Docket No. 10-0110
ICC Staff Exhibit No. 3.0

Direct Testimony

of

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Finance Department

Financial Analysis Division

Illinois Commerce Commission

Whispering Hills Water Company

Proposed General Increase in Water Rates

Docket No. 10-0110

April 28, 2010

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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 Whispering Hills Water Company ("Whispering Hills" or "Company"). The Company is a wholly owned subsidiary of Utilities, Inc. ("UI").

Cost of Capital

Q. Please summarize your conclusions.

A. The overall cost of capital for Whispering Hills is 7.79% 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, 2008, comprised of 53.04% debt and 46.96% 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, 2008, comprised of 6.24% short-term debt, 49.81% long-term debt, and 43.96% 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 2008 through June 2009 period because it is centered in time at December 31, 2008, the measurement date for the other components of the

[2] WH Ex. 1,0, p. 8, Direct Testimony of Steven M. Lubertozzi.

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 2008 through June 2009. 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 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 2008 through July 2009. 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, 2008, 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 $157,737,014 balance of common shareholders equity on December 31, 2008 from the Consolidated Financial Statements of Utilities, Inc. provided in response to Staff Data Request JF 2.02.

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 Data Request JF-2.04.

[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 Companies?

A. I compared my proposed common equity ratio for the Companies to the common equity ratio for the water utility industry. In the fourth quarter of 2008, the mean common equity ratio for the water utility industry was 45.80% with a standard

deviation of 4.94%.[7] My proposed common equity ratio of 43.96% 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 2.64%, which equals a weighted average of the current Prime rate and LIBOR rate that the Companies pay 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, 7% of the Company borrowings were at the Prime rate and 93% were at LIBOR. Thus, the weighted average interest rate for the Company's short-term debt is 2.64%

[7] Standard & Poor's Compustat database.
[8] Company response to Staff data request JF 1.03.

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 subsidiary Whispering Hills is 9.82%.

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 fifteen of the water utilities rated by S&P.[10] Those fifteen water utilities have an average credit rating of A- and an average financial risk profile of "significant". The business risk profile of all fifteen 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- 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, AGL Resources, Alliant Energy Corp., Atmos Energy Corp.,

[9] S&P Ratings Direct, *U.S. Investor-Owned Water Utilities, Strongest to Weakest*, January 12, 2010, http://www.globalcreditportal.com/ratingsdirect.

[10] S&P Ratings Direct, *U.S. Natural Investor-Owned Water Utilities, Strongest to Weakest*, January 12, 2010, http://www.globalcreditportal.com/ratingsdirect.

Consolidated Edison Inc., Dominion Resources, Integrys Energy Group, Laclede Group Inc., PG&E Corp., Piedmont Natural Gas Co., Progress Energy, SCANA Corp. and Vectren Corp., 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 multi-stage non-constant growth quarterly DCF model that measures the annual required rate of return on common equity.

Q. Please describe how you modeled your non-constant growth DCF analysis.

A. I modeled three stages of dividend growth. The first, a near-term growth stage, is assumed to last five years. The second stage is a transitional growth period lasting from the end of the fifth year to the end of the tenth year. Finally, the third, or "steady-state," growth stage is assumed to begin after the tenth year and continue into perpetuity. An expected stream of dividends is estimated by applying these stages of growth to the current dividend. The discount rate that equates the present value of this expected stream of cash flows to the Company's current stock price equals the market-required return on common equity. Schedule 3.4 mathematically presents the relationship between the cash flow stream, stock price, and market required rate of return on common equity.

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 Zacks growth estimates, which summarize securities analysts' growth rate forecasts that are disseminated to investors.

For the first stage, which is assumed to last five years, I used Zacks growth rate estimates as of February 2, 2010. Zacks summarizes the forward-looking earnings growth expectations of financial analysts employed by the research departments of investment brokerage firms. The Zacks growth rate estimates for the companies in my water and utility samples are shown on Schedule 3.5.

