Direct Testimony

of

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Finance Department

Financial Analysis Division

Illinois Commerce Commission

Great Northern Utilities, Inc.
Camelot Utilities, Inc.
Lake Holiday Utilities Corporation

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Witness Identification

Q. Please state your name and business address.

A. My name is Janis Freetly. My business address is 527 East Capitol Avenue, Springfield, Illinois 62701.

Q. What is your current position with the Illinois Commerce Commission ("Commission")?

A. I am currently employed as a Senior Financial Analyst in the Finance Department of the Financial Analysis Division.

Q. Please describe your qualifications and background.

A. In May of 1995, I earned a Bachelor of Business from Western Illinois University. I received a Master of Business Administration degree, with a concentration in Finance, from Western Illinois University in May of 1998. I have been employed by the Commission in my present position since September of 1998. I was promoted to Senior Financial Analyst on August 31, 2001.

Q. What is the purpose of your testimony in this proceeding?

A. The purpose of my testimony and accompanying schedules is to present the overall cost of capital and recommend a fair rate of return on rate base for Great Northern Utilities, Inc. ("Great Northern"), Camelot Utilities, Inc. ("Camelot") and Lake Holiday Utilities Corporation ("Lake Holiday") (collectively, "the Companies"). The Companies are wholly owned subsidiaries of Utilities, Inc. ("UI").

Cost of Capital

Q. Please summarize your conclusions.

A. The overall cost of capital for the Companies is 7.71% as shown on Schedule 3.1.

Q. Why must one determine an overall cost of capital for a public utility?

A. Under the traditional regulatory model, ratepayer and shareholder interests are balanced when the Commission authorizes a rate of return on rate base equal to the public utility's overall cost of capital, as long as that overall cost of capital is not unnecessarily expensive.[1] If the authorized rate of return on rate base exceeds the overall cost of capital, then ratepayers bear the burden of excessive prices. Conversely, if the authorized rate of return on rate base is lower than the overall cost of capital, the financial strength of the utility could deteriorate, making it difficult for the utility to raise capital at a reasonable cost. Ultimately, the utility's inability to raise sufficient capital would impair service quality. Therefore, ratepayer interests are served best when the authorized rate of return on rate base equals the utility's overall cost of capital.

In authorizing a rate of return on rate base equal to the overall cost of capital, all costs of service are assumed reasonable and accurately measured, including the costs and balances of the components of the capital structure. If unreasonable costs continue to be incurred, or if any reasonable cost of service component is

[1] The remainder of the discussion assumes that the utility's overall cost of capital is not unnecessarily expensive; that is, the utility's cost of capital reflects a reasonable balance between financial strength and cost.

measured inaccurately, then the allowed rate of return on rate base will not balance ratepayer and investor interests.

Q. Please define the overall cost of capital for a public utility.

A. The overall cost of capital for a public utility equals the sum of the costs of the components of the capital structure (i.e., debt, preferred stock, and common equity) after weighing each by its proportion to total capital.

Capital Structure

Q. What capital structure did the Company propose for setting rates?

A. The Company proposed using a capital structure for the year ended December 31, 2009, comprised of 52.29% debt and 47.71% common equity.[2]

Q. What capital structure do you propose for setting rates?

A. I propose using UI's capital structure for the year ended December 31, 2009, comprised of 6.45% short-term debt, 48.75% long-term debt, and 44.80% common equity, as shown on Schedule 3.1.

Q. How was the balance of short-term debt measured?

A. Since short-term debt balances tend to fluctuate substantially during a year, any single balance might not be representative of the amount employed throughout the year. The balance of short-term debt I recommend is based on the balances over the July 2009 through June 2010 period because it is centered in time at

[2] Direct Testimony of Lena Georgiev, Great Northern Ex. 1,0, p. 9; Camelot Ex. 1, p.13; Lake Holiday Ex. 1.0, p. 14.

December 31, 2009, the measurement date for the other components of the capital structure. To calculate the balance of short-term debt, I first calculated the monthly ending net balance of short-term debt outstanding from June 2009 through June 2010. The net balance of short-term debt equals the monthly ending gross balance of short-term debt outstanding minus the lesser of (a) the corresponding monthly ending balance of construction-work-in-progress ("CWIP") accruing an allowance for funds used during construction ("AFUDC"), or (b) the monthly ending balance of CWIP accruing AFUDC times the ratio of short-term debt to total CWIP for the corresponding month. That adjustment recognizes the Commission's formula for calculating AFUDC which assumes short-term debt is the first source of funds financing CWIP[3] and addresses the double-counting concern the Commission raised in a previous Order.[4] Next, I calculated the twelve monthly averages from the adjusted monthly ending balances of short-term debt. Finally, I averaged the twelve monthly balances of short-term debt for July 2009 through July 2010. Schedule 3.2 presents the calculation of the average adjusted balance of short-term debt.

Q. What balance of long-term debt did you include in your recommended capital structure?

A. I began with the $180,000,000 balance of long-term debt outstanding on December 31, 2009, as presented on Schedule 3.3. I then adjusted that balance

[3] *Uniform System of Accounts for Water Utilities Operating in Illinois,* Accounting Instruction 19 Utility Plant - Components of Construction Cost (17). Long-term debt, preferred stock and common equity are assumed to finance CWIP balances in excess of the short-term debt balance according to their relative proportions to long-term capital.

[4] Order, Docket No. 95-0076 (Illinois-American Water Company, general rate increase), December 20, 1995, p. 51.

to reflect the unamortized debt expense incurred to issue the debt.[5] This produced a long-term debt balance of $178,726,842.

Q. What balance of common equity did you include in your recommended capital structure?

A. I used the $164,229,938 balance of common shareholders equity on December 31, 2009 from the Consolidated Financial Statements of Utilities, Inc. provided in response to Staff Data Request ("DR") JF 1.01.

Q. How does capital structure affect the overall cost of capital?

A. Capital structure affects the value of a firm and, therefore, its cost of capital, to the extent it affects the expected level of cash flows that accrue to parties other than debt and stock holders. Employing debt as a source of capital reduces a company's income taxes,[6] thereby reducing the cost of capital; however, as reliance on debt as a source of capital increases, so does the probability of default. As the probability of default rises, expected payments to attorneys, trustees, and other outside parties increase. Further, the expected cash flows decline as the company foregoes investment that would have been available to it had its financial condition been stronger, including the expected value of the income tax shield from debt financing. Beyond a certain point, a growing

[5] Company Response to Staff DR JF-1.09.

[6] The tax advantage debt has over equity at the corporate level is partially offset at the individual investor level. Debt investors receive returns largely in the form of current income (i.e., interest). In contrast, equity investors receive returns in the form of both current income (i.e., dividends) and capital appreciation (i.e., capital gains). Taxes on common dividends and capital gains are lower than taxes on interest income because common dividends and capital gains tax rates are lower, and taxes on capital gains are deferred until realized.

dependence on debt as a source of funds increases the overall cost of capital. Therefore, the Commission should not determine the overall rate of return from a utility’s actual capital structure if the Commission concludes that capital structure adversely affects the overall cost of capital.

