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BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

In the Matter of Kansas City Power & Light Company's Request for Authority to Implement a General Rate Increase for Electric Service Case No. ER-2012-0174 Tracking No. YE-2012-0404

Direct Testimony and Schedules of

Michael P. Gorman

Revenue Requirement

On behalf of

The Office of Public Counsel

August 2, 2012



BRUBAKER & ASSOCIATES, INC.



Project 9605

BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

In the Matter of Kansas City Power & Light Company's Request for Authority to Implement a General Rate Increase for Electric Service Case No. ER-2012-0174 Tracking No. YE-2012-0404

STATE OF MISSOURI)) COUNTY OF ST. LOUIS)

Affidavit of Michael P. Gorman

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

SS

1. My name is Michael P. Gorman. I am a consultant with Brubaker & Associates, Inc., having its principal place of business at 16690 Swingley Ridge Road, Suite 140, Chesterfield, Missouri 63017. We have been retained by the Office of Public Counsel in this proceeding on its behalf.

2. Attached hereto and made a part hereof for all purposes are my direct testimony and schedules which were prepared in written form for introduction into evidence in Missouri Public Service Commission Case No. ER-2012-0174.

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

Michael P. Gorman

Subscribed and sworn to before me this 1st day of August, 2012.

MARIA E. DECKER Notary Public - Notary Seal STATE OF MISSOURI St. Louis City Commission Expires: May 5, 2013 Commission # 09706793

BRUBAKER & ASSOCIATES, INC.

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Direct Testimony of Michael P. Gorman

1 Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

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

4 Q WHAT IS YOUR OCCUPATION?

- 5 A I am a consultant in the field of public utility regulation and a Managing Principal of
- 6 Brubaker & Associates, Inc., energy, economic and regulatory consultants.

7 Q PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

8 A This information is included in Appendix A to this testimony.

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

10 A This testimony is presented on behalf of the Office of Public Counsel ("OPC").

1 Q WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A I will recommend an overall rate of return and fair return on common equity for use in
setting Kansas City Power & Light Company's ("KCPL" or "Company") revenue
requirement in this case.

5

SUMMARY

6 Q PLEASE SUMMARIZE YOUR RATE OF RETURN RECOMMENDATIONS.

A I recommend the Missouri Public Service Commission (the "Commission" or "MPSC")
award KCPL a return on common equity in the range of 9.10% to 9.50% and an
overall rate of return in the range of 7.69% to 7.87%, as shown on Schedule MPG-1.

10 My recommended return on equity range and the Company's actual capital 11 structure will provide KCPL with an opportunity to realize cash flow financial 12 coverages and balance sheet strength that support KCPL's current investment grade 13 bond rating. Consequently, my recommended return on equity range represents fair 14 compensation given KCPL's investment risk, and it will preserve the Company's 15 financial integrity and credit standing.

16 I will also respond to KCPL witness Dr. Samuel Hadaway's proposed return
 17 on equity of 10.40%. For the reasons discussed below, Dr. Hadaway's
 18 recommended return on equity is excessive and should be rejected.

19 Q DOES YOUR RECOMMENDED RETURN ON EQUITY RANGE REFLECT KCPL'S

20

EXISTING INVESTMENT RISK?

A Yes. My recommended return on equity range reflects fair compensation for KCPL's
 existing investment risk including its regulatory risk which is based on the Missouri
 Regulatory Framework used to set rates that recover its cost of service and support

its financial integrity. These factors are reflected in KCPL's existing bond rating and
other risk factors used to select a comparable risk proxy group. If the Commission
modified KCPL's existing regulatory mechanisms to reduce KCPL's investment risk,
then any related risk reduction should be considered in determining a fair
risk-adjusted return on equity for KCPL.

6 Q HOW DID YOU ESTIMATE KCPL'S CURRENT MARKET COST OF EQUITY?

7 A I performed analyses using three Discounted Cash Flow ("DCF") models, a Risk
8 Premium ("RP") study, and a Capital Asset Pricing Model ("CAPM"). These analyses
9 used a proxy group of publicly traded companies that have investment risk similar to
10 KCPL. Based on these assessments, I estimate KCPL's current market cost of equity
11 to be in the range of 9.10% to 9.50%.

12

RATE OF RETURN

13 Q HOW DOES YOUR RECOMMENDED RETURN ON EQUITY RANGE COMPARE 14 TO KCPL'S LAST AUTHORIZED RETURN ON EQUITY?

15 A On April 12, 2011, the Commission issued its final order in KCPL's rate case
16 (Missouri Public Service Commission, Case No. ER-2010-0355) which included a
17 return on equity of 10.00%.

My recommended return on equity range is lower in this case than the return on equity included in KCPL's rate case from April 2011. However, this lower return on equity is justified based on clear evidence that capital market costs today are much lower than they were in 2011 when KCPL's rates were approved.

> Michael P. Gorman Page 3

1 Q WHY DO YOU BELIEVE MARKET COSTS OF CAPITAL ARE LOWER TODAY 2 THAN THEY WERE IN KCPL'S LAST RATE CASE?

A Market costs of capital have declined since KCPL's last rate case. This is illustrated by a comparison of bond yields in this case and the last case, and is evident from cost of capital estimates in this case versus the last case. In Table 1 below, I show the change in utility bond yields.

	TABLE 1			
Capital Costs – KCPL Rate Cases				
Description	Current Case ¹	Case No. <u>ER-2010-0355</u>	Yield <u>Change</u>	
"A" Rated Utility Bond Yields "Baa" Rated Utility Bond Yields	4.14% 4.95%	5.62% 6.05%	1.48% 1.10%	
13-Week Period Ending	07/13/2012	04/08/2011		
Source: ¹ Schedule MPG-14, page 1.				

As shown in Table 1 above, the current market cost of debt for "A" (by Standard & Poor's, "S&P") and "Baa" (by Moody's) rated utility bond yields has decreased in this case relative to KCPL's last rate case. The current "A" rated utility bond yield is approximately 1.50 percentage points lower now than it was in KCPL's last rate case. Also, the current "Baa" utility bond yield is approximately 1.10 percentage points lower than during KCPL's last rate case.

Utility bond yields have declined by approximately 110 to 150 basis points
since KCPL's last rate case. This decline in utility bond yields suggests that KCPL's
cost of capital is lower now than it was in its last rate case.

16This is also evident by the Company's filing. In KCPL's last rate case,17Dr. Hadaway proposed a return on equity of 10.75%, which is 35 basis points higher

than his recommendation of 10.40% in the current rate proceeding. Therefore, this
 decline in current capital costs should be reflected in KCPL's authorized return on
 equity to fairly compensate investors and ratepayers.

4 Electric Utility Industry Market Outlook

5 Q PLEASE DESCRIBE THIS SECTION OF YOUR TESTIMONY.

A I begin my estimate of a fair return on equity for KCPL by reviewing the market's assessment of electric utility industry investment risk, credit standing and stock price performance in general. I used this information to get a sense of the market's perception of the risk characteristics of electric utility investments in general, which is then used to produce a refined estimate of the market's return requirement for assuming investment risk similar to KCPL's utility operations.

Based on the assessments described below, I find the credit rating outlook of the industry to be strong and supportive of the industry's financial integrity, and electric utilities' stocks have exhibited strong price performance over the last several years.

Based on this review of credit outlooks and stock price performance, I conclude that the market has again embraced the electric utility industry as a safe-haven investment, and views utility equity and debt investments as low-risk securities.

20 Q PLEASE DESCRIBE THE ELECTRIC UTILITIES' CREDIT RATING OUTLOOK.

A Electric utilities' credit rating outlook has improved over the recent past and is now
 stable. S&P recently provided an assessment of the credit rating of U.S. electric
 utilities. S&P's commentary included the following:

Standard & Poor's Ratings Services' believes the outlook for credit quality in the U.S. investor-owned regulated electric, gas, and water utility sectors for the remainder of 2012 and into 2013 will remain stable. These companies have weathered the challenging economic environment of the past few years with little lasting effect on their financial risk profiles. The essential service that utilities provide and the rate-regulated nature of the business enable them to generate reasonably steady and predictable cash flows through timely recovery of their costs from ratepayers, despite economic conditions and ongoing heavy investment needs. As a result, we expect their credit quality to remain stable.

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13 Industry Credit Outlook

14 Liquidity is adequate for most utilities. Investor appetite for utility debt 15 remains healthy, with deals continuing to be oversubscribed. The 16 companies' near-term debt maturities appear manageable and we 17 think they will likely refinance these with new debt or borrowings under 18 revolving credit facilities. Credit fundamentals indicate that most, if not 19 all, utilities should continue to have ample access to funding sources 20 Some have issued common stock to partly fund and credit. 21 construction expenditures, which has helped to support capital 22 structure balance. Additionally, many companies are accessing shortterm credit markets through commercial paper programs at very low 23 24 rates. Liquidity is an industry strength and has been improving, and 25 banks are indicating a willingness to lengthen the terms of credit 26 facilities out as far as five years in more and more cases. U.S. 27 regulated utilities have not been significantly hurt by turbulence in the 28 global financial markets.1

- 29 Similarly, Fitch states:
- 30 Electric Utilities: Stable
- 31Fitch's Outlook for the electric utility sector in 2012 remains stable.32The sector benefits from low interest rates, modest inflationary33pressures, open capital markets, and low natural gas and power34prices. Fitch expects these conditions to persist into 2013.
- 35 The favorable funding environment helps to offset any stress that 36 would otherwise result during an extended period of high projected

¹Standard & Poor's RatingsDirect on the Global Credit Portal: "Industry Economic And Ratings Outlook: U.S. Regulated Utilities Will Likely Stay On A Stable Trajectory For The Rest Of 2012 And Into 2013," July 17, 2012 at 2, 5-6.

- 1capital investment. Capex is expected to remain elevated, increasing25%-6% over 2011 levels.2
- 3 Value Line also continues to characterize utility stock investments as a safe haven,
- 4 even though it notes that investors are now willing to accept more risk:
- 5 Conclusion

6 The broader market averages have significantly outperformed the 7 Electric Utility Industry thus far in 2012. This represents quite a 8 reversal from last year when investors flocked to utility stocks, seeking 9 <u>safe havens from heightened volatility in other sectors</u>. As economic 10 fears have subsided, the investment community has appeared to 11 become more venturesome with its stock picks, which may be 12 contributing to the utility underperformance.³

13 The Edison Electric Institute ("EEI") also opined as follows:

14There was little change during 2011 in the industry's long-term outlook.15Many regulated utilities are engaged in capital spending programs that16should, according to Wall Street analysts, help drive slow but steady17earnings growth over the next several years. New EPA regulations18may boost capex by 30% in the years ahead, relative to EEI's latest19capex survey estimates.4

20 Q PLEASE DESCRIBE ELECTRIC UTILITY STOCK PRICE PERFORMANCE OVER

21 THE LAST SEVERAL YEARS.

- 22 A As shown in the graph below, the EEI has recorded electric utility stock price
- 23 performance compared to the market. The EEI data shows that its Electric Utility
- 24 Index has outperformed the market, with a few exceptions, triggered by the recent
- 25 state of the economic environment.

²*FitchRatings*: "2012 Outlook: Utilities, Power, and Gas," December 5, 2011 at 10.

³Value Line Investment Survey, May 25, 2012 at 137, emphasis added.

⁴EEI Q4 2011 Stock Performance at 1.



1 During 2009 and 2010, the EEI Index underperformed the market, which is not 2 unusual for stocks that are considered "safe havens" during periods of market 3 turbulence. 4 In 2011, the EEI index outperformed the market. EEI states the following: 5 Commentary 6 The EEI Index produced a positive 20% return during 2011, its 7 strongest annual gain since 2006, outperforming the broad market 8 after two consecutive years of underperformance as stocks rebounded 9 from the lows reached during 2008 financial crisis. 10 11 The strength of the EEI Index in 2011 is no surprise, highlighting the 12 industry's traditional role as a defensive investment following its reemphasis in recent years of core regulated businesses with slow but 13 14 predictable earnings growth and steady dividends. In fact, the 15 industry's average dividend yield exceeded 4% during the year, leading that of all other U.S. business sectors.⁵ 16

⁵EEI Q4 2011 Stock Performance at 1 and 4-5.

1 KCPL Investment Risk

2 Q PLEASE DESCRIBE THE MARKET'S ASSESSMENT OF THE INVESTMENT RISK

3 OF KCPL.

A The market assessment of KCPL's investment risk is best described by credit rating
analysts' reports, KCPL's current senior secured credit ratings from S&P and
Moody's are "BBB+" and "A3," respectively.

- 7 In S&P's April 2012 report on KCPL, it reports that its current bond rating is 8 "Stable" and notes its credit strengths to include: the utility cash flows, regulated 9 utility strategy, and improved management of regulatory risk. The weaknesses noted 10 are large environmental capital spending programs which could pressure consolidated financial measures over the intermediate term, no fuel adjustment 11 mechanisms, and the potential for increased scrutiny and higher costs at the 12 13 Company's nuclear generating facility. Overall, S&P describes KCPL's "Stable" credit 14 rating outlook as follows:
- 15 Rationale
- 16Standard & Poor's Ratings Services bases its rating on Kansas City17Power & Light Co. (KCP&L) on the consolidated credit profile of18holding company Great Plains Energy Inc. This includes what we19consider to be an "excellent" business risk profile and "aggressive"20financial risk profile under our criteria. Great Plains is an integrated21electric utility holding company that owns vertically integrated electric22utilities KCP&L and KCP&L Greater Missouri Operations Co. (GMO).
- 23 The excellent business risk profiles for Great Plains, KCP&L, and 24 GMO reflect their status as vertically integrated, fully regulated utilities 25 serving roughly 825,000 customers in eastern Kansas and western Missouri. The utilities operate an approximately 6,600-megawatt (MW) 26 27 generation fleet that is about 80% coal-fired. In its service territory, there have been gradual signs of economic improvement, with 28 stronger industrial sales, but mixed unemployment rates; Kansas' is 29 30 lower than the national average and Missouri's is slightly higher. 31 Management has improved cash flow by effectively increasing revenues and cost recovery through mechanisms such as a fuel-32

adjustment clause and the allowance of additional accelerated depreciation.⁶

3 KCPL's Proposed Capital Structure

4 Q WHAT CAPITAL STRUCTURE IS THE COMPANY REQUESTING TO USE TO

5 DEVELOP ITS OVERALL RATE OF RETURN FOR ELECTRIC OPERATIONS IN

6 THIS PROCEEDING?

1

2

- 7 A KCPL's August 2012 forecasted capital structure, as supported by KCPL witness
- 8 Dr. Samuel Hadaway is shown below in Table 2.



9 Q DO YOU TAKE ISSUE WITH THE COMPANY'S PROPOSED CAPITAL

10 STRUCTURE?

- 11 A Yes. KCPL's capital structure estimated at the true-up date represents a significant
- 12 and material increase to its actual common equity ratio in 2011 and 2012 to date.

⁶Standard & Poor's RatingsDirect on the Global Credit Portal: "Kansas City Power & Light Co.," April 27, 2012 at 2, emphasis added.

1 The substantial increase in KCPL's common equity ratio materially increases its 2 claimed revenue deficiency in this case.

This increased common equity ratio does not appear to be necessary. As noted above, the credit rating agencies currently view KCPL's credit standing to be "Stable," with adequate utility cash flows. KCPL's current financial metrics, including its debt/equity ratio of approximately 54%, supports its investment grade bond rating. Hence, an increase in common equity ratio in this case seems to accomplish nothing more than increasing KCPL's cost of service and income.

9 Q IS THE COMPANY'S PROPOSAL TO INCREASE ITS COMMON EQUITY RATIO 10 GENERALLY CONSISTENT WITH OTHER CLAIMS THE COMPANY MAKES IN 11 ITS FILINGS?

12 A No. KCPL's President and Chief Operating Officer Terry Bassham offered testimony 13 in this proceeding addressing the Company's claimed revenue deficiency. In that 14 testimony, Mr. Bassham went through details explaining KCPL's efforts to reduce its 15 costs to minimize its rate increase in this case, and outlined KCPL's recognition that 16 its service area economy is currently experiencing difficult economic times. (Direct 17 Testimony of Terry Bassham at 8-10).

An unnecessary increase in the Company's common equity ratio would contradict the assertions made by Mr. Bassham because it unnecessarily inflates KCPL's claimed revenue deficiency. What makes the increase in the common equity ratio more difficult to accept is that the Company has offered no Company employee who explains why KCPL needs to increase its common equity ratio. Indeed, the Company's capital structure witness in this proceeding is its outside rate of return on common equity consultant, Dr. Samuel Hadaway. No Company witness has

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explained why or justified in any way the need to increase KCPL's common equity
 ratio.

