Vol 2 of 2
Rebuttal
Testimony

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COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF KENTUCKY UTILITIES COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2011 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	)	**CASE NO. 2011-00161**

In the Matter of:

THE APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2011 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	)	**CASE NO. 2011-00162**

REBUTTAL TESTIMONY

OF

WILLIAM E. AVERA

on behalf of

KENTUCKY UTILITIES COMPANY AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Filed: October 24, 2011

VERIFICATION

STATE OF TEXAS)
) **SS:**
COUNTY OF TRAVIS)

The undersigned, **William E. Avera**, being duly sworn, deposes and says he is President of FINCAP, Inc., that he has personal knowledge of the matters set forth in the foregoing testimony and exhibits, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

William E. Avera

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 17th day of October 2011.

(SEAL)
Notary Public

My Commission Expires:

1/10/2015

ADRIEN MCKENZIE
Notary Public
STATE OF TEXAS
My Comm. Exp. Jan. 10, 2015

REBUTTAL TESTIMONY OF WILLIAM E. AVERA

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. William E. Avera, 3907 Red River, Austin, Texas, 78751.

Q. IN WHAT CAPACITY ARE YOU EMPLOYED?

A. I am the President of FINCAP, Inc., a firm providing financial, economic, and policy consulting services to business and government.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE.

A. A description of my background and qualifications, including a resume containing the details of my experience, is attached as Exhibit WEA-1.

Q. DO YOU HAVE WORKPAPERS TO ACCOMPANY YOUR TESTIMONY IN THIS CASE?

A. Yes. Workpapers supporting my rebuttal testimony are attached as Appendix A.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY IN THIS CASE?

A. In connection with a requested surcharge to recover the costs of planned environmental equipment under Section 278.183 of the Kentucky Code, Kentucky Utilities Company ("KU") and Louisville Gas and Electric Company ("LGE"; collectively "the Companies") are requesting a return on equity ("ROE") of 10.63 percent, which is equal to the agreed upon value approved in the stipulation to the Companies' most recent rate cases.[1]

My purpose is to rebut the testimony of Dr. J. Randall Woolridge, submitted on behalf of the Kentucky Office of Attorney General ("OAG"), and Mr. Stephen G.

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[1] *In the Matter of Application of Kentucky Utilities Company for an Adjustment of Base Rates* (Case No.

Hill, on behalf of the Kentucky Industrial Utility Customers, Inc. ("KIUC"), concerning the ROE that the Companies should be authorized to earn on investment recovered through the Environmental Cost Recovery ("ECR') Surcharge tariff.

Q. PLEASE SUMMARIZE THE PRINCIPAL CONCLUSIONS OF YOUR REBUTTAL TESTIMONY.

A. Dr. Woolridge's and Mr. Hill's recommendations are flawed and should be rejected. Correcting their analyses resulted in the following cost of equity estimates, which confirm the reasonableness of the 10.63 percent ROE requested by the Companies:

TABLE WEA-1
COST OF EQUITY – WOOLRIDGE AND HILL PROXY GROUPS

	Estimate	Average
Expected Earnings Approach		
Woolridge Proxy Group	10.7%	
Hill Proxy Group	10.5%	
		10.6%
Allowed ROE		
Woolridge Proxy Group	10.5%	
Hill Proxy Group	10.6%	
		10.5%
Revised DCF Analyses		
Woolridge - Historical Growth	10.3%	
Woolridge Projected Growth	10.1%	
Hill - Projected EPS Growth	10.8%	
		10.4%
CAPM - Current Bond Yields		
Woolridge Proxy Group	11.1%	
Hill Proxy Group	11.3%	
CAPM - Projected Bond Yields		
Woolridge Proxy Group	11.7%	
Hill Proxy Group	11.9%	
		11.5%
Average -- All Analyses		**10.9%**

With respect to their analyses I conclude that:

- *Utilities have significantly altered their dividend policies in recent years and reliance on historical and dividend growth rates to apply the discounted cash flow ("DCF") model imparts a downward bias to the results, as does reference to illogical growth rates;*
- *The calculations underlying the sustainable growth rates used by Dr. Woolridge and Mr. Hill are flawed and incomplete;*
- *The expected earnings approach is entirely consistent with the regulatory and economic principles advanced in the testimony of Dr. Woolridge and Mr. Hill, and represents an "apples to apples" comparison with the allowed ROE;*
- *The recommendations of Dr. Woolridge and Mr. Hill are woefully inadequate to compensate investors in the Companies when evaluated against the results of the expected earnings approach for the proxy utilities;*
- *Contrary to their representations, allowed ROEs also demonstrate that the recommendations of these witnesses are too low to be credible;*
- *The historical applications of the Capital Asset Pricing Model ("CAPM") presented by Dr. Woolridge and Mr. Hill violate the assumptions of this approach and fail to reflect current capital market requirements;*
- *If the Companies are unable to offer a return similar to that available from other opportunities of comparable risk, investors will become unwilling to supply the capital on reasonable terms, and investors will be denied an opportunity to earn their opportunity cost of capital; and,*
- *The failure of these witnesses to consider the impact of flotation costs contradicts the findings of the financial literature and the economic requirements underlying a fair rate of return on equity.*

II. FAILED TO CONSIDER END-RESULT TEST

Q. DR. WOOLRIDGE AND MR. HILL RECOGNIZED THAT THE ALLOWED ROE MUST MEET CERTAIN STANDARDS TO BE CONSIDERED REASONABLE.[2] DO YOU AGREE?

A. Yes. While the details underlying a determination of the cost of equity are all significant to a rate of return analyst, there is one fundamental requirement that any ROE recommendation must satisfy before it can be considered reasonable. Competition for capital is intense, and utilities such as the Companies must be granted the opportunity to earn an ROE comparable to contemporaneous returns available from alternative investments if they are to maintain their financial flexibility and ability to attract capital.

Mr. Hill suggests (p. 9) a simple approach to evaluating the cost of capital, and I agree with this concept. Rather than becoming bogged down in lengthy, pedantic arguments over the merits of one quantitative approach versus another, the Commission can make a determination on the key, threshold question, "Do the ROE recommendations of Dr. Woolridge and Mr. Hill meet the threshold test of reasonableness required by established regulatory and economic standards governing a fair rate of return on equity?" Based on the evidence discussed subsequently, the answer is clearly, "No."

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[2] For example, Dr. Woolridge (p. 17) noted that the cost of equity must meet the requirements of the capital markets for firms of comparable risk. Mr. Hill (pp. 8-9) cites established legal and regulatory standards, including the opportunity cost principle underlying a fair ROE.

Q. DR. WOOLRIDGE (PP. 6-8) AND MR. HILL (PP. 10-18) DISCUSS THE IMPLICATIONS OF CAPITAL MARKET TRENDS. WHAT OTHER INFERENCES ARE IMPORTANT IN THIS ASSESSMENT ?

A. Considering investors' heightened awareness of the risks associated with the electric power industry, and the implications of ongoing volatility in the markets for long-term capital, supportive regulation remains crucial in preserving the Companies's access to capital. Capital markets recognize that constructive regulation is a key ingredient in supporting utility credit ratings and financial integrity, particularly during times of adverse conditions. Moreover, considering the ongoing turmoil faced by investors, sensitivity to market and regulatory uncertainties has increased dramatically.

Q. DOES MR. HILL SPECIFICALLY RECOGNIZE THAT A UTILITY'S ABILITY TO ATTRACT CAPITAL MUST BE CONSIDERED IN ESTABLISHING A FAIR RATE OF RETURN?

A. Yes. Mr. Hill clearly recognized this fundamental standard underlying the regulation of public utilities and a determination of a fair rate of return, and he acknowledged the Supreme Court's *Bluefield* and *Hope* decisions.[3] These decisions established that a regulated utility's authorized returns on capital must be sufficient to assure investors' confidence and that, if the utility is efficient and prudent on a prospective basis, it will have the opportunity to provide returns commensurate with those expected for other investments involving comparable risk.

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[3] Hill Responsive Testimony at 8-9.

Q. DID DR. WOOLRIDGE OR MR. HILL TEST THEIR ROE RECOMMENDATIONS AGAINST THESE FUNDAMENTAL REGULATORY REQUIREMENTS?

A. No. Expected earned rates of return for other utilities provide one useful benchmark to gauge the reasonableness of the ROE recommendation of Dr. Woolridge and Mr. Hill, but neither witness performed this test. The expected earnings approach is predicated on the comparable earnings test, which developed as a direct result of the Supreme Court decisions in *Bluefield* and *Hope*. From my understanding as a regulatory economist, not as a legal interpretation, these cases required that a utility be allowed an opportunity to earn the same return as companies of comparable risk. That is, the cases recognized that a utility must compete with other companies (including non-utilities) for capital.

Q. DID MR. HILL RECOGNIZE THE ECONOMIC PREMISE UNDERLYING THE EXPECTED EARNINGS APPROACH?

A. The simple, but powerful concept underlying the expected earnings approach is that investors compare each investment alternative with the next best opportunity. As Mr. Hill recognized (p. 9), economists refer to the returns that an investor must forgo by not being invested in the next best alternative as "opportunity costs". Mr. Hill went on to explain the logic underlying this approach:

> In a regulated rate-setting context such as this, the cost of equity capital can be most easily understood as the rate of profit that should be allowed for the regulated firm. A firm's profit is the amount of money that remains from its revenues after it has paid all of its costs – operating costs (commodity supply costs, depreciation, equipment maintenance costs, salaries, fees, taxes, retirement obligations), as well as income taxes and interest costs. That dollar amount of profit, divided by the amount of common equity capital used to finance the firm's regulated assets, produces a percentage rate of return on equity. If, for example, the profit earned by a utility is $10/year and

> investors have provided $100 of equity capital, the firm's return on equity (ROE), its profit, is 10%.[4]

But despite the fact that Mr. Hill recognized this standard as the "most easily understood" explanation of "the rate of profit that should be allowed a regulated firm," he ignored this test in evaluating his recommendation. Similarly, while Dr. Woolridge reported earned returns for the companies in his proxy group,[5] he failed to evaluate their significance.

Q. WHAT ARE THE IMPLICATIONS OF SETTING AN ALLOWED ROE BELOW THE RETURNS AVAILABLE FROM OTHER INVESTMENTS OF COMPARABLE RISK?

A. If the utility is unable to offer a return similar to that available from other opportunities of comparable risk, investors will become unwilling to supply the capital on reasonable terms. For existing investors, denying the utility an opportunity to earn what is available from other similar risk alternatives prevents them from earning their opportunity cost of capital. In this situation the government is effectively taking the value of investors' capital without adequate compensation.

Q. HOW IS THE COMPARISON OF OPPORTUNITY COSTS TYPICALLY IMPLEMENTED?

A. The traditional comparable earnings test identifies a group of companies that are believed to be comparable in risk to the utility. Consistent with Mr. Hill's own example,[6] the actual earnings of those companies on the book value of their investment are then compared to the allowed return of the utility. While the traditional comparable earnings test is implemented using historical data taken from

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[4] Hill Responsive Testimony at 9.
[5] Exhibit JRW-4.
[6] Hill Responsive Testimony at 9.

the accounting records, it is also common to use projections of returns on book investment, such as those published by recognized investment advisory publications (*e.g.*, Value Line). Because these returns on book value equity are analogous to the allowed return on a utility's rate base, this measure of opportunity costs results in a direct, "apples to apples" comparison.

Q. HAVE THE EARNINGS ON BOOK VALUE REFERENCED BY DR. WOOLRIDGE AND MR. HILL BEEN RECOGNIZED AS A VALID ROE BENCHMARK?

A. Yes. While this method predominated before the DCF model became fashionable with academic experts, I continue to encounter it around the country. Indeed, the Virginia State Corporation Commission ("VSCC") is required by statute (Virginia Code § 56-585.1.A.2.a) to consider the earned returns on book value of electric utilities in its region. In an order issued on July 15, 2010 the VSCC in Docket PUE-2009-00030, the VSCC established the allowed ROE for Appalachian Power Company based solely on the earned returns on book value for a peer group of other electric utilities. Another example is Ms. Terri Carlock, the long-time financial analyst for the Idaho Public Utilities Commission. She has consistently presented evidence on book earnings for decades, and Idaho regulators continue to confirm the relevance of return on book equity evidence. [7]

A textbook prepared for the Society of Utility and Regulatory Analysts labels the comparable earnings approach the "granddaddy of cost of equity methods" and points out that the amount of subjective judgment required to

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[7] The comparable earnings approach was identified as a favored method in determining the allowed ROE for 24 of the agencies surveyed in NARUC's compilation of regulatory policy. "Utility Regulatory Policy in the U.S. and Canada, 1995-1996," National Association of Regulatory Utility Commissioners (December 1996). In my experience, while a few Commissions have explicitly rejected comparable earnings, most regard it as a useful tool.

implement this method is "minimal", particularly when compared to the DCF and CAPM methods.[8] Echoing Mr. Hill, the *Practitioner's Guide* notes that the comparable earnings test method is "easily understood" and firmly anchored in the regulatory tradition of the *Bluefield* and *Hope* cases,[9] as well as sound regulatory economics. I have used the comparable earnings approach in my consulting, teaching, and testimony for 35 years, and it has been widely referenced in regulatory decision-making.[10]

Q. DR. WOOLRIDGE (P. 17) AND MR. HILL (P. 18) REFERENCE MARKET DATA. DOES A METHODOLOGY HAVE TO DEPEND ON "MARKET DATA"[11] TO BE USEFUL IN EVALUATING INVESTORS' OPPORTUNITY COSTS?

A. No. While I agree that market-based models are certainly important tools in estimating investors' required rate of return, this in no way invalidates the usefulness of the expected earnings approach. In fact, this is one of its advantages.

It is a very simple, conceptual principal that when evaluating two investments of comparable risk, investors will choose the alternative with the higher expected return. If the Companies are only allowed the opportunity to earn 9.25 percent or 9.0 percent return on the book value of its equity investment, as recommended by Dr. Woolridge and Mr. Hill, while other electric utilities are

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[8] Parcell, David C., *The Cost of Capital—a Practitioner's Guide* (1997).

[9] *Id.* at 7-3.

[10] For example, a NARUC survey reported that 19 regulatory jurisdictions cited the comparable earnings test as a primary method favored in determining the allowed rate of return. "Utility Regulatory Policy in the U.S. and Canada, 1995-1996," National Association of Regulatory Utility Commissioners (December 1996). In my experience, while a few Commissions have explicitly rejected comparable earnings, most regard it as a useful tool.

[11] Hill Responsive Testimony at 18.

expected to earn an average of 10.5 percent,[12], the implications are clear – the Companies' investors will be denied the ability to earn their opportunity cost.

Moreover, regulators do not set the returns that investors earn in the capital markets – they can only establish the allowed return on the value of a utility's investment, as reflected on its accounting records. As a result, the expected earnings approach provides a direct guide to ensure that the allowed ROE is similar to what other utilities of comparable risk will earn on invested capital. This opportunity cost test does not require theoretical models to indirectly infer investors' perceptions from stock prices or other market data. As long as the proxy companies are similar in risk, their expected earned returns on invested capital provide a direct benchmark for investors' opportunity costs that is independent of fluctuating stock prices, market-to-book ratios, debates over DCF growth rates, or the limitations inherent in any theoretical model of investor behavior.

Q. WHAT ROE IS IMPLIED BY THE EXPECTED EARNINGS FOR THE PROXY GROUPS OF DR. WOOLRIDGE AND MR. HILL?

A. As shown on page 1 of Exhibit WEA-2, reference to expected earnings implied an average cost of equity for the utilities in Dr. Woolridge's proxy group of 10.7 percent. Meanwhile, page 2 of Exhibit WEA-2 shows that the average expected book return on equity for Mr. Hill's proxy group is 10.5 percent. These book return estimates are an "apples to apples" comparison to the 9.25 percent and 9.0 percent recommended ROEs of Dr. Woolridge and Mr. Hill, respectively.

Q. WHAT WOULD BE THE EFFECT OF AUTHORIZING A BOOK RETURN THAT IS SO FAR BELOW THE AVERAGE EARNINGS OF THE

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[12] Value Line reports an average expected return on book equity for 2014-16 of 10.5 percent for the electric utility industry. The Value Line Investment Survey at 901 (Sep. 23, 2011).

UTILITIES THAT DR. WOOLRIDGE AND MR. HILL CLAIM ARE COMPARABLE?

A Plain and simple, the Companies will find it difficult to compete for investors' capital and investors would not be earning up to the *Bluefield* standard of comparable earnings:

> A public utility is entitled to such rates as will permit it to earn on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties.[13]

Q. EXHIBIT JRW-4 TO DR. WOOLRIDGE'S TESTIMONY REPORTS ALLOWED ROES. CAN THIS INFORMATION BE USED TO EVALUATE WHETHER THE RECOMMENDATIONS OF DR. WOOLRIDGE AND MR. HILL ARE SUFFICIENT TO MEET REGULATORY STANDARDS?

A. Yes. Reference to allowed rates of return for other utilities, such as those cited by Dr. Woolridge, provides one useful guideline that can be used to assess the extent to which the 9.25 percent and 9.0 percent ROE recommendations of Dr. Woolridge and Mr. Hill are comparable and sufficient. As shown on page 1 of Exhibit WEA-3, data from the September 2011 *AUS Monthly Utility Report* (a source relied on by Dr. Woolridge and Mr. Hill) indicates that the average authorized ROE for the firms in Dr. Woolridge's proxy group is 10.51 percent, or 126 basis points higher than his recommendation for the Companies.

With respect to the group of electric utilities that Mr. Hill concluded were most comparable to the Companies' jurisdictional utility operations, as shown on page 2 of Exhibit WEA-3, these firms are presently authorized an average rate of

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[13] *Bluefield Water Works & Improvement Co. v. Pub. Serv. Comm'n*, 262 U.S. 679 (1923).

return on equity of 10.57 percent, or 157 basis points more than Mr. Hill's ROE recommendation. It is unreasonable to suppose that investors would be attracted by Dr. Woolridge's or Mr. Hill's recommendations for the Companies, which fall significantly below the allowed returns for other utilities they consider to be comparable.

Q. WHAT DO THESE BENCHMARKS IMPLY WITH RESPECT TO THE ROE RECOMMENDATIONS OF DR. WOOLRIDGE AND MR. HILL?

A. These benchmarks clearly demonstrate that their recommendations are far too low and violate the economic and regulatory standards underlying a fair ROE.

Q. DOES THE FORECASTED PENSION RETURN REFERENCED BY MR. HILL (P. 6-8) SUPPORT HIS ROE RECOMMENDATION?

A. No. The Companies' projected return on equity for their pension plans is not comparable to the 10.63 percent requested ROE for three primary reasons. First, the long-run projected return for equity investments assumed for pension portfolios is generally a geometric mean return indicative of compound returns earned over a long horizon. This is not equivalent to the specific benchmark for investors' forward-looking required rate of return represented by the requested ROE, which is in the nature of an arithmetic mean.[14] As discussed subsequently in my rebuttal testimony, when returns are variable, the geometric mean is always less than the arithmetic mean.

Second, the pension projection applies to equity investments made in the retirement portfolio, which are selected by the pension managers from the many available choices in the equity markets. Pension investments must conform to the

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[14] The geometric mean of a series of returns measures the constant rate of return that would yield the same change in the value of an investment over time. The arithmetic mean measures what the expected return would have to be each period to achieve the realized change in value over time.

requirements of prudence, which includes the "three elements of care, skill, and caution."[15] The requirement for prudence extends to the projections of pension portfolio returns. The projection of pension returns falls under the scrutiny of the U.S. Department of Labor and the U. S. Securities and Exchange Commission, as well as the prudence requirements of the Employee Retirement Income Security Act of 1974 ("ERISA"). In light of this guidance and oversight, the portfolio return projection represents a compound return that the fiduciaries are confident that they can meet or exceed over long periods of time.

Meanwhile, the requested ROE is specific to the risks and circumstances of the Companies' utility operations and a set of comparable risk companies. In order to meet the comparable earnings, financial integrity, and capital attraction standards of *Hope* and *Bluefield* the allowed ROE must be measured by reference to investors' expectations and requirements for comparable risk companies. In contrast, the objective of pension projections is to formulate future expectations for the equity investments in the pension portfolio based on an informed interpretation of historical experience and in light of accepted standards of prudence, and there can be key differences in the data sets and approaches used to derive pension plan projections. As the California Public Utilities Commission concluded, "Pension return assumptions are not comparable to the ROE used in utility ratemaking."[16]

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[15] John Train and Thomas A. Melfe, *Investing and Managing Trusts under the New Prudent Investor Rule* (Harvard Business School Press, Boston, MA, 1999), p. 19. I have taught ethical and professional standards for holders of the Chartered Financial Analyst Designation (CFA) for more than 20 years. This reading has been part of the CFA Curriculum to illustrate prudence and the fiduciary obligations of pension fund managers for a number of years.

[16] *California Public Utilities Commission*, Decision 07-12-049 (Dec. 20, 2007) at 44.

III. DCF RESULTS ARE UNDERSTATED

Q. WHAT ARE THE FUNDAMENTAL PROBLEMS WITH THE DCF ANALYSES CONDUCTED BY DR. WOOLRIDGE (PP. 27-33)?

A. There are three key problems with the DCF analysis presented by Dr. Woolridge that lead to a biased end-result: 1) instead of focusing directly on forward-looking data, Dr. Woolridge incorporates historical results as being indicative of what investors expect; 2) Dr. Woolridge discounts reliance on analysts' growth forecasts for earnings per share ("EPS") as somehow biased, and fails to recognize that it is investors' *perceptions and expectations* that must be considered in applying the DCF model; and, 3) Dr. Woolridge incorrectly included data that results in illogical cost of equity estimates, and wrongly assumed that any resulting bias would be eliminated through averaging or by reference to the median.

Q. DO THE GROWTH RATES REFERENCED BY DR. WOOLRIDGE (PP. 26) MIRROR INVESTORS' LONG-TERM EXPECTATIONS IN THE CAPITAL MARKETS?

A. No. There is every indication that his growth rates, and resulting DCF cost of equity estimates, are biased downward and fail to reflect investors' required rate of return. If past trends in earnings, dividends, and book value are to be representative of investors' expectations for the future, then the historical conditions giving rise to these growth rates should be expected to continue. That is clearly not the case for utilities, where structural and industry changes have led to declining growth in dividends, earnings pressure, and, in many cases, significant write-offs. While these conditions serve to depress historical growth measures, they are not representative of long-term expectations for the utility industry or the expectations that investors have incorporated into current market prices.

Q. DR. WOOLRIDGE ARGUES (P. 30) THAT, "THE APPROPRIATE GROWTH RATE IN THE DCF MODEL IS THE DIVIDEND GROWTH RATE." DO YOU AGREE THAT THIS IS WHAT INVESTORS ARE MOST LIKELY TO CONSIDER IN DEVELOPING THEIR LONG-TERM GROWTH EXPECTATIONS?

A. No. While the DCF model is technically concerned with growth in dividend cash flows, implementation of this DCF model is solely concerned with replicating the forward-looking evaluation of real-world investors. In the case of utilities, growth rates in dividends per share ("DPS") are not likely to provide a meaningful guide to investors' current growth expectations. This is because utilities have significantly altered their dividend policies in response to more accentuated business risks in the industry.[17] As a result of this trend towards a more conservative payout ratio, dividend growth in the utility industry has remained largely stagnant as utilities conserve financial resources to provide a hedge against heightened uncertainties. While past conditions for utilities serve to depress DPS growth measures, they are not representative of long-term expectations for the utility industry.

As payout ratios for firms in the utility industry trended downward, investors' focus has increasingly shifted from DPS to earnings as a measure of long-term growth. Future trends in earnings per share ("EPS"), which provide the source for future dividends and ultimately support share prices, play a pivotal role in determining investors' long-term growth expectations. The importance of earnings in evaluating investors' expectations and requirements is well accepted in the investment community. As noted in *Finding Reality in Reported Earnings* published by the Association for Investment Management and Research:

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[17] For example, the payout ratio for electric utilities fell from approximately 80 percent historically to on the order of 60 percent. The Value Line Investment Survey (Sep. 15, 1995 at 161, May 27, 2011 at 137).

> [E]arnings, presumably, are the basis for the investment benefits that we all seek. "Healthy earnings equal healthy investment benefits" seems a logical equation, but earnings are also a scorecard by which we compare companies, a filter through which we assess management, and a crystal ball in which we try to foretell future performance.[18]

Value Line's near-term projections and its Timeliness Rank, which is the principal investment rating assigned to each individual stock, are also based primarily on various quantitative analyses of earnings. As Value Line explained:

> The future earnings rank accounts for 65% in the determination of relative price change in the future; the other two variables (current earnings rank and current price rank) explain 35%.[19]

The fact that investment advisory services focus primarily on growth in EPS indicates that the investment community regards this as a superior indicator of future long-term growth. Indeed, "A Study of Financial Analysts: Practice and Theory," published in the *Financial Analysts Journal*, reported the results of a survey conducted to determine what analytical techniques investment analysts actually use.[20] Respondents were asked to rank the relative importance of earnings, dividends, cash flow, and book value in analyzing securities. Of the 297 analysts that responded, only 3 ranked dividends first while 276 ranked it last. The article concluded:

> Earnings and cash flow are considered far more important than book value and dividends.[21]

More recently, the *Financial Analysts Journal* reported the results of a study of the relationship between valuations based on alternative multiples and actual market

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[18] Association for Investment Management and Research, "Finding Reality in Reported Earnings: An Overview" at 1 (Dec. 4, 1996).
[19] The Value Line Investment Survey, *Subscriber's Guide* at 53.
[20] Block, Stanley B., "A Study of Financial Analysts: Practice and Theory", *Financial Analysts Journal* (July/August 1999).
[21] *Id.* at 88.

prices, which concluded, "In all cases studied, earnings dominated operating cash flows and dividends."[22]

Q. DO THE EPS GROWTH RATE PROJECTIONS OF SECURITY ANALYSTS CONSIDER HISTORICAL TRENDS?

A. Yes. Professional security analysts study historical trends extensively in developing their projections of future earnings. Hence, to the extent there is any useful information in historical patterns, that information is incorporated into analysts' growth forecasts.

Q. DID DR. WOOLRIDGE RECOGNIZE THE PITFALLS ASSOCIATED WITH HISTORICAL GROWTH RATES?

A. Yes. Dr. Woolridge noted that:

> [T]o best estimate the cost of common equity capital using the conventional DCF model, one must look to long-term growth rate expectations.[23]

But as he acknowledged, historical growth rates can differ significantly from the forward-looking growth rate required by the DCF model:

> [O]ne must use historical growth numbers as measures of investors' expectations with caution. In some cases, past growth may not reflect future growth potential. Also, employing a single growth rate number (for example, for five or ten years), is unlikely to accurately measure investors' expectations due to the sensitivity of a single growth rate to fluctuations in individual firm performance as well as overall economic fluctuations (i.e., business cycles).[24]

Moreover, to the extent historical trends for utilities are meaningful, they are already captured in projected growth rates, including those published by Value Line, First

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[22] Liu, Jing, Nissim, Doron, & Thomas, Jacob, "Is Cash Flow King in Valuations?," *Financial Analysts Journal*, Vol. 63, No. 2 at 56 (March/April 2007).

[23] Woolridgel Responsive Testimony at 27.

[24] *Id.*

Call, Zacks, and Reuters, since securities analysts also routinely examine and assess the impact and continued relevance (if any) of historical trends.

Q. IS THE DOWNWARD BIAS IN DR. WOOLRIDGE'S HISTORICAL GROWTH MEASURES SELF EVIDENT?

A. Yes, it is. As shown on page 3 of Exhibit JRW-10, approximately one-quarter of the individual historical growth rates reported by Dr. Woolridge for the companies in his proxy group were essentially zero or *negative*, with approximately one-half of his historical DPS growth rates being 1.0 percent or less. Combining a growth rate of 1.0 percent with Dr. Woolridge's dividend yield of 4.65 percent (Exhibit JRW-10, p. 1) implies a DCF cost of equity of approximately 5.65 percent. This implied cost of equity is essentially equal to the yield from triple-B public utility bonds, which averaged 5.7 percent over the March-August 2011 time period referenced in Exhibit JRW-2.[25] Clearly, the risks associated with an investment in public utility common stocks exceed those of long-term bonds and Dr. Woolridge's DPS growth measures provide no meaningful information regarding the expectations and requirements of investors.

Q. DID DR. WOOLRIDGE MAKE ANY EFFORT TO TEST THE REASONABLENESS OF THE INDIVIDUAL GROWTH ESTIMATES HE RELIED ON TO APPLY THE CONSTANT GROWTH DCF MODEL?

A. No. Despite recognizing that caution is warranted in using historical growth rates, Dr. Woolridge simply calculated the average and median of the individual growth rates with no consideration for the reasonableness of the underlying data. In fact, as demonstrated above, many of the cost of equity estimates implied by Dr. Woolridge's DCF application make no economic sense.

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[25] Moody's Investors Service, www.credittrends.com.

Q. DOES REFERENCE TO THE MEDIAN (P. 31:17-18) CORRECT FOR ANY UNDERLYING BIAS IN DR. WOOLRIDGE'S HISTORICAL GROWTH RATES?

A. No. The median is simply the observation with an equal number of data values above and below. For odd-numbered samples, the median relies on only a <u>single number</u>, *e.g.*, the fifth number in a nine-number set. Reliance on the median value for a series of illogical values does not correct for the inability of individual cost of equity estimates to pass fundamental tests of economic logic.

Q. HAS DR. WOOLRIDGE RECOGNIZED THE IMPORTANCE OF EVALUATING MODEL INPUTS IN OTHER FORUMS?

A. Yes. As Dr. Woolridge noted in his testimony (Appendix A, p. 1), he is a founder and managing director of *ValuePro*, which is an online valuation service largely based on application of the DCF model. *ValuePro* confirmed the importance of evaluating the reasonableness of inputs to the DCF model:

> Garbage in, Garbage out! Like any other computer program, if the inputs into our Online Valuation Service are garbage, the resulting valuation also will be garbage.[26]

Unlike his approach here, Dr. Woolridge advised investors to use common sense in interpreting the results of valuation models, such as the DCF:

> If a figure comes up for a certain input that is either highly implausible or looks wrong, indeed it may be. If a valuation is way out of line, figure out where the Service may have strayed on a valuation, and correct it.[27]

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[26] http://www.valuepro.net/abtonline/abtonline.shtml.
[27] *Id.*

Given the fact that many of the growth rates relied on by Dr. Woolridge result in illogical cost of equity estimates, it is appropriate to take the same critical viewpoint when evaluating inputs to his DCF model.

Q. WHAT APPROACH SHOULD DR. WOOLRIDGE AND MR. HILL HAVE USED TO EVALUATE LOW-END DCF ESTIMATES?

A. It is a basic economic principle that investors can be induced to hold more risky assets only if they expect to earn a return to compensate them for their risk bearing. As a result, the rate of return that investors require from a utility's common stock, the most junior and riskiest of its securities, must be considerably higher than the yield offered by senior, long-term debt.

S&P reports a corporate credit rating for the Companies of "BBB". As noted earlier, Moody's monthly yields on triple-B bonds averaged approximately 5.7 percent over the March-August 2011 time period referenced in Exhibit JRW-2. It is inconceivable that investors are not requiring a substantially higher rate of return for holding common stock. Consistent with this principle, DCF results for the Dr. Woolridge's proxy companies must be adjusted to eliminate estimates that are determined to be extreme low outliers when compared against the yields available to investors from less risky utility bonds.

Q. HAVE SIMILAR TESTS BEEN APPLIED BY REGULATORS?

A. Yes. FERC has noted that adjustments are justified where applications of the DCF approach produce illogical results. FERC evaluates DCF results against observable yields on long-term public utility debt and has recognized that it is appropriate to eliminate estimates that do not sufficiently exceed this threshold. In a 2002 opinion establishing its current precedent for determining ROEs for electric utilities, for example, FERC noted:

> An adjustment to this data is appropriate in the case of PG&E's low-end return of 8.42 percent, which is comparable to the average Moody's "A" grade public utility bond yield of 8.06 percent, for October 1999. Because investors cannot be expected to purchase stock if debt, which has less risk than stock, yields essentially the same return, this low-end return cannot be considered reliable in this case.[28]

Similarly, in its August 2006 decision in *Kern River Gas Transmission Company*, FERC noted that:

> [T]he 7.31 and 7.32 percent costs of equity for El Paso and Williams found by the ALJ are only 110 and 122 basis points above that average yield for public utility debt.[29]

The Commission upheld the opinion of Staff and the Administrative Law Judge that cost of equity estimates for these two proxy group companies "were too low to be credible."[30]

The practice of eliminating low-end outliers has been affirmed in numerous FERC proceedings,[31] and in its April 15, 2010 decision in *SoCal Edison*, FERC affirmed that, "it is reasonable to exclude any company whose low-end ROE fails to exceed the average bond yield by about 100 basis points or more."[32]

Q. WHAT ELSE SHOULD BE CONSIDERED IN EVALUATING DR. WOOLRIDGE'S LOW-END DCF ESTIMATES?

A. While corporate bond yields have declined substantially as the worst of the financial crisis has abated, it is generally expected that long-term interest rates will rise as the recession ends and the economy returns to a more normal pattern of growth. As

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[28] *Southern California Edison Company*, 92 FERC ¶ 61,070 at p. 22 (2000).

[29] *Kern River Gas Transmission Company*, Opinion No. 486, 117 FERC ¶ 61,077 at P 140 & n. 227 (2006).

[30] *Id.*

[31] *See, e.g.*, *Virginia Electric Power Co.*, 123 FERC ¶ 61,098 at P 64 (2008).