To estimate the long-term growth expectations for the third, steady-state stage, I utilized the implied 20-year forward U.S. Treasury rate in ten years, which reflects current expectations of the long-term overall economic growth during the steady-state growth stage of my non-constant DCF model.[11] An implied 20-year forward U.S. Treasury rate in ten years of 5.05% was derived from the 3.67% 10-year and 4.55% 30-year U.S. Treasury rates as of February 2, 2010 using the following formula:[12]

$$ {}_{20}f_{10} = [(1+{}_{30}r_0)^{30} / (1+{}_{10}r_0)^{10}]^{1/20} - 1 $$

Where ${}_{20}f_{10}$ = the implied 20-year forward U.S. Treasury rate in ten years;
${}_{30}r_0$ = the current 30-year U.S. Treasury rate; and
${}_{10}r_0$ = the current 10-year U.S. Treasury rate

[11] Excepting a small premium for interest rate risk, the implied 20-year forward U.S. Treasury rate in ten years represents the risk-free rate of return during the 20-year period beginning in 10 years and ending 30 years from today, as implied by current 10-year and 30-year U.S. Treasury rates. As I explain later, the overall economic growth rate and the risk-free rate of return should be similar since both are a function of production opportunities and consumption preferences.

[12] Global Insight forecasts indicate a 4.3% nominal GDP growth rate for the 2019-2039 period. (Global Insight, *The U.S. Economy: The 30-Year Focus, Fourth Quarter 2009*, Table 1.)

The growth rate employed in the intervening, five-year transitional stage equals the average of the Zacks growth rate and the steady-state stage growth rate. Schedule 3.5 presents the growth rate estimates for the companies in the water and utility samples.

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 February 2, 2010. Those stock prices for the companies in the water and utility samples appear on Schedule 3.6.

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 an 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 3.6.

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 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 dividend rate to estimate the expected dividend rate. Schedule 3.6 presents the current quarterly dividends for the companies in the water and utility samples. Schedule 3.7 presents the expected quarterly dividends for the companies in the water and utility samples. This technique was applied to produce dividend projections for the next 11 years, substituting the appropriate growth rate estimate for each of the three stages of my non-constant growth DCF analysis.

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 a 9.61% required rate of return on common equity estimate for the water sample and 10.83% 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 3.5, the stock price and dividend payment dates presented on Schedule 3.6, and the expected quarterly dividends presented on Schedule 3.7.

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.[13] The yields of fixed income securities include premiums for default and interest rate risk. Default risk 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;[14] 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

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

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

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 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.[15] 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.

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 0.04%. Thirty-year U.S. Treasury bonds are currently yielding 4.60%. Both estimates are derived from quotes for February 2, 2010.[16] Schedule 3.9 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

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

[16] The Federal Reserve Board, *Federal Reserve Statistical Release: Selected Interest Rates, H.15 Daily Update*, http://www.federalreserve.gov/releases/H15/update/, February 3, 2010.

2.0% during the 2009-2035 period.[17] In comparison, Global Insight forecasts that annual GDP price inflation will average 1.7% during the 2009-2039 period.[18] In terms of the Consumer Price Index ("CPI"), the *Survey of Professional Forecasters* ("*Survey*") forecasts that inflation rate will average 2.4% during the next ten years.[19] 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 2009-2035 period.[20] Global Insight forecasts real GDP growth will average 2.6% during the 2009-2039 period.[21] The *Survey* forecasts real GDP growth will average 2.6% during the next ten years.[22] Those forecasts imply a long-term, nominal risk-free rate between 4.3% and 5.0%.[23] Therefore, EIA, Global Insight, and *Survey* forecasts of inflation and real GDP growth expectations suggest that, currently, the U.S. Treasury bond yield of 4.60% more closely approximates the long-term risk-free rate. It should be noted, however, the U.S. Treasury bond

[17] Energy Information Administration*, Annual Energy Outlook 2010,* Table A20. Macroeconomic Indicators, www.eia.doe.gov/oiaf/aeo/, December 2009.

[18] Global Insight, *The U.S. Economy: The 30-Year Focus, Fourth Quarter 2009*, Table 1: Summary of the U.S. Economy.

[19] Federal Reserve Bank of Philadelphia, *Survey of Professional Forecasters*, Fourth Quarter 2009, www.phil.frb.org/files/spf/survq403.html, November 16, 2009. The *Survey* aggregates the forecasts of approximately fifty forecasters.

[20] Energy Information Administration*, Annual Energy Outlook 2010,* Table A20. Macroeconomic Indicators, www.eia.doe.gov/oiaf/aeo/, December 2009.

[21] Global Insight, *The U.S. Economy: The 30-Year Focus, Fourth Quarter 2009*, Table 1: Summary of the U.S. Economy.

