| | |
|---|---|
| Exhibit No.: | |
| Issue: | Revenue Requirement |
| Witness: | Michael Gorman |
| Type of Exhibit: | Rebuttal Testimony |
| Sponsoring Parties: | Ag Processing, Inc., SIEUA, and Federal Executive Agencies |
| Case No.: | ER-2010-0356 |
| Date Testimony Prepared: | December 15, 2010 |

**BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI**

| | |
|---|---|
| **In the Matter of the Application of KCP&L Greater Missouri Operations Company for Approval to Make Certain Changes in its Charges for Electric Service** | **Case No. ER-2010-0356** |

Rebuttal Testimony and Schedules of

**Michael Gorman**

On behalf of

**Ag Processing, Inc.**
**Sedalia Industrial Energy Users Association**
**Federal Executive Agencies**

December 15, 2010

1404

Industrials Exhibit No. 1004
Date 1/18/11 Reporter LmB
File No. ER-2010-0356

BRUBAKER & ASSOCIATES, INC.
CHESTERFIELD, MO 63017

Project 9384

**BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI**

| | | |
|---|---|---|
| **In the Matter of the Application of KCP&L Greater Missouri Operations Company for Approval to Make Certain Changes in its Charges for Electric Service** | ) | **Case No. ER-2010-0356** |

**STATE OF MISSOURI** )
) **SS**
**COUNTY OF ST. LOUIS** )

## Affidavit of Michael Gorman

Michael Gorman, being first duly sworn, on his oath states:

1. My name is Michael Gorman. I am a consultant with Brubaker & Associates, Inc., having its principal place of business at 16690 Swingley Ridge Road, Suite 140, Chesterfield, Missouri 63017. We have been retained by Ag Processing, Inc., Sedalia Industrial Energy Users Association and Federal Executive Agencies in this proceeding on their behalf.

2. Attached hereto and made a part hereof for all purposes are my rebuttal testimony and schedules which were prepared in written form for introduction into evidence in the Missouri Public Service Commission's Case No. ER-2010-0356.

3. I hereby swear and affirm that the testimony and schedules are true and correct and that they show the matters and things that they purport to show.

Michael Gorman

Subscribed and sworn to before me this 14th day of December, 2010.

TAMMY S. KLOSSNER
Notary Public - Notary Seal
STATE OF MISSOURI
St. Charles County
My Commission Expires: Mar. 14, 2011
Commission # 07024862

Notary Public

**BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI**

| | | |
|---|---|---|
| **In the Matter of the Application of KCP&L Greater Missouri Operations Company for Approval to Make Certain Changes in its Charges for Electric Service** | ) | **Case No. ER-2010-0356** |

# Rebuttal Testimony of Michael Gorman

**Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

A Michael Gorman. My business address is 16690 Swingley Ridge Road, Suite 140, Chesterfield, MO 63017.

**Q ARE YOU THE SAME MICHAEL GORMAN WHO PREVIOUSLY FILED TESTIMONY IN THIS PROCEEDING?**

A Yes.

**Q PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.**

A This information was provided in Appendix A of my direct testimony.

**Q ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?**

A I am appearing on behalf of Ag Processing, Inc., Sedalia Industrial Energy Users Association and the Federal Executive Agencies ("FEA") (collectively "Industrials"). These customers purchase substantial amounts of electricity from KCP&L Greater

Missouri Operations Company ("KCPL-GMO") and the outcome of this proceeding will have an impact on their cost of electricity.

**Q WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY IN THIS PROCEEDING?**

A I will respond to the Company's requested return on equity of 11.0%. The Company's return on equity is based on an estimated cost of equity for KCPL-GMO of 10.75%, with a 0.25% return on equity adder KCPL-GMO requests to reflect its reliability and customer satisfaction achievements. This 11.0% return on equity is excessive and should be reduced to a return on equity of 9.5%.

A return on equity adder for achieving reliability and customer satisfaction should not be approved in this proceeding. Customers are paying higher rates to support costs related to the acquisition of KCPL-GMO into the Great Plains Energy network. The higher rates supporting these acquisition-related costs, benefit both investors and ratepayers. Customers are also being asked to pay for the addition of major construction projects, including KCPL-GMO's portion of the latan 2 development costs in rates in this proceeding. Those costs are significant, and the Commission should not approve further rate increases to support a discretionary enhanced return on equity in this proceeding. Maintaining competitive rate structures that support necessary capital improvements will work to the benefit of KCPL-GMO's ratepayers, its community, and ultimately KCPL-GMO investors.

The mere size and cost at stake to ratepayers are too significant to allow a further discretionary increase in retail rates in this case.

For these reasons, KCPL-GMO's proposal for an enhanced return on equity is unreasonable and should be denied.

## Response to KCPL-GMO Witness Dr. Samuel Hadaway

**Q WHAT RETURN ON COMMON EQUITY IS KCPL-GMO PROPOSING FOR THIS PROCEEDING?**

A KCPL-GMO is proposing to set rates based on a return on equity of 11.00%. KCPL-GMO's return on equity proposal is based on the analysis and judgment of Dr. Samuel Hadaway. Dr. Hadaway's results are summarized at page 5 of his direct testimony. Dr. Hadaway recommends a return on equity of 10.75%. However, KCPL-GMO increased Dr. Hadaway's recommendation to include a 25 basis point return on equity adder to reflect its reliability and customer satisfaction achievements.

**Q DO DR. HADAWAY'S METHODOLOGIES SUPPORT HIS 10.75% RETURN ON EQUITY FOR HIS PROXY GROUP?**

A No. As discussed in detail below, reflecting current market data and properly applying his models, Dr. Hadaway's own analyses would support a return on equity in the range of 9.3% to 10.0%. When the adjustments to Dr. Hadaway's return on equity analyses required to correct the flaws in his approach are implemented, the resulting estimates support my recommended return on equity of 9.5%.

