Exhibit No.:
Issues: Cost of Capital
Witness: Samuel C. Hadaway
Sponsoring Party: Aquila Networks-MPS And L&P
Case No.: ER-2005-0436

Before the Public Service Commission of the State of Missouri

Rebuttal Testimony

of

Samuel C. Hadaway

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REBUTTAL TESTIMONY OF SAMUEL C. HADAWAY
AQUILA, INC. D/B/A AQUILA NETWORKS-MPS AND AQUILA NETWORKS-L&P
CASE NO. ER-2005-0436

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI
REBUTTAL TESTIMONY OF SAMUEL C. HADAWAY
ON BEHALF OF AQUILA, INC.
D/B/A AQUILA NETWORKS-MPS AND AQUILA NETWORKS-L&P
CASE NO. ER-2005-0436

Q. Please state your name and business address.

A. My name is Samuel C. Hadaway. My business address is FINANCO, Inc., 3520 Executive Center Drive, Austin, Texas 78731.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to respond to the return on equity ("ROE") and capital structure recommendations of Commission Staff witness David Murray, Office of Public Counsel ("OPC") witness Ben Johnson, and Federal Executive Agencies/Sedalia Industrial Energy Users' Association/St. Joe Industrial Group ("FEA") witness Michael Gorman. I also update my equity cost estimates.

RECOMMENDATIONS OF THE PARTIES

Q. What are the ROE recommendations of the various parties in this case?

A. The Company is requesting an ROE of 11.5 percent. Staff witness Murray offers an ROE range of 8.5 percent to 9.5 percent. OPC witness Johnson recommends an ROE of 9.95 percent. FEA witness Gorman recommends an ROE of 9.8 percent.

Q. What are the capital structure recommendations of the parties?

A. The Company is requesting a capital structure that consists of 51.8 percent debt and 48.2 percent equity. The requested capital structure is based on the average capital structure percentage for the reference company group used to estimate ROE. Staff witness Murray recommends a capital structure consisting of 57.53 percent debt and 42.47 percent equity. Mr. Murray's recommended capital structure is based on the Company's actual June 30, 2005 updated capital structure percentages.[1] OPC witness Johnson recommends a capital structure consisting of 67.3 percent debt and 32.7 percent equity, which was the consolidated capital structure for Aquila at December 31, 2004. FEA witness Gorman recommends a capital structure consisting of 55 percent debt and 45 percent equity, based on his comparable group average capital structure taken from the September 2005 C.A. Turner Utility Report (now AUS Utility Reports). Although we use the same proxy groups to estimate capital structure and ROE, Mr. Gorman's capital structure differs from mine because the C.A. Turner publication that he relied on includes short-term debt in its capital structure amounts, while my source for the same data, Value Line, does not. I will explain why Mr. Gorman's use of the C.A. Turner data is incorrect later in this testimony.

Q. How do Mr. Murray's. Dr. Johnson's, and Mr. Gorman's ROE recommendations compare with the appropriate returns for electric utilities being determined throughout the United States?

A. I have prepared as Rebuttal Schedule SCH-1 a summary of electric utility ROEs allowed by state commissions during the past two years. The average allowed ROE in during 2004 was 10.73 percent. For the first three quarters of 2005, the

[1] Mr. Murray's capital structure percentages as stated in his direct testimony were 63.84 percent debt and 36.16 percent equity. Based on his further evaluation of the Company's actual June 30, 2005 data, I understand that Mr. Murray will recommend a 42.47 percent equity ratio in his rebuttal testimony.

average ROE was 10.41 percent. For the third quarter of 2005, the average allowed ROE was 10.84 percent. These results show that the ROEs recommended by Mr. Murray, Dr. Johnson, and Mr. Gorman are well below the mainstream of recent ROEs allowed by other regulatory commissions around the country.

Q. How has this Commission stated that it would use evidence of the ROEs allowed by other state regulators in determining authorized ROEs for Missouri electric utilities?

A. The Commission has indicated generally that, while it will not set ROEs in Missouri based on returns authorized by other commissions, it will consider the reasonableness of an ROE recommendation in light of the findings and decisions of other regulators. In this regard, it is my understanding that the Commission has also said that the national average ROE is an indicator of the capital market in which Missouri utilities will have to compete for necessary capital. The Commission noted in the recent Empire District Electric Company rate case (Case No. ER-2004-0570) that the 11.0 percent ROE authorized for Empire District was in the mainstream of national ROE decisions for that same period. As indicated above, the national average electric utility ROE granted in 2004 leading up to the Empire District decision was 10.73 percent. Such a reasonableness check in this proceeding is particularly important, given the very low ROE recommendations of the other parties and the extensive upcoming capital requirements faced by MPS/L&P. MPS/L&P will need to compete against other electric utilities to raise the capital needed to meet these capital requirements.

Q. Did other parties give any weight to such comparisons to modify their low ROE recommendations?

A. No. Although Mr. Murray discusses the returns allowed by other commissions on pages 39 and 40 of his testimony, and he admits that the top end of his recommended range in the Empire District case was *170 basis points below* the ROE ultimately set by the Commission after it gave consideration to those returns, he continues to give no consideration to the large differences between his current ROE recommendation and the returns recently granted by other commissions. Dr. Johnson gives no consideration to contemporaneous returns allowed by other commissions at all in any of his ROE analyses. Mr. Gorman includes state commission "authorized electric returns" in his equity risk premium analysis, but his use of the data is not complete, as I will discuss later in this testimony.

STANDARDS FOR JUDGING THE ADEQUACY OF EQUITY RETURNS

Q. What standards do you propose to apply in determining which ROE recommendations to accept?

A. I would turn back to the standards from the *Hope* and *Bluefield* decisions that I cited in my direct testimony. Looking to those standards, I ask (1) whether the returns to MPS/L&P would be commensurate with returns on investments in other enterprises having corresponding risks and (2) whether the returns to MPS/L&P would be sufficient to ensure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital. I would not consider an ROE or overall rate of return recommendation to be adequate unless it met both of those standards.

Q. How have the other parties addressed these two standards?

A. All three witnesses have presented analyses that they claim respond to the first standard – whether their recommended ROE would be commensurate with returns on investments in other enterprises having corresponding risks. As to whether the second required standard is met—that is, whether their recommended ROEs would be sufficient to ensure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital—only Mr. Gorman attempted to address this issue. As I will point out, had the other parties performed a financial integrity analysis, they would have found that their recommendations are inadequate.

Particularly the results from Dr. Johnson's recommendations, based on the parent company's historical capital structure, fall well below the financial metrics required for an investment grade bond rating. Similarly, even with an updated capital structure containing 42.47 percent equity, Mr. Murray's extremely low ROE range would barely touch the low end of the financial metrics required for triple-B in two categories and would fail to meet requirements altogether for a third. Mr. Gorman's analysis shows mostly weak triple-B indicators, with one metric in the double-B range for L&P. In this light, the parties' ROE recommendations plainly are not consistent with and in fact are too low for MPS/L&P to attain a strong investment grade bond rating.

THE COMPARABLE RETURN STANDARD

Q. The first standard you cite is whether the recommended ROE would be commensurate with returns on investments in other enterprises having corresponding risks. Why are the conclusions of the witnesses so far apart with respect to this standard?

A. The main disagreements relate to (1) the growth rates in our respective discounted cash flow ("DCF") models and (2) the role that higher projected interest rates should play in estimating ROE. In their DCF models, the other witnesses use growth rates that produce unreasonably low DCF estimates. They respectively rely on analysts' low near-term forecasts (Murray, Gorman) or on historical growth rates that have been diminished by the electric industry's recent turmoil and restructuring (Johnson), which likely bear no relationship to investors long-term expectations for the future.

Q. Please continue.

A. My higher DCF estimates result from more reasonable estimates of investors' expected long-term growth. In my initial testimony, I supported a DCF range for my reference group of 10.6 percent to 11.1 percent. I also included forecasted interest rates from Standard & Poor's ("S&P") and provided a bond-yield-plus-risk premium analysis based on those interest rates, which confirmed my DCF results. My risk premium analysis indicated an ROE of 11.0 percent, with the results from other more aggressive risk premium methods ranging from 11.2 percent to 11.8 percent. As I will demonstrate in more detail below, had the other witnesses more reasonably considered longer-term growth rates and had they considered consensus forecasts for much higher interest rates during the coming year, they would have seen that their ROE estimates are too low.

Q. Why are the parties' growth rate estimates so far apart?

A. Our growth rates are far apart because Mr. Murray, Dr. Johnson, and Mr. Gorman gave no weight to overall economic growth or to any other long-term growth rate forecasts. This oversight is particularly problematic since their DCF analyses are based strictly on the constant growth version of the DCF model. In that model a basic assumption is that the growth term "g" must equal investors' expectations for the very long-term future. Rather than attempt to meet this requirement, however, Mr. Murray and Mr. Gorman use only 3-to-5-year analysts' earnings projections and, worse, Dr. Johnson relies entirely on historical growth rates that are negatively influenced by electric utility industry events. Under current market conditions, these methods produce incorrect estimates of long-term growth.

The other parties low growth rates also stem, in part, from recent market conditions that typically have had a large negative effect on utility industry. Expected rising interest rates and recently high utility stock prices have caused utility analysts to become extremely pessimistic. As I will demonstrate later, analysts' 3-to-5-year growth forecasts are now 150 to 200 basis points (1.5% to 2.0%) lower than they were five years ago. While it is true that recent inflation and interest rates have been historically low, these near-term market conditions should not be extrapolated to long-term utility growth rates as Mr. Murray, Dr. Johnson, and Mr. Gorman have done.

Q. Are the DCF growth rate estimates usually this far apart?

A. No. Although it is typical for ROE witnesses to argue about DCF growth rates, I think the other witnesses are missing a key point: *long-term* growth expectations as required in the DCF model should not change greatly from year to year. Short of a fundamental change in the nature of utility services, there is no reason to believe that average utility growth rates expected into perpetuity will fluctuate widely in projections obtained on a year-to-year basis. The other witnesses seem to have missed this point because they have imputed data from the recent low inflation environment and the very large drop in analysts' three-to-five-year growth estimates directly into their longer-term DCF perpetual growth rates.

If they employed a more reasonable assumption that long-term growth rates will be more stable than the short-term growth projections, they would derive a significantly higher ROE than they have recommended. The stability of long-term growth rates recognizes that absent major structural changes in the electric utility industry, major changes in long-term (as opposed to short-term) electric utility growth rates should not be expected.

THE ATTRACTION OF CAPITAL AND MAINTENANCE OF CREDIT STANDARD

Q. The second required standard you cite is whether the recommended ROE would be sufficient to ensure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital. How does this standard apply to the ROE recommendations of Mr. Murray, Dr, Johnson, and Mr. Gorman?

A. Regardless of the technical merits of the various ROE analyses, Mr. Murray's 8.5 percent to 9.5 percent ROE range, Dr. Johnson's 9.95 percent ROE, and Mr. Gorman's 9.8 percent ROE, if adopted, would weaken rather than support the financial condition of Aquila's MPS and L&P operating divisions. Such adverse consequences would be particularly inappropriate given the Company's efforts to pay down debt and restore its' financial condition. Sound financial condition is essential if Aquila is to finance its large construction commitments on reasonable financial terms.

