vienneau and Mr. Michael Broeders at Exhibit B1, Tab 1. The changes in the cost of capital are discussed in more detail in the evidence of Mr. Michael Broeders filed at Exhibit E1, Tab 1.

Income taxes have increased $3.8 million. Increased earnings and the proposed increase in equity are partially offset by the decline in tax rates. The changes in income taxes are described further in the evidence of Mr. Ken Horner filed at Exhibit D1, Tab 4.

The increase in operating costs and carrying costs noted above that are attributable to growth in rate base is approximately $70.0 million.

The increase in revenue requirement is offset partially by an increase in operating revenues of $60.8 million. Operating revenues are comprised of the total revenue forecast from gas sales, distribution, storage, and transmission services, net of the cost of gas. Operating revenues also include other revenue items which are comprised primarily of customer connection charges, late payment charges, and billing service fees. The drivers for the changes in general service revenues are discussed in more detail in the evidence of Mr. Paul Gardiner filed at Exhibit C1, Tab 1. The changes in the business market demand forecast are detailed in the evidence of Ms. Sarah Van Der Paelt and Mr. Paul Gardiner filed at Exhibit C1, Tab 2 and, the changes in the storage & transportation forecast are provided in the evidence of Ms. Carol Cameron and Mr. Mark Isherwood filed at Exhibit C1, Tab 3.

ONTARIO ENERGY BOARD

EB-2011-0210

JAMES H. VANDER WEIDE, PH.D.

FOR

UNION GAS INC.

2011

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I. Introduction

Q 1 What is your name, occupation, and business address?

A 1 My name is James H. Vander Weide. I am Research Professor of Finance and Economics at Duke University, Fuqua School of Business. I am also President of Financial Strategy Associates, a firm that provides strategic and financial consulting services to corporate clients. My business address is 3606 Stoneybrook Drive, Durham, North Carolina 27705.

Q 2 Please summarize your qualifications.

A 2 I graduated from Cornell University with a Bachelor's Degree in Economics and from Northwestern University with a Ph.D. in Finance. After joining the faculty of the School of Business at Duke University, I was named Assistant Professor, Associate Professor, Professor, and then Research Professor. I have published research in the areas of finance and economics and taught courses in these fields at Duke for more than thirty-five years. I am now retired from my teaching duties at Duke. A summary of my research, teaching, and other professional experience is presented in Appendix 1.

Q 3 Have you previously testified on financial and economic issues?

A 3 Yes. As an expert on financial and economic theory and practice, I have participated in more than four hundred regulatory and legal proceedings before the U.S. Congress, the Canadian Radio-Television and Telecommunications Commission, the Federal Communications Commission, the National Telecommunications and Information Administration, the Federal Energy Regulatory Commission, the National Energy Board, the public service commissions of forty-three states and four Canadian provinces, the insurance commissions of five states, the Iowa State Board of Tax Review, the National Association of Securities Dealers, and the North Carolina Property Tax Commission. In addition, I have prepared expert testimony in proceedings before the U.S. Tax Court, the U.S. District Court for the District of Nebraska; the U.S. District Court for the District of New Hampshire; the U.S. District Court for the

District of Northern Illinois; the U.S. District Court for the Eastern District of North Carolina; the Montana Second Judicial District Court, Silver Bow County; the U.S. District Court for the Northern District of California; the Superior Court, North Carolina; the U.S. Bankruptcy Court for the Southern District of West Virginia; and the U. S. District Court for the Eastern District of Michigan.

Q 4 What is the purpose of your written evidence in this proceeding?

A 4 I have been asked by Union Gas Limited ("Union" or "the Company") to prepare an independent appraisal of the reasonableness of the Company's requested return on equity ("ROE") in this proceeding.

Q 5 What ROE is Union requesting in this proceeding?

A 5 Union is requesting that it be allowed to earn the Ontario Energy Board's ("OEB's" or "the Board's") formula ROE on an equity ratio equal to 40 percent.

Q 6 Are you familiar with the Board's ROE formula for the regulated natural gas and electric companies under its jurisdiction?

A 6 Yes. The Board's ROE formula is given by the equation:

$$ROE_t = 9.75\% + 0.5 \times (LCBF_t - 4.25\%) + 0.5 \times (UtilBondSpread_t - 1.415\%)$$

where:

$LCBF_t$ = the Long Canada Bond forecast for the test year, and

$UtilBondSpread_t$ = the average spread of 30-year A-rated Canadian Utility bond yields over 30-year Government of Canada bond yields in the month three months in advance of the implementation date for rates.

Q 7 How often does the Board update the parameters of its ROE formula?

A 7 The Board updates the parameters of its ROE formula once each year for rates effective at the beginning of May.

Q 8 Has the Board updated its formula ROE for rates effective May 1, 2011?

A 8 Yes. In a memorandum dated March 3, 2011, the Board announced that the updated ROE for rates effective May 1, 2011, is 9.58 percent.

Q 9 How will you assess the reasonableness of Union's request to earn the Board's formula ROE on a capital structure containing 40 percent equity?

A 9 I will assess the reasonableness of Union's request by: (1) estimating the cost of equity for groups of comparable risk utilities; (2) examining information on average utility actual and allowed capital structures; and (3) comparing my cost of equity estimates and information on average utility capital structures to Union's requested cost of equity and capital structure in this proceeding.

Q 10 Why do you apply your cost of equity methods to a group of comparable risk utilities rather than solely to Union?

A 10 I apply my cost of equity methods to a group of comparable risk utilities because standard cost of equity methods such as the DCF, risk premium, and CAPM require inputs of quantities that are not easily measured. Since these inputs can only be estimated, there is naturally some degree of uncertainty surrounding the estimate of the cost of equity for each utility. However, the uncertainty in the estimate of the cost of equity for a single utility can be greatly reduced by applying cost of equity methods to a sample of comparable risk utilities. Intuitively, unusually high estimates for some utilities are offset by unusually low estimates for other utilities. Thus, financial economists invariably apply cost of equity methods to a group of comparable utilities. In utility regulation, the practice of using a group of comparable utilities, called the comparable company approach, is further supported by the Supreme Court standard that the utility should be allowed to earn a return on its investment that is commensurate with returns being earned on other investments of the same risk.[1]

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1 See *Northwestern Utilities Ltd. v. Edmonton*, where Mr. Justice Lamont states:

II. Comparable Risk Utilities

Q 11 How do you select your groups of comparable risk utilities?

A 11 I use the criteria that selected utilities: (1) must have stock that is publicly traded; (2) must have sufficient available data to reasonably apply standard cost of equity estimation techniques; (3) must be comparable in risk; and (4) taken together, must constitute a relatively large sample of companies.

Q 12 Is Union included in your comparable company group?

A 12 No. Union is not included in my comparable company group because its stock is not publicly traded.

Q 13 Why must comparable utilities be publicly traded?

A 13 Comparable utilities must be publicly traded because information on a company's stock price is a key input in standard cost of equity estimation methods. If the company is not publicly traded, the information required to estimate the cost of equity will not be available.

Q 14 Why is data availability a concern in estimating the cost of equity for Union?

A 14 Data availability is a concern because standard cost of equity estimation methods like the Discounted Cash Flow ("DCF"), the risk premium, and the Capital Asset Pricing Model ("CAPM") require estimates of inputs, such as the expected growth rate, required risk premium, and beta, that are inherently uncertain. If there is insufficient data available to estimate these inputs, there is little basis for arriving at a reasonable estimate of the cost of equity for the comparable risk utilities.

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. [*Northwestern Utilities Ltd. v. Edmonton*, [1929] S.C.R. 186.]

Q 15 Is there any way to assure that your comparable utilities have exactly the same risk as Union?

A 15 No. First, it is impossible to measure Union's risk precisely because most generally accepted risk measures require that a company have publicly-traded stock. Second, there is no single generally agreed upon measure of risk. Third, there are no Canadian natural gas distribution companies ("LDCs") with publicly-traded stock. Fourth, there are only several Canadian regulated utilities with publicly-traded stock.

Q 16 Recognizing the difficulty in identifying companies with exactly the same risk as Union, what companies do you consider as potential comparables for the purpose of estimating the cost of equity for Union?

A 16 I consider two groups of Canadian utilities and two groups of US utilities.

Q 17 What two groups of Canadian utilities do you consider?

A 17 I consider the group of Canadian utilities included in the basket of utility and pipeline companies of the Bank of Montreal Capital Markets ("BMO CM") and the group of companies in the S&P/TSX utilities index.

Q 18 What are the advantages of using the BMO CM basket of Canadian utilities as comparables for the purpose of estimating the cost of equity for Union?

A 18 The primary advantage of the BMO CM basket of Canadian utilities is that it only includes companies that receive a relatively large portion of their revenues from traditional utility operations.

Q 19 What are the advantages of using the companies in the S&P/TSX utilities index as comparables in this proceeding?

A 19 The primary advantage of using the companies in the S&P/TSX utilities index is that there are more companies in the index and return data for these companies is available for a longer period of time than for the BMO CM basket of utility stocks.

Q 20 Are there any disadvantages of using these two groups of Canadian utilities as comparables for Union?

A 20 Yes. An obvious disadvantage is that neither group contains companies with a significant percentage of revenues or income from natural gas distribution operations. This disadvantage is important because Union is a natural gas distribution company. Another disadvantage is that, while the indices provide useful historical return information on Canadian utilities, they provide little or no forward-looking information on investor required returns. In addition, seven of the ten companies in the S&P/TSX index receive most of their revenues and income from unregulated generation and marketing activities.

Q 21 What two groups of U.S. utilities do you consider?

A 21 I consider a natural gas utility company group and an electric utility company group. My natural gas utility group contains companies that, like Union, have large LDC operations. My electric utility group includes a larger sample of utilities with electric and/or electric and natural gas distribution operations.

Q 22 What are the advantages of using your two U.S. utilities groups as comparables for the purpose of estimating the cost of equity for Union?

A 22 The primary advantages of my U.S. utilities groups are: (1) they include a reasonable number of companies with LDC operations; (2) they include a significantly larger sample of companies with traditional utility operations than my Canadian groups; (3) reasonable estimates of expected growth rates are available for these companies, whereas the same data are not available for the Canadian utilities; and (4) historical risk premium data for the U.S. utilities are available for a much greater length of time than for the Canadian utilities.

Q 23 Is there a significant difference in the business risk of Canadian and U.S. utilities?

A 23 No. The business risk of natural gas and electric utilities is approximately the same in the U.S. as it is in Canada.

Q 24 Why is the business risk of natural gas and electric utilities approximately the same in the U.S. as it is in Canada?

A 24 The business risk of natural gas and electric utilities is approximately the same in the U.S. and Canada because: (1) U.S. natural gas and electric utilities rely on essentially the same natural gas and electric technologies to deliver their services to the public as natural gas and electric utilities in Canada; (2) the economics of natural gas and electric transmission and distribution is similar in the U.S. and Canada; and (3) U.S. natural gas and electric utilities are regulated under similar cost-based regulatory structures and fair rate of return principles as Canadian utilities.

Q 25 Some observers have argued that Canadian utilities have lower regulatory risk than U.S. utilities because Canadian regulators generally make greater use of cost adjustment and revenue stabilization mechanisms than U.S. regulators. Do you agree with this argument?

A 25 No. U.S. utilities have many of the same cost adjustment and revenue stabilization mechanisms as Canadian utilities. For example, U.S. natural gas distribution companies typically have cost adjustment mechanisms for the cost of purchased gas, removal expenses, and bad debt expenses; and revenue stabilization mechanisms for weather normalization and declining customer usage. In addition, U.S. natural gas utilities increasingly have rate designs that allow them to recover higher percentages of their fixed costs through fixed monthly rates rather than through variable rates. U.S. electric utilities generally have cost adjustment mechanisms for costs of fuel and purchased power, pension expenses, storm damage expenses, environmental expenses, decommissioning expenses, demand-side management program costs, FERC-approved transmission costs, and new generation plant investment; and revenue stabilization mechanisms for unusual weather and customer usage.

Q 26 Do cost recovery and revenue stabilization mechanisms guarantee that a public utility will earn its cost of equity?

A 26 No. Regulatory risk is associated with the possibility that a utility will be unable to earn its required rate of return as a result of regulation. Although cost recovery and revenue stabilization mechanisms generally reduce the gap between a utility's actual and allowed returns, they do not necessarily reduce the gap between a utility's actual and required returns. Canadian utilities may face greater regulatory risk than U.S. utilities because Canadian utilities are generally regulated through formula ROEs, and formula ROEs may be more likely to differ from the market cost of equity than ROEs based on market evidence in each rate proceeding.

Q 27 What is the difference between business and financial risk?

A 27 Business risk is the variability in return on investment that equity investors experience from a company's business operations when the company is entirely financed with equity. Financial risk is the additional variability in return on investment that equity investors experience due to the company's use of debt financing or leverage.

Q 28 How does the financial risk of Canadian utilities compare to the financial risk of U.S. utilities?

A 28 Canadian utilities generally have greater financial risk than U.S. utilities because, as shown below, they rely more heavily on debt financing than U.S. utilities.

Q 29 What are the average bond ratings of your groups of natural gas and electric utilities?

A 29 The average bond rating of my groups of natural gas and electric utilities is BBB+, the same bond rating as Union.

Q 30 What conclusions do you draw from your investigation of alternative groups of comparable utilities?

A 30 I conclude that my groups of Canadian and U.S. utilities are reasonable proxies for the purpose of estimating Union's cost of equity.

Q 31 Has the Board determined that cost of equity evidence for U.S. utilities is useful in estimating the cost of equity for Ontario utilities?

A 31 Yes. In the Report of the Board on the Cost of Capital for Ontario's Regulated Utilities, EB-2009-0084, December 11, 2009, ("2009 Cost of Capital Report") the Board states:

> Second, there was a general presumption held by participants representing ratepayer groups in the consultation that Canadian and U.S. utilities are not comparators, due to differences in the "time value of money, the risk value of money and the tax value of money." In other words, because of these differences, Canadian and U.S. utilities cannot be comparators. The Board disagrees and is of the view that they are indeed comparable,

> and that only an analytical framework in which to apply judgment and a system of weighting are needed. …
>
> The Board is of the view that the U.S. is a relevant source for comparable data. The Board often looks to the regulatory policies of State and Federal agencies in the United States for guidance on regulatory issues in the province of Ontario. For example, in recent consultations, the Board has been informed by U.S. regulatory policies relating to low income customer concerns, transmission cost connection responsibility for renewable generation, and productivity factors for 3rd generation incentive ratemaking. [2009 Cost of Capital Report at 21 – 23]

Q 32 Has the National Energy Board ("NEB") determined that cost of equity evidence for U.S. utilities is useful in determining the cost of equity for Trans Québec & Maritimes Pipeline Inc. ("TQM")?

A 32 Yes. In Decision RH-1-2008 the Board finds:

> In light of the Board's views expressed above on the integration of U.S. and Canadian financial markets, the problems with comparisons to either Canadian negotiated or litigated returns, and the Board's view that risk differences between Canada and the U.S. can be understood and accounted for, the Board is of the view that U.S. comparisons are very informative for determining a fair return for TQM for 2007 and 2008. [RH-1-2008 at 71.]

III. Estimates of Comparable Utilities' Cost of Equity

Q 33 How do you estimate your comparable utilities' cost of equity?

A 33 I estimate my comparable utilities' cost of equity by applying standard cost of equity methods to groups of comparable risk companies.

Q 34 What methods do you use to estimate your comparable utilities' cost of equity?

A 34 I use three generally accepted methods: the discounted cash flow ("DCF"), the risk premium, and the CAPM. The DCF method assumes that the current market price of a firm's stock is equal to the discounted value of all expected future cash flows. The risk premium method assumes that the investor's required rate of return on an equity investment is equal to the interest rate on a long-term bond plus an additional equity risk premium to compensate the investor for the risks of investing in equities compared to bonds. The CAPM assumes that the investors' required rate of return is equal to a risk-free rate of interest plus the product of a company-specific risk factor, beta, and the expected risk premium on the market portfolio.

A. Discounted Cash Flow Estimate

Q 35 Please describe the DCF model.

A 35 The DCF model is based on the assumption that investors value an asset on the basis of the future cash flows they expect to receive from owning the asset. Thus, investors value an investment in a bond because they expect to receive a sequence of semi-annual coupon payments over the life of the bond and a terminal payment equal to the bond's face value at the time the bond matures. Likewise, investors value an investment in a firm's stock because they expect to receive a sequence of dividend payments and, perhaps, expect to sell the stock at a higher price sometime in the future.

A second fundamental principle of the DCF method is that investors value a dollar received in the future less than a dollar received today. A future dollar is valued less than a current dollar because investors could invest a current dollar in an interest earning account and increase their wealth. This principle is called the time value of money.

Applying the two fundamental DCF principles noted above to an investment in a bond leads to the conclusion that investors value their investment in the bond on the basis of the present value of the bond's future cash flows. Thus, the price of the bond should be equal to:

EQUATION 1

$$P_B = \frac{C}{(1+i)} + \frac{C}{(1+i)^2} + \ldots + \frac{C+F}{(1+i)^n}$$

where:

P_B = Bond price;

C = Cash value of the coupon payment (assumed for notational convenience to occur annually rather than semi-annually);
F = Face value of the bond;
i = The rate of interest the investor could earn by investing his money in an alternative bond of equal risk; and
n = The number of periods before the bond matures.

Applying these same principles to an investment in a firm's stock suggests that the price of the stock should be equal to:

EQUATION 2

$$P_s = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \cdots + \frac{D_n + P_n}{(1+k)^n}$$

where:
P_S = Current price of the firm's stock;
$D_1, D_2 \ldots D_n$ = Expected annual dividend per share on the firm's stock;
P_n = Price per share of stock at the time the investor expects to sell the stock; and
k = Return the investor expects to earn on alternative investments of the same risk, i.e., the investor's required rate of return.

Equation (2) is frequently called the annual discounted cash flow model of stock valuation. Assuming that dividends grow at a constant annual rate, *g*, this equation can be solved for *k*, the cost of equity. The resulting cost of equity equation is $k = D_1/P_s + g$, where *k* is the cost of equity, D_1 is the expected next period annual dividend, P_s is the current price of the stock, and *g* is the constant annual growth rate in earnings, dividends, and book value per share. The term D_1/P_s is called the dividend yield component of the annual DCF model, and the term *g* is called the growth component of the annual DCF model.

Q 36 Are you recommending that the annual DCF model be used to estimate Union's cost of equity?

A 36 No. The DCF model assumes that a company's stock price is equal to the present discounted value of all expected future dividends. The annual DCF model is only a correct expression for the present discounted value of future dividends if dividends are paid annually at the end of each year. Because the companies in my proxy group all pay dividends quarterly, the current market price that investors are willing to pay reflects the expected quarterly receipt of dividends. Therefore, a quarterly DCF model should be used to estimate the cost of equity for these firms. The quarterly DCF model differs from the annual DCF model in that it expresses a company's price as the present discounted value of a quarterly stream of dividend payments.

Q 37 How do you estimate the dividend component of the DCF model?

A 37 The quarterly DCF model requires an estimate of the dividends, d_1, d_2, d_3, and d_4, investors expect to receive over the next four quarters. I estimate the next four quarterly dividends by multiplying the previous four quarterly dividends by the factor, (1 + the growth rate, g).

Q 38 How do you estimate the growth component of the quarterly DCF model?

A 38 I use the analysts' estimates of future earnings per share ("EPS") growth reported by I/B/E/S Thomson Reuters.

Q 39 What is I/B/E/S?

A 39 I/B/E/S is a firm (now owned by Thomson Reuters) that reports analysts' EPS growth forecasts for a broad group of companies. The forecasts are expressed in terms of a mean forecast and a standard deviation of forecast for each firm. Investors use the mean forecast as a consensus estimate of future firm performance.

Q 40 Why do you use the I/B/E/S growth estimates?

A 40 The I/B/E/S growth rates: (1) are widely circulated in the financial community, (2) include the projections of multiple reputable financial analysts who develop estimates of future EPS growth, (3) are reported on a timely basis to investors, and (4) are widely used by institutional and other investors.

Q 41 Why do you rely on analysts' projections of future EPS growth to estimate the growth component of the DCF model rather than looking at past historical growth rates?