**Q WHAT IS THE TIME PERIOD OF THE MARKET DATA UNDERLYING DR. HADAWAY'S RETURN ON EQUITY RECOMMENDATION IN THIS CASE?**

A Dr. Hadaway's DCF model reflects stock prices ending February, March and May 2010,[1] and utility bond yields stated as of April 2010 (Hadaway Direct at 27). All of this data is at least six months old, and does not reflect current market costs and

[1]Schedule SCH2010-5 at 1.

conditions. Therefore, Dr. Hadaway's return on equity estimates are stale and should be disregarded.

**Q PLEASE DESCRIBE THE METHODOLOGY SUPPORTING DR. HADAWAY'S RETURN ON COMMON EQUITY RECOMMENDATION.**

A Dr. Hadaway develops his return on common equity recommendation using three versions of the DCF model, and two utility risk premium analyses. I have summarized Dr. Hadaway's results below in Table 1 under column 1. Under column 2, I show the results of Dr. Hadaway's analyses adjusted for updated data and a more reasonable application of the models.

As shown below in Table 1, using consensus economists' projection of GDP growth rather than Dr. Hadaway's inflated GDP growth estimates, his own DCF analyses would support a return on equity for KCPL-GMO in the range of 10.0%. Removing Dr. Hadaway's inappropriate interest rate-based adjustment to the expected market risk premium and additional use of forecasted interest rates in his risk premium analysis shows that his risk premium return would support a return of approximately 9.34%.

**TABLE 1**

**Summary of Dr. Hadaway's ROE Estimate**

| Description | Hadaway Results[1] (1) | Adjusted Hadaway Results[2] (2) |
|---|---|---|
| DCF Analysis | | |
| Constant Growth (Analysts' Growth) | 10.5% - 10.7% | 10.5% - 10.7% |
| Constant Growth (GDP Growth) | 11.0% - 11.0% | 9.7% - 9.7% |
| Two-Stage Growth Model | 10.8% - 10.8% | 9.7% - 9.7% |
| Reasonable DCF Range | 10.7% - 10.8% | 10.0% - 10.0% |
| Risk Premium Analysis | | |
| Forecasted Utility Debt + Equity Risk Premium | 10.82% | Reject |
| Current Utility Debt + Equity Risk Premium | 10.61% | 9.34% |

Sources:

[1]Hadaway Direct Testimony at 43.
[2]Schedule MPG-R-1.

**Q IS KCPL-GMO'S REQUEST FOR A 0.25% RETURN ON EQUITY ADDER TO REFLECT IMPROVEMENTS IN ITS RELIABILITY AND CUSTOMER SATISFACTION REASONABLE?**

A No. KCPL-GMO customers are faced with the prospect of higher rates to support major construction projects that are completed and proposed to be included in rates in this case. The Commission should not approve a return on equity adder that further burdens customers with discretionary increases to rates. Therefore, I recommend the Commission reject KCPL-GMO's request for a 25 basis point return on equity adder to reflect an increase in customer satisfaction and reliability.

**Q PLEASE DESCRIBE DR. HADAWAY'S CONSTANT GROWTH DCF ANALYSIS.**

A Dr. Hadaway's adjusted constant growth DCF analysis is shown in Schedule MPG-R-1. As shown in that schedule, Dr. Hadaway's constant growth DCF analysis is based on a recent stock price, an annualized dividend and an average of three growth rates: (1) *Value Line*; (2) Zacks; and (3) Thomson.

**Q ARE DR. HADAWAY'S DCF ESTIMATES RELIABLE?**

A No. Dr. Hadaway's constant growth DCF based on analyst growth rates produces excessive return estimates for the same reasons discussed in my direct testimony concerning my own DCF studies. That is, Dr. Hadaway's analyst growth DCF study is based on growth rate estimates in the range of 5.58% to 5.86%. These growth rates are <u>not</u> sustainable in the long run.

Second, his GDP growth input, which is used in his constant growth and two-stage growth models, is based on an inflated GDP growth rate of 6.0%. This GDP growth is excessive and not reflective of current market expectations.

**Q HOW DID DR. HADAWAY DEVELOP HIS GDP GROWTH RATE?**

A He states that the GDP growth rate is based on the achieved GDP growth over the last 10, 20, 30, 40, 50, and 60-year periods. Dr. Hadaway's projected GDP growth rate is unreasonable. Historical GDP growth over the last 20 and 40-year periods was strongly influenced by the actual inflation rate experienced over that time period.

**Q WHY IS DR. HADAWAY'S DCF ESTIMATE EXCESSIVE IN COMPARISON TO THAT OF PUBLISHED MARKET ANALYSTS?**

A The consensus economists' projected GDP growth rate is much lower than the GDP growth rate used by Dr. Hadaway in his DCF analysis. A comparison of Dr. Hadaway's GDP growth rate and consensus economists' projected GDP growth over the next five and ten years is shown below in Table 2. As shown in this table, Dr. Hadaway's GDP rate of 6.0% reflects real GDP of 2.9% and a GDP price inflation of 3.1%. However, consensus economists' projections of nominal GDP include GDP inflation projections over the next five and ten years of 2.0%, and 2.1%, respectively.[2]

As is clearly evident in the table below, Dr. Hadaway's historical GDP growth reflects historical inflation, which is much higher than, and not representative of, consensus market expected forward-looking inflation.

