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Witness: Samuel C. Hadaway  
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Case No.: ER-2006-\_\_\_\_  
Date Testimony Prepared: January 27, 2006

**MISSOURI PUBLIC SERVICE COMMISSION**

**CASE NO.: ER-2006-\_\_\_\_**

**DIRECT TESTIMONY**

**OF**

**SAMUEL C. HADAWAY**

**ON BEHALF OF**

**KANSAS CITY POWER & LIGHT COMPANY**

Kansas City, Missouri  
January 2006

KCP&L Exhibit No. 33  
Case No(s) 22-2006-0304  
Date 10-15-06 Rptr XP

**DIRECT TESTIMONY**  
**OF**  
**SAMUEL C. HADAWAY**

**Case No. ER-2006-\_\_\_\_**

**1            I. INTRODUCTION AND SUMMARY OF RECOMMENDATIONS**

**2    Q.    Please state your name and business address.**

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

**5    Q.    On whose behalf are you testifying?**

**6    A.    I am testifying on behalf of Kansas City Power & Light Company ("KCPL" or the**  
**7           "Company").**

**8    Q.    Please state your educational background and describe your professional**  
**9           training and experience.**

**10   A.    I have a Bachelor's degree in economics from Southern Methodist University, as well**  
**11           as MBA and Ph.D. degrees in finance from the University of Texas at Austin ("UT**  
**12           Austin"). I serve as an adjunct professor in the McCombs School of Business at UT**  
**13           Austin. I have taught economics and finance courses, and I have conducted research**  
**14           and directed graduate students writing in these areas. I was previously Director of the**  
**15           Economic Research Division at the Public Utility Commission of Texas where I**  
**16           supervised the Commission's finance, economics, and accounting staff, and served as**  
**17           the Commission's chief financial witness in electric and telephone rate cases. I have**  
**18           taught courses at various utility conferences on cost of capital, capital structure, utility**  
**19           financial condition, and cost allocation and rate design issues. I have made**

1 presentations before the New York Society of Security Analysts, the National Rate of  
2 Return Analysts Forum, and various other professional and legislative groups. I have  
3 served as a vice president and on the board of directors of the Financial Management  
4 Association.

5 A list of my publications and testimony I have given before various regulatory bodies  
6 and in state and federal courts is contained in my resume, which is attached as  
7 Schedule SCH-8.

8 **Q. What is the purpose of your testimony?**

9 A. The purpose of my testimony is to estimate KCPL's required rate of return on equity  
10 ("ROE") and to support the Company's requested capital structure and overall rate of  
11 return.

12 **Q. Please outline and describe the testimony you will present.**

13 A. My testimony is divided into five sections. Following this introduction, in Section II,  
14 I present and explain the Company's requested capital structure and overall rate of  
15 return. In Section III, I review various methods for estimating the cost of equity,  
16 including the discounted cash flow ("DCF") model, risk premium methods, and other  
17 approaches often used to estimate the cost of capital. In Section IV, I review general  
18 capital market costs and conditions, and discuss recent developments in the electric  
19 utility industry that affect the cost of capital. Section V of my testimony discusses  
20 details of my cost of equity studies and provides a summary table of my ROE results.

21 **Q. Please summarize your cost of equity studies and state your overall rate of**  
22 **return recommendation.**

1 A. First, my recommendation is premised upon the fair rate of return principles  
2 established by the U.S. Supreme Court in *Federal Power Comm'n v. Hope Natural*  
3 *Gas Co.*, 320 U.S. 591, 603 (1944) ("*Hope*"), and *Bluefield Waterworks &*  
4 *Improvement Co. v. Public Service Comm'n*, 262 U.S. 679, 693 (1923) ("*Bluefield*").  
5 That is to say, a utility's return, authorized by a regulatory body, such as the Missouri  
6 Public Service Commission ("MPSC" or "Commission"), should be commensurate  
7 with returns on investments in other enterprises having corresponding risks. The  
8 return should also be sufficient to assure confidence in the financial integrity of the  
9 utility so as to maintain its credit rating and to attract capital so that it is able to  
10 properly discharge its public duties. Given these legal principles, I have used several  
11 methods to determine an appropriate ROE and overall rate of return for KCPL. These  
12 methods and the underlying economic models are applied to an investment grade  
13 company reference group of other electric utilities generally similar to KCPL.

14 **Q. Please explain your analysis in arriving at a recommended ROE for KCPL.**

15 A. My ROE estimate is based on alternative versions of the constant growth and  
16 multistage growth DCF model. It is confirmed by my risk premium analysis and my  
17 review of economic conditions and interest rates expected to prevail during the  
18 coming year. Because KCPL is a wholly-owned subsidiary of Great Plains Energy,  
19 Inc. ("GPE") and does not have publicly traded common stock or other independent  
20 market data, its cost of equity cannot be estimated directly. For this reason I apply the  
21 DCF model to a large reference group of investment grade electric utilities selected  
22 from the *Value Line Investment Survey*. To be included in my group, the reference  
23 companies must have at least a triple-B (investment grade) bond rating; they must

1 derive at least 70 percent of revenues from regulated utility sales; and they must have  
2 consistent financial records not affected by recent mergers or restructuring, and a  
3 consistent dividend record with no dividend cuts within the past two years.

4 To test my DCF results, I conducted a risk-premium analysis based on ROEs allowed  
5 by state regulators relative to Moody's average utility debt costs. In this analysis, I  
6 also included the forecasted higher interest rates of Standard and Poor's ("S&P") for  
7 the coming year. S&P forecasts that long-term Government and corporate interest  
8 rates will increase from current levels by 80 to 90 basis points (0.80%-0.90%) by the  
9 first quarter of 2007. Under current market and economic conditions, the  
10 combination of DCF and risk premium models, tempered by consensus forecasts  
11 about future interest rates, provides the best approach for estimating KCPL's fair cost  
12 of equity capital.

13 **Q. Should the reference group ROE be applied directly to KCPL?**

14 A. No. The reference group is an appropriate starting point for estimating KCPL's ROE,  
15 but the reference group's average ROE is lower than the fair cost of equity for KCPL.  
16 This is because KCPL faces considerably higher construction risks than for the  
17 average company in the reference group. Under these circumstances the Commission  
18 should add an ROE increment or adjustment to the reference group ROE to account  
19 for KCPL's higher risks.

20 **Q. Why do you use this approach?**

21 A. As I will discuss in more detail below, this approach of using a comparable reference  
22 group of investment grade utilities and adjusting for risk is consistent with the  
23 economic requirements of *Hope* and *Bluefield*. It is the appropriate method for

1 determining a fair rate of return on KCPL's equity capital. KCPL's specific risks and  
2 the need for a risk adjustment stem from the higher construction and operating  
3 requirements KCPL faces.

4 **Q. Why is this the appropriate analysis?**

5 A. In the assessment of a fair rate of return for KCPL, I have evaluated the Company's  
6 circumstances relative to my reference group of investment grade utilities. The key  
7 factor is the Company's large capital expenditure program. As shown in my Schedule  
8 SCH-1, KCPL's capital expenditures over the next five years are expected to equal 95  
9 percent of the Company's current net plant. By comparison, capital spending for the  
10 average reference company for the next five years is expected to be only about 56  
11 percent of current net plant. KCPL's larger construction program increases its  
12 financing and regulatory risks, and therefore should be reflected in a higher allowed  
13 rate of return. The Missouri expenditure program is discussed more fully in the direct  
14 testimony of Company witnesses Lori Wright, Chris Giles, John Marshall and Dana  
15 Crawford.

16 **Q. What ROE range is indicated by your DCF analysis?**

17 A. My reference group analysis indicates that a DCF range of 10.6 percent to 11.3  
18 percent is appropriate. As I will explain in more detail later, results from the  
19 traditional constant growth DCF model fail to meet basic checks of reasonableness  
20 and, therefore, are not included in my recommended range.

21 **Q. Please explain.**

22 A. Currently, the traditional constant growth DCF model does not reasonably reflect the  
23 market cost of equity because that model, as typically applied, depends on historically

1 low dividend yields and pessimistic analysts' growth forecasts. These near-term  
2 circumstances, which are affected by the utility industry's consolidation and currently  
3 high utility stock prices, do not reasonably reflect longer-term expectations for higher  
4 capital costs. My risk premium analysis, which serves as a check of reasonableness  
5 for the DCF results, demonstrates this fact. This analysis, based on allowed returns  
6 from other state regulators, indicates that an ROE of 10.94 percent is appropriate,  
7 with other risk premium methods indicating ROEs as high as 11.8 percent.

8 Because recent historical data have a significant effect in the traditional constant  
9 growth DCF format and because recent data appear to represent historic lows in the  
10 economic cycle, those data should not be the primary basis for setting KCPL's  
11 allowed rate of return.

12 **Q. What are your overall conclusions from your ROE analysis?**

13 **A.** Based on the combination of my quantitative model results and my review of current  
14 economic, market, and electric utility industry conditions, I estimate the average cost  
15 of equity for the reference group companies at 11.0 percent. This estimate is  
16 consistent with capital market trends and projections and is a reasonable estimate of  
17 capital costs that will prevail during the period that the rates from this case are in  
18 effect. Using this average cost of equity as a reference point, in order to reflect the  
19 higher utility risk profile of KCPL as discussed previously, KCPL's ROE should be  
20 increased by 50 basis points relative to the cost of equity for the reference group,  
21 which results in a requested ROE of 11.5 percent.

1       **II. KCPL CAPITAL STRUCTURE AND OVERALL RATE OF RETURN**

2       **Q.     Please summarize the Company's requested capital structure and overall rate of**  
3       **return.**

4       **A.     The following table identifies the requested capital structure components and the**  
5       **resulting overall rate of return:**

6                               **Requested Capital Structure**

<u>Capital Components</u>	<u>Ratio</u>	<u>Cost</u>	<u>Weighted Cost</u>
Debt	44.67%	6.16%	2.75%
Preferred stock	1.52%	4.29%	0.07%
Common Equity	53.81%	11.50%	6.19%
TOTAL	100.00%		9.01%

12      **Q.     What is the basis for the Company's requested capital structure and overall rate**  
13      **of return?**

14      **A.     The requested capital structure and cost rates for debt and preferred stock are**  
15      **calculated from Great Plains Energy's projected capital structure at September 30,**  
16      **2006. The requested ROE is my estimate of KCPL's cost of equity capital. These**  
17      **data are presented in more detail in Schedule SCH-2, with the September 30, 2006**  
18      **summary shown on page 6 of that schedule. Using the parent company's consolidated**  
19      **capital structure is consistent with the Commission's precedent on capital structure**  
20      **issue.**

21      **Q.     What are the key differences between Great Plains Energy's actual capital**  
22      **structure as of December 31, 2005, and the requested capital structure, projected**  
23      **as of September 30, 2006?**

24      **A.     The actual Great Plains Energy capital structure as of December 31, 2005, is shown**  
25      **on page 2 of Schedule SCH-2. Two key differences exist between the actual capital**



1 structure and the requested capital structure, projected as of September 30, 2006:

2 (1) The cost of long-term debt is projected to be about 30 basis points higher as of  
3 September 30, 2006; and (2) The projected capital structure includes an equity  
4 offering of \$100 million to be completed in 2006.

5 **Q. Why is there a 30 basis point increase in the projected cost of long-term debt?**

6 A. The increase is solely attributable to the KCPL's assumption that its long-term EIRR  
7 bonds that are currently in auction-rate mode, are auctioned at higher interest rates  
8 during 2006. This assumption is based on the Company's forecast and analysis, and is  
9 consistent with the projections for higher interest rates contained in my Schedule  
10 SCH-3, page 3. KCPL has \$79.48 million of such bonds that are re-auctioned every  
11 35 days and \$31 million that are re-auctioned every 7 days. The interest costs on  
12 these bonds are therefore subject to fluctuations in short-term tax-exempt rates. The  
13 Company's assumption is that the auction rates for these bonds will be approximately  
14 70 basis points higher for the first nine months of 2006 than for the full year 2006.  
15 This effect raises the estimated overall cost of GPE's long-term debt as of September  
16 30, 2006 by approximately 30 basis points compared to December 31, 2005.

17 **Q. Please explain the difference between Great Plains Energy's actual capital**  
18 **structure as of December 31, 2005 and the requested capital structure, projected**  
19 **as of September 30, 2006, attributable to an anticipated equity offering.**

20 A. Great Plains Energy plans to meet a portion of KCPL's financing requirements in  
21 2006 through an equity offering that is expected to generate proceeds of  
22 approximately \$100 million, which will be contributed to KCPL. The plans to  
23 complete such an offering in 2006 were initially formulated based on the Company's

1 discussions with S&P during the 2004-2005 negotiation of its Comprehensive Energy  
2 Plan. They are reflected in the KCPL anticipated five-year budget Financing Plan  
3 Summary, which was filed with the Commission as Appendix B to the Stipulation  
4 and Agreement in Case No. EO-2005-0329. GPE's and KCPL's recently-completed  
5 long-term financial plan for the 2006-2010 period confirmed the continued need for  
6 this offering and the Company therefore plans to proceed accordingly in the first nine  
7 months of 2006.

### 8 **III. ESTIMATING THE COST OF EQUITY CAPITAL**

9 **Q. What is the purpose of this section of your testimony?**

10 **A.** The purpose of this section is to present a general definition of the cost of equity and  
11 to compare the strengths and weaknesses of several of the most widely used methods  
12 for estimating the cost of equity. Estimating the cost of equity is fundamentally a  
13 matter of informed judgment. The various models provide a concrete link to actual  
14 capital market data and assist with defining the various relationships that underlie the  
15 ROE estimation process.

16 **Q. Please define the term "cost of equity capital" and provide an overview of the**  
17 **cost estimation process.**

18 **A.** The cost of equity capital is the profit or rate of return that equity investors expect to  
19 receive. In concept it is no different than the cost of debt or the cost of preferred  
20 stock. The cost of equity is the rate of return that common stockholders expect, just  
21 as interest on bonds and dividends on preferred stock are the returns that investors in  
22 those securities expect. Equity investors expect a return on their capital  
23 commensurate with the risks they take and consistent with returns that might be

1 available from other similar investments. Unlike returns from debt and preferred  
2 stocks, however, the equity return is not directly observable in advance and, therefore,  
3 it must be estimated or inferred from capital market data and trading activity.

4 An example helps to illustrate the cost of equity concept. Assume that an investor  
5 buys a share of common stock for \$20 per share. If the stock's expected dividend is  
6 \$1.00, the expected dividend yield is 5.00 percent ( $\$1.00 / \$20 = 5.0$  percent). If the  
7 stock price is also expected to increase to \$21.25 after one year, this one dollar and  
8 twenty-five cent expected gain adds an additional 6.25 percent to the expected total  
9 rate of return ( $\$1.25 / \$20 = 6.25$  percent). Therefore, buying the stock at \$20 per  
10 share, the investor expects a total return of 11.25 percent: 5.0 percent dividend yield,  
11 plus 6.25 percent price appreciation. In this example, the total expected rate of return  
12 at 11.25 percent is the appropriate measure of the cost of equity capital, because it is  
13 this rate of return that caused the investor to commit the \$20 of equity capital in the  
14 first place. If the stock were riskier, or if expected returns from other investments  
15 were higher, investors would have required a higher rate of return from the stock,  
16 which would have resulted in a lower initial purchase price in market trading.