An optimal capital structure would minimize the cost of capital and maintain a utility’s financial integrity. Unfortunately, determining whether a capital structure is optimal remains problematic because: (1) the cost of capital is a continuous function of the capital structure, rendering its precise measurement along each segment of the range of possible capital structures problematic; (2) the optimal capital structure is a function of operating risk, which is dynamic; and (3) the relative costs of the different types of capital vary with dynamic market conditions. Consequently, one should determine whether the capital structure is consistent with the financial strength necessary to access the capital markets under most economic conditions, and if so, whether the cost of that financial strength is reasonable.

Q. How did you evaluate your proposed capital structure for the Company?

A. I compared my proposed common equity ratio for the Company to the common equity ratio for the water utility industry. In the fourth quarter of 2009, the mean common equity ratio for the water utility industry was 46.08% with a standard deviation of 3.86%.[7] My proposed common equity ratio of 44.80% compares favorably with the other companies in the water utility industry.

Cost of Short-Term Debt

Q. What is your estimate of the cost of short-term debt for the Company?

A. I estimate that the Company's cost of short-term debt is 2.85%, which equals a weighted average of the current Prime rate and London Interbank Offered Rate ("LIBOR") rate that the Company pays on short-term borrowings.

Q. Describe the weighting methodology you used to calculate the Company's cost of short-term debt.

A. Pursuant to a Credit Agreement with JP Morgan Chase Bank, UI can access short-term borrowings via revolving loans. On December 31, 2009, the interest rates on UI's short-term revolving debt were a Prime Rate of 4.5% and LIBOR based rate of 2.5%.[8]

I calculated the Company's weighted cost of short-term debt based on the proportion of the Company's borrowings at the Prime rate and LIBOR. During the short-term debt measurement period, 17% of the Company borrowings were at the Prime rate and 83% were at LIBOR. Thus, the weighted average interest rate for the Company's short-term debt is 2.85%.

[7] Standard & Poor's Compustat database.
[8] Company response to Staff DR JF 1.07.

Cost of Long-Term Debt

Q. What is the embedded cost of long-term debt for the Company?

A. The Company's average embedded cost of long-term debt for 2008 is 6.65%, as shown on Schedule 3.3.

Q. Please describe the adjustments you made to the Company's cost of long-term debt.

A. I included the annual amortization of debt expense to reflect straight-line amortization of the unamortized balance over the remaining life of the outstanding issue of long-term debt.

Cost of Common Equity

Q. What is UI's cost of common equity?

A. My analysis indicates that the cost of common equity for UI subsidiaries Great Northern, Camelot and Lake Holiday is 9.56%.

Q. How did you measure the investor-required rate of return on common equity for UI?

A. I measured the investor-required rate of return on common equity for UI with the discounted cash flow ("DCF") and risk premium models. Since UI does not have market-traded common stock, DCF and risk premium models cannot be applied directly to UI; for this reason, and to minimize measurement error, I applied both models to water utility and public utility samples (hereafter, referred to as "Water sample" and "Utility sample," respectively).

Sample Selection

Q. How did you select your Water sample?

A. I selected my Water sample based on two criteria. First, I began with a list of all domestic corporations assigned an industry number of 4941 (i.e., water utilities) within Standard & Poor's *Utility Compustat II* that have publicly-traded common stock. Second, I removed any company that did not have Zacks Investment Research ("Zacks") long-term growth rates, which are needed for DCF analysis. The remaining companies, American States Water Company, Aqua America, Inc., Artesian Resources, California Water Service Group, Connecticut Water Service Inc., Middlesex Water Company and York Water Company, compose my sample.

Q. How did you select a Utility sample comparable in risk to UI?

A. According to financial theory, the market-required rate of return on common equity is a function of operating and financial risk. Thus, the method used to select a sample should reflect both the operating and financial characteristics of a firm. Standard & Poor's ("S&P") rating methodology is organized around fundamental business and financial analysis. S&P categorizes business risk profiles as "excellent," "strong," "satisfactory," "fair," "weak," or "vulnerable." The key factors of a utility's business risk profile are markets and service area economy; competitive position; operations; regulation; and management. S&P characterizes financial risk profiles as "minimal," "modest," "intermediate," "significant," "aggressive" and "highly leveraged." The primary determinants of

S&P's financial risk profile analysis are accounting characteristics; financial governance/policies and risk tolerance; cash flow adequacy; capital structure and leverage; and liquidity and short-term factors.[9] I used S&P credit ratings, business risk profiles and financial risk profiles for a typical water utility for the Company, since UI is not rated. I began with all sixteen of the water utilities rated by S&P.[10] Those sixteen water utilities have an average credit rating of A and an average financial risk profile of "significant." The business risk profile of all sixteen water utilities is "excellent." From that, I concluded that a credit rating of A with a business risk profile of "excellent" and a financial risk profile of "significant" are representative of the business and financial risk of a typical water utility and are therefore reasonable estimates for UI.

To form the utility sample, I began with a list of all domestic dividend paying publicly-traded corporations assigned an industry number of 4911, 4922, 4923, 4924, 4931, or 4932 in the S&P *Utility Compustat II* database that have been assigned (1) an S&P credit rating of A+, A, A- or BBB+; (2) a business risk profile score of "excellent;" and (3) a financial risk profile of "intermediate," "significant," or "aggressive." Next, I removed any company that lacked Zacks growth rates. Finally, I eliminated any company that was in the process of being acquired by another company or acquiring a company of similar size. The remaining companies, Alliant Energy Corp., Atmos Energy Corp., Consolidated Edison Inc.,

[9] S&P Ratings Direct, *U.S. Investor-Owned Water Utilities, Strongest to Weakest*, December 21, 2010, http://www.globalcreditportal.com/ratingsdirect.

[10] S&P Ratings Direct, *U.S. Investor-Owned Water Utilities, Strongest to Weakest*, December 21, 2010, http://www.globalcreditportal.com/ratingsdirect.

Dominion Resources, Laclede Group Inc., Northwest Natural Gas, PG&E Corp., Piedmont Natural Gas Co., SCANA Corp., Southern Co., Vectren Corp., Wisconsin Energy Corp. and Xcel Energy compose my utility sample.

DCF Analysis

Q. Please describe DCF analysis.

A. For a utility to attract common equity capital, its investors must expect it to provide a rate of return on common equity sufficient to meet their requirements. DCF analysis establishes a rate of return directly from investor requirements. Implementation of a DCF analysis does not require a comprehensive analysis of a utility's operating and financial risks since the market price of a utility's stock already embodies the market consensus of those risks.

According to DCF theory, a security price equals the present value of the cash flow investors expect it to generate. Specifically, the market value of common stock equals the cumulative value of the expected stream of future dividends after each is discounted by the investor-required rate of return.

Q. Please describe the DCF model with which you measured the investor-required rate of return on common equity.

A. As it applies to common stocks, DCF analysis is generally employed to determine appropriate stock prices given a specified discount rate. Since a DCF model incorporates time-sensitive valuation factors, it must correctly reflect the timing of the dividend payments that stock prices embody. As such, incorporating stock prices that the financial market sets on the basis of quarterly dividend payments into a model that ignores the time value of quarterly cash flows constitutes a misapplication of DCF analysis.