**TABLE 2**

**GDP Projections**

| Description | GDP Price Inflation | Real GDP | Nominal GDP |
|---|---|---|---|
| Dr. Hadaway[1] | 3.1% | 2.9% | 6.0% |
| Consensus 5-Year Projection[2] | 2.0% | 2.9% | 4.8% |
| Consensus 10-Year Projection[2] | 2.1% | 2.5% | 4.7% |

Sources:
[1]Schedule SCH2010-4.
[2]*Blue Chip Economic Indicators*, October 10, 2010, at 15.

Therefore, Dr. Hadaway's 6.0% nominal GDP growth rate is not reflective of consensus market expectations and should be rejected.

[2]*Blue Chip Economic Indicators*, October 10, 2010 at 15.

**Q ARE YOU AWARE OF ANY JURISDICTIONS THAT HAVE REJECTED DR. HADAWAY'S DCF RETURN ESTIMATES?**

A Yes. Dr. Hadaway's DCF models have been rejected by several regulatory commissions, including the following cases:

- Arkansas (*In re: Centerpoint Energy*, 245 P.U.R. 4th 384 (Arkansas Public Service Commission, September 19, 2005));
- Illinois (*In re: Commonwealth Edison Company*, 250 P.U.R. 4th 161 (Illinois Commerce Commission, July 26, 2006));
- Massachusetts (*In re: Fitchburg Gas and Electric Light Company*, 2008 Mass.P.U.C. Lexis 13 (Massachusetts Department of Telecommunications and Energy, February 29, 2008));
- New Mexico (*In re: Public Service Company of New Mexico*, 2008 N.M. P.U.C. Lexis 14 (New Mexico Public Regulatory Commission, April 24, 2008)); and
- Washington (*In re: PacifiCorp*, 2006 Washington U.T.C. Lexis (Washington Utilities and Transportation Commission, April 17, 2006)).

The Commission should reject Dr. Hadaway's DCF studies in this case, just as many other commissions have rejected them because they are based on unreasonably high GDP growth rates. The growth rates he used do not reflect investor expectations and inflated his DCF estimates.

**Q HOW WOULD DR. HADAWAY'S DCF ANALYSES CHANGE IF CURRENT MARKET-BASED GDP GROWTH RATE PROJECTIONS ARE INCLUDED IN HIS ANALYSIS RATHER THAN HIS EXCESSIVE GDP GROWTH RATE?**

A As shown in Schedule MPG-R-1, I updated Dr. Hadaway's DCF analyses using more recent market data and a GDP growth rate of 4.75%. This GDP growth rate is the average of the consensus economists' 5-year and 10-year projected growth rate of the GDP as published in the *Blue Chip Economic Indicators* on October 10, 2010 of 4.7% and 4.8%, respectively. As shown in Schedule MPG-R-1, using this consensus

economists' projected GDP growth rate reduces Dr. Hadaway's DCF results from 10.75% to 10.0%.

**TABLE 3**

**Adjusted Hadaway DCF**

| Description | Range Average Hadaway DCF[1] | Range Average Adjusted DCF[2] |
|---|---|---|
| Constant Growth (Analysts' Growth) | 10.6% | 10.5% - 10.7% |
| Constant Growth (GDP Growth) | 11.0% | 9.7% - 9.7% |
| Two-Stage Growth Model | 10.8% | 9.7% - 9.7% |
| Average | 10.8% | 10.0% - 10.0% |

Sources:
[1]Schedule SCH2010-5.
[2]Schedule MPG-R-1.

As shown above in Table 3, using a consensus economists' GDP forecast, rather than the GDP forecast derived by Dr. Hadaway, would support a return on equity for KCPL-GMO of 10.0%.

**Q PLEASE DESCRIBE DR. HADAWAY'S UTILITY RISK PREMIUM ANALYSIS.**

A Dr. Hadaway's utility bond yield versus authorized return on common equity risk premium is shown in Schedule SCH2010-6, pages 1-3. As shown in this schedule, Dr. Hadaway estimated an annual equity risk premium by subtracting Moody's average bond yield from the electric utility regulatory commission authorized return on common equity over the period 1980 through 2009. Based on this analysis, Dr. Hadaway estimates an average indicated equity risk premium over current utility bond yields of 3.23%.

However, Dr. Hadaway then adjusts this average equity risk premium using a regression analysis based on an expectation that there is an ongoing inverse

relationship between interest rates and equity risk premiums. Based on this regression analysis, Dr. Hadaway increases his equity risk premium from 3.23%, up to 4.25% and 4.39% relative to projected and current "BBB" bond yields of 6.57% and 6.22%, respectively. He then adds these equity risk premiums to the projected and current "BBB" rated utility bond yields to produce return on equity estimates of 10.82% and 10.61%, respectively.

**Q ARE DR. HADAWAY'S UTILITY RISK PREMIUM ANALYSES REASONABLE?**

A No. Dr. Hadaway's risk premiums are unreasonable for at least two reasons. First, they are based on forecasted utility bond yields. Second, Dr. Hadaway's equity risk premiums are increased to adjust his measured average equity risk premium for changes to nominal interest rates.

**Q HOW DID DR. HADAWAY DEVELOP FORECASTED UTILITY BOND YIELDS IN HIS RISK PREMIUM STUDY?**

A Dr. Hadaway forecasts utility bond yields based on the 3-month historical spread of "BBB" rated utility bond yields and 30-year Treasury bond yields. He then added this current utility bond yield spread to a forecasted long-term Treasury bond yield of 5.0%.

**Q IS HIS USE OF FORECASTED UTILITY BOND YIELDS REASONABLE?**

A No. The accuracy of his forecasted increased Treasury bond and utility bond yields is at very best highly problematic. Indeed, while analysts consistently project Treasury bond yields to increase, those projected increased interest rate projections have consistently turned out to be wrong and have overstated the actual Treasury yields

that eventually prevailed. The accuracy of Dr. Hadaway's projected utility bond yields is at very best problematic, because it is based on the accuracy of his projected increase to Treasury bond yields or interest rates.