17 Market rates of return and prices change each day to reflect new investor expectations  
18 and requirements. For example, when interest rates on bonds and savings accounts  
19 rise, utility stock prices usually fall. This is true, at least in part, because higher  
20 interest rates on these alternative investments make utility stocks relatively less  
21 attractive, which causes utility stock prices to decline in market trading. This  
22 competitive market adjustment process is quick and continuous, so that market prices  
23 generally reflect investor expectations and the relative attractiveness of one

1 investment versus another. In this context, to estimate the cost of equity one must  
2 apply informed judgment about the relative risk of the company in question and  
3 knowledge about the risk and expected rate of return characteristics of other available  
4 investments as well.

5 **Q. How does the market account for risk differences among the various**  
6 **investments?**

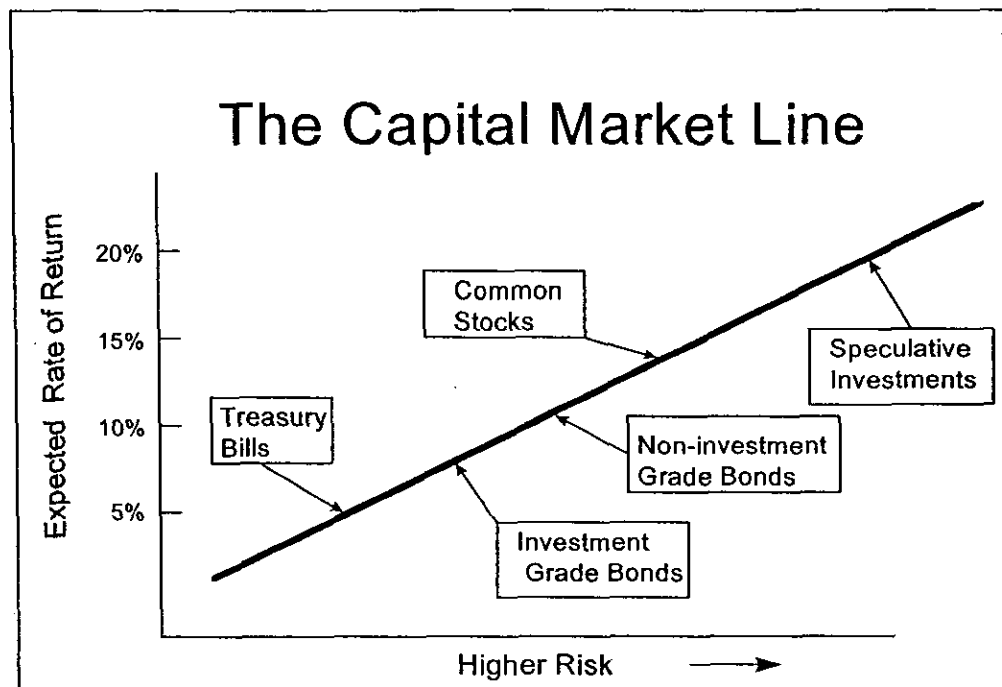
7 A. Risk-return tradeoffs among capital market investments have been the subject of  
8 extensive financial research. Literally dozens of textbooks and hundreds of academic  
9 articles have addressed the issue. Generally, such research confirms the common  
10 sense conclusion that investors will take additional risks only if they expect to receive  
11 a higher rate of return. Empirical tests consistently show that returns from low risk  
12 securities, such as U.S. Treasury bills, are the lowest; that returns from longer-term  
13 Treasury bonds and corporate bonds are increasingly higher as risks increase; and  
14 generally, returns from common stocks and other more risky investments are even  
15 higher. These observations provide a sound theoretical foundation for both the DCF  
16 and risk premium methods for estimating the cost of equity capital. These methods  
17 attempt to capture the well-founded risk-return principle and explicitly measure  
18 investors' rate of return requirements.

19 **Q. Can you illustrate the capital market risk-return principle that you just**  
20 **described?**

21 A. Yes. The following graph depicts the risk-return relationship that has become widely  
22 known as the Capital Market Line ("CML"). The CML offers a graphical  
23 representation of the capital market risk-return principle. The graph is not meant to

1 illustrate the actual expected rate of return for any particular investment, but merely to  
2 illustrate in a general way the risk-return relationship.

## Risk-Return Tradeoffs



3 As a continuum, the CML can be viewed as an available opportunity set for investors.  
4 Those investors with low risk tolerance or investment objectives that mandate a low  
5 risk profile should invest in assets depicted in the lower left-hand portion of the  
6 graph. Investments in this area, such as Treasury bills and short-maturity, high quality  
7 corporate commercial paper, offer a high degree of investor certainty. In nominal  
8 terms (before considering the potential effects of inflation), such assets are virtually  
9 risk-free.

1 Investment risks increase as one moves up and to the right along the CML. A higher  
2 degree of uncertainty exists about the level of investment value at any point in time  
3 and about the level of income payments that may be received. Among these  
4 investments, long-term bonds and preferred stocks, which offer priority claims to  
5 assets and income payments, are relatively low risk, but they are not risk-free. The  
6 market value of long-term bonds, even those issued by the U.S. Treasury, often  
7 fluctuates widely when government policies or other factors cause interest rates to  
8 change.

9 Farther up the CML continuum, common stocks are exposed to even more risk,  
10 depending on the nature of the underlying business and the financial strength of the  
11 issuing corporation. Common stock risks include market-wide factors, such as  
12 general changes in capital costs, as well as industry and company specific elements  
13 that may add further to the volatility of a given company's performance. As I will  
14 illustrate in my risk premium analysis, common stocks typically are more volatile  
15 (have higher risk) than high quality bond investments and, therefore, they reside  
16 above and to the right of bonds on the CML graph. Other more speculative  
17 investments, such as stock options and commodity futures contracts, offer even higher  
18 risks (and higher potential returns). The CML's depiction of the risk-return tradeoffs  
19 available in the capital markets provides a useful perspective for estimating investors'  
20 required rates of return.

21 **Q. How is the fair rate of return in the regulatory process related to the estimated**  
22 **cost of equity capital?**

1 A. The regulatory process is guided by fair rate of return principles established in the  
2 U.S. Supreme Court cases, *Bluefield* and *Hope*:

3 A public utility is entitled to such rates as will permit it to earn a return  
4 on the value of the property which it employs for the convenience of  
5 the public equal to that generally being made at the same time and in  
6 the same general part of the country on investments in other business  
7 undertakings which are attended by corresponding risks and  
8 uncertainties; but it has no constitutional right to profits such as are  
9 realized or anticipated in highly profitable enterprises or speculative  
10 ventures. *Bluefield Water Works & Improvement Company v. Public*  
11 *Service Commission of West Virginia*, 262 U.S. 679, 692-693 (1923).

12 From the investor or company point of view, it is important that there  
13 be enough revenue not only for operating expenses, but also for the  
14 capital costs of the business. These include service on the debt and  
15 dividends on the stock. By that standard the return to the equity owner  
16 should be commensurate with returns on investments in other  
17 enterprises having corresponding risks. That return, moreover, should  
18 be sufficient to assure confidence in the financial integrity of the  
19 enterprise, so as to maintain its credit and to attract capital. *Federal*  
20 *Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591, 603  
21 (1944).

22 Based on these principles, the fair rate of return should closely parallel investor  
23 opportunity costs as discussed above. If a utility earns its market cost of equity,  
24 neither its stockholders nor its customers should be disadvantaged.

25 **Q. What specific methods and capital market data are used to evaluate the cost of**  
26 **equity?**

27 A. Techniques for estimating the cost of equity normally fall into three groups:  
28 comparable earnings methods, risk premium methods, and DCF methods.

29 **Q. Please describe the first set of estimation techniques, the comparable earnings**  
30 **methods.**

31 A. The comparable earnings methods have evolved over time. The original comparable  
32 earnings methods were based on book accounting returns. This approach developed

1 ROE estimates by reviewing accounting returns for unregulated companies thought to  
2 have risks similar to those of the regulated company in question. These methods have  
3 generally been rejected because they assume that the unregulated group is earning its  
4 actual cost of capital, and that its equity book value is the same as its market value. In  
5 most situations these assumptions are not valid, and, therefore, accounting-based  
6 methods do not generally provide reliable cost of equity estimates.

7 More recent comparable earnings methods are based on historical stock market  
8 returns rather than book accounting returns. While this approach has some merit, it  
9 too has been criticized because there can be no assurance that historical returns  
10 actually reflect current or future market requirements. Also, in practical application,  
11 earned market returns tend to fluctuate widely from year to year. For these reasons, a  
12 current cost of equity estimate (based on the DCF model or a risk premium analysis)  
13 is usually required.

14 **Q. Please describe the second set of estimation techniques, the risk premium**  
15 **methods.**

16 **A** The risk premium methods begin with currently observable market returns, such as  
17 yields on government or corporate bonds, and add an increment to account for the  
18 additional equity risk. The capital asset pricing model ("CAPM") and arbitrage  
19 pricing theory ("APT") model are more sophisticated risk premium approaches. The  
20 CAPM and APT methods estimate the cost of equity directly by combining the "risk-  
21 free" government bond rate with explicit risk measures to determine the risk premium  
22 required by the market. Although these methods are widely used in academic cost of  
23 capital research, their additional data requirements and their potentially questionable



1 underlying assumptions have detracted from their use in most regulatory jurisdictions.

2 The basic risk premium methods provide a useful parallel approach with the DCF  
3 model and assure consistency with other capital market data in the cost of equity cost  
4 estimation process.

5 **Q. Please describe the third set of estimation techniques, based on the DCF model.**

6 **A.** The DCF model is the most widely used regulatory cost of equity estimation method.  
7 Like the risk premium approach, the DCF model has a sound basis in theory, and  
8 many argue that it has the additional advantage of simplicity. I will describe the DCF  
9 model in detail below, but in essence its estimate of ROE is simply the sum of the  
10 expected dividend yield and the expected long-term dividend (or price) growth rate.

11 While dividend yields are easy to obtain, estimating long-term growth is more  
12 difficult. Because the constant growth DCF model also requires very long-term  
13 growth estimates (technically to infinity), some argue that its application is too  
14 speculative to provide reliable results, resulting in the preference for the multistage  
15 growth DCF analysis.

16 **Q. Of the three estimation methods, which do you believe provides the most reliable**  
17 **results?**

18 **A.** From my experience, a combination of DCF and risk premium methods provides the  
19 most reliable approach. While the caveat about estimating long-term growth must be  
20 observed, the DCF model's other inputs are readily obtainable, and the model's results  
21 typically are consistent with capital market behavior. The risk premium methods  
22 provide a good parallel approach to the DCF model and further ensure that the cost of  
23 equity estimate accurately reflects current market conditions.

1    **Q.    Please explain the DCF model.**

2    A.    The DCF model is predicated on the concept that stock prices represent the present  
3    value or discounted value of all future dividends that investors expect to receive. In  
4    the most general form, the DCF model is expressed in the following formula:

5                    
$$P_0 = D_1/(1+k) + D_2/(1+k)^2 + \dots + D_{\infty}/(1+k)^{\infty} \quad (1)$$

6    where  $P_0$  is today's stock price;  $D_1$ ,  $D_2$ , etc. are all future dividends and  $k$  is the  
7    discount rate, or the investor's required rate of return on equity. Equation (1) is a  
8    routine present value calculation based on the assumption that the stock's price is the  
9    present value of all dividends expected to be paid in the future.

10   Under the additional assumption that dividends are expected to grow at a constant rate  
11   "g" and that  $k$  is strictly greater than  $g$ , equation (1) can be solved for  $k$  and rearranged  
12   into the simple form:

13                    
$$k = D_1/P_0 + g \quad (2)$$

14   Equation (2) is the familiar constant growth DCF model for cost of equity estimation,  
15   where  $D_1/P_0$  is the expected dividend yield and  $g$  is the long-term expected dividend  
16   growth rate.

17   **Q.    Are there circumstances where the constant growth model may not give reliable**  
18   **results?**

19   A.    Yes. Under circumstances when growth rates are expected to fluctuate or when future  
20   growth rates are highly uncertain, the constant growth model may not give reliable  
21   results. Although the DCF model itself is still valid (*i.e.*, equation (1) is  
22   mathematically correct), under such circumstances the simplified form of the model  
23   must be modified to capture market expectations accurately.

1 Recent events and current market conditions in the electric utility industry as  
2 discussed later appear to challenge the constant growth assumption of the traditional  
3 DCF model. Since the mid-1980s, dividend growth expectations for many electric  
4 utilities have fluctuated widely. In fact, over one-third of the electric utilities in the  
5 United States have reduced or eliminated their common dividends over this time  
6 period. Some of these companies have re-established their dividends, producing  
7 exceptionally high growth rates. Under these circumstances, long-term growth rate  
8 estimates may be highly uncertain, and estimating a reliable "constant" growth rate for  
9 many companies is often difficult.

10 **Q. Can the DCF model be applied when the constant growth assumption is**  
11 **violated?**

12 **A.** Yes. When growth expectations are uncertain, the more general version of the model  
13 represented in equation (1) should be solved explicitly over a finite "transition" period  
14 while uncertainty prevails. The constant growth version of the model can then be  
15 applied after the transition period, under the assumption that more stable conditions  
16 will prevail in the future. There are two alternatives for dealing with the nonconstant  
17 growth transition period.

18 Under the "terminal price" nonconstant growth approach, equation (1) is written in a  
19 slightly different form:

$$20 \quad P_0 = D_1/(1+k) + D_2/(1+k)^2 + \dots + P_T/(1+k)^T \quad (3)$$

21 where the variables are the same as in equation (1) except that  $P_T$  is the estimated  
22 stock price at the end of the transition period  $T$ . Under the assumption that normal  
23 growth resumes after the transition period, the price  $P_T$  is then expected to be based

on constant growth assumptions. With the terminal price approach, the estimated cost of equity,  $k$ , is just the rate of return that investors would expect to earn if they bought the stock at today's market price, held it and received dividends through the transition period (until period  $T$ ), and then sold it for price  $P_T$ . In this approach, the analyst's task is to estimate the rate of return that investors expect to receive given the current level of market prices they are willing to pay.

**Q. What is the other alternative for dealing with the nonconstant growth transition period?**

**A.** Under the "multistage" nonconstant growth approach, equation (1) is simply expanded to incorporate two or more growth rate periods, with the assumption that a permanent constant growth rate can be estimated for some point in the future:

$$P_0 = D_0(1+g_1)/(1+k) + \dots + D_0(1+g_2)^n/(1+k)^n + \dots + D_0(1+g_T)^{(T+1)}/(k-g_T) \quad (4)$$

where the variables are the same as in equation (1), but  $g_1$  represents the growth rate for the first period,  $g_2$  for a second period, and  $g_T$  for the period from year  $T$  (the end of the transition period) to infinity. The first two growth rates are simply estimates for fluctuating growth over " $n$ " years (typically 5 or 10 years) and  $g_T$  is a constant growth rate assumed to prevail forever after year  $T$ . The difficult task for analysts in the multistage approach is determining the various growth rates for each period. Although less convenient for exposition purposes, the nonconstant growth models are based on the same valid capital market assumptions as the constant growth version. The nonconstant growth approach simply requires more explicit data inputs and more work to solve for the discount rate,  $k$ . Fortunately, the required data are available

1 from investment and economic forecasting services, and computer algorithms can  
2 easily produce the required solutions. Both constant and nonconstant growth DCF  
3 analyses are presented in the following section.