[22] Federal Reserve Bank of Philadelphia, *Survey of Professional Forecasters*, First Quarter 2009, www.phil.frb.org/files/spf/survq403.html, February 13, 2009.

[23] Nominal interest rates are calculated as follows:

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

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

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.[24] The real risk-free rate does not include premiums for inflation; therefore, only production opportunities and 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, 2009. That analysis used dividend information and closing market prices reported by Zacks Research Wizard and in the January 2010 edition of *S&P Security Owner's Stock Guide*. January 1, 2010 growth rate estimates were also

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

obtained primarily from Zacks and secondarily from Yahoo! Finance.[25] Firms not paying a dividend as of December 31, 2009, or for which neither Zacks nor Yahoo! Finance 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 360 firms, composing 77.91% of the market capitalization of the S&P 500, equals 12.12%.

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

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.[26] Value Line estimates beta for a security with the following model using an ordinary least-squares technique:[27]

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

[25] Growth rates were obtained from Yahoo! Finance only if unavailable from Zacks.

[26] 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.

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

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 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.[28] Securities with betas less than one are adjusted upwards thereby increasing the predicted required rate of return towards observed realized rates 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.[29]

Q. What are the beta estimates for the samples?

A. The regression beta estimate for the Water sample is 0.55. The average Value Line beta and average Zacks beta for the Water sample are 0.70 and 0.60, respectively, as shown in Table 1 below.[30]

[28] 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.

[29] 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.

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

Table 1

Company	Value Line Estimate	Zacks Estimate*
American States Water	0.80	0.59
Aqua America	0.65	0.46
Artesian Resources	0.55	0.63
California Water Service	0.75	0.59
Connecticut Water Service	0.80	0.61
Middlesex Water Company	0.80	0.62
York Water Company	0.55	0.73
Average	0.70	0.60

* after adjustment

Since the Zacks beta estimate (0.60) and the regression beta estimate (0.55) are calculated using monthly data[31] 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 (0.70), which produces a beta for the Water sample of 0.64.

The regression beta estimate for the Utility sample is 0.57. The average Value Line beta and average Zacks beta for the Water sample are 0.69 and 0.63, respectively, as shown in Table 2 below.[32]

[31] Hereafter referred to as "monthly betas."
[32] The Value Line Investment Survey, "Summary and Index," January 29, 2010, pp. 2-22; Zacks Research Wizard, February 2, 2010.

Table 2

Company	Value Line Estimate	Zacks Estimate*
AGL Resources	0.75	0.61
Alliant Energy Corp.	0.70	0.70
Atmos Energy Corp.	0.65	0.68
Consolidated Edison	0.65	0.54
Dominion Resources	0.70	0.70
Integrys Energy Group	0.95	0.94
Laclede Group	0.60	0.36
PG & E Corp.	0.55	0.58
Piedmont Natural Gas	0.65	0.48
Progress Energy	0.65	0.61
SCANA Corp.	0.65	0.73
Vectren Corp.	0.75	0.60
Average	0.69	0.63

* after adjustment

The average of the two monthly beta estimates is 0.60. I then averaged that result with the Value Line beta (0.69), which produces a beta for the Utility sample of 0.64.

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

A. The risk premium model estimates a required rate of return on common equity of 9.41% for the Water sample and 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 5.72% rate of return the market currently requires on less risky A-rated utility long-term debt.[33] Based on my analysis, in my judgment, the investor-required rate of return on common equity for UI's subsidiary Whispering Hills equals 9.82%.

Q. Please summarize how you determined that the investor-required rate of return on common equity for UI's subsidiary Whispering Hills equals 9.82%.

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 models from which the individual company estimates were derived are correctly specified and thus contain no source of bias. Moreover, I am unaware of bias in my proxy for investor expectations.[34] In addition, measurement error has been minimized through the use of a sample, since estimates for a sample as a whole are subject to less measurement error than

[33] *Value Line Selection & Opinion,* January 29, 2010, p. 3081.

[34] Except as discussed above in regard to U.S. Treasury bond yields as proxies for the long-term risk-free rate.

individual company estimates. The average investor required rate of return on common equity for the Water sample, 9.51%, is based on the average of the DCF-derived results (9.61%) and the risk premium-derived results (9.41%). The average investor required rate of return on common equity for the Utility sample, 10.12%, is based on the average of the DCF-derived results (10.83%) and the risk premium-derived results (9.41%). The investor required rate of return on common equity for Whispering Hills, 9.82%, is based on the average for the Water and Utility samples.