**Q WHY DO YOU BELIEVE THAT THE ACCURACY OF FORECASTED INTEREST RATES IS HIGHLY PROBLEMATIC?**

A This is clearly evident from a review of projected changes to interest rates made over the last several years, in comparison to how accurate these projections turned out to be. This analysis clearly illustrates that observable interest rates today are as accurate as are economists' consensus projections of future interest rates.

An analysis supporting this conclusion is illustrated in Schedule MPG-R-2. On this schedule, under Column 1 (actual yield) and Column 2 (projected yield), I show the actual market yield at the time a projection was made for Treasury bond yields two years in the future.

As shown in Columns 1 and 2, over the last several years, Treasury yields were projected to increase relative to the prevailing actual Treasury yields at the time of the projection. In Column 4, I show what the Treasury yield actually turned out to be two years after the forecast. In Column 5, I show the actual yield change relative to the projected yield change.

As shown in this schedule, over the last several years, economists have been consistently projecting increases to interest rates. However, as demonstrated under Column 5, those yield projections have turned out to be overstated in virtually every case. Indeed, actual Treasury yields have decreased or remained flat over the last five years, rather than increase as the economists' projections indicated.

This review of the experience with projected interest rates clearly illustrates that interest rate projection accuracy is highly problematic. Indeed, current observable interest rates are just as likely a reasonable projection of future interest rates as are economists' projections.

**Q HOW DID DR. HADAWAY ADJUST HIS STUDY PERIOD AVERAGE RISK PREMIUM?**

A Dr. Hadaway adjusted the average equity risk premium measured within his historical period to reflect an expected inverse relationship between interest rates and equity risk premiums. Dr. Hadaway believes that as nominal interest rates increase, equity risk premiums decrease. And conversely, that as nominal interest rates decrease, equity risk premiums increase.

**Q IS IT REASONABLE TO ASSUME A SIMPLE INVERSE RELATIONSHIP BETWEEN INTEREST RATES AND EQUITY RISK PREMIUMS?**

A No, it is far more complicated than this simple assumption. Dr. Hadaway's belief that there is a simplistic inverse relationship between equity risk premiums and interest rates is not supported by academic research. While academic studies have shown that, in the past, there has been an inverse relationship with these variables, researchers have found that the relationship changes over time and is influenced by changes in perception of the risk of bond investments relative to equity investments, and not simply by changes to nominal interest rates.[3]

[3] "The Market Risk Premium: Expectational Estimates Using Analysts' Forecasts," Robert S. Harris and Felicia C. Marston, *Journal of Applied Finance*, Volume 11, No. 1, 2001 and "The Risk Premium Approach to Measuring a Utility's Cost of Equity," Eugene F. Brigham, Dilip K. Shome, and Steve R. Vinson, *Financial Management*, Spring 1985.

In the 1980s, equity risk premiums were inversely related to interest rates, but that was likely attributable to the interest rate volatility that existed at that time. Interest rate volatility currently is much lower than it was in the 1980s.[4] As such, when interest rates were more volatile, the relative perception of bond investment risk increased relative to the investment risk of equities. This changing investment risk perception caused changes in equity risk premiums.

In today's marketplace, interest rate variability is not as extreme as it was during the 1980s. Nevertheless, changes in the perceived risk of bond investments relative to equity investments still drive changes in equity premiums. However, a relative investment risk differential cannot be measured simply by observing nominal interest rates. Changes in nominal interest rates are highly influenced by changes to inflation outlooks, which also change equity return expectations. As such, the relevant factors needed to explain changes in equity risk premiums are the relative changes to the perceptions of risk of equity versus debt securities investments, not simply changes to interest rates.

Importantly, Dr. Hadaway's analysis simply ignores investment risk differentials. He bases his adjustment to the equity risk premium exclusively on changes in nominal interest rates. This is a flawed methodology and does not produce accurate or reliable risk premium estimates. His results should be rejected by the Commission.

[4]Morningstar, Inc. *Ibbotson SBBI 2010 Classic Yearbook* at 77.

**Q CAN DR. HADAWAY'S RISK PREMIUM ANALYSES BASED ON CURRENT AND PROJECTED YIELDS BE MODIFIED TO PRODUCE MORE REASONABLE RESULTS?**

A Yes. Dr. Hadaway's study indicates that an unadjusted equity risk premium is 3.23%. Using this unadjusted equity risk premium and the current "BBB" rated utility yield of 5.60%[5] will produce a return on equity of 8.83%. Using Dr. Hadaway's 2010 equity risk premium of 4.25% as shown in Schedule SCH2010-6 and a current "BBB" rated utility yield of 5.60% will produce a return of 9.85%. Therefore, Dr. Hadaway's risk premium study, adjusted to include the reasonable unadjusted equity risk premiums shown by his study and current observable utility bond yields, produces a return on equity in the range of 8.83% to 9.85%. The midpoint of the adjusted range is 9.34%.

**Q PLEASE SUMMARIZE YOUR ADJUSTMENTS TO DR. HADAWAY'S RESULTS, AND THE INDICATED RETURN ON EQUITY FOR KCPL-GMO IN THIS PROCEEDING.**

A I find a revision to Dr. Hadaway's DCF studies to reflect the consensus of economists' projected GDP growth, would support a return on equity in the range of 9.7% to 10.0%. Further, revisions to his risk premium study to reflect a more reasonable equity risk premium and current observable utility bond yields, would support a return on equity of approximately 9.32%. Hence, these updates to Dr. Hadaway's testimony suggest a return on equity in the range of 9.3% to 10.0% would be reasonable. This indicated range supports my recommended return on equity for KCPL-GMO of 9.5% in this proceeding.