4 **Q. Please explain the risk premium methodology.**

5 A. Risk premium methods are based on the assumption that equity securities are riskier  
6 than debt and, therefore, that equity investors require a higher rate of return. This  
7 basic premise is well supported by legal and economic distinctions between debt and  
8 equity securities, and it is widely accepted as a fundamental capital market principle.  
9 For example, debt holders' claims to the earnings and assets of the borrower have  
10 priority over all claims of equity investors. The contractual interest on mortgage debt  
11 must be paid in full before any dividends can be paid to shareholders, and secured  
12 mortgage claims must be fully satisfied before any assets can be distributed to  
13 shareholders in bankruptcy. Also, the guaranteed, fixed-income nature of interest  
14 payments makes year-to-year returns from bonds typically more stable than capital  
15 gains and dividend payments on stocks. All these factors demonstrate the more risky  
16 position of stockholders and support the equity risk premium concept.

17 **Q. Are risk premium estimates of the cost of equity consistent with other current**  
18 **capital market costs?**

19 A. Yes. The risk premium approach is especially useful because it is founded on current  
20 market interest rates, which are directly observable. This feature assures that risk  
21 premium estimates of the cost of equity begin with a sound basis, which is tied  
22 directly to current capital market costs.

23 **Q. Is there consensus about how risk premium data should be employed?**

1 A. No. In regulatory practice, there is often considerable debate about how risk premium  
2 data should be interpreted and used. Since the analyst's basic task is to gauge  
3 investors' required returns on long-term investments, some argue that the estimated  
4 equity spread should be based on the longest possible time period. Others argue that  
5 market relationships between debt and equity from several decades ago are irrelevant  
6 and that only recent debt-equity observations should be given any weight in  
7 estimating investor requirements. There is no consensus on this issue. Since analysts  
8 cannot observe or measure investors' expectations directly, it is not possible to know  
9 exactly how such expectations are formed or, therefore, to know exactly what time  
10 period is most appropriate in a risk premium analysis.

11 The important point is to answer the following question: "What rate of return should  
12 equity investors reasonably expect relative to returns that are currently available from  
13 long-term bonds?" The risk premium studies and analyses I discuss later address this  
14 question. My risk premium recommendation is based on an intermediate position that  
15 avoids some of the problems and concerns that have been expressed about both very  
16 long and very short periods of analysis with the risk premium model.

17 **Q. Please summarize your discussion of cost of equity estimation techniques.**

18 A. Estimating the cost of equity is one of the most controversial issues in utility  
19 ratemaking. Because actual investor requirements are not directly observable, several  
20 methods have been developed to assist in the estimation process. The comparable  
21 earnings method is the oldest but perhaps least reliable. Its use of accounting rates of  
22 return, or even historical market returns, may or may not reflect current investor

1 requirements. Differences in accounting methods among companies and issues of  
2 comparability also detract from this approach.

3 The DCF and risk premium methods have become the most widely accepted in  
4 regulatory practice. A combination of the DCF model and a review of risk premium  
5 data provides the most reliable cost of equity estimate. While the DCF model does  
6 require judgment about future growth rates, the dividend yield is straightforward, and  
7 the model's results are generally consistent with actual capital market behavior. For  
8 these reasons, I will rely on a combination of the DCF model and a risk premium  
9 analysis in the cost of equity studies that follow.

#### 10 **IV. FUNDAMENTAL FACTORS THAT AFFECT THE COST OF EQUITY**

11 **Q. What is the purpose of this section of your testimony?**

12 A. In this section, I review recent capital market conditions and industry and company-  
13 specific factors that should be reflected in a cost of capital estimate.

14 **Q. What has been the recent experience in the U.S. capital markets?**

15 A. Schedule SCH-3, page 1, provides a review of annual interest rates and rates of  
16 inflation in the U.S. economy over the past ten years. During that time period,  
17 inflation and capital market costs have declined and, generally, have been lower than  
18 rates that prevailed in the previous decade. Inflation, as measured by the Consumer  
19 Price Index, has remained at historically low levels not seen consistently since the  
20 early 1960s. Until the first quarter of 2004, the uneven pace of economic recovery  
21 kept consumer price increases in check and interest rates declined to the lowest levels  
22 in four decades. With improving economic conditions, since June of 2004, the  
23 Federal Reserve System has increased the Federal Funds interest rate thirteen times,

1 raising it from 1 percent to a present level of 4.25 percent. Although recent long-term  
2 interest rates are only slightly above their historical lows, estimates for the next  
3 12 months are for continued economic growth and further substantial interest rate  
4 increases.

5 Schedule SCH-3, page 2, provides a summary of Moody's Average Utility and Baa  
6 Utility Bond Yields. For the most recent three months through December 2005,  
7 Moody's Average Utility Rate was 5.86 percent and the average Baa Rate was  
8 6.17 percent.

9 Schedule SCH-3, page 3, provides S&P's *Trends & Projections* for December 15,  
10 2005. The forecast data show clear expectations for continuing economic growth,  
11 with growth in *real* Gross Domestic Product ("GDP") for 2005 estimated at 3.7  
12 percent and *nominal* GDP growth (*i.e.*, real GDP plus inflation) at 6.5 percent. This  
13 projected real GDP growth rate compares to rates of less than 2 percent in 2001, 2.4  
14 percent for 2002, and 3 percent for 2003. Consistent with sound economic  
15 conditions, S&P also forecasts that the unemployment rate will drop to 4.9 percent  
16 and that interest rates will rise significantly from current levels. The 10-year Treasury  
17 Note is projected to increase from its current level of about 4.4 percent to 5.2 percent  
18 by the 1st quarter of 2007. Long-term Treasury Bonds are projected to increase from  
19 current levels of about 4.6 percent to 5.4 percent, and Corporate Bonds are projected  
20 to increase from current levels of about 5.5 percent to 6.3 percent. These increasing  
21 interest rate trends offer an important perspective for judging the cost of capital in the  
22 present case.

23 **Q. How have utility stocks performed during the past several years?**



1 A. The Dow Jones Utility Average has fluctuated widely. After reaching a level of 310  
2 in April 2002, it dropped to below 180 by October 2002. Since 2002, the Average has  
3 continued to fluctuate. Its current level over 400 is near a record high, having  
4 increased from a level of 280 a little more than a year ago. Utility stock prices  
5 generally have fluctuated much more widely in recent years than was previously  
6 expected. Rising prices for natural gas and other unexpected disruptions of supply  
7 caused by extreme weather and two major hurricanes along the Gulf Coast have  
8 created further unsettling conditions. These factors and continuing concerns for the  
9 more competitive market environment for all utility services will likely create further  
10 uncertainties and market volatility for utility shares. In this environment, investors'  
11 return expectations and requirements for providing capital to the utility industry  
12 remain high relative to the longer-term traditional view of the utility industry.

13 Q. What is the industry's current fundamental position?

14 A. Although many electric utilities are attempting to return to their core businesses and  
15 hope to see more stable results over the next several years, expectations for utility  
16 stocks are negative based on projections for higher interest rates and the present stock  
17 price levels for some utility companies. In a recent edition covering electric utilities,  
18 Value Line reflected its concerns:

19 **Investment Advice**

20 Many of the utility stocks in this issue are trading at or near their 52-  
21 week highs. But if Value Line's projection of rising interest rates is on  
22 target, share prices of these equities may decline. Too, the industry's  
23 Timeliness rank remains near the bottom of all industries we follow.  
24 At this juncture, more attractive investments are available elsewhere.  
25 (Value Line Investment Survey, April 1, 2005, p. 695.)

1 More recently, in a feature story on utilities' investment potential, The Wall Street  
2 Journal echoed Value Line's prior assessment:

3 **Sector Has Gleaned Recently, But Worries About Energy Prices**  
4 **and Interest Rates Spur Concern**

5 In the past several trading sessions, however, the sector has slipped  
6 amid worries that inflation and interest rates are headed up, that the  
7 economy will slow and that energy prices have peaked. ... Historically,  
8 interest-rate increases have pushed utilities stocks down because such  
9 reliable dividend payers long have been used as a bond substitute by  
10 income-seeking investors. Rising rates make newly issued bonds with  
11 higher yields more attractive than existing income-producing stocks  
12 and bonds with lower payouts. (Wall Street Journal, October 10, 2005,  
13 page C1.)

14 Expectations for rising interest rates also make it more difficult to estimate the fair,  
15 on-going cost of capital. Analysts' near-term growth estimates for utilities reflect the  
16 issues described by Value Line and The Wall Street Journal and current three-to-five-  
17 year projections are extremely low. As I will discuss in more detail later, this feature  
18 raises significant questions about using analysts' currently low growth projections as  
19 proxies for long-term growth in the DCF model.

20 Over the past several years, the greatest consideration for utility investors has been the  
21 industry's transition to competition. With the passage of the Energy Policy Act of  
22 1992 (the "1992 Act") and the Federal Energy Regulatory Commission's ("FERC")  
23 Order 888 in 1996, the stage was set for vastly increased competition in the wholesale  
24 electric power market. The 1992 Act's mandate for open access to the transmission  
25 grid and FERC's implementation through Order 888 effectively opened the market for  
26 wholesale electricity to competition. Previously protected utility service territory and  
27 lack of transmission access in some parts of the country had limited the availability of

1 competitive bulk power prices. The 1992 Act and Order 888 have essentially  
2 eliminated such constraints for incremental power needs.

3 In addition to wholesale issues at the federal level, many states implemented retail  
4 access and have opened their retail markets to competition. Prior to the Western  
5 energy crisis, investors' concerns had focused principally on appropriate transition  
6 mechanisms and the recovery of stranded costs. More recently, however, provisions  
7 for dealing with power cost adjustments have become a larger concern. The Western  
8 energy crisis refocused market concerns and contributed significantly to increased  
9 market risk perceptions for companies without power cost recovery provisions. As  
10 expected, the opening of previously protected utility markets to competition, and the  
11 uncertainty created by the removal of regulatory protection, have raised the level of  
12 uncertainty about investment returns across the entire industry.

13 **Q. Is KCPL affected by these same market uncertainties and increasing utility**  
14 **capital costs?**

15 **A.** Yes. To some extent all electric utilities are being affected by the industry's transition  
16 to competition. Most all utilities' power costs and other operating activities have been  
17 significantly affected by transition and restructuring events around the country. In  
18 fact, the uncertainty associated with the changes that are transforming the utility  
19 industry as a whole, as viewed from the perspective of the investor, remains a factor  
20 in assessing any utility's required ROE, including the ROE from KCPL's operations in  
21 Missouri. For KCPL specifically, its large construction program increases the  
22 Company's risk profile.

1    **Q.    How do capital market concerns and financial risk perceptions affect the cost of**  
2       **equity capital?**

3    A.    As I discussed previously, equity investors respond to changing assessments of risk  
4       and financial prospects by changing the price they are willing to pay for a given  
5       security. When the risk perceptions increase or financial prospects decline, investors  
6       refuse to pay the previously existing market price for a company's securities, and then  
7       market supply and demand forces establish a new lower price. The lower market  
8       price typically translates into a higher cost of capital through a higher dividend yield  
9       requirement, as well as the potential for increased capital gains if prospects improve.  
10      In addition to market losses for prior shareholders, the higher cost of capital is  
11      transmitted directly to the company by the need to issue more shares to raise any  
12      given amount of capital for future investment. The new additional shares also impose  
13      additional future dividend requirements and reduce future earnings per share growth  
14      prospects.

15   **Q.    How have regulatory commissions responded to these changing market and**  
16       **industry conditions?**

17   A.    On balance, allowed rates of return have changed less than interest rates over the past  
18       five years. The following table summarizes electric utility ROEs allowed by state  
19       regulatory commissions since 2001:

# **Authorized Electric Utility Equity Returns**

	2001	2002	2003	2004	2005
1 <sup>st</sup> Quarter	11.38%	10.87%	11.47%	11.00%	10.51%
2 <sup>nd</sup> Quarter	10.88%	11.41%	11.16%	10.54%	10.05%
3 <sup>rd</sup> Quarter	10.78%	11.06%	9.95%	10.33%	10.84%
4 <sup>th</sup> Quarter	11.50%	11.20%	11.09%	10.91%	10.75%
Full Year	11.09%	11.16%	10.97%	10.75%	10.54%
Average Utility					
Debt Cost	7.72%	7.53%	6.61%	6.20%	5.68%
Indicated Risk					
Premium	3.37%	3.63%	4.36%	4.55%	4.86%

Source: *Regulatory Focus*, Regulatory Research Associates, Inc., Major Rate Case Decisions, January 2006.

During 2005, interest rates declined to their lowest levels since the 1960s. Allowed equity returns followed the interest rate decline but declined by a smaller amount.

Although utility interest rates have fluctuated by about 200 basis points over the past five years, average allowed ROEs generally have fluctuated less. Equity risk premiums (the difference between allowed equity returns and utility interest rates) have ranged from 3.37 percent to 4.86 percent. With recent allowed equity risk premiums, the indicated cost of equity based on projected Baa utility debt costs is 11.5 percent (6.65% projected Baa interest rate + 4.86% risk premium = 11.51%).

## **V. COST OF EQUITY CAPITAL FOR KCPL**

**Q. What is the purpose of this section of your testimony?**

A. The purpose of this section is to present my quantitative studies of the cost of equity capital for KCPL and to discuss the details and results of my analysis.

**Q. How are your studies organized?**

A. In the first part of my analysis, I apply three versions of the DCF model to the 16-company group of electric utilities based on the selection criteria discussed

1 previously. In the second part of my analysis, I apply various risk premium models  
2 and review projected economic conditions and projected capital costs for the coming  
3 year.

4 My DCF analysis is based on three versions of the DCF model. In the first version of  
5 the DCF model, I use the constant growth format with long-term expected growth  
6 estimated from an equally weighted, four-part average of (1) Value Line; (2) Zacks  
7 earnings per share growth projections for the coming three to five years; (3) a  
8 sustainable growth ("b" times "r") estimate based on Value Line's projected retention  
9 rates and earned rates of return for the next three to five years; and (4) a long-term  
10 estimate of nominal growth in GDP. In the second version of the DCF model, for the  
11 estimated growth rate, I use only the long-term estimated GDP growth rate. In the  
12 third version of the DCF model, I use a two-stage growth approach, with stage one  
13 based on Value Line's three-to-five-year dividend projections and stage two based on  
14 long-term projected growth in GDP. The dividend yields in all three of the annual  
15 models are from Value Line's projections of dividends for the coming year and stock  
16 prices are from the three-month average for the months that correspond to the Value  
17 Line editions from which the underlying financial data are taken.

18 **Q. Why do you believe the long-term GDP growth rate should be used to estimate**  
19 **long-term growth expectations in the DCF model?**

20 **A.** Growth in nominal GDP (*i.e.*, real GDP plus inflation) is the most general measure of  
21 economic growth in the U.S. economy. For long time periods, such as those used in  
22 the Ibbotson Associates rate of return data, GDP growth has averaged between  
23 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 forecastability 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.