[32] *Southern California Edison Co.*, 131 FERC ¶ 61,020 at P 55 (2010) ("*SoCal Edison*").

shown in Table WEA-2 below, forecasts of IHS Global Insight and the EIA imply an average triple-B bond yield of 7.16 percent over the period 2012-2015:

TABLE WEA-2
IMPLIED BBB BOND YIELD

	2012-15
Projected AA Utility Yield	
IHS Global Insight (a)	6.33%
EIA (b)	6.57%
Average	6.45%
Current BBB - AA Yield Spread (c)	0.71%
Implied Triple-B Utility Yield	**7.16%**

(a) IHS Global Insight, *U.S. Economic Outlook* at 19 (Feb. 2011).
(b) Energy Information Administration, *Annual Energy Outlook 2011* (Apr. 26, 2011).
(c) Based on monthly average bond yields for the six-month period Apr. - Sep. 2011.

The increase in debt yields anticipated by IHS Global Insight and EIA is also supported by the widely-referenced Blue Chip Financial Forecasts, which projects that yields on corporate bonds will climb more than 100 basis points through the period 2013-2017.[33]

Q. HAS DR. WOOLRIDGE ADOPTED THIS EXACT SAME TEST OF LOW-END DCF ESTIMATES IN RECENT TESTIMONY BEFORE FERC?

A. Yes. In testimony filed with FERC on September 30, 2011, Dr. Woolridge applied this test to the results of his DCF analysis.[34] As Dr. Woolridge concluded:

> These data suggest that the prospective yield on utility bonds with a rating similar to the proxy group (A-/BBB+) is in the 5.0% range. Given this figure, and FERC's bond yield plus 100 basis point threshold for the low-end outliers, the elimination [of] the low-end

[33] *Blue Chip Financial Forecasts*, Vol. 30, No. 6 (Jun. 1, 2011).
[34] *Testimony of J. Randall Woolridge,* FERC Docket No. EL-66 (2011).

results for Entergy (5.6%) and Great Plains Energy (6.2%) is supported.[35]

Q. IF DR. WOOLRIDGE HAD ELIMINATED LOW-END VALUES, AS HE DID IN HIS RECENT FERC TESTIMONY, WHAT COST OF EQUITY WOULD HAVE RESULTED FROM HIS DCF ANALYSIS BASED ON HISTORICAL GROWTH RATES?

A. As indicated above, Dr. Woolridge's DPS growth measures provide no meaningful information regarding the expectations and requirements of investors and should be entirely ignored. As shown on Exhibit WEA-4, screening Dr. Woolridge's DCF cost of equity estimates based on historical EPS and BVPS growth rates to eliminate illogical, low-end values, as well as high-end outliers, resulted in an implied cost of equity range of 9.4 percent to 11.3 percent, with the midpoint of this range being 10.4 percent. Similarly, the average cost of equity implied by Dr. Woolridge's corrected historical DCF analysis was 10.3 percent.

Q. DID YOU ALSO APPLY THIS TEST OF LOGIC TO DR. WOOLRIDGE'S DCF RESULTS BASED ON PROJECTED EPS GROWTH RATES?

A. Yes. As shown on Exhibit WEA-5, combining the projected EPS growth rates referenced by Dr. Woolridge with the dividend yields for his proxy group companies resulted in a number of DCF cost of equity estimates that were below current and expected public utility bond yields. After eliminating these illogical values, the average DCF cost of equity estimates fell in a range of 9.9 percent to 10.5 percent, with a midpoint of 10.2 percent. The average cost of equity implied by Dr. Woolridge's corrected DCF analysis based on EPS growth projections was 10.1 percent.

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[35] *Id.* at 35-36.

Q. YOU ALSO ELIMINATED TWO HIGH-END OUTLIERS. IS THERE ANY BASIS TO EXCLUDE A SYMETRICAL NUMBER OF ESTIMATES ON THE LOW AND HIGH END?

A. No. As shown on Exhibit WEA-4, I eliminated two high-end values that exceeded 17 percent because these values were extreme outliers when compared with the balance of the remaining estimates. As discussed above, low-end outliers were evaluated against the observable returns available from long-term bonds. But the fact that there are numerous results that fail this test of reasonableness says nothing about the validity of estimates at the upper end of the range of results, and there is no basis to discard an equal number of values from the top of the range. While a cost of equity estimate of 16.4 percent may exceed expectations for most electric utilities, the remaining low-end estimate of 7.0 percent is assuredly far below investors' required rate of return. Taken together and considered along with the balance of the DCF estimates, these values provide a reasonable basis on which to evaluate investors' required rate of return.

Q. DR. WOOLRIDGE RELIED ON INTERNAL, "BR" GROWTH RATES (EXHIBIT JRW-10, P. 4). SHOULD THE COMMISSION PLACE ANY WEIGHT ON THESE VALUES?

A. No. Dr. Woolridge's internal growth rates are downward biased because of computational errors and omissions. Dr. Woolridge based his calculations of the internal, "br" retention growth rate on data from Value Line, which reports end-of-period results. If the rate of return, or "r" component of the internal growth rate, is based on end-of-year book values, such as those reported by Value Line, it will understate actual returns because of growth in common equity over the year. This downward bias, which has been recognized by regulators,[36] is illustrated in Table WEA-3 below.

Consider a hypothetical firm that begins the year with a net book value of common equity of $100. During the year the firm earns $15 and pays out $5 in dividends, with the ending net book value being $110. Using the year-end book value of $110 to calculate the rate of return produces an "r" of 13.6 percent. As the FERC has recognized, however, this year-end return "must be adjusted by the growth in common equity for the period to derive an average yearly return."[37] In the example below, this can be accomplished by using the average net book value over the year ($105) to compute the rate of return, which results in a value for "r" of 14.3 percent. Use of the average rate of return over the year is consistent with the theory of this approach to estimating investors' growth expectations, and as illustrated below, it can have a significant impact on the calculated retention growth rate:

TABLE WEA-3
BR + SV GROWTH RATE – AVERAGE RATE OF RETURN

Beginning Net Book Value	$100
Earnings	15
Dividends	5
Retained Earnings	10
Ending Net Book Value	$110

"b x r" Growth	End-of Year	Average
Earnings	$ 15	$ 15
Book Value	$110	$105
"r"	13.6%	14.3%
"b"	66.7%	66.7%
"b x r" Growth	**9.1%**	**9.5%**

[36] *See, e.g., Southern California Edison Company*, Opinion No. 445 (Jul. 26, 2000), 92 FERC ¶ 61,070.
[37] *Id.*

Because Dr. Woolridge did not adjust to account for this reality in his analysis, the "internal" growth rates that he calculated are downward-biased.

Q. WHAT OTHER CONSIDERATION LEADS TO A DOWNWARD BIAS IN DR. WOOLRIDGE'S CALCULATION OF INTERNAL, "BR" GROWTH?

A. Dr. Woolridge ignored the impact of additional issuances of common stock in his analysis of the sustainable growth rate. Under DCF theory, the "sv" factor is a component designed to capture the impact on growth of issuing new common stock at a price above, or below, book value. As noted by Myron J. Gordon in his 1974 study:

> When a new issue is sold at a price per share P = E, the equity of the new shareholders in the firm is equal to the funds they contribute, and the equity of the existing shareholders is not changed. However, if P > E, part of the funds raised accrues to the existing shareholders. Specifically...[v] is the fraction of the funds raised by the sale of stock that increases the book value of the existing shareholders' common equity. Also, "v" is the fraction of earnings and dividends generated by the new funds that accrues to the existing shareholders.[38]

In other words, the "sv" factor recognizes that when new stock is sold at a price above (below) book value, existing shareholders experience equity accretion (dilution). In the case of equity accretion, the increment of proceeds above book value (P > E in Professor Gordon's example) leads to higher growth because it increases the book value of the existing shareholders' equity. In short, the "sv" component is entirely consistent with DCF theory, and the fact that Dr. Woolridge failed to consider the incremental impact on growth results in another downward bias to his "internal" growth rates, which should be given no weight.

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[38] Gordon, Myron J., "The Cost of Capital to a Public Utility," MSU Public Utilities Studies (1974), at 31–32.

Q. HAS DR. WOOLRIDGE RECOGNIZED THESE ADJUSTMENTS TO THE SUSTAINABLE GROWTH RATE IN TESTIMONY BEFORE OTHER REGULATORS?

A. Yes. In his recent testimony before FERC referenced earlier, Dr. Woolridge incorporated an adjustment to correct for the downward bias attributable to end-of-year book values, and recognized the additional growth from new share issues by incorporating the "sv" component discussed above.[39] Similarly, Mr. Hill noted that, "Investor expectations regarding growth from external sources (sales of stock) must also be considered and examined."[40]

Q. WHAT DO YOU CONCLUDE BASED ON YOUR REVIEW OF DR. WOOLRIDGE'S DCF ANALYSES?

A. Trends in DPS are distorted by fundamental changes in industry financial policies and Dr. Woolridge failed to evaluate the underlying reasonableness of individual growth rates. In addition, the calculations used to arrive at Dr. Woolridge's internal growth rates are flawed and incomplete. As a result, his DCF cost of equity estimates are biased downward and fail to reflect investors' required rate of return.

Q. DID MR. HILL PROPERLY APPLY THE CONSTANT GROWTH DCF MODEL?

A. No. Mr. Hill began his DCF analysis by correctly stating:

> The DCF model relies on the equivalence of the market price of the stock (P) with the present value of the cash flows <u>investors expect from the stock</u>, and assumes that the discount rate equals the cost of capital.[41]

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[39] *Testimony of J. Randall Woolridge*, FERC Docket No. EL-66 at Exhibit JRW-8, pp. 3-4 (2011).

[40] Hill Responsive TestimonyResponsive Testimony at 35. Mr. Hill incorporated an adjustment for the "sv" factor at Schedule 6, p. 1.

[41] Hill Responsive Testimony at 31.

Nevertheless, his applications of the constant growth DCF model to his proxy group of utilities departed from this fundamental proposition because of his strict reliance on the mathematical DCF theory instead of the realities of investors' actual expectations in financial markets. The use of DCF models to estimate the cost of equity is essentially an attempt to replicate the market pricing mechanism that led to the observed stock price, with investors' required rate of return simply being inferred. In contrast, Mr. Hill's applications of the DCF model reflect a strict interpretation of the academic theory underlying its derivation.

Q. WHAT IS WRONG WITH MR. HILL'S STRICT ADHERENCE TO THE THEORY UNDERLYING THE CONSTANT GROWTH DCF MODEL?

A. Many unrealistic assumptions are required to derive the constant growth form of the DCF model, with Mr. Hill noting some of these infirmities in his testimony:

> The model also assumes that the company whose equity cost is to be measured exists in a steady state environment, i.e., the payout ratio and the expected return are constant and the earnings, dividends, book value and stock price all grow at the same rate, forever.[42]

Because the assumptions underlying the constant growth DCF model are never met in practice, the constant growth DCF model can, at best, only be considered an abstraction of reality. As such, the DCF model <u>cannot</u> universally produce correct measures of the cost of equity; rather, it can only serve as a potential guide to investors' required rate of return. Mr. Hill granted this limitation of the DCF model in his testimony:

> [A]s with all mathematical models of real-world phenomena, the DCF theory does not precisely "track" reality in the shorter term.[43]

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[42] Hill Responsive Testimony at 32.
[43] Hill Responsive Testimony at 33.

Therefore, the only inputs (i.e., cash flows) that matter in implementing the DCF model are those that investors used to value the utility's stock. Any application of the DCF model that does not focus exclusively on investors' actual expectations is a misuse of the DCF model to estimate the cost of equity.

Q. CAN YOU PROVIDE AN EXAMPLE OF HOW MR. HILL DISREGARDS THIS PRINCIPLE?

A. Yes. Consider Mr. Hill's discussion of his hypothetical firm in Appendix C to his testimony. He stated that certain actual growth rates can be "unreliable" within DCF theory, and concluded that the proper growth rate to use with the DCF model is the theoretical "sustainable growth rate". But Mr. Hill's contention is wrong. The only correct growth rate to be used in the DCF model is the long-term growth rate investors actually incorporated into the observed stock price, irrespective of whether Mr. Hill considers it "ridiculous" or inconsistent with "the underlying fundamentals of growth in the DCF model."[44]

The fact is Mr. Hill confused the theory of the DCF model with its application. Professor Myron J. Gordon's complete mathematical DCF model is tautological. In other words, the constant growth DCF model is true by virtue of the strict assumptions made to derive it, and given these assumptions, any number of propositions can be "demonstrated" (Mr. Hill's Appendix C). But to the extent that these assumptions are not met in practice and the DCF model does not "track reality", the theoretical DCF model will not conform to the real world. In turn, cost of equity estimates that are based solely on mathematical identities instead of

[44] Hill Responsive Testimony at Appendix C, p. 4.

investors' actual long-term growth expectations will not accurately measure their required rate of return.[45]

Q. ARE MR. HILL'S SUSTAINABLE, BR+SV GROWTH RATES ALSO UNDERSTATED?

A. Yes. Like Dr. Woolridge, Mr. Hill based his calculation of the internal, "br" growth rate on data from Value Line, which reports end-of-period results. As discussed earlier, failing to account for this reality results in downward-biased growth rates and the resulting DCF cost of equity is understated.

Q. DOES A MORE REASONABLE DCF APPLICATION BASED ON MR. HILL'S DATA SHOW WHY MR. HILL'S DCF RESULTS ARE UNREASONABLE?

A. Yes. As noted earlier, the projected EPS growth rates of securities analysts are likely to provide a superior guide to investors' expectations than the flawed, theoretical approach adopted by Mr. Hill. Accordingly, I revised his DCF method to incorporate the projected EPS growth rates from IBES and Value Line reported on Schedule 6 to his testimony. As shown on Exhibit WEA-6, this resulted in an average cost of equity of 10.78 percent.

Q IS THERE ANY SUBSTANCE TO MR. HILL'S MODIFIED EARNINGS-PRICE RATIO ANALYSIS (PP. 49-53)?

A. None whatsoever. Mr. Hill's statement that the earnings-price ratio understates the cost of equity when the utility's market-to-book ratio is greater than one, and vice versa,[46] is generally correct. But there is absolutely no theoretical justification for Mr. Hill's <u>averaging</u> the earnings-price ratio with a rate of return on book equity,

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[45] In a 2005 case, the New Hampshire Public Service Commission specifically concluded that Mr. Hill's DCF growth analysis, "does not in our view reflect true market conditions." Order No. 24,473, New Hampshire Public Utilities Commission (June 8, 2005).

[46] Hill Responsive Testimony at 49.

either current or expected, as he did in his Schedule 11. Nor is such an averaging justified even if the FERC may have sometime in the past utilized the expected rate of return on book value as a check of reasonableness in establishing an upper bound to investors' required rate of return.[47]

Q. DOES MR. HILL'S MARKET-TO-BOOK RATIO ("MTB") ANALYSIS (PP. 53-55) PROVIDE ANY NEW INFORMATION AS TO THE RATE OF RETURN REQUIRED BY INVESTORS FROM HIS PROXY GROUP OF UTILITIES?

A. Absolutely none. As Mr. Hill acknowledged:

> This method is derived algebraically from the DCF model and, therefore, cannot be considered a strictly independent check of that method.[48]

That Mr. Hill's MTB analysis is nothing more than a rehash of his previous DCF analysis is also evident from his exhibits. In particular, there is little difference between Mr. Hill's average cost of equity of 9.48 percent using his DCF method[49] and the 9.38 percent using his MTB method based on Value Line's projections.[50] This similarity is not because the results of two different methods are converging, but because the DCF and MTB methods are essentially the same, only packaged slightly differently. And just as Mr. Hill's DCF analysis is fundamentally flawed because it is tied to tautological DCF theory rather than investors' actual expectations, so too is his MTB analysis since it is derived from the very same theoretical model and uses virtually identical inputs.

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[47] Mr. Hill cited a 1986 FERC decision at p. 50 of his direct testimony.
[48] Hill Responsive Testimony at 53.
[49] *Id.* at Schedule 8.
[50] *Id.* at Schedule 12, p. 2.

Q. WHAT IS THE RELEVANCE OF MR. HILL'S AND DR. WOOLRIDGE'S DISCUSSION OF MARKET-TO-BOOK RATIOS?[51]

A. Based on their testimony here and in previous cases, I understand that Mr. Hill and Dr. Woolridge are implying that utility earnings are generally too high because the market-to-book ratios generally exceed one. They want the Kentucky Public Service Commission ("KPSC") to sacrifice the Companies' financial strength to favor a theoretical ideal of market-to-book ratios equaling unity. The KPSC does not regulate utility stock market prices, and as discussed below, there are many leaps between his economic theory and reality. But if the theory is correct, then Mr. Hill and Dr. Woolridge are asking the KPSC to order a return that would almost certainly lead to a capital loss on the value of the Companies' investment. From an economic perspective, such an action would take the value of the Companies' property without compensation.

Q. DR. WOOLRIDGE AND MR. HILL SUGGEST THAT THERE ISA CLEAR LINK BETWEEN MARKET-TO-BOOK RATIOS FOR ELECTRIC UTILITIES AND ALLOWED RATES OF RETURN. IS THIS ACCURATE?

A. No. Underlying Mr. Hill's and Dr. Woolridge's position is the supposition that regulators should set a required rate of return to produce a market-to-book value of approximately 1.0. This is fallacious. For example, *New Regulatory Finance* noted that:

> The stock price is set by the market, not by regulators. The M/B ratio is the end result of regulation, and not its starting point. The view that regulation should set an allowed rate of return so as to produce a M/B of 1.0, presumes that investors are irrational. They commit capital to a utility with a M/B in excess of 1.0, knowing full

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[51] Hill Responsive Testimony at 52-53; Woolridgel Responsive Testimony at 15.

> well that they will be inflicted a capital loss by regulators. This is certainly not a realistic or accurate view of regulation.[52]

With market-to-book ratios for most utilities above 1.0, Mr. Hill and Dr. Woolridge are suggesting that, unless book value grows rapidly, regulators should establish equity returns that will cause share prices to fall. Given the regulatory imperative of preserving a utility's ability to attract capital, this would be a truly nonsensical result.

Q. IS THERE ANY MERIT TO THE CONCERNS OF DR. WOOLRIDGE AND MR. HILL ABOUT A MARKET-TO-BOOK RATIO ABOVE 1.00?

A. No. In fact the majority of stocks currently sell substantially above book value. For example, Value Line reports that over 1,400 of the approximately 1,700 stocks it follows (including utilities and other industries) sell for prices in excess of book value.[53] Moreover, regulators have previously recognized the fallacy of relying on market-to-book ratios in evaluating cost of equity estimates. For example, the Presiding Judge in *Orange & Rockland* concluded, and the FERC affirmed that:

> The presumption that a market-to-book ratio greater than 1.0 will destroy the efficacy of the DCF formula disregards the realities of the market place principally because the market-to-book ratio is rarely equal to 1.0.[54]

The Initial Decision found that there was no support in FERC precedent for the use of market-to-book ratios to adjust market derived cost of equity estimates based on the DCF model and concluded that such arguments were to be treated as "academic rhetoric" unworthy of consideration.

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[52] *Id.* at 376.
[53] www.valueline.com (retrieved Oct. 9, 2011).
[54] *Orange & Rockland Utilities, Inc.*, Initial Decision, 40 FERC ¶ 63,053, 1987 WL 118,352 (F.E.R.C.).

IV. DR. WOOLRIDGE'S AND MR. HILL'S CRITICISMS OF ANALYSTS' GROWTH RATES ARE MISGUIDED

Q. SHOULD THE COMMISSION GIVE ANY CREDENCE TO THE ALLEGATIONS OF DR. WOOLRIDGE AND MR. HILL THAT PROJECTED EPS GROWTH RATES ARE BIASED?

A. No. Dr. Woolridge devoted over ten pages of his testimony to argue the misguided notion that analysts' EPS growth rates are "overly optimistic and biased upward."[55] Similarly, Mr. Hill rejects relying solely on earnings forecasts.[56]

Q. PLEASE RESPOND TO THE CRITICISMS OF DR. WOOLRIDGE AND MR. HILL REGARDING RELIANCE ON EPS GROWTH PROJECTIONS IN APPLYING THE DCF MODEL.

A. In applying the DCF model to estimate the cost of equity, the <u>only</u> relevant growth rate is the forward-looking expectations of investors that are captured in current stock prices. Any claim that analysts' estimates are not relied upon by investors is illogical given the reality of a competitive market for investment advice. If financial analysts' forecasts do not add value to investors' decision making, it would be irrational for investors to pay for these estimates. Similarly, those financial analysts who fail to provide reliable forecasts will lose out in competitive markets relative to those analysts whose forecasts investors find more credible. The reality that analyst estimates are routinely referenced in the financial media and in investment advisory publications implies that investors use them as a basis for their expectations.

The continued success of investment services such as IBES and Value Line, and the fact that projected growth rates from such sources are widely referenced,

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[55] Woolridgel Responsive Testimony at B-2.
[56] Hill Responsive Testimony at 37.

provides strong evidence that investors give considerable weight to analysts' earnings projections in forming their expectations for future growth. Earnings growth projections of security analysts provide the most frequently referenced guide to investors' views and are widely accepted in applying the DCF model. As explained in *New Regulatory Finance*:

> Because of the dominance of institutional investors and their influence on individual investors, analysts' forecasts of long-run growth rates provide a sound basis for estimating required returns. Financial analysts exert a strong influence on the expectations of many investors who do not possess the resources to make their own forecasts, that is, they are a cause of *g* [growth].[57]

Q. DOES THE FACT THAT ANALYSTS' EPS PROJECTIONS MAY DEVIATE FROM ACTUAL RESULTS HAMPER THEIR USE IN APPLYING THE DCF MODEL, AS DR. WOOLRIDGE CONTENDS?[58]

A. No. Investors, just like securities analysts and others in the investment community, do not know how the future will actually turn out. They can only make investment decisions based on their best estimate of what the future holds in the way of long-term growth for a particular stock, and securities prices are constantly adjusting to reflect their assessment of available information. While the projections of securities analysts may be proven optimistic or pessimistic in hindsight, this is irrelevant in assessing the expected growth that investors have incorporated into current stock prices, and any bias in analysts' forecasts – whether pessimistic or optimistic – is irrelevant if investors share analysts' views. As *New Regulatory Finance* concluded, "The accuracy of these forecasts in the sense of whether they turn out to be correct is not an issue here, as long as they reflect widely held expectations."[59] Moreover,

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[57] Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports, Inc.* at 298 (2006).
[58] Woolridgel Responsive Testimony at B-3 – B-4.
[59] *Id.*

as discussed earlier, there is every indication that expectations for earnings growth are instrumental in investors' evaluation and the fact that analysts' projections deviate from actual results provides no basis to ignore this relationship.

Q. DO THE SELECTED ARTICLES REFERENCED BY DR. WOOLRIDGE IN SUPPORT OF HIS CONTENTION THAT ANALYSTS ARE OVERLY OPTIMISTIC PAINT A COMPLETE PICTURE OF THE FINANCIAL RESEARCH IN THIS AREA?

A. No. In contrast to Dr. Woolridge's assertions, peer-reviewed empirical studies do not uniformly support his contention that analysts' growth projections are optimistically biased. For example, a study reported in "Analyst Forecasting Errors: Additional Evidence" found no optimistic bias in earnings projections for large firms (market capitalization of $500-$3,000 million), with data for the largest firms (market capitalization > $3,000 million) demonstrating a *pessimistic* bias.[60] Similarly, a 2005 article that examined analyst growth forecasts over the period 1990 through 2001 illustrated that Wall Street's forecasting is not inherently optimistic:

> The pessimism associated with profit firms is astonishing. Near the end of the sample period, almost three quarters of the quarterly forecasts for profit firms are pessimistic.[61]

Other research on this topic also concludes that there is no clear support for the contention that analyst forecasts contain upside bias:

> Our examples do demonstrate how some widely held beliefs about analysts' proclivity to commit systematic errors (e.g., the common belief that analysts generally produce optimistic forecasts) are not

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[60] Brown, Lawrence D., "Analyst Forecasting Errors: Additional Evidence," *Financial Analysts Journal* (November/December 1997).

[61] Ciccone, Stephen, "Trends in analyst earnings forecast properties," *International Review of Financial Analysis*, 14:2-3 (2005).

> well supported by a broader analysis of the distribution of forecast errors. After four decades of research on the rationality of analysts' forecasts it is somewhat disconcerting that the most definitive statements observers and critics of earnings forecasters are willing to agree on are ones for which there is only tenuous empirical support.[62]

Similarly, while Dr. Woolridge cites a 2003 *Wall Street Journal* ("WSJ") article,[63] an April 26, 2010 study reported in this publication contradicts his position. The WSJ concluded that analysts' earnings forecasts, "are actually too pessimistic when it comes to predicting company earnings, particularly in the wake of recession."[64] The WSJ indicated that "analysts' expectations will continue to be trumped by better results as the current reporting season progresses,"[65] suggesting that growth projections at the tail end of a downturn are more likely to be too low than too high.

More importantly, however, comparisons between forecasts of future growth expectations and the historical trend in actual earnings are largely irrelevant in evaluating the use of analysts' projections in the DCF model. For example, Dr. Woolridge references a paper he authored that reported that analysts' earnings growth rate estimates are overly optimistic, based on just such a historical comparison.[66] But as noted earlier, the investment community can only make decisions based on their best estimate of what the future holds in the way of long-term growth for a particular stock, and the fact that projections deviate from actual results says nothing about whether investors rely on analysts' estimates. In using the DCF model to estimate investors' required returns, the purpose is not to prejudge

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[62] Abarbanell, Jeffery and Reuven Lehavy, "Biased forecasts or biased earnings? The role of reported earnings in explaining apparent bias and over/under reaction in analysts earnings forecasts," *Journal of Accounting and Economics*, 36: 142 (2003).

[63] Woolridgel Responsive Testimony at B-8, fn. 12.

[64] Denning, Liam, "Wall Street's Missed Expectations," *Wall Street Journal* at C8 (Apr. 26, 2010).

[65] *Id.*

[66] Woolridgel Responsive Testimony at B-8, fn. 11.

the accuracy or rationality of investors' growth expectations. Instead, to accurately estimate the cost of equity we must base our analyses on the growth expectations investors actually used in determining the price they are willing to pay for common stocks – even if we do not agree with their assumptions. Indeed, despite the findings of his research, Dr. Woolridge reportedly "remains somewhat puzzled that so many continue to put great weight in what [analysts] have to say."[67] As Robert Harris and Felicia Marston noted in their article in *Journal of Applied Finance*:

> ...Analysts' optimism, if any, is not necessarily a problem for the analysis in this paper. If investors share analysts' views, our procedures will still yield unbiased estimates of required returns and risk premia.[68]

Similarly, there is no logical foundation for criticisms such as those raised by Dr. Woolridge that the purported upward bias of analysts' growth rates limits their usefulness in applying the DCF model. If investors' base their expectations on these growth rates, then they are useful in inferring investors' required returns – even if the analysts' forecasts prove to be wrong in hindsight.[69]

Q DID DR. WOOLRIDGE PROVIDE ANY MEANINGFUL SUPPORT FOR HIS ALLEGATION THAT VALUE LINE FORECASTS ARE "OVERLY OPTIMISTIC"?

A. No. Dr. Woolridge asserted his belief (p. B-11) that Value Line projections have "a decidedly positive bias," based only on his personal belief that Value Line does not report a sufficient number of negative growth rates. But a negative long-term

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[67] Boselovic, Len, "Study Finds Analysts' Forecasts Have Been Too Sunny," *Pittsburgh Post-Gazette* (Mar. 30, 2008).

[68] Harris, Robert S. and Marston, Felicia C., "The Market Risk Premium: Expectational Estimates Using Analysts' Forecasts," *Journal of Applied Finance* 11 (2001) at 8.

[69] I began my military career in the Navy in the weather office at a Naval Air Station. Using the best available methods then available, we provided pilots with weather forecasts for their flight plans. In hindsight we were not very accurate, but I do not recall any pilot ignoring our forecast in planning a mission. In finance, as in weather, no one **knows** the future. But no one can afford to ignore the best available forecasts.

growth rate implies a DCF cost of equity below the firm's dividend yield and is hardly representative of investors' expectations. Dr. Woolridge's personal opinions are irrelevant to a determination of what investors expect and, contrary to his conclusion, Value Line is a well-recognized source in the investment and regulatory communities. For example, *Cost of Capital – A Practitioners' Guide*, published by the Society of Utility and Financial Analysts, noted that:

> [A] number of studies have commented on the relative accuracy of various analysts' forecasts. Brown and Rozeff (1978) found that Value Line was superior to other forecasts. Chatfield, Hein and Moyer (1990, 438) found, further "Value Line to be more accurate than alternative forecasting methods" and that "investors place the greatest weight on the forecasts provided by Value Line".[70]

Given the fact that Value Line is perhaps the most widely available source of information on common stocks, the projections of Value Line analysts provide an important guide to investors' expectations.

Moreover, in contrast to Dr. Woolridge's unsupported assertion, the fact that Value Line is not engaged in investment banking or other relationships with the companies that it follows reinforces its impartiality in the minds of investors. Indeed, Value Line was among the providers of "independent research" that benefited from the Global Settlement cited by Dr. Woolridge.[71]

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[70] Parcell, David C., "The Cost of Capital – A Practitioner's Guide," *Society of Utility and Regulatory Financial Analysts* (1997) at 8-28.
[71] Tsao, Amy, "The New Era of Indie Research," *Business Week Online Edition* (June 12, 2003).

V. CAPM RESULTS SHOULD BE DISREGARDED

Q. WHAT IS THE FUNDAMENTAL PROBLEM ASSOCIATED WITH THE APPROACH THAT DR. WOOLRIDGE AND MR. HILL USED TO APPLY THE CAPM?

A. Like the DCF model, the CAPM is an *ex-ante,* or forward-looking model based on expectations of the future. As a result, in order to produce a meaningful estimate of investors' required rate of return, the CAPM must be applied using data that reflects the expectations of actual investors in the market. However, the CAPM applications presented by Dr. Woolridge and Mr. Hill were based entirely on *historical* – not projected – rates of return. *Morningstar* recognized the primacy of current expectations:

> The cost of capital is always an expectational or forward-looking concept. While the past performance of an investment and other historical information can be good guides and are often used to estimate the required rate of return on capital, the expectations of future events are the only factors that actually determine cost of capital.[72]

Because they failed to look directly at the returns investors are currently requiring in the capital markets, the 7.6 percent and 7.97 percent historical CAPM estimate developed by Dr. Woolridge and Mr. Hill fall woefully short of investors' current required rate of return.

Q. DR. WOOLRIDGE (P. 41) CHARACTERIZES HIS RISK PREMIUM AS *EX ANTE.* IS THIS AN ACCURATE ASSESSMENT?

A. No. In order to be considered a forward-looking, *ex ante* estimate of the current market risk premium, the analysis must be predicated on investors' current expectations. Dr. Woolridge did not attempt to develop a market risk premium

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[72] Morningstar, *Ibbotson SBBI, 2011 Valuation Yearbook* at 21.

using current capital market information. Rather, he simply presented the results of various studies and surveys conducted in the past. Certain of these studies may have attempted to infer the equity risk premium using expected data at the time they were developed, but expectations at some point in the past are not equivalent to investors *ex ante* requirements in capital markets today.

Q. IS THERE GOOD REASON TO ENTIRELY DISREGARD THE RESULTS OF HISTORICAL CAPM ANALYSES SUCH AS THOSE PRESENTED BY DR. WOOLRIDGE AND MR. HILL?

A. Yes. Applying the CAPM is complicated by the impact of the recent capital market turmoil and recession on investors' risk perceptions and required returns. The CAPM cost of common equity estimate is calibrated from investors' required risk premium between Treasury bonds and common stocks. In response to heightened uncertainties, investors have repeatedly sought a safe haven in U.S. government bonds and this "flight to safety" has pushed Treasury yields significantly lower while yield spreads for corporate debt widened. This distortion not only impacts the absolute level of the CAPM cost of equity estimate, but it affects estimated risk premiums. Economic logic would suggest that investors' required risk premium for common stocks over Treasury bonds has also increased.

Meanwhile, the backward-looking approaches used by Dr. Woolridge and Mr. Hill incorrectly assume that investors' assessment of the relative risk differences, and their required risk premium, between Treasury bonds and common stocks is constant and equal to some historical average. At no time in recent history has the fallacy of this assumption been demonstrated more concretely. This incongruity between investors' current expectations and requirements and historical risk premiums is particularly relevant during periods of heightened uncertainty and rapidly changing capital market conditions, such as those experienced recently.

As a result, there is every indication that the historical CAPM approach fails to fully reflect the risk perceptions of real-world investors in today's capital markets, which would violate the standards underlying a fair rate of return by failing to provide an opportunity to earn a return commensurate with other investments of comparable risk. As the Staff of the Florida Public Service Commission concluded:

> [R]ecognizing the impact the Federal Government's unprecedented intervention in the capital markets has had on the yields on long-term Treasury bonds, staff believes models that relate the investor-required return on equity to the yield on government securities, such as the CAPM approach, produce less reliable estimates of the ROE at this time.[73]

Q. DO ECONOMIC TRENDS, SUCH AS THOSE REFERENCED BY DR. WOOLRIDGE (PP. 4-8) AND MR. HILL (PP. 10-18), FURTHER UNDERMINE THEIR HISTORICAL CAPM ANALYSES?