Q. Has the Commission dealt with the maintenance of financial integrity recently in another case?

A. Yes. It is my understanding that in the Stipulation and Agreement entered into among Kansas City Power & Light Company ("KCPL") and the intervening parties regarding KCPL's "Experimental Regulatory Plan" (Case No. EO-2005-0329), the Commission approved the collection of an "additional amortization amount" by KCPL as necessary to preserve two out of three S&P credit ratios at a level no lower than the "lower level of the top third" of the BBB targets as set by S&P. This was done in recognition of KCPL's commitment to a heavy construction program over the course of the upcoming five year period.

Clearly, with MPS/L&P also committed to a heavy construction program over the next five years, as expressed in Mr. Empson's direct testimony, allowing for the attainment of credit metrics at least in the mid-BBB range is of paramount importance for Aquila to be able to raise capital on terms comparable to that of its peer companies.

Q. If the financial ratios stated by Standard & Poor's are calculated with Mr. Murray's 8.5 percent to 9.5 percent ROEs, would that analysis demonstrate results consistent with the stated metrics for a "BBB" rating?

A. No. In the following table (and in Rebuttal Schedule SCH-2), I set forth the stated metrics for a "BBB" rating, along with the metrics produced by the upper end of Mr. Murray's recommended 8.5 percent to 9.5 percent ROE range.

Financial Metrics Resulting from Mr. Murray's Recommendations

Business Position 6	Requirement for BBB	9.5% ROE 42.47% Equity	Target Met
FFO/Interest:	3.0x – 4.2x	3.3x	BBB-
FFO/Total Debt:	18% – 28%	16.8%	BB+
Debt/Capitalization:	48% – 58%	57.5%	BBB-

As this table shows, with Mr. Murray's proposed capital structure and even the upper end of his ROE range, only two of the required financial metrics can barely be met. Such results are not adequate to demonstrate that there is reasonable support for MPS and L&P financial integrity.

Q. What are the financial ratios calculated with Dr. Johnson's 9.95 percent ROE and his recommended capital structure with only 32.69 percent equity?

A. The financial indicators from Dr. Johnson's recommendations are shown in the following table (and in Rebuttal Schedule SCH-3).

Financial Metrics (MPS) Resulting from Dr. Johnson's Recommendations

Business Position 6	Requirement for BBB	9.95% ROE 32.69% Equity	Target Met
FFO/Interest:	3.0x – 4.2x	3.1x	BBB-
FFO/Total Debt:	18% – 28%	14.1%	BB
Debt/Capitalization:	48% – 58%	67.3%	B

As this table shows, with Dr. Johnson's proposed capital structure and ROE, only one of the required financial metrics for an investment grade rating would barely be met.

Q. What are the financial ratios calculated with Mr. Gorman's 9.8 percent ROE and his recommended capital structure with 45.0 percent equity?

A. The financial indicators from Mr. Gorman's recommendations are shown in the following table (and in his Schedule MPG-13).

Financial Metrics (MPS) Resulting from Mr. Gorman's Recommendations

Business Position 6	Requirement for BBB	9.8% ROE 45.0% Equity	Target Met
FFO/Interest:	3.0x – 4.2x	3.7x	BBB
FFO/Total Debt:	18% – 28%	18%	BBB-
Debt/Capitalization:	48% – 58%	55%	BBB-

As this table shows, with Mr. Gorman's proposed capital structure and ROE, the required financial metrics for an investment grade rating would barely be met.

REBUTTAL TO THE ANALYSIS AND RECOMMENDATIONS OF STAFF WITNESS DAVID MURRAY

Q. Please begin by briefly summarizing Mr. Murray's analysis and recommendations.

A. Mr. Murray presents his final recommendations in a table on page 46 of his testimony. In that table his DCF range is between 8.5 percent and 9.5 percent.

His table also shows "historical" CAPM results of 6.18 percent to 9.41 percent and "forward-looking" CAPM results of 6.31 percent to 7.45 percent. Based on these results he recommends that an ROE range of 8.5 percent to 9.5 percent should be applied to Aquila's June 30, 2005 consolidated capital structure containing an equity ratio of only 36.16 percent. Given the similarity of the ranges, it appears that Mr. Murray's ROE recommendation is based solely on his constant growth DCF results.

Q. How is Mr. Murray's DCF analysis structured?

A. He applies the single-stage, constant growth DCF model to a sample of six integrated electric utilities, which he apparently deems to be comparable to MPS/L&P. His selection criteria are summarized in his Schedule 11. To be included in Mr. Murray's group, companies were required to be part of the S&P vertically integrated electric utility group and to be publicly traded with at least ten years of available data published in the Value Line Investment Survey. Companies were also required to have at least an investment grade credit rating (bond rating of BBB minus or higher) and to have projected growth rates published by at least two sources. The final six-company sample is listed in Schedule 12. It seems highly questionable that Mr. Murray began his analysis with a universe of only the eleven electric utilities contained in the S&P industry group. There are at least 59 investment grade electric utilities that would have been available for filtering and analysis had he simply begun with all the major electric utilities followed by the Value Line Investment Survey.

Q. How does Mr. Murray estimate the DCF model growth rate "g"?

A. He reviews several growth rate indications for his six-company sample. In the three pages of Schedule 13, he summarizes historical 5- and 10-year compound average growth rates for per share dividends ("DPS"), earnings ("EPS"), and book value ("BVPS"). His averages generally range between -2.92 percent for 5-year EPS growth to a maximum of +2.33 percent for 10-year DPS growth. Although the difference is immaterial in the present case, Mr. Murray's *compound* averaging approach is incorrect because it systematically understates the expected value of data and, therefore, further understates expected future growth rates. At page 27, Mr. Murray says that he then averages the historical growth rates (virtually zero) with an average projected growth rate of 4.16 percent to produce a combined average of historical and projected growth of 2.29 percent. He also says, however, that "[a]ll the growth rates were then analyzed to arrive at a growth rate range for the comparables of 3.90 percent to 4.90 percent." (Murray at 27, lines 12-13.)

Q. What is the source of Mr. Murray's 3.90 percent to 4.90 percent growth rate range?

A. In Schedule 14, Mr. Murray summarizes 3-to-5-year projected EPS growth estimates from IBES, S&P, and Value Line. The averages of those estimates for Mr. Murray's six-company sample range from 3.73 percent for IBES to 4.92 percent for Value Line. From these data, it appears that Mr. Murray's 3.90 percent to 4.90 percent growth rate range is based on his subjective rounding of the projected 3-to-5-year EPS growth rate range.

Q. Does Mr. Murray give any consideration to other more broadly based sources for estimating investors' long-term growth rate expectations?

A. No.

Q. Does Mr. Murray provide any analysis to show whether analysts' growth rate projections for EPS are stable over time or that such growth rate projections are indicative of investors' very long-term expectations as required in the constant growth DCF model?

A. No.

Q. Does Mr. Murray offer any alternative versions of the DCF model, such as those that apply a multi-stage growth approach to capture the possibility of higher expected growth rates further into the future?

A. No.

Q. How do you characterize Mr. Murray's sole reliance on the constant growth version of the DCF model with growth rates based only on 3-to-5-year analysts' EPS growth estimates for estimating ROE?

A. His approach is not adequate.

Q. Why is Mr. Murray's approach not adequate?

A. In additional to the concerns noted about Mr. Murray's small sample size, his constant growth DCF approach with growth based only on 3-to-5-year analysts' EPS growth projections is not adequate because such near-term growth projections are not good estimates of investors' long-term growth rate expectations. This fact is supported by sound academic research as well as simple, common sense observation of available economic data.

Q. Please describe the academic research that you are referring to.

A. For long time periods, such as those required in the constant growth DCF model, the general growth rate in the U.S. economy as measure by nominal growth in gross domestic product ("GDP") has averaged between 6 percent and 8 percent per year. From this observation, Professors Brigham, Gapenski, and Ehrhardt offer the following observation concerning the appropriate long-term growth rate in the DCF Model:

> Expected growth rates vary from company to company, but dividend growth on average is expected to continue in the foreseeable future at about the same rate as that of the nominal gross domestic product (real GDP plus inflation). On this basis, one might expect the dividend of an average, or "normal," company to grow at a rate of 6 to 8 percent a year. (Brigham, Gapenski, and Ehrhardt, Financial Management, 9th Ed., page 335.)

Other academic research on corporate growth rates offers similar conclusions about GDP growth as well as concerns about the long-term adequacy of analysts' forecasts:

> Our estimated median growth rate is reasonable when compared to the overall economy's growth rate. On average over the sample period, the median growth rate over 10 years for income before extraordinary items is about 10 percent for all firms. ... After deducting the dividend yield (the median yield is 2.5 percent per year), as well as inflation (which averages 4 percent per year over the sample period), the growth in real income before extraordinary items is roughly 3.5 percent per year. This is consistent with the historical growth rate in real gross domestic product, which has averaged about 3.4 percent per year over the period 1950-1998. (Louis K. C. Chan, Jason Karceski, and Josef Lakonishok, "The Level and Persistence of Growth Rates," *The Journal of Finance*, April 2003, p. 649)

> IBES long-term growth estimates are associated with realized growth in the immediate short-term future. Over long horizons, however, there is little forecastablility in earnings, and analysts' estimates tend to be overly optimistic. ... On the whole, the

> absence of predictability in growth fits in with the economic intuition that competitive pressures ultimately work to correct excessively high or excessively low profitability growth. (Ibid, page 683)

These findings support the notion that long-term growth expectations are more closely predicted by broader measures of economic growth than by near-term analysts' estimates. Especially for the very long-term growth rate requirements of the DCF model, the growth in nominal GDP should be considered an important input.

Q. How have analysts' three-to-five year growth projections changed in recent years?

A. Current analysts' growth projections are much lower than they were just four years ago. In Rebuttal Schedule SCH-4, I compare analysts' current growth projections for the 27-companies in my updated comparable group to growth rates that were projected for those same companies in 2001. In its editions covering electric utilities during 2001, Value Line projected three-to-five year earnings per share growth of 6.8 percent per year. In the 2005 editions, Value Line projects three-to-five year earnings growth of only 4.3 percent per year. Results are similar for the sustainable growth "b" times "r" estimation method where the average growth rate in 2001 was 5.6 percent as compared to 3.7 percent in 2005. Such dramatic changes in growth rates seem unlikely in estimates that might be used to measure the long-term growth rate as required in the DCF model. These results strongly support using more general long-term economic growth rates, such as GDP, in the DCF model.

Q. Would it have been difficult for Mr. Murray to consider a broader based estimate of longer-term investor growth rate expectations?

A. No. Long-term growth rate data are readily available as I pointed out in my direct testimony.

Q. How did you estimate the expected long-run GDP growth rate?

A. I developed my long-term GDP growth forecast from nominal GDP data contained in the St. Louis Federal Reserve Bank data base. That data for the period 1947 through 2004 is summarized in my Rebuttal Schedule SCH-5. As shown at the bottom of that exhibit, the average growth rate for the entire period was 7.1 percent. The data also show, however, that in the more recent years since 1980, lower inflation has resulted in lower overall GDP growth. For this reason I gave more weight to the more recent years in my GDP forecast. This approach is consistent with the concept that more recent data should have a greater effect on expectations and with generally lower near- and intermediate-term growth rate forecasts that presently exist. Based on this approach, my overall forecast for long-term GDP growth is 6.6 percent.