1 **Q. How have analysts' three-to-five year growth projections changed over the past**  
2 **five years?**

3 A. Current analysts' growth projections are much lower than they were in 2001. For the  
4 comparable electric utilities as shown in Schedule SCH-5, during 2001, Value Line's  
5 projected three-to-five year earnings growth rate was 6.8 percent per year. In the  
6 recent 2005 Value Line editions covering electric utilities, the average projected  
7 earnings growth rate is only 4.3 percent. The "b times r" sustainable growth rate  
8 based on Value Line's projected retention rates and earned ROEs shows a similar  
9 decline. During 2001, for the comparable electric group the average "b times r"  
10 growth rate was 5.6 percent per year. Currently, the "b times r" growth rate from the  
11 three most recent Value Line editions is only 3.6 percent. This comparison further  
12 illustrates that analysts' growth rate projections are more volatile than one would  
13 expect for perpetual growth rate expectations and that current projections are very low  
14 as compared to analysts' projections used just five years ago. These results strongly  
15 support using more general long-term economic growth rates, such as GDP, in the  
16 DCF model.

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

18 A. I developed my long-term GDP growth forecast from nominal GDP data contained in  
19 the St. Louis Federal Reserve Bank data base. That data for the period 1947 through  
20 2004 is summarized in my Schedule SCH-6. As shown at the bottom of that  
21 schedule, the overall average for the period was 7.1 percent. The data also show,  
22 however, that in the more recent years since 1980, lower inflation has resulted in  
23 lower overall GDP growth. For this reason I gave more weight to the more recent



1 years in my GDP forecast. This approach is consistent with the concept that more  
2 recent data should have a greater effect on expectations and with generally lower  
3 near- and intermediate-term growth rate forecasts that presently exist. Based on this  
4 approach, my overall forecast for long-term GDP growth is 6.6 percent.

5 **Q. Please summarize the results of your electric utility DCF analyses.**

6 A. The DCF results for my comparable company group are presented in Schedule  
7 SCH-4. As shown in the first column of page 1 of that schedule, the traditional  
8 constant growth model indicates an ROE of only 9.3 percent to 9.4 percent. Because  
9 this result falls 150 basis points or more below my risk premium checks of  
10 reasonableness, it is excluded from my final DCF range. In the second column of  
11 page 1, I recalculate the constant growth results with the growth rate based on long-  
12 term forecasted growth in GDP. With the higher GDP growth rate, the constant  
13 growth model indicates an ROE range of 11.2 percent to 11.3 percent. Finally, in the  
14 third column of page 1, I present the results from the multistage DCF model. The  
15 multistage model indicates an ROE range of 10.6 percent to 10.8 percent. The  
16 electric utility results from the annual DCF model indicate a reasonable ROE range of  
17 10.6 percent to 11.3 percent.

18 **Q. What are the results of your risk premium studies?**

19 A. The details and results of my risk premium studies are shown in my Schedule SCH-7.  
20 These studies, and other risk premium data discussed below, indicate an ROE range  
21 of 10.9 percent to 11.8 percent.

22 **Q. How are your risk premium studies structured?**

1 A. My risk premium studies are divided into two parts. First, I compare electric utility  
2 authorized ROEs for the period 1980 through 2005 to contemporaneous long-term  
3 utility interest rates. The differences between the average authorized ROEs and the  
4 average interest rate for the year is the indicated equity risk premium. I then add the  
5 indicated equity risk premium to the forecasted triple-B utility bond interest rate to  
6 estimate ROE.<sup>1</sup> Because there is a strong inverse relationship between risk premiums  
7 and interest rates (when interest rates are high, risk premiums are low and vice versa),  
8 further analysis is required to estimate the current risk premium level.  
9 The inverse relationship between risk premiums and interest rate levels is well  
10 documented in numerous, well-respected academic studies. These studies typically  
11 use regression analysis or other statistical methods to predict or measure the risk  
12 premium relationship under varying interest rate conditions. On page 2 of Schedule  
13 SCH-7, I provide regression analyses of the allowed annual equity risk premiums  
14 relative to interest rate levels. The negative and statistically significant regression  
15 coefficients confirm the inverse relationship between risk premiums and interest rates.  
16 This means that when interest rates rise by one percentage point, the cost of equity  
17 increases, but by a smaller amount. Similarly, when interest rates decline by one  
18 percentage point, the cost of equity declines by less than one percentage point. I use

---

<sup>1</sup> The forecasted triple-B utility bond rate (6.65%) is equal to Standard & Poor's projected long-term Treasury rate (5.4%) from Schedule SCH-3, page 3, plus a current spread of 125 basis points for Moody's triple-B utility bond rate over Treasuries. This is a very conservative estimate of the triple-B rate relative to Treasuries because recent spreads have been at historically low levels. For example, for the most recent five years since 2001, the average annual triple-B spread over long-term Treasuries has ranged between 129 basis points and 260 basis points.

1 this negative interest rate change coefficient in conjunction with current interest rates  
2 to establish the appropriate current equity risk premium.

3 **Q. How do the results of your risk premium study compare to levels found in other**  
4 **published risk premium studies?**

5 A. Based on my risk premium studies, I am conservatively recommending a lower risk  
6 premium than is often found in other published risk premium studies. For example,  
7 the most widely followed risk premium data are provided in studies published  
8 annually by Ibbotson Associates. (Ibbotson Associates, Stocks, Bonds, Bills and  
9 Inflation 2005 Yearbook.) These data, for the period 1926-2004, indicate an  
10 arithmetic mean risk premium of 6.2 percent for common stocks versus long-term  
11 corporate bonds. Under the assumption of geometric mean compounding, Ibbotson's  
12 risk premium for common stocks versus corporate bonds is 4.5 percent. Ibbotson  
13 argues extensively for the arithmetic mean approach as the appropriate basis for  
14 estimating the cost of equity. Based on the more conservative geometric mean risk  
15 premium, Ibbotson's data indicate a cost of equity of 11.2 percent (6.65% forecasted  
16 debt cost + 4.5 % risk premium = 11.15%). Based on the arithmetic risk premium,  
17 Ibbotson's data indicate a cost of equity of 12.5 percent (6.65% forecasted debt cost +  
18 6.2% risk premium = 12.85%).

19 The Harris and Marston ("H&M") study noted above also provides specific equity  
20 risk premium estimates. Using analysts' growth estimates to estimate equity returns,  
21 H&M found equity risk premiums of 6.47 percent relative to U.S. Government bonds  
22 and 5.13 percent relative to yields on corporate debt. H&M's equity risk premium  
23 relative to corporate debt also indicates a current cost of equity of 11.8 percent (6.65%

debt cost + 5.13% risk premium = 11.78%). Although the Ibbotson & H&M results should not be extrapolated directly as stand-alone estimates of the cost of equity for regulated utilities, their results provide a reasonable long-term perspective on capital market expectations for debt and equity rates of return.

**Q. Please summarize the results of your cost of equity analysis.**

**A. The following table summarizes my results:**

**Summary of Cost of Equity Estimates**

<u>DCF Analysis</u>	<u>Indicated Cost</u>
Constant Growth (GDP Growth)	11.2%-11.3%
Multistage Growth Model	10.6%-10.8%
Reasonable DCF Range	<u>10.6%-11.3%</u>
 <u>Risk Premium Analysis</u>	 <u>Indicated Cost</u>
Utility Debt + Risk Premium	
Risk Premium (6.65% + 4.29%)	10.94%
Ibbotson Risk Premium Analysis	
Risk Premium (6.65% + 4.5%)	11.15%
Harris-Marston Risk Premium	
Risk Premium (6.65% + 5.13%)	11.78%
<hr/>	
Reference Group Cost of Equity Estimate	<u>11.0%</u>
KCPL Cost of Equity Capital	<u>11.5%</u>
<hr/>	

**Q. How should these results be interpreted in setting the fair cost of equity for KCPL?**

**A. Caution should be exercised in interpreting the quantitative DCF and risk premium results, because they are significantly influenced by recent historically low points in the interest rate cycle. The interest rate risk associated with projections for significantly higher rates over the coming year should be considered explicitly.**

1        Additionally, use of a lower DCF range would fail to recognize the ongoing risks and  
2        uncertainties that exist in the electric utility industry, as well as the company-specific  
3        risks and uncertainties that KCPL is currently facing. These factors indicate that the  
4        Company's requested 11.5 percent ROE is a reasonable estimate of the fair cost of  
5        equity capital.

6        **Q.    Does this conclude your testimony?**

7        **A.    Yes, it does.**

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

In the Matter of the Application of Kansas City  
Power & Light Company to Modify Its Tariff to  
Begin the Implementation of Its Regulatory Plan

)  
) Case No. ER-2006-\_\_\_\_  
)

**AFFIDAVIT OF SAMUEL C. HADAWAY**

STATE OF TEXAS       )  
                                  ) ss  
COUNTY OF TRAVIS    )

Samuel C. Hadaway, being first duly sworn on his oath, states:

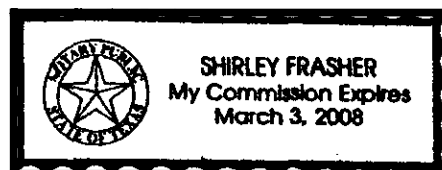
1. My name is Samuel C. Hadaway. I am employed by FINANCO, Inc. in Austin, Texas. I have been retained by Great Plains Energy, Inc., the parent company of Kansas City Power & Light Company, as an expert witness to provide cost of capital testimony on behalf of Kansas City Power & Light Company.
2. Attached hereto and made a part hereof for all purposes is my Direct Testimony on behalf of Kansas City Power & Light Company consisting of 36 ( ) pages and Schedules SCH-1 through SCH-7, all of which having been prepared in written form for introduction into evidence in the above-captioned docket.
3. I have knowledge of the matters set forth therein. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded, including any attachments thereto, are true and accurate to the best of my knowledge, information and belief.

Samuel C. Hadaway  
Samuel C. Hadaway

Subscribed and sworn before me this 30<sup>th</sup> day of January, 2006.

Shirley Frasher  
Notary Public

My commission expires: 3/3/08



**Great Plains Energy**  
**Capital Spending Relative to Net Plant**  
(\$millions unless otherwise noted)

Reference No. Company	2004 Net Plant	Common Shares Outstanding			Capital Spending Per Share			Total Capital Spending
		2005	2006	2007-2010	2005	2006	2007-2010	2005-2010
1 Alliant Energy Co.	5,284.6	116.8	117.8	120.8	5.50	5.20	4.95	3,647
2 Ameren	13,297.0	205.0	207.4	214.6	4.55	4.80	4.65	5,920
3 American Elec. Pwr.	22,801.0	394.0	394.0	400.0	6.75	8.35	8.25	19,149
4 CH Energy Group	745.1	15.8	15.8	15.0	4.55	4.70	4.75	431
5 Cent. Vermont P.S.	299.5	12.3	12.4	13.0	1.55	1.15	1.55	114
6 Con. Edison	16,106.0	245.0	247.5	255.0	6.45	6.60	5.90	9,232
7 DTE Energy Co.	10,491.0	178.0	178.0	166.0	5.90	5.60	6.75	6,529
8 Duquesne Light	1,459.4	78.0	85.0	88.0	2.00	2.40	1.00	712
9 Empire District	857.0	26.1	27.2	30.0	2.65	3.70	4.25	680
10 Energy East Corp.	5,662.2	148.0	148.0	148.0	2.60	2.20	2.00	1,894
11 FirstEnergy	13,478.0	329.8	329.8	329.8	3.30	3.65	3.00	6,250
12 Green Mtn. Power	232.7	5.3	5.3	5.5	4.65	4.60	2.75	109
13 Hawaiian Electric	2,422.3	80.8	80.8	81.0	2.60	2.55	2.00	1,064
14 MGE Energy, Inc.	607.4	20.5	20.5	20.5	4.50	3.95	2.25	358
15 NiSource Inc.	9,384.7	273.0	274.0	277.0	2.30	2.20	2.00	3,447
16 NSTAR	3,425.0	106.8	106.8	106.8	3.75	2.95	2.25	1,677
17 Pinnacle West	7,535.5	98.8	98.8	98.8	9.10	6.40	6.60	4,140
18 Progress Energy	14,363.0	252.0	254.0	260.0	5.30	5.10	5.10	7,935
19 Puget Energy, Inc.	4,228.4	115.5	116.0	117.5	5.00	6.45	4.50	3,441
20 SCANA Corp.	6,762.0	114.8	116.5	121.0	3.80	4.15	3.75	2,735
21 Southern Co.	28,361.0	745.0	750.0	780.0	3.20	3.45	3.35	15,424
22 Vectren Corp.	2,156.2	76.2	76.2	76.4	3.90	3.75	3.10	1,530
23 Westar Energy	3,911.0	87.0	87.9	90.6	2.40	2.90	3.10	1,587
24 Xcel Energy Inc.	14,096.0	403.0	406.0	435.0	3.10	3.85	2.75	7,597
Total	187,966.0							105,600
								<b>Average Capital Spending Relative to Net Plant</b>
								<b>56.2%</b>
Kansas City Power & Light*	2,645							2,517
Great Plains Energy*	2,645							2,539
								<b>95.2%</b>
								<b>96.0%</b>

Source: Value Line Investment Survey, Electric Utility (East), Dec 2, 2005; (Central), Dec 30, 2005; (West), Nov 11, 2005

\*KCP&L and GPE Net Plant data from 2004 10K dated as of December 31, 2004

\*KCP&L and GPE Total Capital Spending 2005-2010 data from GPE Board Approved Budget as of December 2005

KANSAS CITY POWER & LIGHT COMPANY  
Capitalization  
At December 31, 2005 (Est.)

(\$ in 000's)

<u>CAPITAL COMPONENT</u>	<u>AMOUNT</u>	<u>PERCENT</u>	<u>REQUIRED RETURN</u>	<u>WEIGHTED RETURN</u>
Long-Term Debt (Note 1)	979,024	46.43%	5.42%	2.52%
Preferred Stock	0	0.00%	0.00%	0.00%
Common Equity	1,129,624	53.57%	11.50%	6.16%
	<u>\$2,108,648</u>	<u>100.00%</u>		<u>8.68%</u>

Note 1: Includes amounts classified as current liabilities.



GREAT PLAINS ENERGY INCORPORATED  
Capitalization  
At December 31, 2005 (Est.)

(\$ in 000's)

<u>CAPITAL COMPONENT</u>	<u>AMOUNT</u>	<u>PERCENT</u>	<u>REQUIRED RETURN</u>	<u>WEIGHTED RETURN</u>
Long-Term Debt (Note 1)	1,145,155	47.44%	5.86%	2.78%
Preferred Stock	39,000	1.62%	4.29%	0.07%
Common Equity	1,229,711	50.94%	11.50%	5.86%
	<u>\$2,413,866</u>	<u>100.00%</u>		<u>8.71%</u>

Note 1: Includes amounts classified as current liabilities.