Q. Did you update your cost of common equity analysis from what you presented in Docket Nos. 09-0548 and 09-0549 Consolidated, the pending rate cases for UI subsidiaries Apple Canyon Utility Company and Lake Wildwood Utilities Corporation?

A. Yes. To assess whether the cost of common equity has significantly changed since I performed the cost of common equity analyses that I presented in Docket Nos. 09-0548 and 09-0549, I updated those analyses to reflect market data from March 24, 2010. The updated average investor required rate of return on common equity for the Water sample is 9.25%, based on the average of the DCF-derived results (9.16%) and the risk premium-derived results (9.33%).[35] The updated average investor required rate of return on common equity for the Utility sample is 10.00%, based on the average of the DCF-derived results (10.53%) and the risk premium-derived results (9.48%). The updated investor

[35] Connecticut Water Service Inc. and Middlesex Water Company were not included due to the lack of Zacks growth rates.

required rate of return on common equity for Whispering Hills, 9.62%, is based on the average for the Water and Utility samples. Since the updated cost of common equity differs only 20 basis points from the original cost of common equity, I am recommending the Commission authorize the same cost of common equity for Whispering Hills that I recommended for its sister companies in Docket Nos. 09-0548 and 09-0549 Consolidated, 9.82%.

Rate of Return on Rate Base Conclusion

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

A. I recommend a 7.79% rate of return on rate base for the Company, which incorporates my 9.82% 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.

Docket No. 10-0110
ICC Staff Exhibit 3.0
Schedule 3.1

Whispering Hills Water Company

Weighted Average Cost of Capital
December 31, 2008

Staff Proposal

	Amount	Percent of Total Capital	Cost	Weighted Cost
Short-term Debt	$22,380,391	6.24%	2.64%	0.16%
Long-term Debt	$178,726,842	49.81%	6.65%	3.31%
Common Equity	$157,737,014	43.96%	9.82%	4.32%
Total Capital	$358,844,247	100.00%		
Weighted Average Cost of Capital				**7.79%**

Company Proposal

	Percent of Total Capital	Cost	Weighted Cost
Long-term Debt	53.04%	6.58%	3.49%
Common Equity	46.96%	11.70%	5.49%
Total Capital	100.00%		
Weighted Average Cost of Capital			**8.98%**

Docket No. 10-0110
ICC Staff Exhibit 3.0
Schedule 3.2

Whispering Hills Water Company

Balance of Short-term Debt
December 31, 2008

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-08	$ 37,625,000	$ 45,562,025	$ 45,240,425	$ 265,576			
Jul-08	$ 47,925,000	$ 42,679,737	$ 41,016,840	$ 6,908,160	$ 3,586,868	$ -	
Aug-08	$ 48,875,000	$ 43,750,948	$ 42,112,780	$ 6,762,220	$ 6,835,190	$ -	$ -
Sep-08	$ 47,425,000	$ 35,722,753	$ 34,130,155	$ 13,294,845	$ 10,028,532	$ -	$ -
Oct-08	$ 47,575,000	$ 31,536,951	$ 29,850,515	$ 17,724,485	$ 15,509,665	$ -	$ -
Nov-08	$ 46,675,000	$ 32,258,399	$ 30,460,858	$ 16,214,142	$ 16,969,314	$ -	$ -
Dec-08	$ 49,775,000	$ 31,185,990	$ 30,504,026	$ 19,270,974	$ 17,742,558	$ -	$ -
Jan-09	$ 60,675,000	$ 32,747,339	$ 31,488,186	$ 29,186,814	$ 24,228,894	$ -	$ -
Feb-09	$ 60,675,000	$ 18,689,724	$ 17,648,744	$ 43,026,256	$ 36,106,535	$ -	$ -
Mar-09	$ 57,675,000	$ 20,694,642	$ 19,939,346	$ 37,735,654	$ 40,380,955	$ -	$ -
Apr-09	$ 57,675,000	$ 22,447,073	$ 21,675,735	$ 35,999,265	$ 36,867,459	$ -	$ -
May-09	$ 52,025,000	$ 22,876,540	$ 22,158,550	$ 29,866,450	$ 32,932,858	$ -	$ -
Jun-09	$ 47,270,000	$ 22,941,999	$ 22,384,728	$ 24,885,272	$ 27,375,861	$ -	$ -
Average					**$ 22,380,391**		**$ -**