[5] 13 weeks ended October 22, 2010, Schedule MPG-14, page 1.

**Q DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

A Yes.

\\doc\shares\prolawdocs\sdw\9384\testimony - bai\189295.doc

# KCP&L Greater Missouri Operations

## Summary of Adjusted Hadaway DCF

| Line | Description | Hadaway (1) | Hadaway Adjusted* (2) |
|---|---|---|---|
| | **Constant Growth DCF (Analysts' Growth Rates)** | | |
| 1 | Average | 10.7% | 10.7% |
| 2 | Median | 10.5% | 10.5% |
| | **Constant Growth DCF (Long-Term GDP Growth)** | | |
| 3 | Average | 11.0% | 9.7% |
| 4 | Median | 11.0% | 9.7% |
| | **Two-Stage Growth DCF** | | |
| 5 | Average | 10.8% | 9.7% |
| 6 | Median | 10.8% | 9.7% |

Sources:
Pages 2 to 4.
* The adjustment reflects changing the GDP Growth Rate to 4.75%.

# KCP&L Greater Missouri Operations

## Adjusted Hadaway Constant Growth DCF Model
## (Analysts' Growth Rates)

| Line | Company | Recent Stock Price (1) | Next Year's Dividend (2) | Dividend Yield (3) | Average Analyst Growth Rate (4) | Constant Growth DCF (5) |
|---|---|---|---|---|---|---|
| 1 | ALLETE | $33.30 | $1.76 | 5.29% | 4.52% | 9.8% |
| 2 | Alliant Energy Co. | $32.91 | $1.62 | 4.91% | 5.53% | 10.4% |
| 3 | American Elec. Pwr. | $34.11 | $1.65 | 4.84% | 3.53% | 8.4% |
| 4 | Avista Corp. | $20.88 | $1.04 | 4.98% | 5.99% | 11.0% |
| 5 | Black Hills Corp | $29.40 | $1.46 | 4.97% | 6.17% | 11.1% |
| 6 | Cleco Corporation | $26.22 | $1.04 | 3.97% | 7.00% | 11.0% |
| 7 | Con. Edison | $43.99 | $2.39 | 5.43% | 3.26% | 8.7% |
| 8 | DPL Inc. | $27.25 | $1.25 | 4.57% | 5.32% | 9.9% |
| 9 | DTE Energy Co. | $44.89 | $2.18 | 4.86% | 5.63% | 10.5% |
| 10 | Duke Energy | $16.45 | $0.98 | 5.96% | 4.76% | 10.7% |
| 11 | Edison Internat. | $33.68 | $1.31 | 3.89% | 2.51% | 6.4% |
| 12 | Empire District | $18.48 | $1.28 | 6.93% | 6.50% | 13.4% |
| 13 | Entergy Corp. | $79.58 | $3.00 | 3.77% | 5.23% | 9.0% |
| 14 | NextEra Energy | $48.44 | $2.00 | 4.13% | 6.96% | 11.1% |
| 15 | Hawaiian Electric | $21.63 | $1.24 | 5.73% | 9.12% | 14.9% |
| 16 | IDACORP | $34.06 | $1.20 | 3.52% | 5.17% | 8.7% |
| 17 | Northeast Utilities | $26.73 | $1.07 | 3.98% | 7.78% | 11.8% |
| 18 | NSTAR | $34.95 | $1.68 | 4.81% | 5.74% | 10.5% |
| 19 | PG&E Corp. | $42.60 | $1.89 | 4.44% | 7.03% | 11.5% |
| 20 | Pinnacle West | $37.24 | $2.10 | 5.64% | 6.33% | 12.0% |
| 21 | Portland General | $19.11 | $1.06 | 5.52% | 4.82% | 10.3% |
| 22 | Progress Energy | $39.02 | $2.51 | 6.43% | 4.02% | 10.5% |
| 23 | SCANA Corp. | $37.12 | $1.91 | 5.15% | 4.56% | 9.7% |
| 24 | Sempra Energy | $49.64 | $1.62 | 3.26% | 4.83% | 8.1% |
| 25 | Southern Co. | $32.89 | $1.82 | 5.53% | 4.78% | 10.3% |
| 26 | Teco Energy, Inc. | $15.85 | $0.81 | 5.11% | 6.71% | 11.8% |
| 27 | UIL Holdings Co. | $27.79 | $1.73 | 6.23% | 3.70% | 9.9% |
| 28 | Vectren Corp. | $23.99 | $1.38 | 5.75% | 4.77% | 10.5% |
| 29 | Westar Energy | $22.20 | $1.26 | 5.68% | 6.45% | 12.1% |
| 30 | Wisconsin Energy | $49.93 | $1.70 | 3.40% | 8.83% | 12.2% |
| 31 | Xcel Energy Inc. | $21.12 | $1.02 | 4.81% | 5.79% | 10.6% |
| 32 | **Average** | **$33.08** | **$1.58** | **4.95%** | **5.59%** | **10.7%** |
| 33 | **Median** | | | **4.97%** | **5.53%** | **10.5%** |

Source:
Schedule SCH2010-5, page 2 of 5.