A 41 I rely on analysts' projections of future EPS growth because: (1) the DCF model assumes that a company's stock price is equal to the present value of all expected *future* cash flows from investing in the stock; (2) stock prices are determined by investors in the marketplace; and (3) I have found that analysts' growth forecasts are the best proxy for investor growth expectations.

Q 42 Does the DCF model require that analysts' growth forecasts be perfectly accurate?

A 42 No. The DCF model recognizes that all growth forecasts necessarily involve uncertainty. The DCF model only requires that the growth forecasts used in the model are reasonable proxies for investors' growth expectations.

Q 43 What price do you use in your DCF model?

A 43 I use a simple average of the monthly high and low stock prices for each firm for the three-month period ending March 2011. These high and low stock prices were obtained from I/B/E/S Thomson Reuters.

Q 44 Why do you use a three-month average stock price in applying the DCF method?

A 44 I use a three-month average stock price in applying the DCF method because stock prices fluctuate daily, while financial analysts' forecasts for a given company are generally changed less frequently, often on a quarterly basis. Thus, to match the stock price with an earnings forecast, it is appropriate to average stock prices over a three-month period

Q 45 How do you use the DCF model to estimate the cost of equity on an investment in your comparable risk companies?

A 45 I apply the DCF model to the groups of U.S. natural gas and electric utilities shown in Exhibit 1 and Exhibit 2.

Q 46 How do you select your comparable groups of U.S. natural gas and electric utilities?

A 46 I select the publicly-traded natural gas and electric utilities that: (1) paid dividends during every quarter and did not decrease dividends during any quarter of the past two years; (2) have at least three analysts included in the I/B/E/S mean growth forecast; (3) are not in the process of being acquired; (4) have a Value Line Safety Rank of 1, 2, or 3; and (5) have investment grade S&P bond ratings.

Q 47 Why do you use U.S. utilities rather than Canadian utilities in your DCF studies?

A 47 As noted above, the DCF model requires estimates of investors' growth expectations, which are best measured from the average of analysts' growth forecasts for each company. The difficulty with using Canadian utilities is that there are very few, if any, analysts' growth forecasts available for the Canadian utilities.

Q 48 Why do you eliminate companies that have either decreased or eliminated their dividend during the past two years?

A 48 The DCF model requires the assumption that dividends will grow at a constant positive rate into the indefinite future. If a company has decreased its dividend in recent years, an assumption that the company's dividend will grow at the same positive rate into the indefinite future is questionable.

Q 49 Why do you eliminate companies that have fewer than three analysts' estimates included in the I/B/E/S mean forecast?

A 49 The DCF model also requires a reliable estimate of a company's expected future growth. For most companies, the I/B/E/S mean growth forecast is the best available estimate of the growth term in the DCF Model. However, the I/B/E/S estimate may be less reliable if the mean estimate is based on the inputs of very few analysts. On the basis of my professional judgment, I believe that at least three analysts' estimates are a reasonable minimum number.

Q 50 Why do you eliminate companies that are being acquired in transactions that are not yet completed?

A 50 A merger announcement generally increases the target company's stock price. Analysts' growth forecasts for the target company, on the other hand, are necessarily related to the company as it currently exists. The use of a stock price that includes the growth-enhancing prospects of potential mergers in conjunction with growth forecasts that do not include the growth-enhancing prospects of potential mergers produces DCF results that tend to distort a company's cost of equity.

Q 51 Please summarize the results of your application of the DCF model to your comparable groups of utilities.

A 51 My application of the DCF model to my comparable group of natural gas utilities produces a result of 10.3 percent, and to my comparable group of electric utilities, 10.3 percent (see Exhibit 1 and Exhibit 2).

B. Risk Premium Method

Q 52 Please describe the risk premium method of estimating Union's cost of equity.

A 52 The risk premium method is based on the principle that investors expect to earn a return on an equity investment in Union that reflects a "premium" over and above the return they expect to earn on an investment in a portfolio of bonds. This equity risk premium compensates equity investors for the additional risk they bear in making equity investments versus bond investments.

Q 53 Does the risk premium approach specify what debt instrument should be used to estimate the interest rate component in the methodology?

A 53 No. The risk premium approach can be implemented using virtually any debt instrument. However, the risk premium approach does require that the debt instrument used to estimate the risk premium be the same as the debt instrument used to calculate the interest rate component of the risk premium approach. For example, if the risk premium on equity is calculated by comparing the returns on stocks and the returns on A-rated utility bonds, then the interest rate on A-rated utility bonds must be used to estimate the interest rate component of the risk premium approach.

Q 54 How do you measure the required risk premium on an equity investment in Union?

A 54 I use two methods to estimate the required risk premium on an equity investment in Union. The first is called the ex post risk premium method and the second is called the ex ante risk premium method.

1. Ex Post Risk Premium Method

Q 55 Please describe your ex post risk premium method for estimating the required risk premium on an equity investment in your comparable utilities.

A 55 My ex post risk premium method estimates the required risk premium on an equity investment in my comparable utilities from historical data on the returns experienced by investors in Canadian utility stocks compared to investors in long-term Canada bonds.

Q 56 How do you measure the return experienced by investors in Canadian utility stocks?

A 56 I measure the return experienced by investors in Canadian utility stocks from historical data on returns earned by investors in: (1) the S&P/TSX utilities stock index; and (2) a basket of Canadian utility stocks created by the BMO CM.

Q 57 What companies are currently included in these indices of Canadian utility stock performance?

A 57 The companies included in the S&P/TSX utilities stock index are Atco Ltd., Atlantic Power Corporation, Brookfield Renewable Power Fund, Capital Power Income L.P., Canadian Utilities Limited, Emera Incorporated, Fortis Inc., Just Energy Group Inc., Northland Power Inc., and TransAlta Corporation.

The BMO CM basket of utility and pipeline companies includes Canadian Utilities Ltd., Emera Inc., Enbridge Inc., Fortis Inc., Pacific Northern Gas, and TransCanada Corporation. The BMO CM basket also includes return data for Westcoast Energy Inc. until December 2001 and Terasen Inc. through July 2005.

Q 58 What time periods do your experienced Canadian utility stock return data cover?

A 58 The S&P/TSX utilities stock return data cover the period 1956 through 2010, and the BMO CM stock return data cover the period 1983 through 2010.

Q 59 Why do you analyze investors' experienced returns over such long time periods?

A 59 I analyze investors' experienced returns over long time periods because experienced returns over short periods can deviate significantly from expectations. However, I recognize that experienced returns over long periods may also deviate from expected returns if the data in some portion of the long time period are unreliable.

Q 60 Would your study provide different risk premium results if you had included different time periods?

A 60 Yes. The risk premium results vary somewhat depending on the historical time period chosen. My policy was to go back as far in history as I could get reliable data. With regard to the S&P/TSX utilities index, the data began in 1956, and for the BMO CM utility stock basket, the data began in 1983.

Q 61 Why do you choose two sets of Canadian utilities stock return performance data rather than simply relying on the S&P/TSX utilities stock index data?

A 61 I choose two sets of Canadian utility stock return performance data because each data set provides different information on Canadian utility stock returns. The S&P/TSX utilities index is valuable because it provides information on the returns experienced by investors in a portfolio of Canadian utility stocks over a relatively long period of time. However, seven of the ten companies included in the S&P/TSX utility index operate mainly in the unregulated power generation and marketing business segments of the utility industry. The BMO CM utility stock return database is valuable because it provides information on the experienced returns for a sample of Canadian companies that receive a significantly higher percentage of revenues from traditional utility operations than the companies in the S&P/TSX index. However, the time period covered is not as long as the period covered by the S&P/TSX utility index.

Q 62 How are the experienced returns on an investment in each utility data set calculated?

A 62 The experienced returns on an investment in each utility data set are calculated from the historical record of stock prices and dividends for the companies in the data set. From the historical record of stock prices and dividends, the index sponsors construct an index of investors' wealth at the end of each period, assuming a $100 investment in the index at the time the index was constructed. An annual rate of return is calculated from the wealth index by dividing the wealth index at the end of each period by the wealth index at the beginning of the period and subtracting one [$r_t = (W_t \div W_{t-1}) - 1$].

Q 63 How do you measure the interest rate earned on long-term Canada bonds in your experienced, or ex post, risk premium studies?

A 63 I use the interest rate data on long-term Canada bonds reported by the Canadian Institute of Actuaries.

Q 64 What average risk premium results do you obtain from your analysis of returns experienced by investors in Canadian utility stocks?

A 64 As shown in Table 1 below, I obtain an average experienced risk premium equal to 6.5 percent (the annual data that produce these results are shown in Exhibit 3 and Exhibit 4).

TABLE 1
EX POST RISK PREMIUM RESULTS

COMPARABLE GROUP	PERIOD OF STUDY	AVERAGE STOCK RETURN	AVERAGE BOND YIELD	RISK PREMIUM
S&P/TSX Utilities	1956 – 2010	12.09	7.41	4.7
BMO CM Utilities Stock Data Set	1983 – 2010	15.65	7.38	8.3
Average				6.5

Q 65 What conclusions do you draw from your ex post risk premium analyses about your comparable utilities' cost of equity?

A 65 My studies provide evidence that investors in these companies require an equity return equal to at least 6.5 percentage points above the interest rate on long-term Canada bonds. The Consensus Economics forecast interest rate on long-term Canada bonds for 2012 as of April 2011 is 4.21 percent. Adding a 6.5 percentage point risk premium to an expected yield of 4.21 percent on long-term Canada bonds and including a 50-basis allowance for flotation costs and financial flexibility produces an expected return on equity equal to 11.2 percent from my ex post risk premium studies.

2. Ex Ante Risk Premium Estimate

Q 66 Please describe your ex ante risk premium approach for measuring the required risk premium on an equity investment in Union.

A 66 My ex ante risk premium method is based on studies of the expected return on comparable groups of utilities in each month of my study period compared to the interest rate on long-term government bonds.

Q 67 How do you estimate the forward-looking required equity risk premium on an equity investment in utility stocks in each month of your study period.

A 67 My estimate of the required equity risk premium is based on studies of the discounted cash flow ("DCF") expected return on comparable groups of utilities in each month of my study period compared to the interest rate on long-term government bonds. Specifically, for each month in my study period, I calculate the risk premium using the equation,

$$RP_{COMP} = DCF_{COMP} - I_B$$

where:

RP_{COMP} = the required risk premium on an equity investment in the comparable utilities,

DCF_{COMP} = average DCF expected rate of return on a portfolio of comparable utilities; and

I_B = the yield to maturity on an investment in long-term U.S. Treasury bonds.

Q 68 What comparable utilities do you use in your forward-looking equity risk premium studies?

A 68 I use two sets of comparable U.S. utilities, a natural gas utilities company group and an electric utilities company group. For my natural gas company group, I select all the utilities in Standard & Poor's natural gas company group that: (1) paid dividends during every quarter and did not decrease dividends during any quarter of the past two years; (2) have at least three analysts included in the I/B/E/S mean growth forecast; (3) are not in the process of being acquired; (4) have a Value Line Safety Rank of 1, 2, or 3; and (5) have investment grade S&P bond ratings. For my electric group, I use the Moody's group of 24 electric companies because they are a widely-followed group of utilities, and the use of this constant group greatly simplifies the data collection task required to estimate the ex ante risk premium over the months of my study. Simplifying the data collection task is desirable because my forward-looking equity risk premium studies require that the DCF model be estimated for every company in every month of the study period.

Q 69 Why do you use U.S. utilities rather than Canadian utilities in your forward-looking, or ex ante, risk premium studies?

A 69 My ex ante risk premium studies rely on the DCF model to determine the expected risk premium on utility stocks. As noted above, the DCF model requires estimates of investors' growth expectations, which are best measured from the average of analysts' growth forecasts for each company. The difficulty with using Canadian utilities is that there are very few, if any, analysts' growth forecasts available for each Canadian utility over the time periods of my studies.

Q 70 How do you test whether your forward-looking required equity risk premium estimates are sensitive to changes in interest rates?

A 70 To test whether my estimated monthly equity risk premiums are sensitive to changes in interest rates, I perform a regression analysis of the relationship between the forward-looking equity risk premium and the yield to maturity on twenty-year U.S. Treasury bonds using the equation:

$$RP_{COMP} = a + (b \times I_B) + e$$

where:

RP_{COMP}	=	risk premium on comparable company group;
I_B	=	yield to maturity on long-term U.S. Treasury bonds;
e	=	a random residual; and
a, b	=	coefficients estimated by the regression procedure.

Q 71 What risk premium estimates do you obtain from your forward-looking risk premium studies?

A 71 For my natural gas comparable group, I obtain a forward-looking risk premium equal to 6.9 percent, and for my electric utility comparable group, I obtain a forward-looking risk premium equal to approximately 6.8 percent.

Q 72 What cost of equity results do you obtain from your ex ante risk premium studies?

A 72 As described above, in the ex ante risk premium approach, one must add the expected interest rate on long-term government bonds to the estimated risk premium to calculate the cost of equity. Since Union is a Canadian utility, I estimate the expected yield on long-term government bonds using the forecast interest rate on long-term Canada bonds at the time of my studies, 4.21 percent. Adding this 4.21 percent interest rate to my 6.9 percent and 6.8 percent ex ante risk premium estimates, I obtain cost of equity estimates of 11.1 percent and 11.0 percent (4.2 + 6.9 = 11.1 and 4.2 + 6.8 = 11.0). A more detailed description of my ex ante risk premium approach and results is described in Exhibit 5, Exhibit 6, and Appendix 2.

C. Capital Asset Pricing Model ("CAPM")

Q 73 What is the CAPM?

A 73 The CAPM is an equilibrium model of the security markets in which the expected or required return on a given security is equal to the risk-free rate of interest, plus the company equity "beta," times the market risk premium:

Cost of equity = Risk-free rate + Equity beta x Market risk premium

The risk-free rate in this equation is the expected rate of return on a risk-free government security, the equity beta is a measure of the company's risk relative to the market as a whole, and the market risk premium is the premium investors require to invest in the market basket of all securities compared to the risk-free security.

Q 74 How do you use the CAPM to estimate the cost of equity for your proxy companies?

A 74 The CAPM requires an estimate of the risk-free rate, the company-specific risk factor or beta, and the expected return on the market portfolio. For my estimate of the risk-free rate, I use the 4.21 percent forecasted yield to maturity on long Canada bonds. For my estimate of the company-specific risk, or beta, I use the average Value Line beta of 0.83 for my proxy natural gas utilities. For my estimate of the expected risk premium on the market portfolio, I use the Ibbotson® SBBI® 6.7 percent risk premium on the market portfolio, which is measured from the difference between the arithmetic mean return on the S&P 500 and the income return on twenty-year Treasury bonds.

Q 75 Why do you recommend that the risk premium on the market portfolio be estimated using the arithmetic mean return on the S&P 500?

A 75 As explained in Ibbotson® SBBI®, the arithmetic mean return is the best approach for calculating the return investors expect to receive in the future:

> The equity risk premium data presented in this book are arithmetic average risk premia as opposed to geometric average risk premia. The arithmetic average equity risk premium can be demonstrated to be most appropriate when discounting future cash flows. For use as the expected equity risk premium in either the CAPM or the building block approach, the arithmetic mean or the simple difference of the arithmetic means of stock market returns and riskless rates is the relevant number. This is because both the CAPM and the building block approach are additive models, in which the cost of capital is the sum of its parts. The geometric average is more appropriate for reporting past performance, since it represents the compound average return.[2]

Q 76 Why do you recommend that the risk premium on the market portfolio be estimated using the income return on twenty-year Treasury bonds rather than the total return on these bonds?

A 76 As discussed above, the CAPM requires an estimate of the risk-free rate of interest. When Treasury bonds are issued, the income return on the bond is risk free, but the total return, which includes both income and capital gains or losses, is not. Thus, the income return should be used in the CAPM because it is only the income return that is risk free.

Q 77 What CAPM result do you obtain when you estimate the expected return on the market portfolio from the arithmetic mean difference between the return on the market and the yield on twenty-year Treasury bonds?

A 77 I obtain a CAPM estimate of 10.3 percent based on a risk-free rate of 4.21 percent, a beta of 0.83, a market risk premium of 6.7 percent, and a fifty basis point allowance for flotation costs and financial flexibility (see Exhibit 7).

D. Cost of Equity Conclusion

Q 78 Based on your application of the DCF, risk premium, and CAPM methods to your comparable risk companies, what is your conclusion regarding your comparable risk companies' cost of equity?

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2 Ibbotson® SBBI® 2011 Valuation Edition Yearbook, p. 56.

A 78 I conclude that my comparable utilities' cost of equity is in the range 10.3 percent to 11.2 percent, with an average of 10.7 percent.

TABLE 2
SUMMARY OF COST OF EQUITY RESULTS

METHOD	MODEL RESULT
Discounted Cash Flow	10.3
Ex Post Risk Premium	11.2
Ex Ante Risk Premium	11.1
CAPM	10.3
Average	10.7

IV. Allowed ROEs and Equity Ratios for Comparable Risk Utilities

Q 79 Do you have evidence on recent allowed rates of return on equity for U.S. utilities?

A 79 Yes. I have evidence on recent allowed rates of return on equity for U.S. natural gas and electric utilities from January 2009 through May 2011. Since January 2009, the average allowed ROE for natural gas utilities has been in the range 10.1 percent to 10.3 percent, and for electric utilities, 10.3 percent to 10.5 percent (see Exhibit 8 and Exhibit 9).

Q 80 Why do you examine data on allowed rates of return on equity for U.S. utilities rather than Canadian utilities?

A 80 I examine data on allowed rates of return on equity for U.S. utilities rather than Canadian utilities because allowed rates of return on equity for U.S. utilities are based on cost of equity studies for utilities at the time of each case rather than on an ROE formula. Thus, recent allowed rates of return on equity for U.S. utilities are an independent test of the reasonableness of Union's requested ROE in this proceeding.

Q 81 Are allowed rates of return on equity the best measure of the cost of equity at each point in time?

A 81 No. Since the cost of equity is determined by investors in the marketplace, not by regulators, the cost of equity is best measured using market models such as the equity risk premium and the discounted cash flow model. However, as noted above, because allowed rates of return in non-formula jurisdictions are based on regulators' judgments regarding the cost of equity and fair rate of return, they provide additional information on the reasonableness of Union's recommended ROE.

Q 82 You note that Union is recommending a common equity ratio equal to 40 percent. How do the approved equity ratios for U.S. utilities compare to Union's requested equity ratio?

A 82 The average approved equity ratio for U.S. natural gas utilities during the period January 2009 through May 2011 is in the range 48 percent to 52 percent, and for U.S. electric utilities, 48 percent (see Exhibit 8 and Exhibit 9). Thus, the average approved equity ratio for U.S. utilities is significantly higher than Union's requested 40 percent equity ratio in this proceeding.

Q 83 How does Union's requested equity ratio compare to the approved equity ratios for other Canadian gas and electric distribution utilities?

A 83 Union's requested equity ratio is approximately equal to the average approved equity ratio of Canadian gas and electric distribution utilities (see following table).

TABLE 3

COMPANY	DEEMED EQUITY RATIO
Terasen (Fortis B.C.)	40%
Pacific Northern Gas	40% - 45%
ATCO Electric Disco	39%
Enmax Disco	41%
Epcor Disco	41%
ATCO Gas	39%
Fortis Alberta	41%
Alta Gas	43%
Gaz Metro	38.5%
Gazifére	40%
Nova Scotia Power	40%
Heritage Gas Ltd.	45%
Enbridge Gas	36%
Union	36%

Q 84 How does Union's requested equity ratio compare to the market value equity ratios for your comparable groups of U.S. utilities at March 2011?

A 84 The composite market value equity ratio for my group of natural gas utilities at March 2011 is 63 percent, and for my group of electric utilities, 60 percent (see Exhibit 10).

Q 85 Why do you present evidence on market value equity ratios for U.S. utilities as well as evidence on book value equity ratios?

A 85 I present evidence on market value equity ratios as well as book value equity ratios because financial risk depends on the market value percentages of debt and equity in a company's capital structure rather than on the book value percentages of debt and equity in the company's capital structure.

Q 86 What conclusions do you draw from your evidence that allowed ROEs and equity ratios for comparable U.S. utilities are significantly higher than the Board's formula-derived ROE and Union's requested equity ratio?