The companies in the samples pay dividends quarterly; therefore, I applied a constant-growth DCF model that measures the annual required rate of return on common equity as follows:

$$k = \frac{\sum_{q=1}^{4} D_{0,q}(1+g)(1+k)^{1-[x+0.25(q-1)]}}{P} + g.$$

where P ≡ the current stock price;

$D_{0,q}$ ≡ the last dividend paid at the end of quarter q, where q = 1 to 4;

k ≡ the cost of common equity;

x ≡ the elapsed time between the stock observation and first dividend payment dates, in years; and

g ≡ the expected dividend growth rate.

That model assumes dividends will grow at a constant rate, and the market value of common stock (i.e., stock price) equals the sum of the discounted value of each dividend.

Q. How did you estimate the growth rate parameter?

A. Determining the market-required rate of return with the DCF methodology requires a growth rate that reflects the expectations of investors. Although the current market price reflects aggregate investor expectations, market-consensus expected growth rates cannot be measured directly. Therefore, I measured market-consensus expected growth indirectly with growth estimates from Zacks Investment Research ("Zacks"), which summarize securities analysts' growth rate forecasts that are disseminated to investors. The Zacks growth rate estimates for the companies in my water and utility samples as of March 8, 2011 are shown on Schedule 3.4.

Q. In the last Utilities Inc. rate cases[11] you measured the investor required rate of return using the non-constant growth DCF model. Why are you instead using the constant growth DCF in this proceeding?

A. In the 2009 and 2010 Utilities Inc. rate cases, I determined that the 3-5 year growth rates for the companies in my Water and Utility samples were not sustainable over the long-term. My estimate of the long-term growth rate was 5.05%, while the average 3-5 year growth rate was 7.15% for my Water sample and 5.47% for my Utility sample. Hence, the near term growth rate estimates exceeded the expected long-term overall economic growth rate.

In this proceeding, the average 3-5 year growth rate is 4.94% for the Water sample and 4.98% for the Utility sample. My estimates of the expected long-term overall rate of growth for the economy range from 4.50% to 5.50%. Although the 3-5 year growth rates may not be sustainable, using the higher long-term growth estimate would not materially change the rate of return.

[11] Docket Nos. 09-0548 and 09-0549 Consolidated - Apple Canyon Utility Company and Lake Wildwood Utilities Corp.; Docket No. 10-0110 - Whispering Hills Water Company; Docket No. 10-0280 - Galena Territory Utilities, Inc.; and Docket No. 10-0298 – Northern Hills Water and Sewer Company.

Q. How did you measure the stock price?

A. A current stock price reflects all information that is available and relevant to the market; thus, it represents the market's assessment of the common stock's current value. I measured each company's current stock price with its closing market price from March 8, 2011. Those stock prices for the companies in the water and utility samples appear on Schedule 3.5.

Since stock prices reflect the market's concurrent expectation of the cash flows the securities will produce and the rate at which those cash flows are discounted, an observed change in the market price does not necessarily indicate a change in the required rate of return on common equity. Rather, a price change may reflect investors' re-evaluation of the expected dividend growth rate. In addition, stock prices change with the approach of dividend payment dates.
Consequently, when estimating the required return on common equity with the DCF model, one should measure the expected dividend yield and the corresponding expected growth rate concurrently. Using a historical stock price along with current growth expectations or combining an updated stock price with past growth expectations would likely produce an inaccurate estimate of the market-required rate of return on common equity.

Q. Please explain the significance of the column titled "Next Dividend Payment Date" shown on Schedule 3.5.

A. Estimating the present value of each dividend requires measuring the length of time between its payment date and the stock observation date. For the first dividend payment, that length of time is measured from the "Next Dividend Payment Date." Subsequent dividend payments occur in quarterly intervals.

Q. How did you estimate the next four expected quarterly dividends?

A. Most utilities declare and pay the same dividend per share for four consecutive quarters before adjusting the rate. Consequently, I assumed the current declared dividend rate would adjust during the same quarter it changed the previous year. If the utility did not increase its dividend over the previous four quarters, I assumed the dividend would increase during the next quarter. For those companies that had announced the next dividend payment by the date that I performed my analysis, I input the dividend payment amount announced by the company. Otherwise, the average expected growth rate was applied to the current declared dividend rate to estimate the expected dividend rate. Schedule 3.5 presents the current quarterly dividends for the companies in the water and utility samples. Schedule 3.6 presents the expected quarterly dividends for the companies in the water and utility samples.

Q. Based on your DCF analysis, what are the estimated required rates of return on common equity for the water sample and the utility sample?

A. The DCF analysis estimated an 8.59% required rate of return on common equity estimate for the water sample and 9.45% for the utility sample as shown on Schedule 3.8. Those results represent averages of the DCF estimates for the individual companies. The DCF estimates for the water and utility samples are derived from the growth rates presented on Schedule 3.4, the stock price and dividend payment dates presented on Schedule 3.5, and the expected quarterly dividends presented on Schedule 3.6.

Risk Premium Analysis

Q. Please describe the risk premium model.

A. The risk premium model is based on the theory that the market-required rate of return for a given security equals the risk-free rate of return plus a risk premium associated with that security. A risk premium represents the additional return investors expect in exchange for assuming the risk inherent in an investment. Mathematically, a risk premium equals the difference between the expected rate of return on a risk factor and the risk-free rate. If the risk of a security is measured relative to a portfolio, then multiplying that relative measure of risk and the portfolio's risk premium produces a security-specific risk premium for that risk factor.

The risk premium methodology is consistent with the theory that investors are risk-averse. That is, investors require higher returns to accept greater exposure to risk. Thus, if investors had an opportunity to purchase one of two securities with equal expected returns, they would purchase the security with less risk. Similarly, if investors had an opportunity to purchase one of two securities with equal risk, they would purchase the security with the higher expected return. In equilibrium, two securities with equal quantities of risk have equal required rates of return.

The Capital Asset Pricing Model ("CAPM") is a one-factor risk premium model that mathematically depicts the relationship between risk and return as:

$$R_j = R_f + \beta_j \times (R_m - R_f)$$

where R_j ≡ the required rate of return for security *j*;

R_f ≡ the risk-free rate;

R_m ≡ the expected rate of return for the market portfolio; and

β_j ≡ the measure of market risk for security *j*.

In the CAPM, the risk factor is market risk, which is defined as risk that cannot be eliminated through portfolio diversification. To implement the CAPM, one must estimate the risk-free rate of return, the expected rate of return on the market portfolio, and a security or portfolio-specific measure of market risk.

Q. How did you estimate the risk-free rate of return?

A. I examined the suitability of the yields on four-week U.S. Treasury bills and thirty-year U.S. Treasury bonds as estimates of the risk-free rate of return.