**KANSAS CITY POWER & LIGHT COMPANY AND GREAT PLAINS ENERGY**  
**Weighted Average Cost of Long-Term Debt Capital**  
**At December 31, 2005 (Est.)**

Line	Issue	(a) Initial Offering	(b) Date of Offering	(c) Date of Maturity	(d) Price to Public	(e) Underwriters Discounts & Commissions	(f) Issuance Expense	(g) Net Proceeds to Company	(h) Cost to Company	(i) Long-term Debt Capital Outstanding	(j) Annual Cost of Long-term Debt Capital
<b>KANSAS CITY POWER &amp; LIGHT ONLY</b>											
<u>General Mortgage Bonds</u>											
1	Medium Term Notes - Series C (1)	\$150,000,000	Various	Various	\$150,000,000	\$968,050	\$572,926 (2)	*****	8.085%	\$500,000	\$40,427
<u>Pledged General Mortgage Bonds</u>											
2	EIRR 1992 Series	\$31,000,000	9/15/1992	7/1/2017					2.977%	\$31,000,000	\$922,870
3	EIRR Hawthorn 1993 Series - 4.0% Coup	\$12,366,000	10/14/1993	1/2/2012					4.202%	\$12,366,000	\$519,619
4	MATES Series 1993-A	\$40,000,000	12/7/1993	12/1/2023					2.774%	\$40,000,000	\$1,109,600
5	MATES Series 1993-B	\$39,480,000	12/7/1993	12/1/2023					2.795%	\$39,480,000	\$1,103,466
6	EIRR La Cygne 1994 Series - 4.05% Coup	\$13,982,500	2/23/1994	3/1/2015					3.091%	\$13,982,000	\$432,184
	EIRR La Cygne 1994 Series - 4.65% Coup	\$21,940,000	2/23/1994	3/1/2018					3.102%	\$21,940,000	\$680,579
<u>Unsecured Notes</u>											
7	Senior Notes Due 2007 - 6% (3)	\$225,000,000	3/13/2002	3/15/2007	\$224,538,750	\$1,350,000	\$327,659	*****	6.325%	\$225,000,000	\$14,232,304
8	Senior Notes Due 2011 - 6.5% Coupon (4)	\$150,000,000	3/20/2001	11/15/2011	\$150,000,000	\$1,198,500	\$50,000	*****	6.697%	\$150,000,000	\$10,045,902
9	Senior Notes Due 2035 - 6.05% Coupon (5)	\$250,000,000	11/17/2005	11/15/2035	\$250,000,000	\$2,187,500	\$150,000	*****	6.146%	\$250,000,000	\$15,365,776
10											
<u>Environmental Improvement Revenue Refunding Bonds</u>											
11	Series 1998-A Due 2015-4.75% Coupon	\$56,500,000	8/11/1998	9/1/2015					4.776%	\$56,500,000	\$2,698,440
12	Series 1998-B Due 2015-4.75% Coupon	\$50,000,000	8/11/1998	9/1/2015					4.774%	\$50,000,000	\$2,387,000
13	Series 1998-C Due 2017-4.65% Coupon	\$50,000,000	8/11/1998	10/1/2017					3.474%	\$50,000,000	\$1,737,000
14	Series 1998-D Due 2017-4.75% Coupon	\$40,000,000	8/11/1998	10/1/2017					4.774%	\$40,000,000	\$1,909,744
15											
16											
<u>Other Long-Term Debt</u>											
17	Unamortized Discount on Senior Notes									(\$1,743,656)	\$0
18	Loss/(Gain) on Required Debt									\$0	\$ 784,266
19	Weighted Cost of Interest Rate Management Products									\$0	(\$880,578)
20											
21											
22	<b>Total KCP&amp;L Long-Term Debt Capital</b>									<b>\$979,024,344</b>	<b>\$53,088,599</b>
23											
24	<b>KCP&amp;L Weighted Avg. Cost of Long-Term Debt Capital</b>								<b>5.423%</b>		

At December 31, 2005 (Est.)

At December 31, 2005 (Est.)

KANSAS CITY POWER & LIGHT COMPANY AND GREAT PLAINS ENERGY  
Weighted Average Cost of Long-Term Debt Capital  
At December 31, 2005 (Est.)

Line	Issue	(a) Initial Offering	(b) Date of Offering	(c) Date of Maturity	(d) Price to Public	(e) Underwriters Discounts & Commissions	(f) Issuance Expense	(g) Net Proceeds to Company	(h) Cost to Company	(i) Long-term Debt Capital Outstanding	(j) Annual Cost of Long-term Debt Capital
<b>GREAT PLAINS ENERGY ONLY</b>											
<u>Unsecured Notes</u>											
1	FELINE PRIDES	\$163,600,000	6/14/2004	2/16/2009	\$163,600,000	\$1,063,400	\$129,976	#####	8.471%	\$163,600,000	\$13,858,279
<u>Affordable Housing Notes</u>											
2	Missouri Affordable Housing Fund VI - NDH	\$4,654,773	3/21/1997	5/15/2006					8.360%	\$262,426	\$21,939
3	Missouri Affordable Housing Fund VI - NDH	\$1,134,985	1/29/1998	5/15/2006					7.160%	\$78,437	\$5,616
4	Missouri Affordable Housing Fund VI - NDH	\$6,270,000	1/29/1998	5/15/2006					7.160%	\$531,570	\$38,060
5	Missouri Affordable Housing Fund IX - NDH	\$3,907,767	3/30/1999	10/1/2008					7.600%	\$1,351,524	\$102,716
6	Boston Financial Tax Credit Fund I - NDH	\$1,481,000	3/30/1999	10/1/2006					7.600%	\$306,681	\$23,308
										<u>\$2,530,638</u>	<u>\$191,639</u>
7											
8	Total GPE Only Long-Term Debt Capital				At December 31, 2005 (Est.)					<u>\$166,130,638</u>	<u>\$14,049,918</u>
9											
10	GPE Only Weighted Avg. Cost of Long-Term Debt Capital				At December 31, 2005 (Est.)			<u>8.457%</u>			
<b>GREAT PLAINS ENERGY</b>											
	Total GPE Long-Term Debt Capital				At December 31, 2005 (Est.)					<u>\$1,145,154,982</u>	<u>\$67,138,517</u>
	GPE Weighted Avg. Cost of Long-Term Debt Capital				At December 31, 2005 (Est.)			<u>5.863%</u>			

- (1) Expenses associated with the Series C Medium Term Note issue are being amortized monthly over a 12 year period.  
(2) Costs associated with the early issuance of Series C and Series D Medium Term Notes for refunding Series B Medium Term Notes and First Mortgage Bonds in April and May 1993 have been added to Issuance Expenses.  
(3) Expenses associated with the Senior Notes, Series A Issue are being amortized monthly over a 5 year period.  
(4) Expenses associated with the Senior Notes issue are being amortized quarterly over a 10 year period.  
(5) Projected - Expenses associated with the Senior Notes issue are being amortized quarterly over a 30 year period.

KANSAS CITY POWER & LIGHT COMPANY  
Capitalization  
At September 30, 2006 (Est.)

(\$ in 000's)

CAPITAL COMPONENT	AMOUNT	PERCENT	REQUIRED RETURN	WEIGHTED RETURN
Long-Term Debt (Note 1)	979,147	42.95%	5.77%	2.48%
Preferred Stock	0	0.00%	0.00%	0.00%
Common Equity before Adjustment	1,248,176			
Equity Adjustment for OCI Related to Pension	(52,649)			
Adjusted Common Equity	1,300,825	57.05%	11.50%	6.56%
Total	<u>\$2,279,972</u>	<u>100.00%</u>		<u>9.04%</u>

Note 1: Includes amounts classified as current liabilities.

GREAT PLAINS ENERGY INCORPORATED  
Capitalization  
At September 30, 2006 (Est.)

(\$ in 000's)

CAPITAL COMPONENT	AMOUNT	PERCENT	REQUIRED RETURN	WEIGHTED RETURN
Long-Term Debt (Note 1)	1,145,140	44.67%	6.16%	2.75%
Preferred Stock	39,000	1.52%	4.29%	0.07%
Common Equity before Adjustment	1,360,974			
Equity Adjustment for All OCI	(18,699)			
Adjusted Common Equity	1,379,673	53.81%	11.50%	6.19%
Total	<u>\$2,563,813</u>	<u>100.00%</u>		<u>9.01%</u>

Note 1: Includes amounts classified as current liabilities.

**KANSAS CITY POWER & LIGHT COMPANY AND GREAT PLAINS ENERGY**  
**Weighted Average Cost of Long-Term Debt Capital**  
**At September 30, 2006 (Est.)**

Line	Issue	(a) Initial Offering	(b) Date of Offering	(c) Date of Maturity	(d) Price to Public	(e) Underwriters Discounts & Commissions	(f) Issuance Expense	(g) Net Proceeds to Company	(h) Cost to Company	(i) Long-term Debt Capital Outstanding	(j) Annual Cost of Long-term Debt Capital
<b>KANSAS CITY POWER &amp; LIGHT ONLY</b>											
<u>General Mortgage Bonds</u>											
1	Medium Term Notes - Series C (1)	\$150,000,000	Various	Various	\$150,000,000	\$968,050	\$572,926 (2)	#####	8.085%	\$500,000	\$40,427
<u>Pledged General Mortgage Bonds</u>											
2	EIRR 1992 Series	\$31,000,000	9/15/1992	7/1/2017					3.726%	\$31,000,000	\$1,155,080
3	EIRR Hawthorn 1993 Series - 4.0% Coup	\$12,366,000	10/14/1993	1/2/2012					4.202%	\$12,366,000	\$519,619
4	MATES Series 1993-A	\$40,000,000	12/7/1993	12/1/2023					3.471%	\$40,000,000	\$1,388,400
5	MATES Series 1993-B	\$39,480,000	12/7/1993	12/1/2023					3.451%	\$39,480,000	\$1,362,455
6	EIRR La Cygne 1994 Series - 4.05% Coup	\$13,982,500	2/23/1994	3/1/2015					4.245%	\$13,982,000	\$593,536
	EIRR La Cygne 1994 Series - 4.65% Coup	\$21,940,000	2/23/1994	3/1/2018					4.813%	\$21,940,000	\$1,055,972
<u>Unsecured Notes</u>											
7	Senior Notes Due 2007 - 6% (3)	\$225,000,000	3/13/2002	3/15/2007	\$224,538,750	\$1,350,000	\$327,659	#####	6.325%	\$225,000,000	\$14,232,304
8	Senior Notes Due 2011 - 6.5% Coupon (4)	\$150,000,000	3/20/2001	11/15/2011	\$150,000,000	\$1,198,500	\$50,000	#####	6.697%	\$150,000,000	\$10,046,902
9	Senior Notes Due 2035 - 6.05% Coupon (5)	\$250,000,000	11/17/2005	11/15/2035	\$250,000,000	\$2,187,500	\$150,000	#####	6.146%	\$250,000,000	\$15,385,776
10											
<u>Environmental Improvement Revenue Refunding Bonds</u>											
12	Series 1998-A Due 2015-4.75% Coupon	\$56,500,000	8/11/1998	9/1/2015					4.776%	\$56,500,000	\$2,698,440
13	Series 1998-B Due 2015-4.75% Coupon	\$50,000,000	8/11/1998	9/1/2015					4.774%	\$50,000,000	\$2,387,000
14	Series 1998-C Due 2017-4.65% Coupon	\$50,000,000	8/11/1998	10/1/2017					4.837%	\$50,000,000	\$2,418,500
15	Series 1998-D Due 2017-4.75% Coupon	\$40,000,000	8/11/1998	10/1/2017					4.774%	\$40,000,000	\$1,909,744
16											
<u>Other Long-Term Debt</u>											
18	Unamortized Discount on Senior Notes									(\$1,621,283)	\$0
19	Loss/(Gain) on Reacquired Debt									\$0	\$ 784,266
20	Weighted Cost of Interest Rate Management Products									\$0	\$530,180
21											
22	Total KCP&L Long-Term Debt Capital									<u>\$979,146,717</u>	<u>\$56,487,581</u>
23											
24	KCP&L Weighted Avg. Cost of Long-Term Debt Capital								<u>5.769%</u>		

At September 30, 2006 (Est.)

At September 30, 2006 (Est.)

**KANSAS CITY POWER & LIGHT COMPANY AND GREAT PLAINS ENERGY**  
**Weighted Average Cost of Long-Term Debt Capital**  
**At September 30, 2006 (Est.)**

Line	Issue	(a) Initial Offering	(b) Date of Offering	(c) Date of Maturity	(d) Price to Public	(e) Underwriters Discounts & Commissions	(f) Issuance Expense	(g) Net Proceeds to Company	(h) Cost to Company	(i) Long-term Debt Capital Outstanding	(j) Annual Cost of Long-term Debt Capital
<b>GREAT PLAINS ENERGY ONLY</b>											
<u>Unsecured Notes</u>											
1	FELINE PRIDES	\$163,600,000	6/14/2004	2/16/2009	\$163,600,000	\$1,063,400	\$129,976	#####	8.471%	\$163,600,000	\$13,858,279
<u>Affordable Housing Notes</u>											
2	Missouri Affordable Housing Fund IX - NDH	\$3,907,767	3/30/1999	10/1/2008					7.600%	\$1,811,327	\$137,661
3	Boston Financial Tax Credit Fund I - NDH	\$1,481,000	3/30/1999	10/1/2006					7.600%	\$581,660	\$44,206
										<u>\$2,392,987</u>	<u>\$181,867</u>
4											
5	Total GPE Only Long-Term Debt Capital				At September 30, 2006 (Est.)					<u>\$165,992,987</u>	<u>\$14,040,146</u>
6											
7	GPE Only Weighted Avg. Cost of Long-Term Debt Capital				At September 30, 2006 (Est.)			<u>8.458%</u>			
<b>GREAT PLAINS ENERGY</b>											
	Total GPE Long-Term Debt Capital				At September 30, 2006 (Est.)					<u>\$1,146,139,704</u>	<u>\$70,527,727</u>
	GPE Weighted Avg. Cost of Long-Term Debt Capital				At September 30, 2006 (Est.)			<u>6.159%</u>			

- (1) Expenses associated with the Series C Medium Term Note issue are being amortized monthly over a 12 year period.  
(2) Costs associated with the early issuance of Series C and Series D Medium Term Notes for refunding Series B Medium Term Notes and First Mortgage Bonds in April and May 1993 have been added to Issuance Expenses.  
(3) Expenses associated with the Senior Notes, Series A issue are being amortized monthly over a 5 year period.  
(4) Expenses associated with the Senior Notes issue are being amortized quarterly over a 10 year period.  
(5) Projected - Expenses associated with the Senior Notes issue are being amortized quarterly over a 30 year period.

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GREAT PLAINS ENERGY INCORPORATED

Weighted Cost of Preferred Stock Capital Outstanding at  
September 30, 2006 (Est.)