A 86 My evidence on allowed ROEs and equity ratios for U.S. utilities provides further support for the conclusion that Union's recommended ROE and equity ratio is reasonable.

V. Summary and Recommendations

Q 87 Please summarize your written evidence in this proceeding.

A 87 My written evidence may be summarized as follows:

1. I assess the reasonableness of Union's request to earn the Board's formula ROE on a 40 percent equity ratio by examining evidence on the required rate of return on equity (cost of equity) and capital structure for several groups of comparable risk utilities.
2. The cost of equity for my comparable risk utilities falls in the range 10.3 percent to 11.2 percent, based on my application of the DCF, Ex Post Risk Premium, Ex Ante Risk Premium, and CAPM cost of equity methods.
3. Recent average allowed rates of return on equity for U.S. utilities are in the range 10.1 percent to 10.5 percent, whereas the Board's formula currently produces an ROE equal to 9.58 percent.
4. Recent average allowed equity ratios for U.S. utilities are in the range 48 percent to 52 percent, whereas Union is requesting an equity ratio equal to 40 percent.
5. The average allowed equity ratio for Canadian natural gas and electric distribution companies is approximately 40 percent.

6. Union's business risk is approximately equal to the average business risk of my U.S. utility groups.

Q 88 What conclusion do you reach from this evidence?

A 88 I conclude that Union's request to earn the Board's formula ROE on an equity ratio equal to 40 percent is reasonable, if not conservative.

Q 89 Does this conclude your written evidence?

A 89 Yes, it does.

EXHIBIT 1
SUMMARY OF DISCOUNTED CASH FLOW ANALYSIS
FOR NATURAL GAS UTILITIES

LINE NO.	COMPANY	D_0	P_0	GROWTH	COST OF EQUITY
1	AGL Resources	0.450	37.698	5.6%	11.1%
2	Atmos Energy	0.340	33.249	3.6%	8.2%
3	National Fuel Gas	0.345	69.627	5.3%	7.6%
4	NiSource Inc.	0.230	18.668	5.7%	11.4%
5	Northwest Nat. Gas	0.435	46.088	3.9%	8.0%
6	ONEOK Inc.	0.520	61.017	10.0%	13.7%
7	Piedmont Natural Gas	0.290	28.938	3.6%	7.9%
8	Questar	0.153	17.577	5.3%	10.1%
9	South Jersey Inds.	0.365	53.963	6.3%	9.3%
10	Market-weighted Average				10.3%
11	Average				9.7%

Notes:

d_0	=	Most recent quarterly dividend.
d_1,d_2,d_3,d_4	=	Next four quarterly dividends, calculated by multiplying the last four quarterly dividends per *Value Line* by the factor (1 + g).
P_0	=	Average of the monthly high and low stock prices during the three months ending March 2011 per Thomson Reuters.
FC	=	Flotation costs expressed as a percent of gross proceeds (five percent of stock price).
g	=	I/B/E/S forecast of future earnings growth March 2011.
k	=	Cost of equity using the quarterly version of the DCF model.

$$k = \frac{d_1(1+k)^{.75} + d_2(1+k)^{.50} + d_3(1+k)^{.25} + d_4}{P_0(1-FC)} + g$$

EXHIBIT 2
SUMMARY OF DISCOUNTED CASH FLOW ANALYSIS
FOR ELECTRIC UTILITIES

LINE NO.	COMPANY	D_0	P_0	GROWTH	COST OF EQUITY
1	ALLETE	0.445	37.555	5.0%	10.4%
2	Alliant Energy	0.425	38.227	9.3%	14.4%
3	Amer. Elec. Power	0.460	35.497	4.0%	9.6%
4	Avista Corp.	0.275	22.787	4.7%	9.8%
5	Consol. Edison	0.600	49.712	4.2%	9.7%
6	Dominion Resources	0.493	44.057	3.5%	8.2%
7	DPL Inc.	0.333	26.348	3.9%	9.3%
8	Duke Energy	0.245	17.898	4.7%	10.9%
9	Edison Int'l	0.320	36.917	5.0%	9.0%
10	Hawaiian Elec.	0.310	24.452	7.0%	13.0%
11	IDACORP Inc.	0.300	37.530	4.7%	8.3%
12	Integrys Energy	0.680	48.873	7.5%	14.1%
13	NextEra Energy	0.550	53.903	5.7%	10.1%
14	Northeast Utilities	0.275	33.258	8.0%	11.7%
15	OGE Energy	0.375	47.320	7.0%	10.6%
16	Pepco Holdings	0.270	18.513	7.0%	13.9%
17	PG&E Corp.	0.455	45.671	6.2%	10.8%
18	Pinnacle West Capital	0.525	41.898	6.4%	12.2%
19	Portland General	0.260	22.857	4.7%	9.8%
20	Public Serv. Enterprise	0.343	31.802	3.7%	8.5%
21	SCANA Corp.	0.485	40.713	4.7%	10.1%
22	Sempra Energy	0.480	52.362	5.6%	9.2%
23	Southern Co.	0.455	37.785	5.2%	10.8%
24	TECO Energy	0.205	18.167	6.1%	11.3%
25	UIL Holdings	0.432	30.173	3.1%	9.5%
26	Westar Energy	0.320	25.752	6.5%	12.2%
27	Wisconsin Energy	0.260	29.782	8.5%	11.9%
28	Xcel Energy Inc.	0.253	23.773	6.2%	11.1%
29	Market-weighted Average				10.3%
30	Average				10.7%

Notes:

d_0	=	Most recent quarterly dividend.
d_1,d_2,d_3,d_4	=	Next four quarterly dividends, calculated by multiplying the last four quarterly dividends per *Value Line* by the factor (1 + g).
P_0	=	Average of the monthly high and low stock prices during the three months ending March 2011 per Thomson Reuters.
FC	=	Flotation costs expressed as a percent of gross proceeds (five percent of stock price).
g	=	I/B/E/S forecast of future earnings growth March 2011.
k	=	Cost of equity using the quarterly version of the DCF model.

$$k = \frac{d_1(1+k)^{.75} + d_2(1+k)^{.50} + d_3(1+k)^{.25} + d_4}{P_0(1-FC)} + g$$

EXHIBIT 3
EXPERIENCED RISK PREMIUMS ON
S&P/TSX CANADIAN UTILITIES STOCK INDEX
1956—2010

LINE NO.	YEAR	S&P/TSX CANADIAN UTILITIES STOCK INDEX TOTAL RETURN	YIELD LONG-TERM CANADA BOND	RISK PREMIUM
1	1956	0.17	3.63	-3.45
2	1957	-3.43	4.11	-7.54
3	1958	9.81	4.15	5.66
4	1959	0.21	5.08	-4.86
5	1960	26.81	5.19	21.62
6	1961	19.17	5.05	14.12
7	1962	-0.72	5.11	-5.83
8	1963	6.19	5.09	1.10
9	1964	21.59	5.18	16.41
10	1965	4.23	5.21	-0.98
11	1966	-13.17	5.69	-18.86
12	1967	5.07	5.94	-0.87
13	1968	7.41	6.75	0.66
14	1969	-8.62	7.58	-16.20
15	1970	23.34	7.91	15.43
16	1971	4.29	6.95	-2.66
17	1972	-0.44	7.23	-7.68
18	1973	-4.14	7.56	-11.70
19	1974	14.38	8.90	5.48
20	1975	5.75	9.04	-3.28
21	1976	15.02	9.18	5.84
22	1977	19.00	8.70	10.30
23	1978	27.28	9.27	18.01
24	1979	12.61	10.21	2.40
25	1980	5.74	12.48	-6.74
26	1981	-0.55	15.22	-15.77
27	1982	35.90	14.26	21.65
28	1983	40.97	11.79	29.17
29	1984	24.31	12.75	11.56
30	1985	10.04	11.04	-1.00
31	1986	11.48	9.52	1.96
32	1987	1.07	9.95	-8.88
33	1988	5.63	10.22	-4.59
34	1989	22.07	9.92	12.15
35	1990	0.58	10.85	-10.28
36	1991	27.02	9.76	17.25
37	1992	-2.24	8.77	-11.00

LINE NO.	YEAR	S&P/TSX CANADIAN UTILITIES STOCK INDEX TOTAL RETURN	YIELD LONG-TERM CANADA BOND	RISK PREMIUM
38	1993	23.52	7.85	15.67
39	1994	-6.04	8.63	-14.68
40	1995	18.44	8.28	10.16
41	1996	32.68	7.50	25.18
42	1997	37.33	6.42	30.91
43	1998	36.55	5.47	31.09
44	1999	-27.14	5.69	-32.83
45	2000	50.06	5.89	44.17
46	2001	10.83	5.78	5.05
47	2002	6.33	5.66	0.67
48	2003	24.94	5.28	19.66
49	2004	9.42	5.08	4.34
50	2005	38.29	4.39	33.90
51	2006	7.01	4.30	2.71
52	2007	11.89	4.34	7.55
53	2008	-20.46	4.04	-24.50
54	2009	19.00	3.89	15.11
55	2010	18.39	3.66	14.73
56	Average	12.09	7.41	4.68

EXHIBIT 4
EXPERIENCED RISK PREMIUMS ON BMO CAPITAL MARKETS UTILITIES STOCK DATA SET
1983—2010

LINE NO.	YEAR	BMO CAPITAL MARKETS UTILITIES & PIPELINE TOTAL RETURN	YIELD LONG-TERM CANADA BOND	RISK PREMIUM
1	1983	25.84	11.79	14.05
2	1984	6.89	12.75	-5.86
3	1985	20.09	11.04	9.04
4	1986	-1.22	9.52	-10.74
5	1987	11.98	9.95	2.03
6	1988	6.67	10.22	-3.56
7	1989	23.80	9.92	13.88
8	1990	10.00	10.85	-0.86
9	1991	12.92	9.76	3.16
10	1992	0.75	8.77	-8.02
11	1993	33.00	7.85	25.15
12	1994	-1.22	8.63	-9.85
13	1995	15.13	8.28	6.85
14	1996	31.66	7.50	24.15
15	1997	50.16	6.42	43.74
16	1998	4.12	5.47	-1.34
17	1999	-24.11	5.69	-29.80
18	2000	59.57	5.89	53.69
19	2001	16.05	5.78	10.27
20	2002	14.46	5.66	8.80
21	2003	28.74	5.28	23.46
22	2004	15.56	5.08	10.48
23	2005	33.36	4.39	28.97
24	2006	17.77	4.30	13.47
25	2007	4.90	4.34	0.57
26	2008	-4.21	4.04	-8.25
27	2009	20.24	3.89	16.35
28	2010	5.39	3.66	1.73
29	Average	15.65	7.38	8.27

EXHIBIT 5
COMPARISON OF DCF EXPECTED RETURN ON AN INVESTMENT IN NATURAL GAS UTILITIES TO THE INTEREST RATE ON LONG-TERM GOVERNMENT BONDS

LINE NO.	DATE	DCF	BOND YIELD	RISK PREMIUM
1	Jun-98	0.1154	0.0580	0.0574
2	Jul-98	0.1186	0.0578	0.0608
3	Aug-98	0.1234	0.0566	0.0668
4	Sep-98	0.1273	0.0538	0.0735
5	Oct-98	0.1260	0.0530	0.0730
6	Nov-98	0.1211	0.0548	0.0663
7	Dec-98	0.1185	0.0536	0.0649
8	Jan-99	0.1195	0.0545	0.0650
9	Feb-99	0.1243	0.0566	0.0677
10	Mar-99	0.1257	0.0587	0.0670
11	Apr-99	0.1260	0.0582	0.0678
12	May-99	0.1221	0.0608	0.0613
13	Jun-99	0.1208	0.0636	0.0572
14	Jul-99	0.1222	0.0628	0.0594
15	Aug-99	0.1220	0.0643	0.0577
16	Sep-99	0.1226	0.0650	0.0576
17	Oct-99	0.1233	0.0666	0.0567
18	Nov-99	0.1240	0.0648	0.0592
19	Dec-99	0.1280	0.0669	0.0611
20	Jan-00	0.1301	0.0686	0.0615
21	Feb-00	0.1344	0.0654	0.0690
22	Mar-00	0.1344	0.0638	0.0706
23	Apr-00	0.1316	0.0618	0.0698
24	May-00	0.1292	0.0655	0.0637
25	Jun-00	0.1295	0.0628	0.0667
26	Jul-00	0.1317	0.0620	0.0697
27	Aug-00	0.1290	0.0602	0.0688
28	Sep-00	0.1257	0.0609	0.0648
29	Oct-00	0.1260	0.0604	0.0656
30	Nov-00	0.1251	0.0598	0.0653
31	Dec-00	0.1239	0.0564	0.0675
32	Jan-01	0.1261	0.0565	0.0696
33	Feb-01	0.1261	0.0562	0.0699
34	Mar-01	0.1275	0.0549	0.0726
35	Apr-01	0.1227	0.0578	0.0649
36	May-01	0.1302	0.0592	0.0710
37	Jun-01	0.1304	0.0582	0.0722
38	Jul-01	0.1338	0.0575	0.0763
39	Aug-01	0.1327	0.0558	0.0769
40	Sep-01	0.1268	0.0553	0.0715

LINE NO.	DATE	DCF	BOND YIELD	RISK PREMIUM
41	Oct-01	0.1268	0.0534	0.0734
42	Nov-01	0.1268	0.0533	0.0735
43	Dec-01	0.1254	0.0576	0.0678
44	Jan-02	0.1236	0.0569	0.0667
45	Feb-02	0.1241	0.0561	0.0680
46	Mar-02	0.1189	0.0593	0.0596
47	Apr-02	0.1159	0.0585	0.0574
48	May-02	0.1162	0.0581	0.0581
49	Jun-02	0.1170	0.0565	0.0605
50	Jul-02	0.1242	0.0551	0.0691
51	Aug-02	0.1234	0.0519	0.0715
52	Sep-02	0.1260	0.0487	0.0773
53	Oct-02	0.1250	0.0500	0.0750
54	Nov-02	0.1221	0.0504	0.0717
55	Dec-02	0.1216	0.0501	0.0715
56	Jan-03	0.1219	0.0502	0.0717
57	Feb-03	0.1232	0.0487	0.0745
58	Mar-03	0.1195	0.0482	0.0713
59	Apr-03	0.1162	0.0491	0.0671
60	May-03	0.1126	0.0452	0.0674
61	Jun-03	0.1114	0.0434	0.0680
62	Jul-03	0.1127	0.0492	0.0635
63	Aug-03	0.1139	0.0539	0.0600
64	Sep-03	0.1127	0.0521	0.0606
65	Oct-03	0.1123	0.0521	0.0602
66	Nov-03	0.1089	0.0517	0.0572
67	Dec-03	0.1071	0.0511	0.0560
68	Jan-04	0.1059	0.0501	0.0558
69	Feb-04	0.1039	0.0494	0.0545
70	Mar-04	0.1037	0.0472	0.0565
71	Apr-04	0.1041	0.0516	0.0525
72	May-04	0.1045	0.0546	0.0499
73	Jun-04	0.1036	0.0545	0.0491
74	Jul-04	0.1011	0.0524	0.0487
75	Aug-04	0.1008	0.0507	0.0501
76	Sep-04	0.0976	0.0489	0.0487
77	Oct-04	0.0974	0.0485	0.0489
78	Nov-04	0.0962	0.0489	0.0473
79	Dec-04	0.0970	0.0488	0.0482
80	Jan-05	0.0990	0.0477	0.0513
81	Feb-05	0.0979	0.0461	0.0518
82	Mar-05	0.0979	0.0489	0.0490
83	Apr-05	0.0988	0.0475	0.0513
84	May-05	0.0981	0.0456	0.0525
85	Jun-05	0.0976	0.0435	0.0541
86	Jul-05	0.0966	0.0448	0.0518
87	Aug-05	0.0969	0.0453	0.0516

LINE NO.	DATE	DCF	BOND YIELD	RISK PREMIUM
88	Sep-05	0.0980	0.0451	0.0529
89	Oct-05	0.0990	0.0474	0.0516
90	Nov-05	0.1049	0.0483	0.0566
91	Dec-05	0.1045	0.0473	0.0572
92	Jan-06	0.0982	0.0465	0.0517
93	Feb-06	0.1124	0.0473	0.0651
94	Mar-06	0.1127	0.0491	0.0636
95	Apr-06	0.1100	0.0522	0.0578
96	May-06	0.1056	0.0535	0.0521
97	Jun-06	0.1049	0.0529	0.0520
98	Jul-06	0.1087	0.0525	0.0562
99	Aug-06	0.1041	0.0508	0.0533
100	Sep-06	0.1053	0.0493	0.0560
101	Oct-06	0.1030	0.0494	0.0536
102	Nov-06	0.1033	0.0478	0.0555
103	Dec-06	0.1035	0.0478	0.0557
104	Jan-07	0.1013	0.0495	0.0518
105	Feb-07	0.1018	0.0493	0.0525
106	Mar-07	0.1018	0.0481	0.0537
107	Apr-07	0.1007	0.0495	0.0512
108	May-07	0.0967	0.0498	0.0469
109	Jun-07	0.0970	0.0529	0.0441
110	Jul-07	0.1006	0.0519	0.0487
111	Aug-07	0.1021	0.0500	0.0521
112	Sep-07	0.1014	0.0484	0.0530
113	Oct-07	0.1080	0.0483	0.0597
114	Nov-07	0.1083	0.0456	0.0627
115	Dec-07	0.1084	0.0457	0.0627
116	Jan-08	0.1113	0.0435	0.0678
117	Feb-08	0.1139	0.0449	0.0690
118	Mar-08	0.1147	0.0436	0.0711
119	Apr-08	0.1167	0.0444	0.0723
120	May-08	0.1069	0.0460	0.0609
121	Jun-08	0.1062	0.0474	0.0588
122	Jul-08	0.1086	0.0462	0.0624
123	Aug-08	0.1123	0.0453	0.0670
124	Sep-08	0.1130	0.0432	0.0698
125	Oct-08	0.1213	0.0445	0.0768
126	Nov-08	0.1221	0.0427	0.0794
127	Dec-08	0.1162	0.0318	0.0844
128	Jan-09	0.1131	0.0346	0.0785
129	Feb-09	0.1155	0.0383	0.0772
130	Mar-09	0.1198	0.0378	0.0820
131	Apr-09	0.1146	0.0384	0.0762
132	May-09	0.1225	0.0422	0.0803
133	Jun-09	0.1208	0.0451	0.0757
134	Jul-09	0.1145	0.0438	0.0707

LINE NO.	DATE	DCF	BOND YIELD	RISK PREMIUM
135	Aug-09	0.1109	0.0433	0.0676
136	Sep-09	0.1109	0.0414	0.0695
137	Oct-09	0.1146	0.0416	0.0730
138	Nov-09	0.1148	0.0424	0.0724
139	Dec-09	0.1123	0.0440	0.0683
140	Jan-10	0.1198	0.0450	0.0748
141	Feb-10	0.1167	0.0448	0.0719
142	Mar-10	0.1074	0.0449	0.0625
143	Apr-10	0.0934	0.0453	0.0481
144	May-10	0.0970	0.0411	0.0559
145	Jun-10	0.0953	0.0395	0.0558
146	Jul-10	0.1050	0.0380	0.0670
147	Aug-10	0.1038	0.0352	0.0686
148	Sep-10	0.1034	0.0347	0.0687
149	Oct-10	0.1050	0.0352	0.0698
150	Nov-10	0.1041	0.0382	0.0659
151	Dec-10	0.1029	0.0417	0.0612
152	Jan-11	0.1019	0.0428	0.0591
153	Feb-11	0.1004	0.0442	0.0562
154	Mar-11	0.1014	0.0427	0.0587

Notes: Government bond yield information from the Federal Reserve. DCF results are calculated using a quarterly DCF model as follows:

d_0	=	Latest quarterly dividend per Value Line
P_0	=	Average of the monthly high and low stock prices for each month per Thomson Reuters.
FC	=	Flotation costs expressed as a percent of gross proceeds.
g	=	I/B/E/S forecast of future earnings growth for each month
k	=	Cost of equity using the quarterly version of the DCF model.

$$k = \left[\frac{d_0 (1+g)^{\frac{1}{4}}}{P_0 (1 - FC)} + (1+g)^{\frac{1}{4}} \right]^4 - 1$$