3 Mr. Bassham also discussed the agreements among many of the 4 stakeholders in this proceeding to help support KCPL's credit standing during its 5 Comprehensive Energy Plan, including regulatory plans that helped to support the 6 development of the new latan 2 plant, and significant retrofits to latan 1 and 7 La Cygne 1, and the development of various wind power projects. The Company's 8 proposal for a substantial increase in its common equity ratio with little to no 9 justification seems contrary to this more cooperative effort undertaken by all parties in 10 the past, including the Company, to support investments in KCPL but mitigate the 11 rate increases necessary to support those investments.

12 Q WHAT IS THE COMPANY'S ACTUAL CAPITAL STRUCTURE USING CURRENT 13 DATA?

A The Company's most recent capital structure was provided in response to Staff's
 Data Request No. 0251. In this response, KCPL identified its actual capital structure
 as of March 31, 2012, which is shown in Table 3 below.

KCPL's <u>Actual Capital Structure</u> (March 31, 2012)			
Description	Percent of <u>Total Capital</u>		
Long-Term Debt	53.90%		
Preferred Stock	0.60%		
Common Equity	<u>45.51</u> %		
Total Capital Structure	100.00%		

1 The capital structure as of March 31, 2012 has been fairly consistent over 2 several years as reported by S&P.⁷

3 Q WHAT IS YOUR PROPOSED CAPITAL STRUCTURE?

4 A For the purpose of estimating KCPL's overall rate of return I will rely on its actual 5 capital structure as of March 31, 2012 as shown in Table 3 above and in my 6 Schedule MPG-1. I oppose any increase in the common equity ratio or any 7 significant modifications to the capitalization mix as reflected in the Company's actual 8 capital structure at that date. To the extent a change in capital structure weights is 9 appropriate, the Company should justify it and describe the benefits and costs to 10 customers through this change in capital structure. Absent support by the Company, 11 I believe the Company's actual capital structure weight should not be modified and 12 the component costs should simply reflect the March 2012 capital structure.

⁷S&P RatingsDirect on the Global Credit Portal: "Kansas City Power and Light," April 27, 2012 at 5.

1 Return on Equity

2 Q PLEASE DESCRIBE WHAT IS MEANT BY A "UTILITY'S COST OF COMMON 3 EQUITY."

A A utility's cost of common equity is the return investors require on an investment in
the utility. Investors expect to achieve their return requirement from receiving
dividends and stock price appreciation.

7 Q PLEASE DESCRIBE THE FRAMEWORK FOR DETERMINING A REGULATED 8 UTILITY'S COST OF COMMON EQUITY.

9 A In general, determining a fair cost of common equity for a regulated utility has been
10 framed by two hallmark decisions of the U.S. Supreme Court: *Bluefield Water Works*11 & *Improvement Co. v. Public Serv. Commission of West Virginia*, 262 U.S. 679 (1923)
12 and Federal Power Commission v. Hope Natural Gas Co., 320 U.S. 591 (1944).

13 These decisions identify the general standards to be considered in 14 establishing the cost of common equity for a public utility. Those general standards 15 provide that the authorized return should: (1) be sufficient to maintain financial 16 integrity; (2) attract capital under reasonable terms; and (3) be commensurate with 17 returns investors could earn by investing in other enterprises of comparable risk.

18

Q PLEASE DESCRIBE THE METHODS YOU HAVE USED TO ESTIMATE THE COST

19 OF COMMON EQUITY FOR KCPL.

A I have used several models based on financial theory to estimate KCPL's cost of common equity. These models are: (1) a constant growth Discounted Cash Flow ("DCF") model using consensus analysts' growth rate projections; (2) a constant growth DCF using sustainable growth rate estimates; (3) a multi-stage growth DCF model; (4) a Risk Premium model; and (5) a Capital Asset Pricing Model ("CAPM"). 1
 have applied these models to a group of publicly traded utilities that 1 have
 determined share investment risk similar to KCPL's.

4 Q HOW DID YOU SELECT A UTILITY PROXY GROUP SIMILAR IN INVESTMENT 5 RISK TO KCPL TO ESTIMATE ITS CURRENT MARKET COST OF EQUITY?

6 A I relied on the same utility proxy group used by KCPL witness Dr. Hadaway to 7 estimate KCPL's return on equity. However, I excluded Ameren Corp. because its 8 consensus analyst growth rate was negative, likely due to concern at the merchant 9 generation units.

10 Q HOW DOES THE PROXY GROUP INVESTMENT RISK COMPARE TO KCPL'S 11 INVESTMENT RISK?

12 A The proxy group is shown on Schedule MPG-2. This proxy group has an average 13 senior credit rating from S&P of "BBB+," which is identical to S&P's senior secured 14 credit rating for KCPL. The proxy group's senior credit rating from Moody's is "A3," 15 which is also identical to KCPL's senior secured credit rating from Moody's of "A3." 16 The proxy group has comparable investment risk to KCPL.

17 The proxy group has an average common equity ratio of 46.6% (including 18 short-term debt) from *AUS Utility Reports* ("AUS") and 49.6% (excluding short-term 19 debt) from *Value Line* in 2011. The proxy group's common equity ratio is slightly 20 higher but comparable to the Company's actual common equity ratio of 45.5% 21 excluding short-term debt, as of March 31, 2012.

1 also compared KCPL's business risk to the business risk of the proxy group
 based on S&P's ranking methodology. KCPL has an S&P business risk profile of

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1	"Excellent," which is identical to the S&P business risk profile of the proxy group. The
2	S&P business risk profile score indicates that KCPL's business risk is comparable to
3	that of the proxy group. ⁸

4 Based on these proxy group selection criteria, I believe that my proxy group 5 reasonably approximates the investment risk of KCPL, and can be used to estimate a 6 fair return on equity for KCPL.

7 **Discounted Cash Flow Model**

8 Q PLEASE DESCRIBE THE DCF MODEL.

9 Α The DCF model posits that a stock price is valued by summing the present value of 10 expected future cash flows discounted at the investor's required rate of return or cost 11 of capital. This model is expressed mathematically as follows:

 $P_0 = \frac{D_1}{(1+K)^1} + \frac{D_2}{(1+K)^2} \dots \frac{D_n}{(1+K)^n}$ where 12 (Equation 1) 13

14 P₀ = Current stock price 15

D = Dividends in periods 1 - • 16

K = Investor's required return

17 This model can be rearranged in order to estimate the discount rate or If it is reasonable to assume that earnings and 18 investor-required return, "K." 19 dividends will grow at a constant rate, then Equation 1 can be rearranged as follows:

⁸S&P ranks the business risk of a utility company as part of its corporate credit rating review. S&P considers total investment risk in assigning bond ratings to issuers, including utility companies. In analyzing total investment risk, S&P considers both the business risk and the financial risk of a corporate entity, including a utility company. S&P's business risk profile score is based on a six-notch credit rating starting with "Vulnerable" (highest risk) to "Excellent" (lowest risk). The business risk of most utility companies falls within the lowest risk category, "Excellent," or the category one notch lower (more risk), "Strong." Standard & Poor's: "Criteria Methodology: Business Risk/Financial Risk Matrix Expanded," May 27, 2009.

1	$K = D_1 / P_0 + G$	(Equation 2)
2	K = Investor's required return	

- 3 D₁ = Dividend in first year
- 4 P₀ = Current stock price

G = Expected constant dividend growth rate

6 Equation 2 is referred to as the annual "constant growth" DCF model.

7 Q PLEASE DESCRIBE THE INPUTS TO YOUR CONSTANT GROWTH DCF MODEL.

A As shown in Equation 2 above, the DCF model requires a current stock price,
expected dividend, and expected growth rate in dividends.

10 Q WHAT STOCK PRICE HAVE YOU RELIED ON IN YOUR CONSTANT GROWTH

11 DCF MODEL?

5

- 12 A I relied on the average of the weekly high and low stock prices of the utilities in the 13 proxy group over a 13-week period ended July 13, 2012. An average stock price is 14 less susceptible to market price variations than a spot price. Therefore, an average 15 stock price is less susceptible to aberrant market price movements, which may not be 16 reflective of the stock's long-term value.
- A 13-week average stock price reflects a period that is still short enough to contain data that reasonably reflect current market expectations, but the period is not so short as to be susceptible to market price variations that may not reflect the stock's long-term value. In my judgment, a 13-week average stock price is a reasonable balance between the need to reflect current market expectations and the need to capture sufficient data to smooth out aberrant market movements.

1 Q WHAT DIVIDEND DID YOU USE IN YOUR CONSTANT GROWTH DCF MODEL?

A I used the most recently paid quarterly dividend, as reported in *The Value Line Investment Survey.*⁹ This dividend was annualized (multiplied by 4) and adjusted for
 next year's growth to produce the D₁ factor for use in Equation 2 above.

5 Q WHAT DIVIDEND GROWTH RATES HAVE YOU USED IN YOUR CONSTANT 6 GROWTH DCF MODEL?

7 A There are several methods that can be used to estimate the expected growth in 8 dividends. However, regardless of the method, for purposes of determining the 9 market-required return on common equity, one must attempt to estimate investors' 10 consensus about what the dividend or earnings growth rate will be, and not what an 11 individual investor or analyst may use to make individual investment decisions.

As predictors of future returns, security analysts' growth estimates have been shown to be more accurate than growth rates derived from historical data.¹⁰ That is, assuming the market generally makes rational investment decisions, analysts' growth projections are more likely to influence observable stock prices than growth rates derived only from historical data.

For my constant growth DCF analysis, I have relied on a consensus, or mean, of professional security analysts' earnings growth estimates as a proxy for investor consensus dividend growth rate expectations. I used the average of analysts' growth rate estimates from three sources: Zacks, SNL Financial, and Reuters. All such projections were available on July 13, 2012, and all were reported online.

⁹The Value Line Investment Survey, May 4, May 25, and June 22, 2012.

¹⁰See, e.g., David Gordon, Myron Gordon, and Lawrence Gould, "Choice Among Methods of Estimating Share Yield," *The Journal of Portfolio Management*, Spring 1989.

Each consensus growth rate projection is based on a survey of security analysts. It is problematic as to whether any particular analyst's forecast is more representative of general market expectations. The consensus estimate is a simple arithmetic average, or mean, of surveyed analysts' earnings growth forecasts. A simple average of the growth forecasts gives equal weight to all surveyed analysts' projections. Therefore, a simple average, or arithmetic mean, of analyst forecasts is a good proxy for market consensus expectations.

8 Q WHAT ARE THE GROWTH RATES YOU USED IN YOUR CONSTANT GROWTH 9 DCF MODEL?

10 A The growth rates I used in my DCF analysis are shown in Schedule MPG-3. The 11 average growth rate for my proxy group is 5.14%.

12 Q WHAT ARE THE RESULTS OF YOUR CONSTANT GROWTH DCF MODEL?

A As shown in Schedule MPG-4, the average and median constant growth DCF returns
for my proxy group are 9.46% and 9.54%, respectively.

15 Q DO YOU HAVE ANY COMMENTS ON THE RESULTS OF YOUR CONSTANT 16 GROWTH DCF ANALYSIS?

17 A Yes. The three- to five-year growth rates are slightly above the long-term sustainable 18 growth rate. Therefore, I believe my constant growth DCF analysis using analysts' 19 three- to five-year growth rates generally reflects reasonable growth outlooks and the 20 DCF results are also reasonable, even though they are slightly on the high end. 21 Hence, I believe my constant growth DCF model produces conservative return on 22 equity estimates. However, I also considered other DCF methodologies in order to

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enhance the information available to accurately estimate KCPL's current market
 return on common equity.

3 Sustainable Growth DCF

4 Q PLEASE DESCRIBE HOW YOU ESTIMATED A SUSTAINABLE LONG-TERM 5 GROWTH RATE FOR YOUR SUSTAINABLE GROWTH DCF MODEL.

A sustainable growth rate is based on the percentage of the utility's earnings that is
retained and reinvested in utility plant and equipment. These reinvested earnings
increase the earnings base (rate base). Earnings grow when plant funded by
reinvested earnings is put into service, and the utility is allowed to earn its authorized
return on such additional rate base investment.

11 The internal growth methodology is tied to the percentage of earnings retained 12 in the company and not paid out as dividends. The earnings retention ratio is 1 minus 13 the dividend payout ratio. As the payout ratio declines, the earnings retention ratio 14 increases. An increased earnings retention ratio will fuel stronger growth because 15 the business funds more investments with retained earnings. The payout ratios of the 16 proxy group are shown on my Schedule MPG-5. These dividend payout ratios and 17 earnings retention ratios then can be used to develop a sustainable long-term 18 earnings retention growth rate. A sustainable long-term retention ratio will help gauge 19 whether analysts' current three- to five-year growth rate projections can be sustained 20 over an indefinite period of time.

The data used to estimate the long-term sustainable growth rate is based on the Company's current market to book ratio and on *Value Line's* three- to five-year projections of earnings, dividends, earned returns on book equity, and stock issuances. 1 As shown in Schedule MPG-6, page 1, the average sustainable growth rate 2 for the proxy group using this internal growth rate model is 4.85%.

3 Q WHAT IS THE DCF ESTIMATE USING THESE SUSTAINABLE LONG-TERM 4 GROWTH RATES?

5 A A DCF estimate based on these sustainable growth rates is developed in Schedule 6 MPG-7. As shown there, a sustainable growth DCF analysis produces proxy group 7 average and median DCF results of 9.15% and 8.57%, respectively.

8 Multi-Stage Growth DCF Model

9 Q HAVE YOU CONDUCTED ANY OTHER DCF STUDIES?

10 A Yes. My first constant growth DCF is based on consensus analysts' growth rate 11 projections, so it is a reasonable reflection of rational investment expectations over 12 the next three to five years. The limitation on the constant growth DCF model is that 13 it cannot reflect a rational expectation that a period of high/low short-term growth can 14 be followed by a change in growth to a rate that is more reflective of long-term 15 sustainable growth. Hence, I performed a multi-stage growth DCF analysis to reflect 16 this outlook of changing growth expectations.

17 Q WHEN DO YOU BELIEVE SHORT-TERM GROWTH RATES CHANGE OVER 18 TIME?

Analyst projected growth rates over the next three to five years will change as utility earnings growth outlooks change. Utility companies typically go through cycles in making investments in their systems. When utility companies are making large investments, their rate base grows rapidly, which accelerates their earnings growth. 1 Once a major construction cycle is completed or levels off, growth in the utility rate 2 base slows, and its earnings slow from an abnormally high three- to five-year growth 3 rate period to a lower sustainable growth rate.

4 As major construction cycles extend over longer periods of time, even with an 5 accelerated construction program, the growth rate of the utility will slow simply 6 because it is adding to a larger rate base, and the utility has limited human and 7 capital resources available to expand its construction program. Hence, the three- to 8 five-year growth rate projection should be used as a long-term sustainable growth 9 rate but not without making a reasonable informed judgment to determine whether it 10 considers the current market environment, the industry, and whether the three- to 11 five-year growth outlook is sustainable.

12 Q CAN A UTILITY'S ELEVATED THREE- TO FIVE-YEAR GROWTH RATE 13 CONTINUE INDEFINITELY IF ITS CAPITAL PROGRAM CONTINUES OVER AN 14 INDEFINITE PERIOD OF TIME?

15 A No. Because the growth rate will slow over time, even if the utility's capital program 16 remains at an elevated level. This is illustrated in Table 4 below. Consider a 17 hypothetical company with a beginning plant-in-service of \$1 million and an elevated 18 capital expenditure program of \$100,000 (10% of total capital). Capital expenditures 19 stay elevated but also grow at the rate of inflation of 2% over the next 10 years. This 20 company has depreciation expense based on a rate of gross plant of 3.0%.