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

Docket No. 10-0110
ICC Staff Exhibit 3.0
Schedule 3.3

Whispering Hills Water Company

Embedded Cost of Long-term Debt
December 31, 2008

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	$ 46,175	$ 11,890,175

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

Whispering Hills Water Company

The Non-Constant Growth Discounted Cash Flow Model

The formula for measuring the cost of common equity, *k*, when growth, *g*, does not become constant until period φ, is as follows:

$$k = \left[\frac{D_{1,1}(1+k)^{\varphi-0.25} + D_{1,2}(1+k)^{\varphi-0.50} + D_{1,3}(1+k)^{\varphi-0.75} + \ldots + D_{\varphi,4} + P_{\varphi,4}}{P} \right]^{\left(\frac{1}{x+\varphi-0.25} \right)} - 1$$

where: P ≡ the current market value;

$D_{\varphi,q}$ ≡ the expected dividend at the end of quarter *q* in year φ, where *q* = 1 to 4 and φ = the number of periods until the steady-state growth period;

k ≡ the cost of common equity;

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

$P_{\varphi,4}$, the market value at the beginning of the steady-state growth stage, is calculated from the following equation:

$$P_{\varphi,4} = \frac{\sum_{q=1}^{4} D_{\varphi,q}(1+g_l)(1+k)^{1-[x+0.25(q-1)]}}{k - g_l}$$

where: $D_{\varphi,q}$ ≡ the dividend paid in quarter q during the last year of the transitional growth stage; and

g_l ≡ the steady-state growth rate.

Whispering Hills Water Company

Growth Rate Estimates

Water Sample

Company	Growth Rates Stage 1[1]	Stage 2[2]	Stage 3[3]
American States Water	4.00%	4.53%	5.05%
Aqua America	7.67%	6.36%	5.05%
Artesian Resources	6.00%	5.53%	5.05%
California Water Service	6.67%	5.86%	5.05%
Connecticut Water Service	9.00%	7.03%	5.05%
Middlesex Water	9.00%	7.03%	5.05%
York Water	7.50%	6.28%	5.05%

Utility Sample

Company	Growth Rates Stage 1[1]	Stage 2[2]	Stage 3[3]
AGL Resources	4.50%	4.78%	5.05%
Alliant Energy Corp.	3.00%	4.03%	5.05%
Atmos Energy Corp.	5.00%	5.03%	5.05%
Consolidated Edison	3.20%	4.13%	5.05%
Dominion Resources	4.67%	4.86%	5.05%
Integrys Energy Group	12.55%	8.80%	5.05%
Laclede Group	3.00%	4.03%	5.05%
PG&E Corp.	7.67%	6.36%	5.05%
Piedmont Natural Gas	6.25%	5.65%	5.05%
Progress Energy	4.00%	4.53%	5.05%
SCANA Corp.	5.05%	5.05%	5.05%
Vectren Corp.	6.80%	5.93%	5.05%

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

[2] Equals the average of Stage 1 and Stage 3 growth rates.

[3] The implied 20-year forward U.S. Treasury rate in ten years ($_{20}f_{10}$), based on the 10- and 30-year U.S. Treasury rates as of February 2, 2010. (The Federal Reserve Board, Federal Reserve Statistical Release: Selected Interest Rates, H.15 Daily Update, http://www.federalreserve.gov/releases/H15/update/, February 3, 2010.)

Whispering Hills Water Company

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	2/2/2010 Stock Price
American States Water	$ 0.250	$ 0.250	$ 0.250	$ 0.260	3/1/2010	$ 33.37
Aqua America	0.135	0.135	0.135	0.145	3/1/2010	$ 17.20
Artesian Resources	0.178	0.178	0.178	0.187	2/19/2010	$ 17.23
California Water Service	0.295	0.295	0.295	0.295	2/19/2010	$ 36.22
Connecticut Water Service	0.223	0.223	0.228	0.228	3/15/2010	$ 22.24
Middlesex Water	0.178	0.178	0.178	0.180	3/1/2010	$ 17.11
York Water	0.126	0.126	0.126	0.128	4/15/2010	$ 13.22