EXHIBIT 6
COMPARISON OF DCF EXPECTED RETURN ON AN INVESTMENT IN ELECTRIC UTILITIES TO THE INTEREST RATE ON LONG-TERM GOVERNMENT BONDS

LINE NO.	DATE	DCF	BOND YIELD	RISK PREMIUM
1	Sep-99	0.1168	0.0650	0.052
2	Oct-99	0.1176	0.0666	0.051
3	Nov-99	0.1207	0.0648	0.056
4	Dec-99	0.1257	0.0669	0.059
5	Jan-00	0.1248	0.0686	0.056
6	Feb-00	0.1293	0.0654	0.064
7	Mar-00	0.1334	0.0638	0.070
8	Apr-00	0.1256	0.0618	0.064
9	May-00	0.1241	0.0655	0.059
10	Jun-00	0.1265	0.0628	0.064
11	Jul-00	0.1275	0.0620	0.066
12	Aug-00	0.1246	0.0602	0.064
13	Sep-00	0.1179	0.0609	0.057
14	Oct-00	0.1181	0.0604	0.058
15	Nov-00	0.1186	0.0598	0.059
16	Dec-00	0.1168	0.0564	0.060
17	Jan-01	0.1204	0.0565	0.064
18	Feb-01	0.1209	0.0562	0.065
19	Mar-01	0.1214	0.0549	0.066
20	Apr-01	0.1276	0.0578	0.070
21	May-01	0.1303	0.0592	0.071
22	Jun-01	0.1308	0.0582	0.073
23	Jul-01	0.1323	0.0575	0.075
24	Aug-01	0.1329	0.0558	0.077
25	Sep-01	0.1355	0.0553	0.080
26	Oct-01	0.1333	0.0534	0.080
27	Nov-01	0.1337	0.0533	0.080
28	Dec-01	0.1334	0.0576	0.076
29	Jan-02	0.1314	0.0569	0.074
30	Feb-02	0.1326	0.0561	0.076
31	Mar-02	0.1286	0.0593	0.069
32	Apr-02	0.1249	0.0585	0.066
33	May-02	0.1258	0.0581	0.068
34	Jun-02	0.1256	0.0565	0.069
35	Jul-02	0.1321	0.0551	0.077
36	Aug-02	0.1268	0.0519	0.075
37	Sep-02	0.1287	0.0487	0.080
38	Oct-02	0.1291	0.0500	0.079

LINE NO.	DATE	DCF	BOND YIELD	RISK PREMIUM
39	Nov-02	0.1237	0.0504	0.073
40	Dec-02	0.1207	0.0501	0.071
41	Jan-03	0.1171	0.0502	0.067
42	Feb-03	0.1208	0.0487	0.072
43	Mar-03	0.1170	0.0482	0.069
44	Apr-03	0.1129	0.0491	0.064
45	May-03	0.1071	0.0452	0.062
46	Jun-03	0.1026	0.0434	0.059
47	Jul-03	0.1033	0.0492	0.054
48	Aug-03	0.1034	0.0539	0.050
49	Sep-03	0.1004	0.0521	0.048
50	Oct-03	0.0988	0.0521	0.047
51	Nov-03	0.0977	0.0517	0.046
52	Dec-03	0.0948	0.0511	0.044
53	Jan-04	0.0922	0.0501	0.042
54	Feb-04	0.0918	0.0494	0.042
55	Mar-04	0.0915	0.0472	0.044
56	Apr-04	0.0926	0.0516	0.041
57	May-04	0.0965	0.0546	0.042
58	Jun-04	0.0965	0.0545	0.042
59	Jul-04	0.0958	0.0524	0.043
60	Aug-04	0.0962	0.0507	0.046
61	Sep-04	0.0955	0.0489	0.047
62	Oct-04	0.0952	0.0485	0.047
63	Nov-04	0.0910	0.0489	0.042
64	Dec-04	0.0930	0.0488	0.044
65	Jan-05	0.0932	0.0477	0.046
66	Feb-05	0.0929	0.0461	0.047
67	Mar-05	0.0924	0.0489	0.044
68	Apr-05	0.0926	0.0475	0.045
69	May-05	0.0921	0.0456	0.046
70	Jun-05	0.0926	0.0435	0.049
71	Jul-05	0.0912	0.0448	0.046
72	Aug-05	0.0922	0.0453	0.047
73	Sep-05	0.0949	0.0451	0.050
74	Oct-05	0.0961	0.0474	0.049
75	Nov-05	0.1005	0.0483	0.052
76	Dec-05	0.1011	0.0473	0.054
77	Jan-06	0.1015	0.0465	0.055
78	Feb-06	0.1125	0.0473	0.065
79	Mar-06	0.1111	0.0491	0.062
80	Apr-06	0.1122	0.0522	0.060
81	May-06	0.1118	0.0535	0.058
82	Jun-06	0.1157	0.0529	0.063

LINE NO.	DATE	DCF	BOND YIELD	RISK PREMIUM
83	Jul-06	0.1151	0.0525	0.063
84	Aug-06	0.1138	0.0508	0.063
85	Sep-06	0.1164	0.0493	0.067
86	Oct-06	0.1154	0.0494	0.066
87	Nov-06	0.1158	0.0478	0.068
88	Dec-06	0.1145	0.0478	0.067
89	Jan-07	0.1136	0.0495	0.064
90	Feb-07	0.1110	0.0493	0.062
91	Mar-07	0.1120	0.0481	0.064
92	Apr-07	0.1074	0.0495	0.058
93	May-07	0.1108	0.0498	0.061
94	Jun-07	0.1169	0.0529	0.064
95	Jul-07	0.1179	0.0519	0.066
96	Aug-07	0.1169	0.0500	0.067
97	Sep-07	0.1135	0.0484	0.065
98	Oct-07	0.1129	0.0483	0.065
99	Nov-07	0.1108	0.0456	0.065
100	Dec-07	0.1129	0.0457	0.067
101	Jan-08	0.1229	0.0435	0.079
102	Feb-08	0.1143	0.0449	0.069
103	Mar-08	0.1178	0.0436	0.074
104	Apr-08	0.1137	0.0444	0.069
105	May-08	0.1142	0.0460	0.068
106	Jun-08	0.1123	0.0474	0.065
107	Jul-08	0.1172	0.0462	0.071
108	Aug-08	0.1184	0.0453	0.073
109	Sep-08	0.1128	0.0432	0.070
110	Oct-08	0.1219	0.0445	0.077
111	Nov-08	0.1247	0.0427	0.082
112	Dec-08	0.1246	0.0318	0.093
113	Jan-09	0.1225	0.0346	0.088
114	Feb-09	0.1254	0.0383	0.087
115	Mar-09	0.1288	0.0378	0.091
116	Apr-09	0.1261	0.0384	0.088
117	May-09	0.1164	0.0422	0.074
118	Jun-09	0.1143	0.0451	0.069
119	Jul-09	0.1140	0.0438	0.070
120	Aug-09	0.1078	0.0433	0.065
121	Sep-09	0.1076	0.0414	0.066
122	Oct-09	0.1076	0.0416	0.066
123	Nov-09	0.1100	0.0424	0.068
124	Dec-09	0.1034	0.0440	0.059
125	Jan-10	0.1043	0.0450	0.059
126	Feb-10	0.1050	0.0448	0.060

LINE NO.	DATE	DCF	BOND YIELD	RISK PREMIUM
127	Mar-10	0.1035	0.0449	0.059
128	Apr-10	0.1083	0.0453	0.063
129	May-10	0.1056	0.0411	0.065
130	Jun-10	0.1065	0.0395	0.067
131	Jul-10	0.1042	0.0380	0.066
132	Aug-10	0.1020	0.0352	0.067
133	Sep-10	0.1023	0.0347	0.068
134	Oct-10	0.1011	0.0352	0.066
135	Nov-10	0.1015	0.0382	0.063
136	Dec-10	0.1018	0.0417	0.060
137	Jan-11	0.1006	0.0428	0.058
138	Feb-11	0.1004	0.0442	0.056
139	Mar-11	0.0990	0.0427	0.056

Notes: See written evidence above and Appendix 2 for a description of the ex ante methodology and data employed. Government bond yield information from the Federal Reserve. DCF results are calculated using a quarterly DCF model as follows:

d_0	=	Latest quarterly dividend per Value Line
P_0	=	Average of the monthly high and low stock prices for each month per Thomson Reuters.
FC	=	Flotation costs expressed as a percent of gross proceeds (five percent).
g	=	I/B/E/S forecast of future earnings growth for each month.
k	=	Cost of equity using the quarterly version of the DCF model.

$$k = \left[\frac{d_0 (1+g)^{\frac{1}{4}}}{P_0 (1-FC)} + (1+g)^{\frac{1}{4}} \right]^4 - 1$$

EXHIBIT 7
CALCULATION OF CAPITAL ASSET PRICING MODEL COST OF EQUITY
USING IBBOTSON® SBBI® 6.7 PERCENT RISK PREMIUM

LINE NO.			
1	Risk-free Rate	4.21%	Long Canada Bond Forecast
2	Beta	0.83	Average LDC Beta
3	Risk Premium	6.70%	Long-horizon SBBI® risk premium
4	Beta x Risk Premium	5.54%	
5	Flotation cost	0.50%	
6	Cost of Equity	10.3%	

Notes:

Beta is the Value Line beta for the comparable companies from Value Line Investment Analyzer.
SBBI® risk premium from *Ibbotson® SBBI® 2011® Valuation Edition Yearbook.*

EXHIBIT 7 (continued)
COMPARABLE COMPANY VALUE LINE BETAS

LINE NO.	COMPANY	BETA	MARKET CAP $ (MIL)
1	AGL Resources	0.75	3,139
2	Atmos Energy	0.65	3,123
3	National Fuel Gas	0.95	6,209
4	NiSource Inc.	0.85	5,413
5	Northwest Nat. Gas	0.60	1,234
6	ONEOK Inc.	0.95	7,229
7	Piedmont Natural Gas	0.65	2,218
8	South Jersey Inds.	0.65	1,699
9	Questar	NA	
10	Market-weighted Average	0.83	

Betas from The Value Line Investment Analyzer March 2011; market capitalization Thomson Reuters

EXHIBIT 8
ALLOWED RETURNS ON EQUITY AND EQUITY RATIOS FOR U.S. NATURAL GAS UTILITIES
2009, 2010, MAY 2011[3]

STATE	COMPANY	CASE NO.	ORDER DATE	RETURN ON EQUITY (%)	COMMON EQUITY /TOTAL CAPITAL (%)
Michigan	Michigan Gas Utilities Corp	C-U-15549	13-Jan-09	10.45	46.49
Massachusetts	New England Gas Company	DPU 08-35	2-Feb-09	10.05	34.19
Tennessee	Atmos Energy Corp.	D-08-00197	9-Mar-09	10.30	48.12
Illinois	Northern Illinois Gas Co.	D-08-0363	25-Mar-09	10.17	51.07
Louisiana	Entergy New Orleans Inc.	D-UD-08-03 (gas)	2-Apr-09	10.75	NA
Florida	Peoples Gas System	D-080318-GU	5-May-09	10.75	48.51
New York	Niagara Mohawk Power Corp.	C-08-G-0609	15-May-09	10.20	43.70
Florida	Florida Public Utilities Co.	D-080366-GU	27-May-09	10.85	42.17
New Hampshire	EnergyNorth Natural Gas Inc.	D-DG-08-009	29-May-09	9.54	50.00
Iowa	Black Hills Iowa Gas Utility	D-RPU-08-3	3-Jun-09	10.10	51.38
New York	Central Hudson Gas & Electric	C-08-G-0888	22-Jun-09	10.00	47.00
Minnesota	Minnesota Energy Resources	D-G-007,011/GR-08-835	29-Jun-09	10.21	48.77
Connecticut	CT Natural Gas Corp.	D-08-12-06	30-Jun-09	9.31	52.52
Connecticut	Southern Connecticut Gas Co.	D-08-12-07	17-Jul-09	9.26	52.00
Idaho	Avista Corp.	C-AVU-G-09-01	17-Jul-09	10.50	50.00
New York	Orange & Rockland Utlts Inc.	C-08-G-1398	16-Oct-09	10.40	48.00
Oregon	Avista Corp.	D-UG-186	26-Oct-09	10.10	50.00
Nevada	Southwest Gas Corp.	D-09-04003 (Southern)	28-Oct-09	10.15	47.09
Nevada	Southwest Gas Corp.	D-09-04003 (Northern)	28-Oct-09	10.15	47.09
Massachusetts	Columbia Gas of Massachusetts	DPU 09-30	30-Oct-09	9.95	53.57
West Virginia	Hope Gas Inc	C-08-1783-G-42T	20-Nov-09	9.45	42.34
Oklahoma	ONEOK Inc.	Ca-PUD200900110	14-Dec-09	10.50	55.30
Michigan	Michigan Gas Utilities Corp	C-U-15990	16-Dec-09	10.75	47.27
New Jersey	Pivotal Utility Holdings Inc.	D-GR-09030195	17-Dec-09	10.30	47.89
Wisconsin	Wisconsin Electric Power Co.	D-5-UR-104 (WEP-GAS)	18-Dec-09	10.40	53.02
Wisconsin	Wisconsin Power and Light Co	D-6680-UR-117 (gas)	18-Dec-09	10.40	50.38
Wisconsin	Wisconsin Gas LLC	D-5-UR-104 (WG)	18-Dec-09	10.50	46.62
Washington	Avista Corp.	D-UG-090135	22-Dec-09	10.20	46.50
Wisconsin	Madison Gas and Electric Co.	D-3270-UR-116 (gas)	22-Dec-09	10.40	55.34
Kentucky	Duke Energy Kentucky Inc.	C-2009-00202	29-Dec-09	10.38	49.90
Minnesota	CenterPoint Energy Resources	D-G-008/GR-08-1075	11-Jan-10	10.24	52.55
Illinois	Peoples Gas Light & Coke Co.	D-09-0167	21-Jan-10	10.23	56.00
Illinois	North Shore Gas Co.	D-09-0166	21-Jan-10	10.33	56.00
Texas	Atmos Energy Corp.	D-GUD 9869	26-Jan-10	10.40	48.91
Missouri	Southern Union Co.	C-GR-2009-0355	10-Feb-10	10.00	38.66
Texas	CenterPoint Energy Resources	D-GUD 9902	23-Feb-10	10.50	55.60
Nebraska	SourceGas Distribution LLC	D-NG-0060	9-Mar-10	9.60	49.96

[3] SNL Financial, May 27, 2011

STATE	COMPANY	CASE NO.	ORDER DATE	RETURN ON EQUITY (%)	COMMON EQUITY /TOTAL CAPITAL (%)
Illinois	MidAmerican Energy Co.	D-09-0312	24-Mar-10	10.13	47.08
Georgia	Atmos Energy Corp.	D-30442	31-Mar-10	10.70	47.70
Arizona	UNS Gas Inc.	D-G-04204A-08-0571	1-Apr-10	9.50	49.90
Washington	Puget Sound Energy Inc.	D-UG-090705	2-Apr-10	10.10	46.00
Utah	Questar Gas Co.	D-09-057-16	8-Apr-10	10.35	52.91
Illinois	Ameren Illinois	D-09-0310 (CIPS)	29-Apr-10	9.19	48.67
Illinois	Ameren Illinois	D-09-0309 (CILCO)	29-Apr-10	9.40	43.61
Illinois	Ameren Illinois	D-09-0311 (IP)	29-Apr-10	9.40	43.55
Michigan	Consumers Energy Co.	C-U-15986	17-May-10	10.55	40.78
Tennessee	Chattanooga Gas Company	D-09-00183	24-May-10	10.05	46.06
Michigan	Michigan Consolidated Gas Co.	C-U-15985	3-Jun-10	11.00	38.78
New York	Central Hudson Gas & Electric	C-09-G-0589	16-Jun-10	10.00	48.00
New Jersey	Public Service Electric Gas	D-GR09050422 (G)	18-Jun-10	10.30	51.20
Nebraska	Black Hills Nebraska Gas	D-NG-0061	17-Aug-10	10.10	52.00
New York	Consolidated Edison Co. of NY	C-09-G-0795	16-Sep-10	9.60	48.00
New York	Consolidated Edison Co. of NY	C-09-S-0794	16-Sep-10	9.60	48.00
New York	NY State Electric & Gas Corp.	C-09-G-0716	16-Sep-10	10.00	48.00
New York	Rochester Gas & Electric Corp.	C-09-G-0718	16-Sep-10	10.00	48.00
New Jersey	South Jersey Gas Co.	D-GR-10010035	16-Sep-10	10.30	51.20
Kentucky	Delta Natural Gas Co.	C-2010-00116	21-Oct-10	10.40	44.49
Massachusetts	Boston Gas Co.	D.P.U. 10-55 (BG)	2-Nov-10	9.75	50.00
Massachusetts	Colonial Gas Co.	D.P.U. 10-55 (CG)	2-Nov-10	9.75	50.00
Georgia	Atlanta Gas Light Co.	D-31647	3-Nov-10	10.75	51.00
Indiana	Northern IN Public Svc Co.	Ca-43894	4-Nov-10	NA	46.29
Washington	Avista Corp.	D-UG-100468	19-Nov-10	10.20	46.50
Colorado	SourceGas Distribution LLC	D-10AL-455G	1-Dec-10	10.00	50.48
Maryland	Baltimore Gas and Electric Co.	C-9230 (gas)	6-Dec-10	9.56	51.93
Minnesota	Northern States Power Co. – MN	D-G-002/GR-09-1153	6-Dec-10	10.09	52.46
Montana	NorthWestern Energy Division	D-D2009.9.129 (gas)	9-Dec-10	10.25	48.00
Texas	Texas Gas Service Co.	D-GUD 9988, 9992	14-Dec-10	10.33	59.24
Virginia	Columbia Gas of Virginia Inc	C-PUE-2010-00017	17-Dec-10	10.10	42.70
Nevada	Sierra Pacific Power Co.	D-10-06002	20-Dec-10	10.10	44.11
Wyoming	SourceGas Distribution LLC	D-30022-148-GR-10	23-Dec-10	9.92	50.34
Michigan	SEMCO Energy Inc.	C-U-16169	6-Jan-11	10.35	NA
Wisconsin	Madison Gas and Electric Co.	D-3270-UR-117 (gas)	12-Jan-11	10.30	58.06
Wisconsin	Wisconsin Public Service Corp	D-6690-UR-120 (gas)	13-Jan-11	10.30	51.65
Oregon	Avista Corp.	D-UG 201	10-Mar-11	10.10	50.00
Massachusetts	New England Gas Company	DPU 10-114	31-Mar-11	9.45	50.17
Texas	CenterPoint Energy Resources	D-GUD-10038	18-Apr-11	10.05	55.44
California	Pacific Gas and Electric Co.	AP-09-12-020 (gas)	13-May-11	11.35	52.00
Michigan	Consumers Energy Co.	C-U-16418	26-May-11	10.50	NA
Average ROE, % Equity 2009				10.22	48.49
Average ROE, % Equity 2010				10.07	48.62
Average ROE, % Equity May 2011				10.30	52.89

EXHIBIT 9
ALLOWED RETURNS ON EQUITY AND EQUITY RATIOS FOR
U.S. ELECTRIC UTILITIES
2009, 2010, MAY 2011[4]