A. Yes. For example, the Federal Reserve has continued to pursue a policy of actively managing long-term government bond yields. In September 2011, the Federal Reserve announced "Operation Twist", involving the exchange of short-term Treasury instruments for longer-term government bonds, in an effort to put downward pressure on long-term interest rates. Since the financial crisis of 2008-2009, capital markets have continued to face the ongoing potential for renewed turmoil, and that has certainly come to a head in recent months. Investors have faced a myriad of challenges and uncertainties, including the threat of a U.S. government default and political brinksmanship over raising the federal debt ceiling. The sovereign debt crisis in Europe has also dealt a harsh blow to investor confidence, and concerns over potential exposure to a Euro-zone default has again

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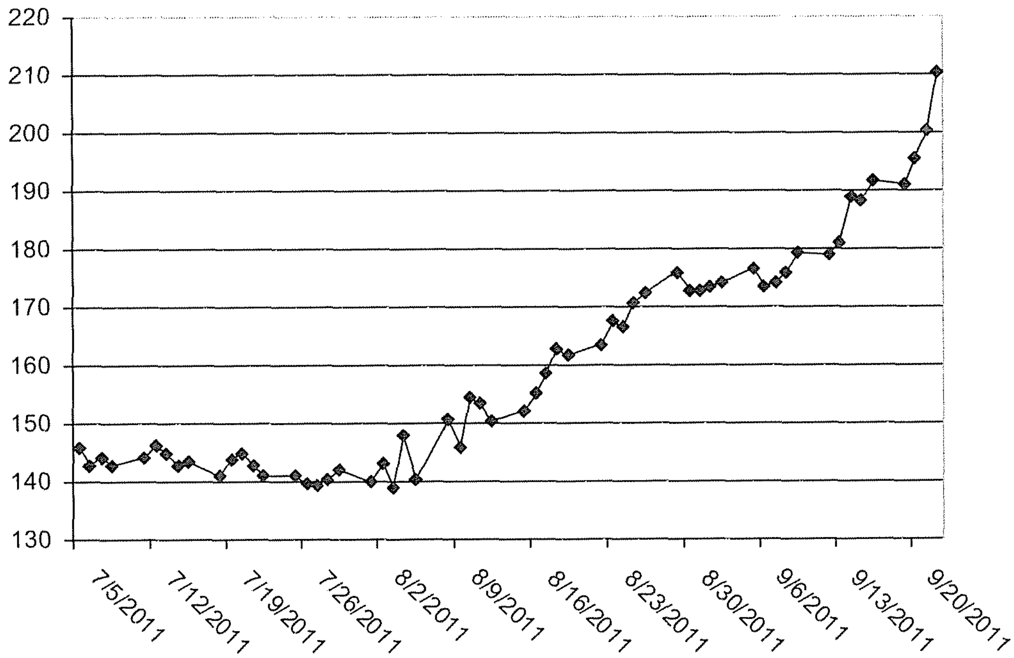
[73] *Staff Recommendation for Docket No. 080677-EI - Petition for increase in rates by Florida Power & Light Company*, at p. 280 (Dec. 23, 2009).

undermined confidence in the financial and banking sector. Meanwhile, speculation that the economy is poised on the brink of a "double-dip" recession has increased, with unemployment remaining above 9 percent, falling consumer confidence, and continued weakness plaguing the real estate sector.

These developments have led to renewed turmoil in capital markets, with common stock prices exhibiting the dramatic volatility that is indicative of heightened sensitivity to risk. Nowhere has this been more evident than in the market for Treasury bonds, with yields being pushed significantly lower due to a global "flight to safety" in the face of rising political, economic, and capital market risks. In turn, this has led to a dramatic increase in risk premiums, as illustrated by the spreads between triple-B utility bond yields and 30-year Treasuries shown in Figure WEA-1, below:

FIGURE WEA-1
YIELD SPREAD (BASIS POINTS) BBB UTILITY – 30-YR. TREASURY



This increase in the yield spread indicates that the additional compensation investors demand to take on higher risks has increased. As S&P observed:

> Standard & Poor's U.S. speculative-grade composite spread, which measures the extra yield above U.S. Treasury bonds that investors demand to hold the bonds of riskier companies, widened by 63% to 781 basis points (bps) from April 18, 2011, to Sept. 30, 2011. This sharp expansion reflected the bond market's increasing aversion to credit risk in an uncertain and riskier environment. ... During periods of stress, correlations frequently increase among risky asset classes such as the relationship between the return on speculative-grade bonds and the return from equities.[74]

Equity risk premiums cannot be observed directly, but because common stock investors are the last in line with respect to their claim on a utility's cash flows, higher yield spreads imply an even steeper increase in the additional return required from an investment in common equity. In short, heightened capital market and economic uncertainties, and the increase in risk premiums demanded by investors, further undermine Dr. Woolridge's and Mr. Hill's reliance on historical studies to assess capital market trends or apply the CAPM.

Q. DID DR. WOOLRIDGE AND MR. HILL ALSO RECOGNIZE THE FRAILTIES OF THEIR HISTORICAL CAPM APPROACHES?

A. Yes. Dr. Woolridge noted that *ex-post*, historical rates of return "are not the same as *ex-ante* expectations," and observed that, "The use of historical returns as market expectations has been criticized in numerous academic studies."[75] Dr. Woolridge granted that "risk premiums can change over time ... such that *ex post* historical returns are poor estimates of *ex ante* expectations."[76] Finally, Dr. Woolridge concluded, that his historical CAPM approach provides "a less reliable indication of

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[74] Standard & Poor's Corporation, "Recent Expansion In Credit Spreads Shows Bond Market Stress, But Less Severe Than During The Financial Crisis," *RatingsDirect* (Oct. 11, 2011).

[75] Woolridgel Responsive Testimony at 39.

[76] *Id.* at 38.

equity cost rates for public utilities."[77] Similarly, Mr. Hill observed that, "Cost of capital analysis is a decidedly forward-looking, or *ex-ante,* concept," and he concluded, "the CAPM analysis is not a reliable primary indicator of equity capital costs."[78]

Q. IS THERE EVIDENCE THAT THE STUDIES REFERENCED BY DR. WOOLRIDGE DO NOT REFLECT INVESTORS' EXPECTATIONS?

A. Yes. The vast majority of the results of the equity risk premium studies reported by Dr. Woolridge do not make economic sense and contradict his own testimony. For example, page 5 of Dr. Woolridge's Exhibit JRW-11 reveals that almost two-thirds of the historical studies included in Dr. Woolridge's review found market equity risk premiums of approximately 5.0 percent or below.[79] This was also true for over one-half of the individual risk premium studies that Dr. Woolridge relied on directly to apply the CAPM.[80] But combining a market equity risk premium of 5.0 percent with Dr. Woolridge's 4.0 percent risk-free rate results in an indicated cost of equity for the market as a whole of 9.0 percent, which is *less* than Dr. Woolridge's ROE recommendation in this case. Many of his other benchmarks for the market rate of return fall *below* the anemic cost of equity he recommends for the Companies. For example, Dr. Woolridge conjures a market rate of return of 7.3 percent based on his "building blocks" approach,[81] which falls approximately 200 basis points below his recommended ROE in this case.

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[77] *Id.* at 19.
[78] Hill Responsive Testimony at 43.
[79] Similarly, Dr. Woolridge reported equity risk premiums of 3.4 percent and 2.87 percent (p. 42-43) and 3.5 percent to 4.0 percent (p. 44) based on selected surveys and articles.
[80] Exhibit JRW-11, p. 6.
[81] Exhibit JRW-11, p. 7. Similarly, Dr. Woolridge reported market rates of return of 7.37 percent and 6.5 percent from the selected surveys cited at page C-4 and C-5 of his testimony.

Meanwhile, after noting that beta is the only relevant measure of investment risk under modern capital market theory, Dr. Woolridge concluded that his comparison of beta values (Exhibit JRW-8) indicates that investors' required return on the market as a whole should exceed the cost of equity for electric utilities.[82] Based on Dr. Woolridge's own logic, it follows that a market rate of return that does not exceed his own downward biased ROE recommendation has no relation to the current expectations of real-world investors. The fact that much of his CAPM "evidence" violates the risk-return tradeoff that is fundamental to finance clearly illustrates the frailty of Dr. Woolridge's analyses.

Q. DR. AVERA, ARE YOU IN ANY WAY ALLEGING THAT ALL THESE STUDIES AND SURVEYS CITED BY DR. WOOLRIDGE AND MR. HILL ARE INCORRECT?

A. No, not at all. The point that I am making is that there is more than one way to define and calculate an equity risk premium. The problem with the approach used by Dr. Woolridge and Mr. Hill is that, instead of looking directly at an equity risk premium based on current expectations – which is what is required in order to properly apply the CAPM – they undertake an unrelated exercise of compiling a list of selected computations culled from the historical record. Average realized risk premiums computed over some selected time period may be an accurate representation of what was actually earned in the past, but they do not answer the question as to what risk premium investors were actually expecting to earn on a forward-looking basis during these same time periods. Similarly, calculations of the equity risk premium developed at a point in history – whether based on actual returns in prior periods or contemporaneous projections – are not the same as the

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[82] Woolridgel Responsive Testimony at 18.

forward-looking expectations of today's investors, which are premised on an entirely different set of capital market and economic expectations.

Likewise, surveys of selected corporate executives or economists, or building blocks based on academic research, are not equivalent to investors' required returns in the coming period. Since the benchmark for a fair ROE requires that the utility be able to compete for capital in the current capital market, the relevant inquiry is to determine the return that real world investors in today's markets require from the Companies in order to compete for capital with other comparable risk alternatives. In short, while there are many potential definitions of the equity risk premium, the only relevant issue for application of the CAPM in a regulatory context is the return investors currently expect to earn on money invested today in the risky market portfolio versus the risk-free U.S. Treasury alternative.

Q. WAS DR. WOOLRIDGE (EXHIBIT JRW-11, P. 5) OR MR. HILL (SCHEDULE 9) JUSTIFIED IN RELYING ON GEOMETRIC MEANS AS A MEASURE OF AVERAGE RATE OF RETURN WHEN APPLYING THE HISTORICAL CAPM?

A. No. While both the arithmetic and geometric means are legitimate measures of average return, they provide different information. Each may be used correctly, or misused, depending upon the inferences being drawn from the numbers. The geometric mean of a series of returns measures the constant rate of return that would yield the same change in the value of an investment over time. The arithmetic mean measures what the expected return would have to be each period to achieve the realized change in value over time.

In estimating the cost of equity, the goal is to replicate what investors expect going forward, not to measure the average performance of an investment over an assumed holding period. When referencing realized rates of return in the past, investors consider the equity risk premiums in each year independently, with the arithmetic average of these annual results providing the best estimate of what investors might expect in future periods. *New Regulatory Finance* had this to say:

> The best estimate of expected returns over a given future holding period is the arithmetic average. *Only arithmetic means are correct for forecasting purposes and for estimating the cost of capital.* There is no theoretical or empirical justification for the use of geometric mean rates of returns as a measure of the appropriate discount rate in computing the cost of capital or in computing present values.[83]

Similarly, *Morningstar* concluded that:

> For use as the expected equity risk premium in either the CAPM or the building block approach, the arithmetic mean or the simple difference of the arithmetic means of stock market returns and riskless rates is the relevant number. ... The geometric average is more appropriate for reporting past performance, since it represents the compound average return.[84]

Q. WHAT DOES THIS IMPLY WITH RESPECT TO DR. WOOLRIDGE'S AND MR. HILL'S CAPM ANALYSES?

A. For a variable series, such as stock returns, the geometric average will <u>always</u> be less than the arithmetic average. Accordingly, Dr. Woolridge's and Mr. Hill's reference to geometric average rates of return provides yet another element of built-in downward bias.

Q. DOES THE RISK PREMIUM THAT MR. HILL DERIVES FROM IBBOTSON ASSOCIATES' DATA (SCHEDULE 9) COMPORT WHAT THIS PUBLICATION REPORTS?

A. No. Ibbotson Associates (now *Morningstar*) computes the equity risk premium by subtracting the arithmetic mean income return (not the total return) on long-term

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[83] Morin, Roger A., "New Regulatory Finance" *Public Utilities Reports, Inc.* (2006) at 1116-117, (emphasis added).

[84] Morningstar, *Ibbotson SBBI 2011 Valuation Yearbook* at 56.

Treasury bonds from the arithmetic average return on common stocks. As *Morningstar* explained:

> Price changes in bonds due to unanticipated changes in yields introduce price risk into the total return. Therefore, the total return on the bond series does not represent the riskless rate of return. The income return better represents the unbiased estimate of the purely riskless rate of return, since an investor can hold a bond to maturity and be entitled to the income return with no capital loss.[85]

In other words, *Morningstar* concluded that using only the income component of the long-term government bond return provides a more reliable estimate of the expected risk premium because investors do not anticipate capital losses for a risk-free security. Mr. Hill, however, calculated its equity risk premium using the *total* return for *Morningstar's* long-term government bond series. As a result, the equity risk premium falls far below what his own data source reports and the resulting CAPM cost of equity estimate is understated.

Q. WHAT EQUITY RISK PREMIUM DOES *MORNINGSTAR* REPORT?

A. The most recent edition of Mr. Hill's source of historical realized rate of return data calculates the long-horizon equity risk premium by subtracting the arithmetic mean average income return on long-term Treasury bonds of 5.17 percent from the arithmetic mean average return on the S&P 500 of 11.88 percent, resulting in an equity risk premium of 6.72 percent,[86] versus the 4.4 percent and 6.0 percent values reported by Mr. Hill.[87]

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[85] Morningstar, *Ibbotson SBBI, 2010 Valuation Yearbook* at 56.
[86] Morningstar, *Ibbotson SBBI, 2011 Valuation Yearbook* at 54.
[87] Hill Responsive Testimony at Schedule 9.

Q. DOES CORRECTING THE CAPM APPLICATIONS OF DR. WOOLRIDGE AND MR. HILL CONFIRM THE REASONABLENESS OF THE COMPANIES' 10.63 PERCENT ROE REQUEST?

A. Yes. Application of the CAPM to the firms in Dr. Woolridge's and Mr. Hill's proxy groups based on a forward-looking estimate for investors' required rate of return from common stocks is presented on Exhibit WEA-7. In order to capture the expectations of today's investors in current capital markets, the expected market rate of return was estimated by conducting a DCF analysis on the dividend paying firms in the S&P 500.

The dividend yield for each firm was based on the year-ahead projections obtained from Value Line. The growth rate was equal to the earnings growth projections for each firm published by IBES, with each firm's dividend yield and growth rate being weighted by its proportionate share of total market value. Based on the weighted average of the projections for the 369 individual firms, current estimates imply an average growth rate over the next five years of 10.9 percent. Combining this average growth rate with the average Value Line dividend yield of 2.3 percent results in a current cost of common equity estimate for the market as a whole (R_m) of approximately 13.2 percent. Subtracting a 3.2 percent risk-free rate based on the average yield on 30-year Treasury bonds produced a market equity risk premium of 10.0 percent.

Q. DID DR. WOOLRIDGE AND MR. HILL FAIL TO CONSIDER OTHER IMPORTANT FACTORS IN APPLYING THE CAPM?

A. As explained by *Morningstar*:

> One of the most remarkable discoveries of modern finance is that of a relationship between firm size and return. The relationship cuts

> across the entire size spectrum but is most evident among smaller companies, which have higher returns on average than larger ones.[88]

Because empirical research indicates that the CAPM does not fully account for observed differences in rates of return attributable to firm size, a modification is required to account for this size effect.

According to the CAPM, the expected return on a security should consist of the riskless rate, plus a premium to compensate for the systematic risk of the particular security. The degree of systematic risk is represented by the beta coefficient. The need for the size adjustment arises because differences in investors' required rates of return that are related to firm size are not fully captured by beta. To account for this, *Morningstar* has developed size premiums that need to be added to the theoretical CAPM cost of equity estimates to account for the level of a firm's market capitalization in determining the CAPM cost of equity.[89] Accordingly, my CAPM analyses incorporated an adjustment to recognize the impact of size distinctions, as measured by the average market capitalization for the respective proxy groups.

Q. WHAT COST OF EQUITY ESTIMATE WAS INDICATED BY CORRECTING THEIR APPLICATION OF THE CAPM?

A. As shown on page 1 of Exhibit WEA-7, application of the forward-looking CAPM approach resulted in an unadjusted ROE of 10.3 percent for the firms in Dr. Woolridge's proxy group, or 11.1 percent after adjusting for the impact of firm size. As shown on page 2 of Exhibit WEA-7, this CAPM approach implied an adjusted ROE of 11.3 percent for Mr. Hill's proxy group.

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[88] *Morningstar*, "Ibbotson SBBI 2011 Valuation Yearbook," at 83.
[89] *Id.* at Table C-1.

Q. DR. WOOLRIDGE AND MR. HILL BOTH REFERENCE CAPITAL MARKET TRENDS. IS IT APPROPRIATE TO CONSIDER ANTICIPATED CAPITAL MARKET CHANGES IN APPLYING THE CAPM?

A. Yes. As discussed earlier, there is widespread consensus that interest rates will increase materially as the economy strengthens. Accordingly, in addition to the use of current bond yields, I also applied the CAPM based on the forecasted long-term Treasury bond yields developed based on projections published by Value Line, IHS Global Insight and Blue Chip.

Q. WHAT COST OF EQUITY WAS PRODUCED BY THE CAPM AFTER CORRECTNG DR. WOOLRIDGE'S AND MR. HILL'S CAPM TO INCORPORATE FORECASTED BOND YIELDS?

A. As shown on page 1 of Exhibit WEA-8, incorporating a forecasted Treasury bond yield for 2012-2015 implied an unadjusted cost of equity of approximately 10.9 percent for the utilities in Dr. Woolridge's proxy group, or 11.7 percent after accounting for firm size. As shown on page 2 of Exhibit WEA-8, incorporating projected bond yields implied an adjusted ROE of 11.9 percent for Mr. Hill's proxy group.

VI. FLOTATION COSTS SHOULD BE CONSIDERED

Q. DID DR. WOOLRIDGE OR MR. HILL INCLUDE AN ADJUSTMENT TO RECOGNIZE COMMON STOCK FLOTATION COSTS IN HIS RECOMMENDED FAIR RATE OF RETURN ON EQUITY?

A. No. While Dr. Woolridge ignored this issue entirely, Mr. Hill asserted (pp. 56-59) that an adjustment for flotation costs was unnecessary.

Q. IS THERE ANY MERIT TO MR. HILL'S POSTION CONCERNING FLOTATION COSTS?

A. No. The need for a flotation cost adjustment to compensate for past equity issues has been recognized in the financial literature. In a *Public Utilities Fortnightly* article, for example, Brigham, Aberwald, and Gapenski demonstrated that even if no further stock issues are contemplated, a flotation cost adjustment in all future years is required to keep shareholders whole, and that the flotation cost adjustment must consider total equity, including retained earnings.[90] Similarly, *New Regulatory Finance* contains the following discussion:

> Another controversy is whether the flotation cost allowance should still be applied when the utility is not contemplating an imminent common stock issue. Some argue that flotation costs are real and should be recognized in calculating the fair rate of return on equity, but only at the time when the expenses are incurred. In other words, the flotation cost allowance should not continue indefinitely, but should be made in the year in which the sale of securities occurs, with no need for continuing compensation in future years. This argument implies that the company has already been compensated for these costs and/or the initial contributed capital was obtained freely, devoid of any flotation costs, which is an unlikely assumption, and certainly not applicable to most utilities. … The flotation cost adjustment cannot be strictly forward-looking unless all past flotation costs associated with past issues have been recovered.[91]

Q. CAN YOU PROVIDE A SIMPLE NUMERICAL EXAMPLE ILLUSTRATING WHY A FLOTATION COST ADJUSTMENT IS NECESSARY TO ACCOUNT FOR PAST FLOTATION COSTS?

A. Yes. The following example demonstrates that investors will not have the opportunity to earn their required rate of return (*i.e.*, dividend yield plus expected

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[90] Brigham, E.F., Aberwald, D.A., and Gapenski, L.C., "Common Equity Flotation Costs and Rate Making," *Public Utilities Fortnightly*, May, 2, 1985.
[91] Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports, Inc.* (2006) at 335.

growth) unless an allowance for past flotation costs is included in the allowed rate of return on equity. Assume a utility sells $10 worth of common stock at the beginning of year 1. If the utility incurs flotation costs of $0.48 (5 percent of the net proceeds), then only $9.52 is available to invest in rate base. Assume that common shareholders' required rate of return is 11.5 percent, the expected dividend in year 1 is $0.50 (*i.e.*, a dividend yield of 5 percent), and that growth is expected to be 6.5 percent annually. As developed below, if the allowed rate of return on common equity is only equal to the utility's 11.5 percent "bare bones" cost of equity, common stockholders will not earn their required rate of return on their $10 investment, since growth will really only be 6.25 percent, instead of 6.5 percent:

TABLE WEA-4
NO FLOTATION COST ADJUSTMENT

Year	Common Stock	Retained Earnings	Total Equity	Market Price	M/B Ratio	Allowed ROE	Earnings Per Share	Dividends Per Share	Payout Ratio
1	$ 9.52	$ -	$ 9.52	$ 10.00	1.050	11.50%	$ 1.09	$ 0.50	45.7%
2	$ 9.52	$ 0.59	$ 10.11	$ 10.62	1.050	11.50%	$ 1.16	$ 0.53	45.7%
3	$ 9.52	$ 0.63	$ 10.75	$ 11.29	1.050	11.50%	$ 1.24	$ 0.56	45.7%
Growth			**6.25%**	**6.25%**			**6.25%**	**6.25%**	

The reason that investors never really earn 11.5 percent on their investment in the above example is that the $0.48 in flotation costs initially incurred to raise the common stock is not treated like debt issuance costs (*i.e.*, amortized into interest expense and therefore increasing the embedded cost of debt), nor is it included as an asset in rate base.

Q. CAN YOU ILLUSTRATE HOW THE FLOTATION COST ADJUSTMENT ALLOWS INVESTORS TO BE FULLY COMPENSATED FOR THE IMPACT OF PAST ISSUANCE COSTS?

A. Yes. One commonly referenced method for calculating the flotation cost adjustment is to multiply the dividend yield by a flotation cost percentage. Thus, with a 5 percent dividend yield and a 5 percent flotation cost percentage, the flotation cost adjustment in the above example would be approximately 25 basis points. As shown below, by allowing a rate of return on common equity of 11.75 percent (an 11.5 percent cost of equity plus a 25 basis point flotation cost adjustment), investors earn their 11.5 percent required rate of return, since actual growth is now equal to 6.5 percent:

TABLE WEA-4
INCLUDING FLOTATION COST ADJUSTMENT

Year	Common Stock	Retained Earnings	Total Equity	Market Price	M/B Ratio	Allowed ROE	Earnings Per Share	Dividends Per Share	Payout Ratio
1	$ 9.52	$ -	$ 9.52	$ 10.00	1.050	11.75%	$ 1.12	$ 0.50	44.7%
2	$ 9.52	$ 0.62	$ 10.14	$ 10.65	1.050	11.75%	$ 1.19	$ 0.53	44.7%
3	$ 9.52	$ 0.66	$ 10.80	$ 11.34	1.050	11.75%	$ 1.27	$ 0.57	44.7%
Growth			**6.50%**	**6.50%**			**6.50%**	**6.50%**	

The only way for investors to be fully compensated for issuance costs is to include an ongoing adjustment to account for past flotation costs when setting the return on common equity. This is the case regardless of whether or not the utility is expected to issue additional shares of common stock in the future.

Q. WHAT ABOUT MR. HILL'S CONTENTION (P. 57-58) THAT A FLOTATION COST ALLOWANCE IS UNNECESSARY BECAUSE THE MARKET-TO-BOOK RATIO FOR ELECTRIC UTILITIES IS GREATER THAN 1.0?

A. Whether or not the market-to-book ratio is greater than, or less than, 1.0 says nothing about the need to recognize the impact of legitimate costs of issuing common stock when establishing a fair rate of return. Investors determine the price they are willing to pay for a share of common stock based on their assessment of expected cash flows and relative risks. While I don't dispute Mr. Hill's observation that sales of stock at a price that exceeds book value will cause the book value per share of existing shareholders to grow,[92] this doesn't change the fact that investors must be granted an opportunity to earn their required rate of return on *all* invested capital, including that portion paid out as issuance expenses. As I demonstrated in the example above, this can only occur if an upward adjustment to the ROE is made to account for flotation costs.

Q. WHAT ABOUT MR. HILLS OTHER SPECIFIC CRITICISMS?

A. Mr. Hill mistakenly implies that a flotation cost adjustment is "predicated on the prevention of dilution of stockholder investment."[93] In fact, a flotation cost adjustment is required in order to allow the utility the opportunity to recover the issuance costs associated with selling common stock. The fact that market prices may be above book value does not alter the fact that a portion of the capital contributed by equity investors is not available to earn a return because it is paid out as flotation costs

Mr. Hill's argument (p. 58) that flotation costs are "not out-of-pocket expenses" is simply wrong. Mr. Hill apparently believes that if investors in past common stock issues had paid the full issuance price directly to the utility and the utility had then paid underwriters' fees by issuing a check to its investment bankers, that flotation cost would be a legitimate expense. Mr. Hill's observation merely highlights the absence of an accounting convention to properly accumulate and recover these legitimate and necessary costs.

With respect to Mr. Hill's contention (p. 58) that flotation costs are somehow accounted for in current stock prices, *New Regulatory Finance* has this to say:

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[92] Indeed, this growth related to sales of new common stock forms the basis for the "sv" adjustment that Mr. Hill included in calculating the retention growth rates used in his DCF analysis.

[93] Hill Responsive Testimony at 57.

> A third controversy centers around the argument that the omission of flotation cost is justified on the grounds that, in an efficient market, the stock price already reflects any accretion or dilution resulting from new issuances of securities and that a flotation cost adjustment results in a double counting effect. The simple fact of the matter is that whatever stock price is set by the market, the company issuing stock will always net an amount less than the stock price due to the presence of intermediation and flotation costs. As a result, the company must earn slightly more on its reduced rate base in order to produce a return equal to that required by shareholders.[94]

Similarly, the need to consider past flotation costs has been recognized in the financial literature, including sources that Dr. Woolridge relied on in his testimony. Specifically, Ibbotson Associates concluded that:

> Although the cost of capital estimation techniques set forth later in this book are applicable to rate setting, certain adjustments may be necessary. One such adjustment is for flotation costs (amounts that must be paid to underwriters by the issuer to attract and retain capital).[95]

VII. NO ROE ADJUSTMENT IS WARRANTED FOR ECR

Q. WHAT ADJUSTMENT DOES MR. HILL RECOMMEND IN ESTABLISHING AN ROE UNDER THE ECR?

A. Mr. Hill wrongly argues (p. 56) that the ROE for the Companies should be set at the bottom of his 9.0 percent to 9.75 percent range, based on his misguided contention that the Companies' relative risks fall below those of his proxy group. Moving from the midpoint of Mr. Hill's range to his 9.0 percent ROE recommendation implies a downward adjustment of 38 basis points.

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[94] Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports, Inc.* (2006) at 334-335.

[95] Ibbotson Associates, *Stocks, Bonds, Bills, and Inflation, Valuation Edition, 2006 Yearbook*, at 35. In addition, the July 19, 2007 decision of the Maryland Public Service Commission in Case No. 9093 cited by Dr. Woolridge (p. 55) approved an adjustment for flotation costs.

Q. IS THERE ANY MERIT TO MR. HILL'S PROPOSAL TO REDUCE THE COMPANIES' ROE?

A. No. The downward adjustment advocated by Mr. Hill is entirely baseless for two primary reasons:

1. The impact of the Companies ECR mechanisms is fully considered by investors and the investment community and reflected in the objective risk benchmarks used to establish the proxy groups. Because these independent benchmarks demonstrate that the investment risks of the Companies are comparable to the proxy groups used to estimate the cost of equity, the ROE adjustment proposed by Mr. Hill is nothing more than a second bite from the apple; and,
2. There is no economic justification whatsoever for the magnitude of the ROE adjustment proposed by Mr. Hill, which has no demonstrable relationship to investors' requirements or observable capital market evidence.

Because of these fundamental flaws, the Commission should reject any downward adjustment to the Companies' ROE.

Q. DOES THE FACT THAT THE COMPANIES OPERATE UNDER THE ECR IMPLY THAT THEIR INVESTMENT RISKS ARE LOWER THAN FOR THE PROXY GROUP THAT MR. HILL USED TO ESTIMATE THE COST OF EQUITY?

A. No. Mr. Hill examined the Companies' investment risks in relation to the proxy group he used to estimate the cost of equity, and he selected "a group of firms with similar characteristics," based in part on an evaluation of bond ratings. Adjustment clauses and cost trackers, along with rate design measures and other mechanisms designed to decouple a utility's revenues from customer usage, have been increasingly prevalent in the utility industry in recent years. The investment community is well aware of these developments and the implications are already reflected in observable risk measures.

Take the example of credit ratings, which were the principal risk measure that Mr. Hill relied on (Schedule 4) to identify his comparable group. Credit ratings provide investors with a broad assessment of the creditworthiness of a firm, and the rating agencies' evaluation includes virtually all of the factors normally considered important in assessing a firm's relative credit standing, including industry risk, competitive position, peer group comparisons, cash flow adequacy, and capital structure. S&P noted "all salient issues are considered" in the evaluation process that ultimately leads to published credit ratings.[96] The fact that the ECR is already considered in establishing the Companies' credit rating was highlighted by S&P, which noted that its assessment of investment risks and credit standing reflect "an environmental cost recovery surcharge, and other timely cost recovery mechanisms," and concluded, "These strengths are tempered by the lack of fuel diversity (nearly all coal-fired), a relatively heavy construction program, and rate relief needs during a period of unusual economic weakness."[97]

Q. DID MR. HILL GRANT THAT THE IMPACT OF REGULATION IS REFLECTED IN A UTILITY'S CREDIT RATINGS?

A. Yes. Mr. Hill agreed that the bond rating agencies consider the impact of regulation on a utility's risks – which includes approved adjustment mechanisms such as the ECR – when evaluating credit ratings.[98] As a result, there is no basis for Mr. Hill to

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[96] Standard & Poor's Corporation, "Criteria Methodology: Business Risk/Financial Risk Matrix Expanded," *RatingsDirect* (May 27, 2009).

[97] *See, e.g.*, Standard & Poor's Corporation, "Kentucky Utilities Co.," *RatingsDirect* (May 6, 2010).

[98] *Response of Kentucky Industrial Utility Customers, Inc. to Kentucky Utilities Company and Louisville Gas and Electric Company's Data Requests, Question 24.*

single out the ECR because the impact has already been considered in arriving at the risk measures he relied on to identify his comparable-risk group.

Q. DID MR. HILL EVALUATE THE EXTENT TO WHICH THE COMPANIES IN HIS PROXY GROUP HAVE SIMILAR COST RECOVERY MECHANISMS?

A. No. Mr. Hill made no attempt determine if the utilities in his proxy group operate under mechanisms analogous to the ECR. Mr. Hill claimed that "such data are not readily available, making any such study time-consuming, unnecessarily expensive and, therefore, outside the budget allotted for this proceeding."[99] Rather than basing his relative risk arguments and recommendation on objective data, Mr. Hill "is relying on his 30-year experience in utility regulation."[100]

Q. DOES A REVIEW OF THE COST ADJUSTMENT MECHANISMS AVAILABLE TO THE UTILITIES IN MR. HILL'S PROXY GROUP SUPPORT HIS ARGUMENT THAT THE COMPANIES HAVE LOWER INVESTMENT RISK?

A. No. Adjustment mechanisms and trackers have been increasingly prevalent in the utility industry in recent years. In response to the increasing risk sensitivity of investors to uncertainty over fluctuations in costs and the importance of advancing other public interest goals such as energy conservation, utilities and their regulators have sought to mitigate some of the cost recovery uncertainty and align the interest of utilities and their customers in favor of reducing consumption through decoupling and other adjustment mechanisms. While not always directly analogous to the specific mechanisms approved for the Companies, the objective is similar; namely,

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[99] *Response of Kentucky Industrial Utility Customers, Inc. to Kentucky Utilities Company and Louisville Gas and Electric Company's Data Requests, Question 25.*
[100] *Id.*

to allow the utility an opportunity to earn a fair rate of return and mitigate exposure to attrition in an era of rising costs.

I evaluated the regulatory adjustment mechanisms approved for Mr. Hill's proxy utilities using data reported in the most recent Form 10-K reports filed with the Securities and Exchange Commission, which is publicly available and free of charge.[101] Reflective of industry trend,s the companies in Mr. Hill's proxy group operate under a variety of cost adjustment mechanisms. As summarized on Exhibit WEA-9, these mechanisms range from riders to recover pension and employee benefit costs to revenue decoupling and adjustment clauses designed to address the rising costs of environmental compliance measures. For example, the utility operations of American Electric Power Company benefit from energy adjustment clauses, an environmental cost recovery tracker, and adjustment mechanisms for conservation programs and certain transmission costs. Pacific Gas and Electric Company also operates under numerous balancing account mechanisms that cover a significant portion of its revenue requirements and effectively dampen the impact of fluctuations in electric sales and expenses on its ability to recover the costs of providing service. SCANA Corporation's electric and gas utilities operate under weather normalization and revenue decoupling mechanisms, as well as the ability to implement periodic rate adjustments to reflect new nuclear construction costs. As a result, the mitigation in risks associated with utilities' ability to attenuate fluctuations in earnings through adjustment mechanisms is already reflected in Mr. Hill's cost of equity estimates, and there is no basis for his conclusion that the Companies' risks are lower.

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[101] Because this information is widely referenced by the investment community, it is also directly relevant to an evaluation of the risks and prospects that determine the cost of equity.