Q. If Mr. Murray had used a 6.6 percent growth rate in his DCF analysis, what would his results have been?

A. In Rebuttal Schedule SCH-6, I have reproduced Mr. Murray's summary DCF exhibit (Murray Schedule 16) with the 6.6 percent growth rate substituted for his growth rate range. With an average dividend yield of 4.6 percent for Mr. Murray's comparable group, the estimated ROE is 11.2 percent (4.6% dividend yield plus 6.6% growth = 11.2% ROE).

REBUTTAL TO THE ANALYSIS AND RECOMMENDATIONS OF OPC WITNESS BEN JOHNSON

Q. Please summarize the ROE and capital structure recommendations of Dr. Johnson.

A. Dr. Johnson recommends using the Aquila consolidated capital structure at December 31, 2004 which consists of 67.3 percent debt and 32.7 percent equity. He accepts the debt cost rates as proposed by the Company. He performs two ROE analyses: The first is a Comparable Earnings Analysis which produces a recommended ROE range of 10.0 percent to 11.5; the second is a Market Approach which yields a recommended ROE range of 8.4 percent to 9.9 percent. He averages the two midpoints from these ranges, 10.75 percent and 9.15 percent, to arrive at his final ROE recommendation of 9.95 percent.

Q. What comments do you have concerning the capital structure recommendation of Dr. Johnson?

A. I disagree with Dr. Johnson's capital structure recommendation for a number of reasons. First, his capital structure recommendation effectively ignores all of the progress that the Company has made to improve its equity ratio in 2005. His recommended capital structure based on Aquila consolidated data from December 31, 2004 includes only 32.7% equity. This contrasts sharply with the direction that the Company has taken in the recent months to improve its equity position. It has sold assets and used the proceeds to retire debt. At June 30, 2005, the actual Aquila consolidated capital structure consisted of 42.47 percent equity. At September 30, 2005, the equity ratio was 42.03 percent. As provided in its response to Data Request No. MPSC-0449, the Company is projecting a capital structure at year end 2006 with 50.3 percent equity. Dr. Johnson's recommendation is not reasonable given this tangible improvement that the Company has made in shoring up its financial condition.

Furthermore, his capital structure recommendation is not consistent with his ROE analysis. In his Market Analysis ROE approach, he used the same comparable group of electric utilities that I used. The average equity ratio for this group is 48.2% for year-end 2004 and 52.8% when projected for the next three to five years by Value Line. By using an ROE from his comparable group, but then recommending an equity ratio which is dramatically below the group's average, he has created a mismatch which further reduces the credibility of his recommendation. The capital structure recommendation must be consistent with the comparable group ROE analysis or a risk adjustment is necessary. That is, if the recommended equity level is drastically below that of the proxy group, the ROE from the group must be adjusted upward to account for this additional financial risk. Since Dr. Johnson did not make such a risk adjustment, his analysis understates the cost of capital.

Q. What comments do you have concerning Dr. Johnson's ROE recommendation?

A. While I generally do not support the comparable earnings approach as a primary ROE estimation method, the result of Dr. Johnson's Comparable Earnings Analysis, an ROE range of 10.0 percent to 11.5 percent, is not entirely unreasonable. Comparable earnings methodologies are suspect because there is no guarantee that book returns equal market required returns and book returns are very sensitive to accounting adjustments. Furthermore, the approach taken by Dr. Johnson borders on the arbitrary and subjective. First, he studied the return on average common equity earned by unregulated firms. Specifically, he analyzed the earned returns for the Federal Trade Commission's "All Manufacturers" group and for a range of industries (over 900 firms) monitored by *Business Week.* From this data, he comes up with an ROE range of 11.5 percent to 13.0 percent for a typical unregulated firm. From this, he jumps to the conclusion that the typical electric utility has an ROE in the range of 9.75 percent to 10.75 percent and then makes another leap to the conclusion that the appropriate ROE for Aquila's MPS and L&P operating divisions is 10.0 percent to 11.5 percent. All of these presumptions are based primarily on subjective and non-quantified risk factors. The final result ends up based mostly Dr. Johnson's opinion and judgment with little numeric support.

Dr. Johnson's other ROE methodology, the Market Analysis approach, produces results which are below the range of reasonableness. Technically, his Market Analysis consists of two parts: : 1) an observation of historical market returns earned by equity investors and 2) a DCF analysis. He goes to great lengths to analyze historic market returns from data provided by Ibbotson Associates and does ultimately conclude that, over long periods of time, equity investors in the average large unregulated company require a return in the neighborhood of 12.5 percent. However, this data point is only used by Dr. Johnson to somewhat arbitrarily expand his much lower DCF results from a range of 8.0 percent to 9.0 percent to a range of 8.0 percent to 9.5 percent with no further discussion.

For the most part, Dr. Johnson's Market Analysis consists of his DCF analysis. Here he develops a dividend yield range of 5.0 percent to 5.5 percent and adds growth of 3.0 percent to 3.5 percent to generate an ROE range of 8.0 percent to 9.0 percent. After consideration of the Ibbotson data discussed earlier and a flotation cost factor of 0.4 percent, Dr. Johnson's final DCF range for ROE is 8.4 percent to 9.9 percent.

Q. Are there deficiencies in Dr. Johnson's DCF analysis?

A. Yes. Dr. Johnson's DCF analysis is deficient in a number of important areas. First, he considers only historical growth rates in his DCF analysis. While he readily admits that "it is investor *expectations* about the future, not past results, that are most relevant in developing a DCF analysis" (Johnson at 35), he relies exclusively on past results in deriving his DCF growth rates. The historical time period that he relies on in his analysis, 1995-2004, is a period beset by gigantic upheaval in the electric utility industry. Unprecedented turmoil caused by deregulation, restructuring, and enhanced competition has negatively impacted the growth rates during the very time periods used by Dr. Johnson. It is not appropriate for him to extrapolate growth rates derived from this period into perpetuity, as required by the DCF model.

Q. If Dr. Johnson had used your GDP-based growth forecast of 6.6 percent growth rate in his DCF analysis, what would his results have been?

A. In Rebuttal Schedule SCH-7, I have reproduced Dr. Johnson's summary DCF results with the 6.6 percent growth rate substituted for his growth rate range. With an average dividend yield range of 5.0 percent to 5.5 percent for Dr. Johnson's comparable group, the estimated midpoint DCF ROE is 11.85 percent (5.25% midpoint dividend yield plus 6.6% growth = 11.85% ROE). As my rebuttal schedule shows, when this DCF result is combined with his Comparable Earnings results (10.75% midpoint ROE), the overall midpoint ROE for the revised analysis is 11.30 percent.

Q. What effect would Dr. Johnson's capital structure and ROE recommendations have on the financial condition of the Company?

A. As shown in Rebuttal Schedule SCH-3, his recommendations would produce sub-investment grade metrics.

Q. On page 38, Dr. Johnson suggests that you should have used "real" growth in GDP rather than "nominal" growth in your DCF analysis. Do you agree with this suggestion?

A. Absolutely not. The ROE that all witnesses in this case are determining for Aquila is a "nominal" rate, that is, it includes an inflationary component. For this reason, the growth term used in the DCF formula must be a "nominal" rate. For Dr. Johnson to suggest otherwise is extremely misleading. This issue is nothing more than a "red herring" created by Dr. Johnson to confuse and potentially mislead the Commission.

REBUTTAL TO THE ANALYSIS AND RECOMMENDATIONS OF FEA WITNESS MICHAEL GORMAN

Q. Please summarize the ROE and capital structure recommendations of Mr. Gorman.

A. Mr. Gorman recommends a capital structure for Aquila that consists of 45 percent equity and 55 percent debt. He proposes an ROE of 9.8 percent for the Company.

Q. Is anything wrong with Mr. Gorman's capital structure recommendation?

A. Yes. Mr. Gorman and I take similar approaches in our capital structure analysis in that we derive our capital structure recommendation from the same comparable group that we use to determine ROE. As Mr. Gorman states, this ensures the "proxy group's capital structure is consistent with the financial and operating risk reflected in my return on equity for Aquila and applied to that same capital structure" (Gorman at 15). As discussed earlier, Mr. Murray, and especially Dr. Johnson, miss this point that there must be a match between the capital structure and ROE.

The problem with Mr. Gorman's analysis, however, is that he overstates the debt portion of the capital structure by including short-term debt. Short-term debt is not part of Aquila's permanent capital base and should not be reflected in its capital structure percentages for ratemaking purposes. By improperly including short-term debt, Mr. Gorman's approach unfairly shifts lower short-term debt costs to capital which rightfully should be allowed to earn the cost of equity, and virtually guarantees that the Company will not be able to earn its authorized rate of return. If short-term debt is removed from his data, his capital structure recommendation would be the same as mine.

Q. Mr. Gorman implies that his capital structure will better match Aquila's capital structure during the time that rates from this case will be in effect. Do you agree?

A. No. Mr. Gorman states (at page 12) that his "proposed capital structure is a better projection of Aquila's actual capital structure during the period rates determined in this proceeding will be in effect." He goes on to say (at page 13) that his "proposed capital structure is more in line with Value Line's projected capital structure for Aquila during the next three to five years." I dispute these statements for two reasons. One, according to the Company's response to Data Request No. MPSC-0449, by year-end 2006 which falls directly during the time that rates from this case will be in effect, the Company's consolidated capital structure will consist of 50.3 percent equity and 49.7 percent debt. Second, Value Line's proposed capital structure for Aquila during the next three to five years includes 49.5 percent equity and 50.5 percent debt. Mr. Gorman's recommended capital structure includes only 45 percent equity. Clearly, my proposal which reflects 48.2 percent equity, is much more in line with the Company's capital structure as it will exist during the time that rates from this proceeding are in place.

Q. Do you have disagreements with Mr. Gorman's ROE analysis and recommendation?

A. Yes. First, I find it interesting that Mr. Gorman's ROE recommendation in this case, at 9.8 percent, is exactly the same recommendation that he is making for PacifiCorp's Washington utility in testimony he filed recently before the

Washington Utilities and Transportation Commission in Docket Nos. UE-050684/UE-050412. PacifiCorp is essentially a single-A rated utility while Aquila is a single-B rated utility, although its credit standing is improving and rates are being set for its regulated operations using a triple-B target. Nonetheless, it seems that Mr. Gorman should have recognized some level of ROE differential between these two cases, but for some reason, he did not.

Mr. Gorman performs three underlying analyses before reaching his final ROE recommendation. From his constant growth DCF analysis, he derives an 8.6 percent ROE. On its face, this result is below the range of reasonableness. With triple-B interest rates expected to reach 6.65 percent over the next year, his constant growth result implies an equity risk premium of only 1.95 percent (8.6%-6.65%=1.95%). This result is below any reasonable equity risk premium level. I believe he should have rejected such low constant growth results out of hand.