STATE	COMPANY	CASE NO.	ORDER DATE	RETURN ON EQUITY (%)	COMMON EQUITY /TOTAL CAPITAL (%)
Oklahoma	Public Service Co. of OK	Ca-PUD-200800144	14-Jan-09	10.50	44.10
Virginia	Appalachian Power Co.	C-PUE-2009-00039	14-Jan-09	10.60	41.53
Ohio	Cleveland Elec Illuminating Co	C-07-0551-EL-AIR (CEI)	21-Jan-09	10.50	49.00
Ohio	Ohio Edison Co.	C-07-0551-EL-AIR (OE)	21-Jan-09	10.50	49.00
Ohio	Toledo Edison Co.	C-07-0551-EL-AIR (TE)	21-Jan-09	10.50	49.00
Missouri	Union Electric Co.	C-ER-2008-0318	27-Jan-09	10.76	52.01
Idaho	Idaho Power Co.	C-IPC-E-08-10	30-Jan-09	10.50	49.27
Connecticut	United Illuminating Co.	D-08-07-04	4-Feb-09	8.75	50.00
Indiana	Indiana Michigan Power Co.	Ca-43306	4-Mar-09	10.50	45.80
California	Southern California Edison Co.	Ap-07-11-011	12-Mar-09	11.50	48.00
Louisiana	Entergy New Orleans Inc.	D-UD-08-03 (elec.)	2-Apr-09	11.10	NA
Utah	PacifiCorp	D-08-035-38	21-Apr-09	10.61	51.00
New York	Consolidated Edison Co. of NY	C-08-E-0539	24-Apr-09	10.00	48.00
Florida	Tampa Electric Co.	D-080317-EI	30-Apr-09	11.25	47.49
Minnesota	ALLETE (Minnesota Power)	D-E-015/GR-08-415	4-May-09	10.74	54.79
Arkansas	Oklahoma Gas and Electric Co.	D-08-103-U	20-May-09	10.25	36.04
New Mexico	Public Service Co. of NM	C-08-00273-UT	28-May-09	10.50	50.47
Idaho	Idaho Power Co.	C-IPC-E-09-07	29-May-09	10.50	49.27
New York	Central Hudson Gas & Electric	C-08-E-0887	22-Jun-09	10.00	47.00
Nevada	Nevada Power Co.	D-08-12002	24-Jun-09	10.80	44.15
Ohio	Duke Energy Ohio Inc.	C-08-0709-EL-AIR	8-Jul-09	10.63	51.59
Idaho	Avista Corp.	C-AVU-E-09-01	17-Jul-09	10.50	50.00
Texas	Oncor Electric Delivery Co.	D-35717	31-Aug-09	10.25	40.00
Louisiana	Cleco Power LLC	D-U-30689	14-Oct-09	10.70	51.00
Minnesota	Northern States Power Co. - MN	D-E-002/GR-08-1065	23-Oct-09	10.88	52.47
Michigan	Consumers Energy Co.	C-U-15645	2-Nov-09	10.70	40.51
California	Sierra Pacific Power Co.	AP-08-08-004	3-Nov-09	10.70	43.71
Arkansas	Southwestern Electric Power Co	D-09-008-U	24-Nov-09	10.25	33.99
North Dakota	Otter Tail Power Co.	C-PU-08-862	25-Nov-09	10.75	53.30
Massachusetts	Massachusetts Electric Co.	DPU 09-39	30-Nov-09	10.35	49.99
Colorado	Public Service Co. of CO	D-09AL-299E	3-Dec-09	10.50	58.56
North Carolina	Duke Energy Carolinas LLC	D-E-7, Sub 909	7-Dec-09	10.70	52.50
Michigan	Upper Peninsula Power Co.	C-U-15988	16-Dec-09	10.90	49.52
Arizona	Arizona Public Service Co.	D-E-01345A-08-0172	16-Dec-09	11.00	53.79
Wisconsin	Wisconsin Electric Power Co.	D-5-UR-104 (WEP-EL)	18-Dec-09	10.40	53.02
Wisconsin	Wisconsin Power and Light Co	D-6680-UR-117 (elec)	18-Dec-09	10.40	50.38
Washington	Avista Corp.	D-UE-090134	22-Dec-09	10.20	46.50

[4] SNL Financial, May 27, 2011

STATE	COMPANY	CASE NO.	ORDER DATE	RETURN ON EQUITY (%)	COMMON EQUITY /TOTAL CAPITAL (%)
Wisconsin	Madison Gas and Electric Co.	D-3270-UR-116 (elec)	22-Dec-09	10.40	55.34
Wisconsin	Northern States Power Co - WI	D-4220-UR-116 (elec)	22-Dec-09	10.40	52.30
Maryland	Delmarva Power & Light Co.	C-9192	30-Dec-09	10.00	49.87
Iowa	Interstate Power & Light Co.	D-RPU-2009-0002	4-Jan-10	10.80	49.52
Michigan	Detroit Edison Co.	C-U-15768	11-Jan-10	11.00	39.48
Oregon	PacifiCorp	D-UE-210	26-Jan-10	10.13	51.00
Kansas	Kansas Gas and Electric Co.	D-09-WSEE-925-RTS (KG&E)	27-Jan-10	10.40	50.13
Kansas	Westar Energy Inc.	D-09-WSEE-925-RTS (WR)	27-Jan-10	10.40	50.13
South Carolina	Duke Energy Carolinas LLC	D-2009-226-E	27-Jan-10	10.70	53.00
Rhode Island	Narragansett Electric Co.	D-4065	9-Feb-10	9.80	42.75
Utah	PacifiCorp	D-09-035-23	18-Feb-10	10.60	51.00
Oregon	Idaho Power Co.	D-UE-213	24-Feb-10	10.18	49.80
District of Columbia	Potomac Electric Power Co.	F.C. 1076	2-Mar-10	9.63	46.18
Virginia	Kentucky Utilities Co.	C-PUE-2009-00029	4-Mar-10	10.50	53.62
Florida	Florida Power Corp.	D-090079-EI	5-Mar-10	10.50	46.74
Virginia	Virginia Electric & Power Co.	C-PUE-2009-00019	11-Mar-10	11.90	NA
Virginia	Virginia Electric & Power Co.	C-PUE-2009-00011	11-Mar-10	12.30	47.71
Virginia	Virginia Electric & Power Co.	C-PUE-2009-00017	11-Mar-10	12.30	47.41
Florida	Florida Power & Light Co.	D-080677-EI	17-Mar-10	10.00	47.00
New York	Consolidated Edison Co. of NY	C-09-E-0428	25-Mar-10	10.15	48.00
Washington	Puget Sound Energy Inc.	D-UE-090704	2-Apr-10	10.10	46.00
Wyoming	MDU Resources Group Inc.	D-20004-81-ER-09	27-Apr-10	10.00	49.77
Illinois	Ameren Illinois	D-09-0306 (CILCO)	29-Apr-10	9.90	43.61
Illinois	Ameren Illinois	D-09-0307 (CIPS)	29-Apr-10	10.06	48.67
Illinois	Ameren Illinois	D-09-0308 (IP)	29-Apr-10	10.26	43.55
New Jersey	Atlantic City Electric Co.	D-ER-09080664	12-May-10	10.30	49.10
New Jersey	Rockland Electric Company	D-ER-09080668	12-May-10	10.30	49.85
Missouri	Union Electric Co.	C-ER-2010-0036	28-May-10	10.10	51.26
Arkansas	Entergy Arkansas Inc.	D-09-084-U	28-May-10	10.20	29.32
New Jersey	Public Service Electric Gas	D-GR09050422 (EL)	7-Jun-10	10.30	51.20
New York	Central Hudson Gas & Electric	C-09-E-0588	16-Jun-10	10.00	48.00
New Hampshire	Public Service Co. of NH	D-DE-09-035	28-Jun-10	9.67	52.40
Kentucky	Kentucky Power Co.	C-2009-00459	28-Jun-10	10.50	NA
Connecticut	Connecticut Light & Power Co.	D-09-12-05	30-Jun-10	9.40	49.20
Michigan	Wisconsin Electric Power Co.	C-U-15981	1-Jul-10	10.25	47.61
Virginia	Appalachian Power Co.	C-PUE-2009-00030	15-Jul-10	10.53	41.53
South Carolina	South Carolina Electric & Gas	D-2009-489-E	15-Jul-10	10.70	52.96
Hawaii	Maui Electric Company Ltd	D-2006-0387	30-Jul-10	10.70	54.89
Colorado	Black Hills Colorado Electric	D-10AL-008E	4-Aug-10	10.50	52.00
Maryland	Potomac Electric Power Co.	C-9217	6-Aug-10	9.83	48.87
Indiana	Northern IN Public Svc Co.	Ca-43526	25-Aug-10	9.90	49.95
Hawaii	Hawaiian Electric Co.	D-2006-0386	14-Sep-10	10.70	55.10
New York	NY State Electric & Gas Corp.	C-09-E-0715	16-Sep-10	10.00	48.00
New York	Rochester Gas & Electric Corp.	C-09-E-0717	16-Sep-10	10.00	48.00
Arizona	UNS Electric Inc.	D-E-04204A-09-0206	30-Sep-10	9.75	45.76

STATE	COMPANY	CASE NO.	ORDER DATE	RETURN ON EQUITY (%)	COMMON EQUITY /TOTAL CAPITAL (%)
Michigan	Indiana Michigan Power Co.	C-U-16180	14-Oct-10	10.35	44.14
Hawaii	Hawaii Electric Light Co	D-2005-0315	28-Oct-10	10.70	51.19
Minnesota	ALLETE (Minnesota Power)	D-E-015/GR-09-1151	2-Nov-10	10.38	54.29
Michigan	Consumers Energy Co.	C-U-16191	4-Nov-10	10.70	41.59
Washington	Avista Corp.	D-UE-100467	19-Nov-10	10.20	46.50
Kansas	Kansas City Power & Light	D-10-KCPE-415-RTS	22-Nov-10	10.00	49.66
Texas	Entergy Texas Inc.	D-37744	1-Dec-10	10.13	NA
Maryland	Baltimore Gas and Electric Co.	C-9230 (elec)	6-Dec-10	9.86	51.93
Montana	NorthWestern Energy Division	D-D2009.9.129 (elec)	9-Dec-10	10.00	48.00
North Carolina	Virginia Electric & Power Co.	D-E-22, Sub 459	13-Dec-10	10.70	51.00
Oregon	PacifiCorp	D-UE-217	14-Dec-10	10.13	51.00
Iowa	Interstate Power & Light Co.	D-RPU-2010-0001	15-Dec-10	10.44	44.24
Oregon	Portland General Electric Co.	D-UE 215	17-Dec-10	10.00	50.00
Nevada	Sierra Pacific Power Co.	D-10-06001	20-Dec-10	10.60	44.11
Michigan	Upper Peninsula Power Co.	C-U-16166	21-Dec-10	10.30	50.42
Idaho	PacifiCorp	C-PAC-E-10-07	27-Dec-10	9.90	52.10
Georgia	Georgia Power Co.	D-31958	29-Dec-10	11.15	NA
Oklahoma	Public Service Co. of OK	Ca-PUD201000050	5-Jan-11	10.15	45.84
Wisconsin	Madison Gas and Electric Co.	D-3270-UR-117 (elec)	12-Jan-11	10.30	58.06
Wisconsin	Wisconsin Public Service Corp	D-6690-UR-120 (elec)	13-Jan-11	10.30	51.65
Delaware	Delmarva Power & Light Co.	D-09-414	18-Jan-11	10.00	NA
New York	Niagara Mohawk Power Corp.	C-10-E-0050	20-Jan-11	9.30	48.00
Texas	Texas-New Mexico Power Co.	D-38480	20-Jan-11	10.13	45.00
Massachusetts	Western Massachusetts Electric	DPU 10-70	31-Jan-11	9.60	50.70
Texas	CenterPoint Energy Houston	D-38339	3-Feb-11	10.00	45.00
Hawaii	Hawaiian Electric Co.	D-2008-0083	25-Feb-11	10.00	55.81
Virginia	Virginia Electric & Power Co.	C-PUE-2010-00054	22-Mar-11	12.30	49.37
Virginia	Virginia Electric & Power Co.	C-PUE-2010-00055	22-Mar-11	12.30	49.37
Washington	PacifiCorp	D-UE-100749	25-Mar-11	9.80	49.10
West Virginia	Appalachian Power Co.	C-10-0699-E-42T	30-Mar-11	10.00	42.20
Missouri	Kansas City Power & Light	C-ER-2010-0355	12-Apr-11	10.00	46.30
Minnesota	Otter Tail Power Co.	D-E-017/GR-10-239	25-Apr-11	10.74	51.70
New Hampshire	Unitil Energy Systems Inc.	D-DE 10-055	26-Apr-11	9.67	45.45
Indiana	Southern Indiana Gas & Elec Co	Ca-43839	27-Apr-11	10.40	43.46
Missouri	KCP&L Greater Missouri Op Co	C-ER-2010-0356 (MPS)	4-May-11	10.00	46.58
Missouri	KCP&L Greater Missouri Op Co	C-ER-2010-0356 (L&P)	4-May-11	10.00	46.58
California	Pacific Gas and Electric Co.	AP-09-12-020 (elec)	13-May-11	11.35	52.00
Illinois	Commonwealth Edison Co.	D-10-0467	24-May-11	10.50	47.28
Average ROE, % Equity 2009				10.52	48.57
Average ROE, % Equity 2010				10.35	48.37
Average ROE, % Equity May 2011				10.33	48.47

EXHIBIT 10
MARKET VALUE EQUITY RATIOS FOR U.S. NATURAL GAS AND ELECTRIC UTILITIES AT MARCH 2010

LINE NO.	COMPANY	LONG-TERM DEBT	PREFERRED EQUITY	MARKET CAP $ (MIL)	% MARKET EQUITY
1	AGL Resources	1,974	0	3,139	61%
2	Atmos Energy	2,169	0	3,123	59%
3	National Fuel Gas	1,249	0	6,209	83%
4	NiSource Inc.	5,965	0	5,413	48%
5	Northwest Nat. Gas	602	0	1,234	67%
6	ONEOK Inc.	4,334	0	7,229	63%
7	Piedmont Natural Gas	733	0	2,218	75%
8	Questar	2,180	0	3,094	59%
9	South Jersey Inds.	313	0	1,699	84%
10	Composite	19,519	0	33,357	63%
11	Average				67%

EXHIBIT 10 (CONTINUED)
MARKET VALUE EQUITY RATIOS FOR U.S. NATURAL GAS AND ELECTRIC UTILITIES AT MARCH 2010

LINE NO.	COMPANY	LONG-TERM DEBT	PREFERRED EQUITY	MARKET CAP $ (MIL)	% MARKET EQUITY
1	ALLETE	696	0	1,421	67%
2	Alliant Energy	2,405	244	4,381	62%
3	Amer. Elec. Power	15,757	61	17,055	52%
4	Avista Corp.	1,088	0	1,348	55%
5	Consol. Edison	9,854	0	14,896	60%
6	Dominion Resources	15,481	257	26,034	62%
7	DPL Inc.	1,224	23	3,247	72%
8	Duke Energy	16,113	0	24,465	60%
9	Edison Int'l	10,437	907	12,019	51%
10	Hawaiian Elec.	1,365	34	2,387	63%
11	IDACORP Inc.	1,410	0	1,905	57%
12	Integrys Energy	2,395	51	3,968	62%
13	NextEra Energy	16,300	0	23,653	59%
14	Northeast Utilities	4,935	116	6,167	55%
15	OGE Energy	2,089	0	5,010	71%
16	Pepco Holdings	4,947	0	4,246	46%
17	PG&E Corp.	11,208	252	17,653	61%
18	Pinnacle West Capital	3,371	0	4,686	58%
19	Portland General	1,558	0	1,827	54%
20	Public Serv. Enterprise	7,645	80	15,632	67%
21	SCANA Corp.	4,483	0	5,080	53%
22	Sempra Energy	7,460	179	13,002	63%
23	Southern Co.	18,131	1,082	32,395	63%
24	TECO Energy	3,202	0	4,057	56%
25	UIL Holdings	674	0	1,555	70%
26	Westar Energy	2,600	21	3,022	54%
27	Wisconsin Energy	3,876	30	7,169	65%
28	Xcel Energy Inc.	7,889	105	11,667	59%
29	Composite	178,589	3,443	269,948	60%
30	Average				60%

Data are from The Value Line Investment Analyzer, April 2011.

EXHIBIT 11
APPENDIX 1
QUALIFICATIONS OF JAMES H. VANDER WEIDE, PH.D.

JAMES H. VANDER WEIDE, Ph.D.

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James H. Vander Weide is Research Professor of Finance and Economics at Duke University, the Fuqua School of Business. Dr. Vander Weide is also founder and President of Financial Strategy Associates, a consulting firm that provides strategic, financial, and economic consulting services to corporate clients, including cost of capital and valuation studies.

Educational Background and Prior Academic Experience

Dr. Vander Weide holds a Ph.D. in Finance from Northwestern University and a Bachelor of Arts in Economics from Cornell University. He joined the faculty at Duke University and was named Assistant Professor, Associate Professor, Professor, and then Research Professor of Finance and Economics.

Since joining the faculty at Duke, Dr. Vander Weide has taught courses in corporate finance, investment management, and management of financial institutions. He has also taught courses in statistics, economics, and operations research, and a Ph.D. seminar on the theory of public utility pricing. In addition, Dr. Vander Weide has been active in executive education at Duke and Duke Corporate Education, leading executive development seminars on topics including financial analysis, cost of capital, creating shareholder value, mergers and acquisitions, real options, capital budgeting, cash management, measuring corporate performance, valuation, short-run financial planning, depreciation policies, financial strategy, and competitive strategy. Dr. Vander Weide has designed and served as Program Director for several executive education programs, including the Advanced Management Program, Competitive Strategies in Telecommunications, and the Duke Program for Manager Development for managers from the former Soviet Union.

Publications

Dr. Vander Weide has written a book entitled *Managing Corporate Liquidity: An Introduction to Working Capital Management* published by John Wiley and Sons, Inc. He has also written a chapter titled, "Financial Management in the Short Run" for *The Handbook of Modern Finance*; a chapter titled "Principles for Lifetime Portfolio Selection: Lessons from Portfolio Theory" for *The Handbook of Portfolio Construction: Contemporary Applications of Markowitz Techniques;* and written research papers on such topics as portfolio management, capital budgeting, investments, the effect of regulation on the performance of public utilities, and cash management. His articles have been published in *American Economic Review, Financial Management, International Journal of Industrial Organization, Journal of Finance, Journal of Financial and Quantitative Analysis, Journal of Bank Research, Journal of Portfolio Management, Journal of Accounting Research, Journal of Cash Management, Management Science, Atlantic Economic Journal, Journal of Economics and Business,* and *Computers and Operations Research*.