In this example, the first year, the capital expenditures less depreciation expense will grow plant-in-service from \$1 million up to \$1,070,000 – a 7% plant growth. In this example, earnings in the year would begin at an assumed 10% rate of return on investment, or \$103,500. This represents a 10% return on average plant

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1 investment for the year. Now assume that the capital improvement program 2 continues, and plant-in-service increases from the initial \$1 million up to \$1,139,900 3 by the end of year 2. In this second year, earnings would increase to \$110,495, a 4 6.8% growth in earnings relative to year 1. Each year, the embedded plant-in-service 5 increases by capital improvements less depreciation expense. As a result, the growth 6 in earnings slows because a percent change in plant-in-service starts to slow as the 7 beginning of the year plant-in-service number increases. That is, the denominator in 8 the growth equation increases with a relatively flat but elevated level of capital 9 improvements resulting in a decreasing growth in earnings. With this continued level 10 of elevated capital improvement offset by depreciation expense, the growth rate of 11 earnings starts at around 6.8% in the beginning of the growth period, declines to 12 around 5.3% after five years of growth, and further declines to around 4.2% after 13 10 years of elevated capital investment spending. Hence, while the company 14 maintains an elevated level of capital spending throughout the forecast period, the 15 earnings growth rate nevertheless declines from 6.8% at the beginning of the 16 spending period, down to 4.2% after 10 years of elevated capital spending. Again, 17 this occurs because the denominator in the growth equation increases as plant investment is made and plant-in-service increases. As a result, elevated capital 18 expenditures have a lower growth impact on a larger capital base after years of 19 20 elevated capital spending relative to the beginning of the capital spending program.

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TABLE 4

Growth in Plant In-Service and Earnings

<u>Year</u>	Beginning of Year Plant-in- Service (1)	Capital <u>improvement</u> (2)	Depreciation <u>Expense</u> (3)	End of Year Plant-in- <u>Service</u> (4)	Avg Year <u>Plant</u> (5)	<u>ROE</u> (6)	<u>Earnings</u> (7)	Annual Earnings Growth <u>Rate</u> (8)
0	\$1,000,000	\$100,000	\$30,000	\$1.070.000	\$1.035.000	10.0%	\$103,500	
1	\$1,070,000	\$102,000	\$32,100	\$1,139,900	\$1,104,950	10.0%	\$110,495	6.8%
2	\$1,139,900	\$104,040	\$34,197	\$1,209,743	\$1,174,822	10.0%	\$117,482	6.3%
3	\$1,209,743	\$106,121	\$36,292	\$1,279,572	\$1,244,657	10.0%	\$124,466	5.9%
4	\$1,279,572	\$108,243	\$38,387	\$1,349,428	\$1,314,500	10.0%	\$131,450	5.6%
5	\$1,349,428	\$110,408	\$40,483	\$1,419,353	\$1,384,390	10.0%	\$138,439	5.3%
6	\$1,419,353	\$112,616	\$42,581	\$1,489,388	\$1,454,371	10.0%	\$145,437	5.1%
7	\$1,489,388	\$114,869	\$44,682	\$1,559,575	\$1,524,482	10.0%	\$152,448	4.8%
8	\$1,559,575	\$117,166	\$46,787	\$1,629,954	\$1,594,765	10.0%	\$159,476	4.6%
9	\$1,629,954	\$119,509	\$48,899	\$1,700,565	\$1,665,259	10.0%	\$166,526	4.4%
10	\$1,700,565	\$121,899	\$51,017	\$1,771,447	\$1,736,006	10.0%	\$173,601	4.2%
Note Colu Colu Colu Colu Colu	s: mn 2: Escalation mn 3: Depr Ra mn 4 = Column mn 5 = (Column mn 7 = Column mn 8 = Column	 te 3,00%. 1 plus Column 2 li 1 + Column 4)/2. 5 * Column 6. 7 N + Column 7 N	ess Column 3. I-1 (N is the Year)	less 1.				

1 Q IS THE USE OF A MULTI-STAGE DCF MODEL SUPPORTED IN ACADEMIC AND

2 INDUSTRY LITERATURE?

3 A Yes. In his book *New Regulatory Finance*, Dr. Roger Morin states the following:

4	Dividends need not be, and probably are not, constant from period to
5	period. Moreover, there are circumstances where the standard DCF
6	model cannot be used to assess investor return requirements. For
7	example, if a utility company is in the process of altering its dividend
8	payout policy and dividends are not expected to grow at the same rate
9	as earnings during the transition period, the standard DCF model is
10	inapplicable. This is because the expected growth in stock price has
11	to be different from that of dividends, earnings, and book value if the
12	market price is to converge toward book value.

13

* * *

Michael P. Gorman Page 24 A Non-Constant Growth DCF model is appropriate whenever the growth rate is expected to change, and the only way to produce a change in the forecast payout ratio is by introducing an intermediate growth rate that is different from the long-term growth rate, as in the previous example.¹¹

6 Q PLEASE DESCRIBE YOUR MULTI-STAGE GROWTH DCF MODEL.

7 A The multi-stage growth DCF model reflects the possibility of non-constant growth for 8 a company over time. The multi-stage growth DCF model reflects three growth 9 periods: (1) a short-term growth period, which consists of the first five years; (2) a 10 transition period, which consists of the next five years (6 through 10); and (3) a 11 long-term growth period, starting in year 11 through perpetuity.

12 For the short-term growth period, I relied on the consensus analysts' growth 13 projections described above in relationship to my constant growth DCF model. For 14 the transition period, the growth rates were reduced or increased by an equal factor, 15 which reflects the difference between the analysts' growth rates and the United States Gross Domestic Product ("U.S. GDP") growth rate. For the long-term growth 16 17 period. I assumed each company's growth would converge to the maximum 18 sustainable growth rate for a utility company as proxied by the consensus analysts' projected growth for the U.S. GDP of 4.9%. 19

20 Q WHY IS THE GDP GROWTH PROJECTION A REASONABLE PROXY FOR THE

21

MAXIMUM SUSTAINABLE GROWTH RATE FOR A UTILITY?

A Utilities cannot indefinitely sustain a growth rate that exceeds the growth rate of the
 overall economy. Utilities' earnings/dividend growth is created by increased utility
 investment or rate base. Such investment, in turn, is driven by service area economic

¹¹New Regulatory Finance, Roger A. Morin, PhD, 2006 Public Utilities Reports, Inc., Vienna, Virginia, pp. 264 and 267.

1 growth and demand for utility service. In other words, utilities invest in plant to meet 2 sales demand growth, and sales growth, in turn, is tied to economic growth in their 3 service areas. The Energy Information Administration ("EIA") has observed that utility 4 sales growth is less than U.S. GDP growth, as shown in Schedule MPG-8. Utility 5 sales growth has lagged behind GDP growth for more than a decade. As a result, 6 nominal GDP growth is a very conservative, albeit overstated, proxy for electric utility 7 sales growth, rate base growth, and earnings growth. Therefore, GDP growth is a 8 conservative proxy for the highest sustainable long-term growth rate of a utility.

9

Q IS THERE RESEARCH THAT SUPPORTS YOUR POSITION THAT, OVER THE

10 LONG TERM, A COMPANY'S EARNINGS AND DIVIDENDS CANNOT GROW AT

11 A RATE GREATER THAN THE GROWTH OF THE U.S. GDP?

- 12 A Yes. This concept is supported in both published analyst literature and academic
- 13 work. Specifically, in a textbook entitled "Fundamentals of Financial Management,"
- 14 published by Eugene Brigham and Joel F. Houston, the authors state as follows:
- 15 The constant growth model is most appropriate for mature 16 companies with a stable history of growth and stable future 17 expectations. Expected growth rates vary somewhat among 18 companies, but dividends for mature firms are often expected 19 to grow in the future at about the same rate as nominal gross 20 domestic product (real GDP plus inflation).¹²

21 Q HOW DID YOU DETERMINE A SUSTAINABLE LONG-TERM GROWTH RATE

- 22 THAT REFLECTS THE CONSENSUS OF THE MARKET?
- 23 A I relied on the consensus analysts' projections of long-term GDP growth. The Blue
- 24 Chip Financial Forecasts publishes consensus economists' GDP growth projections
- 25 twice a year. These consensus analysts' GDP growth outlooks are the best available

¹²"Fundamentals of Financial Management," Eugene F. Brigham and Joel F. Houston, Eleventh Edition 2007, Thomson South-Western, a Division of Thomson Corporation at 298.

measure of the market's assessment of long-term GDP growth. These analyst
projections reflect all current outlooks for GDP, as reflected in analyst projections, and
are likely the most influential on investors' expectations of future growth outlooks.
The consensus economists' published GDP growth rate outlook is 5.1% to 4.7% over
the next 10 years.¹³

Therefore, I propose to use the consensus economists' projected 5- and 10-6 7 year average GDP consensus growth rate of 4.9%, as published by Blue Chip Financial Forecasts, as an estimate of long-term sustainable growth. Blue Chip 8 9 Financial Forecasts' projections provide real GDP growth projections of 2.8% and 2.5%, and GDP inflation of 2.2% and 2.1%¹⁴ over the 5-year and 10-year projection 10 11 periods, respectively. This consensus GDP growth forecast represents the most 12 likely views of market participants because it is based on published consensus 13 economist projections.

14 Q DO YOU CONSIDER OTHER SOURCES OF PROJECTED LONG-TERM GDP 15 GROWTH?

A Yes, and these sources corroborate my consensus analysts' projections. The U.S.
EIA in its Annual Energy Outlook projects real GDP out until 2035. In its 2011 Annual
Report, the EIA projects real GDP through 2035 to be in the range of 2.1% to 3.2%,
with a midpoint or reference case of 2.7%.¹⁵

20Also, the Congressional Budget Office ("CBO") makes long-term economic21projections. The CBO is projecting real GDP growth of 3.3% to 2.4% during the next

¹³Blue Chip Financial Forecasts, June 1, 2012 at 14.

¹⁴GDP growth is the product of real and inflation GDP growth.

¹⁵DOE/EIA Annual Energy Outlook 2011 With Projections to 2035, April 2011 at 58.

5 and 10 years, respectively, with GDP price inflation of 1.9% to 2.0%.¹⁶ The CBO's
 real GDP projections are higher than the consensus but its GDP inflation is lower
 than the consensus economists.

The real GDP and nominal GDP growth projections made by the U.S. EIA and those made by the CBO support the use of the consensus analyst 5-year and 10-year projected GDP growth outlooks as a reasonable market assessment of long-term prospective GDP growth.

8 Q WHAT STOCK PRICE, DIVIDEND, AND GROWTH RATES DID YOU USE IN YOUR 9 MULTI-STAGE GROWTH DCF ANALYSIS?

10 A I relied on the same 13-week stock price and the most recent quarterly dividend 11 payment data discussed above. For stage one growth, I used the consensus 12 analysts' growth rate projections discussed above in my constant growth DCF model. 13 The transition period begins in year 6 and ends in year 10. For the long-term 14 sustainable growth rate starting in year 11, I used 4.9%, the average of the 15 consensus economists' 5-year and 10-year projected nominal GDP growth rates.

16 Q WHAT ARE THE RESULTS OF YOUR MULTI-STAGE GROWTH DCF MODEL?

A As shown in Schedule MPG-9, the average and median DCF returns on equity for my
proxy group are 9.30% and 9.47%, respectively.

19 Q PLEASE SUMMARIZE THE RESULTS FROM YOUR DCF ANALYSES.

20 A The results from my DCF analyses are summarized in Table 5 below:

¹⁶CBO: The Budget and Economic Outlook: Fiscal Years 2012 to 2022, January 2012.

TABLE 5	
Summary of DCF Results	
Description	Estimates
Constant Growth DCF Model (Analysts' Growth)	9.46%
Constant Growth DCF Model (Sustainable Growth)	9.15%
Multi-Stage Growth DCF Model	9.30%

1

I conservatively conclude that a DCF return for KCPL in this case is 9.50%, which is heavily weighted at my constant growth analysts' growth DCF results.

2

3 Risk Premium Model

4 Q PLEASE DESCRIBE YOUR BOND YIELD PLUS RISK PREMIUM MODEL.

5 A This model is based on the principle that investors require a higher return to assume 6 greater risk. Common equity investments have greater risk than bonds because 7 bonds have more security of payment in bankruptcy proceedings than common equity 8 and the coupon payments on bonds represent contractual obligations. In contrast, 9 companies are not required to pay dividends or guarantee returns on common equity 10 investments. Therefore, common equity securities are considered to be more risky 11 than bond securities.

12 This risk premium model is based on two estimates of an equity risk premium. 13 First, I estimated the difference between the required return on utility common equity 14 investments and U.S. Treasury bonds. The difference between the required return on 15 common equity and the Treasury bond yield is the risk premium. I estimated the risk 16 premium on an annual basis for each year over the period 1986 through 2011. The 17 common equity required returns were based on regulatory commission-authorized

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returns for electric utility companies. Authorized returns are typically based on expert witnesses' estimates of the contemporary investor-required return.

1

2

3 The second equity risk premium estimate is based on the difference between 4 regulatory commission-authorized returns on common equity and contemporary 5 "A" rated utility bond yields. I selected the period 1986 through 2011 because public 6 utility stocks consistently traded at a premium to book value during that period. This 7 is illustrated in Schedule MPG-10, which shows that the market to book ratio since 8 1986 for the electric utility industry was consistently above 1.0. Over this period, 9 regulatory authorized returns were sufficient to support market prices that at least 10 exceeded book value. This is an indication that regulatory authorized returns on 11 common equity supported a utility's ability to issue additional common stock without 12 diluting existing shares. It further demonstrates that utilities were able to access 13 equity markets without a detrimental impact on current shareholders.

Based on this analysis, as shown in Schedule MPG-11, the average indicated equity risk premium over U.S. Treasury bond yields has been 5.23%. Of the 26 observations, 20 indicated risk premiums fall in the range of 4.41% to 6.13%. Since the risk premium can vary depending upon market conditions and changing investor risk perceptions, I believe using an estimated range of risk premiums provides the best method to measure the current return on common equity using this methodology.

As shown in Schedule MPG-12, the average indicated equity risk premium over contemporary Moody's utility bond yields was 3.81% over the period 1986 through 2011. The indicated equity risk premium estimates based on this analysis primarily fall in the range of 3.03% to 4.62% over this time period.

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1QDO YOU BELIEVE THAT THESE EQUITY RISK PREMIUM ESTIMATES ARE2BASED ON A TIME PERIOD THAT IS TOO LONG OR TOO SHORT TO DRAW3ACCURATE RESULTS CONCERNING CONTEMPORARY MARKET4CONDITIONS?

5 Α No. Contemporary market conditions can change dramatically during the period that rates determined in this proceeding will be in effect. A relatively long period of time 6 7 where stock valuations reflect premiums to book value is an indication that the 8 authorized returns on equity and the corresponding equity risk premiums were 9 supportive of investors' return expectations and provided utilities access to the equity 10 markets under reasonable terms and conditions. Further, this time period is long enough to smooth abnormal market movement that might distort equity risk 11 12 premiums. While market conditions and risk premiums do vary over time, this 13 historical time period is a reasonable period to estimate contemporary risk premiums.

14 The time period I use in this risk premium study is a generally accepted period 15 to develop a risk premium study using "expectational" data. Conversely, studies have 16 recommended that use of "actual achieved return data" should be based on very long 17 historical time periods. The studies find that achieved returns over short time periods may not reflect investors' expected returns due to unexpected and abnormal stock 18 19 price performance. However, these short-term abnormal actual returns would be 20 smoothed over time and the achieved actual returns over long time periods would approximate investors' expected returns. Therefore, it is reasonable to assume that 21 22 averages of annual achieved returns over long time periods will generally converge 23 on the investors' expected returns.

24 My risk premium study is based on expectational data, not actual returns, and, 25 thus, need not encompass very long time periods.

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1 Q BASED ON HISTORICAL DATA, WHAT RISK PREMIUM HAVE YOU USED TO 2 ESTIMATE KCPL'S COST OF COMMON EQUITY IN THIS PROCEEDING?

3 А The equity risk premium should reflect the relative market perception of risk in the 4 utility industry today. I have gauged investor perceptions in utility risk today in 5 Schedule MPG-13. On that schedule, I show the yield spread between utility bonds 6 and Treasury bonds over the last 32 years and the first six months of 2012. As 7 shown in this schedule, the 2011 utility bond yield spreads over Treasury bonds for 8 "A" rated and "Baa" rated utility bonds are 1.13% and 1.65%, respectively. The utility 9 bond yield spreads over Treasury bonds for "A" and "Baa" rated utility bonds for the 10 first six months of 2012 are 1.27% and 2.00%, respectively. The current "A" rated 11 utility bond yield spread over Treasury bond yields is now lower than the 32-year 12 average spreads of 1.57%. However, the "Baa" rated utility spread of 2.00% is 13 slightly higher, even though comparable to the 32-year average spread of 1.98%.