Q. Why did you examine the yields on U.S. Treasury bills and bonds as measures of the risk-free rate?

A. The proxy for the nominal risk-free rate should contain no risk premium and reflect similar inflation and real risk-free rate expectations to the security being analyzed through the risk premium methodology.[12] The yields of fixed income securities include premiums for default and interest rate risk. Default risk

[12] Real risk-free rate and inflation expectations comprise the non-risk portion of a security's rate of return.

pertains to the possibility of default on principal or interest payments. Securities of the United States Treasury are virtually free of default risk by virtue of the federal government's fiscal and monetary authority. Interest rate risk pertains to the effect of unexpected interest rate fluctuations on the value of securities.

Since common equity theoretically has an infinite life, its market-required rate of return reflects the inflation and real risk-free rates anticipated to prevail over the long run. U.S. Treasury bonds, the longest term treasury securities, are issued with terms to maturity of thirty years;[13] U.S. Treasury notes are issued with terms to maturity ranging from two to ten years; U.S. Treasury bills are issued with terms to maturity ranging from four weeks to fifty-two weeks. Therefore, U.S. Treasury bonds are more likely to incorporate within their yields the inflation and real risk-free rate expectations that drive, in part, the prices of common stocks than either U.S. Treasury notes or Treasury bills.

However, due to relatively long terms to maturity, U.S. Treasury bond yields also contain an interest rate risk premium that diminishes their usefulness as measures of the risk-free rate. U.S. Treasury bill yields contain a smaller premium for interest rate risk. Thus, in terms of interest rate risk, U.S. Treasury bill yields more accurately measure the risk-free rate.

Q. Given that the inflation and real risk-free rate expectations reflected in the yields on U.S. Treasury bonds and the prices of common stocks are

[13] In February 9, 2006, the U.S. Department of Treasury resumed the issuance of 30-year U.S. Treasury Bonds.

similar, does it necessarily follow that the inflation and real risk-free rate expectations that are reflected in the yields on U.S. Treasury bills and the prices of common stocks are dissimilar?

A. No. To the contrary, short and long-term inflation and real risk-free rate expectations, including those that are reflected in the yields on U.S. Treasury bills, U.S. Treasury bonds, and the prices of common stocks, should equal over time. Any other assumption implausibly implies that the real risk-free rate and inflation is expected to systematically and continuously rise or fall.

Although expectations for short and long-term real risk-free rates and inflation should equal over time, in finite time periods, short and long-term expectations may differ. Short-term interest rates tend to be more volatile than long-term interest rates.[14] Consequently, over time U.S. Treasury bill yields are less biased (i.e., more accurate) but less reliable (i.e., more volatile) estimators of the long-term risk-free rate than U.S. Treasury bond yields. In comparison, U.S. Treasury bond yields are more biased (i.e., less accurate) but more reliable (i.e., less volatile) estimators of the long-term risk-free rate. Therefore, an estimator of the long-term nominal risk-free rate should not be chosen mechanistically. Rather, the similarity in current short and long-term nominal risk-free rates should be evaluated. If those risk-free rates are similar, then U.S. Treasury bill yields should be used to measure the long-term nominal risk-free rate. If not, some other proxy or combination of proxies should be used.

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[14] Fabozzi and Fabozzi, ed., *The Handbook of Fixed Income Securities*, Fourth Edition, Irwin, p. 789.

Q. What are the current yields on four-week U.S. Treasury bills and thirty-year U.S. Treasury bonds?

A. Four-week U.S. Treasury bills are currently yielding 0.07%. Thirty-year U.S. Treasury bonds are currently yielding 4.71%. Both estimates are derived from quotes for March 8, 2011.[15] Schedule 3.8 presents the published quotes and effective yields.

Q. Of the U.S. Treasury bill and bond yields, which is currently a better proxy for the long-term risk-free rate?

A. In terms of the gross domestic product ("GDP") price index, the Energy Information Administration ("EIA") forecasts the annual inflation rate will average 1.9% during the 2011-2035 period.[16] In comparison, Global Insight forecasts that annual GDP price inflation will average 1.8% during the 2011-2039 period.[17] In terms of the Consumer Price Index ("CPI"), the *Survey of Professional Forecasters* ("*Survey*") forecasts that inflation rate will average 2.3% during the next ten years.[18] Although EIA, Global Insight and the *Survey* do not forecast the real risk-free rate, they do forecast real GDP growth, which is a proxy for the real risk-free rate. EIA forecasts real GDP growth will average 2.7% during the 2011-

[15] The Federal Reserve Board, *Federal Reserve Statistical Release: Selected Interest Rates, H.15 Daily Update*, http://www.federalreserve.gov/releases/H15/update/, March 10, 2011.

[16] Energy Information Administration*, Annual Energy Outlook 2011,* Table A20. Macroeconomic Indicators, www.eia.doe.gov/oiaf/aeo/, December 2010.

[17] Global Insight, *The U.S. Economy: The 30-Year Focus, First Quarter 2011*, Table 1: Summary of the U.S. Economy.

[18] Federal Reserve Bank of Philadelphia, *Survey of Professional Forecasters*, First Quarter 2011, www.phil.frb.org/files/spf/survq403.html, February 11, 2011. The *Survey* aggregates the forecasts of approximately fifty forecasters.

2035 period.[19] Global Insight forecasts real GDP growth will average 2.7% during the 2011-2041 period.[20] The *Survey* forecasts real GDP growth will average 2.9% during the next ten years.[21] Those forecasts imply a long-term, nominal risk-free rate between 4.5% and 5.3%.[22] Therefore, EIA, Global Insight, and *Survey* forecasts of inflation and real GDP growth expectations suggest that, currently, the U.S. Treasury bond yield of 4.71% more closely approximates the long-term risk-free rate. It should be noted, however, that the U.S. Treasury bond yield is an upwardly biased estimator of the long-term risk-free rate due to the inclusion of an interest rate risk premium associated with its relatively long term to maturity.

Q. Please explain why the real risk-free rate and the GDP growth rate should be similar.

A. Risk-free securities provide a rate of return sufficient to compensate investors for the time value of money, which is a function of production opportunities, time preferences for consumption, and inflation.[23] The real risk-free rate does not include premiums for inflation; therefore, only production opportunities and

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[19] Energy Information Administration, *Annual Energy Outlook 2011,* Table A20. Macroeconomic Indicators, www.eia.doe.gov/oiaf/aeo/, December 2010.

[20] Global Insight, *The U.S. Economy: The 30-Year Focus, First Quarter 2011*, Table 1: Summary of the U.S. Economy.

[21] Federal Reserve Bank of Philadelphia, *Survey of Professional Forecasters*, First Quarter 2011, www.phil.frb.org/files/spf/survq403.html, February 11, 2011.

[22] Nominal interest rates are calculated as follows:

$$r = (1 + R) \times (1 + i) - 1.$$

where r $\equiv$ nominal interest rate;
R $\equiv$ real interest rate; and
i $\equiv$ inflation rate.

[23] Brigham and Houston, Fundamentals of Financial Management, 8th edition.

consumption preferences affect it. The real GDP growth rate measures output of goods and services excluding inflation and, as such, also reflects both production and consumers' consumption preferences. Therefore, both the real GDP growth rate and the real risk-free rate of return should be similar since both are a function of production opportunities and consumption preferences without the effects of a risk premium or an inflation premium.