Line	(a) Description of Issue	(b) Date of Issuance	(c) No. of Shares Initial Offering	(d) Price to Public	(e) Underwriters Discounts & Commissions	(f) Issuance Expense	(g) Net Proceeds to Company	(h) Cost to Company	(i) Preferred Stock Capital Outstanding	(j) Annual Cost of Preferred Stock Capital
1	3.80% cum \$100 par	12-01-46	100,000	#####	\$179,000	\$58,391	\$10,032,609	3.788%	\$10,000,000	\$378,800
2	4.50% cum \$100 par	1-20-52	100,000	10,000,000	195,000	79,241	9,725,759	4.627%	10,000,000	462,700
3	4.20% cum \$100 par	1-21-54	70,000	7,070,000	122,500	41,270	6,906,230	4.257%	7,000,000	297,990
4	4.35% cum \$100 par	4-17-56	120,000	12,000,000	201,600	71,304	11,727,096	4.451%	<u>12,000,000</u>	<u>534,120</u>
5	Total Preferred Stock Capital September 30, 2006 (Est.)								<u>\$39,000,000</u>	<u>\$1,673,610</u>
6	Weighted Average Cost at September 30, 2006 (Est.)						<u>4.291%</u>			



**Great Plains Energy**  
**Historical Capital Market Costs**

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005*
<b>Prime Rate</b>	8.3%	8.4%	8.4%	8.0%	9.2%	6.9%	4.7%	4.1%	4.3%	5.9%
<b>Consumer Price Index</b>	2.9%	2.3%	1.6%	2.2%	3.4%	2.8%	1.6%	2.3%	2.7%	3.3%
<b>Long-Term Treasuries</b>	6.7%	6.6%	5.6%	5.9%	5.9%	5.5%	5.4%	5.0%	5.1%	4.6%
<b>Moody's Avg Utility Debt</b>	7.7%	7.6%	7.0%	7.6%	8.1%	7.7%	7.5%	6.6%	6.2%	5.7%
<b>Moody's A Utility Debt</b>	7.8%	7.6%	7.0%	7.6%	8.2%	7.8%	7.4%	6.6%	6.2%	5.6%

\*Through September.

**SOURCES:**

Prime Interest Rate - Federal Reserve Bank of St. Louis website  
Consumer Price Index - Federal Reserve Bank of St. Louis website  
Long-Term Treasuries - Federal Reserve Bank of St. Louis website  
Moody's Average Utility Debt - Moody's (Mergent) Bond Record  
Moody's A Utility Debt - Moody's (Mergent) Bond Record

**Great Plains Energy**  
**Three-Month Average Moody's Utility Bond Yields**

<u>MONTH</u>	<u>MOODY'S TRIPLE-B UTILITY BOND YIELD</u>	<u>MOODY'S AVERAGE UTILITY BOND YIELD</u>
Oct-05	6.08%	5.79%
Nov-05	6.29%	5.99%
Dec-05	6.14%	5.81%
AVERAGE	6.17%	5.86%

Source: Mergent Bond Record

[illegible]

**Great Plains Energy**  
**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.	9.1%	10.5%	10.0%
2 Ameren	9.2%	11.5%	10.7%
3 American Elec. Pwr.	8.0%	10.6%	10.6%
4 CH Energy Group	9.4%	11.2%	10.5%
5 Cent. Vermont P.S.	9.4%	11.7%	10.9%
6 Con. Edison	8.5%	11.6%	10.9%
7 DTE Energy Co.	11.6%	11.3%	10.6%
8 Duquesne Light	10.5%	12.6%	11.6%
9 Empire District	10.6%	12.7%	11.8%
10 Energy East Corp.	9.7%	11.6%	11.3%
11 FirstEnergy	10.5%	10.4%	10.2%
12 Green Mtn. Power	8.4%	10.3%	10.5%
13 Hawaiian Electric	8.6%	11.3%	10.5%
14 MGE Energy, Inc.	10.0%	10.6%	10.0%
15 NiSource Inc.	7.6%	10.7%	10.3%
16 NSTAR	8.8%	10.9%	10.5%
17 Pinnacle West	9.4%	11.4%	11.2%
18 Progress Energy	10.0%	12.2%	11.4%
19 Puget Energy, Inc.	9.9%	11.3%	11.0%
20 SCANA Corp.	9.3%	10.7%	10.5%
21 Southern Co.	9.3%	11.0%	10.7%
22 Vectren Corp.	9.2%	11.1%	10.7%
23 Westar Energy	8.7%	10.9%	10.6%
24 Xcel Energy Inc.	10.1%	11.3%	11.2%
GROUP AVERAGE	9.4%	11.2%	10.8%
GROUP MEDIAN	9.3%	11.3%	10.6%

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

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

**Great Plains Energy**  
**Discounted Cash Flow Analysis**  
**Traditional Constant Growth DCF Model**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Company	Recent Price(P0)	Next Year's Div(D1)	Dividend Yield	Projected Growth Rate Analysis										ROE K=Div Yld+G (Cols 3+13)
				Year 2009 "BR" Growth Rate Calculation						Value Line GDP Growth			Average Growth (Cols 9-12)	
				DPS	EPS	Retention Rate (B)	NBV	ROE (R)	B*R Growth					
1 Alliant Energy Co.	27.77	1.07	3.85%	1.15	2.25	48.89%	27.55	8.17%	3.99%	3.70%	6.50%	6.60%	5.20%	9.1%
2 Ameren	52.05	2.54	4.88%	2.54	3.35	24.18%	35.20	9.52%	2.30%	6.00%	2.50%	6.60%	4.35%	9.2%
3 American Elec. Pwr.	37.34	1.48	3.96%	1.80	3.00	40.00%	27.25	11.01%	4.40%	3.30%	2.00%	6.60%	4.08%	8.0%
4 CH Energy Group	46.51	2.16	4.64%	2.20	3.25	32.31%	34.50	9.42%	3.04%	NA	4.50%	6.60%	4.71%	9.4%
5 Cent. Vermont P.S.	18.05	0.92	5.10%	0.92	1.60	42.50%	17.70	9.04%	3.84%	NA	2.50%	6.60%	4.31%	9.4%
6 Con. Edison	45.90	2.30	5.01%	2.36	3.00	21.33%	32.60	9.20%	1.96%	4.00%	1.50%	6.60%	3.52%	8.5%
7 DTE Energy Co.	43.69	2.06	4.71%	2.10	5.00	58.00%	40.50	12.35%	7.16%	5.30%	8.50%	6.60%	6.89%	11.6%
8 Duquesne Light	16.78	1.00	5.96%	1.00	1.40	28.57%	11.10	12.61%	3.60%	5.00%	3.00%	6.60%	4.55%	10.5%
9 Empire District	20.86	1.28	6.14%	1.28	1.50	14.67%	16.00	9.38%	1.38%	5.00%	5.00%	6.60%	4.49%	10.6%
10 Energy East Corp.	23.66	1.18	4.99%	1.35	2.00	32.50%	21.00	9.52%	3.10%	4.50%	4.50%	6.60%	4.67%	9.7%
11 FirstEnergy	48.26	1.82	3.77%	2.10	4.00	47.50%	34.25	11.68%	5.55%	4.70%	10.00%	6.60%	6.71%	10.5%
12 Green Mtn. Power	30.65	1.12	3.65%	1.48	2.45	39.59%	24.05	10.19%	4.03%	NA	3.50%	6.60%	4.71%	8.4%
13 Hawaiian Electric	26.46	1.24	4.69%	1.24	1.75	29.14%	17.25	10.14%	2.96%	3.50%	2.50%	6.60%	3.89%	8.6%
14 MGE Energy, Inc.	34.83	1.38	3.96%	1.44	2.45	41.22%	18.70	13.10%	5.40%	NA	6.00%	6.60%	6.00%	10.0%
15 NiSource Inc.	22.37	0.92	4.11%	1.00	1.75	42.86%	21.25	8.24%	3.53%	3.40%	0.50%	6.60%	3.51%	7.6%
16 NSTAR	27.81	1.20	4.32%	1.32	2.00	34.00%	17.50	11.43%	3.89%	4.80%	2.50%	6.60%	4.45%	8.8%
17 Pinnacle West	41.88	2.03	4.85%	2.33	3.10	24.84%	37.05	8.37%	2.08%	6.00%	3.50%	6.60%	4.54%	9.4%
18 Progress Energy	43.77	2.44	5.57%	2.50	3.40	26.47%	34.50	9.86%	2.61%	4.20%	NA	6.60%	4.47%	10.0%
19 Puget Energy, Inc.	21.15	1.00	4.73%	1.12	1.75	36.00%	19.25	9.09%	3.27%	5.30%	5.50%	6.60%	5.17%	9.9%
20 SCANA Corp.	40.02	1.66	4.15%	1.90	3.25	41.54%	29.25	11.11%	4.62%	4.80%	4.50%	6.60%	5.13%	9.3%
21 Southern Co.	34.72	1.53	4.41%	1.71	2.50	31.60%	18.15	13.77%	4.35%	4.70%	4.00%	6.60%	4.91%	9.3%
22 Vectren Corp.	27.18	1.23	4.53%	1.35	1.95	30.77%	17.45	11.17%	3.44%	4.60%	4.00%	6.60%	4.66%	9.2%
23 Westar Energy	22.57	0.96	4.25%	1.08	1.70	36.47%	19.45	8.74%	3.19%	2.50%	5.50%	6.60%	4.45%	8.7%
24 Xcel Energy Inc.	18.65	0.88	4.72%	1.05	1.50	30.00%	15.00	10.00%	3.00%	4.30%	7.50%	6.60%	5.35%	10.1%
GROUP AVERAGE	32.20	1.48	4.62%	1.60	2.50	34.79%	24.44	10.30%	3.61%	4.48%	4.35%	6.60%	4.78%	9.4%
GROUP MEDIAN			4.67%											9.3%

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

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

**Great Plains Energy**  
**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.	27.77	1.07	3.85%	6.60%	10.5%
2 Ameren	52.05	2.54	4.88%	6.60%	11.5%
3 American Elec. Pwr.	37.34	1.48	3.96%	6.60%	10.6%
4 CH Energy Group	46.51	2.16	4.64%	6.60%	11.2%
5 Cent. Vermont P.S.	18.05	0.92	5.10%	6.60%	11.7%
6 Con. Edison	45.90	2.30	5.01%	6.60%	11.6%
7 DTE Energy Co.	43.69	2.06	4.71%	6.60%	11.3%
8 Duquesne Light	16.78	1.00	5.96%	6.60%	12.6%
9 Empire District	20.86	1.28	6.14%	6.60%	12.7%
10 Energy East Corp.	23.66	1.18	4.99%	6.60%	11.6%
11 FirstEnergy	48.26	1.82	3.77%	6.60%	10.4%
12 Green Mtn. Power	30.65	1.12	3.65%	6.60%	10.3%
13 Hawaiian Electric	26.46	1.24	4.69%	6.60%	11.3%
14 MGE Energy, Inc.	34.83	1.38	3.96%	6.60%	10.6%
15 NiSource Inc.	22.37	0.92	4.11%	6.60%	10.7%
16 NSTAR	27.81	1.20	4.32%	6.60%	10.9%
17 Pinnacle West	41.88	2.03	4.85%	6.60%	11.4%
18 Progress Energy	43.77	2.44	5.57%	6.60%	12.2%
19 Puget Energy, Inc.	21.15	1.00	4.73%	6.60%	11.3%
20 SCANA Corp.	40.02	1.66	4.15%	6.60%	10.7%
21 Southern Co.	34.72	1.53	4.41%	6.60%	11.0%
22 Vectren Corp.	27.18	1.23	4.53%	6.60%	11.1%
23 Westar Energy	22.57	0.96	4.25%	6.60%	10.9%
24 Xcel Energy Inc.	18.65	0.88	4.72%	6.60%	11.3%
GROUP AVERAGE	32.20	1.48	4.62%	6.60%	11.2%
GROUP MEDIAN			4.67%		11.3%

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

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

**Great Plains Energy**  
**Discounted Cash Flow Analysis**  
**Low Near-Term Growth**  
**Two-Stage Growth DCF Model**

	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
Company	Next Year's Div	2009 Div	Annual Change to 2009	CASH FLOWS							ROE=Internal Rate of Return (Yrs 0-150)
				Recent Price	Year 1 Div	Year 2 Div	Year 3 Div	Year 4 Div	Year 5 Div	Year 5-150 Div Growth	
1 Alliant Energy Co.	1.07	1.15	0.03	27.77	1.07	1.10	1.12	1.15	1.23	6.60%	10.0%
2 Ameren	2.54	2.54	0.00	52.05	2.54	2.54	2.54	2.54	2.71	6.60%	10.7%
3 American Elec. Pwr.	1.48	1.80	0.11	37.34	1.48	1.59	1.69	1.80	1.92	6.60%	10.6%
4 CH Energy Group	2.16	2.20	0.01	46.51	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	18.05	0.92	0.92	0.92	0.92	0.98	6.60%	10.9%
6 Con. Edison	2.30	2.36	0.02	45.90	2.30	2.32	2.34	2.36	2.52	6.60%	10.9%
7 DTE Energy Co.	2.06	2.10	0.01	43.69	2.06	2.07	2.09	2.10	2.24	6.60%	10.6%
8 Duquesne Light	1.00	1.00	0.00	16.78	1.00	1.00	1.00	1.00	1.07	6.60%	11.6%
9 Empire District	1.28	1.28	0.00	20.86	1.28	1.28	1.28	1.28	1.36	6.60%	11.8%
10 Energy East Corp.	1.18	1.35	0.06	23.66	1.18	1.24	1.29	1.35	1.44	6.60%	11.3%
11 FirstEnergy	1.82	2.10	0.09	48.26	1.82	1.91	2.01	2.10	2.24	6.60%	10.2%
12 Green Mtn. Power	1.12	1.48	0.12	30.65	1.12	1.24	1.36	1.48	1.58	6.60%	10.5%
13 Hawaiian Electric	1.24	1.24	0.00	26.46	1.24	1.24	1.24	1.24	1.32	6.60%	10.5%
14 MGE Energy, Inc.	1.38	1.44	0.02	34.83	1.38	1.40	1.42	1.44	1.54	6.60%	10.0%
15 NiSource Inc.	0.92	1.00	0.03	22.37	0.92	0.95	0.97	1.00	1.07	6.60%	10.3%
16 NSTAR	1.20	1.32	0.04	27.81	1.20	1.24	1.28	1.32	1.41	6.60%	10.5%
17 Pinnacle West	2.03	2.33	0.10	41.88	2.03	2.13	2.23	2.33	2.48	6.60%	11.2%
18 Progress Energy	2.44	2.50	0.02	43.77	2.44	2.46	2.48	2.50	2.67	6.60%	11.4%
19 Puget Energy, Inc.	1.00	1.12	0.04	21.15	1.00	1.04	1.08	1.12	1.19	6.60%	11.0%
20 SCANA Corp.	1.66	1.90	0.08	40.02	1.66	1.74	1.82	1.90	2.03	6.60%	10.5%
21 Southern Co.	1.53	1.71	0.06	34.72	1.53	1.59	1.65	1.71	1.82	6.60%	10.7%
22 Vectren Corp.	1.23	1.35	0.04	27.18	1.23	1.27	1.31	1.35	1.44	6.60%	10.7%
23 Westar Energy	0.96	1.08	0.04	22.57	0.96	1.00	1.04	1.08	1.15	6.60%	10.6%
24 Xcel Energy Inc.	0.88	1.05	0.06	18.65	0.88	0.94	0.99	1.05	1.12	6.60%	11.2%
GROUP AVERAGE	1.48	1.60	0.04	32.20							10.8%
GROUP MEDIAN											10.6%