Q. IS THERE ANY REASONABLE BASIS FOR THE MAGNITUDE OF THE ROE ADJUSTMENT MR. HILL IS PROPOSING (P. 56)?

A, Absolutely none. First, as discussed above, there is every indication that any impact of the Companies ECR mechanism is already captured in the cost of equity estimates for the proxy group companies, which have comparable credit ratings and benefit from a wide variety of adjustment mechanisms.

Second, the lion's share of Mr. Hill's ROE adjustment is attributable to his "demonstration" that the Companies' relative financial risk implies a cost of equity that is 25 basis points lower than his proxy group.[102] This argument is flawed for two reasons. First, while the degree of debt leverage is one factor that investors consider in evaluating a company's relative risk, singling out this one factor to the exclusion of all others does not provide a basis for Mr. Hill's conclusion regarding the Companies' relative risk. As discussed earlier, the bond rating agencies consider a plethora of factors relevant to their assessment of a company's overall credit standing, including capital structure. The fact that the Companies' credit ratings are comparable to the utilities in Mr. Hill's proxy group directly contradicts Mr. Hill's relative risk argument, because the rating agencies consider the differences in capital structure when evaluating risk. Finally, the leverage adjustment contained on Mr. Hill's Schedule 3 is flawed because it is based on an imputed debt ratio that is inconsistent with the Companies' regulatory capital structure.

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[102] Hill Responsive Testimony at 56 and Schedule 3.

VIII. CAPITAL STRUCTURE CONSISTENT WITH INDUSTRY

Q. MR. HILL ARGUES (PP. 24-25) THAT THE COMPANIES REQUESTED EQUITY RATIOS OF 53.48 PERCENT AND 54.9 ARE INCONSISTENT WITH INDUSTRY BENCHMARKS. DO YOU AGREE?

A. No. In fact, the 53.48 percent and 54.9 percent common equity ratios proposed by the Companies fall well within the range of capitalizations for the utility holding companies presented on Mr. Hill's Schedule 2, which ranged as high as 65.0 percent. Further, as shown on Exhibit WEA-10, the average equity ratio for the operating company subsidiaries of the utilities in Dr. Woolridge's and Mr. Hill's proxy groups is 50.5 percent, with the individual results ranging as high as 61.8 percent. As noted explained above, there is no basis for Mr. Hill's proposed risk adjustment because it focuses on one determinant of investment risks to the exclusion of all others, and runs contrary to the fact that the Companies' credit ratings are comparable to the utilities in Mr. Hill's own proxy group.

Q. IS MR. HILL RIGHT TO ARGUE (P. 25) THAT OPERATING COMPANY CAPITAL STRUCTURES ARE NOT RELEVANT AS A BASIS FOR COMPARISON?

A. No. While the allowed ROE is established by reference to market data, it is applied to the book value of the Companies' investment in rate base in proportion to the book value capital structure. As a result, the book value capitalizations of the operating companies provide a direct benchmark in evaluating the Companies' requested capital structure.

Q. DOES THIS CONCLUDE YOUR PRE-FILED REBUTTAL TESTIMONY?

A. Yes.

APPENDIX A

WORKPAPERS OF WILLIAM E. AVERA

(see Also Electronic version on CD)

WOOLRIDGE PROXY GROUP

	Company	(a) Expected Return on Common Equity	(b) Adjustment Factor	(c) Adjusted Return on Common Equity
1	ALLETE, Inc.	9.5%	1.02998	9.8%
2	Alliant Energy Corporation	12.0%	1.01923	12.2%
3	Ameren Corporation	7.0%	1.01744	7.1%
4	American Electric Power Co.	10.5%	1.02825	10.8%
5	Avista Corporation	9.0%	1.02055	9.2%
6	Cleco Corporation	11.5%	1.04675	12.0%
7	CMS Energy Corporation	12.5%	1.03345	12.9%
8	Consolidated Edison, Inc.	9.5%	1.01791	9.7%
9	DTE Energy Company	9.0%	1.01873	9.2%
10	Edison International	8.0%	1.02157	8.2%
11	Entergy Corporation	11.5%	1.02750	11.8%
12	Great Plains Energy Inc.	7.5%	1.02311	7.7%
13	Hawaiian Electric Industries	10.5%	1.03240	10.8%
14	IDACORP, Inc.	8.5%	1.02614	8.7%
15	MGE Energy, Inc.	12.0%	1.01148	12.1%
16	Nextra Energy	11.0%	1.03928	11.4%
17	OGE Energy Corp.	12.0%	1.03854	12.5%
18	Pepco Holdings, Inc.	7.5%	1.02265	7.7%
19	PG&E Corporation	11.5%	1.03505	11.9%
20	Pinnacle West Capital Corp.	9.0%	1.02751	9.2%
21	Portland General Electric	9.0%	1.02112	9.2%
22	SCANA Corporation	9.5%	1.04155	9.9%
23	Southern Company	13.0%	1.03357	13.4%
24	TECO Energy, Inc.	13.0%	1.02892	13.4%
25	UniSource Energy Corp.	12.5%	1.02426	12.8%
26	Westar Energy, Inc.	10.0%	1.02182	10.2%
27	Wisconsin Energy Corp.	14.0%	1.01467	14.2%
28	Xcel Energy Inc.	10.0%	1.02642	10.3%
	Average			**10.7%**

(a) The Value Line Investment Survey (Aug. 5, Aug. 26, & Sep. 23, 2011).
(b) Adjustment to convert year-end return to an average rate of return.
(c) (a) x (b).

Adjustment	--------------	2010	-------------	--------------	2015	-------------	Chg
Factor	Eq Ratio	Tot Cap	Com Eq	Eq Ratio	Tot Cap	Com Eq	Equity
1.0300	55.8%	$1,748	$975	58.5%	$2,250	$1,316	6.2%
1.0192	49.5%	$5,841	$2,891	51.5%	$6,805	$3,505	3.9%
1.0174	50.9%	$15,185	$7,729	53.5%	$17,200	$9,202	3.5%
1.0282	46.7%	$29,184	$13,629	50.5%	$35,800	$18,079	5.8%
1.0206	48.4%	$2,325	$1,125	48.5%	$2,850	$1,382	4.2%
1.0468	26.2%	$12,199	$3,196	31.5%	$16,200	$5,103	9.8%
1.0334	29.5%	$9,473	$2,795	35.5%	$11,000	$3,905	6.9%
1.0179	50.9%	$21,732	$11,062	50.5%	$26,200	$13,231	3.6%
1.0187	48.7%	$13,811	$6,726	48.0%	$16,900	$8,112	3.8%
1.0216	44.3%	$23,861	$10,570	43.0%	$30,500	$13,115	4.4%
1.0275	42.1%	$20,166	$8,490	42.5%	$26,300	$11,178	5.7%
1.0231	49.2%	$5,868	$2,887	48.5%	$7,500	$3,638	4.7%
1.0324	54.3%	$2,733	$1,484	54.0%	$3,800	$2,052	6.7%
1.0261	50.7%	$3,020	$1,531	51.0%	$3,900	$1,989	5.4%
1.0115	61.1%	$859	$525	62.0%	$950	$589	2.3%
1.0393	44.5%	$32,474	$14,451	48.0%	$44,600	$21,408	8.2%
1.0385	49.2%	$4,653	$2,289	49.5%	$6,800	$3,366	8.0%
1.0226	51.0%	$8,292	$4,229	52.0%	$10,200	$5,304	4.6%
1.0350	49.3%	$22,863	$11,271	55.0%	$29,100	$16,005	7.3%
1.0275	54.7%	$6,729	$3,681	54.0%	$8,975	$4,847	5.7%
1.0211	47.0%	$3,390	$1,593	48.0%	$4,100	$1,968	4.3%
1.0415	47.1%	$7,854	$3,699	49.5%	$11,325	$5,606	8.7%
1.0336	45.7%	$35,438	$16,195	45.5%	$49,800	$22,659	6.9%
1.0289	40.8%	$5,318	$2,170	47.5%	$6,100	$2,898	6.0%
1.0243	31.5%	$2,603	$820	38.0%	$2,750	$1,045	5.0%
1.0218	46.4%	$5,181	$2,404	46.0%	$6,500	$2,990	4.5%
1.0147	49.0%	$7,765	$3,805	46.5%	$9,475	$4,406	3.0%
1.0264	46.3%	$17,452	$8,080	48.5%	$21,700	$10,525	5.4%

EXPECTED EARNINGS APPROACH

HILL PROXY GROUP

	Company	(a) Expected Return on Common Equity	(b) Adjustment Factor	(c) Adjusted Return on Common Equity
1	ALLETE	9.5%	1.029985	9.8%
2	American Elec Pwr	10.5%	1.028248	10.8%
3	Avista Corp.	9.0%	1.02055	9.2%
4	Black Hills Corp.	7.5%	1.023241	7.7%
5	Cleco Corp.	9.5%	1.02692	9.8%
6	Entergy Corp.	11.5%	1.027496	11.8%
7	Hawaiian Elec.	10.5%	1.032398	10.8%
8	PG&E Corp.	11.5%	1.035048	11.9%
9	Pinnacle West Capital	9.0%	1.027505	9.2%
10	Portland General Elec.	9.0%	1.021118	9.2%
11	SCANA Corp.	9.5%	1.041545	9.9%
12	TECO Energy	13.0%	1.02892	13.4%
13	Unisource Energy	12.5%	1.024256	12.8%
14	Westar Energy	10.0%	1.021815	10.2%
	Average			**10.5%**

(a) The Value Line Investment Survey (Aug. 5, Aug. 26, & Sep. 23, 2011).

(b) Adjustment to convert year-end return to an average rate of return.

(c) (a) x (b).

Adjustment	---------------- 2010	-------------		---------------- 2015	-------------		Chg
Factor	Eq Ratio	Tot Cap	Com Eq	Eq Ratio	Tot Cap	Com Eq	Equity
1.0300	55.8%	$1,748	$975	58.5%	$2,250	$1,316	6.2%
1.0282	46.7%	$29,184	$13,629	50.5%	$35,800	$18,079	5.8%
1.0206	48.4%	$2,325	$1,125	48.5%	$2,850	$1,382	4.2%
1.0232	48.1%	$2,286	$1,100	50.0%	$2,775	$1,388	4.8%
1.0269	48.5%	$2,718	$1,318	58.0%	$2,975	$1,726	5.5%
1.0275	42.1%	$20,166	$8,490	42.5%	$26,300	$11,178	5.7%
1.0324	54.3%	$2,733	$1,484	54.0%	$3,800	$2,052	6.7%
1.0350	49.3%	$22,863	$11,271	55.0%	$29,100	$16,005	7.3%
1.0275	54.7%	$6,729	$3,681	54.0%	$8,975	$4,847	5.7%
1.0211	47.0%	$3,390	$1,593	48.0%	$4,100	$1,968	4.3%
1.0415	47.1%	$7,854	$3,699	49.5%	$11,325	$5,606	8.7%
1.0289	40.8%	$5,318	$2,170	47.5%	$6,100	$2,898	6.0%
1.0243	31.5%	$2,603	$820	38.0%	$2,750	$1,045	5.0%
1.0218	46.4%	$5,181	$2,404	46.0%	$6,500	$2,990	4.5%

ALLOWED ROE

WOOLRIDGE PROXY GROUP

	Company	Allowed Return on Common Equity
1	ALLETE, Inc.	10.38%
2	Alliant Energy Corporation	10.38%
3	Ameren Corporation	9.95%
4	American Electric Power Co.	10.68%
5	Avista Corporation	10.33%
6	Cleco Corporation	10.70%
7	CMS Energy Corporation	10.60%
8	Consolidated Edison, Inc.	9.93%
9	DTE Energy Company	11.00%
10	Edison International	10.68%
11	Entergy Corporation	10.66%
12	Great Plains Energy Inc.	10.25%
13	Hawaiian Electric Industries	10.47%
14	IDACORP, Inc.	10.18%
15	MGE Energy, Inc.	10.30%
16	Nextra Energy	10.50%
17	OGE Energy Corp.	9.98%
18	Pepco Holdings, Inc.	10.23%
19	PG&E Corporation	11.35%
20	Pinnacle West Capital Corp.	11.00%
21	Portland General Electric	10.00%
22	SCANA Corporation	10.67%
23	Southern Company	11.90%
24	TECO Energy, Inc.	11.00%
25	UniSource Energy Corp.	9.88%
26	Westar Energy, Inc.	10.20%
27	Wisconsin Energy Corp.	10.38%
28	Xcel Energy Inc.	10.75%
	Average	**10.51%**

Source: *AUS Monthly Report* (Sep. 2011).

ALLOWED ROE

HILL PROXY GROUP

	Company	Allowed Return on Common Equity
1	ALLETE	10.38%
2	American Electric Power	10.68%
3	Avista Corporation	10.33%
4	Black Hills Corporation	10.72%
5	Cleco Corporation	10.70%
6	Entergy Corp.	10.66%
7	Hawaiian Electric	10.47%
8	PGE Corporation	11.35%
9	Pinnacle West Capital	11.00%
10	Portland General	10.00%
11	SCANA Corp.	10.67%
12	TECO Energy	11.00%
13	UniSource Energy	9.88%
14	Westar	10.20%
	Average	**10.57%**

Source: *AUS Monthly Report* (Sep. 2011).

WOOLRIDGE DCF MODEL

HISTORICAL GROWTH RATES

		(a)	(b)	(b)	(b)	(b)	(c)	(c)	(c)	(c)
			Historical Growth Rates				Cost of Equity Estimates			
			Past 10 Years		Past 5 Years		Past 10 Years		Past 5 Years	
	Company	Dividend Yield	EPS	BVPS	EPS	BVPS	EPS	BVPS	EPS	BVPS
1	ALLETE, Inc.	4.7%	--	--	3.5%	6.0%	--	--	8.3%	10.9%
2	Alliant Energy Corporation	4.4%	3.0%	1.0%	9.0%	3.5%	7.5%	5.4%	13.6%	8.0%
3	Ameren Corporation	5.4%	-0.5%	3.5%	-1.5%	2.5%	4.9%	9.0%	3.9%	8.0%
4	American Electric Power Co.	5.0%	2.5%	1.0%	2.0%	5.0%	7.6%	6.0%	7.1%	10.1%
5	Avista Corporation	4.6%	4.0%	4.0%	11.5%	4.0%	8.7%	8.7%	16.4%	8.7%
6	Cleco Corporation	3.3%	4.5%	7.5%	7.5%	11.0%	7.8%	10.9%	10.9%	14.5%
7	CMS Energy Corporation	4.4%	-7.5%	-6.0%	17.5%	1.5%	-3.3%	-1.8%	22.2%	5.9%
8	Consolidated Edison, Inc.	4.5%	1.0%	3.5%	3.0%	2.5%	5.5%	8.1%	7.6%	7.0%
9	DTE Energy Company	4.8%	--	3.5%	2.5%	3.5%	--	8.4%	7.4%	8.4%
10	Edison International	3.5%	--	9.5%	10.0%	10.5%	--	13.1%	13.6%	14.2%
11	Entergy Corporation	5.2%	10.0%	4.0%	10.0%	4.0%	15.5%	9.3%	15.5%	9.3%
12	Great Plains Energy Inc.	4.4%	-3.5%	4.0%	-11.5%	7.0%	0.8%	8.5%	-7.4%	11.5%
13	Hawaiian Electric Industries	5.3%	-2.5%	2.0%	-6.0%	1.0%	2.8%	7.4%	-0.8%	6.3%
14	IDACORP, Inc.	3.2%	-0.5%	3.5%	11.0%	4.5%	2.7%	6.8%	14.4%	7.8%
15	MGE Energy, Inc.	3.7%	4.5%	6.5%	7.0%	6.5%	8.3%	10.3%	10.8%	10.3%
16	Nextra Energy	4.0%	8.0%	7.5%	12.0%	9.0%	12.2%	11.7%	16.3%	13.2%
17	OGE Energy Corp.	3.2%	3.5%	5.0%	9.0%	8.5%	6.7%	8.2%	12.3%	11.8%
18	Pepco Holdings, Inc.	5.7%	-0.5%	0.5%	-0.5%	1.0%	5.2%	6.3%	5.2%	6.8%
19	PG&E Corporation	4.3%	--	5.5%	7.0%	10.5%	--	9.9%	11.5%	15.0%
20	Pinnacle West Capital Corp.	4.9%	-2.5%	2.5%	0.5%	0.5%	2.4%	7.5%	5.4%	5.4%
21	Portland General Electric	4.5%	--	--	7.5%	2.0%	--	--	12.1%	6.5%
22	SCANA Corporation	4.9%	4.5%	4.0%	2.0%	4.5%	9.6%	9.0%	7.0%	9.6%
23	Southern Company	4.7%	2.0%	2.5%	2.5%	5.5%	6.8%	7.3%	7.3%	10.3%
24	TECO Energy, Inc.	4.8%	-5.5%	-1.5%	12.0%	5.0%	-0.8%	3.3%	17.1%	9.9%
25	UniSource Energy Corp.	4.6%	7.0%	8.0%	8.5%	4.5%	11.8%	12.8%	13.3%	9.2%
26	Westar Energy, Inc.	5.0%	--	-3.0%	1.0%	6.0%	--	1.9%	6.0%	11.1%
27	Wisconsin Energy Corp.	3.5%	8.0%	6.0%	8.5%	7.5%	11.6%	9.6%	12.1%	11.1%
28	Xcel Energy Inc.	4.4%	-1.0%	--	4.0%	4.0%	3.3%	--	8.5%	8.5%
	Average (d)						**10.0%**	**9.4%**	**11.3%**	**10.4%**

Range 9.4% - 11.3%

Midpoint 10.4%

Average - All Growth Rates 10.3%

(a) Average of six-month and September 2011 dividend yields from Exhibit JRW-10, p. 2.
(b) Exhibit JRW-10, p. 3.
(c) Sum of dividend yield (adjusted for one-half year's growth) and respective growth rate.
(d) Excludes highlighted figures.

PROJECTED EPS GROWTH RATES

		(a)	(b)	(c)	(c)	(c)	(d)	(d)	(d)	(d)
			Projected EPS Growth Rates				Cost of Equity Estimates			
	Company	Dividend Yield	Value Line	First Call	Zacks	Reuters	Value Line	First Call	Zacks	Reuters
1	ALLETE, Inc.	4.7%	4.5%	5.8%	5.0%	6.0%	9.3%	10.6%	9.9%	10.9%
2	Alliant Energy Corporation	4.4%	7.0%	5.9%	6.0%	5.7%	11.6%	10.5%	10.5%	10.2%
3	Ameren Corporation	5.4%	-2.0%	1.0%	4.0%	3.0%	3.3%	6.4%	9.5%	8.5%
4	American Electric Power Co.	5.0%	4.5%	4.0%	4.0%	4.2%	9.6%	9.1%	9.1%	9.3%
5	Avista Corporation	4.6%	4.5%	4.7%	4.7%	4.7%	9.2%	9.4%	9.4%	9.4%
6	Cleco Corporation	3.3%	6.0%	3.0%	7.0%	3.0%	9.4%	6.3%	10.4%	6.3%
7	CMS Energy Corporation	4.4%	7.0%	6.0%	5.5%	5.7%	11.5%	10.5%	10.0%	10.2%
8	Consolidated Edison, Inc.	4.5%	3.0%	3.4%	3.0%	3.9%	7.6%	8.0%	7.5%	8.4%
9	DTE Energy Company	4.8%	3.5%	3.5%	5.0%	3.5%	8.4%	8.4%	10.0%	8.5%
10	Edison International	3.5%	-1.0%	2.9%	5.0%	3.5%	2.5%	6.4%	8.6%	7.1%
11	Entergy Corporation	5.2%	1.5%	-1.1%	-0.2%	3.3%	6.7%	4.1%	5.0%	8.6%
12	Great Plains Energy Inc.	4.4%	6.0%	6.0%	9.0%	5.9%	10.5%	10.5%	13.6%	10.4%
13	Hawaiian Electric Industries	5.3%	11.0%	8.6%	8.6%	7.0%	16.6%	14.1%	14.1%	12.5%
14	IDACORP, Inc.	3.2%	4.0%	4.7%	4.7%	4.7%	7.3%	8.0%	8.0%	8.0%
15	MGE Energy, Inc.	3.7%	4.0%	4.0%	4.0%	4.0%	7.8%	7.8%	7.8%	7.8%
16	Nextra Energy	4.0%	3.5%	5.8%	6.7%	5.8%	7.6%	10.0%	10.8%	9.9%
17	OGE Energy Corp.	3.2%	6.5%	7.2%	6.0%	6.6%	9.8%	10.5%	9.3%	9.9%
18	Pepco Holdings, Inc.	5.7%	2.5%	5.0%	4.3%	3.3%	8.3%	10.9%	10.2%	9.1%
19	PG&E Corporation	4.3%	6.0%	3.8%	5.0%	5.2%	10.4%	8.2%	9.4%	9.6%
20	Pinnacle West Capital Corp.	4.9%	6.0%	6.8%	5.3%	6.5%	11.1%	11.9%	10.4%	11.6%
21	Portland General Electric	4.5%	7.5%	4.7%	5.0%	5.5%	12.1%	9.2%	9.6%	10.1%
22	SCANA Corporation	4.9%	3.0%	4.8%	4.3%	4.5%	8.0%	9.9%	9.4%	9.6%
23	Southern Company	4.7%	6.0%	6.0%	5.0%	5.9%	10.9%	10.9%	9.8%	10.8%
24	TECO Energy, Inc.	4.8%	10.5%	6.3%	4.7%	6.1%	15.5%	11.2%	9.6%	11.0%
25	UniSource Energy Corp.	4.6%	9.5%	3.0%	3.0%	7.5%	14.4%	7.7%	7.7%	12.3%
26	Westar Energy, Inc.	5.0%	8.5%	6.4%	6.1%	6.2%	13.7%	11.5%	11.2%	11.3%
27	Wisconsin Energy Corp.	3.5%	8.5%	7.1%	8.0%	8.2%	12.1%	10.7%	11.6%	11.8%
28	Xcel Energy Inc.	4.4%	5.0%	5.6%	4.9%	5.6%	9.5%	10.1%	9.4%	10.1%
	Average (e)						**10.5%**	**10.0%**	**9.9%**	**9.9%**

Range	**9.9% - 10.5%**
Midpoint	**10.2%**
Average - All Growth Rates	**10.1%**

(a) Average of six-month and September 2011 dividend yields from Exhibit JRW-10, p. 2.
(b) Exhibit JRW-10, p. 4.
(c) Exhibit JRW-10, p. 5.
(d) Sum of dividend yield (adjusted for one-half year's growth) and respective growth rate.
(e) Excludes highlighted figures.

HILL DCF MODEL

PROJECTED EPS GROWTH RATES

	(a)	(b)	(b)		
		Projected EPS Growth Rate			Implied
Company	Dividend Yield	IBES	Value Line	Average	Cost of Equity
SCG	4.95%	4.78%	3.00%	3.89%	8.84%
TE	4.59%	6.96%	10.50%	8.73%	13.32%
ALE	4.42%	5.75%	4.50%	5.13%	9.54%
AEP	4.89%	3.65%	4.50%	4.08%	8.96%
CNL	3.23%	3.00%	6.00%	4.50%	7.73%
ETR	5.10%	0.58%	1.50%	1.04%	6.14%
WR	4.81%	6.57%	8.50%	7.54%	12.35%
AVA	4.36%	4.67%	8.50%	6.59%	10.94%
BKH	4.85%	5.00%	10.50%	7.75%	12.60%
HE	5.17%	8.05%	11.00%	9.53%	14.70%
PCG	4.59%	4.91%	7.00%	5.96%	10.55%
PNW	4.77%	6.38%	6.00%	6.19%	10.96%
POR	4.17%	4.65%	7.50%	6.08%	10.25%
UNS	4.51%	0.30%	9.50%	4.90%	9.41%
Range					**7.73% -- 14.70%**
Midpoint					**11.21%**
Average					**10.78%**

(a) Exhibit_(SGH-1), Schedule 7.
(b) Exhibit_(SGH-1), Schedule 6, p. 2.

CAPM - CURRENT BOND YIELD

WOOLRIDGE PROXY GROUP

Market Rate of Return			
Dividend Yield (a)	2.3%		
Growth Rate (b)	10.9%		
Market Return (c)		13.2%	
Less: Risk-Free Rate (d)			
Long-term Treasury Bond Yield		3.2%	
Market Risk Premium (e)		10.0%	
Woolridge Proxy Group Beta (f)		0.71	
Risk Premium (g)		7.1%	
Plus: Risk-free Rate (d)			
Long-term Treasury Bond Yield		3.2%	
Unadjusted CAPM (h)		10.3%	
Size Adjustment (i)		0.81%	$7,777
Implied Cost of Equity (j)		**11.1%**	

(a) Weighted average dividend yield for the dividend paying firms in the S&P 500 from www.valueline.com (retrieved Jun. 26, 2011).
(b) Weighted average of IBES earnings growth rates for the dividend paying firms in the S&P 500 (retrieved Jul. 3, 2011).
(c) (a) + (b)
(d) Average yield on 30-year Treasury bonds for September 2011 from the Federal Reserve Board at http://www.federalreserve.gov/releases/h15/data/Monthly/H15_TCMNOM_Y20.txt.
(e) (c) - (d).
(f) Exhibit JRW-11, p. 3.
(g) (e) x (f).
(h) (d) + (g).
(i) *Morningstar*, "Ibbotson SBBI 2010 Valuation Yearbook," at Table C-1 (2010).
(j) (h) + (i).

CAPM - CURRENT BOND YIELD **Exhibit WEA-7**

Page 2 of 2

HILL PROXY GROUP

Market Rate of Return			
Dividend Yield (a)	2.3%		
Growth Rate (b)	10.9%		
Market Return (c)		13.2%	
Less: Risk-Free Rate (d)			
Long-term Treasury Bond Yield		3.2%	
Market Risk Premium (e)		10.0%	
Hill Proxy Group Beta (f)		0.71	
Risk Premium (g)		7.1%	
Plus: Risk-free Rate (d)			
Long-term Treasury Bond Yield		3.2%	
Unadjusted CAPM (h)		10.3%	
Size Adjustment (i)		1.01%	$5,349
Implied Cost of Equity (j)		**11.3%**	

(a) Weighted average dividend yield for the dividend paying firms in the S&P 500 from www.valueline.com (retrieved Jun. 26, 2011).
(b) Weighted average of IBES earnings growth rates for the dividend paying firms in the S&P 500 (retrieved Jul. 3, 2011).
(c) (a) + (b)
(d) Average yield on 30-year Treasury bonds for September 2011 from the Federal Reserve Board at http://www.federalreserve.gov/releases/h15/data/Monthly/H15_TCMNOM_Y20.txt.
(e) (c) - (d).
(f) Exhibit_(SGH-1), Schedule 9.
(g) (e) x (f).
(h) (d) + (g).
(i) *Morningstar*, "Ibbotson SBBI 2010 Valuation Yearbook," at Table C-1 (2010).
(j) (h) + (i).

WOOLRIDGE PROXY GROUP

Market Rate of Return			
Dividend Yield (a)	2.3%		
Growth Rate (b)	10.9%		
Market Return (c)		13.2%	
Less: Risk-Free Rate (d)			
Projected Long-term Treasury Bond Yield		5.3%	
Market Risk Premium (e)		7.9%	
Woolridge Proxy Group Beta (f)		0.71	
Risk Premium (g)		5.6%	
Plus: Risk-free Rate (d)			
Projected Long-term Treasury Bond Yield		5.3%	
Unadjusted CAPM (h)		10.9%	
Size Adjustment (i)		0.81%	$7,777
Implied Cost of Equity (j)		**11.7%**	

(a) Weighted average dividend yield for the dividend paying firms in the S&P 500 from www.valueline.com (retrieved Jun. 26, 2011).
(b) Weighted average of IBES earnings growth rates for the dividend paying firms in the S&P 500 (retrieved Jul. 3, 2011).
(c) (a) + (b)
(d) Average projected 30-year Treasury bond yield for 2012-2015 based on data from the Value Line Investment Survey, *Forecast for the U.S. Economy* (Aug. 26, 2011), IHS Global Insight, *U.S. Economic Outlook* at 19 (Feb. 2011), Blue Chip Financial Forecasts, Vol. 30, No. 6 (Jun. 1, 2010).
(e) (c) - (d).
(f) Exhibit JRW-11, p. 3.
(g) (e) x (f).
(h) (d) + (g).
(i) *Morningstar*, "Ibbotson SBBI 2011 Valuation Yearbook," at Table C-1 (2011).
(j) (h) + (i).

<u>HILL PROXY GROUP</u>

Market Rate of Return			
Dividend Yield (a)	2.3%		
Growth Rate (b)	10.9%		
Market Return (c)		13.2%	
Less: Risk-Free Rate (d)			
Projected Long-term Treasury Bond Yield		5.3%	
Market Risk Premium (e)		7.9%	
Hill Proxy Group Beta (f)		0.71	
Risk Premium (g)		5.6%	
Plus: Risk-free Rate (d)			
Projected Long-term Treasury Bond Yield		5.3%	
Unadjusted CAPM (h)		10.9%	
Size Adjustment (i)		1.01%	$5,349
Implied Cost of Equity (j)		**11.9%**	

(a) Weighted average dividend yield for the dividend paying firms in the S&P 500 from www.valueline.com (retrieved Jun. 26, 2011).
(b) Weighted average of IBES earnings growth rates for the dividend paying firms in the S&P 500 (retrieved Jul. 3, 2011).
(c) (a) + (b)
(d) Average projected 30-year Treasury bond yield for 2012-2015 based on data from the Value Line Investment Survey, *Forecast for the U.S. Economy* (Aug. 26, 2011), IHS Global Insight, *U.S. Economic Outlook* at 19 (Feb. 2011), Blue Chip Financial Forecasts, Vol. 30, No. 6 (Jun. 1, 2010), as shown on Table WEA-1.
(e) (c) - (d).
(f) Exhibit_(SGH-1), Schedule 9.
(g) (e) x (f).
(h) (d) + (g).
(i) *Morningstar*, "Ibbotson SBBI 2010 Valuation Yearbook," at Table C-1 (2010).
(j) (h) + (i).