Professional Consulting Experience

Dr. Vander Weide has provided financial and economic consulting services to firms in the telecommunications, electric, gas, insurance, and water industries for more than twenty-five years. He has testified on the cost of capital, competition, risk, incentive regulation, forward-looking economic cost, economic pricing guidelines, depreciation, accounting, valuation, and other financial and economic issues in more than four hundred cases before the United States Congress, the Canadian Radio-Television and Telecommunications Commission, the Federal Communications Commission, the National Energy Board (Canada), the National Telecommunications and Information Administration, the Federal Energy Regulatory Commission, the public service commissions of forty-three states, the District of Columbia, four Canadian provinces, the insurance commissions of five states, the Iowa State Board of Tax Review, the National Association of Securities Dealers, and the North Carolina Property Tax Commission. In addition, he has testified as an expert witness in telecommunications-related proceedings before the United States District Court for the District of New Hampshire, United States District Court for the Northern District of California, United States District Court for the Northern District of Illinois, Montana Second Judicial District Court Silver Bow County, the United States Bankruptcy Court for the Southern District of West Virginia, and United States District Court for the Eastern District of Michigan. He also testified as an expert before the United States Tax Court, United States District Court for the Eastern District of North Carolina; United States District Court for the District of Nebraska, and Superior Court of North Carolina. Dr. Vander Weide has testified in thirty states on issues relating to the pricing of unbundled network elements and universal service cost studies and has consulted with Bell Canada, Deutsche Telekom, and Telefónica on similar issues. He has also provided expert testimony on issues related to natural gas and electric restructuring. He has worked for Bell Canada/Nortel on a special task force to study the effects of vertical integration in the Canadian telephone industry and has worked for Bell Canada as an expert witness on the cost of capital. Dr. Vander Weide has provided consulting and expert witness testimony to the following companies:

ELECTRIC, GAS, WATER, OIL COMPANIES	
Alcoa Power Generating, Inc.	Kinder Morgan Energy Partners
Alliant Energy and subsidiaries	Maritimes & Northeast Pipeline
AltaLink, L.P.	MidAmerican Energy and subsidiaries
Ameren	National Fuel Gas
American Water Works	Nevada Power Company
Atmos Energy and subsidiaries	NICOR
BP p.l.c.	North Carolina Natural Gas
Central Illinois Public Service	North Shore Gas
Citizens Utilities	Northern Natural Gas Company
Dominion Resources and subsidiaries	NOVA Gas Transmission Ltd.
Duke Energy and subsidiaries	PacifiCorp
Empire District Electric Company	Peoples Energy and its subsidiaries
EPCOR Distribution & Transmission Inc.	PG&E
EPCOR Energy Alberta Inc.	Progress Energy
FortisAlberta Inc.	PSE&G
Hope Natural Gas	Public Service Company of North Carolina
Interstate Power Company	Sempra Energy/San Diego Gas & Electric
Iberdrola Renewables	South Carolina Electric and Gas
Iowa Southern	Southern Company and subsidiaries
Iowa-American Water Company	Tennessee-American Water Company
Iowa-Illinois Gas and Electric	The Peoples Gas, Light and Coke Co.
Kentucky Power Company	TransCanada
Kentucky-American Water Company	Trans Québec & Maritimes Pipeline Inc.
	Union Gas
	United Cities Gas Company
	Virginia-American Water Company

TELECOMMUNICATIONS COMPANIES	
ALLTEL and subsidiaries	Phillips County Cooperative Tel. Co.
Ameritech (now AT&T new)	Pine Drive Cooperative Telephone Co.
AT&T (old)	Roseville Telephone Company (SureWest)
Bell Canada/Nortel	SBC Communications (now AT&T new)
BellSouth and subsidiaries	Sherburne Telephone Company
Centel and subsidiaries	Siemens
Cincinnati Bell (Broadwing)	Southern New England Telephone

TELECOMMUNICATIONS COMPANIES	
Cisco Systems	Sprint/United and subsidiaries
Citizens Telephone Company	Telefónica
Concord Telephone Company	Tellabs, Inc.
Contel and subsidiaries	The Stentor Companies
Deutsche Telekom	U S West (Qwest)
GTE and subsidiaries (now Verizon)	Union Telephone Company
Heins Telephone Company	United States Telephone Association
JDS Uniphase	Valor Telecommunications (Windstream)
Lucent Technologies	Verizon (Bell Atlantic) and subsidiaries
Minnesota Independent Equal Access Corp.	Woodbury Telephone Company
NYNEX and subsidiaries (Verizon)	
Pacific Telesis and subsidiaries	

Insurance Companies
Allstate
North Carolina Rate Bureau
United Services Automobile Association (USAA)
The Travelers Indemnity Company
Gulf Insurance Company

Other Professional Experience

Dr. Vander Weide conducts in-house seminars and training sessions on topics such as creating shareholder value, financial analysis, competitive strategy, cost of capital, real options, financial strategy, managing growth, mergers and acquisitions, valuation, measuring corporate performance, capital budgeting, cash management, and financial planning. Among the firms for whom he has designed and taught tailored programs and training sessions are ABB Asea Brown Boveri, Accenture, Allstate, Ameritech, AT&T, Bell Atlantic/Verizon, BellSouth, Progress Energy/Carolina Power & Light, Contel, Fisons, GlaxoSmithKline, GTE, Lafarge, MidAmerican Energy, New Century Energies, Norfolk Southern, Pacific Bell Telephone, The Rank Group, Siemens, Southern New England Telephone, TRW, and Wolseley Plc. Dr. Vander Weide has also hosted a nationally prominent conference/workshop on estimating the cost of capital. In 1989, at the request of Mr. Fuqua, Dr. Vander Weide designed the Duke Program for Manager Development for managers from the former Soviet Union, the first in the United States designed exclusively for managers from Russia and the former Soviet republics.

Early in his career, Dr. Vander Weide helped found University Analytics, Inc., which was one of the fastest growing small firms in the country. As an officer at University Analytics, he designed cash management models, databases, and software packages that are still used by most major U.S. banks in consulting with their corporate clients. Having sold his interest in University Analytics, Dr. Vander Weide now concentrates on strategic and financial consulting, academic research, and executive education.

PUBLICATIONS
JAMES H. VANDER WEIDE

The Lock-Box Location Problem: a Practical Reformulation, *Journal of Bank Research*, Summer, 1974, pp. 92-96 (with S. Maier). Reprinted in *Management Science in Banking*, edited by K. J. Cohen and S. E. Gibson, Warren, Gorham and Lamont, 1978.

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A Unified Location Model for Cash Disbursements and Lock-Box Collections, *Journal of Bank Research*, Summer, 1976 (with S. Maier). Reprinted in *Management Science in Banking*, edited by K. J. Cohen and S. E. Gibson, Warren Gorham and Lamont, 1978. Also reprinted in *Readings on the Management of Working Capital*, edited by K. V. Smith, West Publishing Company, 1979.

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On the Decentralized Capital Budgeting Problem Under Uncertainty, *Management Science*, September 1979 (with B. Obel).

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Forecasting Disbursement Float, *Financial Management*, Spring 1981 (with S. Maier and D. Robinson).

Recent Developments in Management Science in Banking, *Management Science*, October 1981 (with K. Cohen and S. Maier).

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A Decision-Support System for Managing a Short-term Financial Instrument Portfolio, *Journal of Cash Management*, March 1982 (with S. Maier).

An Empirical Bayes Estimate of Market Risk, *Management Science*, July 1982 (with S. Maier and D. Peterson).

The Bond Scheduling Problem of the Multi-subsidiary Holding Company, *Management Science*, July 1982 (with K. Baker).

Deregulation and Locational Rents in Banking: a Comment, *Journal of Bank Research*, Summer 1983.

What Lockbox and Disbursement Models Really Do, *Journal of Finance*, May 1983 (with S. Maier).

Financial Management in the Short Run, *Handbook of Modern Finance*, edited by Dennis Logue, published by Warren, Gorham, & Lamont, Inc., New York, 1984.

Measuring Investors' Growth Expectations: Analysts vs. History, *The Journal of Portfolio Management*, Spring 1988 (with W. Carleton).

Entry Auctions and Strategic Behavior under Cross-Market Price Constraints, *International Journal of Industrial Organization*, 20 (2002) 611-629 (with J. Anton and N. Vettas).

Principles for Lifetime Portfolio Selection: Lessons from Portfolio Theory, *Handbook of Portfolio Construction: Contemporary Applications of Markowitz Techniques*, John B. Guerard, (Ed.), Springer, 2009.

Managing Corporate Liquidity: an Introduction to Working Capital Management, John Wiley and Sons, 1984 (with S. Maier).

SUMMARY EXPERT TESTIMONY
JAMES H. VANDER WEIDE

SPONSOR	JURISDICTION	DATE	DOCKET NO.
Iberdrola Renewables Holdings, Inc.	United States Tax Court	Apr-11	525-10
North Carolina Rate Bureau (dwelling fire)	North Carolina Dept. of Insurance	Jan-11	
Atmos Energy	Railroad Commission of Texas	Dec-10	GUD 10041
Mississippi Power Company	FERC	Oct-10	
Empire District Electric Company	Missouri	Sep-10	ER-2011-0004
Tennessee-American Water Company	Tennessee	Sep-10	10-00189
Empire District Electric Company	Arkansas	Aug-10	10-052-U
Maritimes & Northeast Pipelines Limited Partnership	National Energy Board (Canada)	Jul-10	RH 4-2010
Georgia Power Company	Georgia	Jun-10	31958
West Virginia American Water Company	West Virginia	Jun-10	Case No. 10-0920-W-42T
Atmos Energy	Mississippi	Apr-10	2005-UN-503
BP Pipelines (Alaska) Inc.	FERC	Apr-10	IS09-348-000
Empire District Electric Company	FERC	Mar-10	ER10-877-000
Kentucky-American Water Company	Kentucky	Feb-10	2010-00036
Virginia-American Water Company	Virginia	Feb-10	PUE-2010-00001
Virginia Electric and Power	North Carolina	Feb-10	E-22 SUB 459
SFPP, L.P.	FERC	Dec-09	ISO9-437-000
Atmos Energy	Missouri	Dec-09	Gr-2010-0192
Empire District Electric Company	Kansas	Nov-09	10-EPDE-314-RTS
Empire District Electric Company	Missouri	Nov-09	ER-2010-0130
Atmos Energy	Kentucky	Oct-09	2009-00354
Atmos Energy	Georgia	Oct-09	30442
SFPP, L.P. and Calnev Pipeline, L.L.C.	California	Sep-09	09-05-014 et al
Union Gas	Ontario Energy Board	Sep-09	EB-2009-0084
Atmos Energy	Mississippi	Sep-09	05-UN-503
North Carolina Rate Bureau (workers)	North Carolina Dept. of Insurance	Sep-09	
Sidley Austin LLP, Tellabs, Inc. Securities Litigation	U.S. District Court Northern Dist. Illinois	Aug-09	C.A. No. 02-C-4356
Duke Energy Carolinas	South Carolina	Jul-09	2009-226-E
MidAmerican Energy Company	Iowa	Jul-09	RPU-2009-0003
Duke Enegy Carolinas	North Carolina	Jun-09	E-7, SUB 909
Empire District Electric Company	Missouri	Jun-09	ER-2008-009
Terasen Gas Inc.	British Columbia Utilities Commission	May-09	
Atmos Energy	Railroad Commission of Texas	Apr-09	GUD-9869
Progress Energy	Florida	Mar-09	090079-EI
North Carolina Rate Bureau (auto)	North Carolina Dept. of Insurance	Jan-09	
EPCOR, FortisAlberta, AltaLink	Alberta Utilities Commission	Nov-08	1578571, ID-85
Trans Québec & Maritimes Pipeline Inc.	Alberta Utilities Commission	Nov-08	1578571, ID-85
Kentucky-American Water Company	Kentucky Public Service Commission	Oct-08	2008-00427
Atmos Energy	Tennessee Regulatory Authority	Oct-08	0800197
North Carolina Rate Bureau (workers compensation)	North Carolina Dept. of Insurance	Aug-08	
Dorsey & Whitney LLP-Williams v. Gannon	Montana 2nd Judicial Dist. Ct. Silver Bow County	Apr-08	DV-02-201
Atmos Energy	Georgia	Mar-08	27163-U
North Carolina Rate Bureau (auto)	North Carolina Dept. of Insurance	Jan-08	
Trans Québec & Maritimes Pipeline Inc.	National Energy Board (Canada)	Dec-07	RH-1-2008
Xcel Energy	North Dakota	Dec-07	PU-07-776
Verizon Southwest	Texas	Nov-07	34723
Empire District Electric Company	Missouri	Oct-07	ER-2008-0093

SPONSOR	JURISDICTION	DATE	DOCKET NO.
North Carolina Rate Bureau (workers compensation)	North Carolina Dept. of Insurance	Sep-07	
Verizon North Inc. Contel of the South Inc.	Michigan	Aug-07	Case No. U-15210
Georgia Power Company	Georgia	Jun-07	25060-U
Duke Energy Carolinas	North Carolina	May-07	E-7 Sub 828 et al
MidAmerican Energy Company	Iowa	May-07	SPU-06-5 et al
Morrison & Foerster LLP-JDS Uniphase Securities Litigation	U.S. District Court Northern District California	Feb-07	C-02-1486-CW
North Carolina Rate Bureau (homeowners)	North Carolina Dept. of Insurance	Dec-06	
San Diego Gas & Electric	FERC	Nov-06	ER07-284-000
North Carolina Rate Bureau (workers compensation)	North Carolina Dept. of Insurance	Aug-06	
Union Electric Company d/b/a AmerenUE	Missouri	Jun-06	ER-2007-0002
North Carolina Rate Bureau (homeowners)	North Carolina Dept. of Insurance	May-06	
North Carolina Rate Bureau (dwelling fire)	North Carolina Dept. of Insurance	Mar-06	
Empire District Electric Company	Missouri	Feb-06	ER-2006-0315
PacifiCorp Power & Light Company	Washington	Jan-06	UE-050684
Verizon Maine	Maine	Dec-05	2005-155
Winston & Strawn LLP-Cisco Systems Securities Litigation	U.S. District Court Northern District California	Nov-05	C-01-20418-JW
Dominion Virginia Power	Virginia	Nov-05	PUE-2004-00048
Bryan Cave LLP--Omniplex Comms. v. Lucent Technologies	U.S. District Court Eastern District Missouri	Sep-05	04CV00477 ERW
North Carolina Rate Bureau (workers comp)	North Carolina Dept. of Insurance	Sep-05	
Empire District Electric Company	Kansas	Sep-05	05-EPDE-980-RTS
Verizon Southwest	Texas	Jul-05	29315
PG&E Company	FERC	Jul-05	ER-05-1284
Dominion Hope	West Virginia	Jun-05	05-034-G42T
Empire District Electric Company	Missouri	Jun-05	EO-2005-0263
Verizon New England	U.S. District Court New Hampshire	May-05	04-CV-65-PB
San Diego Gas & Electric	California	May-05	05-05-012
Progress Energy	Florida	May-05	50078
Verizon Vermont	Vermont	Feb-05	6959
North Carolina Rate Bureau (homeowners)	North Carolina Dept. of Insurance	Feb-05	
Verizon Florida	Florida	Jan-05	050059-TL
Verizon Illinois	Illinois	Jan-05	00-0812
Dominion Resources	North Carolina	Sep-04	E-22 Sub 412
Tennessee-American Water Company	Tennessee	Aug-04	04-00288
Valor Telecommunications of Texas, LP.	New Mexico	Jul-04	3495 Phase C
Alcoa Power Generating Inc.	North Carolina Property Tax Commission	Jul-04	02 PTC 162 and 02 PTC 709
PG&E Company	California	May-04	04-05-21
Verizon Northwest	Washington	Apr-04	UT-040788
Verizon Northwest	Washington	Apr-04	UT-040788
Kentucky-American Water Company	Kentucky	Apr-04	2004-00103
MidAmerican Energy	South Dakota	Apr-04	NG4-001
Empire District Electric Company	Missouri	Apr-04	ER-2004-0570
Interstate Power and Light Company	Iowa	Mar-04	RPU-04-01
North Carolina Rate Bureau (auto)	North Carolina Dept. of Insurance	Feb-04	
Northern Natural Gas Company	FERC	Feb-04	RP04-155-000
Verizon New Jersey	New Jersey	Jan-04	TO00060356
Verizon	FCC	Jan-04	03-173, FCC 03-224
Verizon	FCC	Dec-03	03-173, FCC 03-224
Verizon California Inc.	California	Nov-03	R93-04-003,I93-04-002
Phillips County Telephone Company	Colorado	Nov-03	03S-315T
North Carolina Rate Bureau (homeowners)	North Carolina Dept. of Insurance	Oct-03	
PG&E Company	FERC	Oct-03	ER04-109-000
Allstate Insurance Company	Texas Department of Insurance	Sep-03	2568

SPONSOR	JURISDICTION	DATE	DOCKET NO.
Verizon Northwest Inc.	Washington	Jul-03	UT-023003
Empire District Electric Company	Oklahoma	Jul-03	Case No. PUD 200300121
Verizon Virginia Inc.	FCC	Apr-03	CC-00218,00249,00251
North Carolina Rate Bureau (dwelling fire)	North Carolina Dept. of Insurance	Apr-03	
Northern Natural Gas Company	FERC	Apr-03	RP03-398-000
MidAmerican Energy	Iowa	Apr-03	RPU-03-1, WRU-03-25-156
PG&E Company	FERC	Mar-03	ER03666000
Verizon Florida Inc.	Florida	Feb-03	981834-TP/990321-TP
Verizon North	Indiana	Feb-03	42259
San Diego Gas & Electric	FERC	Feb-03	ER03-601000
North Carolina Rate Bureau (auto)	North Carolina Dept. of Insurance	Jan-03	
Gulf Insurance Company	Superior Court, North Carolina	Jan-03	2000-CVS-3558
PG&E Company	FERC	Jan-03	ER03409000
Verizon New England Inc. New Hampshire	New Hampshire	Dec-02	DT 02-110
Verizon Northwest	Washington	Dec-02	UT 020406
PG&E Company	California	Dec-02	
MidAmerican Energy	Iowa	Nov-02	RPU-02-3, 02-8
MidAmerican Energy	Iowa	Nov-02	RPU-02-10
Verizon Michigan	US District Court Eastern District of Michigan	Sep-02	Civil Action No. 00-73208
North Carolina Rate Bureau (workers comp)	North Carolina Dept. of Insurance	Sep-02	
Verizon New England Inc. New Hampshire	New Hampshire	Aug-02	DT 02-110
Interstate Power Company	Iowa Board of Tax Review	Jul-02	832
PG&E Company	California	May-02	A 02-05-022 et al
Verizon New England Inc. Massachusetts	FCC	May-02	EB 02 MD 006
Verizon New England Inc. Rhode Island	Rhode Island	May-02	Docket No. 2681
NEUMEDIA, INC.	US Bankruptcy Court Southern District W. Virginia	Apr-02	Case No. 01-20873
North Carolina Rate Bureau (homeowners)	North Carolina Dept. of Insurance	Mar-02	
MidAmerican Energy Company	Iowa	Mar-02	RPU 02 2
North Carolina Natural Gas Company	North Carolina	Feb-02	G21 Sub 424
North Carolina Rate Bureau (auto)	North Carolina Dept. of Insurance	Jan-02	
Verizon Pennsylvania	Pennsylvania	Dec-01	R-00016683
Verizon Florida	Florida	Nov-01	99064B-TP
PG&E Company	FERC	Nov-01	ER0166000
Verizon Delaware	Delaware	Oct-01	96-324 Phase II
Florida Power Corporation	Florida	Sep-01	000824-EL
North Carolina Rate Bureau (workers comp)	North Carolina Dept. of Insurance	Sep-01	
Verizon Washington DC	District of Columbia	Jul-01	962
Verizon Virginia	FCC	Jul-01	CC-00218,00249,00251
Sherburne County Rural Telephone Company	Minnesota	Jul-01	P427/CI-00-712
Verizon New Jersey	New Jersey	Jun-01	TO01020095
Verizon Maryland	Maryland	May-01	8879
Verizon Massachusetts	Massachusetts	May-01	DTE 01-20
North Carolina Rate Bureau (auto)	North Carolina Dept. of Insurance	Apr-01	
PG&E Company	FERC	Mar-01	ER011639000
Maupin Taylor & Ellis P.A.	National Association of Securities Dealers	Jan-01	99-05099
USTA	FCC	Oct-00	RM 10011
Verizon New York	New York	Oct-00	98-C-1357
Verizon New Jersey	New Jersey	Oct-00	TO00060356
PG&E Company	FERC	Oct-00	ER0166000
Verizon New Jersey	New Jersey	Sep-00	TO99120934
North Carolina Rate Bureau (workers comp)	North Carolina Dept. of Insurance	Sep-00	
PG&E Company	California	Aug-00	00-05-018