A current 13-week average "A" rated utility bond yield of 4.14%, when compared to the current Treasury bond yield of 2.83% as shown in Schedule MPG-14, page 1 implies a yield spread of around 1.31%. This current utility bond yield spread is lower than the 32-year average spread for "A" utility bonds of 1.57%. The current spread for the "Baa" utility yields of 2.12% is slightly higher than, although comparable to, the 32-year average spread of 1.98%.

These utility bond yield spreads are clear evidence that the market considers the utility industry to be a relatively low risk investment and demonstrates that utilities continue to have strong access to capital.

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1 Q HOW DID YOU ESTIMATE KCPL'S COST OF COMMON EQUITY WITH THIS RISK

2 PREMIUM MODEL?

3 1 added a projected long-term Treasury bond yield to my estimated equity risk А 4 premium over Treasury yields. The 13-week average 30-year Treasury bond yield, 5 ending July 13, 2012 was 2.83%, as shown in Schedule MPG-14, page 1. Blue Chip Financial Forecasts projects the 30-year Treasury bond yield to be 3.60%, and a 6 10-year Treasury bond yield to be 2.60%.¹⁷ Using the projected 30-year bond yield of 7 3.60%, and a Treasury bond risk premium of 4.41% to 6.13%, as developed above, 8 9 produces an estimated common equity return in the range of 8.01% (3.60% + 4.41%) 10 to 9.73% (3.60% + 6.13%). I recommend an equity risk premium of 9.16%, rounded 11 to 9.20%. This estimate is based on giving two-thirds weight to my high-end risk 12 premium estimate of 9.73%, and one-third weight to my low-end risk premium 13 estimate of 8.01%. I believe this weighting is appropriate given the unusually large 14 yield spreads between Treasury bond and utility bond yields.

15 I next added my equity risk premium over utility bond yields to a current
13-week average yield on "Baa" rated utility bonds for the period ending July 13, 2012
17 of 4.95%. Adding the utility equity risk premium of 3.03% to 4.62%, as developed
18 above, to a "Baa" rated bond yield of 4.95%, produces a cost of equity in the range of
19 7.98% (4.95% + 3.03%) to 9.57% (4.95% + 4.62%). Again, recognizing the unusually
20 wide Treasury to utility bond yield spreads, 1 recommend a risk premium of 9.04%,¹⁸
21 rounded to 9.00%.

My risk premium analyses produce a return estimate in the range of 9.00% to
9.20%, with a midpoint estimate of 9.10%.

¹⁷Blue Chip Financial Forecasts, July 1, 2012 at 2. ¹⁸2/3 (9.57%) + 1/3 (7.98%).
1 Capital Asset Pricing Model ("CAPM")

2 Q PLEASE DESCRIBE THE CAPM.

A The CAPM method of analysis is based upon the theory that the market-required rate of return for a security is equal to the risk-free rate, plus a risk premium associated with the specific security. This relationship between risk and return can be expressed mathematically as follows:

7

 $R_i = R_f + B_i \times (R_m - R_f)$ where:

8	R _i =	Required return for stock i
9	R, =	Risk-free rate
10	R _m =	Expected return for the market portfolio
11	B _i =	Beta - Measure of the risk for stock

The stock-specific risk term in the above equation is beta. Beta represents the investment risk that cannot be diversified away when the security is held in a diversified portfolio. When stocks are held in a diversified portfolio, firm-specific risks can be eliminated by balancing the portfolio with securities that react in the opposite direction to firm-specific risk factors (e.g., business cycle, competition, product mix, and production limitations).

18 The risks that cannot be eliminated when held in a diversified portfolio are 19 non-diversifiable risks. Non-diversifiable risks are related to the market in general 20 and are referred to as systematic risks. Risks that can be eliminated by diversification 21 are regarded as non-systematic risks. In a broad sense, systematic risks are market 22 risks, and non-systematic risks are business risks. The CAPM theory suggests that 23 the market will not compensate investors for assuming risks that can be diversified 24 away. Therefore, the only risk that investors will be compensated for are systematic 25 or non-diversifiable risks. The beta is a measure of the systematic or 26 non-diversifiable risks.

1 Q PLEASE DESCRIBE THE INPUTS TO YOUR CAPM.

A The CAPM requires an estimate of the market risk-free rate, the company's beta, and
 the market risk premium.

4 Q WHAT DID YOU USE AS AN ESTIMATE OF THE MARKET RISK-FREE RATE?

A As previously noted, *Blue Chip Financial Forecasts*' projected 30-year Treasury bond
 yield is 3.60%.¹⁹ The current 30-year Treasury bond yield is 2.83%. I used *Blue Chip Financial Forecasts*' projected 30-year Treasury bond yield of 3.60% for my CAPM
 analysis.

9 Q WHY DID YOU USE LONG-TERM TREASURY BOND YIELDS AS AN ESTIMATE 10 OF THE RISK-FREE RATE?

11 А Treasury securities are backed by the full faith and credit of the United States 12 government, so long-term Treasury bonds are considered to have negligible credit 13 risk. Also, long-term Treasury bonds have an investment horizon similar to that of 14 common stock. As a result, investor-anticipated long-run inflation expectations are 15 reflected in both common-stock required returns and long-term bond yields. 16 Therefore, the nominal risk-free rate (or expected inflation rate and real risk-free rate) included in a long-term bond yield is a reasonable estimate of the nominal risk-free 17 18 rate included in common stock returns.

19 Treasury bond yields, however, do include risk premiums related to 20 unanticipated future inflation and interest rates. A Treasury bond yield is not a 21 risk-free rate. Risk premiums related to unanticipated inflation and interest rates are 22 systematic or market risks. Consequently, for companies with betas less than 1.0,

¹⁹Blue Chip Financial Forecasts, July 1, 2012 at 2.

using the Treasury bond yield as a proxy for the risk-free rate in the CAPM analysis
 can produce an overstated estimate of the CAPM return.

3 Q WHAT BETA DID YOU USE IN YOUR ANALYSIS?

A As shown in Schedule MPG-15, the proxy group average *Value Line* beta estimate is
0.72.

6 Q HOW DID YOU DERIVE YOUR MARKET RISK PREMIUM ESTIMATE?

7 A I derived two market risk premium estimates, a forward-looking estimate and one
8 based on a long-term historical average.

9 The forward-looking estimate was derived by estimating the expected return 10 on the market (as represented by the S&P 500) and subtracting the risk-free rate from 11 this estimate. I estimated the expected return on the S&P 500 by adding an expected 12 inflation rate to the long-term historical arithmetic average real return on the market. 13 The real return on the market represents the achieved return above the rate of 14 inflation.

Morningstar's *Stocks, Bonds, Bills and Inflation 2012 Classic Yearbook* publication estimates the historical arithmetic average real market return over the period 1926 to 2011 as 8.6%.²⁰ A current consensus analysts' inflation projection, as measured by the Consumer Price Index, is 2.2%.²¹ Using these estimates, the expected market return is 10.99%.²² The market risk premium then is the difference between the 10.99% expected market return, and my 3.60% risk-free rate estimate, or approximately 7.40%.

²⁰Morningstar, Inc. Ibbotson SBBI 2012 Classic Yearbook at 84.
 ²¹Blue Chip Financial Forecasts, July 1, 2012 at 2.

 $^{^{22}{[(1 + 0.086) * (1 + 0.022)] - 1} * 100.}$

1 The historical estimate of the market risk premium was also estimated by 2 Morningstar in *Stocks, Bonds, Bills and Inflation 2012 Classic Yearbook.* Over the 3 period 1926 through 2011, Morningstar's study estimated that the arithmetic average 4 of the achieved total return on the S&P 500 was 11.8%,²³ and the total return on 5 long-term Treasury bonds was 6.1%.²⁴ The indicated market risk premium is 5.7% 6 (11.8% - 6.1% = 5.7%). The average of my market risk premium estimates is 6.60% 7 (7.50% to 5.70%).

8 Q HOW DOES YOUR ESTIMATED MARKET RISK PREMIUM RANGE COMPARE TO 9 THAT ESTIMATED BY MORNINGSTAR?

10 A Morningstar's analysis indicates that a market risk premium falls somewhere in the 11 range of 5.9% to 6.6%. My market risk premium falls in the range of 5.7% to 7.4%. 12 My average market risk premium of 6.6% is at the high end of Morningstar's range.

13 Morningstar estimates a forward-looking market risk premium based on actual 14 achieved data from the historical period of 1926 through 2011. Using this data, 15 Morningstar estimates a market risk premium derived from the total return on large 16 company stocks (S&P 500), less the income return on Treasury bonds. The total 17 return includes capital appreciation, dividend or coupon reinvestment returns, and 18 annual yields received from coupons and/or dividend payments. The income return, 19 in contrast, only reflects the income return received from dividend payments or 20 coupon yields. Morningstar argues that the income return is the only true risk-free 21 rate associated with Treasury bonds and is the best approximation of a truly risk-free 22 rate. I disagree with this assessment from Morningstar, because it does not reflect a 23 true investment option available to the marketplace and therefore does not produce a

²³Morningstar, Inc. Ibbotson SBBI 2012 Classic Yearbook at 83.
 ²⁴Id.

legitimate estimate of the expected premium of investing in the stock market versus
 that of Treasury bonds. Nevertheless, I will use Morningstar's conclusion to show the
 reasonableness of my market risk premium estimates.

4 Morningstar's range is based on several methodologies. First, Morningstar 5 estimates a market risk premium of 6.6% based on the difference between the total 6 market return on common stocks (S&P 500) less the income return on Treasury bond 7 investments. Second, Morningstar found that if the New York Stock Exchange (the 8 "NYSE") was used as the market index rather than the S&P 500, that the market risk 9 premium would be 6.4%, not 6.6%. Third, if only the two deciles of the largest 10 companies included in the NYSE were considered, the market risk premium would be 5.9%.25 11

12 Finally, Morningstar found that the 6.6% market risk premium based on the 13 S&P 500 was influenced by an abnormal expansion of price-to-earnings ("P/E") ratios relative to earnings and dividend growth during the period 1980 through 2001. 14 15 Morningstar believes this abnormal P/E expansion is not sustainable. Therefore, 16 Morningstar adjusted this market risk premium estimate to normalize the growth in the 17 P/E ratio to be more in line with the growth in dividends and earnings. Based on this 18 alternative methodology. Morningstar published a long-horizon supply-side market risk premium of 6.1%.²⁶ 19

²⁵Morningstar observes that the S&P 500 and the NYSE Decile 1-2 are both large capitalization benchmarks. *Morningstar, Inc. Ibbotson SBBI 2012 Valuation Yearbook* at 54. ²⁶/d. at 66.

1 Q WHAT ARE THE RESULTS OF YOUR CAPM ANALYSIS?

- A As shown in Schedule MPG-16, based on my and Morningstar's high-end market risk premium of 6.6%, a risk-free rate of 3.60%, and a beta of 0.72, my CAPM analysis
- 4 produces a return of 8.35% (rounded to 8.40%).

5 Return on Equity Summary

- 6 Q BASED ON THE RESULTS OF YOUR RETURN ON COMMON EQUITY
- 7 ANALYSES DESCRIBED ABOVE, WHAT RETURN ON COMMON EQUITY DO

8 YOU RECOMMEND FOR KCPL?

- 9 A Based on my analyses, I estimate KCPL's current market cost of equity to be in the
- 10 range of 9.10% to 9.50%.

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Return on Common Equity Summary

Description	<u>Results</u>
DCF	9.50%
Risk Premium	9.10%
CAPM	8.40%

11

My recommended range is based on my DCF and Risk Premium results.

12 **Financial Integrity**

13 Q WILL YOUR RECOMMENDED OVERALL RATE OF RETURN SUPPORT AN

14 INVESTMENT GRADE BOND RATING FOR KCPL?

15 A Yes. I have reached this conclusion by comparing the key credit rating financial 16 ratios for KCPL's retail cost of service in this case, adjusted for my proposed return on equity and the Company's actual capital structure, to S&P's benchmark financial
 ratios using S&P's new credit metric ranges.

3 Q PLEASE DESCRIBE THE MOST RECENT S&P FINANCIAL RATIO CREDIT 4 METRIC METHODOLOGY.

5 A S&P publishes a matrix of financial ratios that correspond to its assessment of the business risk of the utility company and related bond rating. On May 27, 2009, S&P 6 expanded its matrix criteria²⁷ by including additional business and financial risk 7 8 categories. Based on S&P's most recent credit matrix, the business risk profile 9 categories are "Excellent," "Strong," "Satisfactory," "Fair," "Weak," and "Vulnerable." 10 Most electric utilities have a business risk profile of "Excellent" or "Strong." The 11 financial risk profile categories are "Minimal," "Modest," "Intermediate," "Significant," 12 "Aggressive," and "Highly Leveraged." Most of the electric utilities have a financial 13 risk profile of "Aggressive." KCPL has an "Excellent" business risk profile and an 14 "Aggressive" financial risk profile.

15 Q PLEASE DESCRIBE S&P'S USE OF THE FINANCIAL BENCHMARK RATIOS IN

- 16 ITS CREDIT RATING REVIEW.
- A S&P evaluates a utility's credit rating based on an assessment of its financial and
 business risks. A combination of financial and business risks equates to the overall
 assessment of KCPL's total credit risk exposure. S&P publishes a matrix of financial
 ratios that defines the level of financial risk as a function of the level of business risk.

²⁷S&P updated its original 2007 credit metric guidelines in 2009, and incorporated utility metric benchmarks with the general corporate rating metrics. *Standard & Poor's*: "Criteria Methodology: Business Risk/Financial Risk Matrix Expanded," May 27, 2009.

S&P publishes ranges for three primary financial ratios that it uses as
 guidance in its credit review for utility companies. The three primary financial ratio
 benchmarks it relies on in its credit rating process include: (1) Total Debt to Total
 Capital; (2) Debt to Earnings Before Interest, Taxes, Depreciation and Amortization
 ("EBITDA"); and (3) Funds From Operations ("FFO") to Total Debt.

6 Q HOW DID YOU APPLY S&P'S FINANCIAL RATIOS TO TEST THE 7 REASONABLENESS OF YOUR RATE OF RETURN RECOMMENDATIONS?

8 I calculated each of S&P's financial ratios based on KCPL's cost of service for its А 9 Missouri jurisdictional electric operations. While S&P would normally look at total 10 consolidated KCPL financial ratios in its credit review process, my investigation in this 11 proceeding is not the same as S&P's. I am attempting to judge the reasonableness 12 of my proposed cost of capital for rate-setting in KCPL's regulated utility operations. 13 Hence, I am attempting to determine whether my proposed rate of return will in turn 14 support cash flow metrics, balance sheet strength, and earnings that will support an 15 investment grade bond rating and KCPL's financial integrity.

16 Q DID YOU INCLUDE ANY OFF-BALANCE SHEET DEBT ("OBSD")?

17 A Yes. As shown in Schedule MPG-17, S&P estimated off-balance sheet debt 18 equivalents of \$121.9 million attributed to KCPL's operating leases. S&P includes 19 other off-balance sheet debt adjustments which I did not include in my analysis. 20 Accrued interest not reported on the Company's debt was not included in my 21 analysis. This factor is either reflected in KCPL's cost of service, or I could not find 22 evidence that it relates to regulated utility operations. As such, I did not include it in

> Michael P. Gorman Page 41

the metrics to judge the reasonableness of my rate of return for retail operations in
 Missouri in this proceeding.

Q PLEASE DESCRIBE THE RESULTS OF THIS CREDIT METRIC ANALYSIS FOR
 4 KCPL AT A 9.10% RETURN ON EQUITY.

5 A The S&P financial metric calculations for KCPL at a 9.10% return are developed on
6 Schedule MPG-17, page 1.

KCPL's adjusted total debt ratio is approximately 55%. This is within the
"Aggressive" utility guideline range of 50% to 60%. This total debt ratio will support
an investment grade bond rating.

10 As shown on Schedule MPG-17, page 1, column 1, based on an equity return 11 of 9.10%, KCPL will be provided an opportunity to produce a debt to EBITDA ratio of 12 3.4x. This is within S&P's "Significant" range of 3.0x to 4.0x. This ratio also supports 13 an investment grade credit rating.

Finally, KCPL's retail operations FFO to total debt coverage at a 9.10% equity
return would be 19%, which is within the "Aggressive" metric guideline range of 12%
to 20%. The FFO/total debt ratio will support an investment grade bond rating.

At my low-end recommended return on equity of 9.10% and the Company's
actual capital structure, KCPL's financial credit metrics are supportive of an
investment grade bond rating.