Q. How was the expected rate of return on the market portfolio estimated?

A. The expected rate of return on the market was estimated by conducting a DCF analysis on the firms composing the S&P 500 Index ("S&P 500") as of December 31, 2010. That analysis used dividend information and closing market prices reported by Zacks Research Wizard and in the January 2011 edition of *S&P Security Owner's Stock Guide*. January 1, 2011 growth rate estimates were also obtained primarily from Zacks and secondarily from Reuters.[24] Firms not paying a dividend as of December 31, 2010, or for which neither Zacks nor Reuters growth rates were available were eliminated from the analysis. The resulting company-specific estimates of the expected rate of return on common equity were then weighted using market value data from Zacks Research Wizard. The estimated weighted average expected rate of return for the remaining 369 firms, composing 80.01% of the market capitalization of the S&P 500, equals 12.74%.

Q. How did you measure market risk on a security-specific basis?

[24] Growth rates were obtained from Reuters only if unavailable from Zacks.

A. Beta measures risk in a portfolio context. When multiplied by the market risk premium, a security's beta produces a market risk premium specific to that security. I used Value Line's betas, Zacks' betas, and a regression analysis to estimate the betas of the Water and Utility samples.

When available, I used published Value Line beta estimates for each company in each sample. For those companies that did not have published Value Line beta estimates, I calculated beta estimates using the Value Line beta methodology.[25] Value Line estimates beta for a security with the following model using an ordinary least-squares technique:[26]

$$R_{j,t} = a_j + \beta_j \times R_{m,t} + e_{j,t}$$

where $R_{j,t}$ ≡ the return on security *j* in period *t*;

$R_{m,t}$ ≡ the return on the market portfolio in period *t*;

a_j ≡ the intercept term for security *j*;

β_j ≡ beta, the measure of market risk for security *j*; and

$e_{j,t}$ ≡ the residual term in period *t* for security *j*.

A beta can be calculated for firms with market-traded common stock. Value Line calculates its betas in two steps. First, the returns of each company are regressed against the returns of the New York Stock Exchange Composite Index ("NYSE Index") to estimate a raw beta. The regression analysis employs 259

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[25] The Value Line service to which the Commission subscribes does not provide beta estimates for Artesian Resources, Connecticut Water Service, Middlesex Water Company, and York Water Company.

[26] Statman, Meir, "Betas Compared: Merrill Lynch vs. Value Line," *The Journal of Portfolio Management*, Winter 1981.

weekly observations of stock return data. Then, an adjusted beta is estimated through the following equation:

$$\beta_{adjusted} = 0.35 + 0.67 \times \beta_{raw}.$$

The regression analysis estimate of beta for a security or portfolio of securities is estimated with the following model using an ordinary least-squares technique:

$$R_{j,t} - R_{f,t} = a_j + \beta_j \times (R_{m,t} - R_{f,t}) + e_{j,t}$$

where $R_{j,t}$ ≡ the return on security *j* in period *t*;

$R_{f,t}$ ≡ the risk-free rate of return in period *t*;

$R_{m,t}$ ≡ the return on the market portfolio in period *t*;

a_j ≡ the intercept term for security *j*;

β_j ≡ beta, the measure of market risk for security *j*; and

$e_{j,t}$ ≡ the residual term in period *t* for security *j*.

Next, a beta estimate for both samples was calculated in three steps using regression analysis. First, the U.S. Treasury bill return is subtracted from both the average percentage change in the two samples' stock prices and the percentage change in the NYSE Index to estimate each portfolio's return in excess of the risk-free rate. Second, the excess returns of each of the samples are regressed against the excess returns of the NYSE Index to estimate a raw beta. The regression analysis employs sixty monthly observations of stock and

U.S. Treasury bill return data. Third, the beta is adjusted through the following equation:

$$\beta_{adjusted} = 0.33743 + 0.66257 \times \beta_{raw}.$$

Like Staff's regression beta, Zacks employs 60 monthly observations in its beta estimation. However, Zacks betas regress stock returns against the S&P 500 Index rather than the NYSE Index. Further, the beta estimates Zacks publishes are raw betas. Thus, I adjusted the Zacks raw betas using the same formula used to adjust the regression beta.

Q. Why do you use an adjusted beta estimate?

A. I use an adjusted beta estimate for two reasons. First, betas tend to regress towards the market mean value of 1.0 over time; therefore, the adjustment represents an attempt to estimate a forward-looking beta. Second, some empirical tests of the CAPM suggest that the linear relationship between risk, as measured by raw beta, and return is flatter than the CAPM predicts. That is, securities with raw betas less than one tend to realize higher returns than the CAPM predicts. Conversely, securities with raw betas greater than one tend to realize lower returns than the CAPM predicts. Adjusting the raw beta estimate towards the market mean value of 1.0 results in a linear relationship between the beta estimate and realized rate of return that more closely conforms to the CAPM prediction.[27] Securities with betas less than one are adjusted upwards thereby increasing the predicted required rate of return towards observed realized rates

[27] Litzenberger, Ramaswamy and Sosin, "On the CAPM Approach to the Estimation of A Public Utility's Cost of Equity Capital," *Journal of Finance*, May 1980, pp. 375-376.

of return. Conversely, securities with betas greater than one are adjusted downwards thereby decreasing the predicted required rate of return towards observed realized rates of return.[28]

Q. What are the beta estimates for the samples?

A. The regression beta estimate for the Water sample is 0.56. The average Value Line beta and average Zacks beta for the Water sample are 0.69 and 0.59, respectively, as shown in Table 1 below.[29]

Table 1

Company	Value Line Estimate	Zacks Estimate*
American States Water	0.75	0.60
Aqua America	0.65	0.48
Artesian Resources	0.55	0.60
California Water Service	0.70	0.54
Connecticut Water Service	0.80	0.66
Middlesex Water Company	0.80	0.62
York Water Company	0.60	0.64
Average	0.69	0.59

* after adjustment

Since the Zacks beta estimate (0.59) and the regression beta estimate (0.56) are calculated using monthly data[30] rather than weekly data (as Value Line uses), I averaged those results to avoid over-weighting that approach. The average of the two monthly beta estimates is 0.58. I then averaged that result with the Value Line beta (0.69), which produces a beta for the Water sample of 0.63.

[28] In other words, the linear relationship between risk, as measured by adjusted beta, and return is steeper than the linear relationship between risk, as measured by raw beta, and return.

[29] The Value Line Investment Survey, "Summary and Index," August 14, 2009, pp. 2-22; Zacks Research Wizard, August 18, 2009.

[30] Hereafter referred to as "monthly betas."

The regression beta estimate for the Utility sample is 0.55. The average Value Line beta and average Zacks beta for the Water sample are 0.64 and 0.59, respectively, as shown in Table 2 below.[31]

Table 2

Company	Value Line Estimate	Zacks Estimate*
Alliant Energy Corp.	0.70	0.69
Atmos Energy Corp.	0.65	0.68
Consolidated Edison	0.65	0.53
Dominion Resources	0.70	0.71
Laclede Group	0.60	0.39
Northwest Natural Gas	0.60	0.54
PG & E Corp.	0.55	0.56
Piedmont Natural Gas	0.65	0.50
SCANA Corp	0.70	0.73
Southern Co.	0.55	0.57
Vectren Corp.	0.70	0.61
Wisconsin Energy Corp.	0.60	0.57
Xcel Energy	0.65	0.63
Average	0.64	0.59

* after adjustment

The average of the two monthly beta estimates is 0.57. I then averaged that result with the Value Line beta (0.64), which produces a beta for the Utility sample of 0.61.