Utility Sample

Company	Current Dividend $D_{0,1}$	$D_{0,2}$	$D_{0,3}$	$D_{0,4}$	Next Dividend (D_1) Payment Date	2/2/2010 Stock Price
AGL Resources	$ 0.430	$ 0.430	$ 0.430	$ 0.430	3/1/2010	$ 35.63
Alliant Energy Corp.	0.375	0.375	0.375	0.395	5/14/2010	$ 31.60
Atmos Energy Corp.	0.330	0.330	0.330	0.335	3/10/2010	$ 27.67
Consolidated Edison	0.590	0.590	0.590	0.590	3/15/2010	$ 44.14
Dominion Resources	0.438	0.438	0.438	0.438	3/20/2010	$ 37.99
Integrys Energy Group	0.680	0.680	0.680	0.680	3/20/2010	$ 42.63
Laclede Group	0.385	0.385	0.385	0.395	4/1/2010	$ 32.02
PG&E Corp.	0.420	0.420	0.420	0.420	4/15/2010	$ 42.17
Piedmont Natural Gas	0.270	0.270	0.270	0.270	4/15/2010	$ 25.71
Progress Energy	0.620	0.620	0.620	0.620	5/3/2010	$ 39.49
SCANA Corp.	0.470	0.470	0.470	0.470	4/1/2010	$ 36.30
Vectren Corp.	0.335	0.335	0.335	0.340	3/1/2010	$ 23.61

Whispering Hills Water Company

Expected Quarterly Dividends

Water Sample

Company	$D_{1,1}$	$D_{1,2}$	$D_{1,3}$	$D_{1,4}$
American States Water	$0.260	$0.260	$0.260	$0.270
Aqua America	$0.145	$0.145	$0.145	$0.156
Artesian Resources	$0.187	$0.187	$0.187	$0.199
California Water Service	$0.298	$0.298	$0.298	$0.298
Connecticut Water Service	$0.228	$0.228	$0.248	$0.248
Middlesex Water	$0.180	$0.180	$0.180	$0.196
York Water	$0.128	$0.128	$0.128	$0.138

Utility Sample

Company	$D_{1,1}$	$D_{1,2}$	$D_{1,3}$	$D_{1,4}$
AGL Resources	$0.449	$0.449	$0.449	$0.449
Alliant Energy Corp.	$0.395	$0.395	$0.395	$0.407
Atmos Energy Corp.	$0.335	$0.335	$0.335	$0.352
Consolidated Edison	$0.595	$0.595	$0.595	$0.595
Dominion Resources	$0.458	$0.458	$0.458	$0.458
Integrys Energy Group	$0.765	$0.765	$0.765	$0.765
Laclede Group	$0.395	$0.395	$0.395	$0.407
PG&E Corp.	$0.452	$0.452	$0.452	$0.452
Piedmont Natural Gas	$0.287	$0.287	$0.287	$0.287
Progress Energy	$0.645	$0.645	$0.645	$0.645
SCANA Corp.	$0.494	$0.494	$0.494	$0.494
Vectren Corp.	$0.340	$0.340	$0.340	$0.363

Whispering Hills Water Company

Water Sample

Company	DCF Estimate
American States Water	8.13%
Aqua America	9.25%
Artesian Resources	9.97%
California Water Service	8.81%
Connecticut Water Service	10.61%
Middlesex Water	10.70%
York Water	9.77%
Average	9.61%

Utility Sample

Company	DCF Estimate
AGL Resources	10.23%
Alliant Energy Corp.	9.68%
Atmos Energy Corp.	10.20%
Consolidated Edison	10.21%
Dominion Resources	10.01%
Integrys Energy Group	15.70%
Laclede Group	9.67%
PG&E Corp.	10.16%
Piedmont Natural Gas	10.00%
Progress Energy	11.52%
SCANA Corp.	10.76%
Vectren Corp.	11.88%
Average	10.83%

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Whispering Hills Water Company

Risk Premium Analysis

Interest Rates as of Februray 2, 2010

U.S. Treasury Bills		U.S. Treasury Bonds	
Discount Rate	Effective Yield	Equivalent Yield	Effective Yield
0.04%	0.04%	4.55%	4.60%

Risk Premium Cost of Equity Estimates*
Water Sample

Risk-Free Rate		Beta		Risk Premium		Cost of Common Equity
4.60%	+	0.64	*	(12.12% - 4.60%)	=	9.41%

Risk Premium Cost of Equity Estimates*
Utility Sample

Risk-Free Rate		Beta		Risk Premium		Cost of Common Equity
4.60%	+	0.64	*	(12.12% - 4.60%)	=	9.41%

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