Q. Why are his DCF results so low?

A. The primary reason that Mr. Gorman achieved such low DCF results can be traced to his sole reliance on analysts' estimates in determining the growth rate component of the DCF model. He gave no weight to overall economic growth or to any other long-term growth rate forecasts. As I stated earlier, this oversight is particularly problematic since his DCF analyses is entirely restricted to the constant growth version of the DCF model. In that model a basic assumption is that the growth term "g" must equal investors' expectations for the very long-term future. Rather than attempt to meet this requirement, however, Mr. Gorman uses only 3-to-5-year analysts' earnings projections. Under current market conditions, these methods produce incorrect estimates of long-term growth. Again, as stated previously, rising interest rates and recently high utility stock prices have caused utility analysts to become extremely pessimistic. These near-term market conditions should not be extrapolated to long-term utility growth rates as Mr. Gorman has done.

Q. If Mr. Gorman had used your GDP-based growth forecast of 6.6 percent growth rate in his DCF analysis, what would his results have been?

A. In Rebuttal Schedule SCH-8, I have reproduced Mr. Gorman's summary DCF exhibit (Schedule MPG-5) with the 6.6 percent growth rate substituted for his growth rate range. With an average dividend yield of 4.6 percent for Mr. Gorman's comparable group, the estimated ROE is 11.2 percent (4.56% dividend yield plus 6.6% growth = 11.16% ROE).

Q. Please comment on Mr. Gorman's risk premium ROE analysis.

A. His risk premium analysis contains serious inconsistencies that, when corrected, produces higher results.

Q. Please elaborate.

A. Mr. Gorman's risk premium analysis consists of two parts. In one approach he adds an equity risk premium range of 4.4 percent to 5.7 percent to a projected 20-year Treasury bond yield of 5.2%. This results in a risk premium estimate of 9.6 percent to 10.9 percent, with a midpoint estimate at 10.3 percent. In his second approach, he adds a risk premium range of 3.0 percent to 4.0 percent to a current single-A utility bond yield of 5.79 percent. This produces an equity return estimate in the range of 8.8 percent to 9.8 percent, with a midpoint of 9.3 percent.

The first inconsistency in Mr. Gorman's risk premium analysis is obvious. He uses projected rates in one part, and current rates in the other. That his 20-year Treasury bond yield of 5.2 percent is relatively close to his single-A utility bond yield of 5.79 percent, when the spread between very low risk Treasury bonds and higher risk utility bonds is typically at least 1.0 percent, highlights the mismatch in his analysis. In addition, he should have used triple-B utility bonds as his starting point, rather than single-A, to better match Aquila's specific circumstance. Finally, he does not explain why his spread over utility bond rates is now 3.0 percent to 4.0 percent when in the PacifiCorp Washington case mentioned earlier he used a range of 3.0 percent to 4.5 percent.

Q. **What results do you obtain when you correct the inconsistencies in Mr. Gorman's risk premium analysis?**

A. To match his projected Treasury bond rate, I have redone his risk premium analysis using projected utility bond rates. In my risk premium analysis, I used projected triple-B utility bond rates of 6.65 percent. Combining this rate with his PacifiCorp Washington risk premium of 3.0 percent to 4.5 percent yields a cost of equity range of 9.65 percent to 11.15 percent, with a midpoint of 10.4 percent. His overall range now becomes 10.4 percent to 10.3 percent (from the Treasury bond risk premium analysis discussed above), with a midpoint ROE of 10.35 percent.

Q. **In his risk premium analysis, Mr. Gorman fails to make an adjustment to account for the inverse relationship between equity risk premiums and interest rate levels. How do you respond?**

A. I am surprised that Mr. Gorman's did not make this adjustment because he has recognized the validity of such an adjustment in previous cases in which he has testified. On page 15, lines 10-13 of Public Utility of Commission of Texas Docket No. 14965 Mr. Gorman states:

> The results of my study indicate an inverse relationship between a bond's real return and the equity risk premium. This result is consistent with the findings of published studies which indicate equity risk premiums move inversely with interest rates.

Had Mr. Gorman made a similar adjustment in this case, his risk premium results would have indicated much higher ROEs than what he obtained.

Q. Mr. Gorman criticizes you for using projected interest rate data in your analyses. How do you respond?

A. I find Mr. Gorman's criticisms on this point to be questionable. He, of course, also used projected interest rate data in his risk premium analysis. I think we both recognize that interest rates are projected to increase over the time that rates from this case will be in effect and that this important trend should be factored into our ROE analyses.

Q. Please summarize the adjustments that you have made to Mr. Gorman's ROE analyses.

A. The following table, like the one presented by Mr. Gorman on page 28 of his direct testimony summarizes my adjustments to his ROE analyses.

Table 2 (Revised)
Return on Common Equity Summary

Description	Percent
Constant Growth DCF	11.2%
Risk Premium	10.35%
CAPM	10.3%
ROE Range	10.3%-11.2%
Midpoint	10.75%

ROE UPDATE

Q. Has your ROE recommendation changed since the original filing of this case?

A. No. In Rebuttal Schedules SCH-8 through SCH-10, I present an update to the DCF and risk premium analyses that I first presented in my prefiled testimony in this case. These schedules confirm that my original ROE recommendation of 11.0 percent, plus a 50 basis point risk adder, for a final recommendation of 11.5 percent is still appropriate for Aquila at the present time.

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.

Aquila Missouri
Authorized Electric Utility Equity Returns

	2004	2005
1st Quarter	11.00%	10.44%
2nd Quarter	10.50%	10.06%
3rd Quarter	10.33%	10.84%
4th Quarter	10.91%	
Full Year	10.73%	10.41%

Source: Regulatory Focus, Regulatory Research Associates, Inc., Major Rate Case Decisions, July 6, 2005; October, 2005.

Aquila Missouri
Financial Ratio Analysis
($ unless otherwise noted)

Staff Case 1: 42.47% Equity Ratio, 8.5% ROE

Revenue Requirement	**SJLP Retail Jurisdictional**	**MPS Retail Jurisdictional**
Rate Base	166,730,120	811,021,117
ROE	8.50%	8.50%
Equity Ratio	42.47%	42.47%
Debt Ratio	57.53%	57.53%
Cost of Debt	7.281%	7.281%
Income Tax Rate	38.39%	38.39%
WACC	7.80%	7.80%
Funds from Operations (FFO)/Total Debt		
Net Income Requested	6,018,874	29,277,457
Regulatory Disallowances (after-tax)	0	0
Depreciation & Amortization	10,590,868	45,093,321
Deferred Taxes & ITC	(1,185,836)	663,424
Funds from Operations (FFO)	15,423,906	75,034,202
Long-Term Debt	95,919,838	466,580,449
FFO/Total Debt	**16.08%**	**16.08%**
Implied S&P Bond Rating (Business Position: 6)	***BB***	***BB***
Funds from Operations (FFO) Interest Coverage		
Funds from Operations (FFO)	15,423,906	75,034,202
Interest Expense	6,983,923	33,971,722
FFO Interest Coverage	**3.21**	**3.21**
Implied S&P Bond Rating (Business Position: 6)	***BBB***	***BBB***
Total Debt/Total Capital		
Total Debt/Total Capital	**57.53%**	**57.53%**
Implied S&P Bond Rating (Business Position: 6)	***BBB***	***BBB***

Aquila Missouri

Financial Ratio Analysis

($ unless otherwise noted)

Staff Case 2: 42.47% Equity Ratio, 9.0% ROE

Revenue Requirement	**SJLP Retail Jurisdictional**	**MPS Retail Jurisdictional**
Rate Base	166,730,120	811,021,117
ROE	9.00%	9.00%
Equity Ratio	42.47%	42.47%
Debt Ratio	57.53%	57.53%
Cost of Debt	7.281%	7.281%
Income Tax Rate	38.39%	38.39%
WACC	8.01%	8.01%
Funds from Operations (FFO)/Total Debt		
Net Income Requested	6,372,925	30,999,660
Regulatory Disallowances (after-tax)	0	0
Depreciation & Amortization	10,590,868	45,093,321
Deferred Taxes & ITC	(1,185,836)	663,424
Funds from Operations (FFO)	15,777,957	76,756,405
Long-Term Debt	95,919,838	466,580,449
FFO/Total Debt	**16.45%**	**16.45%**
Implied S&P Bond Rating (Business Position: 6)	***BB***	***BB***
Funds from Operations (FFO) Interest Coverage		
Funds from Operations (FFO)	15,777,957	76,756,405
Interest Expense	6,983,923	33,971,722
FFO Interest Coverage	**3.26**	**3.26**
Implied S&P Bond Rating (Business Position: 6)	***BBB***	***BBB***
Total Debt/Total Capital		
Total Debt/Total Capital	**57.53%**	**57.53%**
Implied S&P Bond Rating (Business Position: 6)	***BBB***	***BBB***

Aquila Missouri

Financial Ratio Analysis

($ unless otherwise noted)

Staff Case 3: 42.47% Equity Ratio, 9.5% ROE

Revenue Requirement	SJLP Retail Jurisdictional	MPS Retail Jurisdictional
Rate Base	166,730,120	811,021,117
ROE	9.50%	9.50%
Equity Ratio	42.47%	42.47%
Debt Ratio	57.53%	57.53%
Cost of Debt	7.281%	7.281%
Income Tax Rate	38.39%	38.39%
WACC	8.22%	8.22%
Funds from Operations (FFO)/Total Debt		
Net Income Requested	6,726,977	32,721,863
Regulatory Disallowances (after-tax)	0	0
Depreciation & Amortization	10,590,868	45,093,321
Deferred Taxes & ITC	(1,185,836)	663,424
Funds from Operations (FFO)	16,132,009	78,478,608
Long-Term Debt	95,919,838	466,580,449
FFO/Total Debt	**16.82%**	**16.82%**
Implied S&P Bond Rating (Business Position: 6)	***BB***	***BB***
Funds from Operations (FFO) Interest Coverage		
Funds from Operations (FFO)	16,132,009	78,478,608
Interest Expense	6,983,923	33,971,722
FFO Interest Coverage	**3.31**	**3.31**
Implied S&P Bond Rating (Business Position: 6)	***BBB***	***BBB***
Total Debt/Total Capital		
Total Debt/Total Capital	**57.53%**	**57.53%**
Implied S&P Bond Rating (Business Position: 6)	***BBB***	***BBB***

Aquila Missouri
Financial Ratio Analysis
($ unless otherwise noted)

OPC Case: 32.69% Equity Ratio, 9.95% ROE

Revenue Requirement	**SJLP Retail Jurisdictional**	**MPS Retail Jurisdictional**
Rate Base	184,923,562	787,042,122
ROE	9.95%	9.95%
Equity Ratio	32.69%	32.69%
Debt Ratio	67.31%	67.31%
Cost of Debt	7.963%	6.700%
Income Tax Rate	38.39%	38.39%
WACC	8.61%	7.76%
Funds from Operations (FFO)/Total Debt		
Net Income Requested	6,014,925	25,599,765
Regulatory Disallowances (after-tax)	0	0
Depreciation & Amortization	11,696,560	49,700,285
Deferred Taxes & ITC	(745,986)	(789,138)
Funds from Operations (FFO)	16,965,499	74,510,912
Long-Term Debt	124,472,050	529,758,052
FFO/Total Debt	**13.63%**	**14.07%**
Implied S&P Bond Rating (Business Position: 6)	***BB***	***BB***
Funds from Operations (FFO) Interest Coverage		
Funds from Operations (FFO)	16,965,499	74,510,912
Interest Expense	9,911,709	35,493,790
FFO Interest Coverage	**2.71**	**3.10**
Implied S&P Bond Rating (Business Position: 6)	***BB***	***BBB***
Total Debt/Total Capital		
Total Debt/Total Capital	**67.31%**	**67.31%**
Implied S&P Bond Rating (Business Position: 6)	***B***	***B***