Q. What required rate of return on common equity does the risk premium model estimate for the samples?

[31] The Value Line Investment Survey, "Summary and Index," January 29, 2010, pp. 2-22; Zacks Research Wizard, February 2, 2010.

A. The risk premium model estimates a required rate of return on common equity of 9.77% for the Water sample and 9.61% for the Utility sample. The computation of those estimates appears on Schedule 3.9.

Cost of Equity Recommendation

Q. Based on your entire analysis, what is your estimate of the required rate of return on the common equity for UI?

A. A thorough analysis of the required rate of return on common equity requires both the application of financial models and the analyst's informed judgment. An estimate of the required rate of return on common equity based solely on judgment is inappropriate. Nevertheless, because techniques to measure the required rate of return on common equity necessarily employ proxies for investor expectations, judgment remains necessary to evaluate the results of such analyses. Along with DCF and risk premium analyses, I have considered the observable 5.66% rate of return the market currently requires on less risky A-rated utility long-term debt.[32] Based on my analysis, in my judgment, the investor-required rate of return on common equity for UI’s subsidiaries Great Northern, Camelot and Lake Holiday equals 9.56%.

Q. Please summarize how you determined that the investor-required rate of return on common equity for UI’s subsidiaries Great Northern, Camelot and Lake Holiday equals 9.56%.

[32] *Value Line Selection & Opinion,* March 4, 2011, p. 2365*.*

A. First, I estimated the investor-required rate of return on common equity for the two samples from the results of the DCF and risk premium analyses for the samples. The average investor required rate of return on common equity for the Water sample, 9.18%, is based on the average of the DCF-derived results (8.59%) and the risk premium-derived results (9.77%). The average investor required rate of return on common equity for the Utility sample, 9.53%, is based on the average of the DCF-derived results (9.45%) and the risk premium-derived results (9.61%). Second, I adjusted the Water and Utility samples' investor required rate of return upward by 20 basis points to reflect the higher financial risk of UI relative to the Water and Utility samples. Thus, the investor required rate of return on common equity for the Companies, 9.56%, is based on the average for the Water and Utility samples adjusted to reflect the higher risk of UI relative to each of the samples.

Q. How did you minimize measurement error in your cost of equity analysis?

A. The models from which the individual company estimates were derived are correctly specified and thus contain no source of bias. Moreover, excepting the use of U.S. Treasury bond yields are proxies for the long-term risk-free rate, I am unaware of bias in my proxy for investor expectations. In addition, measurement error has been minimized through the use of samples, since estimates for a sample as a whole are subject to less measurement error than individual company estimates.

Q. Why did you adjust your estimate of the investor-required rate of return on common equity for the Water and Utility samples to estimate the Companies' cost of common equity?

A. The Water and Utility samples serve as proxies for the target companies and should therefore reflect the risks of the Companies. If the proxy does not accurately reflect the risk level of the target company, an adjustment should be made. Since the operating risks of the Water sample is similar to the operations of the Companies and the Utility sample reflects similar operating risk to an average water utility, a review of the relative financial risks of UI and the Water and Utility samples remains. To assess relative financial risk, I estimated the credit ratings that are implied by the key credit metrics that Moody's Investors Service ("Moody's") publishes for global regulated water utilities and regulated electric and gas utilities.

Q. How did you estimate the implied credit ratings for the Water and Utility samples and UI?

A. Although no formula exists for determining an assigned credit rating, Moody's provides broad guidelines on the ratio ranges that are typical for different credit rating levels for regulated utilities. For the regulated water utility industry, Moody's focuses on four ratios to assess the financial strength: (1) funds from operations ("FFO") interest coverage; (2) debt to capitalization; (3) FFO to net debt; and (4) retained cash flow ("RCF") to capital expenditures ("CapEx").[33] For

[33] Moody's Investors Service, *Rating Methodology: Global Regulated Water Utilities*, December 2009, pp. 19-22.

regulated electric and gas utilities. Moody's focuses on four ratios to assess the financial strength: (1) FFO interest coverage; (2) FFO to debt; (3) RCF to debt; and (4) debt to capitalization.[34] I compared three-year average financial ratios for UI and the Water sample to Moody's key credit metrics for global regulated water utilities.[35] I compared three-year average financial ratios for the Utility sample to Moody's key credit metrics for regulated electric and gas utilities.

For UI, the three-year average FFO interest coverage ratio is 2.30x, which falls within the top third of the benchmark range of a Ba credit rating (i.e., Ba1). The three-year average debt to capitalization ratio for UI is 56.36%, which falls within the bottom third of the benchmark range of a Baa credit rating (i.e., Baa1). The three-year average FFO to net debt ratio for UI is 8.17%, which falls within the middle third of the benchmark range of a Ba credit rating (i.e., Ba2). The three-year average RCF to capital expenditures ratio for UI is 0.34, which falls within the middle third of the benchmark range of a B credit rating (i.e., B2). Together, the four ratios that I calculated for UI are consistent with a Baa3/Ba1 rating, when weighted in accordance with the Moody's rating methodology for regulated water utilities.[36]

[34] Moody's Investors Service, *Rating Methodology: Regulated Electric and Gas Utilities*, August 2009, pp. 10-13.

[35] The three-year average was computed using the years 2007, 2008, and 2009.

[36] Moody's assigns 15% weighting to FFO interest coverage and Debt to capitalization and 5% weighting to FFO to Debt and RCF to CapEx. Moody's assigns the financial ratios a weight of 40% in determining the overall credit rating for regulated water utilities.

The Moody's financial guidelines for regulated water utilities, along with the three-year average scores for UI and the Water sample on those financial ratios are shown below in Table 3.

Table 3 – Moody's Guideline Ratios for Water Utilities

	A (6)	Baa (9)	Ba (12)	B (15)
Financial Guideline Ratios				
FFO / Interest	4.5 - 7.0X	2.5 – 4.5X	1.8 – 2.5X	1.5 – 1.8X
Debt / Capitalization	40 - 55%	55 - 70%	70 - 85%	85 - 100%
FFO / Debt	15 – 25%	10 - 15%	6 - 10%	4 – 6%
RCF / CapEx	1.5 – 2.5X	1.0 – 1.5X	0.5 – 1.0X	0.25 – 0.5X
Water sample				
FFO / Interest		4.07X		
Debt / Capitalization	52.37%			
FFO / Debt	17.78%			
RCF / CapEx			0.55X	
Utilities, Inc.				
FFO / Interest			2.30X	
Debt / Capitalization		56.36%		
FFO / Debt			8.17%	
RCF / CapEx				0.34X

The Moody's financial guidelines for regulated electric and gas utilities, along with the three-year average scores for the Utility sample on those financial ratios are shown below in Table 4.