SPONSOR	JURISDICTION	DATE	DOCKET NO.
Verizon New York	New York	Jul-00	98-C-1357
PG&E Company	California	May-00	00-05-013
PG&E Company	FERC	Mar-00	ER00-66-000
PG&E Company	FERC	Mar-00	ER99-4323-000
Bell Atlantic	New York	Feb-00	98-C-1357
USTA	FCC	Jan-00	94-1, 96-262
MidAmerican Energy	Iowa	Nov-99	SPU-99-32
PG&E Company	California	Nov-99	99-11-003
PG&E Company	FERC	Nov-99	ER973255,981261,981685
North Carolina Rate Bureau (workers comp)	North Carolina Dept. of Insurance	Sep-99	
MidAmerican Energy	Illinois	Sep-99	99-0534
PG&E Company	FERC	Sep-99	ER99-4323-000
MidAmerican Energy	FERC	Jul-99	ER99-3887
North Carolina Rate Bureau (homeowners)	North Carolina Dept. of Insurance	Jun-99	
Bell Atlantic	Vermont	May-99	6167
Nevada Power Company	FERC	May-99	
Bell Atlantic, GTE, US West	FCC	Apr-99	CC98-166
Nevada Power Company	Nevada	Apr-99	
Bell Atlantic, GTE, US West	FCC	Mar-99	CC98-166
North Carolina Rate Bureau (auto)	North Carolina Dept. of Insurance	Mar-99	
PG&E Company	FERC	Mar-99	ER99-2326-000
MidAmerican Energy	Illinois	Mar-99	099-0310
PG&E Company	FERC	Feb-99	ER99-2358,2087,2351
MidAmerican Energy	US District Court, District of Nebraska	Feb-99	8:97 CV 346
Bell Atlantic, GTE, US West	FCC	Jan-99	CC98-166
The Southern Company	FERC	Jan-99	ER98-1096
Deutsche Telekom	Germany	Nov-98	
Telefonica	Spain	Nov-98	
Cincinnati Bell Telephone Company	Ohio	Oct-98	96899TPALT
MidAmerican Energy	Iowa	Sep-98	RPU 98-5
MidAmerican Energy	South Dakota	Sep-98	NG98-011
MidAmerican Energy	Iowa	Sep-98	SPU 98-8
GTE Florida Incorporated	Florida	Aug-98	980696-TP
GTE North and South	Illinois	Jun-98	960503
GTE Midwest Incorporated	Missouri	Jun-98	TO98329
GTE North and South	Illinois	May-98	960503
MidAmerican Energy	Iowa Board of Tax Review	May-98	835
San Diego Gas & Electric	California	May-98	98-05-024
GTE Midwest Incorporated	Nebraska	Apr-98	C1416
Carolina Telephone	North Carolina	Mar-98	P100Sub133d
GTE Southwest	Texas	Feb-98	18515
North Carolina Rate Bureau (auto)	North Carolina Dept. of Insurance	Feb-98	P100sub133d
Public Service Electric & Gas	New Jersey	Feb-98	PUC734897N,-734797N,BPUEO97070461,-07070462
GTE North	Minnesota	Dec-97	P999/M97909
GTE Northwest	Oregon	Dec-97	UM874
The Southern Company	FERC	Dec-97	ER981096000
GTE North	Pennsylvania	Nov-97	A310125F0002
Bell Atlantic	Rhode Island	Nov-97	2681
GTE North	Indiana	Oct-97	40618
GTE North	Minnesota	Oct-97	P442,407/5321/CI961541
GTE Southwest	New Mexico	Oct-97	96310TC,96344TC
GTE Midwest Incorporated	Iowa	Sep-97	RPU-96-7
North Carolina Rate Bureau (workers)	North Carolina Dept. of Insurance	Sep-97	

SPONSOR	JURISDICTION	DATE	DOCKET NO.
GTE Hawaiian Telephone	Hawaii	Aug-97	7702
The Stentor Companies	Canadian Radio-television and Telecommunications Commission	Jul-97	CRTC97-11
New England Telephone	Vermont	Jul-97	5713
Bell-Atlantic-New Jersey	New Jersey	Jun-97	TX95120631
Nevada Bell	Nevada	May-97	96-9035
New England Telephone	Maine	Apr-97	96-781
GTE North, Inc.	Michigan	Apr-97	U11281
Bell Atlantic-Virginia	Virginia	Apr-97	970005
Cincinnati Bell Telephone	Ohio	Feb-97	96899TPALT
Bell Atlantic - Pennsylvania	Pennsylvania	Feb-97	A310203,213,236,258F002
North Carolina Rate Bureau (auto)	North Carolina Dept. of Insurance	Feb-97	
Bell Atlantic-Washington, D.C.	District of Columbia	Jan-97	962
Pacific Bell, Sprint, US West	FCC	Jan-97	CC 96-45
United States Telephone Association	FCC	Jan-97	CC 96-262
Bell Atlantic-Maryland	Maryland	Jan-97	8731
Bell Atlantic-West Virginia	West Virginia	Jan-97	961516, 1561, 1009TPC,961533TT
Poe, Hoof, & Reinhardt	Durham Cnty Superior Court Kountis vs. Circle K	Jan-97	95CVS04754
Bell Atlantic-Delaware	Delaware	Dec-96	96324
Bell Atlantic-New Jersey	New Jersey	Nov-96	TX95120631
Carolina Power & Light Company	FERC	Nov-96	OA96-198-000
New England Telephone	Massachusetts	Oct-96	DPU 96-73/74,-75, -80/81, -83, -94
New England Telephone	New Hampshire	Oct-96	96-252
Bell Atlantic-Virginia	Virginia	Oct-96	960044
Citizens Utilities	Illinois	Sep-96	96-0200, 96-0240
Union Telephone Company	New Hampshire	Sep-96	95-311
Bell Atlantic-New Jersey	New Jersey	Sep-96	TO-96070519
New York Telephone	New York	Sep-96	95-C-0657, 94-C-0095,91-C-1174
North Carolina Rate Bureau (workers comp)	North Carolina Dept. of Insurance	Sep-96	
MidAmerican Energy Company	Illinois	Sep-96	96-0274
MidAmerican Energy Company	Iowa	Sep-96	RPU96-8
United States Telephone Association	FCC	Mar-96	AAD-96.28
United States Telephone Association	FCC	Mar-96	CC 94-1 PhaseIV
Bell Atlantic - Maryland	Maryland	Mar-96	8715
Nevada Bell	Nevada	Mar-96	96-3002
North Carolina Rate Bureau (auto)	North Carolina Dept. of Insurance	Mar-96	
Carolina Tel. and Telegraph Co, Central Tel Co	North Carolina	Feb-96	P7 sub 825, P10 sub 479
Oklahoma Rural Telephone Coalition	Oklahoma	Oct-95	PUD950000119
BellSouth	Tennessee	Oct-95	95-02614
Wake County, North Carolina	US District Court, Eastern Dist. NC	Oct-95	594CV643H2
Bell Atlantic - District of Columbia	District of Columbia	Sep-95	814 Phase IV
South Central Bell Telephone Company	Tennessee	Aug-95	95-02614
GTE South	Virginia	Jun-95	95-0019
Roseville Telephone Company	California	May-95	A.95-05-030
Bell Atlantic - New Jersey	New Jersey	May-95	TX94090388
Cincinnati Bell Telephone Company	Ohio	May-95	941695TPACE
North Carolina Rate Bureau (auto)	North Carolina Dept. of Insurance	May-95	727
Northern Illinois Gas	Illinois	May-95	95-0219
South Central Bell Telephone Company	Kentucky	Apr-95	94-121
Midwest Gas	South Dakota	Mar-95	
Virginia Natural Gas, Inc.	Virginia	Mar-95	PUE940054
Hope Gas, Inc.	West Virginia	Mar-95	95-0003G42T
The Peoples Natural Gas Company	Pennsylvania	Feb-95	R-943252

SPONSOR	JURISDICTION	DATE	DOCKET NO.
and Coke Co., North Shore Gas, Iowa-Illinois Gas	Illinois	Jan-95	94-0403
and Electric, Central Illinois Public Service,	Illinois	Jan-95	94-0403
Northern Illinois Gas, The Peoples Gas, Light	Illinois	Jan-95	94-0403
United Cities Gas, and Interstate Power	Illinois	Jan-95	94-0403
Cincinnati Bell Telephone Company	Kentucky	Oct-94	94-355
Midwest Gas	Nebraska	Oct-94	
Midwest Power	Iowa	Sep-94	RPU-94-4
Bell Atlantic	FCC	Aug-94	CS 94-28, MM 93-215
Midwest Gas	Iowa	Jul-94	RPU-94-3
Bell Atlantic	FCC	Jun-94	CC 94-1
Nevada Power Company	Nevada	Jun-94	93-11045
Cincinnati Bell Telephone Company	Ohio	Mar-94	93-551-TP-CSS
Cincinnati Bell Telephone Company	Ohio	Mar-94	93-432-TP-ALT
GTE South/Contel	Virginia	Feb-94	PUC9300036
North Carolina Rate Bureau (auto)	North Carolina Dept. of Insurance	Feb-94	689
Bell of Pennsylvania	Pennsylvania	Jan-94	P930715
GTE South	South Carolina	Jan-94	93-504-C
United Telephone-Southeast	Tennessee	Jan-94	93-04818
C&P of VA, GTE South, Contel, United Tel. SE	Virginia	Sep-93	PUC920029
Bell Atlantic, NYNEX, Pacific Companies	FCC	Aug-93	MM 93-215
C&P, Centel, Contel, GTE, & United	Virginia	Aug-93	PUC920029
Chesapeake & Potomac Tel Virginia	Virginia	Aug-93	93-00-
GTE North	Illinois	Jul-93	93-0301
Midwest Power	Iowa	Jul-93	INU-93-1
Midwest Power	South Dakota	Jul-93	EL93-016
Chesapeake & Potomac Tel. Co. DC	District of Columbia	Jun-93	926
Cincinnati Bell	Ohio	Jun-93	93432TPALT
North Carolina Rate Bureau (dwelling fire)	North Carolina Dept. of Insurance	Jun-93	671
North Carolina Rate Bureau (homeowners)	North Carolina Dept. of Insurance	Jun-93	670
Pacific Bell Telephone Company	California	Mar-93	92-05-004
Minnesota Independent Equal Access Corp.	Minnesota	Mar-93	P3007/GR931
South Central Bell Telephone Company	Tennessee	Feb-93	92-13527
South Central Bell Telephone Company	Kentucky	Dec-92	92-523
Southern New England Telephone Company	Connecticut	Nov-92	92-09-19
Chesapeake & Potomac Tel. Co.CDC	District of Columbia	Nov-92	814
Diamond State Telephone Company	Delaware	Sep-92	PSC 92-47
New Jersey Bell Telephone Company	New Jersey	Sep-92	TO-92030958
Allstate Insurance Company	New Jersey Dept. of Insurance	Sep-92	INS 06174-92
North Carolina Rate Bureau (auto)	North Carolina Dept. of Insurance	Aug-92	650
North Carolina Rate Bureau (workers' comp)	North Carolina Dept. of Insurance	Aug-92	647
Midwest Gas Company	Minnesota	Aug-92	G010/GR92710
Pennsylvania-American Water Company	Pennsylvania	Jul-92	R-922428
Central Telephone Co. of Florida	Florida	Jun-92	920310-TL
C&P of VA, GTE South, Contel, United Tel. SE	Virginia	Jun-92	PUC920029
Chesapeake & Potomac Tel. Co. Maryland	Maryland	May-92	8462
Pacific Bell Telephone Company	California	Apr-92	92-05-004
Iowa Power Inc.	Iowa	Mar-92	RPU-92-2
Contel of Texas	Texas	Feb-92	10646
Southern Bell Telephone Company	Florida	Jan-92	880069-TL
Nevada Power Company	Nevada	Jan-92	92-1067
GTE South	Georgia	Dec-91	4003-U
GTE South	Georgia	Dec-91	4110-U
Allstate Insurance Company (property)	Texas Dept. of Insurance	Dec-91	1846
IPS Electric	Iowa	Oct-91	RPU-91-6

SPONSOR	JURISDICTION	DATE	DOCKET NO.
GTE South	Tennessee	Aug-91	91-05738
North Carolina Rate Bureau (workers' comp)	North Carolina Dept. of Insurance	Aug-91	609
Midwest Gas Company	Iowa	Jul-91	RPU-91-5
Pennsylvania-American Water Company	Pennsylvania	Jun-91	R-911909
North Carolina Rate Bureau (auto)	North Carolina Dept. of Insurance	Jun-91	606
Allstate Insurance Company	California Dept. of Insurance	May-91	RCD-2
Nevada Power Company	Nevada	May-91	91-5055
Kentucky Power Company	Kentucky	Apr-91	91-066
Chesapeake & Potomac Tel. Co.CD.C.	District of Columbia	Feb-91	850
Allstate Insurance Company	New Jersey Dept. of Insurance	Jan-91	INS-9536-90
GTE South	South Carolina	Nov-90	90-698-C
Southern Bell Telephone Company	Florida	Oct-90	880069-TL
GTE South	West Virginia	Aug-90	90-522-T-42T
North Carolina Rate Bureau (workers' comp)	North Carolina Dept. of Insurance	Aug-90	R90-08-
The Travelers Indemnity Company	Pennsylvania Dept. of Insurance	Aug-90	R-90-06-23
Chesapeake & Potomac Tel. Co.-Maryland	Maryland	Jul-90	8274
Allstate Insurance Company	Pennsylvania Dept. of Insurance	Jul-90	R90-07-01
Central Tel. Co. of Florida	Florida	Jun-90	89-1246-TL
Citizens Telephone Company	North Carolina	Jun-90	P-12, SUB 89
North Carolina Rate Bureau (auto)	North Carolina Dept. of Insurance	Jun-90	568
Iowa Resources, Inc. and Midwest Energy	Iowa	Jun-90	SPU-90-5
Contel of Illinois	Illinois	May-90	90-0128
Southern New England Tel. Co.	Connecticut	Apr-90	89-12-05
Bell Atlantic	FCC	Apr-90	89-624 II
Pennsylvania-American Water Company	Pennsylvania	Mar-90	R-901652
Bell Atlantic	FCC	Feb-90	89-624
GTE South	Tennessee	Jan-90	
Allstate Insurance Company	California Dept. of Insurance	Jan-90	REB-1002
Bell Atlantic	FCC	Nov-89	87-463 II
Allstate Insurance Company	California Dept. of Insurance	Sep-89	REB-1006
Pacific Bell	California	Mar-89	87-11-0033
Iowa Power & Light	Iowa	Dec-88	RPU-88-10
Pacific Bell	California	Oct-88	88-05-009
Southern Bell	Florida	Apr-88	880069TL
Carolina Independent Telcos.	North Carolina	Apr-88	P-100, Sub 81
United States Telephone Association	U. S. Congress	Apr-88	
Carolina Power & Light	South Carolina	Mar-88	88-11-E
New Jersey Bell Telephone Co.	New Jersey	Feb-88	87050398
Carolina Power & Light	FERC	Jan-88	ER-88-224-000
Carolina Power & Light	North Carolina	Dec-87	E-2, Sub 537
Bell Atlantic	FCC	Nov-87	87-463
Diamond State Telephone Co.	Delaware	Jul-87	86-20
Central Telephone Co. of Nevada	Nevada	Jun-87	87-1249
ALLTEL	Florida	Apr-87	870076-PU
Southern Bell	Florida	Apr-87	870076-PU
Carolina Power & Light	North Carolina	Apr-87	E-2, Sub 526
So. New England Telephone Co.	Connecticut	Mar-87	87-01-02
Northern Illinois Gas Co.	Illinois	Mar-87	87-0032
Bell of Pennsylvania	Pennsylvania	Feb-87	860923
Carolina Power & Light	FERC	Jan-87	ER-87-240-000
Bell South	NTIA	Dec-86	61091-619
Heins Telephone Company	North Carolina	Oct-86	P-26, Sub 93
Public Service Co. of NC	North Carolina	Jul-86	G-5, Sub 207
Bell Atlantic	FCC	Feb-86	84-800 III

SPONSOR	JURISDICTION	DATE	DOCKET NO.
BellSouth	FCC	Feb-86	84-800 III
ALLTEL Carolina, Inc	North Carolina	Feb-86	P-118, Sub 39
ALLTEL Georgia, Inc.	Georgia	Jan-86	3567-U
ALLTEL Ohio	Ohio	Jan-86	86-60-TP-AIR
Western Reserve Telephone Co.	Ohio	Jan-86	85-1973-TP-AIR
New England Telephone & Telegraph	Maine	Dec-85	
ALLTEL-Florida	Florida	Oct-85	850064-TL
Iowa Southern Utilities	Iowa	Oct-85	RPU-85-11
Bell Atlantic	FCC	Sep-85	84-800 II
Pacific Telesis	FCC	Sep-85	84-800 II
Pacific Bell	California	Apr-85	85-01-034
United Telephone Co. of Missouri	Missouri	Apr-85	TR-85-179
South Carolina Generating Co.	FERC	Apr-85	85-204
South Central Bell	Kentucky	Mar-85	9160
New England Telephone & Telegraph	Vermont	Mar-85	5001
Chesapeake & Potomac Telephone Co.	West Virginia	Mar-85	84-747
Chesapeake & Potomac Telephone Co.	Maryland	Jan-85	7851
Central Telephone Co. of Ohio	Ohio	Dec-84	84-1431-TP-AIR
Ohio Bell	Ohio	Dec-84	84-1435-TP-AIR
Carolina Power & Light Co.	FERC	Dec-84	ER85-184000
BellSouth	FCC	Nov-84	84-800 I
Pacific Telesis	FCC	Nov-84	84-800 I
New Jersey Bell	New Jersey	Aug-84	848-856
Southern Bell	South Carolina	Aug-84	84-308-C
Pacific Power & Light Co.	Montana	Jul-84	84.73.8
Carolina Power & Light Co.	South Carolina	Jun-84	84-122-E
Southern Bell	Georgia	Mar-84	3465-U
Carolina Power & Light Co.	North Carolina	Feb-84	E-2, Sub 481
Southern Bell	North Carolina	Jan-84	P-55, Sub 834
South Carolina Electric & Gas	South Carolina	Nov-83	83-307-E
Empire Telephone Co.	Georgia	Oct-83	3343-U
Southern Bell	Georgia	Aug-83	3393-U
Carolina Power & Light Co.	FERC	Aug-83	ER83-765-000
General Telephone Co. of the SW	Arkansas	Jul-83	83-147-U
Heins Telephone Co.	North Carolina	Jul-83	No.26 Sub 88
General Telephone Co. of the NW	Washington	Jul-83	U-82-45
Leeds Telephone Co.	Alabama	Apr-83	18578
General Telephone Co. of California	California	Apr-83	83-07-02
North Carolina Natural Gas	North Carolina	Apr-83	G21 Sub 235
Carolina Power & Light	South Carolina	Apr-83	82-328-E
Eastern Illinois Telephone Co.	Illinois	Feb-83	83-0072
Carolina Power & Light	North Carolina	Feb-83	E-2 Sub 461
New Jersey Bell	New Jersey	Dec-82	8211-1030
Southern Bell	Florida	Nov-82	820294-TP
United Telephone of Missouri	Missouri	Nov-82	TR-83-135
Central Telephone Co. of NC	North Carolina	Nov-82	P-10 Sub 415
Concord Telephone Company	North Carolina	Nov-82	P-16 Sub 146
Carolina Telephone & Telegraph	North Carolina	Aug-82	P-7, Sub 670
Central Telephone Co. of Ohio	Ohio	Jul-82	82-636-TP-AIR
Southern Bell	South Carolina	Jul-82	82-294-C
General Telephone Co. of the SW	Arkansas	Jun-82	82-232-U
General Telephone Co. of Illinois	Illinois	Jun-82	82-0458
General Telephone Co. of the SW	Oklahoma	Jun-82	27482
Empire Telephone Co.	Georgia	May-82	3355-U

SPONSOR	JURISDICTION	DATE	DOCKET NO.
Mid-Georgia Telephone Co.	Georgia	May-82	3354-U
General Telephone Co. of the SW	Texas	Apr-82	4300
General Telephone Co. of the SE	Alabama	Jan-82	18199
Carolina Power & Light Co.	South Carolina	Jan-82	81-163-E
Elmore-Coosa Telephone Co.	Alabama	Nov-81	18215
General Telephone Co. of the SE	North Carolina	Sep-81	P-19, Sub 182
United Telephone Co. of Ohio	Ohio	Sep-81	81-627-TP-AIR
General Telephone Co. of the SE	South Carolina	Sep-81	81-121-C
Carolina Telephone & Telegraph	North Carolina	Aug-81	P-7, Sub 652
Southern Bell	North Carolina	Aug-81	P-55, Sub 794
Woodbury Telephone Co.	Connecticut	Jul-81	810504
Central Telephone Co. of Virginia	Virginia	Jun-81	810030
United Telephone Co. of Missouri	Missouri	May-81	TR-81-302
General Telephone Co. of the SE	Virginia	Apr-81	810003
New England Telephone	Vermont	Mar-81	4546
Carolina Telephone & Telegraph	North Carolina	Aug-80	P-7, Sub 652
Southern Bell	North Carolina	Aug-80	P-55, Sub 784
General Telephone Co. of the SW	Arkansas	Jun-80	U-3138
General Telephone Co. of the SE	Alabama	May-80	17850
Southern Bell	North Carolina	Oct-79	P-55, Sub 777
Southern Bell	Georgia	Mar-79	3144-U
General Telephone Co. of the SE	Virginia	Mar-76	810038
General Telephone Co. of the SW	Arkansas	Feb-76	U-2693, U-2724
General Telephone Co. of the SE	Alabama	Sep-75	17058
General Telephone Co. of the SE	South Carolina	Jun-75	D-18269

EXHIBIT 12
APPENDIX 2
THE SENSITIVITY OF THE FORWARD-LOOKING REQUIRED EQUITY RISK PREMIUM ON UTILITY STOCKS TO CHANGES IN INTEREST RATES

My estimate of the required equity risk premium on utility stocks is based on studies of the discounted cash flow ("DCF") expected return on comparable groups of utilities in each month of my study period compared to the interest rate on long-term government bonds. Specifically, for each month in my study period, I calculate the risk premium using the equation

$$RP_{COMP} = DCF_{COMP} - I_B$$

where:

RP_{COMP}	=	the required risk premium on an equity investment in the comparable utilities,
DCF_{COMP}	=	average DCF expected rate of return on a portfolio of comparable utilities; and
I_B	=	the yield to maturity on an investment in long-term U.S. Treasury bonds.