COST RECOVERY MECHANISMS

HILL PROXY GROUP

	Company	Mechanism
1	ALLETE	FCA; DSMA; ECA; TCR
2	American Elect Pwr	FCA; ECA; DSMA; TCR
3	Avista Corp.	FCA; PGA; Cost tracker for income taxes
4	Black Hills Corp.	FCA; PGA; TCR
5	Cleco Corp.	FCA
6	Entergy Corp.	FCA; PGA; DSMA
7	Hawaiian Elec.	FCA; RDM; ICR; Pension cost tracker
8	PG&E Corp.	FCA; RDM; ICR; ECA; TCR; Variety of balancing accounts cover a substantial portion of authorized revenue requirements
9	Pinnacle West Capital	FCA; DSMA; ACC has issued policy statement in support of RDM
10	Portland General Elec.	FCA; RDM; ICR
11	SCANA Corp.	FCA; PGA; RDM; DSMA; WNC
12	TECO Energy	FCA; PGA; ECA; DSMA
13	Unisource Energy	FCA; PGA; DSMA; ACC has issued policy statement in support of RDM
14	Westar Energy	FCA; ECA; Employee benefit cost tracker

BDR -- Bad Debt Cost Recovery Rider
DSMA -- Demand Side Management / Conservation Adjustment Clause
ECA -- Environmental and/or Emissions Cost Adjustment Clause
FCA -- Fuel and/or Power Cost Adjustment Clause
ICR -- Infrastructure / Renewables Cost Recovery
PGA -- Gas Cost Adjustment Clause
RDM -- Revenue Decoupling Mechanism
TCR -- Transmission Cost Recovery Tracker
WNC -- Weather Normalization Clause or other mitigants

Source : 2010 Form 10-K Reports

CAPITAL STRUCTURE

WOOLRIDGE AND HILL OPERATING SUBSIDIARIES

Holding Company	Operating Company	Long-term Debt	Preferred Stock	Common Equity	Current Maturities
AMERICAN ELEC PWR	AEP Texas Central Co.	54.9%	0.4%	44.7%	-
AMERICAN ELEC PWR	AEP Texas North Co.	54.3%	0.3%	45.4%	0.0
SOUTHERN CO.	Alabama Power Co	50.4%	5.6%	44.0%	200.0
AMEREN CORP.	Ameren Illinois Co.	41.2%	0.0%	58.8%	150.0
AMERICAN ELEC PWR	Appalachian Power Co.	55.6%	0.3%	44.1%	479.7
PINNACLE WEST CAPITAL	Arizona Public Service Co	47.9%	0.0%	52.1%	656.9
PEPCO HOLDINGS	Atlantic City Electric Co.	48.5%	0.4%	51.1%	35.0
AVISTA CORP.	Avista Corp	47.4%	2.2%	50.4%	0.4
BLACK HILLS CORP.	Black Hills Power	46.4%	0.0%	53.6%	
CENTERPOINT ENERGY	CenterPoint Energy Houston Electric, LLC	73.5%	0.0%	26.5%	241.0
BLACK HILLS CORP.	Cheyenne Light Fuel & Power	41.9%	0.0%	58.1%	-
CLECO CORP.	Cleco Power	53.1%	0.0%	46.9%	12.3
AMERICAN ELEC PWR	Columbus Southern Power Co.	49.2%	0.0%	50.8%	-
CONSOLIDATED EDISON	Consolidated Edison of NY	49.0%	1.1%	49.9%	-
CMS ENERGY	Consumers Energy Co.	52.1%	0.5%	47.4%	61.0
PEPCO HOLDINGS	Delmarva Power & Light Co	47.6%	0.0%	52.4%	35.0
DTE ENERGY CO.	Detroit Edison Co	52.1%	0.0%	47.9%	308.0
ENTERGY CORP.	Entergy Arkansas Inc.	53.4%	3.6%	43.1%	35.0
ENTERGY CORP.	Entergy Gulf States Louisiana LLC	51.2%	0.3%	48.5%	-
ENTERGY CORP.	Entergy Louisiana LLC	45.8%	2.5%	51.6%	35.6
ENTERGY CORP.	Entergy Mississippi Inc	51.5%	3.1%	45.3%	80.0
ENTERGY CORP.	Entergy New Orleans Inc.	44.2%	5.2%	50.6%	-
ENTERGY CORP.	Entergy Texas Inc	50.8%	0.0%	49.2%	-
NEXTERA ENERGY	Florida Power & Light	40.7%	0.0%	59.3%	45.0
SOUTHERN CO.	Georgia Power Co	48.1%	1.5%	50.4%	415.0
SOUTHERN CO.	Gulf Power Co	51.1%	4.1%	44.8%	110.0
HAWAIIAN ELECT. IND.	Hawaiian Electric Co	43.5%	1.4%	55.0%	-
IDACORP	Idaho Power Co.	53.4%	0.0%	46.6%	121.1
AMERICAN ELEC PWR	Indiana Michigan Power Co.	54.1%	0.2%	45.7%	154.5
ALLIANT ENERGY CORP.	Interstate Power & Light	45.4%	6.4%	48.2%	-
GREAT PLAINS ENERGY	Kansas City Power & Light	47.0%	0.0%	53.0%	150.3
WESTAR ENERGY	Kansas Gas & Electric	43.0%	0.0%	57.0%	-
AMERICAN ELEC PWR	Kentucky Power Co	55.8%	0.0%	44.2%	-
MGE ENERGY	Madison Gas & Electric Co.	38.2%	0.0%	61.8%	1,667.0
SOUTHERN CO.	Mississippi Power Co.	48.3%	2.2%	49.5%	256.4
XCEL ENERGY, INC.	Northern States Power Co. (MN)	48.8%	0.0%	51.2%	
XCEL ENERGY, INC.	Northern States Power Co. (WI)	42.2%	0.0%	57.8%	-
AMERICAN ELEC PWR	Ohio Power Co	46.1%	0.3%	53.6%	165.0
OGE ENERGY	Oklahoma Gas & Electric Co	39.2%	0.0%	60.8%	-
CONSOLIDATED EDISON	Orange & Rockland	52.3%	0.0%	47.7%	-
PG&E CORP.	Pacific Gas & Electric Co	49.2%	1.1%	49.7%	809.0
PORTLAND GENERAL ELEC.	Portland General Elec	53.1%	0.0%	46.9%	10.0
PEPCO HOLDINGS	Potomac Electric Power Co.	51.9%	0.0%	48.1%	-
XCEL ENERGY, INC.	Public Service Co. of Colorado	42.4%	0.0%	57.6%	
AMERICAN ELEC PWR	Public Service Co. of Oklahoma	53.4%	0.3%	46.3%	25.0
SCANA CORP	South Carolina Electric & Gas	46.3%	0.0%	53.7%	22.0
EDISON INTERNATIONAL	Southern California Edison Co.	45.3%	5.5%	49.2%	-
AMERICAN ELEC PWR	Southwestern Electric Pwr Co.	51.4%	0.1%	48.4%	41.1
XCEL ENERGY, INC.	Southwestern Public Service Co.	48.3%	0.0%	51.7%	-
ALLETE	Superior Water, Light & Power Co.	40.8%	0.0%	59.2%	-
TECO ENERGY	Tampa Electric Co	49.0%	0.0%	51.0%	3.4
UNISOURCE ENERGY	Tucson Electric Power Co.	58.9%	0.0%	41.1%	-
AMEREN CORP.	Union Electric Co.	48.8%	0.0%	51.2%	5.0
WESTAR ENERGY	Westar Energy	38.1%	0.6%	61.4%	-
WISCONSIN ENERGY	Wisconsin Electric Power Co	39.2%	0.6%	60.2%	21.8
ALLIANT ENERGY CORP.	Wisconsin Power & Light	43.1%	2.4%	54.5%	-
	Average	**48.5%**	**0.9%**	**50.5%**	

Source: 2010 Form 10-K Reports and FERC Form 1 Reports.

Year-end 2010					
Long-term Debt	Preferred Stock	Noncontrolling Interest	Common Equity	Total Long-term	Source
763.7	5.7	-	621.0	1,390.4	FERC Form 1
370.1	2.3	-	309.3	681.8	FERC Form 1
5,987.0	685.0		5,393.0	12,265.0	
1,657.0	-	-	2,576.0	4,383.0	
3,081.5	17.7	-	2,821.7	6,400.6	
2,949.0	-	91.1	3,825.0	7,521.9	
633.0	6.0	-	703.0	1,377.0	
1,101.5	51.5	46.1	1,125.8	2,325.3	
276.5			319.4	595.9	FERC Form 1
4,897.0	-	-	1,848.0	6,986.0	
127.0	-	-	175.8	302.8	FERC Form 1
1,384.7	-	-	1,233.9	2,630.9	
1,438.8	-	-	1,486.2	2,925.0	
9,743.0	213.0		9,923.0	19,879.0	
4,488.0	44.0	-	4,136.0	8,729.0	
730.0	-	-	841.0	1,606.0	
4,046.0	-	-	4,009.0	8,363.0	
1,704.8	116.4	-	1,403.9	3,260.1	
1,584.3	10.0	-	1,499.2	3,093.5	
1,771.6	100.0	-	2,036.9	3,944.0	
745.4	50.4	-	726.2	1,602.0	
167.2	19.8	-	191.6	378.6	
852.2	-	-	824.3	1,676.5	
6,682.0	-		9,791.0	16,518.0	
7,931.0	266.0		8,741.0	17,353.0	
1,114.4	98.0		1,075.0	2,397.4	
1,057.9	34.3	-	1,337.4	2,429.6	
1,488.3	-	-	1,405.2	3,014.6	
1,849.8	8.1	-	1,694.3	3,706.6	
1,308.6	183.8	-	1,389.8	2,882.2	
1,629.7	-	-	2,005.0	3,785.0	
1,011.8	-	-	1,341.4	2,353.2	FERC Form 1
548.8	-	-	434.9	983.8	FERC Form 1
334,351.0	-	141,993.0	402,316.0	880,327.0	
462.0	32.8		737.4	1,488.6	
3,337.9			3,496.2	6,834.1	FERC Form 1
367.4	-	-	502.7	870.1	FERC Form 1
2,564.6	16.6	-	3,168.4	5,914.6	
1,790.4	-	-	2,778.1	4,568.5	
578.5	-	-	526.9	1,105.4	FERC Form 1
10,557.0	258.0	-	11,463.0	23,087.0	
1,798.00	0.00	7.00	1,592.00	3,407.00	
1,540.0	-	-	1,428.0	2,968.0	
3,045.0			4,138.2	7,183.2	FERC Form 1
946.2	4.9	-	842.5	1,818.5	
3,037.0	-	104.0	3,437.0	6,600.0	
7,627.0	920.0	-	8,287.0	16,834.0	
1,728.4	4.7	0.4	1,667.0	3,441.6	
897.8	-	-	962.1	1,859.9	FERC Form 1
24.1	-	-	34.9	59.0	FERC Form 1
2,066.1	-	-	2,158.2	4,227.7	FERC Form 1
1,003.6	-	-	701.2	1,704.8	
3,949.0	-	-	4,153.0	8,107.0	
1,479.1	21.4	-	2,386.3	3,886.9	FERC Form 1
1,970.9	30.4	-	3,065.1	5,088.2	
1,081.7	60.0	-	1,369.3	2,511.0	

	Company	Ticker	Dividend Yield	EPS Growth Thomson Reuters	Market Cap ($Millions)	Weighted Dividend Yield Weight	Weighted Dividend Yield Product	Mkt. Cap.	Weighted Thomson Reuters Weight	Weighted Thomson Reuters Product
	(a)		(b)	(c)	(b)					
1	3M Company	MMM	2.4%	11.95%	65,075	0.006046	0.0001	65,075	0.006071	0.0007
2	Abbott Labs.	ABT	3.7%	8.85%	79,750	0.007410	0.0003	79,750	0.007440	0.0007
3	Abercrombie & Fitch	ANF	1.1%	16.32%	5,573	0.000518	0.0000	5,573	0.000520	0.0001
4	Aetna Inc.	AET	1.4%	9.29%	16,451	0.001528	0.0000	16,451	0.001535	0.0001
5	Aflac Inc.	AFL	2.8%	13.17%	20,956	0.001947	0.0001	20,956	0.001955	0.0003
6	Air Products & Chem.	APD	2.6%	11.70%	19,162	0.001780	0.0000	19,162	0.001788	0.0002
7	Airgas Inc.	ARG	1.8%	13.98%	5,563	0.000517	0.0000	5,563	0.000519	0.0001
8	AK Steel Holding	AKS	1.4%	5.00%	1,580	0.000147	0.0000	1,580	0.000147	0.0000
9	Alcoa Inc.	AA	0.8%	18.74%	15,729	0.001461	0.0000	15,729	0.001467	0.0003
10	Allegheny Techn.	ATI	1.2%	48.10%	5,781	0.000537	0.0000	5,781	0.000539	0.0003
11	Allergan, Inc.	AGN	0.3%	14.05%	24,356	0.002263	0.0000	24,356	0.002272	0.0003
12	Allstate Corp.	ALL	2.8%	9.00%	15,484	0.001439	0.0000	15,484	0.001445	0.0001
13	Altera Corp.	ALTR	0.6%	14.60%	13,771	0.001279	0.0000	13,771	0.001285	0.0002
14	Altria Group	MO	5.9%	8.00%	56,373	0.005238	0.0003	56,373	0.005259	0.0004
15	Ameren Corp.	AEE	5.5%	-3.67%	6,777	0.000630	0.0000	6,777	0.000632	(0.0000)
16	Amer. Elec. Power	AEP	5.0%	3.65%	18,003	0.001673	0.0001	18,003	0.001680	0.0001
17	Amer. Express	AXP	1.5%	11.25%	58,189	0.005406	0.0001	58,189	0.005429	0.0006
18	Ameriprise Fin'l	AMP	1.6%	12.80%	13,598	0.001263	0.0000	13,598	0.001269	0.0002
19	AmerisourceBergen	ABC	1.1%	12.30%	11,235	0.001044	0.0000	11,235	0.001048	0.0001
20	Amphenol Corp.	APH	0.2%	11.85%	8,760	0.000814	0.0000	8,760	0.000817	0.0001
21	Anadarko Petroleum	APC	0.5%	18.23%	34,792	0.003232	0.0000	34,792	0.003246	0.0006
22	Analog Devices	ADI	2.7%	10.43%	11,006	0.001023	0.0000	11,006	0.001027	0.0001
23	Aon Corp.	AON	1.2%	8.82%	16,365	0.001520	0.0000	16,365	0.001527	0.0001
24	Apache Corp.	APA	0.5%	8.78%	44,855	0.004167	0.0000	44,855	0.004185	0.0004
25	Apartment Investment	AIV	1.9%	8.48%	3,200	0.000297	0.0000	3,200	0.000299	0.0000
26	Applied Materials	AMAT	2.6%	9.98%	16,453	0.001529	0.0000	16,453	0.001535	0.0002
27	Archer Daniels Midl'd	ADM	2.2%	10.00%	18,834	0.001750	0.0000	18,834	0.001757	0.0002
28	AT&T Inc.	T	5.7%	3.87%	180,093	0.016732	0.0010	180,093	0.016802	0.0007
29	Automatic Data Proc.	ADP	2.8%	10.90%	25,812	0.002398	0.0001	25,812	0.002408	0.0003
30	AvalonBay Communities	AVB	2.8%	12.27%	11,700	0.001087	0.0000	11,700	0.001092	0.0001
31	Avery Dennison	AVY	2.8%	7.00%	3,883	0.000361	0.0000	3,883	0.000362	0.0000
32	Avon Products	AVP	3.5%	12.73%	11,710	0.001088	0.0000	11,710	0.001092	0.0001
33	Baker Hughes	BHI	0.9%	27.54%	30,355	0.002820	0.0000	30,355	0.002832	0.0008
34	Ball Corp.	BLL	0.8%	9.87%	6,325	0.000588	0.0000	6,325	0.000590	0.0001
35	Bank of America	BAC	0.4%	8.25%	107,397	0.009978	0.0000	107,397	0.010020	0.0008
36	Bard (C.R.)	BCR	0.7%	10.82%	9,308	0.000865	0.0000	9,308	0.000868	0.0001
37	Baxter Int'l Inc.	BAX	2.2%	9.76%	33,146	0.003080	0.0001	33,146	0.003092	0.0003
38	BB&T Corp.	BBT	2.4%	12.17%	18,277	0.001698	0.0000	18,277	0.001705	0.0002
39	Becton, Dickinson	BDX	1.9%	10.05%	18,568	0.001725	0.0000	18,568	0.001732	0.0002
40	Bemis Co.	BMS	3.1%	8.74%	3,339	0.000310	0.0000	3,339	0.000312	0.0000
41	Best Buy Co.	BBY	2.0%	9.69%	11,826	0.001099	0.0000	11,826	0.001103	0.0001
42	BlackRock, Inc.	BLK	2.9%	12.67%	36,167	0.003360	0.0001	36,167	0.003374	0.0004
43	Block (H&R)	HRB	3.9%	10.00%	4,695	0.000436	0.0000	4,695	0.000438	0.0000
44	Boeing	BA	2.3%	11.65%	54,616	0.005074	0.0001	54,616	0.005095	0.0006
45	Boston Properties	BXP	2.0%	8.32%	16,000	0.001487	0.0000	16,000	0.001493	0.0001
46	Bristol-Myers Squibb	BMY	4.8%	-1.60%	46,863	0.004354	0.0002	46,863	0.004372	(0.0001)
47	Broadcom Corp. 'A'	BRCM	1.1%	15.26%	17,032	0.001582	0.0000	17,032	0.001589	0.0002
48	Brown-Forman 'B'	BF/B	1.8%	13.00%	10,433	0.000969	0.0000	10,433	0.000973	0.0001
49	CA, Inc.	CA	0.9%	11.00%	10,762	0.001000	0.0000	10,762	0.001004	0.0001
50	Cablevision Sys. 'A'	CVC	1.7%	15.00%	10,398	0.000966	0.0000	10,398	0.000970	0.0001
51	Cabot Oil & Gas 'A'	COG	0.2%	23.50%	6,300	0.000585	0.0000	6,300	0.000588	0.0001
52	Campbell Soup	CPB	3.4%	5.03%	11,005	0.001022	0.0000	11,005	0.001027	0.0001
53	Capital One Fin'l	COF	0.4%	8.00%	22,251	0.002067	0.0000	22,251	0.002076	0.0002
54	Cardinal Health	CAH	2.0%	11.14%	15,224	0.001414	0.0000	15,224	0.001420	0.0002
55	Caterpillar Inc.	CAT	1.9%	21.50%	61,519	0.005716	0.0001	61,519	0.005740	0.0012
56	CBS Corp. 'B'	CBS	1.6%	25.00%	17,093	0.001588	0.0000	17,093	0.001595	0.0004
57	CenterPoint Energy	CNP	4.3%	5.39%	7,925	0.000736	0.0000	7,925	0.000739	0.0000
58	CenturyLink Inc.	CTL	7.3%	8.03%	12,084	0.001123	0.0001	12,084	0.001127	0.0001
59	CF Industries	CF	0.3%	10.93%	10,169	0.000945	0.0000	10,169	0.000949	0.0001
60	C.H. Robinson	CHRW	1.5%	15.18%	12,635	0.001174	0.0000	12,635	0.001179	0.0002
61	Chesapeake Energy	CHK	1.2%	11.00%	17,877	0.001661	0.0000	17,877	0.001668	0.0002
62	Chevron Corp.	CVX	3.1%	1.65%	199,881	0.018571	0.0006	199,881	0.018648	0.0003
63	CME Group	CME	2.0%	12.82%	18,389	0.001709	0.0000	18,389	0.001716	0.0002
64	Chubb Corp.	CB	2.5%	9.26%	18,331	0.001703	0.0000	18,331	0.001710	0.0002
65	CIGNA Corp.	CI	0.1%	9.03%	13,278	0.001234	0.0000	13,278	0.001239	0.0001
66	Cincinnati Financial	CINF	5.5%	7.50%	4,707	0.000437	0.0000	4,707	0.000439	0.0000
67	Cintas Corp.	CTAS	1.6%	10.60%	4,653	0.000432	0.0000	4,653	0.000434	0.0000
68	Cisco Systems	CSCO	1.6%	9.96%	83,272	0.007737	0.0001	83,272	0.007769	0.0008
69	Citigroup Inc.	C	0.1%	16.87%	1,099,038	0.102110	0.0001	1,099,038	0.102536	0.0173
70	Cliffs Natural Res.	CLF	0.7%	27.06%	11,116	0.001033	0.0000	11,116	0.001037	0.0003
71	Clorox Co.	CLX	3.6%	9.33%	8,908	0.000828	0.0000	8,908	0.000831	0.0001
72	CMS Energy Corp.	CMS	4.5%	6.01%	4,873	0.000453	0.0000	4,873	0.000455	0.0000
73	Coach Inc.	COH	1.5%	15.39%	17,194	0.001597	0.0000	17,194	0.001604	0.0002
74	Coca-Cola	KO	2.9%	9.23%	149,776	0.013915	0.0004	149,776	0.013973	0.0013

	Company	Ticker	Dividend Yield	EPS Growth Thomson Reuters	Market Cap ($Millions)	Weighted Dividend Yield: Weight	Weighted Dividend Yield: Product	Mkt. Cap.	Weighted Thomson Reuters: Weight	Weighted Thomson Reuters: Product
	(a)		(b)	(c)	(b)					
75	Coca-Cola Enterprises	CCE	1.8%	9.80%	9,172	0.000852	0.0000	9,172	0.000856	0.0001
76	Colgate-Palmolive	CL	2.7%	8.96%	42,324	0.003932	0.0001	42,324	0.003949	0.0004
77	Comerica Inc.	CMA	1.2%	9.19%	6,002	0.000558	0.0000	6,002	0.000560	0.0001
78	Computer Sciences	CSC	2.1%	9.05%	5,946	0.000552	0.0000	5,946	0.000555	0.0001
79	ConAgra Foods	CAG	3.7%	6.70%	10,229	0.000950	0.0000	10,229	0.000954	0.0001
80	ConocoPhillips	COP	3.8%	5.10%	101,235	0.009406	0.0004	101,235	0.009445	0.0005
81	CONSOL Energy	CNX	0.9%	18.25%	10,401	0.000966	0.0000	10,401	0.000970	0.0002
82	Consol. Edison	ED	4.6%	3.63%	15,376	0.001429	0.0001	15,376	0.001435	0.0001
83	Constellation Energy	CEG	2.6%	3.65%	7,330	0.000681	0.0000	7,330	0.000684	0.0000
84	Corning Inc.	GLW	1.1%	11.50%	28,128	0.002613	0.0000	28,128	0.002624	0.0003
85	Costco Wholesale	COST	1.2%	13.22%	34,470	0.003203	0.0000	34,470	0.003216	0.0004
86	CSX Corp.	CSX	2.0%	15.80%	26,797	0.002490	0.0000	26,797	0.002500	0.0004
87	Cummins Inc.	CMI	1.2%	12.03%	18,056	0.001678	0.0000	18,056	0.001685	0.0002
88	CVS Caremark Corp.	CVS	1.3%	10.94%	50,558	0.004697	0.0001	50,558	0.004717	0.0005
89	Danaher Corp.	DHR	0.2%	16.13%	34,272	0.003184	0.0000	34,272	0.003197	0.0005
90	Darden Restaurants	DRI	2.7%	12.66%	6,393	0.000594	0.0000	6,393	0.000596	0.0001
91	Deere & Co.	DE	2.1%	10.80%	33,270	0.003091	0.0001	33,270	0.003104	0.0003
92	Dentsply Int'l	XRAY	0.6%	11.13%	5,094	0.000473	0.0000	5,094	0.000475	0.0001
93	Devon Energy	DVN	0.9%	12.80%	32,768	0.003044	0.0000	32,768	0.003057	0.0004
94	DeVry Inc.	DV	0.4%	11.76%	3,899	0.000362	0.0000	3,899	0.000364	0.0000
95	Diamond Offshore	DO	5.2%	12.23%	9,306	0.000865	0.0000	9,306	0.000868	0.0001
96	Discover Fin'l Svcs.	DFS	1.0%	6.00%	12,688	0.001179	0.0000	12,688	0.001184	0.0001
97	Dominion Resources	D	4.3%	2.20%	27,212	0.002528	0.0001	27,212	0.002539	0.0001
98	Donnelley (R.R) & Sons	RRD	5.4%	11.00%	3,992	0.000371	0.0000	3,992	0.000372	0.0000
99	Dover Corp.	DOV	1.8%	14.00%	11,616	0.001079	0.0000	11,616	0.001084	0.0002
100	Dow Chemical	DOW	2.9%	7.00%	40,475	0.003761	0.0001	40,475	0.003776	0.0003
101	Dr Pepper Snapple	DPS	3.2%	8.97%	9,004	0.000837	0.0000	9,004	0.000840	0.0001
102	DTE Energy	DTE	4.8%	4.88%	8,301	0.000771	0.0000	8,301	0.000774	0.0000
103	Duke Energy	DUK	5.4%	4.33%	24,826	0.002307	0.0001	24,826	0.002316	0.0001
104	Dun & Bradstreet	DNB	1.9%	11.40%	3,707	0.000344	0.0000	3,707	0.000346	0.0000
105	Du Pont	DD	3.4%	10.07%	45,757	0.004251	0.0001	45,757	0.004269	0.0004
106	Eastman Chemical	EMN	2.0%	8.50%	6,765	0.000628	0.0000	6,765	0.000631	0.0001
107	Eaton Corp.	ETN	2.9%	12.80%	15,937	0.001481	0.0000	15,937	0.001487	0.0002
108	Ecolab Inc.	ECL	1.3%	13.04%	12,625	0.001173	0.0000	12,625	0.001178	0.0002
109	Edison Int'l	EIX	3.3%	3.45%	12,736	0.001183	0.0000	12,736	0.001188	0.0000
110	El Paso Corp.	EP	0.2%	5.50%	14,615	0.001358	0.0000	14,615	0.001363	0.0001
111	Emerson Electric	EMR	2.6%	15.20%	39,510	0.003671	0.0001	39,510	0.003686	0.0006
112	Entergy Corp.	ETR	4.9%	0.87%	12,231	0.001136	0.0001	12,231	0.001141	0.0000
113	EOG Resources	EOG	0.6%	11.50%	27,274	0.002534	0.0000	27,274	0.002545	0.0003
114	EQT Corp.	EQT	1.8%	18.63%	7,516	0.000698	0.0000	7,516	0.000701	0.0001
115	Equifax, Inc.	EFX	1.9%	10.50%	4,220	0.000392	0.0000	4,220	0.000394	0.0000
116	Equity Residential	EQR	2.3%	8.67%	18,200	0.001691	0.0000	18,200	0.001698	0.0001
117	Lauder (Estee)	EL	0.8%	11.93%	19,088	0.001773	0.0000	19,088	0.001781	0.0002
118	Exelon Corp.	EXC	5.1%	-0.40%	27,509	0.002556	0.0001	27,509	0.002566	(0.0000)
119	Expedia Inc.	EXPE	1.0%	10.14%	7,378	0.000685	0.0000	7,378	0.000688	0.0001
120	Expeditors Int'l	EXPD	1.1%	13.83%	10,040	0.000933	0.0000	10,040	0.000937	0.0001
121	Exxon Mobil Corp.	XOM	2.4%	6.47%	390,245	0.036257	0.0009	390,245	0.036408	0.0024
122	Family Dollar Stores	FDO	1.4%	14.16%	6,412	0.000596	0.0000	6,412	0.000598	0.0001
123	Fastenal Co.	FAST	1.6%	16.37%	9,571	0.000889	0.0000	9,571	0.000893	0.0001
124	Federated Investors	FII	4.0%	8.00%	2,529	0.000235	0.0000	2,529	0.000236	0.0000
125	FedEx Corp.	FDX	0.6%	13.79%	27,241	0.002531	0.0000	27,241	0.002541	0.0004
126	Fifth Third Bancorp	FITB	2.0%	2.50%	11,282	0.001048	0.0000	11,282	0.001053	0.0000
127	First Horizon National	FHN	0.4%	6.60%	2,591	0.000241	0.0000	2,591	0.000242	0.0000
128	FirstEnergy Corp.	FE	5.1%	-0.82%	18,155	0.001687	0.0001	18,155	0.001694	(0.0000)
129	FLIR Systems	FLIR	0.7%	14.84%	5,297	0.000492	0.0000	5,297	0.000494	0.0001
130	Flowserve Corp.	FLS	1.3%	11.50%	5,585	0.000519	0.0000	5,585	0.000521	0.0001
131	Fluor Corp.	FLR	0.8%	11.00%	10,716	0.000996	0.0000	10,716	0.001000	0.0001
132	FMC Corp.	FMC	0.8%	10.72%	5,682	0.000528	0.0000	5,682	0.000530	0.0001
133	Franklin Resources	BEN	0.8%	11.42%	27,420	0.002548	0.0000	27,420	0.002558	0.0003
134	Freep't-McMoRan C&G	FCX	2.2%	10.00%	45,314	0.004210	0.0001	45,314	0.004228	0.0004
135	Frontier Communic.	FTR	9.5%	-9.50%	7,822	0.000727	0.0001	7,822	0.000730	(0.0001)
136	Gannett Co.	GCI	1.2%	8.00%	3,265	0.000303	0.0000	3,265	0.000305	0.0000
137	Gap (The), Inc.	GPS	2.5%	8.46%	10,408	0.000967	0.0000	10,408	0.000971	0.0001
138	Gen'l Dynamics	GD	2.7%	7.93%	26,516	0.002464	0.0001	26,516	0.002474	0.0002
139	Gen'l Electric	GE	3.3%	14.52%	195,748	0.018187	0.0006	195,748	0.018262	0.0027
140	Gen'l Mills	GIS	3.2%	7.63%	24,179	0.002246	0.0001	24,179	0.002256	0.0002
141	Genuine Parts	GPC	3.6%	11.15%	7,997	0.000743	0.0000	7,997	0.000746	0.0001
142	Goldman Sachs	GS	1.0%	10.00%	70,483	0.006549	0.0001	70,483	0.006576	0.0007
143	Goodrich Corp.	GR	1.3%	11.38%	11,335	0.001053	0.0000	11,335	0.001057	0.0001
144	Grainger (W.W.)	GWW	1.8%	13.80%	9,994	0.000929	0.0000	9,994	0.000932	0.0001
145	Halliburton Co.	HAL	0.8%	20.16%	42,447	0.003944	0.0000	42,447	0.003960	0.0008
146	Harley-Davidson	HOG	1.4%	12.00%	8,532	0.000793	0.0000	8,532	0.000796	0.0001
147	Harman Int'l	HAR	0.2%	30.00%	3,013	0.000280	0.0000	3,013	0.000281	0.0001
148	Harris Corp.	HRS	2.4%	8.80%	5,519	0.000513	0.0000	5,519	0.000515	0.0000

				EPS Growth	Market	Weighted			Weighted	
			Dividend	Thomson	Cap	Dividend Yield			Thomson Reuters	
	Company	Ticker	Yield	Reuters	($Millions)	Weight	Product	Mkt. Cap.	Weight	Product
	(a)		(b)	(c)	(b)					
149	Hartford Fin'l Svcs.	HIG	1.7%	8.27%	10,732	0.000997	0.0000	10,732	0.001001	0.0001
150	Hasbro, Inc.	HAS	2.8%	13.55%	5,947	0.000553	0.0000	5,947	0.000555	0.0001
151	HCP Inc.	HCP	5.3%	6.40%	15,200	0.001412	0.0001	15,200	0.001418	0.0001
152	Heinz (H.J.)	HNZ	3.6%	7.45%	17,176	0.001596	0.0001	17,176	0.001602	0.0001
153	Helmerich & Payne	HP	0.4%	13.63%	6,295	0.000585	0.0000	6,295	0.000587	0.0001
154	Hershey Co.	HSY	2.5%	7.53%	12,595	0.001170	0.0000	12,595	0.001175	0.0001
155	Hess Corp.	HES	0.6%	11.35%	23,888	0.002219	0.0000	23,888	0.002229	0.0003
156	Hewlett-Packard	HPQ	1.4%	9.22%	76,025	0.007063	0.0001	76,025	0.007093	0.0007
157	Home Depot	HD	2.9%	13.11%	55,131	0.005122	0.0001	55,131	0.005144	0.0007
158	Honeywell Int'l	HON	2.4%	15.96%	44,348	0.004120	0.0001	44,348	0.004137	0.0007
159	Hormel Foods	HRL	1.9%	9.50%	7,714	0.000717	0.0000	7,714	0.000720	0.0001
160	Horton D.R.	DHI	1.4%	16.52%	3,500	0.000325	0.0000	3,500	0.000327	0.0001
161	Hudson City Bancorp	HCBK	4.0%	5.00%	4,256	0.000395	0.0000	4,256	0.000397	0.0000
162	Humana Inc.	HUM	1.3%	7.23%	13,168	0.001223	0.0000	13,168	0.001229	0.0001
163	Huntington Bancshs.	HBAN	1.1%	6.00%	5,457	0.000507	0.0000	5,457	0.000509	0.0000
164	Illinois Tool Works	ITW	2.5%	13.55%	27,323	0.002539	0.0001	27,323	0.002549	0.0003
165	Ingersoll-Rand	IR	1.1%	16.30%	14,451	0.001343	0.0000	14,451	0.001348	0.0002
166	Integrys Energy	TEG	5.5%	7.50%	3,886	0.000361	0.0000	3,886	0.000363	0.0000
167	Intel Corp.	INTC	3.4%	11.69%	114,297	0.010619	0.0004	114,297	0.010663	0.0012
168	Interpublic Group	IPG	2.1%	15.70%	5,581	0.000519	0.0000	5,581	0.000521	0.0001
169	Int'l Business Mach.	IBM	1.8%	11.19%	197,026	0.018305	0.0003	197,026	0.018382	0.0021
170	Int'l Flavors & Frag.	IFF	1.8%	6.30%	4,908	0.000456	0.0000	4,908	0.000458	0.0000
171	Int'l Game Tech.	IGT	1.5%	13.32%	4,877	0.000453	0.0000	4,877	0.000455	0.0001
172	Int'l Paper	IP	3.9%	2.50%	11,645	0.001082	0.0000	11,645	0.001086	0.0000
173	Iron Mountain	IRM	3.1%	15.00%	6,430	0.000597	0.0000	6,430	0.000600	0.0001
174	ITT Corp.	ITT	1.8%	10.06%	10,323	0.000959	0.0000	10,323	0.000963	0.0001
175	Jabil Circuit	JBL	1.5%	10.00%	3,975	0.000369	0.0000	3,975	0.000371	0.0000
176	Janus Capital Group	JNS	2.2%	8.78%	1,709	0.000159	0.0000	1,709	0.000159	0.0000
177	Johnson & Johnson	JNJ	3.4%	6.50%	181,614	0.016874	0.0006	181,614	0.016944	0.0011
178	Johnson Controls	JCI	1.8%	17.66%	24,614	0.002287	0.0000	24,614	0.002296	0.0004
179	Joy Global	JOYG	0.9%	15.60%	8,746	0.000813	0.0000	8,746	0.000816	0.0001
180	JPMorgan Chase	JPM	2.5%	8.77%	160,852	0.014945	0.0004	160,852	0.015007	0.0013
181	Kellogg	K	3.0%	8.30%	19,816	0.001841	0.0001	19,816	0.001849	0.0002
182	KeyCorp	KEY	1.5%	16.64%	7,708	0.000716	0.0000	7,708	0.000719	0.0001
183	Kimberly-Clark	KMB	4.3%	6.60%	25,973	0.002413	0.0001	25,973	0.002423	0.0002
184	Kimco Realty	KIM	4.2%	2.25%	7,700	0.000715	0.0000	7,700	0.000718	0.0000
185	KLA-Tencor	KLAC	2.6%	10.00%	6,446	0.000599	0.0000	6,446	0.000601	0.0001
186	Kohl's Corp.	KSS	2.1%	13.41%	14,544	0.001351	0.0000	14,544	0.001357	0.0002
187	Kraft Foods	KFT	3.4%	9.73%	60,295	0.005602	0.0002	60,295	0.005625	0.0005
188	Kroger Co.	KR	1.9%	9.10%	14,874	0.001382	0.0000	14,874	0.001388	0.0001
189	L-3 Communic.	LLL	2.2%	7.65%	8,781	0.000816	0.0000	8,781	0.000819	0.0001
190	Legg Mason	LM	1.0%	13.20%	4,759	0.000442	0.0000	4,759	0.000444	0.0001
191	Leggett & Platt	LEG	4.7%	15.00%	3,317	0.000308	0.0000	3,317	0.000309	0.0000
192	Lennar Corp.	LEN	0.9%	4.50%	3,223	0.000299	0.0000	3,223	0.000301	0.0000
193	Lilly (Eli)	LLY	5.3%	-4.74%	41,389	0.003845	0.0002	41,389	0.003861	(0.0002)
194	Limited Brands	LTD	2.3%	13.69%	11,331	0.001053	0.0000	11,331	0.001057	0.0001
195	Lincoln Nat'l Corp.	LNC	1.3%	12.00%	8,313	0.000772	0.0000	8,313	0.000776	0.0001
196	Linear Technology	LLTC	3.1%	9.00%	7,157	0.000665	0.0000	7,157	0.000668	0.0001
197	Lockheed Martin	LMT	4.0%	9.11%	27,753	0.002578	0.0001	27,753	0.002589	0.0002
198	Loews Corp.	L	0.6%	NA	16,511	0.001534	0.0000	--	--	--
199	Lorillard Inc.	LO	4.7%	9.50%	15,818	0.001470	0.0001	15,818	0.001476	0.0001
200	Lowe's Cos.	LOW	2.5%	14.28%	29,892	0.002777	0.0001	29,892	0.002789	0.0004
201	M&T Bank Corp.	MTB	3.2%	8.44%	10,553	0.000980	0.0000	10,553	0.000985	0.0001
202	Macy's Inc.	M	1.5%	4.35%	11,378	0.001057	0.0000	11,378	0.001062	0.0000
203	Marathon Oil Corp.	MRO	2.0%	7.85%	36,447	0.003386	0.0001	36,447	0.003400	0.0003
204	Marriott Int'l	MAR	1.2%	12.84%	12,109	0.001125	0.0000	12,109	0.001130	0.0001
205	Marsh & McLennan	MMC	3.0%	8.54%	16,237	0.001509	0.0000	16,237	0.001515	0.0001
206	Marshall & Ilsley	MI	0.5%	1.00%	4,058	0.000377	0.0000	4,058	0.000379	0.0000
207	Masco Corp.	MAS	2.5%	15.00%	4,160	0.000386	0.0000	4,160	0.000388	0.0001
208	MasterCard Inc.	MA	0.2%	19.51%	34,279	0.003185	0.0000	34,279	0.003198	0.0006
209	Mattel, Inc.	MAT	3.6%	8.50%	8,952	0.000832	0.0000	8,952	0.000835	0.0001
210	McCormick & Co.	MKC	2.3%	8.55%	6,555	0.000609	0.0000	6,555	0.000612	0.0001
211	McDonald's Corp.	MCD	3.0%	10.03%	84,884	0.007886	0.0002	84,884	0.007919	0.0008
212	McGraw-Hill	MHP	2.4%	12.00%	12,517	0.001163	0.0000	12,517	0.001168	0.0001
213	McKesson Corp.	MCK	1.0%	13.70%	20,787	0.001931	0.0000	20,787	0.001939	0.0003
214	Mead Johnson Nutrition	MJN	1.6%	10.25%	13,235	0.001230	0.0000	13,235	0.001235	0.0001
215	MeadWestvaco	MWV	3.2%	10.00%	5,247	0.000487	0.0000	5,247	0.000489	0.0000
216	Medtronic, Inc.	MDT	2.6%	7.91%	41,118	0.003820	0.0001	41,118	0.003836	0.0003
217	Merck & Co.	MRK	4.3%	4.23%	108,541	0.010084	0.0004	108,541	0.010126	0.0004
218	MetLife Inc.	MET	2.1%	12.68%	42,106	0.003912	0.0001	42,106	0.003928	0.0005
219	Microchip Technology	MCHP	3.9%	12.90%	6,793	0.000631	0.0000	6,793	0.000634	0.0001
220	Microsoft Corp.	MSFT	2.7%	10.28%	202,344	0.018800	0.0005	202,344	0.018878	0.0019
221	Molex Inc.	MOLX	3.2%	10.00%	4,432	0.000412	0.0000	4,432	0.000413	0.0000
222	Monsanto Co.	MON	1.7%	15.13%	35,514	0.003300	0.0001	35,514	0.003313	0.0005