# KCP&L Greater Missouri Operations

## Adjusted Hadaway Constant Growth DCF Model
## (Long-Term GDP Growth)

| Line | Company | Recent Stock Price (1) | Next Year's Dividend (2) | Dividend Yield (3) | GDP Growth* (4) | Long-Term Constant Growth DCF (5) |
|---|---|---|---|---|---|---|
| 1 | ALLETE | $33.30 | $1.76 | 5.29% | 4.75% | 10.0% |
| 2 | Alliant Energy Co. | $32.91 | $1.62 | 4.91% | 4.75% | 9.7% |
| 3 | American Elec. Pwr. | $34.11 | $1.65 | 4.84% | 4.75% | 9.6% |
| 4 | Avista Corp. | $20.88 | $1.04 | 4.98% | 4.75% | 9.7% |
| 5 | Black Hills Corp | $29.40 | $1.46 | 4.97% | 4.75% | 9.7% |
| 6 | Cleco Corporation | $26.22 | $1.04 | 3.97% | 4.75% | 8.7% |
| 7 | Con. Edison | $43.99 | $2.39 | 5.43% | 4.75% | 10.2% |
| 8 | DPL Inc. | $27.25 | $1.25 | 4.57% | 4.75% | 9.3% |
| 9 | DTE Energy Co. | $44.89 | $2.18 | 4.86% | 4.75% | 9.6% |
| 10 | Duke Energy | $16.45 | $0.98 | 5.96% | 4.75% | 10.7% |
| 11 | Edison Internat. | $33.68 | $1.31 | 3.89% | 4.75% | 8.6% |
| 12 | Empire District | $18.48 | $1.28 | 6.93% | 4.75% | 11.7% |
| 13 | Entergy Corp. | $79.58 | $3.00 | 3.77% | 4.75% | 8.5% |
| 14 | NextEra Energy | $48.44 | $2.00 | 4.13% | 4.75% | 8.9% |
| 15 | Hawaiian Electric | $21.63 | $1.24 | 5.73% | 4.75% | 10.5% |
| 16 | IDACORP | $34.06 | $1.20 | 3.52% | 4.75% | 8.3% |
| 17 | Northeast Utilities | $26.73 | $1.07 | 3.98% | 4.75% | 8.7% |
| 18 | NSTAR | $34.95 | $1.68 | 4.81% | 4.75% | 9.6% |
| 19 | PG&E Corp. | $42.60 | $1.89 | 4.44% | 4.75% | 9.2% |
| 20 | Pinnacle West | $37.24 | $2.10 | 5.64% | 4.75% | 10.4% |
| 21 | Portland General | $19.11 | $1.06 | 5.52% | 4.75% | 10.3% |
| 22 | Progress Energy | $39.02 | $2.51 | 6.43% | 4.75% | 11.2% |
| 23 | SCANA Corp. | $37.12 | $1.91 | 5.15% | 4.75% | 9.9% |
| 24 | Sempra Energy | $49.64 | $1.62 | 3.26% | 4.75% | 8.0% |
| 25 | Southern Co. | $32.89 | $1.82 | 5.53% | 4.75% | 10.3% |
| 26 | Teco Energy, Inc. | $15.85 | $0.81 | 5.11% | 4.75% | 9.9% |
| 27 | UIL Holdings Co. | $27.79 | $1.73 | 6.23% | 4.75% | 11.0% |
| 28 | Vectren Corp. | $23.99 | $1.38 | 5.75% | 4.75% | 10.5% |
| 29 | Westar Energy | $22.20 | $1.26 | 5.68% | 4.75% | 10.4% |
| 30 | Wisconsin Energy | $49.93 | $1.70 | 3.40% | 4.75% | 8.2% |
| 31 | Xcel Energy Inc. | $21.12 | $1.02 | 4.81% | 4.75% | 9.6% |
| 32 | **Average** | **$33.08** | **$1.58** | **4.95%** | **4.75%** | **9.7%** |
| 33 | **Median** | | | **4.97%** | | **9.7%** |

Sources:
Schedule SCH2010-5, page 3 of 5.
* *Blue Chip Economic Indicators,* October 10, 2010 at 15.