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

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

**Great Plains Energy**  
**Discounted Cash Flow Analysis**  
**DCF Analysis Column Descriptions**

Column 1: Three-month Average Price per Share (Oct-Dec 2005)	Column 16: See Column 2
Column 2: Estimated 2006 Dividends per Share from Value Line	Column 17: Column 16 Divided by Column 15
Column 3: Column 2 Divided by Column 1	Column 18: See Column 12
Column 4: Estimated 2009 Dividends per Share from Value Line	Column 19: Column 17 Plus Column 18
Column 5: Estimated 2009 Earnings per Share from Value Line	Column 20: See Column 2
Column 6: One Minus (Column 4 Divided by Column 5)	Column 21: See Column 4
Column 7: Estimated 2009 Net Book Value per Share from Value Line	Column 22: (Column 21 Minus Column 20) Divided by Three
Column 8: Column 5 Divided by Column 7	Column 23: See Column 1
Column 9: Column 6 Multiplied by Column 8	Column 24: See Column 20
Column 10: "Next 5 Years" Company Growth Estimate as Reported by Zacks.com	Column 25: Column 24 Plus Column 22
Column 11: "Est'D 02-04 To 08-10" Earnings Growth as Reported by Value Line.	Column 26: Column 25 Plus Column 22
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 27: Column 26 Plus Column 22
Column 13: Average of Columns 9-12	Column 28: Column 27 Increased by the Growth Rate Shown in Column 29
Column 14: Column 3 Plus Column 13	Column 29: See Column 12
Column 15: See Column 1	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



**Great Plains Energy**  
**Comparison of Comparable Group Projected Growth Rates**  
**2001 to 2005**

No.	Company	Value Line Earnings	
		2001	2005
1	Alliant Energy Co.	6.5%	6.5%
2	Ameren	4.0%	2.5%
3	American Elec. Pwr.	NA	2.0%
4	CH Energy Group	3.0%	4.5%
5	Cent. Vermont P.S.	17.0%	2.5%
6	Con. Edison	2.5%	1.5%
7	DTE Energy Co.	8.5%	8.5%
8	Duquesne Light	-2.0%	3.0%
9	Empire District	5.0%	5.0%
10	Energy East Corp.	3.5%	4.5%
11	FirstEnergy	8.0%	10.0%
12	Green Mtn. Power	NA	3.5%
13	Hawaiian Electric	5.0%	2.5%
14	MGE Energy, Inc.	NA	6.0%
15	NiSource Inc.	16.0%	0.5%
16	NSTAR	6.5%	2.5%
17	Pinnacle West	5.5%	3.5%
18	Progress Energy	NA	NA
19	Puget Energy, Inc.	2.0%	5.5%
20	SCANA Corp.	8.0%	4.5%
21	Southern Co.	6.5%	4.0%
22	Vectren Corp.	15.5%	4.0%
23	Westar Energy	0.0%	5.5%
24	Xcel Energy Inc.	15.0%	7.5%
Average		6.8%	4.3%
		% Points Decline	
		2.5%	

No.	Company	Value Line "br"	
		2001	2005
1	Alliant Energy Co.	3.1%	4.0%
2	Ameren	4.0%	2.3%
3	American Elec. Pwr.	6.9%	4.4%
4	CH Energy Group	3.9%	3.0%
5	Cent. Vermont P.S.	5.7%	3.8%
6	Con. Edison	3.7%	2.0%
7	DTE Energy Co.	8.2%	7.2%
8	Duquesne Light	6.7%	3.6%
9	Empire District	3.6%	1.4%
10	Energy East Corp.	6.3%	3.1%
11	FirstEnergy	7.6%	5.5%
12	Green Mtn. Power	6.7%	4.0%
13	Hawaiian Electric	4.2%	3.0%
14	MGE Energy, Inc.	N/A	5.4%
15	NiSource Inc.	8.1%	3.5%
16	NSTAR	6.5%	3.9%
17	Pinnacle West	6.0%	2.1%
18	Progress Energy	6.5%	2.6%
19	Puget Energy, Inc.	2.4%	3.3%
20	SCANA Corp.	5.8%	4.6%
21	Southern Co.	4.1%	4.4%
22	Vectren Corp.	7.0%	3.4%
23	Westar Energy	4.6%	3.2%
24	Xcel Energy Inc.	6.2%	3.0%
Average		5.6%	3.6%
		% Points Decline	
		1.9%	

## Data Sources:

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

# Great Plains Energy

## GDP Growth Analysis

	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	4288.8	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](http://www.research.stlouisfed.org)).

## Great Plains Energy

## 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%
2005	5.68%	10.54%	4.86%
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	-42.53%
ADJUSTMENT TO AVG RISK PREMIUM	1.20%

BASIC RISK PREMIUM	3.08%
INTEREST RATE ADJUSTMENT	1.20%
EQUITY RISK PREMIUM	4.29%

PROJECTED TRIPLE-B UTILITY BOND YIELD*	6.65%
INDICATED EQUITY RETURN	10.94%

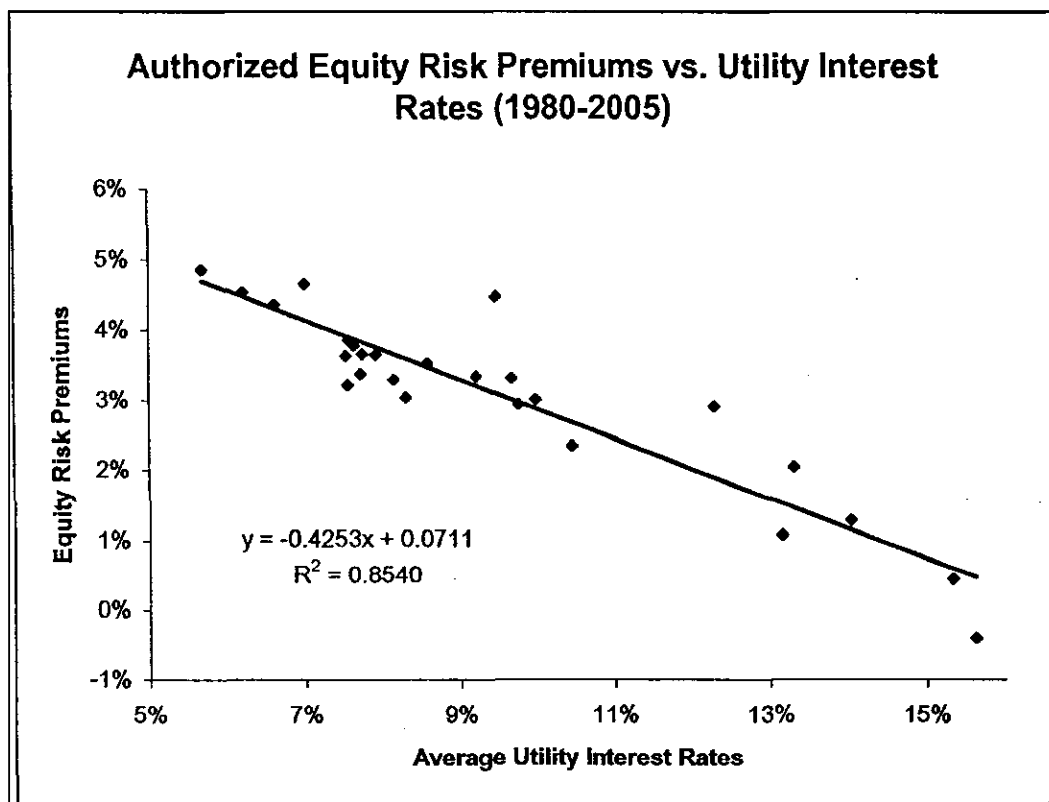
## Sources:

(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 page 3 of Exhibit SCH-4.

**Great Plains Energy**  
Risk Premium Analysis



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**SUMMARY OF QUALIFICATIONS**

- Principal, Financial Analysis Consultants (FINANCO, Inc.).
- Ph.D. in Finance and Econometrics.
- Extensive expert witness testimony in court and before regulatory agencies.
- Management of professional research staff in academic and regulatory organizations.
- Professional presentations before executive development groups, the National Rate of Return Analysts' Forum, and the New York Society of Security Analysts.
- Financial Management Association, Vice President for Practitioner Services.

**EDUCATION**

**The University of Texas at Austin**  
**Ph.D., Finance and Econometrics**  
**January 1975**

*Dissertation: An Evaluation of the  
Original and Recent Variants of the  
Capital Asset Pricing Model.*

**The University of Texas at Austin**  
**MBA, Finance**  
**June 1973**

*Thesis: The Pricing of Risk on the  
New York Stock Exchange.*

**Southern Methodist University**  
**BA, Economics**  
**June 1969**

Honors program. Departmental  
distinction.

**OTHER EXPERIENCE**

**University of Texas at Austin**  
**Adjunct Associate Professor**  
**1985-1988, 2004-Present**

Corporate Financial Management,  
Investments, and Integrative Finance  
Cases.

**Texas State University San Marcos**  
**Associate Professor of Finance**  
**1983-1984, 2003-2004**

Graduate and undergraduate courses  
in Financial Management, Managerial  
Economics, and Investment Analysis.

**Public Utility Commission of Texas**  
**Chief Economist and Director of**  
**Economic Research Division**  
**August 1980-August 1983**

Lead financial witness. Supervised  
Commission staff in research and  
testimony on rate of return, financial  
condition, and economic analysis.

**Assistant Professor of Finance**  
**Texas Tech University**  
**July 1978-July 1980**  
**University of Alabama**  
**January 1975-June 1978**

Member of graduate faculty. Conducted  
Ph.D. seminars and directed doctoral  
dissertations in capital market theory.  
Served as consultant to industry,  
church and governmental organizations.

**FINANCIAL AND ECONOMIC TESTIMONY IN REGULATORY  
PROCEEDINGS (Client in parenthesis)**

**Cost of Money Testimony:**

- California Public Utilities Commission, Docket No. 05-11-022, November 29, 2005 (PacifiCorp).
- New Hampshire Public Utilities Commission, Docket No. DE 05-178, November 4, 2005 (Unitil Energy Systems).
- Wyoming Public Service Commission, Docket No. 20000-ER-05-230, October 14, 2005 (PacifiCorp).
- Minnesota Public Utilities Commission, Docket No. G-008/GR-05-1380, October 2005 (CenterPoint Energy Minnegasco).
- Texas Railroad Commission, Gas Utilities Division No. 9625, September 2005 (CenterPoint Energy Entex).
- Illinois Commerce Commission, Docket No. 05-0597, August 31, 2005 (Commonwealth Edison Company).
- Washington Utilities and Transportation Commission, Docket ,UE-050684/General Rate Case, May 2005 (PacifiCorp).
- Missouri Public Service Commission, Case No. ER-2005-0436, May 2005 (Aquila, Inc.).
- Louisiana Public Service Commission, Docket No. U-23327, January 18, 2005 (Southwestern Electric Power Company, American Electric Power Company).
- Idaho Public Utilities Commission, Case No. PAC-E-05-1, January 14, 2005 (PacifiCorp).
- Arkansas Public Service Commission, Docket No. 04-121-U, December 3, 2004 (CenterPoint Energy Arkla).
- Oregon Public Utility Commission, Case No. UE-170, November 12, 2004 (PacifiCorp).
- Texas Public Utility Commission, Docket No. 29206, November 8, 2004 (Texas-New Mexico Power Company).
- Texas Railroad Commission, Gas Utilities Division Nos. 9533 and 9534, October 13, 2004 (CenterPoint Energy Entex).
- Texas Public Utility Commission, Docket No. 29526, August 18 and September 2, 2004 (CenterPoint Energy Houston Electric).
- Utah Public Service Commission, Docket No. 04-2035-, August 4, 2004 (PacifiCorp).
- Oklahoma Corporation Commission, Cause No. PUD-200400187, July 2, 2004, (CenterPoint Energy Arkla).
- Minnesota Public Utilities Commission, Docket No. G-008/GR-04-901, July 2004, (CenterPoint Energy Minnegasco).
- Washington Utilities and Transportation Commission, Docket ,UE-032065/General Rate Case, December 2003 (PacifiCorp).
- Washington Utilities and Transportation Commission, Docket ,UG-031885, November 2003 (Northwest Natural Gas Company.).
- Wyoming Public Service Commission, Docket No. 20000-ER-03-198, May 2003 (PacifiCorp).
- Public Service Commission of Utah, Docket No. 03-2035-02, May 2003 (PacifiCorp).
- Public Utility Commission of Oregon, Case. UE-147, March 2003 (PacifiCorp).
- Wyoming Public Service Commission, Docket No. 20000-ER-00-162, May 2002 (PacifiCorp).
- Public Utility Commission of Oregon, UG-152, November 2002 (Northwest Natural).
- Massachusetts Department of Telecommunications and Energy, D.T.E. 02-24/24, May 2002 (Fitchburg Gas and Electric Light Company).
- New Hampshire Public Utilities Commission, Docket No. DE 01-247, January 2002 (Unitil Corporation).
- Washington Utilities and Transportation Commission, Docket UE-011569,70,UG-011571, November 2001 (Puget Sound Energy, Inc.).

- California Public Utilities Commission, Docket No. 01-03-026, September and December 2001 (PacifiCorp).
- New Mexico Public Regulation Commission, Docket No. 3643, July 2001 (Texas-New Mexico Power Company).
- Texas Natural Resources Conservation Commission, Docket No. 2001-1074/5-URC, May 2001 (AquaSource Utility, Inc.).
- Massachusetts Department of Telecommunications and Energy, Docket No. 99-118, May 2001 (Fitchburg Gas and Electric Light Company).
- Public Service Commission of Utah, Docket No. 01-035-01, January 2001 (PacifiCorp)
- Federal Energy Regulatory Commission, Docket No. ER-01-651, January 2001 (Southwestern Electric Power Company).
- Wyoming Public Service Commission, Docket No. 20000-ER-00-162, December 2000 (PacifiCorp).
- Public Utility Commission of Oregon, Case. UE-116, November 2000, (PacifiCorp)
- Public Utility Commission of Texas, Docket No. 22344, September 2000, (AEP Texas Companies, Entergy Gulf States, Inc., Reliant Energy HL&P, Texas-New Mexico Power Company, TXU Electric Company)
- Public Utility Commission of Oregon, Case UE-111, August 2000, (PacifiCorp)
- Texas Public Utility Commission, Docket Nos. 22352,3,4, March 2000 (Central Power and Light Co., Southwestern Electric Power Co., West Texas Utilities Co.).
- Texas Public Utility Commission, Docket No. 22355, March 2000 (Reliant Energy, Inc.).
- Texas Public Utility Commission, Docket No. 22349, March 2000 (Texas-New Mexico Power Co.).
- Texas Public Utility Commission, Docket No. 22350, March 2000 (TXU Electric).
- Washington Utilities and Transportation Commission, Docket UE-991831, November 1999 (PacifiCorp).
- Public Service Commission of Utah, Docket No. 99-035-10, September 1999 (PacifiCorp)
- Louisiana Public Service Commission Docket No. U-23029, August 1999 (Southwestern Electric Power Company)
- Wyoming Public Service Commission, Docket No. 2000-ER-99-145, July 1999, January 2000 (PacifiCorp, dba Pacific Power and Light Company).
- Texas PUC Docket No. 20150, March 1999 (Entergy Gulf States, Inc.)
- Federal Energy Regulatory Commission Docket No. ER-98-3177-00, May and December 1998 (Southwestern Electric Power Company).
- Public Service Commission of Utah, Docket No. 97-035-01, June 1998 (PacifiCorp, dba Utah Power and Light Company).
- Massachusetts Dept. of Telecommunications and Energy, Docket No. DTE 98-51, May 1998, (Fitchburg Gas and Electric Light Company, a subsidiary of Unitil Corp.)
- Texas PUC, Docket No. 18490, March 1998, (Texas Utilities Electric Company)
- Texas PUC Docket No. 17751, March 1998 and July 1997 (Texas-New Mexico Power Company).
- Federal Energy Regulatory Commission Docket No. RP-97, February 1998 and May 1997 (Koch Gateway Pipeline Company).
- Federal Energy Regulatory Commission Docket No. ER-97-4468-000, December 1997 (Puget Sound Power & Light).
- Oklahoma Corporation Commission, Cause No. PUD 960000214, August 1997 (Public Service Company of Oklahoma).
- Oregon Public Utility Commission Docket No. UE-94, April 1996, (PacifiCorp).
- Texas PUC Docket No. 15643, May and September 1996, (Central Power and Light and West Texas Utilities Company).
- Federal Energy Regulatory Commission Docket No. ER-96, April 1996 (Puget Sound Power & Light).