20 Q PLEASE DESCRIBE THE RESULTS OF THIS CREDIT METRIC ANALYSIS FOR 21 KCPL AT A 9.50% RETURN ON EQUITY.

A The S&P financial metric calculations for KCPL at a 9.50% return are developed on
 Schedule MPG-18, page 1.

KCPL's adjusted total debt ratio is approximately 55%. This is within the
 "Aggressive" utility guideline range of 50% to 60%. This total debt ratio will support
 an investment grade bond rating.

As shown on Schedule MPG-18, page 1, column 1, based on an equity return of 9.50%, KCPL will be provided an opportunity to produce a debt to EBITDA ratio of 3.3x. This is within S&P's "Significant" range of 3.0x to 4.0x. This ratio also supports an investment grade credit rating.

8 Finally, KCPL's retail operations FFO to total debt coverage at a 9.50% equity
9 return would be 19%, which is within the "Aggressive" metric guideline range of 12%
10 to 20%. The FFO/total debt ratio will support an investment grade bond rating.

11 At my high-end recommended return on equity of 9.50% and the Company's 12 actual capital structure, KCPL's financial credit metrics are supportive of an 13 investment grade bond rating.

14 RESPONSE TO KCPL WITNESS DR. SAMUEL HADAWAY

15 Q WHAT RETURN ON COMMON EQUITY IS KCPL PROPOSING FOR THIS 16 PROCEEDING?

17 A KCPL is proposing to set rates based on a return on equity of 10.40%. KCPL's return
18 on equity proposal is based on the analysis and judgment of Dr. Samuel Hadaway.
19 Dr. Hadaway's results are summarized at page 42 of his direct testimony.

20 Q DO DR. HADAWAY'S METHODOLOGIES SUPPORT HIS 10.40% RETURN ON 21 EQUITY FOR HIS PROXY GROUP?

A No. As discussed in detail below, Dr. Hadaway's own analyses would support a
 return on equity in the range of 9.2% to 10.0% if it is adjusted to reflect current market

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data and his models are properly applied. These adjustments to Dr. Hadaway's return on equity estimates support my recommended return on equity range.

3 QPLEASE DESCRIBE THE METHODOLOGY USED BY DR. HADAWAY TO4SUPPORT HIS RETURN ON COMMON EQUITY RECOMMENDATION.

5 A Dr. Hadaway develops his return on common equity recommendation using three 6 versions of the DCF model, and two utility risk premium analyses. I have summarized 7 Dr. Hadaway's results in Table 7 under column 1. Under column 2, 1 show the results 8 of Dr. Hadaway's analyses adjusted for updated data and more reasonable 9 application of the models.

10 As shown in Table 7, using consensus economists' projection of GDP growth 11 rather than Dr. Hadaway's inflated GDP growth estimates, his own DCF analyses 12 would support a return on equity for KCPL in the range of 9.2% to 10.0%. Proper 13 adjustments to Dr. Hadaway's utility risk premium estimates to reflect the unadjusted 14 equity risk premium would reduce this estimate to 9.5%.

TABLE 7							
Summary of Dr. Hadaway's ROE Estimate							
Description	Hadaway <u>Results¹</u> (1)	Adjusted Hadaway Results ² (2)					
<u>DCF Analysis</u> Constant Growth (Analysts' Growth) Constant Growth (GDP Growth) Multi-Stage Growth Model Indicated DCF Range	10.0% 10.2% - 10.4% <u>10.0% - 10.1%</u> 10.0% - 10.4%	10.0% 9.3% - 9.5% <u>9.2% - 9.3%</u> 9.2% - 10.0%					
Risk Premium Analysis Forecasted Utility Debt + Equity Risk Premium Current Utility Debt + Equity Risk Premium Risk Premium Estimate	10.12% <u>9.97%</u> 10.0%	Reject <u>9.52%</u> 9.5%					
Recommended ROE Adjusted ROE	10.4%	9.5%					
Sources: ¹ Hadaway Direct at 42. ² Schedule MPG-19.							

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

A Dr. Hadaway's adjusted constant growth DCF analysis is shown on his Schedule
SCH-5. As shown on that schedule, Dr. Hadaway's constant growth DCF analysis is
based on a recent stock price, an annualized dividend and an average of three
growth rates: (1) Value Line; (2) Zacks; and (3) Thomson.

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

A No. Dr. Hadaway's constant growth DCF analysis is based on a consensus analysts'
average growth rate of 5.63%. This growth rate is inappropriate for two reasons.
First, the growth rate exceeds a long-term sustainable growth rate as required by the

Michael P. Gorman Page 45 constant growth DCF model. A constant growth rate of 5.63% is substantially higher
than the market's outlook for future growth of the economy of 4.9%. Hence,
Dr. Hadaway's use of a consensus analysts' growth rate of over 70 basis points in
excess of the growth rate in the economy in which these companies will operate is
unreasonable and unsustainable.

6 Second, more recent projections for the growth rate of these companies in the 7 proxy group show more moderate growth outlooks. As shown on my Schedule 8 MPG-3, the consensus growth rate for these companies now is again more moderate 9 at a level of about 5.14%. Updating Dr. Hadaway's analysis would produce a more 10 reasonable estimate of the constant growth DCF outlook for this proxy group. As 11 shown on my Schedule MPG-4, the current market cost of equity for this proxy group 12 using more moderate growth outlooks, which are reasonably consistent with 13 sustainable long-term growth would indicate a DCF return of 9.46%, rounded to 14 9.50%.

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

16 A He states that the GDP growth rate is based on the achieved GDP growth over the 17 last 10, 20, 30, 40, 50, and 60-year periods. Dr. Hadaway's projected GDP growth 18 rate is unreasonable. Historical GDP growth over the last 20 and 40-year periods 19 was strongly influenced by the actual inflation rate experienced over that time period.

20 Q

21

THAT OF PUBLISHED MARKET ANALYSTS?

22 A The consensus economists' projected GDP growth rate is much lower than the GDP 23 growth rate used by Dr. Hadaway in his DCF analysis. A comparison of

WHY IS DR. HADAWAY'S DCF ESTIMATE EXCESSIVE IN COMPARISON TO

Michael P. Gorman Page 46 Dr. Hadaway's GDP growth rate and consensus economists' projected GDP growth over the next 5 and 10 years is shown in Table 8. As shown in this table, Dr. Hadaway's GDP rate of 5.8% reflects real GDP of 2.7% and an inflation adjusted GDP of 3.0%. However, consensus economists' projections of nominal GDP include GDP inflation projections over the next 5 and 10 years of 2.2% and 2.1%, respectively.²⁶

As is clearly evident in Table 8, Dr. Hadaway's historical GDP growth reflects
historical inflation, which is much higher than, and not representative of, consensus
market expected forward-looking inflation.

TABLE 8							
GDP Projections							
Description	GDP Inflation	Real GDP	Nominal GDP				
Dr. Hadaway	3.0%	2.7%	5.8%				
Consensus 5-Year Projection	2.2%	2.8%	5.1%				
Consensus 10-Year Projection	2.1%	2.5%	4.8%				
Source: Blue Chip Financial Forecasts, June 1, 2012 at 14.							

As such, Dr. Hadaway's 5.8% nominal GDP growth rate is not reflective of consensus market expectations and should be rejected. Indeed, Dr. Hadaway's 5.8% GDP growth rate outlook is inconsistent with the consensus of economists' independent projections of future long-term GDP growth, and also inconsistent with projections made by the U.S. Energy Information Administration, and Congressional Budget Office as referenced in my testimony above where I describe the parameters used in my own multi-stage growth DCF analyses. Those agencies also project real GDP in

²⁶Blue Chip Financial Forecasts, June 1, 2012 at 14.

Ine with what Dr. Hadaway and his consensus projections include, however their outlook for future inflation is much lower than Dr. Hadaway, and much more consistent with the consensus independent economists' projections discussed in Table 8 above. For all these reasons, Dr. Hadaway's GDP growth outlook rate projections are simply out of line and out of touch with the consensus market outlooks.

7 Q HOW WOULD DR. HADAWAY'S DCF ANALYSES CHANGE IF CURRENT 8 MARKET-BASED GDP GROWTH RATE PROJECTIONS ARE INCLUDED IN HIS 9 ANALYSIS RATHER THAN HIS EXCESSIVE GDP GROWTH RATE?

A As shown in Schedule MPG-19, I updated Dr. Hadaway's DCF analyses using more recent market data and a GDP growth rate of 4.9%. This GDP growth rate is the consensus economists' 5- and 10-year projected growth rate of the GDP as published in the *Blue Chip Financial Forecasts*. As shown in Schedule MPG-19, using this consensus economists' projected GDP growth rate, reduces Dr. Hadaway's long-term GDP growth DCF result from 10.3% to 9.4% and his multi-stage DCF from 10.1% to 9.3%.

17QPLEASE SUMMARIZE YOUR ADJUSTMENTS TO DR. HADAWAY'S DCF18STUDIES.

A Using a more reasonable GDP growth rate reduces the average DCF result produced
by Dr. Hadaway's studies from 10.1% down to 9.4%. Dr. Hadaway's original
estimates and these updated and adjusted results are shown below in Table 9.

TABLE 9						
Adjusted Hadaway DCF						
	Range	Average				
Description	Hadaway DCF	Adjusted DCF				
Constant Growth (Analysts' Growth)	10.0%	9.5%				
Constant Growth (GDP Growth)	10.3%	9.4%				
Multi-Stage Growth Model	<u>10.1%</u>	9.3%				
Average	10.1%	9.4%				

As shown above in Table 9, using a consensus economists' GDP forecast, rather than the GDP forecast derived by Dr. Hadaway, would support a return on equity no higher than 9.4%.

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

5 A Dr. Hadaway's utility bond yield versus authorized return on common equity risk 6 premium is shown in Schedule SCH-6. As shown in this schedule, Dr. Hadaway 7 estimated an annual equity risk premium by subtracting Moody's average bond yield 8 from the electric utility regulatory commission authorized return on common equity 9 over the period 1980 through 2011. Based on this analysis, Dr. Hadaway estimates 10 an average indicated equity risk premium over current utility bond yields of 3.33%.

Dr. Hadaway then adjusts this average equity risk premium using a regression analysis based on an expectation that there is an ongoing inverse relationship between interest rates and equity risk premiums. Based on this regression analysis, Dr. Hadaway increases his equity risk premium from 3.33%, up to 4.78% and 4.89% relative to projected and current "BBB" bond yield of 5.34% and 5.08%, respectively. He then adds these inflated equity risk premiums to the projected and current "BBB"

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rated utility bond yield of 5.34% and 5.08% to produce a return on equity of 10.12%
 and 9.97%, respectively.

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

4 A Dr. Hadaway develops a forward-looking risk premium model, relying on No. 5 forecasted interest rates and volatile utility spreads, which are highly uncertain and 6 produce inaccurate results. Further, Dr. Hadaway's proposal to adjust the actual 7 equity risk premium of 3.33% to reflect the inverse relationship between interest rates 8 and utility risk premiums to 4.78% and 4.89% is unreasonable. This adjustment is 9 inappropriate and not consistent with academic literature that finds that this 10 relationship should change with risk changes and not simply changes to interest 11 rates.

12 Q DO YOU HAVE ANY COMMENTS CONCERNING DR. HADAWAY'S 13 FORECASTED UTILITY BOND YIELD OF 5.34%?

14 Α Yes. Dr. Hadaway develops his forecasted utility bond yield based on the 3-month 15 historical spread of "A" rated utility bond yields and 30-year Treasury yields of 2.04% 16 added to his projected long-term Treasury yield of 3.3%. This approach is 17 unreasonable because Dr. Hadaway relies on projected interest rates with historical yield spreads. The accuracy of his interest rate projections are highly problematic, 18 19 and he provides no support for his assumption that yield spreads will stay flat if 20 Treasury yields increase. This yield spread relationship is volatile and uncertain as 21 are interest rate projections. Indeed, while interest rates have been projected to increase over the last several years, those increased interest rate projections have 22 23 turned out to be wrona.

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1 Q WHY DO YOU BELIEVE THAT THE ACCURACY OF FORECASTED INTEREST 2 RATES IS HIGHLY PROBLEMATIC?

A Over the last several years, observable current interest rates have been a more accurate predictor of future interest rates than economists' consensus projections. Schedule MPG-20 illustrates this point. On this schedule, under Columns 1 and 2, 1 show the actual market yield at the time a projection is made for Treasury bond yields two years in the future. In Column 1, I show the actual Treasury yield and, in Column 2, I show the projected yield two years out.

9 As shown in Columns 1 and 2, over the last several years Treasury yields 10 were projected to increase relative to the actual Treasury yields at the time of the 11 projection. In Column 4, I show what the Treasury yield actually turned out to be two 12 years after the forecast. Under Column 5, I show the actual yield change at the time 13 of the projections relative to the projected yield change.

As shown in this schedule, over the last several years, economists consistently have been projecting that interest rates will increase. However, as demonstrated under Column 5, those yield projections have turned out to be overstated in virtually every case. Indeed, actual Treasury yields have decreased or remained flat over the last five years, rather than increase as the economists' projections indicated. As such, current observable interest rates are just as likely to predict future interest rates as are economists' projections. 1 Q WHY IS DR. HADAWAY'S USE OF A SIMPLE INVERSE RELATIONSHIP 2 BETWEEN INTEREST RATES AND EQUITY RISK PREMIUMS NOT 3 REASONABLE?

A Dr. Hadaway's belief that there is a simplistic inverse relationship between equity risk premiums and interest rates is not supported by academic research. While academic studies have shown that, in the past, there has been an inverse relationship between these variables, researchers have found that the relationship changes over time and is influenced by changes in perception of the risk of bond investments relative to equity investments, and not simply changes to interest rates.²⁹

10 In the 1980s, equity risk premiums were inversely related to interest rates, but 11 that was likely attributable to the interest rate volatility that existed at that time. 12 Interest rate volatility currently is much lower than it was in the 1980s.³⁰ As such, 13 when interest rates were more volatile, the relative perception of bond investment risk 14 increased relative to the investment risk of equities. This changing investment risk 15 perception caused changes in equity risk premiums.

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

²⁹ The Market Risk Premium: Expectational Estimates Using Analysts' Forecasts," Robert S. Harris and Felicia C. Marston, *Journal of Applied Finance*, Volume 11, No. 1, 2001 and "The Risk Premium Approach to Measuring a Utility's Cost of Equity," Eugene F. Brigham, Dilip K. Shome, and Steve R. Vinson, *Financial Management*, Spring 1985.

³⁰Morningstar SBBI, 2009 Yearbook at 95-96.

changes to the risk of equity versus debt securities investments, not simply changes
 to interest rates.

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

8 Modifying Dr. Hadaway's equity risk premiums to consider yield spreads, 9 rather than simply the inverse relationship between equity risk premiums and interest 10 rates, would also reduce the level of equity risk premium estimated by Dr. Hadaway. 11 Simply observing the highest equity risk premiums authorized over the last five years 12 would indicate an average equity risk premium of 4.57%. (This is based on the last 13 five years, excluding 2008, which had an abnormally low equity risk premium.) Relying on an equity risk premium of 4.57%, relative to current observable "BBB" 14 15 utility bond yields of 4.95%, as shown on my Schedule MPG-14, would indicate a 16 return on common equity for KCPL of 9.52%.

17 Q DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

18 A Yes.

Qualifications of Michael P. Gorman

1	Q	PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.
2	A	Michael P. Gorman. My business address is 16690 Swingley Ridge Road, Suite 140,
3		Chesterfield, MO 63017.
4	Q	PLEASE STATE YOUR OCCUPATION.
5	Α	I am a consultant in the field of public utility regulation and a Managing Principal with
6		Brubaker & Associates, Inc., energy, economic and regulatory consultants.
7	Q	PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND WORK
8		EXPERIENCE.
9	А	In 1983 I received a Bachelors of Science Degree in Electrical Engineering from
10		Southern Illinois University, and in 1986, I received a Masters Degree in Business
11		Administration with a concentration in Finance from the University of Illinois at
12		Springfield. I have also completed several graduate level economics courses.
13		In August of 1983, I accepted an analyst position with the Illinois Commerce
14		Commission ("ICC"). In this position, I performed a variety of analyses for both formal
15		and informal investigations before the ICC, including: marginal cost of energy, central
16		dispatch, avoided cost of energy, annual system production costs, and working
17		capital. In October of 1986, I was promoted to the position of Senior Analyst. In this
18		position, I assumed the additional responsibilities of technical leader on projects, and
19		my areas of responsibility were expanded to include utility financial modeling and
20		financial analyses.