# KCP&L Greater Missouri Operations

## Adjusted Hadaway Low Near-Term Growth
## Two-Stage Growth DCF Model

| Line | Company | Recent Stock Price[1] (1) | Next Year's Dividend[2] (2) | 2014 Forecasted Dividend (3) | Annual Change to 2014 (4) | Cash Flows Year 1 Dividend (5) | Year 2 Dividend (6) | Year 3 Dividend (7) | Year 4 Dividend (8) | Year 5 Dividend (9) | GDP Growth[3] (10) | Two-Stage Growth DCF (11) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | ALLETE | $33.30 | $1.76 | $1.80 | $0.01 | $1.76 | $1.77 | $1.79 | $1.80 | $1.89 | 4.75% | 9.5% |
| 2 | Alliant Energy Co. | $32.91 | $1.65 | $1.92 | $0.09 | $1.65 | $1.74 | $1.83 | $1.92 | $2.01 | 4.75% | 9.8% |
| 3 | American Elec. Pwr. | $34.11 | $1.66 | $1.90 | $0.08 | $1.66 | $1.74 | $1.82 | $1.90 | $1.99 | 4.75% | 9.6% |
| 4 | Avista Corp. | $20.88 | $1.08 | $1.30 | $0.07 | $1.08 | $1.15 | $1.23 | $1.30 | $1.36 | 4.75% | 10.1% |
| 5 | Black Hills Corp | $29.40 | $1.48 | $1.60 | $0.04 | $1.48 | $1.52 | $1.56 | $1.60 | $1.68 | 4.75% | 9.5% |
| 6 | Cleco Corporation | $26.22 | $1.10 | $1.40 | $0.10 | $1.10 | $1.20 | $1.30 | $1.40 | $1.47 | 4.75% | 9.4% |
| 7 | Con. Edison | $43.99 | $2.40 | $2.46 | $0.02 | $2.40 | $2.42 | $2.44 | $2.46 | $2.58 | 4.75% | 9.7% |
| 8 | DPL Inc. | $27.25 | $1.28 | $1.50 | $0.07 | $1.28 | $1.35 | $1.43 | $1.50 | $1.57 | 4.75% | 9.5% |
| 9 | DTE Energy Co. | $44.89 | $2.24 | $2.60 | $0.12 | $2.24 | $2.36 | $2.48 | $2.60 | $2.72 | 4.75% | 9.8% |
| 10 | Duke Energy | $16.45 | $0.99 | $1.10 | $0.04 | $0.99 | $1.03 | $1.06 | $1.10 | $1.15 | 4.75% | 10.6% |
| 11 | Edison Internat. | $33.68 | $1.34 | $1.50 | $0.05 | $1.34 | $1.39 | $1.45 | $1.50 | $1.57 | 4.75% | 8.6% |
| 12 | Empire District | $18.48 | $1.28 | $1.35 | $0.02 | $1.28 | $1.30 | $1.33 | $1.35 | $1.41 | 4.75% | 11.2% |
| 13 | Entergy Corp. | $79.58 | $3.00 | $3.60 | $0.20 | $3.00 | $3.20 | $3.40 | $3.60 | $3.77 | 4.75% | 8.7% |
| 14 | NextEra Energy | $48.44 | $2.00 | $2.40 | $0.13 | $2.00 | $2.13 | $2.27 | $2.40 | $2.51 | 4.75% | 9.0% |
| 15 | Hawaiian Electric | $21.63 | $1.24 | $1.30 | $0.02 | $1.24 | $1.26 | $1.28 | $1.30 | $1.36 | 4.75% | 10.0% |
| 16 | IDACORP | $34.06 | $1.20 | $1.40 | $0.07 | $1.20 | $1.27 | $1.33 | $1.40 | $1.47 | 4.75% | 8.3% |
| 17 | Northeast Utilities | $26.73 | $1.10 | $1.25 | $0.05 | $1.10 | $1.15 | $1.20 | $1.25 | $1.31 | 4.75% | 8.8% |
| 18 | NSTAR | $34.95 | $1.73 | $2.05 | $0.11 | $1.73 | $1.84 | $1.94 | $2.05 | $2.15 | 4.75% | 9.8% |
| 19 | PG&E Corp. | $42.60 | $1.96 | $2.40 | $0.15 | $1.96 | $2.11 | $2.25 | $2.40 | $2.51 | 4.75% | 9.6% |
| 20 | Pinnacle West | $37.24 | $2.10 | $2.30 | $0.07 | $2.10 | $2.17 | $2.23 | $2.30 | $2.41 | 4.75% | 10.1% |
| 21 | Portland General | $19.11 | $1.07 | $1.20 | $0.04 | $1.07 | $1.11 | $1.16 | $1.20 | $1.26 | 4.75% | 10.2% |
| 22 | Progress Energy | $39.02 | $2.52 | $2.58 | $0.02 | $2.52 | $2.54 | $2.56 | $2.58 | $2.70 | 4.75% | 10.6% |
| 23 | SCANA Corp. | $37.12 | $1.92 | $2.05 | $0.04 | $1.92 | $1.96 | $2.01 | $2.05 | $2.15 | 4.75% | 9.6% |
| 24 | Sempra Energy | $49.64 | $1.68 | $2.05 | $0.12 | $1.68 | $1.80 | $1.93 | $2.05 | $2.15 | 4.75% | 8.3% |
| 25 | Southern Co. | $32.89 | $1.85 | $2.10 | $0.08 | $1.85 | $1.93 | $2.02 | $2.10 | $2.20 | 4.75% | 10.3% |
| 26 | Teco Energy, Inc. | $15.85 | $0.82 | $0.95 | $0.04 | $0.82 | $0.86 | $0.91 | $0.95 | $1.00 | 4.75% | 10.0% |
| 27 | UIL Holdings Co. | $27.79 | $1.73 | $1.73 | $0.00 | $1.73 | $1.73 | $1.73 | $1.73 | $1.81 | 4.75% | 10.2% |
| 28 | Vectren Corp. | $23.99 | $1.39 | $1.50 | $0.04 | $1.39 | $1.43 | $1.46 | $1.50 | $1.57 | 4.75% | 10.2% |
| 29 | Westar Energy | $22.20 | $1.28 | $1.40 | $0.04 | $1.28 | $1.32 | $1.36 | $1.40 | $1.47 | 4.75% | 10.3% |
| 30 | Wisconsin Energy | $49.93 | $1.80 | $2.40 | $0.20 | $1.80 | $2.00 | $2.20 | $2.40 | $2.51 | 4.75% | 8.9% |
| 31 | Xcel Energy Inc. | $21.12 | $1.03 | $1.15 | $0.04 | $1.03 | $1.07 | $1.11 | $1.15 | $1.20 | 4.75% | 9.5% |
| 20 | **Average** | **$33.08** | **$1.60** | **$1.81** | **$0.07** | **$1.60** | **$1.67** | **$1.74** | **$1.81** | **$1.90** | **4.75%** | **9.7%** |
| 21 | **Median** | | | | | | | | | | | **9.7%** |

Sources:
Schedule SCH2010-5, page 4 of 5.
* *Blue Chip Economic Indicators*, October 10, 2010 at 15.