Aquila Missouri

Comparison of Comparable Group Projected Growth Rates

2001 to 2005

No.	Company	Value Line Earnings 2001	Value Line Earnings 2005	% Points Decline
1	Alliant Energy Co.	6.5%	6.0%	
2	Ameren	4.0%	2.5%	
3	American Elec. Pwr.	NA	2.0%	
4	CH Energy Group	5.0%	4.5%	
5	Cent. Vermont P.S.	18.0%	2.0%	
6	CINERGY	6.0%	4.0%	
7	Cleco Corporation	8.0%	0.5%	
8	Con. Edison	2.5%	1.5%	
9	DTE Energy Co.	8.5%	8.5%	
10	Duquesne Light	-1.5%	3.0%	
11	Empire District	5.0%	5.0%	
12	Energy East Corp.	3.5%	4.5%	
13	FPL Group, Inc.	4.5%	7.5%	
14	FirstEnergy	8.0%	10.0%	
15	Green Mtn. Power	NA	3.5%	
16	Hawaiian Electric	5.0%	2.5%	
17	MGE Energy, Inc.	NA	6.0%	
18	NiSource Inc.	16.0%	2.5%	
19	NSTAR	6.5%	2.5%	
20	Pinnacle West	5.5%	3.5%	
21	Progress Energy	NA	NA	
22	Puget Energy, Inc.	2.0%	5.5%	
23	SCANA Corp.	6.5%	4.5%	
24	Southern Co.	6.0%	4.0%	
25	Vectren Corp.	15.5%	4.0%	
26	Westar Energy	0.0%	5.5%	
27	Xcel Energy Inc.	15.0%	7.5%	
	Average	6.8%	4.3%	2.4%

No.	Company	Value Line "br" 2001	Value Line "br" 2005	% Points Decline
1	Alliant Energy Co.	3.1%	3.4%	
2	Ameren	4.0%	2.3%	
3	American Elec. Pwr.	6.9%	5.0%	
4	CH Energy Group	5.1%	3.1%	
5	Cent. Vermont P.S.	5.9%	3.9%	
6	CINERGY	5.3%	3.0%	
7	Cleco Corporation	7.3%	3.4%	
8	Con. Edison	3.7%	2.0%	
9	DTE Energy Co.	8.2%	7.0%	
10	Duquesne Light	6.1%	3.8%	
11	Empire District	3.6%	1.4%	
12	Energy East Corp.	6.4%	3.1%	
13	FPL Group, Inc.	8.1%	4.6%	
14	FirstEnergy	7.6%	5.7%	
15	Green Mtn. Power	5.4%	4.7%	
16	Hawaiian Electric	4.2%	3.0%	
17	MGE Energy, Inc.	N/A	5.4%	
18	NiSource Inc.	8.1%	4.2%	
19	NSTAR	6.5%	3.8%	
20	Pinnacle West	6.0%	2.1%	
21	Progress Energy	6.6%	2.6%	
22	Puget Energy, Inc.	2.4%	3.3%	
23	SCANA Corp.	4.6%	4.6%	
24	Southern Co.	3.8%	4.1%	
25	Vectren Corp.	7.0%	3.4%	
26	Westar Energy	4.6%	3.2%	
27	Xcel Energy Inc.	6.2%	3.0%	
	Average	5.6%	3.7%	2.0%

Data Sources:

Electric: Value Line Investment Survey, Electric Utility (East), Sep 2, 2005 & Sep 7, 2001; (Central), Sep 30, 2005 & Oct 5, 2001; (West), Nov 11, 2005 & Nov 16, 2001.

Aquila Missouri
Long-Term GDP Growth

	Nominal GDP	% Change	GDP Price Deflator	% Change	CPI	% Change
1947	250.0		15.8		22.5	
1948	271.6	8.7%	16.5	4.6%	24.1	7.0%
1949	268.6	-1.1%	16.3	-1.3%	23.8	-1.3%
1950	307.3	14.4%	16.9	3.6%	24.2	1.9%
1951	344.9	12.3%	17.8	5.5%	26.1	7.6%
1952	365.1	5.9%	18.1	1.7%	26.6	2.0%
1953	378.6	3.7%	18.3	1.1%	26.8	0.8%
1954	387.2	2.3%	18.5	0.9%	26.9	0.2%
1955	421.2	8.8%	18.9	2.3%	26.8	-0.2%
1956	444.7	5.6%	19.6	3.6%	27.3	1.7%
1957	460.3	3.5%	20.2	3.0%	28.2	3.4%
1958	477.6	3.8%	20.6	2.1%	28.9	2.5%
1959	514.5	7.7%	20.8	1.1%	29.2	1.0%
1960	526.6	2.4%	21.1	1.4%	29.6	1.5%
1961	556.7	5.7%	21.4	1.2%	29.9	0.9%
1962	592.2	6.4%	21.6	1.2%	30.3	1.3%
1963	629.6	6.3%	21.9	1.2%	30.7	1.3%
1964	675.2	7.2%	22.2	1.6%	31.1	1.3%
1965	737.9	9.3%	22.7	1.9%	31.6	1.7%
1966	799.6	8.4%	23.4	3.1%	32.6	3.1%
1967	848.1	6.1%	24.1	3.2%	33.5	2.7%
1968	930.2	9.7%	25.2	4.5%	34.9	4.3%
1969	998.7	7.4%	26.5	5.2%	36.9	5.6%
1970	1058.8	6.0%	27.9	5.2%	39.0	5.8%
1971	1150.2	8.6%	29.2	4.9%	40.6	4.1%
1972	1274.5	10.8%	30.5	4.2%	41.9	3.3%
1973	1410.6	10.7%	32.4	6.4%	44.8	6.8%
1974	1530.7	8.5%	35.6	9.9%	49.8	11.2%
1975	1689.0	10.3%	38.6	8.2%	54.1	8.7%
1976	1867.0	10.5%	40.8	5.7%	57.2	5.7%
1977	2083.6	11.6%	43.4	6.5%	61.0	6.6%
1978	2373.3	13.9%	46.6	7.3%	65.7	7.8%
1979	2628.5	10.8%	50.6	8.7%	73.4	11.6%
1980	2871.4	9.2%	55.4	9.4%	83.2	13.3%
1981	3162.0	10.1%	60.1	8.6%	91.5	10.1%
1982	3304.1	4.5%	63.4	5.5%	96.8	5.8%
1983	3643.4	10.3%	65.8	3.7%	99.9	3.2%
1984	4010.7	10.1%	68.2	3.7%	104.2	4.3%
1985	4286.8	6.9%	70.1	2.7%	108.0	3.6%
1986	4519.9	5.4%	71.7	2.3%	109.8	1.7%
1987	4824.0	6.7%	73.7	2.8%	114.0	3.8%
1988	5207.6	8.0%	76.4	3.7%	118.7	4.1%
1989	5571.7	7.0%	79.3	3.7%	124.5	4.9%
1990	5846.0	4.9%	82.4	4.0%	131.3	5.5%
1991	6073.0	3.9%	85.0	3.1%	136.5	4.0%
1992	6424.4	5.8%	86.9	2.3%	140.7	3.1%
1993	6749.5	5.1%	88.8	2.3%	144.8	2.9%
1994	7169.1	6.2%	90.7	2.1%	148.6	2.6%
1995	7479.1	4.3%	92.6	2.0%	152.7	2.8%
1996	7939.3	6.2%	94.3	1.9%	157.3	3.0%
1997	8422.6	6.1%	95.7	1.5%	160.7	2.2%
1998	8867.0	5.3%	96.8	1.2%	163.2	1.6%
1999	9409.1	6.1%	98.4	1.6%	167.0	2.3%
2000	9915.0	5.4%	100.5	2.2%	172.7	3.4%
2001	10205.9	2.9%	102.9	2.4%	177.2	2.6%
2002	10565.5	3.5%	104.7	1.7%	180.2	1.7%
2003	11156.3	5.6%	106.9	2.0%	184.3	2.2%
2004	11919.7	6.8%	109.8	2.8%	189.3	2.8%
10-Year Average		5.2%		1.9%		2.5%
20-Year Average		5.6%		2.4%		3.0%
30-Year Average		7.1%		3.8%		4.6%
40-Year Average		7.5%		4.1%		4.7%
50-Year Average		7.1%		3.7%		4.0%
57-Year Average		7.1%		3.5%		3.8%
Average of Periods		6.6%		3.2%		3.8%

Source: St. Louis Federal Reserve Bank, Economic Data - FRED II (www.research.stlouisfed.org).

Aquila Missouri
Updated Murray DCF Analysis

Company Name	Expected Annual Dividend	Average High/Low Stock Price	Projected Dividend Yield	Long-Term GDP Growth	Estimated Cost of Common Equity
Empire District Electric Company	1.28	23.513	5.44%	6.60%	12.04%
Hawaiian Electric Industries, Inc.	1.24	26.533	4.67%	6.60%	11.27%
IDACORP, Inc.	1.20	29.589	4.06%	6.60%	10.66%
Pinnacle West Capital	1.98	44.329	4.47%	6.60%	11.07%
Puget Energy, Inc.	1.00	22.935	4.36%	6.60%	10.96%
Southern Co.	1.51	34.376	4.39%	6.60%	10.99%
Average			4.57%	6.60%	11.17%

Proposed Dividend Yield	**4.60%**
Proposed Growth Rate	**6.60%**
Estimated Cost of Common Equity	**11.20%**

Aquila Missouri
Updated Johnson ROE Analysis

Updated DCF Analysis	Low	High
Dividend Yield	5.00%	5.50%
Long-Term Growth	6.60%	6.60%
Estimated DCF Cost of Common Equity	**11.60%**	**12.10%**
Midpoint DCF Analysis		**11.85%**
Comparable Earnings Analysis	**10.00%**	**11.50%**
Midpoint Comparable Earnings Analysis		**10.75%**
Midpoint Overall ROE Analysis		**11.30%**