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In 1987, I was promoted to Director of the Financial Analysis Department. In
this position, I was responsible for all financial analyses conducted by the Staff.
Among other things, I conducted analyses and sponsored testimony before the ICC
on rate of return, financial integrity, financial modeling and related issues. I also
supervised the development of all Staff analyses and testimony on these same
issues. In addition, I supervised the Staff's review and recommendations to the
Commission concerning utility plans to issue debt and equity securities.

8 In August of 1989, I accepted a position with Merrill-Lynch as a financial 9 consultant. After receiving all required securities licenses, I worked with individual 10 investors and small businesses in evaluating and selecting investments suitable to 11 their requirements.

12 In September of 1990, I accepted a position with Drazen-Brubaker & 13 Associates, Inc. ("DBA"). In April 1995, the firm of Brubaker & Associates, Inc. ("BAI") 14 was formed. It includes most of the former DBA principals and Staff. Since 1990. I 15 have performed various analyses and sponsored testimony on cost of capital, 16 cost/benefits of utility mergers and acquisitions, utility reorganizations, level of oper-17 ating expenses and rate base, cost of service studies, and analyses relating to 18 industrial jobs and economic development. I also participated in a study used to 19 revise the financial policy for the municipal utility in Kansas City, Kansas,

At BAI, I also have extensive experience working with large energy users to distribute and critically evaluate responses to requests for proposals ("RFPs") for electric, steam, and gas energy supply from competitive energy suppliers. These analyses include the evaluation of gas supply and delivery charges, cogeneration and/or combined cycle unit feasibility studies, and the evaluation of third-party asset/supply management agreements. I have participated in rate cases on rate

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design and class cost of service for electric, natural gas, water and wastewater
 utilities. I have also analyzed commodity pricing indices and forward pricing methods
 for third party supply agreements, and have also conducted regional electric market
 price forecasts.

In addition to our main office in St. Louis, the firm also has branch offices in
Phoenix, Arizona and Corpus Christi, Texas.

7 Q HAVE YOU EVER TESTIFIED BEFORE A REGULATORY BODY?

8 А Yes. I have sponsored testimony on cost of capital, revenue requirements, cost of 9 service and other issues before the Federal Energy Regulatory Commission and 10 numerous state regulatory commissions including: Arkansas, Arizona, California, 11 Colorado, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, 12 Louisiana, Michigan, Missouri, Montana, New Jersey, New Mexico, New York, North 13 Carolina, Oklahoma, Oregon, South Carolina, Tennessee, Texas, Utah, Vermont, 14 Virginia, Washington, West Virginia, Wisconsin, Wyoming, and before the provincial 15 regulatory boards in Alberta and Nova Scotia, Canada. I have also sponsored 16 testimony before the Board of Public Utilities in Kansas City, Kansas; presented rate 17 setting position reports to the regulatory board of the municipal utility in Austin, Texas, 18 and Salt River Project, Arizona, on behalf of industrial customers; and negotiated rate 19 disputes for industrial customers of the Municipal Electric Authority of Georgia in the 20 LaGrange, Georgia district.

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1 QPLEASE DESCRIBE ANY PROFESSIONAL REGISTRATIONS OR2ORGANIZATIONS TO WHICH YOU BELONG.

A I earned the designation of Chartered Financial Analyst ("CFA") from the CFA
Institute. The CFA charter was awarded after successfully completing three
examinations which covered the subject areas of financial accounting, economics,
fixed income and equity valuation and professional and ethical conduct. I am a
member of the CFA Institute's Financial Analyst Society.

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Rate of Return

Line	Description	Ar	nount (000)	Weight	Cost	Range	Weighted (Cost Range
			(1)	(2)	(3)	(4)	(5)	(6)
1	Long-Term Debt	\$	2,129,487	53.90%	6.53%	6.53%	3.52%	3.52%
2	Preferred Stock		23,590	0.60%	4.29%	4.29%	0.03%	0.03%
3	Common Equity		1,798,040	<u>45.51%</u>	9.10%	9.50%	<u>4,14%</u>	<u>4.32%</u>
4	Total	\$	3,951,117	100.00%			7.69%	7.87%

Source:

KCPL Response to Staff's Data Request No. 0251.

Proxy Group

		Credit	Ratings ¹	Common	S&P Business	
Line	Company	S&P	Moody's	AUS	Value Line ¹	<u>Risk Score³</u>
		(1)	(2)	(3)	(4)	(5)
1	ALLETE, Inc.	A-	Bea1	56.3%	55.7%	Strong
2	Alliant Energy Corp.	A-	A2	51.2%	50.9%	Excellent
3	American Electric Power	BBB	Baa2	44.7%	49.3%	Excellent
4	Avista Corporation	A-	Baat	44.0%	48.6%	Excellent
5	Black Hills Corporation	BBB+	A3	44.8%	48.6%	Excellent
6	Cleco Corporation	888	Baa2	53.5%	51.9%	Excellent
7	DTE Energy Company	А	A2	47.1%	49.4%	Strong
8	Edison International	BBB+	A1	38.2%	40.6%	Strong
9	Great Plains Energy Inc.	BBB	Baa2	41.8%	51.6%	Excellent
10	Hawalian Electric	BBB-	Baa2	47.7%	53.9%	Strong
11	IDACORP, Inc.	A-	A2	51.8%	54.4%	Excellent
12	Pinnacle West Capital	BB8-	Baa2	49.8%	55.9%	Excellent
13	Portland General Electric	A-	Á3	49.3%	50.4%	Excellent
14	SCANA Corporation	A-	A3	42.1%	45.7%	Excellent
15	Sempra Energy	A+	Aa3	45.5%	49.2%	Strong
16	Southern Company	A	A2	46.5%	47.1%	Excellent
17	TECO Energy, Inc.	888+	Baa1	42.9%	45.8%	Excellent
18	Vectren Corporation	A-	A2	45.4%	48.4%	Excellent
19	Westar Energy, Inc.	BBB+	Baa1	45.9%	50.0%	Excellent
20	Wisconsin Energy Corp.	A-	Ai	43.9%	46.0%	Excellent
21	Xcel Energy Inc.	A	A3	45.5%	48.9%	Excellent
22	Average	888+	A3	46.6%	49.6%	Excellent
23	Kansas City Power & Light Company	BBB+ ⁴	A3⁴		4 5.5% ⁵	Excellent

Sources:

⁵ Schedule MPG-1.

¹ AUS Utility Reports , July 1, 2012.

² The Value Line Investment Survey, May 4, May 25, and June 22, 2012.

³ S&P RatingsDirect: "U.S. Regulated Electric Utilities, Strongest To Weakest," April 20, 2012.

⁴ Great Plains Energy, Inc. 10-K, filed on February 28, 2012.

Consensus Analysts' Growth Rates

		20	Zacks		SNL		Reuters	
		Estimated	Number of	Estimated	Number of	Estimated	Number of	Growth
Line	Company	Growth % ¹	Estimatos	Growth %2	Estimates	Growth %3	<u>Estimates</u>	Rates
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	ALLETE, Inc.	5.00%	N/A	4.70%	2	6,50%	2	5,40%
2	Alliant Energy Corp.	6.15%	N/A	6.30%	4	5.92%	5	6.12%
3	American Electric Power	3.60%	N/A	4.00%	7	3.97%	8	3,66%
4	Avista Corporation	4.67%	N/A	5,00%	1	4.50%	2	4.72%
5	Black Hills Corporation	6,00%	N/A	8.00%	1	N/A	N/A	6,00%
6	Cleco Corporation	N/A	N/A	3.00%	1	3.00%	1	3,00%
7	DTE Energy Company	5.00%	N/A	4,30%	3	3,64%	5	4.38%
8	Edison International	1.47%	N/A	2.70%	6	2.48%	8	2.22%
9	Great Plains Energy Inc.	7,75%	N/A	9.00%	3	8.50%	з	8.42%
10	Hawaiian Electric	7.12%	N/A	8.70%	5	6,57%	4	7.46%
11	IDACORP, Inc.	5.00%	N/A	4.50%	2	4.50%	2	4,67%
12	Pinnacle West Capital	5.68%	N/A	5.30%	4	6.04%	7	5.67%
13	Portland General Electric	4.10%	N/A	4.50%	4	4.25%	ß	4.28%
14	SCANA Corporation	4,75%	N/A	4.70%	3	4.52%	4	4,69%
15	Sempra Energy	5.80%	N/A	5.00%	2	6.50%	2	6.10%
16	Southern Company	5.04%	N/A	5.40%	7	5.51%	8	5.32%
17	TECO Energy, Inc.	3.87%	N/A	4,60%	5	4.64%	8	4.37%
18	Vectren Corporation	4.50%	N/A	5.00%	2	5.50%	2	5.00%
19	Wester Energy, Inc.	6.22%	N/A	5.80%	5	5,55%	4	5,79%
20	Wisconsin Energy Corp.	5.28%	N/A	5.00%	5	6,45%	8	5.58%
21	Xcel Energy Inc.	4.85%	N/A	5.00%	8	4.97%	11	4.94%
22	Average	5.14%	N/A	6.16%	4	5.19%	5	5.14%

Sources:

¹ Zacks Elite, http://www.zackselite.com/, downloaded on July 13, 2012.

² SNL Interactive, http://www.anl.com/, downloaded on July 13, 2012.

³ Reuters, http://www.reuters.com/, downloaded on July 13, 2012,

Constant Growth DCF Model (Consensus Analysts' Growth Rates)

<u>Line</u>	Company	13- Wee k AVG <u>Stock Price¹</u> (1)	Analysts' <u>Growth²</u> (2)	Annualized <u>Dividend³</u> (3)	Adjusted <u>Yield</u> (4)	Constant <u>Growth DCF</u> (5)
1	ALLETE. Inc.	\$40.45	5,40%	\$1.84	4,79%	10,19%
2	Alliant Energy Corp.	\$44.57	6.12%	\$1.80	4,29%	10,41%
3	American Electric Power	\$39.03	3.86%	\$1.88	5.00%	8.86%
4	Avista Corporation	\$26.03	4.72%	\$1.16	4.67%	9.39%
5	Black Hills Corporation	\$32,37	6.00%	\$1.48	4,85%	10.85%
6	Cleco Corporation	\$40.96	3.00%	\$1.25	3.14%	6.14%
7	DTE Energy Company	\$57,28	4.38%	\$2,35	4.28%	8.66%
8	Edison International	\$44.67	2.22%	\$1.30	2.97%	5,19%
9	Great Plains Energy Inc.	\$20.46	8.42%	\$0.87	4.61%	13.03%
10	Hawailan Electric	\$27.34	7.46%	\$1.24	4.87%	12.34%
11	IDACORP, inc.	\$40.29	4.67%	\$1.32	3.43%	8.10%
12	Pinnacle West Capital	\$49.65	5.67%	\$2.10	4.47%	10.14%
13	Portland General Electric	\$25.67	4.28%	\$1,06	4.31%	8.59%
14	SCANA Corporation	\$46.69	4.69%	\$1,98	4.44%	9.13%
15	Sempra Energy	\$65.75	6.10%	\$2.40	3.87%	9.97%
16	Southern Company	\$46.21	5.32%	\$1,96	4.47%	9.78%
17	TECO Energy, Inc.	\$17.77	4.37%	\$0.88	5.17%	9.54%
18	Vectren Corporation	\$29.24	5.00%	\$1,40	5.03%	10.03%
19	Westar Energy, Inc.	\$28,90	5,79%	\$1,32	4.83%	10.62%
20	Wisconsin Energy Corp.	\$37.83	5.58%	\$1.20	3.35%	8.93%
21	Xcel Energy Inc.	\$27.77	4.94%	\$1.04	3.93%	8.87%
22	Average	\$37.57	5.14%	\$1,52	4.32%	9.46%
23	Median					9.54%

Sources:

¹ SNL Financial, downloaded on July 16, 2012. ² Exhibit MPG-3.

³ The Value Line Investment Survey, May 4, May 25, and June 22, 2012.

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Payout Ratios

		Dividends Per Share		Earnings	Per Share	Payout Ratio	
Line	Company	2011	Projected	2011	Projected	2011	Projected
		(1)	(2)	(3)	(4)	(5)	(6)
1	ALLETE, Inc.	\$1.78	\$2.00	\$2.65	\$3.50	67.17%	57.14%
2	Alliant Energy Corp.	\$1.70	\$2.20	\$2.75	\$3.50	61.82%	62.86%
3	American Electric Power	\$1.85	\$2.15	\$3.13	\$3.75	59.11%	57.33%
4	Avista Corporation	\$1.10	\$1.40	\$1,72	\$2,25	63.95%	62.22%
5	Black Hills Corporation	\$1.46	\$1.60	\$1.01	\$2.50	144.55%	64.00%
6	Cleco Corporation	\$1.12	\$1.90	\$2.59	\$3.25	43.24%	58.46%
7	DTE Energy Company	\$2,32	\$2.75	\$3.67	\$4.50	63.22%	61.11%
8	Edison International	\$1.29	\$1,50	\$3,23	\$3.50	39.94%	42.86%
9	Great Plains Energy Inc.	\$0.84	\$1.10	\$1.25	\$1.75	67.20%	62.86%
10	Hawaiian Electric	\$1.24	\$1.30	\$1,44	\$2.00	86,11%	65.00%
11	IDACORP, Inc.	\$1.20	\$1.90	\$3.36	\$3.55	35.71%	53.52%
12	Pinnacie West Capital	\$2.10	\$2.40	\$2.99	\$3.75	70.23%	64.00%
13	Pontland General Electric	\$1.06	\$1.25	\$1.95	\$2.25	54,36%	55.56%
14	SCANA Corporation	\$1.94	\$2.15	\$2.97	\$3.75	65.32%	57.33%
15	Sempra Energy	\$1.92	\$2.80	\$4.47	\$5.75	42.95%	48.70%
16	Southern Company	\$1,87	\$2.25	\$2.55	\$3.25	73.33%	69.23%
17	TECO Energy, Inc.	\$0.85	\$1.10	\$1.27	\$1.75	66.93%	62.86%
18	Vectren Corporation	\$1.39	\$1.60	\$1.73	\$2.50	80.35%	64.00%
19	Westar Energy, Inc.	\$1.28	\$1,48	\$1.79	\$2.40	71.51%	61.67%
20	Wisconsin Energy Corp.	\$1,04	\$1.80	\$2,18	\$2.75	47.71%	65.45%
21	Xcel Energy Inc.	\$1.03	\$1.35	\$1.72	\$2.25	59.88%	60.00%
22	Ачегаде	\$1.45	\$1.81	\$2.40	\$3.07	64.98%	59.82%

Source:

The Value Line Investment Survey, May 4, May 25, and June 22, 2012.