	Company	Ticker	Dividend Yield	EPS Growth Thomson Reuters	Market Cap ($Millions)	Weighted Dividend Yield Weight	Weighted Dividend Yield Product	Mkt. Cap.	Weighted Thomson Reuters Weight	Weighted Thomson Reuters Product
	(a)		(b)	(c)	(b)					
223	Moody's Corp.	MCO	1.5%	9.97%	8,718	0.000810	0.0000	8,718	0.000813	0.0001
224	Morgan Stanley	MS	0.9%	17.27%	34,208	0.003178	0.0000	34,208	0.003191	0.0006
225	Murphy Oil Corp.	MUR	1.7%	8.00%	12,207	0.001134	0.0000	12,207	0.001139	0.0001
226	National Oilwell Varco	NOV	0.7%	12.35%	29,471	0.002738	0.0000	29,471	0.002750	0.0003
227	National Semic.	NSM	1.6%	9.50%	5,876	0.000546	0.0000	5,876	0.000548	0.0001
228	Newell Rubbermaid	NWL	2.2%	9.67%	4,228	0.000393	0.0000	4,228	0.000394	0.0000
229	Newmont Mining	NEM	1.6%	0.42%	25,519	0.002371	0.0000	25,519	0.002381	0.0000
230	NextEra Energy	NEE	4.0%	5.54%	23,693	0.002201	0.0001	23,693	0.002210	0.0001
231	Nicor Inc.	GAS	3.5%	-0.23%	2,467	0.000229	0.0000	2,467	0.000230	(0.0000)
232	NIKE, Inc. 'B'	NKE	1.6%	11.18%	38,068	0.003537	0.0001	38,068	0.003552	0.0004
233	NiSource Inc.	NI	4.8%	6.07%	5,403	0.000502	0.0000	5,403	0.000504	0.0000
234	Noble Energy	NBL	0.9%	13.43%	14,776	0.001373	0.0000	14,776	0.001378	0.0002
235	Nordstrom, Inc.	JWN	2.1%	10.50%	9,457	0.000879	0.0000	9,457	0.000882	0.0001
236	Norfolk Southern	NSC	2.3%	13.59%	24,799	0.002304	0.0001	24,799	0.002314	0.0003
237	Northeast Utilities	NU	3.3%	7.90%	6,058	0.000563	0.0000	6,058	0.000565	0.0000
238	Northern Trust Corp.	NTRS	2.4%	8.88%	11,208	0.001041	0.0000	11,208	0.001046	0.0001
239	Northrop Grumman	NOC	3.1%	11.00%	18,937	0.001759	0.0001	18,937	0.001767	0.0002
240	Nucor Corp.	NUE	3.7%	12.00%	12,472	0.001159	0.0000	12,472	0.001164	0.0001
241	NYSE Euronext	NYX	3.6%	13.75%	8,634	0.000802	0.0000	8,634	0.000806	0.0001
242	Occidental Petroleum	OXY	1.9%	11.15%	83,580	0.007765	0.0001	83,580	0.007798	0.0009
243	Omnicom Group	OMC	2.2%	12.50%	12,653	0.001176	0.0000	12,653	0.001181	0.0001
244	ONEOK Inc.	OKE	3.2%	7.95%	7,329	0.000681	0.0000	7,329	0.000684	0.0001
245	Oracle Corp.	ORCL	0.8%	16.00%	155,879	0.014483	0.0001	155,879	0.014543	0.0023
246	PACCAR Inc.	PCAR	1.0%	19.70%	16,852	0.001566	0.0000	16,852	0.001572	0.0003
247	Pall Corp.	PLL	1.3%	11.67%	6,151	0.000571	0.0000	6,151	0.000574	0.0001
248	Parker-Hannifin	PH	1.7%	11.10%	13,971	0.001298	0.0000	13,971	0.001303	0.0001
249	Patterson Cos.	PDCO	1.5%	12.76%	3,937	0.000366	0.0000	3,937	0.000367	0.0000
250	Paychex, Inc.	PAYX	4.2%	12.00%	10,682	0.000992	0.0000	10,682	0.000997	0.0001
251	Peabody Energy	BTU	0.6%	23.53%	14,500	0.001347	0.0000	14,500	0.001353	0.0003
252	Penney (J.C.)	JCP	2.3%	13.55%	8,136	0.000756	0.0000	8,136	0.000759	0.0001
253	People's United Fin'l	PBCT	4.9%	7.67%	4,460	0.000414	0.0000	4,460	0.000416	0.0000
254	Pepco Holdings	POM	5.7%	7.50%	4,297	0.000399	0.0000	4,297	0.000401	0.0000
255	PepsiCo, Inc.	PEP	3.0%	7.75%	108,915	0.010119	0.0003	108,915	0.010161	0.0008
256	PerkinElmer Inc.	PKI	1.1%	12.47%	2,904	0.000270	0.0000	2,904	0.000271	0.0000
257	Pfizer, Inc.	PFE	4.2%	2.81%	159,919	0.014858	0.0006	159,919	0.014920	0.0004
258	PG&E Corp.	PCG	4.5%	4.91%	16,588	0.001541	0.0001	16,588	0.001548	0.0001
259	Philip Morris Int'l	PM	3.9%	10.13%	120,403	0.011187	0.0004	120,403	0.011233	0.0011
260	Pinnacle West Capital	PNW	4.8%	6.38%	4,748	0.000441	0.0000	4,748	0.000443	0.0000
261	Pioneer Natural Res.	PXD	0.1%	8.50%	9,853	0.000915	0.0000	9,853	0.000919	0.0001
262	Pitney Bowes	PBI	6.6%	8.40%	4,595	0.000427	0.0000	4,595	0.000429	0.0000
263	Plum Creek Timber	PCL	4.3%	2.33%	6,266	0.000582	0.0000	6,266	0.000585	0.0000
264	PNC Financial Serv.	PNC	2.4%	5.76%	31,281	0.002906	0.0001	31,281	0.002918	0.0002
265	Polo Ralph Lauren 'A'	RL	0.7%	11.87%	11,554	0.001073	0.0000	11,554	0.001078	0.0001
266	PPG Inds.	PPG	2.7%	11.20%	13,302	0.001236	0.0000	13,302	0.001241	0.0001
267	PPL Corp.	PPL	5.2%	-0.11%	13,182	0.001225	0.0001	13,182	0.001230	(0.0000)
268	Praxair Inc.	PX	2.0%	12.75%	30,666	0.002849	0.0001	30,666	0.002861	0.0004
269	Precision Castparts	PCP	0.1%	11.32%	21,773	0.002023	0.0000	21,773	0.002031	0.0002
270	Principal Fin'l Group	PFG	1.9%	12.30%	9,147	0.000850	0.0000	9,147	0.000853	0.0001
271	Procter & Gamble	PG	3.3%	9.03%	179,369	0.016665	0.0005	179,369	0.016734	0.0015
272	Progress Energy	PGN	5.2%	3.88%	14,021	0.001303	0.0001	14,021	0.001308	0.0001
273	Progressive (Ohio)	PGR	2.0%	7.20%	13,148	0.001222	0.0000	13,148	0.001227	0.0001
274	Prudential Fin'l	PRU	2.4%	13.43%	28,215	0.002621	0.0001	28,215	0.002632	0.0004
275	Public Serv. Enterprise	PEG	4.4%	-0.19%	15,890	0.001476	0.0001	15,890	0.001483	(0.0000)
276	Public Storage	PSA	3.4%	5.03%	20,000	0.001858	0.0001	20,000	0.001866	0.0001
277	QEP Resources	QEP	0.2%	15.00%	6,878	0.000639	0.0000	6,878	0.000642	0.0001
278	Qualcomm Inc.	QCOM	1.6%	16.84%	88,281	0.008202	0.0001	88,281	0.008236	0.0014
279	Quest Diagnostics	DGX	0.7%	11.21%	9,453	0.000878	0.0000	9,453	0.000882	0.0001
280	RadioShack Corp.	RSH	2.0%	8.47%	1,324	0.000123	0.0000	1,324	0.000124	0.0000
281	Range Resources Corp.	RRC	0.3%	34.25%	8,211	0.000763	0.0000	8,211	0.000766	0.0003
282	Raytheon Co.	RTN	3.7%	9.24%	16,214	0.001506	0.0001	16,214	0.001513	0.0001
283	Regions Financial	RF	0.7%	7.00%	7,737	0.000719	0.0000	7,737	0.000722	0.0001
284	Republic Services	RSG	2.8%	15.65%	11,486	0.001067	0.0000	11,486	0.001072	0.0002
285	Reynolds American	RAI	5.7%	6.73%	21,852	0.002030	0.0001	21,852	0.002039	0.0001
286	Robert Half Int'l	RHI	2.2%	14.50%	3,774	0.000351	0.0000	3,774	0.000352	0.0001
287	Rockwell Automation	ROK	2.2%	14.50%	11,305	0.001050	0.0000	11,305	0.001055	0.0002
288	Rockwell Collins	COL	1.6%	9.30%	9,192	0.000854	0.0000	9,192	0.000858	0.0001
289	Roper Inds.	ROP	0.6%	15.33%	7,564	0.000703	0.0000	7,564	0.000706	0.0001
290	Ross Stores	ROST	1.2%	12.16%	8,865	0.000824	0.0000	8,865	0.000827	0.0001
291	Ryder System	R	2.1%	12.38%	2,616	0.000243	0.0000	2,616	0.000244	0.0000
292	Safeway Inc.	SWY	2.6%	10.43%	8,316	0.000773	0.0000	8,316	0.000776	0.0001
293	Sara Lee Corp.	SLE	2.5%	9.48%	11,123	0.001033	0.0000	11,123	0.001038	0.0001
294	SCANA Corp.	SCG	5.1%	4.90%	4,980	0.000463	0.0000	4,980	0.000465	0.0000
295	Schlumberger Ltd.	SLB	1.2%	18.66%	111,608	0.010369	0.0001	111,608	0.010413	0.0019
296	Schwab (Charles)	SCHW	1.5%	17.83%	19,171	0.001781	0.0000	19,171	0.001789	0.0003

	Company	Ticker	Dividend Yield	EPS Growth Thomson Reuters	Market Cap ($Millions)	Weighted Dividend Yield		Weighted Thomson Reuters		
						Weight	Product	Mkt. Cap.	Weight	Product
	(a)		(b)	(c)	(b)					
297	Scripps Networks	SNI	0.9%	13.38%	7,482	0.000695	0.0000	7,482	0.000698	0.0001
298	Sealed Air	SEE	2.3%	8.28%	3,668	0.000341	0.0000	3,668	0.000342	0.0000
299	Sempra Energy	SRE	3.7%	6.77%	12,686	0.001179	0.0000	12,686	0.001184	0.0001
300	Sherwin-Williams	SHW	1.8%	11.70%	8,731	0.000811	0.0000	8,731	0.000815	0.0001
301	Sigma-Aldrich	SIAL	1.1%	9.40%	8,069	0.000750	0.0000	8,069	0.000753	0.0001
302	Simon Property Group	SPG	2.8%	7.83%	35,000	0.003252	0.0001	35,000	0.003265	0.0003
303	SLM Corporation	SLM	2.5%	10.00%	8,345	0.000775	0.0000	8,345	0.000779	0.0001
304	Smucker (J.M.)	SJM	2.3%	7.08%	8,825	0.000820	0.0000	8,825	0.000823	0.0001
305	Snap-on Inc.	SNA	2.3%	11.73%	3,300	0.000307	0.0000	3,300	0.000308	0.0000
306	Southern Co.	SO	4.8%	5.51%	33,676	0.003129	0.0002	33,676	0.003142	0.0002
307	Southwest Airlines	LUV	0.2%	6.00%	8,056	0.000748	0.0000	8,056	0.000752	0.0000
308	Spectra Energy	SE	4.0%	9.68%	17,188	0.001597	0.0001	17,188	0.001604	0.0002
309	St. Jude Medical	STJ	1.8%	11.84%	15,696	0.001458	0.0000	15,696	0.001464	0.0002
310	Stanley Black & Decker	SWK	2.4%	3.00%	11,469	0.001066	0.0000	11,469	0.001070	0.0000
311	Staples, Inc.	SPLS	2.7%	15.03%	10,850	0.001008	0.0000	10,850	0.001012	0.0002
312	Starbucks Corp.	SBUX	1.5%	17.84%	26,313	0.002445	0.0000	26,313	0.002455	0.0004
313	Starwood Hotels	HOT	0.6%	21.20%	9,797	0.000910	0.0000	9,797	0.000914	0.0002
314	State Street Corp.	STT	1.7%	12.50%	21,730	0.002019	0.0000	21,730	0.002027	0.0003
315	Stryker Corp.	SYK	1.2%	10.55%	22,504	0.002091	0.0000	22,504	0.002100	0.0002
316	Sunoco, Inc.	SUN	1.8%	0.20%	4,741	0.000441	0.0000	4,741	0.000442	0.0000
317	SunTrust Banks	STI	0.5%	7.17%	12,695	0.001179	0.0000	12,695	0.001184	0.0001
318	SUPERVALU INC.	SVU	4.1%	8.05%	1,800	0.000167	0.0000	1,800	0.000168	0.0000
319	Sysco Corp.	SYY	3.4%	7.60%	17,957	0.001668	0.0001	17,957	0.001675	0.0001
320	Price (T. Rowe) Group	TROW	2.2%	12.25%	14,744	0.001370	0.0000	14,744	0.001376	0.0002
321	Target Corp.	TGT	2.6%	11.36%	32,004	0.002973	0.0001	32,004	0.002986	0.0003
322	TECO Energy	TE	4.7%	7.45%	3,945	0.000367	0.0000	3,945	0.000368	0.0000
323	Tellabs, Inc.	TLAB	2.0%	8.33%	1,493	0.000139	0.0000	1,493	0.000139	0.0000
324	Texas Instruments	TXN	1.7%	11.04%	36,368	0.003379	0.0001	36,368	0.003393	0.0004
325	Textron, Inc.	TXT	0.4%	22.90%	5,965	0.000554	0.0000	5,965	0.000556	0.0001
326	Bank of New York Mellon	BK	2.3%	10.97%	32,570	0.003026	0.0001	32,570	0.003039	0.0003
327	Tiffany & Co.	TIF	1.6%	13.68%	9,232	0.000858	0.0000	9,232	0.000861	0.0001
328	Time Warner Cable	TWC	2.6%	16.08%	24,786	0.002303	0.0001	24,786	0.002312	0.0004
329	Time Warner	TWX	2.7%	14.44%	37,299	0.003465	0.0001	37,299	0.003480	0.0005
330	TJX Companies	TJX	1.5%	13.35%	19,143	0.001779	0.0000	19,143	0.001786	0.0002
331	Torchmark Corp.	TMK	1.1%	8.63%	4,781	0.000444	0.0000	4,781	0.000446	0.0000
332	Total System Svcs.	TSS	1.6%	8.73%	3,368	0.000313	0.0000	3,368	0.000314	0.0000
333	Travelers Cos.	TRV	2.8%	9.92%	24,277	0.002256	0.0001	24,277	0.002265	0.0002
334	Tyson Foods 'A'	TSN	0.9%	7.33%	6,862	0.000638	0.0000	6,862	0.000640	0.0000
335	Union Pacific	UNP	1.9%	14.12%	48,464	0.004503	0.0001	48,464	0.004521	0.0006
336	United Parcel Serv.	UPS	3.0%	11.74%	68,221	0.006338	0.0002	68,221	0.006365	0.0007
337	U.S. Steel Corp.	X	0.5%	8.00%	5,989	0.000556	0.0000	5,989	0.000559	0.0000
338	United Technologies	UTX	2.3%	10.74%	77,202	0.007173	0.0002	77,202	0.007203	0.0008
339	UnitedHealth Group	UNH	1.3%	11.32%	53,484	0.004969	0.0001	53,484	0.004990	0.0006
340	Unum Group	UNM	1.5%	9.33%	7,604	0.000706	0.0000	7,604	0.000709	0.0001
341	U.S. Bancorp	USB	2.1%	10.90%	46,653	0.004334	0.0001	46,653	0.004353	0.0005
342	Valero Energy	VLO	0.8%	9.00%	13,777	0.001280	0.0000	13,777	0.001285	0.0001
343	Ventas, Inc.	VTR	4.4%	7.40%	10,100	0.000938	0.0000	10,100	0.000942	0.0001
344	Verizon Communic.	VZ	5.5%	8.62%	99,697	0.009263	0.0005	99,697	0.009301	0.0008
345	V.F. Corp.	VFC	2.5%	9.91%	11,006	0.001023	0.0000	11,006	0.001027	0.0001
346	Viacom Inc. 'B'	VIA/B	1.3%	NA	28,167	0.002617	0.0000	--	--	--
347	Visa Inc.	V	0.8%	19.22%	62,150	0.005774	0.0000	62,150	0.005798	0.0011
348	Vornado R'lty Trust	VNO	3.0%	3.40%	16,854	0.001566	0.0000	16,854	0.001572	0.0001
349	Vulcan Materials	VMC	2.7%	9.25%	4,906	0.000456	0.0000	4,906	0.000458	0.0000
350	Walgreen Co.	WAG	1.6%	15.90%	40,628	0.003775	0.0001	40,628	0.003790	0.0006
351	Wal-Mart Stores	WMT	2.8%	10.41%	185,750	0.017258	0.0005	185,750	0.017330	0.0018
352	Disney (Walt)	DIS	1.1%	14.99%	70,516	0.006552	0.0001	70,516	0.006579	0.0010
353	Washington Post	WPO	2.3%	29.40%	3,318	0.000308	0.0000	3,318	0.000310	0.0001
354	Waste Management	WM	3.8%	10.33%	17,298	0.001607	0.0001	17,298	0.001614	0.0002
355	WellPoint, Inc.	WLP	1.3%	9.90%	28,640	0.002661	0.0000	28,640	0.002672	0.0003
356	Wells Fargo	WFC	1.8%	12.13%	141,748	0.013170	0.0002	141,748	0.013225	0.0016
357	Western Union	WU	1.6%	12.10%	12,436	0.001155	0.0000	12,436	0.001160	0.0001
358	Weyerhaeuser Co.	WY	3.0%	2.50%	10,897	0.001012	0.0000	10,897	0.001017	0.0000
359	Whirlpool Corp.	WHR	2.7%	9.40%	5,722	0.000532	0.0000	5,722	0.000534	0.0001
360	Williams Cos.	WMB	2.8%	21.63%	16,618	0.001544	0.0000	16,618	0.001550	0.0003
361	Windstream Corp.	WIN	7.7%	1.55%	6,615	0.000615	0.0000	6,615	0.000617	0.0000
362	Wisconsin Energy	WEC	3.5%	7.26%	7,206	0.000670	0.0000	7,206	0.000672	0.0000
363	Wyndham Worldwide	WYN	2.0%	6.35%	5,232	0.000486	0.0000	5,232	0.000488	0.0000
364	Wynn Resorts	WYNN	0.8%	37.88%	16,082	0.001494	0.0000	16,082	0.001500	0.0006
365	Xcel Energy Inc.	XEL	4.3%	5.59%	11,775	0.001094	0.0000	11,775	0.001099	0.0001
366	Xerox Corp.	XRX	1.8%	15.07%	13,620	0.001265	0.0000	13,620	0.001271	0.0002
367	Xilinx Inc.	XLNX	2.3%	12.18%	8,642	0.000803	0.0000	8,642	0.000806	0.0001
368	Yum! Brands	YUM	2.1%	12.94%	25,419	0.002362	0.0000	25,419	0.002371	0.0003
369	Zions Bancorp.	ZION	0.2%	7.18%	4,116	0.000382	0.0000	4,116	0.000384	0.0000

Company	Ticker	Dividend Yield	EPS Growth Thomson Reuters	Market Cap ($Millions)	Weighted Dividend Yield Weight	Weighted Dividend Yield Product	Weighted Thomson Reuters Mkt. Cap.	Weighted Thomson Reuters Weight	Weighted Thomson Reuters Product
(a)		(b)	(c)	(b)					
				10,763,232	1.000000		10,718,555	1.000000	
Weighted Average						2.3%			10.9%

NA -- Not Available

(a) www.standardandpoors.com (retrieved June 24, 2011).
(b) www.valueline.com (retrieved June 26, 2011)
(c) http://finance.yahoo.com (retrieved July 3, 2011).

6-MONTH AVERAGE BOND YIELDS

	(a) Public Utility Bonds				(b) 30-Yr.	(a) AAA
	BBB	**A**	**AA**	**AVG.**	**Govt.**	**Corp.**
Apr	5.98%	5.55%	5.32%	5.62%	4.50%	5.16%
May	5.74%	5.32%	5.08%	5.38%	4.29%	4.96%
Jun	5.67%	5.26%	5.04%	5.32%	4.23%	4.99%
Jul	5.70%	5.27%	5.05%	5.34%	4.27%	4.93%
Aug	5.22%	4.69%	4.44%	4.78%	3.65%	4.37%
Sep	5.11%	4.48%	4.24%	4.61%	3.18%	4.09%
Average	**5.57%**	**5.10%**	**4.86%**	**5.18%**	**4.02%**	**4.75%**

(a) Moody's Investors Service.
(b) http://www.federalreserve.gov/releases/h15/data.htm.

BOND YIELD FORECAST

	2012-15
Projected AA Utility Yield	
IHS Global Insight (a)	6.33%
EIA (b)	6.57%
Average	6.45%
Current BBB - AA Yield Spread (c)	0.71%
Implied Triple-B Utility Yield	**7.16%**

(a) IHS Global Insight, *U.S. Economic Outlook* at 19 (Feb. 2011).
(b) Energy Information Administration, *Annual Energy Outlook 2011* (Apr. 26, 2011).
(c) Based on monthly average bond yields for the six-month period Apr. - Sep. 2011.

	Current (a)	2012	2013	2014	2015	
30-Yr. Treasury						
Value Line (b)	4.3%	4.9%	5.0%	5.3%	5.7%	5.2%
IHS Global Insight (c)	4.3%	4.7%	5.0%	5.1%	6.0%	5.2%
Blue Chip (d)	4.3%	5.2%	5.2%	5.5%	5.7%	5.4%
AAA Corporate						5.3%
Value Line (b)	5.0%	5.5%	6.0%	6.2%	6.5%	
IHS Global Insight (c)	5.0%	5.2%	6.0%	6.2%	6.8%	
Blue Chip (d)	5.0%	5.8%	5.9%	6.3%	6.5%	
S&P (e)	5.0%	4.5%	4.7%	5.9%	6.8%	
AA Utility						
IHS Global Insight (c)	5.1%	5.4%	6.3%	6.4%	7.2%	
EIA (f)	5.1%	5.5%	6.4%	7.0%	7.4%	

(a) Based on monthly average bond yields for the six-month period Mar. - Aug. 2011 reported at www.credittrends.moodys.com and http://www.federalreserve.gov/releases/h15/data.htm.
(b) The Value Line Investment Survey, Forecast for the U.S. Economy (Aug. 26, 2011).
(c) IHS Global Insight, *U.S. Economic Outlook* at 19 (Feb. 2011).
(d) *Blue Chip Financial Forecasts*, Vol. 30, No. 6 (Jun. 1, 2011).
(e) Standard & Poor's Corporation, "U.S. Economic Forecast: Still Treading Water," *RatingsDirect* (Aug. 17, 2011).
(f) Energy Information Administration, *Annual Energy Outlook 2011* (April 26, 2011).

BLUE CHIP	1-Jun Q1-2011	1-Jun 2013-17	Chg.
AAA	5.13	6.3	1.17
Baa	6.09	7.2	1.11
			1.14

Market Cap	Size Premium
$ 15,273.943	-0.38%
$ 6,895.258	0.81%
$ 3,714.445	1.01%
$ 2,512.137	1.20%
$ 1,778.756	1.81%
$ 1,214.679	1.82%
$ 772.795	1.88%
$ 478.102	2.65%
$ 235.725	2.94%
$ 1.222	6.36%

WOOLRIDGE PROXY GROUP

	Company	Market Cap
1	ALLETE	$1,311
2	Alliant Energy	$4,389
3	Ameren Corp.	$7,132
4	American Elec Pwr	$18,167
5	Avista Corp.	$1,398
6	Cleco Corp.	$2,094
7	CMS Energy	$4,862
8	Consolidated Edison	$16,416
9	DTE Energy Co.	$8,365
10	Edison International	$11,752
11	Entergy Corp.	$11,280
12	Great Plains Energy	$2,580
13	Hawaiian Elec.	$2,264
14	IDACORP, Inc.	$1,818
15	MGE Energy	$942
16	NextEra Energy, Inc.	$23,085
17	OGE Energy Corp.	$4,807
18	Pepco Holdings	$4,250
19	PG&E Corp.	$16,622
20	Pinnacle West Capital	$4,709
21	Portland General Elec.	$1,780
22	SCANA Corp.	$5,046
23	Southern Company	$35,473
24	TECO Energy	$3,852
25	Unisource Energy	$1,365
26	Westar Energy	$2,948
27	Wisconsin Energy	$7,304
28	Xcel Energy, Inc.	$11,745
	Average	**$7,777**

Company	Ticker	Market Cap $ (Mil)
ALLETE	ALE	1,291.85
Amer. Elec	AEP	18,132.84
Avista Cor]	AVA	1,432.64
Black Hills	BKH	1,229.28
Cleco Corp	CNL	2,106.29
Entergy Co	ETR	11,439.33
Hawaiian I	HE	2,351.27
PG&E Cor]	PCG	17,153.01
Pinnacle W	PNW	4,705.96
Portland G	POR	1,752.43
SCANA Cc	SCG	5,182.73
TECO Ener	TE	3,720.83
UniSource	UNS	1,323.50
Westar Ene	WR	3,058.40
		5,348.60

Company	Excerpt from 2010 Form 10-K
ALLETE	Nearly all retail sales include billing adjustment clauses, which adjust electric service rates for changes in the cost of fuel and purchased energy, recovery of current and deferred conservation improvement program expenditures and recovery of certain environmental and renewable expenditures. (p12) We have an approved cost recovery rider in place for certain transmission expenditures, and our current billing factor was approved by the MPUC in June 2009. The billing factor allows us to charge our retail customers on a current basis for the costs of constructing certain transmission facilities plus a return on the capital invested. In our 2010 rate case, the MPUC approved moving completed transmission projects from the current cost recovery rider to base rates. In July 2010, we filed for an updated billing factor that includes additional transmission projects and expenses which we expect to be approved in early 2011. (p. 13) *Conservation Improvement Program (CIP).* Minnesota requires electric utilities to spend a minimum of 1.5 percent of gross operating revenues from service provided in the state on energy CIPs each year. These investments are recovered from retail customers through a billing adjustment and amounts included in retail base rates. The MPUC allows utilities to accumulate, in a deferred account for future cost recovery, all CIP expenditures, as well as a carrying charge on the deferred account balance. (p13) Regulated utility electric rates include adjustment clauses that: (1) bill or credit customers for fuel and purchased energy costs above or below the base levels in rate schedules; (2) bill retail customers for the recovery of conservation improvement program expenditures not collected in base rates; and (3) bill customers for the recovery of certain environmental and renewable energy expenditures. Fuel and purchased power expense is deferred to match the period in which the revenue for fuel and purchased power expense is collected from customers pursuant to the fuel adjustment clause. (p59)
American Electric Power	Indiana provides for timely fuel and purchased power cost recovery through a fuel cost recovery mechanism. (p19) ***Oklahoma**:* PSO provides retail electric service in Oklahoma at bundled rates approved by the OCC. PSO's rates are set on a cost-of-service basis. Fuel and purchased energy costs above or below the amount included in base rates are recovered or refunded by applying a fuel adjustment factor to retail kilowatt-hour sales. (p19) Virginia generally allows for timely recovery of fuel costs through a fuel adjustment clause. Transmission services are provided at OATT rates based on rates established by the FERC. APCo is permitted to retain a minimum of 25% of the margins from its off-system sales with the remaining margins from such sales credited against its fuel adjustment clause factor with a true-up to actual. In addition to base rates and fuel cost recovery, APCo is permitted to recover a variety of costs through rate adjustment clauses. ***West Virginia**:* APCo and WPCo provide retail electric service at bundled rates approved by the WVPSC, with rates set on a cost-of-service basis. West Virginia generally allows for timely recovery of fuel costs through an expanded net energy clause which trues-up to actual expenses. ***Other Jurisdictions**:* The public utility subsidiaries of AEP also provide service at cost based regulated bundled rates in Arkansas, Kentucky, Louisiana and Tennessee and regulated unbundled rates in Michigan. These jurisdictions provide for the timely recovery of fuel costs through fuel adjustment clauses that true-up to actual expenses. (p20) Environmental Cost Recovery factor in Virginia
Avista Corp.	The OPUC established rules in September 2007 related to Oregon Senate Bill 408 (OSB 408), which was enacted into law in 2005. These rules direct the utility to establish an automatic adjustment clause to account for the difference between income taxes collected in rates and taxes paid to units of government, net of adjustments, when that difference exceeds