Aquila Missouri
Updated Gorman DCF Analysis

Line	Electric Utility	13-Week AVG Stock Price	GDP Growth	Annual Dividend	Adjusted Yield	Constant Growth DCF
1	Alliant Energy Co.	29.17	6.60%	1.05	3.84%	10.44%
2	Ameren	55.13	6.60%	2.54	4.91%	11.51%
3	American Elec. Pwr.	37.86	6.60%	1.40	3.94%	10.54%
4	CH Energy Group	47.78	6.60%	2.16	4.82%	11.42%
5	Cent. Vermont P.S.	18.83	6.60%	0.92	5.21%	11.81%
6	CINERGY	44.03	6.60%	1.92	4.65%	11.25%
7	Cleco Corporation	22.53	6.60%	0.90	4.26%	10.86%
8	Con. Edison	47.56	6.60%	2.28	5.11%	11.71%
9	DTE Energy Co.	46.46	6.60%	2.06	4.73%	11.33%
10	Duquesne Light	18.46	6.60%	1.00	5.77%	12.37%
11	Empire District	23.72	6.60%	1.28	5.75%	12.35%
12	Energy East Corp.	27.14	6.60%	1.10	4.32%	10.92%
13	Entergy Corp.	75.88	6.60%	2.16	3.03%	9.63%
14	Exelon Corp.	53.06	6.60%	1.60	3.21%	9.81%
15	FPL Group, Inc.	43.33	6.60%	1.42	3.49%	10.09%
16	FirstEnergy	50.11	6.60%	1.65	3.51%	10.11%
17	Green Mtn. Power	30.06	6.60%	1.00	3.55%	10.15%
18	Hawaiian Electric	27.16	6.60%	1.24	4.87%	11.47%
19	MGE Energy, Inc.	36.69	6.60%	1.37	3.98%	10.58%
20	NiSource Inc.	24.14	6.60%	0.92	4.06%	10.66%
21	NSTAR	30.00	6.60%	1.16	4.12%	10.72%
22	Pinnacle West	44.99	6.60%	1.90	4.50%	11.10%
23	Progress Energy	44.12	6.60%	2.36	5.70%	12.30%
24	Puget Energy, Inc.	23.19	6.60%	1.00	4.60%	11.20%
25	SCANA Corp.	42.13	6.60%	1.56	3.95%	10.55%
26	Southern Co.	34.89	6.60%	1.49	4.55%	11.15%
27	Vectren Corp.	28.27	6.60%	1.18	4.45%	11.05%
28	Westar Energy	24.01	6.60%	0.92	4.08%	10.68%
29	Xcel Energy Inc.	19.30	6.60%	0.86	4.75%	11.35%
30	Average	36.21	6.60%	1.46	4.56%	11.16%

Proposed Dividend Yield	**4.60%**
Proposed Growth Rate	**6.60%**
Estimated Cost of Common Equity	**11.20%**

Aquila Missouri
Discounted Cash Flow Analysis
Summary Of DCF Model Results

Company	Traditional Constant Growth DCF Model	Constant Growth DCF Model Long-Term GDP Growth	Low Near-Term Growth Two-Stage Growth DCF Model
1 Alliant Energy Co.	8.8%	10.4%	10.2%
2 Ameren	8.8%	11.3%	10.5%
3 American Elec. Pwr.	7.9%	10.4%	10.1%
4 CH Energy Group	9.3%	11.2%	10.5%
5 Cent. Vermont P.S.	9.3%	11.7%	10.9%
6 CINERGY	9.1%	11.2%	10.6%
7 Cleco Corporation	7.6%	10.6%	9.9%
8 Con. Edison	8.2%	11.5%	10.8%
9 DTE Energy Co.	11.2%	11.2%	10.5%
10 Duquesne Light	10.2%	12.2%	11.3%
11 Empire District	10.1%	12.3%	11.3%
12 Energy East Corp.	9.2%	11.1%	11.0%
13 FPL Group, Inc.	9.5%	10.0%	10.0%
14 FirstEnergy	10.1%	10.0%	9.9%
15 Green Mtn. Power	8.4%	10.0%	10.0%
16 Hawaiian Electric	8.4%	11.2%	10.4%
17 MGE Energy, Inc.	9.9%	10.5%	9.9%
18 NiSource Inc.	8.5%	10.7%	10.4%
19 NSTAR	8.6%	10.8%	10.5%
20 Pinnacle West	9.0%	11.2%	11.0%
21 Progress Energy	10.0%	12.2%	11.4%
22 Puget Energy, Inc.	9.5%	11.0%	10.7%
23 SCANA Corp.	9.1%	10.6%	10.4%
24 Southern Co.	9.2%	11.0%	10.7%
25 Vectren Corp.	9.1%	11.1%	10.7%
26 Westar Energy	8.9%	10.7%	10.4%
27 Xcel Energy Inc.	9.9%	11.2%	11.1%
GROUP AVERAGE	9.2%	11.0%	10.6%
GROUP MEDIAN	9.1%	11.1%	10.5%

Sources: Value Line Investment Survey, Electric Utility (East), Sep 2, 2005; (Central), Sep 30, 2005; (West), Nov 11, 2005.

NOTE: SEE PAGE 5 OF THIS SCHEDULE FOR FURTHER EXPLANATION OF EACH COLUMN.

Aquila Missouri
Discounted Cash Flow Analysis
Traditional Constant Growth DCF Model

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
				Projected Growth Rate Analysis										
				Year 2009 "BR" Growth Rate Calculation										
Company	Recent Price(P0)	Next Year's Div(D1)	Dividend Yield	DPS	EPS	Retention Rate (B)	NBV	ROE (R)	B*R Growth	Zacks	Value Line	GDP Growth	Average Growth *(Cols 9-12)*	ROE K=Div Yld+G *(Cols 3+13)*
1 Alliant Energy Co.	28.98	1.11	3.83%	1.26	2.15	41.40%	26.55	8.10%	3.35%	4.00%	6.00%	6.60%	4.99%	8.8%
2 Ameren	53.76	2.54	4.72%	2.54	3.35	24.18%	35.20	9.52%	2.30%	4.90%	2.50%	6.60%	4.08%	8.8%
3 American Elec. Pwr.	38.14	1.44	3.78%	1.60	3.00	46.67%	27.75	10.81%	5.05%	3.00%	2.00%	6.60%	4.16%	7.9%
4 CH Energy Group	47.11	2.16	4.59%	2.20	3.25	32.31%	34.25	9.49%	3.07%	NA	4.50%	6.60%	4.72%	9.3%
5 Cent. Vermont P.S.	17.92	0.92	5.13%	0.92	1.60	42.50%	17.25	9.28%	3.94%	NA	2.00%	6.60%	4.18%	9.3%
6 CINERGY	42.72	1.96	4.59%	2.08	2.90	28.28%	27.35	10.60%	3.00%	4.50%	4.00%	6.60%	4.52%	9.1%
7 Cleco Corporation	22.69	0.90	3.97%	0.90	1.50	40.00%	17.50	8.57%	3.43%	4.00%	0.50%	6.60%	3.63%	7.6%
8 Con. Edison	47.25	2.30	4.87%	2.36	3.00	21.33%	32.60	9.20%	1.96%	3.30%	1.50%	6.60%	3.34%	8.2%
9 DTE Energy Co.	45.19	2.06	4.56%	2.10	5.00	58.00%	41.25	12.12%	7.03%	4.60%	8.50%	6.60%	6.68%	11.2%
10 Duquesne Light	17.71	1.00	5.65%	1.00	1.40	28.57%	10.65	13.15%	3.76%	5.00%	3.00%	6.60%	4.59%	10.2%
11 Empire District	22.65	1.28	5.65%	1.28	1.50	14.67%	16.25	9.23%	1.35%	5.00%	5.00%	6.60%	4.49%	10.1%
12 Energy East Corp.	25.64	1.16	4.52%	1.35	2.00	32.50%	20.75	9.64%	3.13%	4.50%	4.50%	6.60%	4.68%	9.2%
13 FPL Group, Inc.	44.20	1.52	3.44%	1.82	2.95	38.31%	24.60	11.99%	4.59%	5.70%	7.50%	6.60%	6.10%	9.5%
14 FirstEnergy	50.36	1.72	3.42%	2.00	4.00	50.00%	35.25	11.35%	5.67%	4.30%	10.00%	6.60%	6.64%	10.1%
15 Green Mtn. Power	31.34	1.08	3.45%	1.32	2.45	46.12%	23.90	10.25%	4.73%	NA	3.50%	6.60%	4.94%	8.4%
16 Hawaiian Electric	27.19	1.24	4.56%	1.24	1.75	29.14%	17.25	10.14%	2.96%	3.50%	2.50%	6.60%	3.89%	8.4%
17 MGE Energy, Inc.	35.62	1.38	3.87%	1.44	2.45	41.22%	18.70	13.10%	5.40%	NA	6.00%	6.60%	6.00%	9.9%
18 NiSource Inc.	23.66	0.96	4.06%	1.10	2.00	45.00%	21.50	9.30%	4.19%	4.40%	2.50%	6.60%	4.42%	8.5%
19 NSTAR	28.78	1.21	4.20%	1.35	2.00	32.50%	17.25	11.59%	3.77%	4.80%	2.50%	6.60%	4.42%	8.6%
20 Pinnacle West	43.98	2.03	4.62%	2.33	3.10	24.84%	37.05	8.37%	2.08%	5.20%	3.50%	6.60%	4.34%	9.0%
21 Progress Energy	43.47	2.44	5.61%	2.50	3.40	26.47%	35.25	9.65%	2.55%	4.10%	NA	6.60%	4.42%	10.0%
22 Puget Energy, Inc.	22.67	1.00	4.41%	1.12	1.75	36.00%	19.25	9.09%	3.27%	4.80%	5.50%	6.60%	5.04%	9.5%
23 SCANA Corp.	41.28	1.66	4.02%	1.90	3.25	41.54%	29.50	11.02%	4.58%	4.70%	4.50%	6.60%	5.09%	9.1%
24 Southern Co.	34.69	1.53	4.41%	1.71	2.45	30.20%	18.15	13.50%	4.08%	4.50%	4.00%	6.60%	4.79%	9.2%
25 Vectren Corp.	27.60	1.23	4.46%	1.35	1.95	30.77%	17.45	11.17%	3.44%	4.60%	4.00%	6.60%	4.66%	9.1%
26 Westar Energy	23.67	0.96	4.06%	1.08	1.70	36.47%	19.45	8.74%	3.19%	4.00%	5.50%	6.60%	4.82%	8.9%
27 Xcel Energy Inc.	19.20	0.88	4.58%	1.05	1.50	30.00%	15.00	10.00%	3.00%	4.20%	7.50%	6.60%	5.33%	9.9%
GROUP AVERAGE	33.61	1.47	4.41%	1.59	2.49	35.15%	24.33	10.33%	3.66%	4.42%	4.35%	6.60%	4.78%	9.2%
GROUP MEDIAN			4.46%											9.1%

Sources: Value Line Investment Survey, Electric Utility (East), Sep 2, 2005; (Central), Sep 30, 2005; (West), Nov 11, 2005.

NOTE: SEE PAGE 5 OF THIS SCHEDULE FOR FURTHER EXPLANATION OF EACH COLUMN.