# KCP&L Greater Missouri Operations

## Accuracy of Interest Rate Forecasts
(Long-Term Treasury Bond Yields - Projected Vs. Actual)

| Line | Date | Publication Data: Prior Quarter Actual Yield (1) | Publication Data: Projected Yield (2) | Publication Data: Projected Quarter (3) | Actual Yield in Projected Quarter (4) | Projected Yield Higher (Lower) Than Actual Yield* (5) |
|---|---|---|---|---|---|---|
| 1 | Dec-00 | 5.8% | 5.8% | 1Q, 02 | 5.6% | 0.2% |
| 2 | Mar-01 | 5.7% | 5.6% | 2Q, 02 | 5.8% | -0.2% |
| 3 | Jun-01 | 5.4% | 5.8% | 3Q, 02 | 5.2% | 0.6% |
| 4 | Sep-01 | 5.7% | 5.9% | 4Q, 02 | 5.1% | 0.8% |
| 5 | Dec-01 | 5.5% | 5.7% | 1Q, 03 | 5.0% | 0.7% |
| 6 | Mar-02 | 5.3% | 5.9% | 2Q, 03 | 4.7% | 1.2% |
| 7 | Jun-02 | 5.6% | 6.2% | 3Q, 03 | 5.2% | 1.0% |
| 8 | Sep-02 | 5.8% | 5.9% | 4Q, 03 | 5.2% | 0.7% |
| 9 | Dec-02 | 5.2% | 5.7% | 1Q, 04 | 4.9% | 0.8% |
| 10 | Mar-03 | 5.1% | 5.7% | 2Q, 04 | 5.4% | 0.3% |
| 11 | Jun-03 | 5.0% | 5.4% | 3Q, 04 | 5.1% | 0.3% |
| 12 | Sep-03 | 4.7% | 5.8% | 4Q, 04 | 4.9% | 0.9% |
| 13 | Dec-03 | 5.2% | 5.9% | 1Q, 05 | 4.8% | 1.1% |
| 14 | Mar-04 | 5.2% | 5.9% | 2Q, 05 | 4.6% | 1.4% |
| 15 | Jun-04 | 4.9% | 6.2% | 3Q, 05 | 4.5% | 1.7% |
| 16 | Sep-04 | 5.4% | 6.0% | 4Q, 05 | 4.8% | 1.2% |
| 17 | Dec-04 | 5.1% | 5.8% | 1Q, 06 | 4.6% | 1.2% |
| 18 | Mar-05 | 4.9% | 5.6% | 2Q, 06 | 5.1% | 0.5% |
| 19 | Jun-05 | 4.8% | 5.5% | 3Q, 06 | 5.0% | 0.5% |
| 20 | Sep-05 | 4.6% | 5.2% | 4Q, 06 | 4.7% | 0.5% |
| 21 | Dec-05 | 4.5% | 5.3% | 1Q, 07 | 4.8% | 0.5% |
| 22 | Mar-06 | 4.8% | 5.1% | 2Q, 07 | 5.0% | 0.1% |
| 23 | Jun-06 | 4.6% | 5.3% | 3Q, 07 | 4.9% | 0.4% |
| 24 | Sep-06 | 5.1% | 5.2% | 4Q, 07 | 4.6% | 0.6% |
| 25 | Dec-06 | 5.0% | 5.0% | 1Q, 08 | 4.4% | 0.6% |
| 26 | Mar-07 | 4.7% | 5.1% | 2Q, 08 | 4.6% | 0.5% |
| 27 | Jun-07 | 4.8% | 5.1% | 3Q, 08 | 4.5% | 0.7% |
| 28 | Sep-07 | 5.0% | 5.2% | 4Q, 08 | 3.7% | 1.5% |
| 29 | Dec-07 | 4.9% | 4.8% | 1Q, 09 | 3.5% | 1.4% |
| 30 | Mar-08 | 4.6% | 4.8% | 2Q, 09 | 4.0% | 0.8% |
| 31 | Jun-08 | 4.4% | 4.9% | 3Q, 09 | 4.3% | 0.6% |
| 32 | Sep-08 | 4.6% | 5.1% | 4Q, 09 | 4.3% | 0.8% |
| 33 | Dec-08 | 4.5% | 4.6% | 1Q, 10 | 4.6% | 0.0% |
| 34 | Mar-09 | 3.7% | 4.1% | 2Q, 10 | 4.4% | -0.3% |
| 35 | Apr-09 | 3.5% | 4.3% | 3Q, 10 | | |
| 36 | May-09 | 3.5% | 4.3% | 3Q, 10 | | |
| 37 | Jun-09 | 3.5% | 4.6% | 3Q, 10 | | |
| 38 | Jul-09 | 4.0% | 5.0% | 4Q, 10 | | |
| 39 | Aug-09 | 4.0% | 5.0% | 4Q, 10 | | |
| 40 | Sep-09 | 4.0% | 5.0% | 4Q, 10 | | |
| 41 | Oct-09 | 4.3% | 5.1% | 1Q, 11 | | |
| 42 | Nov-09 | 4.3% | 5.0% | 1Q, 11 | | |
| 43 | Dec-09 | 4.3% | 5.0% | 1Q, 11 | | |
| 44 | Jan-10 | 4.3% | 5.2% | 2Q, 11 | | |
| 45 | Feb-10 | 4.3% | 5.2% | 2Q, 11 | | |
| 46 | Mar-10 | 4.3% | 5.2% | 2Q, 11 | | |
| 47 | Apr-10 | 4.6% | 5.3% | 3Q, 11 | | |
| 48 | May-10 | 4.6% | 5.3% | 3Q, 11 | | |
| 49 | Jun-10 | 4.6% | 5.2% | 3Q, 11 | | |
| 50 | Jul-10 | 4.4% | 5.1% | 4Q, 11 | | |
| 51 | Aug-10 | 4.4% | 4.9% | 4Q, 11 | | |
| 52 | Sep-10 | 4.4% | 4.7% | 4Q, 11 | | |
| 53 | Oct-10 | 3.9% | 4.7% | 1Q, 12 | | |

Source:
*Blue Chip Financial Forecasts*, Various Dates.
* Col. 2 - Col. 4.