	\$100,000. The automatic adjustment clause may result in either rate increases or rate decreases. (p26) The Energy Recovery Mechanism (ERM) is an accounting method used to track certain differences between actual power supply costs, net of the margin on wholesale sales and sales of fuel, and the amount included in base retail rates for our Washington customers. (p. 26) We have a Power Cost Adjustment (PCA) mechanism in Idaho that allows us to modify electric rates on October 1 of each year with IPUC approval. (p. 27) Under established regulatory practices in each respective state, we are allowed to adjust natural gas rates periodically (with regulatory approval) to reflect increases or decreases in the cost of natural gas purchased. (p. 9)
Black Hills Corp.	In South Dakota beginning April 1, 2010, the steam plant fuel and conditional energy cost adjustment were combined into a single cost adjustment called the Fuel and Purchased Power Adjustment clause. The Fuel and Purchased Power Adjustment Clause provides for the direct recovery of increased fuel and purchased power costs incurred to serve South Dakota customers. (p. 28) In Wyoming beginning June 1, 2010 a similar Fuel and Purchase Power Cost Adjustment was instituted. In Colorado, we have a cost adjustment for increases or decreases in purchased power and fuel costs and a transmission cost adjustment. The cost adjustment clause provides for the direct recovery of increased purchased power and fuel costs or the issuance of credits for decreases in purchased power and fuel costs. The transmission cost adjustment is a rider to the customer's bill which allows the utility to earn an authorized return on new transmission investment and recovery of operations and maintenance costs related to transmission. In Colorado, beginning in November 2010, the CPUC approved the implementation of a Purchased Capacity Cost Adjustment, the purpose of which is to recover the increase in capacity cost related to Colorado Electric's purchase power agreement with PSCo. The above mechanisms allow the utilities to collect, or refund, the difference between the cost of commodities and certain services embedded in our base rates and the actual cost of the commodities and certain services without filing a general rate case. In some instances, such as the transmission cost adjustment in Colorado, the utility has the opportunity to earn its authorized return on new capital investment. (p. 28) All of our gas distribution utilities have PGA provisions that allow them to pass the prudently-incurred cost of gas through to the customer. (p. 116)
Cleco Corp.	Changes in fuel and purchased power expenses reflect fluctuations in types and pricing of fuel used for electric generation, fuel handling costs, availability of economical power for purchase, and deferral of expenses for recovery from customers through the fuel adjustment clause in subsequent months. (p8) Cleco Power's electric rates include a fuel and purchased power cost adjustment clause that enables it to adjust rates for monthly fluctuations in the cost of fuel and purchased

	power. Revenue from certain off-system sales to other utilities and energy marketing companies is passed on to customers through a reduction in fuel cost adjustment billing factors. (p13)
Entergy Corp.	Entergy Arkansas, Entergy Gulf States Louisiana, Entergy Louisiana, Entergy Mississippi, Entergy New Orleans, and Entergy Texas are allowed to recover fuel and purchased power costs through fuel mechanisms included in electric and gas rates that are recorded as fuel cost recovery revenues. The rate settlement provides an incentive for Entergy New Orleans to meet or exceed energy savings targets set by the City Council and provides a mechanism for Entergy New Orleans to recover lost contribution to fixed costs associated with the energy savings generated from the energy efficiency programs. (p74)
Hawaiian Elec.	Another of the initiatives was advanced when, on December 29, 2010, the PUC approved the implementation of revenue decoupling for HECO under which HECO is allowed to recover PUC-approved revenue requirements without being dependent on the amount of electricity sold. (p5) The electric utilities' pension tracking mechanisms help moderate pension expense (p29) To improve the timing and certainty of the recovery of their costs, the electric utilities have proposed and received approval of various cost recovery mechanisms including an ECAC, and more recently a decoupling mechanism, a purchased power adjustment clause, and a renewable energy infrastructure program surcharge. (p 32) **ECAC** - Energy cost adjustment clauses On January 24, 2011, HECO filed tariffs for the final rates for the PUC's review and approval and requested the tariffs become effective on March 1, 2011. The tariffs included provisions to establish the decoupling revenue balancing account (which removes the historic link between electricity usage and revenues), the revenue adjustment mechanism (which allows the utility to recover its investments and costs in a timelier manner) and the PPAC. (p60) The rate schedules of the electric utilities include energy cost adjustment clauses (ECACs) under which electric rates are adjusted for changes in the weighted-average price paid for fuel oil and certain components of purchased power, and the relative amounts of company-generated power and purchased power. The ECACs also include a provision requiring a quarterly reconciliation of the amounts collected through the ECACs. (p103)
PG&E Corp.	Regulatory balancing accounts are used to adjust the Utility's revenue requirements. Sales balancing accounts track differences between the Utility's recorded revenues and its authorized revenue requirements, due primarily to sales fluctuations. In general, electricity sales are higher in the summer months and natural gas sales are higher in the winter months. Cost balancing accounts track differences between the Utility's incurred costs and its authorized revenue requirements, most importantly for energy commodity costs and volumes that can be affected by seasonal demand, weather, and other factors. (p11) The Utility recovers its electricity procurement costs and the fuel costs for the Utility's own generation facilities (but excluding the costs of electricity allocated to the Utility's customers under DWR contracts) through the Energy Resource Recovery Account ("ERRA"), a balancing account authorized by the CPUC in accordance with Assembly Bill 57. The ERRA tracks the difference between (1) billed/unbilled ERRA revenues and (2) electric procurement costs incurred under the Utility's authorized procurement plans. (p13) The CPUC-authorized revenue requirements for capital costs and non-fuel operating and maintenance costs for operating Utility-owned generation facilities are addressed in the Utility's GRC. The CPUC-authorized revenue requirements to recover the initial capital costs

	for utility-owned generation projects are recovered through a balancing account, the Utility Generation Balancing Account ("UGBA"), which tracks the difference between the CPUC-approved forecast of initial capital costs, adjusted from time to time as permitted by the CPUC, and actual costs. (p14) The local transmission revenue requirement is allocated approximately 71% to core customers and 29% to non-core customers. The Utility recovers the portion allocated to core customers through a balancing account, but the Utility's recovery of the portion allocated to non-core customers is subject to volumetric and price risk. (p16) The storage revenue requirement is allocated approximately 71% to core customers, 12% to non-core storage service, and 17% to pipeline load balancing service. The Utility recovers the portion allocated to core customers through a balancing account, but the Utility's recovery of the portion allocated to non-core customers is subject to volumetric and price risk. (p17) The Utility sets the natural gas procurement rate for core customers monthly, based on the forecasted costs of natural gas, core pipeline capacity and storage costs. The Utility reflects the difference between actual natural gas purchase costs and forecasted natural gas purchase costs in several natural gas balancing accounts, with under-collections and over-collections taken into account in subsequent monthly rates. (p16) The Utility has regulatory balancing accounts for core customers designed to ensure that the Utility's results of operations over the long term are not affected by weather variations, conservation, or changes in their consumption levels. The Utility's results of operations can, however, be affected by non-core consumption levels because there are fewer regulatory balancing accounts related to non-core customers. Approximately 97% of the Utility's natural gas distribution base revenues are recovered from core customers and 3% are recovered from non-core customers. (p25) The CPUC may authorize the Utility to receive annual increases for the years between GRCs in the base revenues authorized for the test year of a GRC in order to avoid a reduction in earnings in those years due to, among other things, inflation and increases in invested capital. These adjustments are known as attrition rate adjustments. Attrition rate adjustments provide increases in the revenue requirements that the Utility is authorized to collect in rates for electricity and natural gas distribution and electricity generation operations. The proposed settlement agreement in the Utility's 2011 GRC includes a provision for attrition rate increases in 2012 and 2013. (p12)
Pinnacle West Capital	On October 18, 2010, the Chairman of the ACC issued a draft decoupling policy statement for consideration by the commission. On December 15, 2010 the ACC unanimously approved a slightly modified decoupling policy statement supportive of using a revenue-per-customer methodology, which is the mechanism APS and a number of other parties support. (p51) ***Renewable Energy Standard.*** In 2006, the ACC approved the RES. Under the RES, electric utilities that are regulated by the ACC must supply an increasing percentage of their retail electric energy sales from eligible renewable resources, including solar, wind, biomass, biogas and geothermal technologies. In order to achieve these requirements, the ACC allows APS to include a RES surcharge as part of customer bills to recover the approved amounts for use on renewable energy projects. (p98) ***Demand-Side Management Adjustor Charge ("DSMAC").*** The 2009 retail rate case settlement agreement requires APS to submit an annual Energy Efficiency Implementation Plan for review by and approval of the ACC. On July 15, 2009, APS filed its initial Energy Efficiency Implementation Plan, requesting approval by the ACC of programs and program elements for which APS had estimated a budget in the amount of $50 million for 2010. APS received ACC approval of all of its proposed programs and implemented the new DSMAC on March 1, 2010. A surcharge was added to customer bills in order to recover these estimated

	amounts for use on certain demand-side management programs. The surcharge allows for the recovery of energy efficiency expenses and any earned incentives. (p99) ***PSA Mechanism and Balance.*** The PSA, which the ACC initially approved in 2005 as a part of APS's 2003 rate case, and which was modified by the ACC in 2007, provides for the adjustment of retail rates to reflect variations in retail fuel and purchased power costs. (p99)
Portland General Elec.	*Decoupling*—The decoupling mechanism, initially authorized by the OPUC in PGE's 2009 General Rate Case, is intended to provide for recovery of reduced revenues resulting from a reduction in electricity sales attributable to energy efficiency and conservation efforts by residential and certain commercial customers. The mechanism provides for customer collection if weather adjusted use per customer is lower than levels included in the Company's most recent general rate case; it also provides for customer refunds if weather adjusted use per customer exceeds levels included in the general rate case. … As part of the Company's 2011 General Rate Case, the OPUC authorized the continued use of the decoupling mechanism through December 31, 2013, with conversion to an annual calendar basis. (p9) Annual Power Cost Update Tariff (AUT). Under this tariff, customer prices are adjusted annually to reflect the latest forecast of NVPC. Such forecasts assume average regional hydro conditions (based on seventy years of stream flow data covering the period 1928 - 1998) and current hydro operating constraints and requirements. An initial NVPC forecast, submitted to the OPUC by April 1 each year, is updated during the year and finalized in November. Based upon the final forecast, new prices, as approved by the OPUC, become effective at the beginning of the next calendar year; and ▪ Power Cost Adjustment Mechanism (PCAM). Customer prices can also be adjusted to reflect a portion of the difference between each year's forecasted NVPC included in prices and actual NVPC for the year. Under the PCAM, PGE is subject to a portion of the business risk or benefit associated with the difference between actual NVPC and that included in base prices. The PCAM utilizes an asymmetrical deadband within which PGE absorbs cost variances, with a 90/10 sharing of such variances between customers and the Company outside of the deadband. Annual results of the PCAM are subject to application of a regulated earnings test, under which a refund will occur only to the extent that it results in PGE's actual regulated return on equity (ROE) for that year being no less than 1% above the Company's latest authorized ROE. A collection will occur only to the extent that it results in PGE's actual regulated ROE for that year being no greater than 1% below the Company's last authorized ROE. (p7) The Act also provides for the recovery in customer prices of all prudently incurred costs required to comply with the RPS. Under a renewable adjustment clause (RAC) mechanism, PGE can recover the revenue requirement of new renewable resources and associated transmission that are not yet included in prices. Under the RAC, PGE submits a filing on April 1 of each year for new renewable resources being placed in service in the current year, with prices to become effective January 1st of the following year. In addition, the RAC provides for the deferral and subsequent recovery of eligible costs incurred prior to

	January 1st of the following year. (p7) Recovery of net revenue requirements associated with new renewable resources, which are required by the 2007 Oregon Renewable Energy Act, is allowed under a renewable adjustment clause mechanism authorized by the OPUC. (p100)
SCANA Corp.	SCE&G's gas rate schedules for its residential, small commercial and small industrial customers include a WNA approved by the SCPSC which is in effect for bills rendered for billing cycles in November through April. The WNA increases tariff rates if weather is warmer than normal and decreases rates if weather is colder than normal. (p15) CUT Customer Usage Tracker - PSNC Energy is authorized by the NCUC to utilize a CUT which allows PSNC Energy to adjust its base rates semi-annually for residential and commercial customers based on average per customer consumption whether impacted by weather or other factors.(p16) The SCPSC's fuel cost recovery procedure determines the fuel component in SCE&G's retail electric base rates annually based on projected fuel costs for the ensuing 12-month period, adjusted for any over-collection or under-collection from the preceding 12-month period. The statutory definition of fuel costs includes certain variable environmental costs, such as ammonia, lime, limestone and catalysts consumed in reducing or treating emissions. The definition also includes the cost of emission allowances used for sulfur dioxide, nitrogen oxide, mercury and particulates. (p17) SCE&G's natural gas tariffs include a PGA clause that provides for the recovery of actual gas cost incurred, including costs related to hedging natural gas purchasing activities. (p17) SCE&G's natural gas tariffs include a PGA clause that provides for the recovery of actual gas cost incurred, including costs related to hedging natural gas purchasing activities. (p17) On July 15, 2010, the SCPSC issued an order approving the implementation by SCE&G of certain DSM Programs, including the establishment of an annual rider to allow recovery of the costs and lost net margin revenue associated with DSM Programs, along with an incentive for investing in such programs. (p16)
TECO Energy	PGS recovers the costs it pays for gas supply and interstate transportation for system supply through the purchased gas adjustment (PGA) clause. This charge is designed to recover the costs incurred by PGS for purchased gas, and for holding and using interstate pipeline capacity for the transportation of gas it delivers to its customers. (p11) In November 2010, the FPSC approved cost recovery rates for fuel and purchased power, capacity, environmental and conservation costs for the period January through December 2011. The rates include the expected cost for natural gas and coal in 2011, and the net over-recovery of fuel, purchased power and capacity clause expenses, which were collected in 2010 and 2009 following the March mid-course adjustment described below. (p47) Fuel, purchased power, conservation and certain environmental costs are recovered through levelized monthly charges established pursuant to the FPSC's cost recovery clauses. These charges, which are reset annually in an FPSC proceeding, are based on estimated fuel, environmental compliance, conservation programs and purchased power costs and estimated customer usage for a calendar year recovery period, with a true-up adjustment to reflect the variance of actual costs to projected costs for prior periods. The FPSC may disallow recovery of any costs it considers unreasonable or imprudently incurred. (p73) Currently, Tampa Electric's and PGS' commodity price risk is largely mitigated by the fact that increases in the price of fuel and purchased power are recovered through cost recovery clauses, with no anticipated effect on earnings. (p77)

	Revenues include amounts resulting from cost recovery clauses which provide for monthly billing charges to reflect increases or decreases in fuel, purchased power, conservation and environmental costs for Tampa Electric and purchased gas, interstate pipeline capacity and conservation costs for PGS. These adjustment factors are based on costs incurred and projected for a specific recovery period. Any over- or under-recovery of costs plus an interest factor are taken into account in the process of setting adjustment factors for subsequent recovery periods. Over-recoveries of costs are recorded as regulatory liabilities, and under-recoveries of costs are recorded as regulatory assets. (p F-11)
Unisource Energy	The retail rates charged by TEP, UNS Gas and UNS Electric include pass-through mechanisms that allow each utility to recover the actual costs of their fuel and power purchases. (p. k-2) Effective in January 2009, as a result of the 2008 TEP Rate Order, TEP was authorized a rate-adjustment mechanism that provides for the recovery of actual fuel and purchased energy cost, similar to mechanisms already in place at UNS Gas and UNS Electric. The revenue surcharge or surcredit adjusts the customers' rate for delivered electricity or gas to collect or return under- or over- recovered energy costs. (p. k-102) UNS Gas defers the difference between gas costs incurred and the recovery of such costs in base rates under a Purchased Gas Adjustor (PGA) mechanism. Gas cost over-recoveries (the excess of gas costs recovered in base rates over gas costs incurred) are deferred as regulatory liabilities and under-recoveries (the excess of gas costs incurred over gas costs recovered in base rates) are deferred as regulatory assets (p. k-103) Arizona adopted a mandatory Renewable Energy Standard (RES) that requires TEP and UNS Electric to increase their use of renewable energy and allows recovery of RES compliance costs through a surcharge to customers. TEP and UNS Electric defer the difference between RES qualified costs when incurred and the recovery of such costs through the RES surcharge. (p. k-103)
Westar Energy	While the KCC has recently allowed us to implement a regulatory accounting mechanism to track certain of our employee benefit plan expenses, this mechanism does not allow us to make automatic price adjustments. Only in future rate proceedings may we be allowed to adjust our prices to reflect changes in our funding requirements for these benefit plans. Further, the tracking mechanism for these benefit plan expenses is part of our overall rate structure, and as such it is subject to KCC review and may be modified, limited or eliminated in the future. (p24) We have incurred and will continue to incur significant capital and other expenditures to comply with environmental laws and regulations. We are permitted to recover certain of these costs through the environmental cost recovery rider (ECRR), which allows for the more timely inclusion in retail prices the costs of capital expenditures associated with environmental improvements, including those required by the Federal Clean Air Act. (p15) We have a retail energy cost adjustment (RECA) under which we are permitted to recover in our prices the cost of fuel consumed in generating electricity and purchased power needed to serve our retail customers. Through the RECA, we bill our customers for fuel and purchased power costs based on a quarter-ahead estimate. (p8)

Rebuttal Testimony
Exhibit WEA-1

EXHIBIT WEA-1

QUALIFICATIONS OF WILLIAM E. AVERA

Q. WHAT IS THE PURPOSE OF THIS EXHIBIT?

A. This exhibit describes my background and experience and contains the details of my qualifications.

Q. PLEASE DESCRIBE YOUR QUALIFICATIONS AND EXPERIENCE.

A. I received a B.A. degree with a major in economics from Emory University. After serving in the U.S. Navy, I entered the doctoral program in economics at the University of North Carolina at Chapel Hill. Upon receiving my Ph.D., I joined the faculty at the University of North Carolina and taught finance in the Graduate School of Business. I subsequently accepted a position at the University of Texas at Austin where I taught courses in financial management and investment analysis. I then went to work for International Paper Company in New York City as Manager of Financial Education, a position in which I had responsibility for all corporate education programs in finance, accounting, and economics.

In 1977, I joined the staff of the Public Utility Commission of Texas ("PUCT") as Director of the Economic Research Division. During my tenure at the PUCT, I managed a division responsible for financial analysis, cost allocation and rate design, economic and financial research, and data processing systems, and I testified in cases on a variety of financial and economic issues. Since leaving the PUCT, I have been engaged as a consultant. I have participated in a wide range of assignments involving utility-related matters on behalf of utilities, industrial customers, municipalities, and regulatory commissions. I have previously testified before the Federal Energy Regulatory Commission ("FERC"), as well as the Federal Communications Commission, the Surface Transportation Board (and its predecessor, the Interstate Commerce Commission), the Canadian Radio-Television and Telecommunications Commission, and regulatory agencies, courts, and legislative committees in over 40 states, including the Virginia State Corporation Commission ("SCC" or the "Commission").

In 1995, I was appointed by the PUCT to the Synchronous Interconnection Committee to advise the Texas legislature on the costs and benefits of connecting Texas to the national electric transmission grid. In addition, I served as an outside director of Georgia System Operations Corporation, the system operator for electric cooperatives in Georgia.

I have served as Lecturer in the Finance Department at the University of Texas at Austin and taught in the evening graduate program at St. Edward's University for twenty years. In addition, I have lectured on economic and regulatory topics in programs sponsored by universities and industry groups. I have taught in hundreds of educational programs for financial analysts in programs sponsored by the Association for Investment Management and Research, the Financial Analysts Review, and local financial analysts societies. These programs have been presented in Asia, Europe, and North America, including the Financial Analysts Seminar at Northwestern University. I hold the Chartered Financial Analyst (CFA®) designation and have served as Vice President for Membership of the Financial Management Association. I have also served on the Board of Directors of the North Carolina Society of Financial Analysts. I was elected Vice Chairman of the National Association of Regulatory Commissioners ("NARUC") Subcommittee on Economics and appointed to NARUC's Technical Subcommittee on the National Energy Act. I have also served as an officer of various other professional organizations and societies. A resume containing the details of my experience and qualifications is attached.

WILLIAM E. AVERA

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Economic and Financial Counsel

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Summary of Qualifications

Ph.D. in economics and finance; Chartered Financial Analyst (CFA ®) designation; extensive expert witness testimony before courts, alternative dispute resolution panels, regulatory agencies and legislative committees; lectured in executive education programs around the world on ethics, investment analysis, and regulation; undergraduate and graduate teaching in business and economics; appointed to leadership positions in government, industry, academia, and the military.

Employment

Principal, FINCAP, Inc. (Sep. 1979 to present)	Financial, economic and policy consulting to business and government. Perform business and public policy research, cost/benefit analyses and financial modeling, valuation of businesses (almost 200 entities valued), estimation of damages, statistical and industry studies. Provide strategy advice and educational services in public and private sectors, and serve as expert witness before regulatory agencies, legislative committees, arbitration panels, and courts.
Director, Economic Research Division, Public Utility Commission of Texas (Dec. 1977 to Aug. 1979)	Responsible for research and testimony preparation on rate of return, rate structure, and econometric analysis dealing with energy, telecommunications, water and sewer utilities. Testified in major rate cases and appeared before legislative committees and served as Chief Economist for agency. Administered state and federal grant funds. Communicated frequently with political leaders and representatives from consumer groups, media, and investment community.
Manager, Financial Education, International Paper Company New York City (Feb. 1977 to Nov. 1977)	Directed corporate education programs in accounting, finance, and economics. Developed course materials, recruited and trained instructors, liaison within the company and with academic institutions. Prepared operating budget and designed financial controls for corporate professional development program.

Lecturer in Finance, The University of Texas at Austin (Sep. 1979 to May 1981) Assistant Professor of Finance, (Sep. 1975 to May 1977)	Taught graduate and undergraduate courses in financial management and investment theory. Conducted research in business and public policy. Named Outstanding Graduate Business Professor and received various administrative appointments.
Assistant Professor of Business, University of North Carolina at Chapel Hill (Sep. 1972 to Jul. 1975)	Taught in BBA, MBA, and Ph.D. programs. Created project course in finance, Financial Management for Women, and participated in developing Small Business Management sequence. Organized the North Carolina Institute for Investment Research, a group of financial institutions that supported academic research. Faculty advisor to the Media Board, which funds student publications and broadcast stations.

Education

Ph.D., Economics and Finance, University of North Carolina at Chapel Hill (Jan. 1969 to Aug. 1972)	Elective courses included financial management, public finance, monetary theory, and econometrics. Awarded the Stonier Fellowship by the American Bankers' Association and University Teaching Fellowship. Taught statistics, macroeconomics, and microeconomics. Dissertation: *The Geometric Mean Strategy as a Theory of Multiperiod Portfolio Choice*
B.A., Economics, Emory University, Atlanta, Georgia (Sep. 1961 to Jun. 1965)	Active in extracurricular activities, president of the Barkley Forum (debate team), Emory Religious Association, and Delta Tau Delta chapter. Individual awards and team championships at national collegiate debate tournaments.

Professional Associations

Received Chartered Financial Analyst (CFA) designation in 1977; Vice President for Membership, Financial Management Association; President, Austin Chapter of Planning Executives Institute; Board of Directors, North Carolina Society of Financial Analysts; Candidate Curriculum Committee, Association for Investment Management and Research; Executive Committee of Southern Finance Association; Vice Chair, Staff Subcommittee on Economics and National Association of Regulatory Utility Commissioners (NARUC); Appointed to NARUC Technical Subcommittee on the National Energy Act.

Teaching in Executive Education Programs

University-Sponsored Programs: Central Michigan University, Duke University, Louisiana State University, National Defense University, National University of Singapore, Texas A&M University, University of Kansas, University of North Carolina, University of Texas.

Business and Government-Sponsored Programs: Advanced Seminar on Earnings Regulation, American Public Welfare Association, Association for Investment Management and Research, Congressional Fellows Program, Cost of Capital Workshop, Electricity Consumers Resource Council, Financial Analysts Association of Indonesia, Financial Analysts Review, Financial Analysts Seminar at Northwestern University, Governor's Executive Development Program of Texas, Louisiana Association of Business and Industry, National Association of Purchasing Management, National Association of Tire Dealers, Planning Executives Institute, School of Banking of the South, State of Wisconsin Investment Board, Stock Exchange of Thailand, Texas Association of State Sponsored Computer Centers, Texas Bankers' Association, Texas Bar Association, Texas Savings and Loan League, Texas Society of CPAs, Tokyo Association of Foreign Banks, Union Bank of Switzerland, U.S. Department of State, U.S. Navy, U.S. Veterans Administration, in addition to Texas state agencies and major corporations.

Presented papers for Mills B. Lane Lecture Series at the University of Georgia and Heubner Lectures at the University of Pennsylvania. Taught graduate courses in finance and economics for evening program at St. Edward's University in Austin from January 1979 through 1998.

Expert Witness Testimony

Testified in over 300 cases before regulatory agencies addressing cost of capital, regulatory policy, rate design, and other economic and financial issues.

Federal Agencies: Federal Communications Commission, Federal Energy Regulatory Commission, Surface Transportation Board, Interstate Commerce Commission, and the Canadian Radio-Television and Telecommunications Commission.

State Regulatory Agencies: Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Michigan, Missouri, Nevada, New Mexico, Montana, Nebraska, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, South Dakota, Texas, Utah, Virginia, Washington, West Virginia, Wisconsin, and Wyoming.

Testified in 42 cases before federal and state courts, arbitration panels, and alternative dispute tribunals (89 depositions given) regarding damages, valuation, antitrust liability, fiduciary duties, and other economic and financial issues.

Board Positions and Other Professional Activities

Audit Committee and Outside Director, Georgia System Operations Corporation (electric system operator for member-owned electric cooperatives in Georgia); Chairman, Board of Print Depot, Inc. and FINCAP, Inc.; Co-chair, Synchronous Interconnection Committee, appointed by Public Utility Commission of Texas and approved by governor; Appointed by Hays County Commission to Citizens Advisory Committee of Habitat Conservation Plan, Operator of AAA Ranch, a certified organic producer of agricultural products; Appointed to Organic Livestock Advisory Committee by Texas Agricultural Commissioner Susan Combs; Appointed by Texas Railroad Commissioners to study group for *The UP/SP Merger: An Assessment of the Impacts on the State of Texas;* Appointed by Hawaii Public Utilities Commission to team reviewing affiliate relationships of Hawaiian Electric Industries; Chairman, Energy Task Force, Greater Austin-San Antonio Corridor Council; Consultant to Public Utility Commission of Texas on cogeneration policy and other matters; Consultant to Public Service Commission of New Mexico on cogeneration policy; Evaluator of Energy Research Grant Proposals for Texas Higher Education Coordinating Board.

Community Activities

Board of Directors, Sustainable Food Center; Chair, Board of Deacons, Finance Committee, and Elder, Central Presbyterian Church of Austin; Founding Member, Orange-Chatham County (N.C.) Legal Aid Screening Committee.

Military

Captain, U.S. Naval Reserve (retired after 28 years service); Commanding Officer, Naval Special Warfare Engineering (SEAL) Support Unit; Officer-in-Charge of SWIFT patrol boat in Vietnam; Enlisted service as weather analyst (advanced to second class petty officer).

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Monographs

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"Consumer Expectations and the Economy," *Texas Business Review* (Nov. 1976)

"Portfolio Performance Evaluation and Long-run Capital Growth," with Henry A. Latané in *Proceedings of the Eastern Finance Association* (1973)

Book reviews in *Journal of Finance* and *Financial Review*. Abstracts for *CFA Digest*. Articles in *Carolina Financial Times*.

Selected Papers and Presentations

"Economic Perspective on Water Marketing in Texas," 2009 Water Law Institute, The University of Texas School of Law, Austin, TX (Dec. 2009).

"Estimating Utility Cost of Equity in Financial Turmoil," SNL EXNET 15th Annual FERC Briefing, Washington, D.C. (Mar. 2009)

"The Who, What, When, How, and Why of Ethics," San Antonio Financial Analysts Society (Jan. 16, 2002). Similar presentation given to the Austin Society of Financial Analysts (Jan. 17, 2002)

"Ethics for Financial Analysts," Sponsored by Canadian Council of Financial Analysts: delivered in Calgary, Edmonton, Regina, and Winnipeg, June 1997. Similar presentations given to Austin Society of Financial Analysts (Mar. 1994), San Antonio Society of Financial Analysts (Nov. 1985), and St. Louis Society of Financial Analysts (Feb. 1986)

"Cost of Capital for Multi-Divisional Corporations," Financial Management Association, New Orleans, Louisiana (Oct. 1996)

"Ethics and the Treasury Function," Government Treasurers Organization of Texas, Corpus Christi, Texas (Jun. 1996)

"A Cooperative Future," Iowa Association of Electric Cooperatives, Des Moines (December 1995). Similar presentations given to National G & T Conference, Irving, Texas (June 1995), Kentucky Association of Electric Cooperatives Annual Meeting, Louisville (Nov. 1994), Virginia, Maryland, and Delaware Association of Electric Cooperatives Annual Meeting, Richmond (July 1994), and Carolina Electric Cooperatives Annual Meeting, Raleigh (Mar. 1994)

"Information Superhighway Warnings: Speed Bumps on Wall Street and Detours from the Economy," Texas Society of Certified Public Accountants Natural Gas, Telecommunications and Electric Industries Conference, Austin (Apr. 1995)

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"Growth Rates, Expected Returns, and Variance in Portfolio Selection and Performance Evaluation," with Henry A. Latané, Econometric Society, Oslo, Norway (Aug. 1973)

Rebuttal Testimony
Exhibit WEA-2

WOOLRIDGE PROXY GROUP

	Company	(a) Expected Return on Common Equity	(b) Adjustment Factor	(c) Adjusted Return on Common Equity
1	ALLETE, Inc.	9.5%	1.02998	9.8%
2	Alliant Energy Corporation	12.0%	1.01923	12.2%
3	Ameren Corporation	7.0%	1.01744	7.1%
4	American Electric Power Co.	10.5%	1.02825	10.8%
5	Avista Corporation	9.0%	1.02055	9.2%
6	Cleco Corporation	11.5%	1.04675	12.0%
7	CMS Energy Corporation	12.5%	1.03345	12.9%
8	Consolidated Edison, Inc.	9.5%	1.01791	9.7%
9	DTE Energy Company	9.0%	1.01873	9.2%
10	Edison International	8.0%	1.02157	8.2%
11	Entergy Corporation	11.5%	1.02750	11.8%
12	Great Plains Energy Inc.	7.5%	1.02311	7.7%
13	Hawaiian Electric Industries	10.5%	1.03240	10.8%
14	IDACORP, Inc.	8.5%	1.02614	8.7%
15	MGE Energy, Inc.	12.0%	1.01148	12.1%
16	Nextra Energy	11.0%	1.03928	11.4%
17	OGE Energy Corp.	12.0%	1.03854	12.5%
18	Pepco Holdings, Inc.	7.5%	1.02265	7.7%
19	PG&E Corporation	11.5%	1.03505	11.9%
20	Pinnacle West Capital Corp.	9.0%	1.02751	9.2%
21	Portland General Electric	9.0%	1.02112	9.2%
22	SCANA Corporation	9.5%	1.04155	9.9%
23	Southern Company	13.0%	1.03357	13.4%
24	TECO Energy, Inc.	13.0%	1.02892	13.4%
25	UniSource Energy Corp.	12.5%	1.02426	12.8%
26	Westar Energy, Inc.	10.0%	1.02182	10.2%
27	Wisconsin Energy Corp.	14.0%	1.01467	14.2%
28	Xcel Energy Inc.	10.0%	1.02642	10.3%
	Average			**10.7%**

(a) The Value Line Investment Survey (Aug. 5, Aug. 26, & Sep. 23, 2011).

(b) Adjustment to convert year-end return to an average rate of return.

(c) (a) x (b).

HILL PROXY GROUP

	Company	(a) Expected Return on Common Equity	(b) Adjustment Factor	(c) Adjusted Return on Common Equity
1	ALLETE	9.5%	1.029985	9.8%
2	American Elec Pwr	10.5%	1.028248	10.8%
3	Avista Corp.	9.0%	1.02055	9.2%
4	Black Hills Corp.	7.5%	1.023241	7.7%
5	Cleco Corp.	9.5%	1.02692	9.8%
6	Entergy Corp.	11.5%	1.027496	11.8%
7	Hawaiian Elec.	10.5%	1.032398	10.8%
8	PG&E Corp.	11.5%	1.035048	11.9%
9	Pinnacle West Capital	9.0%	1.027505	9.2%
10	Portland General Elec.	9.0%	1.021118	9.2%
11	SCANA Corp.	9.5%	1.041545	9.9%
12	TECO Energy	13.0%	1.02892	13.4%
13	Unisource Energy	12.5%	1.024256	12.8%
14	Westar Energy	10.0%	1.021815	10.2%
	Average			**10.5%**

(a) The Value Line Investment Survey (Aug. 5, Aug. 26, & Sep. 23, 2011).

(b) Adjustment to convert year-end return to an average rate of return.

(c) (a) x (b).

Rebuttal Testimony
Exhibit WEA-3

ALLOWED ROE

WOOLRIDGE PROXY GROUP

	Company	Allowed Return on Common Equity
1	ALLETE, Inc.	10.38%
2	Alliant Energy Corporation	10.38%
3	Ameren Corporation	9.95%
4	American Electric Power Co.	10.68%
5	Avista Corporation	10.33%
6	Cleco Corporation	10.70%
7	CMS Energy Corporation	10.60%
8	Consolidated Edison, Inc.	9.93%
9	DTE Energy Company	11.00%
10	Edison International	10.68%
11	Entergy Corporation	10.66%
12	Great Plains Energy Inc.	10.25%
13	Hawaiian Electric Industries	10.47%
14	IDACORP, Inc.	10.18%
15	MGE Energy, Inc.	10.30%
16	Nextra Energy	10.50%
17	OGE Energy Corp.	9.98%
18	Pepco Holdings, Inc.	10.23%
19	PG&E Corporation	11.35%
20	Pinnacle West Capital Corp.	11.00%
21	Portland General Electric	10.00%
22	SCANA Corporation	10.67%
23	Southern Company	11.90%
24	TECO Energy, Inc.	11.00%
25	UniSource Energy Corp.	9.88%
26	Westar Energy, Inc.	10.20%
27	Wisconsin Energy Corp.	10.38%
28	Xcel Energy Inc.	10.75%
	Average	**10.51%**

Source: *AUS Monthly Report* (Sep. 2011).

ALLOWED ROE

HILL PROXY GROUP

	Company	Allowed Return on Common Equity
1	ALLETE	10.38%
2	American Electric Power	10.68%
3	Avista Corporation	10.33%
4	Black Hills Corporation	10.72%
5	Cleco Corporation	10.70%
6	Entergy Corp.	10.66%
7	Hawaiian Electric	10.47%
8	PGE Corporation	11.35%
9	Pinnacle West Capital	11.00%
10	Portland General	10.00%
11	SCANA Corp.	10.67%
12	TECO Energy	11.00%
13	UniSource Energy	9.88%
14	Westar	10.20%
	Average	**10.57%**

Source: *AUS Monthly Report* (Sep. 2011).