Aquila Missouri
Discounted Cash Flow Analysis
Constant Growth DCF Model
Long-Term GDP Growth

	(15)	(16)	(17)	(18)	(19)
Company	Recent Price(P0)	Next Year's Div(D1)	Dividend Yield	GDP Growth	ROE K=Div Yld+G *(Cols 17+18)*
1 Alliant Energy Co.	28.98	1.11	3.83%	6.60%	10.4%
2 Ameren	53.76	2.54	4.72%	6.60%	11.3%
3 American Elec. Pwr.	38.14	1.44	3.78%	6.60%	10.4%
4 CH Energy Group	47.11	2.16	4.59%	6.60%	11.2%
5 Cent. Vermont P.S.	17.92	0.92	5.13%	6.60%	11.7%
6 CINERGY	42.72	1.96	4.59%	6.60%	11.2%
7 Cleco Corporation	22.69	0.90	3.97%	6.60%	10.6%
8 Con. Edison	47.25	2.30	4.87%	6.60%	11.5%
9 DTE Energy Co.	45.19	2.06	4.56%	6.60%	11.2%
10 Duquesne Light	17.71	1.00	5.65%	6.60%	12.2%
11 Empire District	22.65	1.28	5.65%	6.60%	12.3%
12 Energy East Corp.	25.64	1.16	4.52%	6.60%	11.1%
13 FPL Group, Inc.	44.20	1.52	3.44%	6.60%	10.0%
14 FirstEnergy	50.36	1.72	3.42%	6.60%	10.0%
15 Green Mtn. Power	31.34	1.08	3.45%	6.60%	10.0%
16 Hawaiian Electric	27.19	1.24	4.56%	6.60%	11.2%
17 MGE Energy, Inc.	35.62	1.38	3.87%	6.60%	10.5%
18 NiSource Inc.	23.66	0.96	4.06%	6.60%	10.7%
19 NSTAR	28.78	1.21	4.20%	6.60%	10.8%
20 Pinnacle West	43.98	2.03	4.62%	6.60%	11.2%
21 Progress Energy	43.47	2.44	5.61%	6.60%	12.2%
22 Puget Energy, Inc.	22.67	1.00	4.41%	6.60%	11.0%
23 SCANA Corp.	41.28	1.66	4.02%	6.60%	10.6%
24 Southern Co.	34.69	1.53	4.41%	6.60%	11.0%
25 Vectren Corp.	27.60	1.23	4.46%	6.60%	11.1%
26 Westar Energy	23.67	0.96	4.06%	6.60%	10.7%
27 Xcel Energy Inc.	19.20	0.88	4.58%	6.60%	11.2%
GROUP AVERAGE	33.61	1.47	4.41%	6.60%	11.0%
GROUP MEDIAN			4.46%		11.1%

Sources: Value Line Investment Survey, Electric Utility (East), Sep 2, 2005; (Central), Sep 30, 2005; (West), Nov 11, 2005.

NOTE: SEE PAGE 5 OF THIS SCHEDULE FOR FURTHER EXPLANATION OF EACH COLUMN.

Aquila Missouri
Discounted Cash Flow Analysis
Low Near-Term Growth
Two-Stage Growth DCF Model

		(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
					CASH FLOWS							
	Company	Next Year's Div	2009 Div	Annual Change to 2009	Recent Price	Year 1 Div	Year 2 Div	Year 3 Div	Year 4 Div	Year 5 Div	Year 5-150 Div Growth	ROE=Internal Rate of Return *(Yrs 0-150)*
1	Alliant Energy Co.	1.11	1.26	0.05	28.98	1.11	1.16	1.21	1.26	1.34	6.60%	10.2%
2	Ameren	2.54	2.54	0.00	53.76	2.54	2.54	2.54	2.54	2.71	6.60%	10.5%
3	American Elec. Pwr.	1.44	1.60	0.05	38.14	1.44	1.49	1.55	1.60	1.71	6.60%	10.1%
4	CH Energy Group	2.16	2.20	0.01	47.11	2.16	2.17	2.19	2.20	2.35	6.60%	10.5%
5	Cent. Vermont P.S.	0.92	0.92	0.00	17.92	0.92	0.92	0.92	0.92	0.98	6.60%	10.9%
6	CINERGY	1.96	2.08	0.04	42.72	1.96	2.00	2.04	2.08	2.22	6.60%	10.6%
7	Cleco Corporation	0.90	0.90	0.00	22.69	0.90	0.90	0.90	0.90	0.96	6.60%	9.9%
8	Con. Edison	2.30	2.36	0.02	47.25	2.30	2.32	2.34	2.36	2.52	6.60%	10.8%
9	DTE Energy Co.	2.06	2.10	0.01	45.19	2.06	2.07	2.09	2.10	2.24	6.60%	10.5%
10	Duquesne Light	1.00	1.00	0.00	17.71	1.00	1.00	1.00	1.00	1.07	6.60%	11.3%
11	Empire District	1.28	1.28	0.00	22.65	1.28	1.28	1.28	1.28	1.36	6.60%	11.3%
12	Energy East Corp.	1.16	1.35	0.06	25.64	1.16	1.22	1.29	1.35	1.44	6.60%	11.0%
13	FPL Group, Inc.	1.52	1.82	0.10	44.20	1.52	1.62	1.72	1.82	1.94	6.60%	10.0%
14	FirstEnergy	1.72	2.00	0.09	50.36	1.72	1.81	1.91	2.00	2.13	6.60%	9.9%
15	Green Mtn. Power	1.08	1.32	0.08	31.34	1.08	1.16	1.24	1.32	1.41	6.60%	10.0%
16	Hawaiian Electric	1.24	1.24	0.00	27.19	1.24	1.24	1.24	1.24	1.32	6.60%	10.4%
17	MGE Energy, Inc.	1.38	1.44	0.02	35.62	1.38	1.40	1.42	1.44	1.54	6.60%	9.9%
18	NiSource Inc.	0.96	1.10	0.05	23.66	0.96	1.01	1.05	1.10	1.17	6.60%	10.4%
19	NSTAR	1.21	1.35	0.05	28.78	1.21	1.26	1.30	1.35	1.44	6.60%	10.5%
20	Pinnacle West	2.03	2.33	0.10	43.98	2.03	2.13	2.23	2.33	2.48	6.60%	11.0%
21	Progress Energy	2.44	2.50	0.02	43.47	2.44	2.46	2.48	2.50	2.67	6.60%	11.4%
22	Puget Energy, Inc.	1.00	1.12	0.04	22.67	1.00	1.04	1.08	1.12	1.19	6.60%	10.7%
23	SCANA Corp.	1.66	1.90	0.08	41.28	1.66	1.74	1.82	1.90	2.03	6.60%	10.4%
24	Southern Co.	1.53	1.71	0.06	34.69	1.53	1.59	1.65	1.71	1.82	6.60%	10.7%
25	Vectren Corp.	1.23	1.35	0.04	27.60	1.23	1.27	1.31	1.35	1.44	6.60%	10.7%
26	Westar Energy	0.96	1.08	0.04	23.67	0.96	1.00	1.04	1.08	1.15	6.60%	10.4%
27	Xcel Energy Inc.	0.88	1.05	0.06	19.20	0.88	0.94	0.99	1.05	1.12	6.60%	11.1%
	GROUP AVERAGE	1.47	1.59	0.04	33.61							10.6%
	GROUP MEDIAN											10.5%

Sources: Value Line Investment Survey, Electric Utility (East), Sep 2, 2005; (Central), Sep 30, 2005; (West), Nov 11, 2005.

NOTE: SEE PAGE 5 OF THIS SCHEDULE FOR FURTHER EXPLANATION OF EACH COLUMN.

Aquila Missouri
Discounted Cash Flow Analysis
DCF Analysis Column Descriptions

Column 1: Three-month Average Price per Share (Aug-Oct 2005)

Column 2: Estimated 2006 Dividends per Share from Value Line

Column 3: Column 2 Divided by Column 1

Column 4: Estimated 2009 Dividends per Share from Value Line

Column 5: Estimated 2009 Earnings per Share from Value Line

Column 6: One Minus (Column 4 Divided by Column 5)

Column 7: Estimated 2009 Net Book Value per Share from Value Line

Column 8: Column 5 Divided by Column 7

Column 9: Column 6 Multiplied by Column 8

Column 10: "Next 5 Years" Company Growth Estimate as Reported by Zacks.com

Column 11: "Est'D 02-04 To 08-10" Earnings Growth as Reported by Value Line.

Column 12: Average of GDP Growth During the Last 10 year, 20 year, 30 year, 40 year, 50 year, and 57 year growth periods.

Column 13: Average of Columns 9-12

Column 14: Column 3 Plus Column 13

Column 15: See Column 1

Column 16: See Column 2

Column 17: Column 16 Divided by Column 15

Column 18: See Column 12

Column 19: Column 17 Plus Column 18

Column 20: See Column 2

Column 21: See Column 4

Column 22: (Column 21 Minus Column 20) Divided by Three

Column 23: See Column 1

Column 24: See Column 20

Column 25: Column 24 Plus Column 22

Column 26: Column 25 Plus Column 22

Column 27: Column 26 Plus Column 22

Column 28: Column 27 Increased by the Growth Rate Shown in Column 29

Column 29: See Column 12

Column 30: The Internal Rate of Return of the Cash Flows in Columns 23-28 along with the Dividends for the Years 6-150 Implied by the Growth Rates shown in Column 29

Aquila Missouri

Risk Premium Analysis

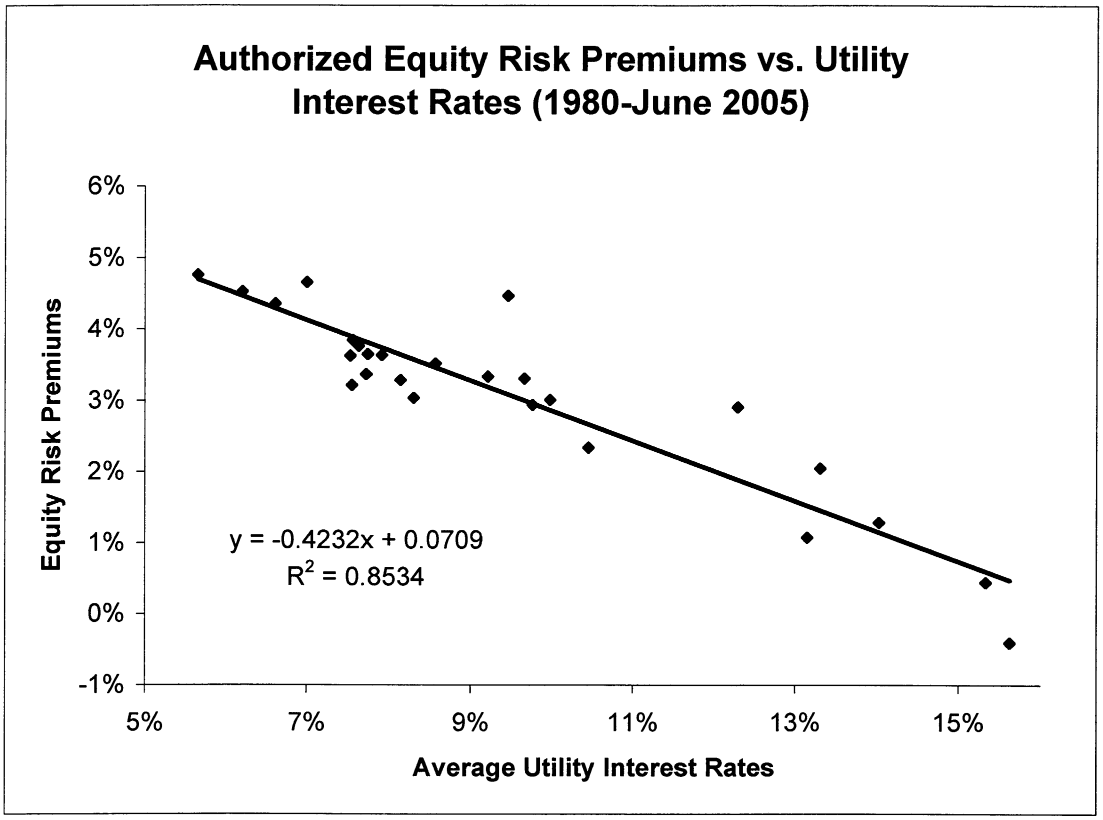
	MOODY'S AVERAGE PUBLIC UTILITY BOND YIELD (1)	AUTHORIZED ELECTRIC RETURNS (2)	INDICATED RISK PREMIUM
1980	13.15%	14.23%	1.08%
1981	15.62%	15.22%	-0.40%
1982	15.33%	15.78%	0.45%
1983	13.31%	15.36%	2.05%
1984	14.03%	15.32%	1.29%
1985	12.29%	15.20%	2.91%
1986	9.46%	13.93%	4.47%
1987	9.98%	12.99%	3.01%
1988	10.45%	12.79%	2.34%
1989	9.66%	12.97%	3.31%
1990	9.76%	12.70%	2.94%
1991	9.21%	12.55%	3.34%
1992	8.57%	12.09%	3.52%
1993	7.56%	11.41%	3.85%
1994	8.30%	11.34%	3.04%
1995	7.91%	11.55%	3.64%
1996	7.74%	11.39%	3.65%
1997	7.63%	11.40%	3.77%
1998	7.00%	11.66%	4.66%
1999	7.55%	10.77%	3.22%
2000	8.14%	11.43%	3.29%
2001	7.72%	11.09%	3.37%
2002	7.53%	11.16%	3.63%
2003	6.61%	10.97%	4.36%
2004	6.20%	10.73%	4.53%
9/2005	5.65%	10.41%	4.76%
AVERAGE	9.48%	12.56%	3.08%