Sustainable Growth Rate

						3 to 5 Yea	r Projections					Sustainable
		Dividends	Earnings	Book Value	Book Value		Adjustment	Adjusted	Payout	Retention	Internal	Growth
Line	Company	Per Share	Per Share	Per Share	Growth	ROE	Factor	ROE	Ratio	Rate	Growth Rate	Rate
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	ALLETE, Inc.	\$2.00	\$3.50	\$34.50	3.69%	10.14%	1.02	10.33%	57.14%	42.86%	4.43%	5,08%
2	Alliant Energy Corp.	\$2,20	\$3.50	\$32.35	3.57%	10.82%	1.02	11.01%	62.86%	37.14%	4.09%	4.66%
3	American Electric Power	\$2,15	\$3,75	\$37.50	4.34%	10.00%	1.02	10.21%	57,33%	42.67%	4,36%	4.55%
4	Avista Corporation	\$1.40	\$2,25	\$24.00	3.41%	9.38%	1.02	9.53%	62.22%	37,78%	3,60%	3.94%
5	Black Hills Corporation	\$1.60	\$2.50	\$31.00	2.40%	8.06%	1.01	8.16%	64,00%	36.00%	2.94%	3.02%
8	Cleco Corporation	\$1,90	\$3,25	\$30,00	4.98%	10.83%	1.02	11.10%	58.46%	41.54%	4,61%	4.78%
7	DTE Energy Company	\$2.75	\$4,50	\$49.25	3.53%	9.14%	1.02	9.30%	61.11%	38.89%	3.61%	4,13%
8	Edison International	\$1.50	\$3,50	\$39.00	4.79%	8,97%	1.02	9,18%	42.86%	57.14%	5.25%	5,25%
9	Great Plains Energy Inc.	\$1.10	\$1.75	\$23.75	1.78%	7.37%	1.01	7.43%	62.86%	37.14%	2.78%	2.76%
10	Hawaiian Electric	\$1.30	\$2.00	\$21,50	6.15%	9.30%	1.03	9,58%	65.00%	35.00%	3.35%	8.95%
11	IDACORP, Inc.	\$1.90	\$3,55	\$43,20	5,41%	8,22%	1,03	8,43%	53.52%	46,48%	3.92%	4.01%
12	Pinnacle West Capital	\$2.40	\$3.75	\$41.25	3,35%	9.09%	1.02	9.24%	64.00%	36.00%	3.33%	4.01%
13	Portland General Electric	\$1,25	\$2.25	\$26.50	3.73%	8,49%	1.02	9.65%	55.56%	44.44%	3.84%	3.89%
14	SCANA Corporation	\$2,15	\$3,75	\$39.50	5.71%	9.49%	1.03	9.78%	57.33%	42.67%	4.16%	6.54%
15	Sempra Energy	\$2.80	\$5.75	\$52.00	4.87%	11.08%	1.02	11.32%	48.70%	51.30%	5,81%	8,11%
16	Southern Company	\$2,25	\$3,25	\$26.25	5.25%	12.38%	1.03	12.70%	69.23%	30.77%	3.91%	6.04%
17	TECO Energy, Inc.	\$1.10	\$1.75	\$13.25	4.78%	13.21%	1.02	13.51%	62.86%	37.14%	5.02%	5.35%
18	Vectren Corporation	\$1.60	\$2,50	\$21.00	3,28%	11.90%	1.02	12.10%	64,00%	36,00%	4.35%	5.27%
19	Westar Energy, Inc.	\$1.48	\$2.40	\$28,15	4.88%	8.53%	1.02	8.73%	61.67%	38.33%	3.35%	3.78%
20	Wisconsin Energy Corp.	\$1,80	\$2.75	\$20,25	3.32%	13,58%	1.02	13.80%	85.45%	34.55%	4,77%	4.77%
21	Xcel Energy Inc.	\$1.35	\$2.25	\$21.75	4.52%	10.34%	1.02	10.57%	60.00%	40.00%	4.23%	4.91%
22	Average	\$1.81	\$3.07	\$31.24	4.18%	10.01%	1.02	10.22%	59,82%	40.18%	4.08%	4.85%

Sources and Notes:

Cols. (1), (2) and (3): The Value Line Investment Survey, May 4, May 25, and June 22, 2012. Col. (4): [Col. (3) / Page 2 Col. (2)] ^ (1/5) - 1. Col. (5): Col. (2) / Col. (3). Col. (6): [2 * (1 + Col. (4))] / (2 + Col. (4)). Col. (7): Col. (6) * Col. (2). Col. (8): Col. (1 / Col. (2). Col. (9): 1 - Col. (8). Col. (10): Col. (9) * Col. (7). Col. (11): Col. (10) + Page 2 Col. (9).

Sustainable Growth Rate

		13-Week	2011 Rock Volvo	Market	Commo	n Shares				
<u>Line</u>	Company	<u>Stock Price¹</u> (1)	Per Share ² (2)	(3)	<u>2011</u> (4)	<u>3-5 Years</u> (5)	<u>Growth</u> (6)	<u>S Factor³</u> (7)	<u>V Factor⁴</u> (8)	<u>S * V⁵ (9)</u>
1	ALLETE, inc.	\$40.45	\$28.78	1,41	37,50	40.50	1.55%	2.18%	28.85%	0.63%
2	Alliant Energy Corp.	\$44.57	\$27.14	1.64	111.02	116.00	0.88%	1.45%	39,11%	0.57%
3	American Electric Power	\$39.03	\$30,33	1.29	483,42	500.00	0.68%	0.67%	22.29%	0,19%
4	Avista Corporation	\$28,03	\$20.30	1.28	58.42	62.00	1.20%	1,53%	22,00%	0.34%
5	Black Hills Corporation	\$32.37	\$27,53	1.18	43.92	45.00	0.49%	0.57%	14,94%	0.09%
8	Cleco Corporation	\$40 96	\$23.55	1,74	60,29	61.00	0.23%	0.41%	42.50%	0.17%
7	DTE Energy Company	\$57.28	\$41.41	1.38	169.25	161.00	1.35%	1.67%	27.70%	0.52%
a	Edison International	\$44.67	\$30.86	1,45	325,81	325.81	0.00%	0.00%	30.92%	0.00%
9	Great Pleins Energy Inc.	\$20.46	\$21.74	0.94	138.14	154.00	2.50%	2.35%	-8.28%	-0.15%
10	Hawaiian Electric	527.34	\$15.95	1.71	96.04	140.00	7.83%	13.42%	41.67%	5.59%
11	IDACORP, Inc.	\$40.29	\$33.19	1.21	49,95	51.00	0.42%	0.51%	17.82%	0.09%
12	Pinnacle West Capital	\$49,65	\$34.98	1.42	109.25	118.50	1.64%	2.33%	29,55%	0.69%
13	Portiand General Electric	\$25,67	\$22.07	1.16	75.36	76,50	0.30%	0,35%	14.01%	0.05%
14	SCANA Corporation	\$46.69	\$29.92	1.58	130.00	180.00	4,24%	6.62%	35.92%	2.38%
15	Sempra Energy	\$65.75	\$41,00	1,60	239,93	246.00	0.50%	0,80%	37,64%	0,30%
16	Southern Company	\$46.21	\$20,32	2.27	865.13	940.00	1.87%	3.81%	58,03%	2.13%
17	TECO Energy, Inc.	\$17.77	\$10.50	1.69	215,80	221.00	0.48%	0.81%	40,92%	0.33%
18	Vectren Corporation	\$29,24	\$17.89	1.63	8 1.90	88.00	1.45%	2.37%	38.82%	0.92%
19	Westar Energy, Inc.	\$28.90	\$22.20	1.30	125 70	135.00	1.44%	1.87%	23.17%	0.43%
20	Wisconsin Energy Corp.	\$37,83	\$17.20	2.20	230,49	223,00	-0.66%	-1.45%	54.54%	-0.79%
21	Xcel Energy Inc.	\$27.77	\$17.44	1.59	488.49	515.00	1.15%	1.82%	37.19%	0.66%
22	Average	\$37.57	\$25.44	1.51	196.75	209.49	1.50%	2.30%	32.77%	0.85%

Sources and Notes:

¹ SNL Financial, downloaded on July 16, 2012.

² The Value Line Investment Survey, May 4, May 25, and June 22, 2012.

³ Expected Growth in the Number of Shares, Column (3) * Column (6).

* Expected Profit of Stock Investment, [1 - 1 / Column (3)].

⁵ Column (9) Line 12 excludes negative values.

Constant Growth DCF Model (Sustainable Growth Rate)

<u>Line</u>	Company	13-Week AVG <u>Stock Price¹</u> (1)	Sustainable <u>Growth²</u> (2)	Annualized <u>Dividend³</u> (3)	Adjusted <u>Yíeld</u> (4)	Constant <u>Growth DCF</u> (5)
1	ALLETE, Inc.	\$40.45	5.06%	\$1.84	4.78%	9.83%
2	Alliant Energy Corp.	\$44.57	4.66%	\$1.80	4.23%	8.88%
3	American Electric Power	\$39.03	4.55%	\$1.88	5.04%	9,59%
4	Avista Corporation	\$26.03	3.94%	\$1.16	4.63%	8.57%
5	Black Hills Corporation	\$32.37	3.02%	\$1,48	4.71%	7,73%
6	Cleco Corporation	\$40.96	4.78%	\$1.25	3.20%	7.98%
7	DTE Energy Company	\$57.28	4.13%	\$2,35	4.27%	8.41%
8	Edison International	\$44.67	5.25%	\$1.30	3.06%	8.31%
9	Great Plains Energy Inc.	\$20.46	2.76%	\$0.87	4.37%	7.13%
10	Hawaiian Electric	\$27.34	8.95%	\$1.24	4.94%	13.89%
11	IDACORP, Inc.	\$40.29	4.01%	\$1.32	3.41%	7.42%
12	Pinnacle West Capital	\$49.65	4.01%	\$2.10	4.40%	8.41%
13	Portland General Electric	\$25.67	3.89%	\$1.06	4.29%	8,18%
14	SCANA Corporation	\$46.69	6.54%	\$1.98	4.52%	11.06%
15	Sempra Energy	\$65.75	6.11%	\$2.40	3.87%	9.98%
16	Southern Company	\$46.21	6.04%	\$1.96	4.50%	10.54%
17	TECO Energy, Inc.	\$17.77	5.35%	\$0.88	5.22%	10.57%
18	Vectren Corporation	\$29.24	5.27%	\$1.40	5.04%	10.31%
19	Westar Energy, Inc.	\$28.90	3.78%	\$1.32	4.74%	8.52%
20	Wisconsin Energy Corp.	\$37.83	4.77%	\$1.20	3.32%	8.09%
21	Xcel Energy Inc.	\$27.77	4.91%	\$1.04	3.93%	8.84%
22	Average	\$37.57	4.85%	\$1.52	4.31%	9.15%
23	Median					8.57%

Sources:

¹ SNL Financial, downloaded on July 16, 2012.

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² Exhibit MPG-6, page 1 of 2.

³ The Value Line Investment Survey, May 4, May 25, and June 22, 2012.

Electricity Sales Are Linked to U.S. Economic Growth



Note:

1988 represents the base year. Graph depicts increases or decreases from the base year.

Sources:

U.S. Department of Energy, Energy Information Administration.

Edison Electric Institute, http://www.eei.org.

Multi-Stage Growth DCF Model

		13-Week AVG	Annualized	First Stage <u>Growth³</u> (3)	Second Stage Growth					Third Stage	Multi-Stage
<u>Line</u>	Company	Stock Price ¹ (1)	Dividend ² (2)		<u>Year 6</u> (4)	<u>Year 7</u> (5)	<u>Year 8</u> (6)	<u>Year 9</u> (7)	<u>Year 10</u> (B)	Growth ⁴ (9)	Growth DCF (10)
1	ALLETE, Inc.	\$40,45	\$1.84	5,40%	5.32%	5,23%	5.15%	5.07%	4,98%	4,90%	9.82%
2	Alliant Energy Corp.	\$44,57	\$1.80	6.12%	5.92%	5,72%	5,51%	5,31%	5.10%	4.90%	9,47%
3	American Electric Power	\$39.03	\$1.88	3.86%	4.03%	4.20%	4.38%	4,55%	4,73%	4,90%	9.64%
4	Avista Corporation	\$26,03	\$1.16	4.72%	4.75%	4,78%	4.81%	4.84%	4.87%	4.90%	9.52%
5	Black Hills Corporation	\$32.37	\$1.48	6.00%	5.82%	5.63%	5.45%	5.27%	5,08%	4.90%	10.03%
8	Cleco Corporation	\$40.98	\$1.25	3.00%	3.32%	3.63%	3.95%	4.27%	4.58%	4.90%	7.71%
7	DTE Energy Company	\$57.28	\$2.35	4.38%	4 47%	4,55%	4.64%	4.73%	4,81%	4.90%	9.06%
8	Edison International	\$44.67	\$1.30	2.22%	2.86%	3.11%	3.56%	4.01%	4.45%	4.90%	7.43%
9	Great Plains Energy Inc.	\$20,46	\$0.87	8.42%	7.83%	7.24%	6.66%	6.07%	5.49%	4.90%	10,41%
10	Hawailan Electric	\$27,34	\$1.24	7.46%	7.04%	6.61%	6.18%	5.75%	5.33%	4.90%	10.45%
11	IDACORP, inc.	\$40.29	\$1.32	4.67%	4.71%	4.74%	4.78%	4.82%	4.86%	4,90%	8.28%
12	Pinnacle West Capital	\$49.65	\$2.10	5,67%	5.54%	5,42%	5.29%	5,16%	5.03%	4.90%	9.55%
13	Portland General Electric	\$25,67	\$1.06	4.28%	4,39%	4.49%	4.59%	4,69%	4.80%	4.90%	9,07%
14	SCANA Corporation	\$46.69	\$1,98	4.69%	4.73%	4.76%	4.80%	4.83%	4.87%	4.90%	9.29%
15	Sempra Energy	\$65,75	\$2.40	5.10%	5.90%	5.70%	5.50%	5,30%	5,10%	4,90%	9.03%
16	Southern Company	\$48.21	\$1.96	5.32%	5.25%	5.18%	5.11%	5.04%	4.97%	4.90%	9.46%
17	TECO Energy, Inc.	\$17,77	\$0,88	4.37%	4.46%	4.55%	4.84%	4,72%	4.81%	4.90%	9,93%
18	Vectren Corporation	\$29.24	\$1.40	5.00%	4.98%	4.97%	4.95%	4.93%	4.92%	4,90%	9.95%
19	Wester Energy, Inc.	\$28.90	\$1.32	5.79%	5.64%	5.49%	5.35%	5,20%	5.05%	4.90%	9,96%
20	Wisconsin Energy Corp.	\$37.83	\$1.20	5.58%	5.46%	5.35%	5.24%	5.13%	5.01%	4.90%	8.37%
21	Xcel Energy Inc.	\$27.77	\$1.04	4.94%	4,94%	4,93%	4,92%	4.91%	4.91%	4.90%	8.84%
22	Average	\$37.57	\$1.52	6.14%	5.10%	5.06%	5.02%	4.98%	4.94%	4.90%	9.30%
23	Median										9.47%

Sources:

¹ SNL Financial, downloaded on July 13, 2012.

² The Value Line Investment Survey, May 4, May 25, and June 22, 2012.

³ Exhibit MPG-3.

⁴ Blue Chip Financial Forecasts, June 1, 2012 at 14.



Common Stock Market/Book Ratio

Schedule MPG-10

Equity Risk Premium - Treasury Bond

		Authorized		Indicated
		Electric	Treasury	Risk
Line	Year	<u>Returns¹</u>	Bond Yield ²	<u>Premium</u>
		(1)	(2)	(3)
1	1986	13.93%	7.80%	6.13%
2	1987	12.99%	8.58%	4.41%
3	1988	12.79%	8.96%	3.83%
4	1989	12.97%	8.45%	4.52%
5	1990	12.70%	8.61%	4.09%
6	1991	12.55%	8.14%	4,41%
7	1992	12.09%	7.67%	4.42%
8	1993	11,41%	6.60%	4.81%
9	1994	11.34%	7.37%	3.97%
10	1995	11.55%	6.88%	4.67%
11	1996	11.39%	6.70%	4.69%
12	1997	11.40%	6.61%	4.79%
13	1998	11.66%	5.58%	6.08%
14	1999	10.77%	5.87%	4.90%
15	2000	11.43%	5.94%	5.49%
16	2001	11.09%	5.49%	5.60%
17	2002	11.16%	5.43%	5.73%
18	2003	10.97%	4.96%	6.01%
19	2004	10.75%	5.05%	5.70%
20	2005	10.54%	4.65%	5.89%
21	2006	10.36%	4,99%	5.37%
22	2007	10.36%	4.83%	5.53%
23	2008	10.46%	4.28%	6.18%
24	2009	10.48%	4,07%	6.41%
25	2010	10.34%	4.25%	6.09%
26	2011	10.22%	3.91%	6.31%
27	Average	11.45%	6.22%	5.23%

Sources:

¹ Regulatory Research Associates, Inc., *Regulatory Focus*, Jan. 85 - Dec. 06, and January 10, 2012.