Table 4 – Moody's Guideline Ratios for Electric and Gas Utilities

	Aa	A	Baa	Ba
Financial Guideline Ratios				
FFO/IC	6.0-8.0x	4.5-6.0x	2.7-4.5x	1.5-2.7x
FFO/Debt	30-40%	22-30%	13-22%	5-13%
RCF/Debt	25-35%	17-25%	9-17%	0-9%
Debt/Capitalization	25-35%	35-45%	45-55%	55-65%
Utility Sample				
FFOIC		4.81x		
FFO/Debt		22.68%		
RCF/Debt		17.00%		
Debt/Capitalization			54.56%	

In contrast, the average financial ratios for 2007-2009, shown in Tables 3 and 4 above, are indicative of a level of financial risk that is commensurate with a Baa1 credit rating for both the Water and Utility samples. The samples' implied credit ratings indicate that Water and Utility samples have less financial risk than UI. Financial theory posits that investors require higher returns to accept greater exposure to risk. Thus, in my judgment, given the difference between the implied credit ratings of UI and the implied credit ratings of the Water and Utility samples, the samples' average cost of common equity needs to be adjusted to determine the final estimate of the Companies' costs of common equity.

Q. How are the financial ratios for utilities calculated?

A. FFO reflects cash flow from operations excluding working capital movements net of interest expense. The FFO is then divided by the Net interest expense to derive the FFO interest coverage ratio. The FFO to Debt is derived by dividing FFO by net debt. Debt to Capitalization is debt divided by total capitalization. RCF is calculated by subtracting any dividends paid from FFO, which is then divided by capital expenditures to derive the RCF to CapEx ratio. The RCF to Debt is derived by dividing RCF by net debt.

Q. How did you estimate the adjustments to the cost of common equity of the Water and Utility samples?

A. First, I calculated the yield spreads between the credit ratings implied by the financial ratios for UI and those of the Water and Utility samples. As noted above, the financial ratios for UI are commensurate with a Baa3/Ba1 rating, while both the Water and Utility samples are commensurate with a Baa1 rating. This produced a yield spread of 50 basis points.[37] Next, to determine my cost of equity adjustment, I multiplied that yield spread by 40%, which is the percent of the overall credit rating that Moody's assigns to the financial ratios. Thus, my cost of common equity adjustment was 20 basis points higher for UI.

Rate of Return on Rate Base Conclusion

Q. What is your recommended rate of return on rate base for the Company?

A. I recommend a 7.71% rate of return on rate base for the Company, which incorporates my 9.56% rate of return on common equity for the Company. My rate of return recommendation is presented on Schedule 3.1.

Q. Does this conclude your direct testimony?

A. Yes, it does.

[37] Citigroup, *Bond Market Roundup: Strategy*, March 4, 2011, p. 19; Citigroup, Power/Utility Debt in the Secondary Debt Market, Weekly Update as of March 4, 2011, p. 2.

Great Northern Utilities, Inc.
Camelot Utilities, Inc.
Lake Holiday Utilities Corp.

Weighted Average Cost of Capital
December 31, 2009

Staff Proposal

	Amount	Percent of Total Capital	Cost	Weighted Cost
Short-term Debt	$23,636,684	6.45%	2.85%	0.18%
Long-term Debt	$178,726,842	48.75%	6.65%	3.24%
Common Equity	$164,229,938	44.80%	9.56%	4.28%
Total Capital	$366,593,464	100.00%		
Weighted Average Cost of Capital				**7.71%**

Company Proposal

	Percent of Total Capital	Cost	Weighted Cost
Long-term Debt	52.29%	6.60%	3.45%
Common Equity	47.71%	10.57%	5.04%
Total Capital	100.00%		
Weighted Average Cost of Capital			**8.50%**

Great Northern Utilities, Inc.
Camelot Utilities, Inc.
Lake Holiday Utilities Corp.

Balance of Short-term Debt

Date (A)	Gross Short-term Debt Outstanding (B)	CWIP (C)	CWIP Accruing AFUDC (D)	Net Short-term Debt Outstanding (E)	Monthly Average (F)	Remaining CWIP Accruing AFUDC (G)	Monthly Average (H)
Jun-09	$ 47,270,000	$ 22,941,999	$ 22,384,728	$ 24,885,272		$ -	$ -
Jul-09	$ 46,770,000	$ 22,863,723	$ 15,270,983	$ 31,499,017	$ 28,192,144	$ -	$ -
Aug-09	$ 37,820,000	$ 12,295,547	$ 5,401,922	$ 32,418,078	$ 31,958,548	$ -	$ -
Sep-09	$ 37,820,000	$ 9,807,153	$ 3,352,171	$ 34,467,829	$ 33,442,954	$ -	$ -
Oct-09	$ 35,400,000	$ 9,163,218	$ 4,158,027	$ 31,241,973	$ 32,854,901	$ -	$ -
Nov-09	$ 21,000,000	$ 9,279,237	$ 4,040,646	$ 16,959,354	$ 24,100,664	$ -	$ -
Dec-09	$ 17,000,000	$ 9,598,945	$ 2,762,303	$ 14,237,697	$ 15,598,526	$ -	$ -
Jan-10	$ 24,500,000	$ 9,230,871	$ 2,065,820	$ 22,434,180	$ 18,335,939	$ -	$ -
Feb-10	$ 24,500,000	$ 10,006,763	$ 2,424,267	$ 22,075,733	$ 22,254,957	$ -	$ -
Mar-10	$ 24,000,000	$ 12,838,768	$ 3,052,158	$ 20,947,842	$ 21,511,788	$ -	$ -
Apr-10	$ 22,000,000	$ 13,253,534	$ 3,520,587	$ 18,479,413	$ 19,713,628	$ -	$ -
May-10	$ 22,000,000	$ 16,238,296	$ 4,319,449	$ 17,680,551	$ 18,079,982	$ -	$ -
Jun-10	$ 21,600,000	$ 17,937,968	$ 4,088,186	$ 17,511,814	$ 17,596,183	$ -	$ -
Average					**$ 23,636,684**		**$ -**

Notes: Column (E) = the greater of [Column (B) - Column (D)] or [Column (B) - {Column (B) / Column (C) * Column (D)}]
Column (G) = Column (D) - [Column (B) - Column (E)]

Great Northern Utilities, Inc.
Camelot Utilities, Inc.
Lake Holiday Utilities Corp.

Embedded Cost of Long-term Debt
December 31, 2009

Debt Issue Type, Coupon Rate		Date Issued	Maturity Date	Principal Amount	Face Amount Outstanding	Unamortized Debt Expense	Carrying Value	Annual Interest Cost	Annualized Amort. of Debt Expense	Annualized Interest Expense
(A)		(B)	(C)	(D)	(E)	(F)	(G)=(E-F)	(H) = (A*D)	(I)	(J)=(H+I)
6.58%	Collateral Trust Notes	7/19/2006	7/21/2036	$ 180,000,000	$ 180,000,000	$ 1,273,158	$ 178,726,842	$ 11,844,000	$ 47,912	$ 11,891,912

Embedded Cost of Long-term Debt **6.65%**

Great Northern Utilities, Inc.
Camelot Utilities, Inc.
Lake Holiday Utilities Corp.