INDICATED COST OF EQUITY	
PROJECTED TRIPLE-B UTILITY BOND YIELD*	6.65%
MOODY'S AVG ANNUAL YIELD DURING STUDY	9.48%
INTEREST RATE DIFFERENCE	-2.83%
INTEREST RATE CHANGE COEFFICIENT	-42.32%
ADUSTMENT TO AVG RISK PREMIUM	1.20%
BASIC RISK PREMIUM	3.08%
INTEREST RATE ADJUSTMENT	1.20%
EQUITY RISK PREMIUM	4.28%
PROJECTED TRIPLE-B UTILITY BOND YIELD*	6.65%
INDICATED EQUITY RETURN	**10.93%**

Sources:
(1) Moody's Investors Service
(2) Regulatory Focus, Regulatory Research Associates, Inc.
*Projected triple-B utility bond yield is 125 basis points over projected long-term Treasury rate from Exhibit SCH-R-10.

Aquila Missouri

Risk Premium Analysis



Rebuttal Schedule SCH-11

Economic Indicators

Seasonally Adjusted Annual Rates — Dollar Figures in Billions

2004	E2005	E2006	Annual % Change 2004	Annual % Change E2005	Annual % Change E2006		2005 1Q	2005 R2Q	2005 E3Q	2005 E4Q	E2006 1Q	E2006 2Q	E2006 3Q	E2006 4Q
						Gross Domestic Product								
$11,734.3	$12,473.2	$13,222.9	7.0	6.3	6.0	GDP (current dollars)	$12,198.8	$12,378.0	$12,569.3	$12,746.7	$12,960.4	$13,146.8	$13,311.3	$13,473.3
7.0	6.3	6.0	-	-	-	Annual rate of increase (%)	7.0	6.0	6.3	5.8	6.9	5.9	5.1	5.0
4.2	3.5	3.4	-	-	-	Annual rate of increase–real GDP (%)	3.8	3.3	3.4	2.7	3.5	4.1	3.3	3.0
2.6	2.7	2.5	-	-	-	Annual rate of increase–GDP deflator (%)	3.1	2.6	2.7	3.0	3.2	1.7	1.8	1.9
						***Components of Real GDP**								
$7,588.6	$7,845.3	$8,050.5	3.9	3.4	2.6	Personal consumption expenditures	$7,764.9	$7,829.5	$7,892.7	$7,894.1	$7,943.2	$8,013.7	$8,088.0	$8,157.0
3.9	3.4	2.6	-	-	-	% change	3.5	3.4	3.3	0.1	2.5	3.6	3.8	3.5
1,089.9	1,138.9	1,138.3	6.0	4.5	(0.1)	Durable goods	1,122.3	1,143.9	1,165.3	1,124.0	1,116.5	1,128.2	1,145.8	1,162.7
2,200.4	2,291.6	2,367.4	4.7	4.1	3.3	Nondurable goods	2,265.6	2,285.9	2,300.7	2,314.3	2,334.9	2,357.0	2,378.9	2,398.7
4,310.9	4,431.0	4,554.8	3.0	2.8	2.8	Services	4,392.0	4,417.6	4,447.2	4,467.2	4,500.0	4,537.2	4,573.9	4,608.1
1,186.7	1,288.0	1,449.9	9.4	8.5	12.6	Nonresidental fixed investment	1,252.2	1,279.0	1,290.6	1,330.1	1,386.6	1,446.9	1,479.5	1,486.5
9.4	8.5	12.6	-	-	-	% change	5.7	8.8	3.7	12.8	18.1	18.5	9.3	1.9
947.6	1,050.3	1,172.6	11.9	10.8	11.6	Producers durable equipment	1,014.2	1,040.9	1,057.6	1,088.4	1,124.5	1,160.1	1,192.4	1,213.3
552.9	589.7	570.8	10.3	6.7	(3.2)	Residental fixed investment	574.8	590.0	597.5	596.5	586.8	575.8	561.3	559.2
10.3	6.7	(3.2)	-	-	-	% change	9.6	11.0	5.2	(0.6)	(6.4)	(7.3)	(9.7)	(1.5)
52.0	21.5	38.5	-	-	-	Net change in business inventories	58.2	(1.7)	(4.9)	34.3	42.1	38.7	37.2	36.2
1,952.3	1,993.9	2,039.9	2.2	2.1	2.3	Gov't purchases of goods & services	1,971.9	1,984.1	1,999.3	2,020.5	2,026.3	2,035.5	2,043.7	2,054.2
723.7	745.6	766.5	5.2	3.0	2.8	Federal	731.8	736.1	748.8	765.7	764.4	766.1	767.2	768.5
1,228.4	1,248.1	1,273.2	0.4	1.6	2.0	State & local	1,239.8	1,247.8	1,250.3	1,254.5	1,261.8	1,269.1	1,276.3	1,285.4
(601.3)	(628.0)	(645.4)	-	-	-	Net exports	(645.4)	(614.2)	(615.2)	(637.2)	(642.0)	(646.5)	(647.7)	(645.2)
1,117.9	1,198.6	1,285.5	8.4	7.2	7.2	Exports	1,165.3	1,195.4	1,202.0	1,231.7	1,253.5	1,272.3	1,294.5	1,321.5
1,719.2	1,826.6	1,930.8	10.7	6.2	5.7	Imports	1,810.7	1,809.6	1,817.3	1,868.9	1,895.5	1,918.8	1,942.2	1,966.8
						****Income & Profits**								
$9,713.3	$10,275.1	$10,946.8	5.9	5.8	6.5	Personal income	$10,073.4	$10,221.2	$10,313.1	$10,492.9	$10,678.4	$10,868.5	$11,043.5	$11,196.7
8,664.2	9,060.6	9,637.3	6.1	4.6	6.4	Disposable personal income	8,902.0	9,008.6	9,088.5	9,243.2	9,416.3	9,575.6	9,717.9	9,839.3
1.7	(0.1)	0.9	-	-	-	Savings rate (%)	0.5	0.1	(0.8)	(0.1)	0.5	1.0	1.1	1.0
1,059.4	1,417.3	1,463.5	13.0	33.8	3.3	Corporate profits before taxes	1,378.3	1,412.2	1,322.9	1,556.0	1,504.8	1,457.3	1,449.3	1,442.4
788.2	1,044.4	1,067.0	11.8	32.5	2.2	Corporate profits after taxes	1,015.7	1,039.7	976.7	1,145.5	1,098.7	1,061.3	1,056.3	1,051.9
58.55	69.62	78.30	20.2	18.9	12.5	‡Earnings per share (S&P 500)	60.32	63.36	66.22	69.62	73.13	75.31	77.74	78.30
						†Prices & Interest Rates								
2.7	3.5	2.7	-	-	-	Consumer price index	2.4	4.2	5.0	4.9	2.8	(0.1)	1.3	1.6
1.4	3.1	4.4	-	-	-	Treasury bills	2.5	2.9	3.4	3.9	4.3	4.4	4.4	4.4
4.3	4.3	5.2	-	-	-	10-yr notes	4.3	4.2	4.2	4.5	5.0	5.1	5.2	5.3
5.1	4.6	5.3	-	-	-	30-yr bonds	4.7	4.5	4.4	4.8	5.1	5.3	5.4	5.4
5.6	5.3	6.2	-	-	-	New issue rate–corporate bonds	5.3	5.1	5.1	5.5	6.0	6.2	6.3	6.3
						Other Key Indicators								
1,949.7	2,038.9	1,887.8	5.2	4.6	(7.4)	Housing starts (1,000 units SAAR)	2,083.0	2,044.3	2,022.7	2,005.5	1,886.8	1,854.5	1,888.3	1,921.4
16.9	16.9	16.4	1.3	(0.1)	(2.8)	Auto & truck sales (1,000,000 units)	16.5	17.2	17.9	15.8	16.0	16.3	16.6	16.6
5.5	5.1	4.9	-	-	-	Unemployment rate (%)	5.3	5.1	5.0	5.1	4.9	4.9	4.8	4.9
(8.2)	(2.6)	(4.2)	-	-	-	§U.S. dollar	(2.6)	11.6	5.6	(7.1)	(5.9)	(6.4)	(8.0)	(6.5)

Note: Annual changes are from prior year and quarterly changes are from prior quarter. Figures may not add to totals because of rounding. A–Advance data. P–Preliminary. E–Estimated. R–Revised. *1996 Chain-weighted dollars. **Current dollars. ‡Trailing 4 quarters. †Average for period. §Quarterly % changes at quarterly rates. This forecast prepared by Standard & Poor's.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

County of Jackson)
) ss
State of Missouri)

AFFIDAVIT OF SAMUEL C. HADAWAY

Samuel C. Hadaway, being first duly sworn, deposes and says that he is the witness who sponsors the accompanying testimony entitled "Rebuttal Testimony of Samuel C. Hadaway;" that said testimony was prepared by him and under his direction and supervision; that if inquiries were made as to the facts in said testimony and schedules, he would respond as therein set forth; and that the aforesaid testimony and schedules are true and correct to the best of his knowledge, information, and belief.

Samuel C. Hadaway
Samuel C. Hadaway

Subscribed and sworn to before me this 18th day of November, 2005.

Terry D. Lutes
Notary Public
Terry D. Lutes

My Commission expires:
8-20-2008

Notary Public Notary Seal State of Missouri

TERRY D. LUTES
Jackson County
My Commission Expires
August 20, 2008