Rebuttal Testimony
Exhibit WEA-4

WOOLRIDGE DCF MODEL

HISTORICAL GROWTH RATES

		(a)	(b)	(b)	(b)	(b)	(c)	(c)	(c)	(c)
			Historical Growth Rates				Cost of Equity Estimates			
			Past 10 Years		Past 5 Years		Past 10 Years		Past 5 Years	
	Company	Dividend Yield	EPS	BVPS	EPS	BVPS	EPS	BVPS	EPS	BVPS
1	ALLETE, Inc.	4.7%	--	--	3.5%	6.0%	--	--	8.3%	10.9%
2	Alliant Energy Corporation	4.4%	3.0%	1.0%	9.0%	3.5%	7.5%	$\boxed{5.4\%}$	13.6%	8.0%
3	Ameren Corporation	5.4%	-0.5%	3.5%	-1.5%	2.5%	$\boxed{4.9\%}$	9.0%	$\boxed{3.9\%}$	8.0%
4	American Electric Power Co.	5.0%	2.5%	1.0%	2.0%	5.0%	7.6%	$\boxed{6.0\%}$	7.1%	10.1%
5	Avista Corporation	4.6%	4.0%	4.0%	11.5%	4.0%	8.7%	8.7%	16.4%	8.7%
6	Cleco Corporation	3.3%	4.5%	7.5%	7.5%	11.0%	7.8%	10.9%	10.9%	14.5%
7	CMS Energy Corporation	4.4%	-7.5%	-6.0%	17.5%	1.5%	$\boxed{-3.3\%}$	$\boxed{-1.8\%}$	$\boxed{22.2\%}$	$\boxed{5.9\%}$
8	Consolidated Edison, Inc.	4.5%	1.0%	3.5%	3.0%	2.5%	$\boxed{5.5\%}$	8.1%	7.6%	7.0%
9	DTE Energy Company	4.8%	--	3.5%	2.5%	3.5%	--	8.4%	7.4%	8.4%
10	Edison International	3.5%	--	9.5%	10.0%	10.5%	--	13.1%	13.6%	14.2%
11	Entergy Corporation	5.2%	10.0%	4.0%	10.0%	4.0%	15.5%	9.3%	15.5%	9.3%
12	Great Plains Energy Inc.	4.4%	-3.5%	4.0%	-11.5%	7.0%	$\boxed{0.8\%}$	8.5%	$\boxed{-7.4\%}$	11.5%
13	Hawaiian Electric Industries	5.3%	-2.5%	2.0%	-6.0%	1.0%	$\boxed{2.8\%}$	7.4%	$\boxed{-0.8\%}$	$\boxed{6.3\%}$
14	IDACORP, Inc.	3.2%	-0.5%	3.5%	11.0%	4.5%	$\boxed{2.7\%}$	$\boxed{6.8\%}$	14.4%	7.8%
15	MGE Energy, Inc.	3.7%	4.5%	6.5%	7.0%	6.5%	8.3%	10.3%	10.8%	10.3%
16	Nextra Energy	4.0%	8.0%	7.5%	12.0%	9.0%	12.2%	11.7%	16.3%	13.2%
17	OGE Energy Corp.	3.2%	3.5%	5.0%	9.0%	8.5%	$\boxed{6.7\%}$	8.2%	12.3%	11.8%
18	Pepco Holdings, Inc.	5.7%	-0.5%	0.5%	-0.5%	1.0%	$\boxed{5.2\%}$	$\boxed{6.3\%}$	$\boxed{5.2\%}$	$\boxed{6.8\%}$
19	PG&E Corporation	4.3%	--	5.5%	7.0%	10.5%	--	9.9%	11.5%	15.0%
20	Pinnacle West Capital Corp.	4.9%	-2.5%	2.5%	0.5%	0.5%	$\boxed{2.4\%}$	7.5%	$\boxed{5.4\%}$	$\boxed{5.4\%}$
21	Portland General Electric	4.5%	--	--	7.5%	2.0%	--	--	12.1%	$\boxed{6.5\%}$
22	SCANA Corporation	4.9%	4.5%	4.0%	2.0%	4.5%	9.6%	9.0%	7.0%	9.6%
23	Southern Company	4.7%	2.0%	2.5%	2.5%	5.5%	$\boxed{6.8\%}$	7.3%	7.3%	10.3%
24	TECO Energy, Inc.	4.8%	-5.5%	-1.5%	12.0%	5.0%	$\boxed{-0.8\%}$	$\boxed{3.3\%}$	$\boxed{17.1\%}$	9.9%
25	UniSource Energy Corp.	4.6%	7.0%	8.0%	8.5%	4.5%	11.8%	12.8%	13.3%	9.2%
26	Westar Energy, Inc.	5.0%	--	-3.0%	1.0%	6.0%	--	$\boxed{1.9\%}$	$\boxed{6.0\%}$	11.1%
27	Wisconsin Energy Corp.	3.5%	8.0%	6.0%	8.5%	7.5%	11.6%	9.6%	12.1%	11.1%
28	Xcel Energy Inc.	4.4%	-1.0%	--	4.0%	4.0%	$\boxed{3.3\%}$	--	8.5%	8.5%
	Average (d)						**10.0%**	**9.4%**	**11.3%**	**10.4%**
	Range							**9.4% -**	**11.3%**	
	Midpoint							**10.4%**		
	Average - All Growth Rates							**10.3%**		

(a) Average of six-month and September 2011 dividend yields from Exhibit JRW-10, p. 2.
(b) Exhibit JRW-10, p. 3.
(c) Sum of dividend yield (adjusted for one-half year's growth) and respective growth rate.
(d) Excludes highlighted figures.

Rebuttal Testimony
Exhibit WEA-5

WOOLRIDGE DCF MODEL

PROJECTED EPS GROWTH RATES

		(a)	(b)	(c)	(c)	(c)	(d)	(d)	(d)	(d)
			Projected EPS Growth Rates				Cost of Equity Estimates			
	Company	Dividend Yield	Value Line	First Call	Zacks	Reuters	Value Line	First Call	Zacks	Reuters
1	ALLETE, Inc.	4.7%	4.5%	5.8%	5.0%	6.0%	9.3%	10.6%	9.9%	10.9%
2	Alliant Energy Corporation	4.4%	7.0%	5.9%	6.0%	5.7%	11.6%	10.5%	10.5%	10.2%
3	Ameren Corporation	5.4%	-2.0%	1.0%	4.0%	3.0%	$\boxed{3.3\%}$	$\boxed{6.4\%}$	9.5%	8.5%
4	American Electric Power Co.	5.0%	4.5%	4.0%	4.0%	4.2%	9.6%	9.1%	9.1%	9.3%
5	Avista Corporation	4.6%	4.5%	4.7%	4.7%	4.7%	9.2%	9.4%	9.4%	9.4%
6	Cleco Corporation	3.3%	6.0%	3.0%	7.0%	3.0%	9.4%	$\boxed{6.3\%}$	10.4%	$\boxed{6.3\%}$
7	CMS Energy Corporation	4.4%	7.0%	6.0%	5.5%	5.7%	11.5%	10.5%	10.0%	10.2%
8	Consolidated Edison, Inc.	4.5%	3.0%	3.4%	3.0%	3.9%	7.6%	8.0%	7.5%	8.4%
9	DTE Energy Company	4.8%	3.5%	3.5%	5.0%	3.5%	8.4%	8.4%	10.0%	8.5%
10	Edison International	3.5%	-1.0%	2.9%	5.0%	3.5%	$\boxed{2.5\%}$	$\boxed{6.4\%}$	8.6%	7.1%
11	Entergy Corporation	5.2%	1.5%	-1.1%	-0.2%	3.3%	$\boxed{6.7\%}$	$\boxed{4.1\%}$	$\boxed{5.0\%}$	8.6%
12	Great Plains Energy Inc.	4.4%	6.0%	6.0%	9.0%	5.9%	10.5%	10.5%	13.6%	10.4%
13	Hawaiian Electric Industries	5.3%	11.0%	8.6%	8.6%	7.0%	16.6%	14.1%	14.1%	12.5%
14	IDACORP, Inc.	3.2%	4.0%	4.7%	4.7%	4.7%	7.3%	8.0%	8.0%	8.0%
15	MGE Energy, Inc.	3.7%	4.0%	4.0%	4.0%	4.0%	7.8%	7.8%	7.8%	7.8%
16	Nextra Energy	4.0%	3.5%	5.8%	6.7%	5.8%	7.6%	10.0%	10.8%	9.9%
17	OGE Energy Corp.	3.2%	6.5%	7.2%	6.0%	6.6%	9.8%	10.5%	9.3%	9.9%
18	Pepco Holdings, Inc.	5.7%	2.5%	5.0%	4.3%	3.3%	8.3%	10.9%	10.2%	9.1%
19	PG&E Corporation	4.3%	6.0%	3.8%	5.0%	5.2%	10.4%	8.2%	9.4%	9.6%
20	Pinnacle West Capital Corp.	4.9%	6.0%	6.8%	5.3%	6.5%	11.1%	11.9%	10.4%	11.6%
21	Portland General Electric	4.5%	7.5%	4.7%	5.0%	5.5%	12.1%	9.2%	9.6%	10.1%
22	SCANA Corporation	4.9%	3.0%	4.8%	4.3%	4.5%	8.0%	9.9%	9.4%	9.6%
23	Southern Company	4.7%	6.0%	6.0%	5.0%	5.9%	10.9%	10.9%	9.8%	10.8%
24	TECO Energy, Inc.	4.8%	10.5%	6.3%	4.7%	6.1%	15.5%	11.2%	9.6%	11.0%
25	UniSource Energy Corp.	4.6%	9.5%	3.0%	3.0%	7.5%	14.4%	7.7%	7.7%	12.3%
26	Westar Energy, Inc.	5.0%	8.5%	6.4%	6.1%	6.2%	13.7%	11.5%	11.2%	11.3%
27	Wisconsin Energy Corp.	3.5%	8.5%	7.1%	8.0%	8.2%	12.1%	10.7%	11.6%	11.8%
28	Xcel Energy Inc.	4.4%	5.0%	5.6%	4.9%	5.6%	9.5%	10.1%	9.4%	10.1%
	Average (e)						**10.5%**	**10.0%**	**9.9%**	**9.9%**
	Range							**9.9% - 10.5%**		
	Midpoint							**10.2%**		
	Average - All Growth Rates							**10.1%**		

(a) Average of six-month and September 2011 dividend yields from Exhibit JRW-10, p. 2.
(b) Exhibit JRW-10, p. 4.
(c) Exhibit JRW-10, p. 5.
(d) Sum of dividend yield (adjusted for one-half year's growth) and respective growth rate.
(e) Excludes highlighted figures.

Rebuttal Testimony
Exhibit WEA-6

PROJECTED EPS GROWTH RATES

	(a)	(b)	(b)		
		Projected EPS Growth Rate			Implied
Company	Dividend Yield	IBES	Value Line	Average	Cost of Equity
SCG	4.95%	4.78%	3.00%	3.89%	8.84%
TE	4.59%	6.96%	10.50%	8.73%	13.32%
ALE	4.42%	5.75%	4.50%	5.13%	9.54%
AEP	4.89%	3.65%	4.50%	4.08%	8.96%
CNL	3.23%	3.00%	6.00%	4.50%	7.73%
ETR	5.10%	0.58%	1.50%	1.04%	6.14%
WR	4.81%	6.57%	8.50%	7.54%	12.35%
AVA	4.36%	4.67%	8.50%	6.59%	10.94%
BKH	4.85%	5.00%	10.50%	7.75%	12.60%
HE	5.17%	8.05%	11.00%	9.53%	14.70%
PCG	4.59%	4.91%	7.00%	5.96%	10.55%
PNW	4.77%	6.38%	6.00%	6.19%	10.96%
POR	4.17%	4.65%	7.50%	6.08%	10.25%
UNS	4.51%	0.30%	9.50%	4.90%	9.41%
Range					**7.73% -- 14.70%**
Midpoint					**11.21%**
Average					**10.78%**

(a) Exhibit_(SGH-1), Schedule 7.
(b) Exhibit_(SGH-1), Schedule 6, p. 2.

Rebuttal Testimony
Exhibit WEA-7

CAPM - CURRENT BOND YIELD

WOOLRIDGE PROXY GROUP

Market Rate of Return		
Dividend Yield (a)	2.3%	
Growth Rate (b)	10.9%	
Market Return (c)		13.2%
Less: Risk-Free Rate (d)		
Long-term Treasury Bond Yield		3.2%
Market Risk Premium (e)		10.0%
Woolridge Proxy Group Beta (f)		0.71
Risk Premium (g)		7.1%
Plus: Risk-free Rate (d)		
Long-term Treasury Bond Yield		3.2%
Unadjusted CAPM (h)		10.3%
Size Adjustment (i)		0.81%
Implied Cost of Equity (j)		**11.1%**

(a) Weighted average dividend yield for the dividend paying firms in the S&P 500 from www.valueline.com (retrieved Jun. 26, 2011).
(b) Weighted average of IBES earnings growth rates for the dividend paying firms in the S&P 500 (retrieved Jul. 3, 2011).
(c) (a) + (b)
(d) Average yield on 30-year Treasury bonds for September 2011 from the Federal Reserve Board at http://www.federalreserve.gov/releases/h15/data/Monthly/H15_TCMNOM_Y20.txt.
(e) (c) - (d).
(f) Exhibit JRW-11, p. 3.
(g) (e) x (f).
(h) (d) + (g).
(i) *Morningstar*, "Ibbotson SBBI 2010 Valuation Yearbook," at Table C-1 (2010).
(j) (h) + (i).

HILL PROXY GROUP

Market Rate of Return		
Dividend Yield (a)	2.3%	
Growth Rate (b)	10.9%	
Market Return (c)		13.2%
Less: Risk-Free Rate (d)		
Long-term Treasury Bond Yield		3.2%
Market Risk Premium (e)		10.0%
Hill Proxy Group Beta (f)		0.71
Risk Premium (g)		7.1%
Plus: Risk-free Rate (d)		
Long-term Treasury Bond Yield		3.2%
Unadjusted CAPM (h)		10.3%
Size Adjustment (i)		1.01%
Implied Cost of Equity (j)		**11.3%**

(a) Weighted average dividend yield for the dividend paying firms in the S&P 500 from www.valueline.com (retrieved Jun. 26, 2011).

(b) Weighted average of IBES earnings growth rates for the dividend paying firms in the S&P 500 (retrieved Jul. 3, 2011).

(c) (a) + (b)

(d) Average yield on 30-year Treasury bonds for September 2011 from the Federal Reserve Board at http://www.federalreserve.gov/releases/h15/data/Monthly/H15_TCMNOM_Y20.txt.

(e) (c) - (d).

(f) Exhibit_(SGH-1), Schedule 9.

(g) (e) x (f).

(h) (d) + (g).

(i) *Morningstar*, "Ibbotson SBBI 2010 Valuation Yearbook," at Table C-1 (2010).

(j) (h) + (i).

Rebuttal Testimony
Exhibit WEA-8

CAPM - PROJECTED BOND YIELD

WOOLRIDGE PROXY GROUP

Market Rate of Return		
Dividend Yield (a)	2.3%	
Growth Rate (b)	10.9%	
Market Return (c)		13.2%
Less: Risk-Free Rate (d)		
Projected Long-term Treasury Bond Yield		5.3%
Market Risk Premium (e)		7.9%
Woolridge Proxy Group Beta (f)		0.71
Risk Premium (g)		5.6%
Plus: Risk-free Rate (d)		
Projected Long-term Treasury Bond Yield		5.3%
Unadjusted CAPM (h)		10.9%
Size Adjustment (i)		0.81%
Implied Cost of Equity (j)		**11.7%**

(a) Weighted average dividend yield for the dividend paying firms in the S&P 500 from www.valueline.com (retrieved Jun. 26, 2011).
(b) Weighted average of IBES earnings growth rates for the dividend paying firms in the S&P 500 (retrieved Jul. 3, 2011).
(c) (a) + (b)
(d) Average projected 30-year Treasury bond yield for 2012-2015 based on data from the Value Line Investment Survey, *Forecast for the U.S. Economy* (Aug. 26, 2011), IHS Global Insight, *U.S. Economic Outlook* at 19 (Feb. 2011), Blue Chip Financial Forecasts, Vol. 30, No. 6 (Jun. 1, 2010).
(e) (c) - (d).
(f) Exhibit JRW-11, p. 3.
(g) (e) x (f).
(h) (d) + (g).
(i) *Morningstar* , "Ibbotson SBBI 2011 Valuation Yearbook," at Table C-1 (2011).
(j) (h) + (i).

HILL PROXY GROUP

Market Rate of Return		
Dividend Yield (a)	2.3%	
Growth Rate (b)	10.9%	
Market Return (c)		13.2%
Less: Risk-Free Rate (d)		
Projected Long-term Treasury Bond Yield		5.3%
Market Risk Premium (e)		7.9%
Hill Proxy Group Beta (f)		0.71
Risk Premium (g)		5.6%
Plus: Risk-free Rate (d)		
Projected Long-term Treasury Bond Yield		5.3%
Unadjusted CAPM (h)		10.9%
Size Adjustment (i)		1.01%
Implied Cost of Equity (j)		**11.9%**

(a) Weighted average dividend yield for the dividend paying firms in the S&P 500 from www.valueline.com (retrieved Jun. 26, 2011).
(b) Weighted average of IBES earnings growth rates for the dividend paying firms in the S&P 500 (retrieved Jul. 3, 2011).
(c) (a) + (b)
(d) Average projected 30-year Treasury bond yield for 2012-2015 based on data from the Value Line Investment Survey, *Forecast for the U.S. Economy* (Aug. 26, 2011), IHS Global Insight, *U.S. Economic Outlook* at 19 (Feb. 2011), Blue Chip Financial Forecasts, Vol. 30, No. 6 (Jun. 1, 2010), as shown on Table WEA-1.
(e) (c) - (d).
(f) Exhibit_(SGH-1), Schedule 9.
(g) (e) x (f).
(h) (d) + (g).
(i) *Morningstar*, "Ibbotson SBBI 2010 Valuation Yearbook," at Table C-1 (2010).
(j) (h) + (i).

Rebuttal Testimony
Exhibit WEA-9

COST RECOVERY MECHANISMS

HILL PROXY GROUP

	Company	Mechanism
1	ALLETE	FCA; DSMA; ECA; TCR
2	American Elect Pwr	FCA; ECA; DSMA; TCR
3	Avista Corp.	FCA; PGA; Cost tracker for income taxes
4	Black Hills Corp.	FCA; PGA; TCR
5	Cleco Corp.	FCA
6	Entergy Corp.	FCA; PGA; DSMA
7	Hawaiian Elec.	FCA; RDM; ICR; Pension cost tracker
8	PG&E Corp.	FCA; RDM; ICR; ECA; TCR; Variety of balancing accounts cover a substantial portion of authorized revenue requirements
9	Pinnacle West Capital	FCA; DSMA; ACC has issued policy statement in support of RDM
10	Portland General Elec.	FCA; RDM; ICR
11	SCANA Corp.	FCA; PGA; RDM; DSMA; WNC
12	TECO Energy	FCA; PGA; ECA; DSMA
13	Unisource Energy	FCA; PGA; DSMA; ACC has issued policy statement in support of RDM
14	Westar Energy	FCA; ECA; Employee benefit cost tracker

BDR -- Bad Debt Cost Recovery Rider

DSMA -- Demand Side Management / Conservation Adjustment Clause

ECA -- Environmental and/or Emissions Cost Adjustment Clause

FCA -- Fuel and/or Power Cost Adjustment Clause

ICR -- Infrastructure / Renewables Cost Recovery

PGA -- Gas Cost Adjustment Clause

RDM -- Revenue Decoupling Mechanism

TCR -- Transmission Cost Recovery Tracker

WNC -- Weather Normalization Clause or other mitigants

Source : 2010 Form 10-K Reports

Rebuttal Testimony
Exhibit WEA-10

WOOLRIDGE AND HILL OPERATING SUBSIDIARIES

Operating Company	Long-term Debt	Preferred Stock	Common Equity
AEP Texas Central Co.	54.9%	0.4%	44.7%
AEP Texas North Co.	54.3%	0.3%	45.4%
Alabama Power Co.	50.4%	5.6%	44.0%
Ameren Illinois Co.	41.2%	0.0%	58.8%
Appalachian Power Co	55.6%	0.3%	44.1%
Arizona Public Service Co	47.9%	0.0%	52.1%
Atlantic City Electric Co.	48.5%	0.4%	51.1%
Avista Corp.	45.2%	2.1%	48.1%
Black Hills Power	46.4%	0.0%	53.6%
CenterPoint Energy Houston Electric, LLC	73.5%	0.0%	26.5%
Cheyenne Light Fuel & Power	41.9%	0.0%	58.1%
Cleco Power	53.1%	0.0%	46.9%
Columbus Southern Power Co.	49.2%	0.0%	50.8%
Consolidated Edison of NY	49.0%	1.1%	49.9%
Consumers Energy Co.	52.1%	0.5%	47.4%
Delmarva Power & Light Co	47.6%	0.0%	52.4%
Detroit Edison Co.	52.1%	0.0%	47.9%
Entergy Arkansas Inc.	53.4%	3.6%	43.1%
Entergy Gulf States Louisiana LLC	51.2%	0.3%	48.5%
Entergy Louisiana LLC	45.8%	2.5%	51.6%
Entergy Mississippi Inc.	51.5%	3.1%	45.3%
Entergy New Orleans Inc.	44.2%	5.2%	50.6%
Entergy Texas Inc.	50.8%	0.0%	49.2%
Florida Power & Light	40.7%	0.0%	59.3%
Georgia Power Co.	48.1%	1.5%	50.4%
Gulf Power Co.	51.1%	4.1%	44.8%
Hawaiian Electric Co.	43.5%	1.4%	55.0%
Idaho Power Co.	53.4%	0.0%	46.6%
Indiana Michigan Power Co.	54.1%	0.2%	45.7%
Interstate Power & Light	45.4%	6.4%	48.2%
Kansas City Power & Light	47.0%	0.0%	53.0%
Kansas Gas & Electric	43.0%	0.0%	57.0%
Kentucky Power Co.	55.8%	0.0%	44.2%
Madison Gas & Electric Co	38.2%	0.0%	61.8%
Mississippi Power Co.	48.3%	2.2%	49.5%
Northern States Power Co. (MN)	48.8%	0.0%	51.2%
Northern States Power Co. (WI)	42.2%	0.0%	57.8%
Ohio Power Co.	46.1%	0.3%	53.6%
Oklahoma Gas & Electric Co.	39.2%	0.0%	60.8%
Orange & Rockland	52.3%	0.0%	47.7%
Pacific Gas & Electric Co.	49.2%	1.1%	49.7%
Portland General Elec.	53.1%	0.0%	46.9%
Potomac Electric Power Co.	51.9%	0.0%	48.1%
Public Service Co. of Colorado	42.4%	0.0%	57.6%
Public Service Co. of Oklahoma	53.4%	0.3%	46.3%
South Carolina Electric & Gas	46.3%	0.0%	53.7%
Southern California Edison Co.	45.3%	5.5%	49.2%
Southwestern Electric Pwr Co.	51.4%	0.1%	48.4%
Southwestern Public Service Co.	48.3%	0.0%	51.7%
Superior Water, Light & Power Co.	40.8%	0.0%	59.2%
Tampa Electric Co.	49.0%	0.0%	51.0%
Tucson Electric Power Co.	58.9%	0.0%	41.1%
Union Electric Co.	48.8%	0.0%	51.2%
Westar Energy	38.1%	0.6%	61.4%
Wisconsin Electric Power Co.	39.2%	0.6%	60.2%
Wisconsin Power & Light	43.1%	2.4%	54.5%
Average	**48.5%**	**0.9%**	**50.5%**

Source: 2010 Form 10-K Reports and FERC Form 1 Reports.

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF KENTUCKY UTILITIES	**)**	
COMPANY FOR CERTIFICATES OF	**)**	
PUBLIC CONVENIENCE AND NECESSITY	**)**	**CASE NO. 2011-00161**
AND APPROVAL OF ITS 2011 COMPLIANCE	**)**	
PLAN FOR RECOVERY BY	**)**	
ENVIRONMENTAL SURCHARGE	**)**	

RECEIVED

OCT 24 2011

PUBLIC SERVICE
COMMISSION

In the Matter of:

THE APPLICATION OF LOUISVILLE GAS AND	**)**	
ELECTRIC COMPANY FOR CERTIFICATES	**)**	
OF PUBLIC CONVENIENCE AND NECESSITY	**)**	**CASE NO. 2011-00162**
AND APPROVAL OF ITS 2011 COMPLIANCE	**)**	
PLAN FOR RECOVERY BY ENVIRONMENTAL	**)**	
SURCHARGE	**)**	

JOINT PETITION OF KENTUCKY UTILITIES COMPANY AND LOUISVILLE GAS AND ELECTRIC COMPANY FOR CONFIDENTIAL PROTECTION

Kentucky Utilities Company ("KU") and Louisville Gas and Electric Company ("LG&E") (collectively, the "Companies") hereby petitions the Kentucky Public Service Commission ("Commission") pursuant to 807 KAR 5:001 § 7 and KRS 61.878(1)(c) to grant confidential protection for the item described herein, which the Companies' witnesses David S. Sinclair and Charles R. Schram are providing in exhibits to their rebuttal testimonies. In support of this Petition, the Companies as follows:

1. Under the Kentucky Open Records Act, the Commission is entitled to withhold from public disclosure commercially sensitive to the extent that open disclosure would permit an unfair commercial advantage to competitors of the entity disclosing the information to the Commission. See KRS 61.878(1)(c). Public disclosure of the information identified herein would, in fact, prompt such a result for the reasons set forth below.

2. The confidential information contained in Strategist modeling files being provided in Appendix B to David S. Sinclair's rebuttal testimony and in Appendix A to Charles R. Schram's rebuttal testimony includes projected fuel prices the Companies purchased from reputable vendors to enable the Companies to make prudent business decisions of several kinds, including fuel contracting decisions and environmental-compliance decisions. Mr. Sinclair's rebuttal testimony contains some of the same confidential fuel price forecast information in Figure 1 and Rebuttal Exhibits DSS-3 and DSS-5. If the Commission grants public access to this information, the vendors from whom the Companies purchased the fuel forecast information at issue could refuse to do business with the utilities in the future, which would do serious harm to the Companies' ability to make prudent fuel contract, environmental compliance, and other decisions. All such commercial harms would ultimately harm the Companies' customers. Moreover, publicly disclosing such information would do immediate and costly harm to the firms from which the Companies purchased the fuel forecast information at issue; the firms derive significant revenues from developing and selling such forecasts to customers under strict license agreement obligations not to disclose. Any public disclosure of the forecasts would render them commercially worthless.

3. Rebuttal Exhibit CRS-3 to Mr. Schram's testimony is a copy of the reserve margin analysis the Companies provided as part of their 2011 Integrated Resource Plan ("2011 IRP") in Case No. 2011-00140. On April 21, 2011, the Companies petitioned for confidential protection for certain information in the reserve margin analysis in the 2011 IRP proceeding, namely:

- Table 7-Full Outage Example: Page 17
- Table 8-Partial Outage Example: Page 17
- Table 9-Equivalent Forced Outage Rate: Page 17

- Table 10-Load Management Representation: Page 20
- Table 11 -Generic Combustion Turbine Characteristics and figure in text: Page 23
- Table 12-Carrying Cost of Reserves: Page 24

The Commission granted the Companies' request by letter dated October 10, 2011.

The Companies seek confidential protection for the same information contained in the same reserve margin analysis, which is being filed in this proceeding as Rebuttal Exhibit CRS-3. This unit outage, load management, supply-side-resource, and carrying cost information, if publicly disclosed, would adversely affect the Companies' ability to participate competitively in the wholesale power market for both power sales and power purchases, which would result in harm to the Companies' customers. It would also adversely affect the Companies' ability to obtain supply-side resources at the most competitive prices, further harming customers.

4. The Companies have obtained consent from the fuel forecast vendors to disclose on a limited basis the confidential information described herein, pursuant to an acceptable protective agreement, to intervenors with legitimate interests in reviewing the same for the purpose of participating in this case.

5. The Commission has historically given confidential treatment to all of the information described herein.[1]

6. If the Commission disagrees with this request for confidential protection, it must hold an evidentiary hearing (a) to protect the Companies' due process rights and (b) to supply the

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[1] For example, see the Commission's letter to KU and LG&E (collectively, "Companies") dated May 1, 2008, concerning the Companies' 2008 IRP case (Case No. 2008-00148); the Commission's letter to the Companies dated April 28, 2005, concerning the Companies' 2005 IRP case (Case No. 2005-00162); the Commission's letter to the Companies dated October 24, 2002, concerning the Companies' 2002 IRP case (Case No. 2002-00367); and the Commission's letter to the Companies dated March 6, 2000, concerning the Companies' 1999 IRP case (Case No. 99-430).

Commission with a complete record to enable it to reach a decision with regard to this matter. Utility Regulatory Commission v. Kentucky Water Service Company, Inc., Ky. App., 642 S.W.2d 591, 592-94 (1982).

7. In accordance with the provisions of 807 KAR 5:001 § 7, each utility is filing with the Commission one copy of each of the above-described exhibits and appendices with the Confidential Information highlighted (and to the extent such information is electronic, on a yellow-labeled compact disc) and fifteen (15) copies of the same with the confidential information redacted (and to the extent such information is electronic, on white-labeled compact discs that do not contain the Confidential Information).

WHEREFORE, Kentucky Utilities Company and Louisville Gas and Electric Company respectfully request that the Commission grant confidential protection for the information at issue, or in the alternative, schedule and evidentiary hearing on all factual issues while maintaining the confidentiality of the information pending the outcome of the hearing.

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Dated: October 24, 2011

Respectfully submitted,

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400001.139563/766910.3

CERTIFICATE OF SERVICE

I hereby certify that a true copy of the foregoing Joint Petition was served via U.S. mail (first-class, postage prepaid), overnight delivery, or hand-delivery this 24th day of October 2011 upon the following persons:

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COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF KENTUCKY UTILITIES COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2011 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	)	**CASE NO. 2011-00161**

RECEIVED

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PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2011 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	)	**CASE NO. 2011-00162**

JOINT MOTION OF KENTUCKY UTILITIES COMPANY AND LOUISVILLE GAS AND ELECTRIC COMPANY FOR APPROVAL TO DEVIATE FROM REQUIREMENT GOVERNING FILING OF COPIES

Kentucky Utilities Company ("KU") and Louisville Gas and Electric Company ("LG&E") (collectively, the "Companies") respectfully hereby move the Kentucky Public Service Commission ("Commission") to grant the Companies approval, pursuant to 807 KAR 5:001 § 14, to deviate from the requirement that parties file an original and fifteen (15) complete copies of all documents in these proceedings. The Companies ask to be excused from filing any paper copies of portions of an exhibit to each of two witnesses' rebuttal testimonies, and to be permitted to file only one paper original per utility of the remaining portion of each exhibit at issue, because the exhibits are voluminous. In support of their joint motion, the Companies state as follows:

1. Pursuant to the Commission's June 28, 2011 Order, the Companies must provide to the Commission an original and fifteen (15) copies of all documents filed in each of these proceedings, along with a service copy to all parties of record and their consultants. The number of service copies is now nearly 20 in these proceedings.

2. The rebuttal testimony of David S. Sinclair, which is being filed contemporaneously herewith, contains an appendix of workpapers (Appendix B) that includes a number of spreadsheets and Strategist modeling input and output files. (The Strategist files are confidential and are the subject of a petition for confidential protection being filed herewith.) The workpapers contain 23 Strategist files that would consume over 69,000 pages per copy, and would be mostly unintelligible because they are intended to be read by computers. The non-Strategist workpapers would consume approximately 180 pages per copy. Therefore, providing just the Commission's original and fifteen copies of Mr. Sinclair's Appendix B would require over 1.1 million pages, and providing paper service copies would increase the number significantly more.

3. Likewise, the rebuttal testimony of Charles R. Schram, which is being filed contemporaneously herewith, contains an appendix of workpapers (Appendix A) that includes a number of spreadsheets and Strategist modeling input and output files. (The Strategist files are confidential and are the subject of a petition for confidential protection being filed herewith.) The workpapers contain 2 Strategist files that would consume over 6,000 pages per copy, and would be mostly unintelligible because they are intended to be read by computers. The non-Strategist workpapers would approximately 70 pages per copy. Therefore, providing just the Commission's original and fifteen copies of Mr. Schram's Appendix A would require over 97,000 pages, and providing paper service copies would increase the number significantly more.

4. Due to the voluminous nature of these documents, the Companies request permission pursuant to 807 KAR 5:001 § 14 to deviate from the Commission's June 28, 2011 Order and provide on compact discs the Commission's fifteen copies of the above-described exhibits for each utility, as well as one original copy of each exhibit per utility comprising a paper version of the non-Strategist workpapers and an electronic version of the Strategist workpapers. The Companies seek permission to provide compact-disc service copies to the other parties to the proceeding, as well.

WHEREFORE, the Companies request a deviation from the requirement that parties provide an original and fifteen (15) paper copies of all documents. The Companies request that they be allowed to instead submit the rebuttal testimony exhibits identified above on compact discs, and to provide one paper copy per utility of the above-described non-Strategist portions of the exhibits to the Commission, in compliance with this requirement.

Dated: October 24, 2011

Respectfully submitted,

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