Growth Rate Estimates

Water Sample

Company	Growth Rates[1]
American States Water	7.50%
Aqua America	6.50%
Artesian Resources	3.60%
California Water Service	4.00%
Connecticut Water Service	4.00%
Middlesex Water	3.00%
York Water	6.00%

Utility Sample

Company	Growth Rates[1]
Alliant Energy Corp.	5.00%
Atmos Energy Corp.	4.50%
Consolidated Edison	3.97%
Dominion Resources	3.75%
Laclede Group	3.00%
Northwest Natural Gas	4.63%
PG&E Corp.	7.67%
Piedmont Natural Gas	4.50%
SCANA Corp.	4.58%
Southern Co.	5.00%
Vectren Corp.	5.00%
Wisconsin Energy Corp.	8.00%
Xcel Energy	5.13%

[1] Zacks 3-5 year earnings per share growth rate estimate (Zacks Investment Research, Inc.)

Great Northern Utilities, Inc.
Camelot Utilities, Inc.
Lake Holiday Utilities Corp.

Prices and Dividends

Water Sample

Company	Current Dividend $D_{0,1}$	$D_{0,2}$	$D_{0,3}$	$D_{0,4}$	Next Dividend (D_1) Payment Date	3/8/2011 Stock Price
American States Water	$ 0.260	$ 0.260	$ 0.260	$ 0.260	6/1/2011	$ 34.20
Aqua America	0.145	0.145	0.155	0.155	6/1/2011	$ 22.68
Artesian Resources	0.188	0.188	0.189	0.189	5/21/2011	$ 19.62
California Water Service	0.298	0.298	0.298	0.308	5/21/2011	$ 35.74
Connecticut Water Service	0.228	0.233	0.233	0.233	6/15/2011	$ 24.67
Middlesex Water	0.180	0.180	0.183	0.183	6/1/2011	$ 18.05
York Water	0.128	0.128	0.131	0.131	7/15/2011	$ 16.38

Utility Sample

Company	Current Dividend $D_{0,1}$	$D_{0,2}$	$D_{0,3}$	$D_{0,4}$	Next Dividend (D_1) Payment Date	3/8/2011 Stock Price
Alliant Energy Corp.	$ 0.395	$ 0.395	$ 0.395	$ 0.425	5/16/2011	$ 40.39
Atmos Energy Corp.	0.335	0.335	0.340	0.340	6/10/2011	$ 34.98
Consolidated Edison	0.595	0.595	0.595	0.600	6/15/2011	$ 50.34
Dominion Resources	0.458	0.458	0.458	0.493	6/20/2011	$ 46.14
Laclede Group	0.395	0.395	0.395	0.405	4/4/2011	$ 38.86
Northwest Natural Gas	0.415	0.415	0.435	0.435	5/13/2011	$ 48.47
PG&E Corp.	0.455	0.455	0.455	0.455	4/15/2011	$ 46.27
Piedmont Natural Gas	0.280	0.280	0.280	0.280	4/15/2011	$ 30.71
SCANA Corp.	0.475	0.475	0.475	0.485	7/1/2011	$ 40.54
Southern Co.	0.455	0.455	0.455	0.455	6/6/2011	$ 38.39
Vectren Corp.	0.340	0.340	0.345	0.345	6/1/2011	$ 27.15
Wisconsin Energy Corp.	0.200	0.200	0.200	0.260	6/1/2011	$ 30.70
Xcel Energy	0.245	0.253	0.253	0.253	4/20/2011	$ 24.48

Great Northern Utilities, Inc.
Camelot Utilities, Inc.
Lake Holiday Utilities Corp.

Expected Quarterly Dividends

Water Sample

Company	$D_{1,1}$	$D_{1,2}$	$D_{1,3}$	$D_{1,4}$
American States Water	$ 0.280	$ 0.280	$ 0.280	$ 0.280
Aqua America	0.155	0.155	0.165	0.165
Artesian Resources	0.189	0.189	0.196	0.196
California Water Service	0.308	0.308	0.308	0.320
Connecticut Water Service	0.233	0.242	0.242	0.242
Middlesex Water	0.183	0.183	0.188	0.188
York Water	0.131	0.131	0.139	0.139

Utility Sample

Company	$D_{1,1}$	$D_{1,2}$	$D_{1,3}$	$D_{1,4}$
Alliant Energy Corp.	$ 0.425	$ 0.425	$ 0.425	$ 0.446
Atmos Energy Corp.	0.340	0.340	0.355	0.355
Consolidated Edison	0.600	0.600	0.600	0.624
Dominion Resources	0.493	0.493	0.493	0.511
Laclede Group	0.405	0.405	0.405	0.417
Northwest Natural Gas	0.435	0.435	0.455	0.455
PG&E Corp.	0.455	0.490	0.490	0.490
Piedmont Natural Gas	0.290	0.290	0.290	0.290
SCANA Corp.	0.485	0.485	0.485	0.507
Southern Co.	0.478	0.478	0.478	0.478
Vectren Corp.	0.345	0.345	0.362	0.362
Wisconsin Energy Corp.	0.260	0.260	0.260	0.281
Xcel Energy	0.253	0.265	0.265	0.265

Great Northern Utilities, Inc.
Camelot Utilities, Inc.
Lake Holiday Utilities Corp.

Water Sample

Company	DCF Estimate
American States Water	10.91%
Aqua America	9.42%
Artesian Resources	7.65%
California Water Service	7.59%
Connecticut Water Service	7.99%
Middlesex Water	7.22%
York Water	9.38%
Average	8.59%

Utility Sample

Company	DCF Estimate
Alliant Energy Corp.	9.43%
Atmos Energy Corp.	8.60%
Consolidated Edison	8.93%
Dominion Resources	8.18%
Laclede Group	7.37%
Northwest Natural Gas	8.44%
PG&E Corp.	12.08%
Piedmont Natural Gas	8.44%
SCANA Corp.	9.56%
Southern Co.	10.17%
Vectren Corp.	10.42%
Wisconsin Energy Corp.	11.61%
Xcel Energy	9.62%
Average	9.45%

Great Northern Utilities, Inc.
Camelot Utilities, Inc.
Lake Holiday Utilities Corp.

Risk Premium Analysis

Interest Rates as of March 8, 2011

U.S. Treasury Bills		U.S. Treasury Bonds	
Discount Rate	Effective Yield	Equivalent Yield	Effective Yield
0.07%	0.01%	4.66%	4.71%

Risk Premium Cost of Equity Estimates*
Water Sample

Risk-Free Rate		Beta		Risk Premium		Cost of Common Equity
4.71%	+	0.63	*	(12.74% - 4.71%)	=	9.77%

Risk Premium Cost of Equity Estimates*
Utility Sample

Risk-Free Rate		Beta		Risk Premium		Cost of Common Equity
4.71%	+	0.61	*	(12.74% - 4.71%)	=	9.61%

*Risk-Free Rate Proxy is the 30-year U.S. Treasury Bond Yield.