- Federal Energy Regulatory Commission Docket No. ER96, February 1996, (Central and South West Corporation).
- Washington Utilities & Transportation Commission Docket No. UE-951270, November 1995 (Puget Sound Power & Light).
- Texas PUC Docket No. 14965, November 1995, (Central Power and Light).
- Texas PUC Docket No. 13369, February 1995 (West Texas Utilities).
- Texas PUC Docket No. 12065, July and December 1994, (Houston Lighting & Power).
- Texas PUC, Docket No. 12820, July and November 1994, (Central Power and Light).
- Texas PUC Docket No. 12900, March 1994, and New Mexico PUC Case No. 2531, August 1993, (TNP Enterprises).
- Texas PUC, Docket No. 12815, March 1994, (Pedernales Electric Cooperative).
- Florida Public Service Commission, Docket No. 930987-EI, December 1993, (TECO Energy).
- Iowa Department of Commerce, Docket No. RPU-93-9, December 1993, (US West Communications).
- Texas PUC Dkt. No. 11735, May and September 1993, (Texas Utilities Electric Company)
- Oklahoma Corporation Commission, Cause No. PUD 001342, October 1992 (Public Service Company of Oklahoma).
- Texas PUC Dkt. No. 9983, November 1991, (Southwest Texas Telephone Company).
- Texas PUC Dkt. No. 9850, November 1990, Houston Lighting & Power Company).
- Texas PUC Dkt. Nos. 8480/8482, January 1989; City of Austin Dkt. No. 1, August 1988 and July 1987, (City of Austin Electric Department).
- Missouri Public Service Commission Case No. ER-90-101, July 1990 (UtiliCorp).
- Texas PUC Dkt. No. 9945, December 1990; Texas PUC Dkt. No. 9165, November 1989, (El Paso Electric Company).
- Texas PUC Dkt. No. 9427, July 1990, (Lower Colorado River Authority Association of Wholesale Customers).
- Oregon Public Utility Commission, March 1990, (Pacific Power & Light Company).
- Utah Public Service Commission, November 1989, (Utah Power & Light Company).
- Texas PUC Dkt. No. 5610, September 1988, (GTE Southwest).
- Iowa State Utilities Board, September 1988, (Northwestern Bell Telephone Company).
- Texas Water Commission, Dkt. Nos. RC-022 and RC-023, November 1986, (City of Houston Water Department).
- Pennsylvania PUC Dkt. Nos. R-842770 and R-842771, May 1985, (Bethlehem Steel).

#### **Capital Structure Testimony:**

- Federal Energy Regulatory Commission Docket No. RP-97, May 1997 (Koch Gateway Pipeline Company).
- Illinois Commerce Commission Dkt. No. 93-0252 Remand, July 1996, (Sprint).
- California PUC (Appl. No. 92-05-004) April 1993 and May 1993, (Pacific Telesis).
- Montana PSC, Dkt. No. 90.12.86, November 1991, (US West Communications).
- Massachusetts PUC Dkt. No. 86-33, June 1987, (New England Telephone Company).
- Maine PUC Dkt. No. 85-159, February 1987, (New England Telephone Company).
- New Hampshire PUC Dkt. No. 85-181, September 1986, (New England Telephone Company).
- Maine PUC Dkt. No. 83-213, March 1984, (New England Telephone Company).

#### **Regulatory Policy and Other Regulatory Issues:**

- Texas PUC Docket No. 31056, September 16, 2005, (AEP Texas Central Company).
- New Hampshire PUC Docket No. DE 03-086, May 2003, (Unitil Corporation).
- Texas PUC Docket No. 26194, May 2003 (El Paso Electric Company)



- Texas PUC Docket No. 22622, June 15, 2001 (TXU Electric)
- Texas PUC Docket No. 20125, November 1999 (Entergy Gulf States, Inc.)
- Texas PUC Docket No. 21112, July 1999 and New Mexico Public Regulation Commission Case No. 3103, July 1999 (Texas-New Mexico Power Company)
- Texas PUC Docket No. 20292, May 1999 (Central Power and Light Co.)
- Texas PUC Docket No. 20150, November 1998 (Entergy Gulf States, Inc.)
- New Mexico PUC Case No. 2769, May 1997, (Texas-New Mexico Power Company).
- Texas PUC Dkt. No. 15296, September 1996, (City of College Station, Texas).
- Texas PUC Dkt. No. 14965 Competitive Issues Phase, August 1996 (Central Power and Light Company).
- Texas PUC Dkt. No. 12456, May 1994, (Texas Utilities Electric Company).
- Texas PUC, Dkt. No. 12700/12701 and Federal Energy Regulatory Commission, Docket No. EC94-000, January 1994, (El Paso Electric Company).
- Florida Public Service Commission Generic Purchased Power Proceedings, October 1993 (TECO Energy).
- Texas PUC, Docket No. 11248, December 1992 (Barbara Faskins).
- Texas PUC Dkt. No. 10894, January and June 1992, (Gulf States Utilities Company).
- State Corporation Commission of Kansas, Dkt. No. 175,456-U, August 1991, (UtiliCorp United).
- Texas PUC Dkt. No. 9561, May 1990; Texas PUC Dkt. Nos. 6668/8646, July 1989 and February 1990, (Central Power and Light Company).
- Texas PUC Dkt. No. 9300, April 1990 and June 1990, (Texas Utilities Electric Co.).
- Texas PUC Dkt. No. 10200, August 1991, (Texas-New Mexico Power Company).
- Texas PUC Dkt. No. 7289, May 1987, (West Texas Utilities Company).
- Texas PUC Dkt. No. 7195, January 1987, (North Star Steel Texas).
- New Mexico PSC Case No. 1916, April 1986, (Public Service Company of New Mexico).
- Texas PUC Dkt. No. 6525, March 1986, (North Star Steel Texas).
- Texas PUC Dkt. No. 6375, November 1985, (Valley Industrial Council).
- Texas PUC Dkt. No. 6220, April 1985, (North Star Steel Texas).
- Texas PUC Dkt. No. 5940, March 1985, (West Texas Municipal Power Agency).
- Texas PUC Dkt. No. 5820, October 1984, (North Star Steel Texas).
- Texas PUC Dkt. No. 5779, September 1984, (Texas Industrial Energy Consumers).
- Texas PUC Dkt. No. 5560, April 1984, (North Star Steel Texas).
- Arizona PSC Dkt. No. U-1345-83-155, January 1984 and May 1984 (Arizona Public Service Company Shareholders Association).

#### **Insurance Rate Testimony:**

- Texas Department of Insurance, Docket No. 2394, November 1999, (Texas Title Insurance Agents).
- Senate Interim Committee on Title Insurance of the Texas Legislature, February 6, 1998
- Texas Department of Insurance, Docket No. 2279, October 1997, (Texas Title Insurance Agents).
- Texas Department of Insurance, January 1996, (Independent Metropolitan Title Insurance Agents of Texas).
- Texas Insurance Board, January 1992, (Texas Land Title Association).
- Texas Insurance Board, December 1990, (Texas Land Title Association).
- Texas Insurance Board, November 1989, (Texas Land Title Association).
- Texas Insurance Board, December 1987, (Texas Land Title Association).

#### **Testimony On Behalf Of Texas PUC Staff:**

- Texland Electric Cooperative, Dkt. No. 3896, February 1983

- El Paso Electric Company, Dkt. No. 4620, September 1982.
- Southwestern Bell Telephone Company, Dkt. No. 4545, August 1982.
- Central Power and Light Company, Dkt. No. 4400, May 1982.
- Texas-New Mexico Power Company, Dkt. 4240, March 1982.
- Texas Power and Light Company, Dkt. No. 3780, May 1981.
- General Telephone Company of the Southwest, Dkt. No. 3690, April 1981.
- Mid-South Electric Cooperative, Dkt. No. 3656, March 1981.
- West Texas Utilities Company, Dkt. No. 3473, December 1980.
- Houston Lighting & Power Company, Dkt. No. 3320, September 1980.

## **ECONOMIC ANALYSIS AND TESTIMONY**

### **Antitrust Litigation:**

- Marginal Cost Analysis of Concrete Production/Predatory Pricing (Stiles)
- Analysis of Lost Business Opportunity due to denial of Waste Disposal Site Permit (Browning-Ferris Industries, Inc.).
- Analysis of Electric Power Transmission Costs in Purchased Power Dispute (City of College Station, Texas).

### **Contract Litigation:**

- Analysis of Cogeneration Contract/Economic Viability Issues (Texas-New Mexico Power Company)
- Definition of Electric Sales/Franchise Fee Contract Dispute (Reliant Energy HL&P)
- Analysis of Purchased Power Agreement/Breach of Contract (Texas-New Mexico Power Company)
- Regulatory Commission Provisions in Franchise Fee Ordinance Dispute (Central Power & Light Company)
- Analysis of Economic Damages resulting from attempted Acquisition of Highway Construction Company (Dillingham Construction Corporation).
- Analysis of Economic Damages due to Contract Interference in Acquisition of Electric Utility Cooperative (PacifiCorp).
- Analysis of Economic Damages due to Patent Infringement of Boiler Cleaning Process (Dowell-Schlumberger/The Dow Chemical Company).

### **Lender Liability/Securities Litigation:**

- ERISA Valuation of Retail Drug Store Chain (Sommers Drug Stores Company).
- Analysis of Lost Business Opportunities in Failed Businesses where Lenders Refused to Extend or Foreclosed Loans (FirstCity Bank Texas, McAllen State Bank, General Electric Credit Corporation).
- Usury and Punitive Damages Analysis based on Property Valuation in Failed Real Estate Venture (Tomen America, Inc.).

### **Personal Injury/Wrongful Death/Lost Earnings Capacity Litigation:**

- Analysis of Lost Earnings Capacity and Punitive Damages due to Industrial Accident (Worsham, Forsythe and Wooldridge).
- Analysis of Lost Earnings Capacity due to Improper Termination (Lloyd Gosselink, Ryan & Fowler).
- Present Value Analysis of Lost Earnings and Future Medical Costs due to Medical Malpractice (Sierra Medical Center).

**Product Warranty/Liability Litigation:**

- Analysis of Lost Profits due to Equipment Failure in Cogeneration Facility (WF Energy/Travelers Insurance Company).
- Analysis of Economic Damages due to Grain Elevator Explosion (Degesch Chemical Company).
- Analysis of Economic Damages due to failure of Plastic Pipe Water Lines (Western Plastics, Inc.)
- Analysis of Rail Car Repair and Maintenance Costs in Product Warranty Dispute (Youngstown Steel Door Company).

**Property Tax Litigation:**

- Evaluation of Electric Utility Distribution System (Jasper-Newton Electric Cooperative).
- Evaluations of Electric Utility Generating Plants (West Texas Utilities Company).

**Various Valuations of Closely Held Businesses in Domestic Affairs Proceedings and for Federal Estate Tax Planning Purposes.****PROFESSIONAL PRESENTATIONS**

"Fundamentals of Financial Management and Reporting for Non-Financial Managers," Austin Energy, July 2000.

"Fundamentals of Finance and Accounting," the IC<sup>2</sup> Institute, University of Texas at Austin, December 1996 and 1997.

"Fundamentals of Financial Analysis and Project Evaluation," Central and South West Companies, April, May, and June 1997.

"Fundamentals of Financial Management and Valuation," West Texas Utilities Company, November 1995.

"Financial Modeling: Testing the Reasonableness of Regulatory Results," University of Texas Center for Legal and Regulatory Studies Conference, June 1991.

"Estimating the Cost of Equity Capital," University of Texas at Austin Utilities Conference, June 1989, June 1990.

"Regulation: The Bottom Line," Texas Society of Certified Public Accountants, Annual Utilities Conference, Austin, Texas, April 1990.

"Alternative Treatments of Large Plant Additions -- Modeling the Alternatives," University of Texas at Dallas Public Utilities Conference, July 1989.

"Industrial Customer Electrical Requirements," Edison Electric Institute Financial Conference, Scottsdale, Arizona, October 1988.

"Acquisitions and Consolidations in the Electric Power Industry," Conference on Emerging Issues of Competition in the Electric Utility Industry, University of Texas at Austin, May 1988.

"The General Fund Transfer - Is It A Tax? Is It A Dividend Payout? Is It Fair?" The Texas Public Power Association Annual Meeting, Austin, May 1984.

- "Avoiding 'Rate Shock' - Preoperational Phase-In Through CWIP in Rate Base," Edison Electric Institute, Finance Committee Annual Meeting, May 1983.
- "A Cost-Benefit Analysis of Alternative Bond Ratings Among Electric Utility Companies in Texas," (with B.L. Heidebrecht and J.L. Nash), Texas Senate Subcommittee on Consumer Affairs, December 1982.
- "Texas PUC Rate of Return and Construction Work in Progress Methods," New York Society of Security Analysts, New York, August 1982.
- "In Support of Debt Service Requirements as a Guide to Setting Rates of Return for Subsidiaries," Financial Forum, National Society of Rate of Return Analysts, Washington, D.C., May 1982.

### **PUBLICATIONS**

- "Institutional Constraints on Public Fund Performance," (with B.L. Hadaway) *Journal of Portfolio Management*, Winter 1989.
- "Implications of Savings and Loan Conversions in a Deregulated World," (with B.L. Hadaway) *Journal of Bank Research*, Spring 1984.
- "Regulatory Treatment of Construction Work in Progress," abstract, (with B.L. Heidebrecht and J. L. Nash), *Rate & Regulation Review*, Edison Electric Institute, December 20, 1982.
- "Financial Integrity and Market-to-Book Ratios in an Efficient Market," (with W. L. Beedles), *Gas Pricing & Ratemaking*, December 7, 1982.
- "An Analysis of the Performance Characteristics of Converted Savings and Loan Associations," (with B.L. Hadaway) *Journal of Financial Research*, Fall 1981.
- "Inflation Protection from Multi-Asset Sector Investments: A Long-Run Examination of Correlation Relationships with Inflation Rates," (with B.L. Hadaway), *Review of Business and Economic Research*, Spring 1981.
- "Converting to a Stock Company-Association Characteristics Before and After Conversion," (with B.L. Hadaway), *Federal Home Loan Bank Board Journal*, October 1980.
- "A Large-Sample Comparative Test for Seasonality in Individual Common Stocks," (with D.P. Rochester), *Journal of Economics and Business*, Fall 1980.
- "Diversification Possibilities in Agricultural Land Investments," *Appraisal Journal*, October 1978.
- "Further Evidence on Seasonality in Common Stocks," (with D.P. Rochester), *Journal of Financial and Quantitative Analysis*, March 1978.