Electric Company Ex Ante Risk Premium Analysis. For my electric company ex ante risk premium analysis, I begin with the Moody's group of twenty-four electric companies shown in Table 1. I use the Moody's group of electric companies because they are a widely followed group of electric utilities, and use of this constant group greatly simplifies the data collection task required to estimate the ex ante risk premium over the months of my study. Simplifying the data collection task is desirable because the ex ante risk premium approach requires that the DCF model be estimated for every company in every month of the study period. Exhibit 6 displays the average DCF expected return on an investment in the portfolio of electric companies and the yield to maturity on long-term Treasury bonds in each month of the study.

Previous studies have shown that the ex ante risk premium tends to vary inversely with the level of interest rates, that is, the risk premium tends to increase when interest rates decline, and decrease when interest rates go up. To test whether my studies also indicate that the ex ante risk premium varies inversely with the level of interest rates, I perform a regression analysis of the relationship between the ex ante risk premium and the yield to maturity on long-term Treasury bonds, using the equation,

$$RP_{COMP} = a + (b \times I_B) + e$$

where:

RP_{COMP}	=	risk premium on comparable company group;
I_B	=	yield to maturity on long-term U.S. Treasury bonds;
e	=	a random residual; and
a, b	=	coefficients estimated by the regression procedure.

Regression analysis assumes that the statistical residuals from the regression equation are random. My examination of the residuals revealed that there is a significant probability that the residuals are serially correlated (non-zero serial correlation indicates that the residual in one time period tends to be correlated with the residual in the previous time period). Therefore, I made adjustments to my data to correct for the possibility of serial correlation in the residuals.

The common procedure for dealing with serial correlation in the residuals is to estimate the regression coefficients in two steps. First, a multiple regression analysis is used to estimate the serial correlation coefficient, *r*. Second, the estimated serial correlation coefficient is used to transform the original variables into new variables whose serial correlation is approximately zero. The regression coefficients are then re-estimated using the transformed variables as inputs in the regression equation. Based on my regression analysis of the statistical relationship between the yield to maturity on long-term Treasury bonds and the required risk premium, my estimate of the ex ante risk premium on an investment in my proxy electric company group as compared to an investment in long-term Treasury bonds is given by the equation:

$$RP_{COMP} = \underset{(12.52)}{10.62} - \underset{(-6.68)}{.9153} \times I_B$$

(12.52) (-6.68)[5] R^2 = 24.7 percent.

Using the 2012 forecast 4.21 percent yield to maturity on long-term Canada bonds obtained from Consensus Economics as of March 2011, the regression equation produces an ex ante risk premium equal to 6.76 percent (10.62 – .9153 x 4.21 = 6.76).

<u>Natural Gas Company Ex Ante Risk Premium Analysis</u>. I also conduct an ex ante risk premium study applied to a natural gas proxy group following the procedures described above. To select my ex ante risk premium natural gas proxy group of companies, I use the same criteria that I use when estimating the DCF cost of equity, namely, I select all the companies in Value Line's groups of natural gas companies that: (1) paid dividends during every quarter of the last two years; (2) did not decrease dividends during any quarter of the past two years; (3) have at least three analysts included in the I/B/E/S mean growth forecast; (4) have an investment grade bond rating and a Value Line

[5] The t-statistics are shown in parentheses.

Safety Rank of 1, 2, or 3; and (5) are not the subject of a merger that has not been completed. Exhibit 5 displays the results of my ex ante risk premium study, showing the average DCF expected return on an investment in the portfolio of natural gas companies and the yield to maturity on long-term Treasury bonds in each month.[6]

Based on my knowledge of the statistical relationship between the yield to maturity on long-term Treasury bonds and the required risk premium, my estimate of the ex ante risk premium on an investment in my proxy natural gas companies as compared to an investment in long-term Treasury bonds is given by the equation:

$$RP_{COMP} = \underset{(13.95)}{10.65} - \underset{(-6.43)}{.883} \times I_B.$$

[7] R^2 = 21.5 percent

Using the 4.21 percent forecast yield to maturity on long-term Canada bonds for 2012, the regression equation produces an ex ante risk premium equal to 6.93 percent (10.65 – .88 x 4.21 = 6.93).

[6] My two ex ante risk premium studies cover slightly different time periods, with the natural gas company risk premium study extending over a longer period of time, because I began doing an ex ante study using natural gas companies before I began performing a similar study for the electric companies.

[7] The t-statistics are shown in parentheses.

TABLE 1
MOODY'S ELECTRIC COMPANIES

American Electric Power
Constellation Energy
Progress Energy
CH Energy Group
Cinergy Corp.
Consolidated Edison Inc.
DPL Inc.
DTE Energy Co.
Dominion Resources Inc.
Duke Energy Corp.
Energy East Corp.
FirstEnergy Corp.
Reliant Energy Inc.
IDACORP. Inc.
IPALCO Enterprises Inc.
NiSource Inc.
OGE Energy Corp.
Exelon Corp.
PPL Corp.
Potomac Electric Power Co.
Public Service Enterprise Group
Southern Company
Teco Energy Inc.
Xcel Energy Inc.

Source of data: *Mergent Public Utility Manual*, August 2002. Of these twenty-four companies, I do not include companies in my ex ante risk premium DCF analysis in months in which there are insufficient data to perform a DCF analysis. In addition, since the beginning period of my study, several companies have disappeared through mergers and acquisitions.

UNION GAS LIMITED
Comparison of Revenue Deficiency/(Sufficiency)
Calendar 2013 Test Year vs 2012 Bridge Year

Line No.	Particulars ($000's)	Forecast 2013	Forecast 2012	Difference
		(a)	(b)	(c)
1	Operating revenue	1,598,544	1,650,918	(52,374)
2	Cost of service	1,354,003	1,392,306	(38,304)
3	Utility income	244,541	258,612	(14,070)
4	Requested Return	291,851	255,643	36,208
5	Revenue deficiency/(sufficiency) after tax	47,310	(2,969)	50,279
6	Provision for income taxes on deficiency/(sufficiency)	16,193	(1,057)	17,250
7	Total revenue deficiency/(sufficiency)	63,503	(4,025)	67,529
8	Long-term storage premium subsidy	-	-	-
	Shareholder portion of transactional S&T margin:			
9	Short-term storage & balancing services	2,108	1,402	706
10	Transportation & exchanges and other S&T services	-	-	-
11	Adjusted revenue deficiency/(sufficiency)	65,611	(2,623)	68,235

UNION GAS LIMITED
Statement of Indicated and Requested Rate of Return
Calendar Year Ending December 31

Line No.	Particulars ($000's)	Forecast 2013
1	Utility income	244,541
2	Requested return	291,851
3	Utility rate base	3,741,542
4	Indicated rate of return (line1/line3)	6.54%
5	Requested rate of return (line 2/line3)	7.80%

UNION GAS LIMITED
Statement of Utility Income
Calendar Year Ending December 31, 2013

Line No.	Particulars ($000's)	2013 Forecast Corporate	Unregulated Storage	Adjustments	Utility Income
		(a)	(b)	(c)	(d)
	Operating Revenues:				
1	Gas Sales	1,401,869	-	-	1,401,869
2	Transportation	162,055	-	-	162,055
3	Storage (1)	97,546	97,546	11,488	11,488
4	Other (2)	27,882	-	(4,750)	23,132
5	Earnings sharing	-	-	-	-
6		1,689,352	97,546	6,738	1,598,544
7	Operating Expenses:				
8	Cost of gas (3)	707,991	3,168	1,933	706,756
9	Operating and maintenance expenses (4)	390,170	14,499	1,518	377,189
10	Depreciation	206,176	9,709	-	196,467
11	Other financing (5)	-	57	1,179	1,179
12	Property taxes	65,424	1,402	-	64,022
13		1,369,761	28,835	4,630	1,345,613
14	Operating Income	319,591	68,711	2,108	252,931
15	Other Income				
16	Gain/(loss) on sale of assets	-	-	-	-
17	Investment in HTLP	(1,000)	(1,000)	-	-
18	Gain/(loss) on foreign exchange	-	-	-	-
19	Total Other Income	(1,000)	(1,000)	-	-
20	Earnings Before Interest & Taxes	318,591	67,711	2,108	252,931
21	Income taxes				8,390
22	Total utility income				244,541

Note:

(1)	Short term storage revenue	11,488
(2)	Shared savings mechanism	(4,750)
(3)	Excess utility storage space fuel costs	1,933
	Charitable donations	(743)
	Excess utility storage space costs excluding fuel	2,261
(4)		1,518
	Customer deposit interest	365
	Fixed short term debt cost	814
(5)		1,179

UNION GAS LIMITED
Comparison of Revenue Deficiency/(Sufficiency)
Calendar 2012 Bridge Year vs 2011 Outlook

Line No.	Particulars ($000's)	Forecast 2012	Outlook 2011	Difference
		(a)	(b)	(c)
1	Operating revenue	1,650,918	1,683,792	(32,874)
2	Cost of service	1,392,306	1,409,755	(17,448)
3	Utility income	258,612	274,037	(15,426)
4	Requested Return	255,643	250,925	4,718
5	Revenue deficiency/(sufficiency) after tax	(2,969)	(23,112)	20,143
6	Provision for income taxes on deficiency/(sufficiency)	(1,057)	(9,100)	8,043
7	Total revenue deficiency/(sufficiency)	(4,025)	(32,212)	28,187
8	Long-term storage premium subsidy	-	-	-
	Shareholder portion of transactional S&T margin:			
9	Short-term storage & balancing services	1,402	2,288	(886)
10	Transportation & exchanges and other S&T services	-	-	-
11	Adjusted revenue deficiency/(sufficiency)	(2,623)	(29,924)	27,301

UNION GAS LIMITED
Statement of Indicated and Requested Rate of Return
Calendar Year Ending December 31

Line No.	Particulars ($000's)	Forecast 2012
1	Utility income	258,612
2	Requested return	255,643
3	Utility rate base	3,682,830
4	Indicated rate of return (line1/line3)	7.02%
5	Requested rate of return (line 2/line3)	6.94%

UNION GAS LIMITED
Statement of Utility Income
Calendar Year Ending December 31, 2012

Line No.	Particulars ($000's)	2012 Forecast Corporate	Unregulated Storage	Adjustments	Utility Income
		(a)	(b)	(c)	(d)
	Operating Revenues:				
1	Gas Sales	1,437,998	-	-	1,437,998
2	Transportation	180,668	-	-	180,668
3	Storage (1)	114,318	114,318	9,090	9,090
4	Other (2)	27,912	-	(4,750)	23,162
5	Earnings sharing	-	-	-	-
6		1,760,896	114,318	4,340	1,650,918
7	Operating Expenses:				
8	Cost of gas (3)	732,111	3,164	1,978	730,925
9	Operating and maintenance expenses (4)	388,723	14,384	1,530	375,869
10	Depreciation	213,025	8,880	-	204,145
11	Other financing (5)	-	-	362	362
12	Property taxes	64,294	1,378	-	62,916
13		1,398,153	27,806	3,870	1,374,217
14	Operating Income	362,743	86,512	470	276,701
15	Other Income				
16	Gain/(loss) on sale of assets	-	-	-	-
17	Investment in HTLP	(1,000)	(1,000)	-	-
18	Gain/(loss) on foreign exchange	-	-	-	-
19	Total Other Income	(1,000)	(1,000)	-	-
20	Earnings Before Interest & Taxes	361,743	85,512	470	276,701
21	Income taxes				18,090
22	Total utility income				258,612

Note:

(1)	Short term storage revenue	9,090
(2)	Shared savings mechanism	(4,750)
(3)	Excess utility storage space fuel costs	1,978
	Charitable donations	(731)
	Excess utility storage space costs excluding fuel	2,261
(4)		1,530
(5)	Customer deposit interest	362

UNION GAS LIMITED
Comparison of Revenue Deficiency/(Sufficiency)
Calendar 2011 Outlook vs 2010 Actual Year

Line No.	Particulars ($000's)	Outlook 2011	Actual 2010	Difference
		(a)	(b)	(c)
1	Operating revenue	1,683,792	1,725,173	(41,381)
2	Cost of service	1,409,755	1,433,824	(24,069)
3	Utility income	274,037	291,349	(17,311)
4	Requested Return	250,925	260,839	(9,914)
5	Revenue deficiency/(sufficiency) after tax	(23,112)	(30,510)	7,398
6	Provision for income taxes on deficiency/(sufficiency)	(9,100)	(13,707)	4,607
7	Total revenue deficiency/(sufficiency)	(32,212)	(44,217)	12,005
8	Long-term storage premium subsidy	-	(5,351)	5,351
	Shareholder portion of transactional S&T margin:			
9	Short-term storage & balancing services	2,288	4,842	(2,554)
10	Transportation & exchanges and other S&T services	-	-	-
11	Adjusted revenue deficiency/(sufficiency)	(29,924)	(44,726)	14,802

UNION GAS LIMITED
Statement of Indicated and Requested Rate of Return
Calendar Year Ending December 31

Line No.	Particulars ($000's)	Outlook 2011
1	Utility income	274,037
2	Requested return	250,925
3	Utility rate base	3,564,974
4	Indicated rate of return (line1/line3)	7.69%
5	Requested rate of return (line 2/line3)	7.04%

UNION GAS LIMITED
Statement of Utility Income
Calendar Year Ending December 31, 2011

Line No.	Particulars ($000's)	2011 Outlook Corporate (a)	Unregulated Storage (b)	Adjustments (c)	Utility Income (d)
	Operating Revenues:				
1	Gas Sales	1,463,819	-	-	1,463,819
2	Transportation (1)	186,265	-	(809)	185,456
3	Storage (2)	123,473	123,473	12,267	12,267
4	Other (3)	31,750	-	(9,500)	22,250
5	Earnings sharing	-	-	-	-
6		1,805,307	123,473	1,958	1,683,792
7	Operating Expenses:				
8	Cost of gas (4)	761,093	3,100	1,746	759,739
9	Operating and maintenance expenses (5)	376,120	13,297	1,514	364,337
10	Depreciation	205,604	8,642	-	196,962
11	Other financing (6)	-	-	351	351
12	Property taxes	63,032	1,351	-	61,681
13		1,405,849	26,390	3,611	1,383,070
14	Operating Income	399,458	97,083	(1,653)	300,722
15	Other Income				
16	Gain/(loss) on sale of assets	(200)	(200)	-	-
17	Investment in HTLP	(1,200)	(1,200)	-	-
18	Gain/(loss) on foreign exchange	-	-	-	-
19	Total Other Income	(1,400)	(1,400)	-	-
20	Earnings Before Interest & Taxes	398,058	95,683	(1,653)	300,722
21	Income taxes				26,685
22	Total utility income				274,037

Note:

(1)	St. Clair Line activity	(809)
(2)	Short term storage revenue	12,267
(3)	Shared savings mechanism	(9,500)
	Excess utility storage space fuel costs	2,088
	St. Clair Line activity	(342)
(4)		1,746
	Charitable donations	(747)
	Excess utility storage space costs excluding fuel	2,261
(5)		1,514
(6)	Customer deposit interest	351

UNION GAS LIMITED
Comparison of Revenue Deficiency/(Sufficiency)
Calendar Calendar 2010 Actual Year vs 2007 Board-Approved

Line No.	Particulars ($000's)	Actual Year 2010 (a)	Board - Approved 2007 (b)	Difference (c)
1	Operating revenue	1,725,173	1,966,854	(241,681)
2	Cost of service	1,433,824	1,718,440	(284,616)
3	Utility income	291,349	248,414	42,935
4	Requested Return	260,839	259,490	1,349
5	Revenue deficiency/(sufficiency) after tax	(30,510)	11,076	(41,586)
6	Provision for income taxes on deficiency/(sufficiency)	(13,707)	6,263	(19,970)
7	Total revenue deficiency/(sufficiency)	(44,217)	17,339	(61,556)
8	Long-term storage premium subsidy	(5,351)	(19,265)	13,914
	Shareholder portion of transactional S&T margin:			
9	Short-term storage & balancing services	4,842	1,583	3,259
10	Transportation & exchanges and other S&T services	-	343	(343)
11	Adjusted revenue deficiency/(sufficiency)	(44,726)	(0)	(44,726)

UNION GAS LIMITED
Statement of Indicated and Requested Rate of Return
Calendar Year Ending December 31

Line No.	Particulars ($000's)	Actual 2010
1	Utility income	291,349
2	Requested return	260,839
3	Utility rate base	3,570,303
4	Indicated rate of return (line1/line3)	8.16%
5	Requested rate of return (line 2/line3)	7.31%

UNION GAS LIMITED
Statement of Utility Income
Calendar Year Ending December 31, 2010

Line No.	Particulars ($000's)	2010 Actual Corporate (a)	Unregulated Storage (b)	Adjustments (c)	Utility Income (d)
	Operating Revenues:				
1	Gas Sales	1,497,451	-	-	1,497,451
2	Transportation (1)	183,657	-	(326)	183,331
3	Storage (2)	123,904	123,904	20,887	20,887
4	Other (3)	28,913	-	(5,409)	23,504
5	Earnings sharing	(4,149)	-	4,149	-
6		1,829,776	123,904	19,301	1,725,173
7	Operating Expenses:				
8	Cost of gas (4)	793,775	669	2,443	795,549
9	Operating and maintenance expenses (5)	363,410	13,339	1,563	351,634
10	Depreciation	198,821	8,645	-	190,176
11	Other financing (6)	-	-	621	621
12	Property taxes	66,791	1,661	-	65,130
13		1,422,797	24,314	4,627	1,403,110
14	Operating Income	406,979	99,590	14,674	322,063
15	Other Income				
16	Gain/(loss) on sale of assets	(399)	(400)	-	1
17	Investment in HTLP	(1,067)	(1,067)	-	-
18	Gain/(loss) on foreign exchange	(520)	(19)	-	(501)
19	Total Other Income	(1,986)	(1,486)	-	(500)
20	Earnings Before Interest & Taxes	404,993	98,104	14,674	321,563
21	Income taxes				30,214
22	Total utility income				291,349

Note:		
(1)	St. Clair Line activity	(326)
(2)	Short term storage revenue	20,887
(3)	Shared savings mechanism	(5,409)
	Excess utility storage space fuel costs	1,873
	St. Clair Line activity	(342)
	Accounting adjustment	912
(4)		2,443
	Charitable donations	(698)
	Excess utility storage space costs excluding fuel	2,261
(5)		1,563
(6)	Customer deposit interest	621

UNION GAS LIMITED
Short-Term Storage Revenue and Costs
Year Ending December 31

Line No.	Particulars ($000's)	Board - Approved 2007	Actual 2010	Outlook 2011	Forecast 2012	Forecast 2013
		(a)	(b)	(c)	(d)	(e)
1	Short-term storage revenue [1]	17,962	20,887	12,267	9,090	11,488
2	Excess utility storage space fuel costs [2]	(1,532)	(1,873)	(2,088)	(1,978)	(1,933)
3	Excess utility storage space costs excluding fuel [3]	(599)	(2,261)	(2,261)	(2,261)	(2,261)
4	Cost of service excluding return	15,831	16,753	7,918	4,851	7,294
5	Ratepayer portion[4]	14,248	11,911	5,630	3,449	5,186 [5]
6	Shareholder portion	1,583	4,842	2,288	1,402	2,108 [5]

Note:
(1) Exhibit C1, Schedule 5, Line 12.
(2) Exhibit D3-D6, Tab 2, Schedule 1, Line 15.
(3) Exhibit D1, Summary Schedule 2, Line 33.
(4) 2007 = 90%, 2010-2013 = 71.1% (EB-2005-0551).
(5) 2013 portions will be updated as part of phase II evidence.