 ² St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/.
 The yields from 2002 to 2005 represent the 20-Year Treasury yields obtained from the Federal Reserve Bank.
Equity	Risk	Premium	- Utility	Bond
and the second s				

Line	Year	Authorized Electric <u>Returns¹</u> (1)	Average *A" Rated Utility <u>Bond Yield²</u> (2)	Indicated Risk <u>Premium</u> (3)
1	1986	13.93%	9.58%	4.35%
2	1987	12.99%	10.10%	2.89%
З	1988	12.79%	10.49%	2.30%
4	1989	12.97%	9.77%	3.20%
5	1990	12.70%	9.86%	2.84%
6	1991	12.55%	9.36%	3,19%
7	1992	12.09%	8.69%	3.40%
8	1993	11.41%	7.59%	3.82%
9	1994	11.34%	8.31%	3.03%
10	1995	11.55%	7.89%	3.66%
11	1996	11.39%	7.75%	3.64%
12	1997	11.40%	7.60%	3.80%
13	1998	11.66%	7.04%	4.62%
14	1999	10,77%	7.62%	3.15%
15	2000	11.43%	8.24%	3.19%
16	2001	11.09%	7.76%	3.33%
17	2002	11.16%	7.37%	3.79%
18	2003	10.97%	6.58%	4.39%
19	2004	10.75%	6.16%	4.59%
20	2005	10.54%	5.65%	4.89%
21	2006	10.36%	6.07%	4.29%
22	2007	10.36%	6.07%	4.29%
23	2008	10.46%	6.53%	3.93%
24	2009	10.48%	6.04%	4,44%
25	2010	10.34%	5.46%	4.88%
26	2011	10.22%	5.04%	5.18%
27	Average	11.45%	7.64%	3.81%

Sources:

¹ Regulatory Research Associates, Inc., *Regulatory Focus*, Jan. 85 - Dec. 06, and January 10, 2012.

² Mergent Public Utility Manual, Mergent Weekly News Reports, 2003. The utility yields for the period 2001-2009 were obtained from the Mergent Bond Record. The utility yields from 2010-2011 were obtained from http://credittrends.moodys.com/.

Bond Yield Spreads

			Public Utility Bond					Corporate Bond				Utility - Corp. Spread	
Line	Year	T-Bond <u>Yield¹</u> (1)	<u>A²</u> (2)	<u>Baa²</u> (3)	A-T-Bond <u>Spread</u> (4)	Baa-T-Bond Spread (5)	<u>Aaa¹ (6)</u>	<u>Baa¹</u> (7)	Aaa-T-Bond <u>Spread</u> (8)	Baa-T-Bond <u>Soread</u> (9)	<u>A / Azz</u> (10)	<u>Baa / Baa</u> (11)	
1	1980	11.30%	13.34%	13.95%	2.04%	2.65%	11.94%	13.67%	0.64%	2.37%	1.40%	0.28%	
2	1981	13,44%	15.95%	16.60%	2.51%	3,16%	14.17%	16.04%	0.73%	2.60%	1.78%	0.56%	
3	1982	12,76%	15.86%	16,45%	3,10%	3.69%	13,79%	16.11%	1.03%	3.35%	2.07%	0.34%	
4	1983	11.18%	13.66%	14.20%	2.48%	3.02%	12.04%	13.55%	0.86%	2.38%	1.62%	0.85%	
5	1984	12,39%	14.03%	14.53%	1.64%	2.14%	12,71%	14,19%	0.32%	1,80%	1.32%	0.34%	
6	1985	10,79%	12,47%	12.96%	1.68%	2.17%	11.37%	12.72%	0.58%	1.93%	1.10%	0.24%	
7	1986	7,80%	9.58%	10.00%	1.78%	2.20%	9.02%	10.39%	1.22%	2.59%	0.56%	-0.39%	
8	1987	8.58%	10.10%	10.53%	1,52%	1.95%	9.38%	10.58%	0.60%	2.00%	0.72%	-0.05%	
9	1988	8.96%	10.49%	11.00%	1.53%	2.04%	9,71%	10.83%	0.75%	1.87%	0,78%	0,17%	
10	1989	8.45%	8.77%	9.97%	1.32%	1.52%	9,26%	10.18%	0.81%	1.73%	0.51%	-0.21%	
11	1990	9,61%	9.86%	10.06%	1,25%	1.45%	0.32%	10.36%	0.71%	1.75%	0.54%	-0.29%	
12	1991	8.14%	5.36%	9.55%	1.22%	1.41%	8.77%	9.80%	0.63%	1.67%	0.59%	-0.25%	
13	1992	7.67%	8.69%	8.86%	1.02%	1.19%	8.14%	8.98%	0.47%	1.31%	0.55%	-0,12%	
14	1993	6.60%	7.59%	7.91%	0. 9 9%	1.31%	7.22%	7.93%	0,62%	1,33%	0,37%	-0.02%	
15	1994	7.37%	8.31%	8.63%	0.94%	1.26%	7.96%	8,62%	0,59%	1,25%	0.35%	0.01%	
16	1995	6.88%	7.89%	8.29%	1.01%	1.41%	7.59%	8.20%	0.71%	1.32%	0.30%	0.09%	
17	1996	6.70%	7.75%	6.17%	1.05%	1.47%	7.37%	8.05%	0.67%	1.35%	0.38%	0.12%	
18	1997	6.61%	7,60%	7,95%	0.99%	1.34%	7,26%	7.66%	0.66%	1.26%	0.34%	0,09%	
19	1998	5,58%	7.04%	7.28%	1,46%	1.68%	6.53%	7.22%	0.95%	1,64%	0.51%	0.04%	
20	1999	5.87%	7.62%	7.88%	1,75%	2.81%	7,04%	7,87%	1.18%	2.01%	0.58%	0.01%	
21	2000	5.94%	8.24%	8.36%	2,30%	2.42%	7.62%	8.36%	1.68%	2.42%	0.62%	-0.01%	
22	2001	5,49%	7.76%	8.03%	2.27%	2.54%	7.08%	7.95%	1.59%	2.45%	0.68%	0.08%	
23	2002	5.43%	7.37%	6.02%	1.94%	2.59%	6.49%	7,80%	1.06%	2.37%	0.86%	0.22%	
24	2003	4.96%	6.58%	6,84%	1.62%	1.89%	5.67%	6,77%	0.71%	1.81%	0.91%	0.08%	
25	2004	5.05%	6.15%	6.40%	1,11%	1.35%	5.63%	6.39%	0.58%	1.35%	0.53%	0.00%	
26	2005	4.65%	5.85%	5.93%	1.00%	1.28%	5,24%	6,06%	0.59%	1,42%	0.41%	-0.14%	
27	2006	4.99%	6.07%	6.32%	1.08%	1.32%	5,59%	6.48%	0.60%	1.49%	0.48%	-0.16%	
28	2007	4.83%	6.07%	6,33%	1.24%	1.50%	5.56%	6,48%	0,72%	1.65%	0.52%	-0.15%	
29	2008	4.28%	6.53%	7.25%	2.25%	2.97%	5.63%	7.45%	1.35%	3.17%	0.90%	-0.20%	
30	2009	4.07%	6.04%	7.06%	1.97%	2.99%	5.31%	7.30%	1.24%	3.23%	0.72%	-0.24%	
31	2010	4.25%	5.46%	5.96%	1.21%	1.71%	4,94%	6.04%	0.69%	1.79%	0.52%	-0.08%	
32	2011	3.91%	5.04%	5.56%	1.13%	1.65%	4,64%	5.66%	0.73%	1.75%	0.40%	-0.10%	
33	2012	3.04%	4.31%	5.04%	1,27%	2,00%	3,85%	5.15%	0,81%	2.11%	0.46%	-0.11%	
34	Average	7.17%	8.73%	9.16%	1.67%	1.98%	8.00%	9.12%	0.83%	1.95%	0.74%	0.02%	



Sources:

¹ St. Louis Føderal Reserve: Economic Research, http://research.eliouisfed.org/.

- ² Mergent Public Utility Manual, Mergent Weekly News Reports, 2003. The utility yields
- for the period 2001-2009 were obtained from the Mergent Bond Record. The utility

yields from 2010-2011 were obtained from http://credittrends.moodys.com/.

Note: 2012 figures are the averages for the first six months.

Treasury and Utility Bond Yields

Line	Date	Treasury <u>Bond Yield¹</u>	"A" Rated Utility Bond Yield ²	"Baa" Rated Utility Bond Yield ²
		(1)	(2)	(3)
1	07/13/12	2.58%	3.94%	4.86%
2	07/06/12	2.66%	4.02%	4.95%
3	06/29/12	2.76%	4.13%	4.99%
4	06/22/12	2.75%	4.13%	4.96%
5	06/15/12	2.70%	4.08%	4.90%
6	06/08/12	2.77%	4.16%	4.97%
7	06/01/12	2.53%	3.92%	4.75%
8	05/25/12	2.85%	4.20%	5.02%
9	05/18/12	2.80%	4.08%	4.85%
10	05/11/12	3.02%	4.22%	4.96%
11	05/04/12	3.07%	4.29%	5.03%
12	04/27/12	3.12%	4.33%	5.06%
13	04/20/12	3.12%	4.35%	5.07%
14	Average	2.83%	4.14%	4.95%
15	Spread To Treasury		1.31%	2.12%

Sources:

¹ St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org. ² http://credittrends.moodys.com/.





Sources:

Merchant Bond Record.

www.moodys.com, Bond Yields and Key Indicators.

St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/

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Yield Spread Between Utility Bonds and 30-Year Treasury Bonds

Merchant Bond Record.

www.moodys.com, Bond Yields and Key Indicators.

St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/

Schedule MPG-14 Page 3 of 3

Value Line Beta

<u>Line</u>	Company	Beta
1	ALLETE Inc	0 70
2	Alliant Eperav Corp	0.75
3	American Electric Power	0.70
4	Avista Corporation	0.70
5	Black Hills Corporation	0.85
6	Cleco Corporation	0.65
7	DTF Energy Company	0.00
8	Edison International	0.80
9	Great Plains Energy Inc.	0.75
10	Hawaiian Electric	0.70
11	IDACORP. Inc.	0.70
12	Pinnacle West Capital	0.70
13	Portland General Electric	0.75
14	SCANA Corporation	0.70
15	Sempra Energy	0,80
16	Southern Company	0,55
17	TECO Energy, Inc.	0.85
18	Vectren Corporation	0.75
19	Westar Energy, Inc.	0.75
20	Wisconsin Energy Corp.	0.65
21	Xcel Energy Inc.	0.65
22	Average	0.72

Source:

-

The Value Line Investment Survey, May 4, May 25, and June 22, 2012.

CAPM Return

<u>Line</u>	Description	Market Risk <u>Premium</u>
1	Risk-Free Rate ¹	3.60%
2	Risk Premium ²	6.60%
3	Beta ³	0.72
4	CAPM	8.35%

Sources:

- ¹ Blue Chip Financial Forecasts, July 1, 2012, at 2.
- ² Morningstar, Inc. *Ibbotson SBBI 2012 Classic Yearbook* at 86, and Morningstar, Inc. *Ibbotson SBBI 2012 Valuation Yearbook* at 54 and 66.

³ Exhibit MPG-15.

		С	Retail ost of Service	S&P Bei	achmark ^{1/2}	
<u>Line</u>	<u>ie Description Amou</u>		<u>(1) (1) (1) (1) (1) (1) (1) (1) (1) (1) </u>	<u>Significant</u> (2)	Aggressive (3)	<u>Reference</u> (4)
1	Rate Base	\$	2,129,956,114			Schedule GSW-1 (KCPL-MO).
2	Weighted Common Return		4.14%			Page 2, Line 3, Col. 4.
3	Pre-Tax Rate of Return		10.27%			Page 2, Line 4, Col. 5.
4	Income to Common	\$	88,204,655			Line 1 x Line 2.
5	EBIT	\$	218,646,437			Line 1 × Line 3.
6	Depreciation & Amortization	\$	110,010,440			Schedule GSW-1 (KCPL-MO).
7	Imputed Amortization ³	\$	9,900,000			Standard & Poor's.
8	Deferred Income Taxes & ITC	\$	16,774,160			Schedule GSW-1 (KCPL-MO).
9	Funds from Operations (FFO)	\$	224,889,255			Sum of Line 4 and Lines 6 through 8.
10	Imputed Interest Expense ³	\$	7,100,000			Standard & Poor's,
11	EBITDA	5	345,656,877			Sum of Lines 5 through 7 and Line 10.
12	Total Debt Ratio	ſ	55%	45% - 50%	50% - 60%	Page 3, Line 3, Col. 2.
13	Debt to EBITDA		3.4x	3.0x - 4.0x	4.0x - 5.0x	(Line 1 × Line 12) / Line 11.
14	FFO to Total Debt	L	19%	20% - 30%	12% - 20%	Line 9 / (Line 1 x Line 12).

Standard & Poor's Credit Metrics (Return on Equity of 9.10%)

Sources:

¹ Standard & Poor's: "Criteria Methodology: Business Risk/Financial Risk Matrix Expanded," May 27, 2009

² S&P RatingsDirect: "U.S. Regulated Electric Utilities, Strongest to Weakest," April 20, 2012.

³ S&P RatingsDirect: "Kansas City Power & Light Co.," April 27, 2012.

Note:

Based on the April 2012 S&P report, KCPL has an "Excellent" business profile and an "Aggressive" financial profile.

Standard & Poor's Credit Metrics (Pre-Tax Rate of Return)

Line Description Amount (000) Weight (1) (2)	(3) (4) (5)
1 Long-Term Debt \$ 2,129,487 53.90%	6.53% 3.52% 3.52%
2 Preferred Stock 23,590 0.60%	4.29% 0.03% 0.03%
3 Common Equity <u>1,798,040</u> <u>45,51%</u>	9.10% <u>4.14%</u> <u>6.72%</u>
4 Total \$ 3,951,117 100.00%	7.69% 10.27%

5 Tax Conversion Factor*

1.6231

Sources:

KCPL Response to Staff's Data Request No. 0251.

* Schedule JPW-1 (KCPL-MO).

Schedule MPG-17 Page 2 of 3

Standard & Poor's Credit Metrics (Financial Capital Structure)

<u>Line</u>	<u>Description</u>	An	<u>nount (000)</u> (1)	<u>Weight</u> (2)	
1	Long-Term Debt	\$	2,129,487	52.28%	
2	Off Balance Sheet Debt*		121,900	<u>2.99</u> %	
3	Total Debt	\$	2,251,387	55.28%	
4	Preferred Stock	\$	23,590	0.58%	
5	Common Equity		1,798,040	<u>44.15</u> %	
6	Total	\$	4,073,017	100.00%	

Sources:

KCPL Response to Staff's Data Request No. 0251.

* Standard & Poor's Ratings Direct "Kansas City Power & Light Co.," April 27, 2012.

Retail S&P Benchmark^{1/2} **Cost of Service** Line Description Amount (\$000) Significant Aggressive Reference (2) (3) (4) (1) 1 **Rate Base** \$ 2,129,956,114 Schedule GSW-1 (KCPL-MO). Weighted Common Return 2 4.32% Page 2, Line 3, Col. 4. Page 2, Line 4, Col. 5. 3 Pre-Tax Rate of Return 10.56% 4 Income to Common \$ 92,081,783 Line 1 x Line 2. 5 EBIT \$ 224,939,325 Line 1 x Line 3. Schedule GSW-1 (KCPL-MO). 6 Depreciation & Amortization 110,010,440 \$ Imputed Amortization³ 7 5 9,900,000 Standard & Poor's. 8 Deferred Income Taxes & ITC \$ 16,774,160 Schedule GSW-1 (KCPL-MO). 9 Funds from Operations (FFO) ŝ 228,766,383 Sum of Line 4 and Lines 6 through 8. Imputed Interest Expense³ 10 \$ 7,100,000 Standard & Poor's. EBITDA 11 5 351,949,765 Sum of Lines 5 through 7 and Line 10. 12 Total Debt Ratio 55% 45% - 50% 50% - 60% Page 3, Line 3, Col. 2. 13 Debt to EBITDA (Line 1 x Line 12) / Line 11. 3.3x 3.0x - 4.0x 4.0x - 5.0x 14 FFO to Total Debt 19% 20% - 30% 12% - 20% Line 9 / (Line 1 x Line 12).

Sources:

¹ Standard & Poor's: "Criteria Methodology: Business Risk/Financial Risk Matrix Expanded," May 27, 2009

² S&P RatingsDirect: "U.S. Regulated Electric Utilities, Strongest to Weakest," April 20, 2012.

³ S&P RatingsDirect: "Kansas City Power & Light Co.," April 27, 2012.

Note:

Based on the April 2012 S&P report, KCPL has an "Excellent" business profile and an "Aggressive" financial profile.

Schedule MPG-18 Page 1 of 3

Standard & Poor's Credit Metrics (Return on Equity of 9.50%)

Standard & Poor's Credit Metrics (Pre-Tax Rate of Return)

<u>Line</u>	Description	An	nount (000) (1)	<u>Weight</u> (2)	Cost (3)	Weighted <u>Cost</u> (4)	Pre-Tax Weighted <u>Cost</u> (5)
1	Long-Term Debt	\$	2,129,487	53.90%	6.53%	3.52%	3.52%
2	Preferred Stock		23,590	0.60%	4.29%	0.03%	0.03%
3	Common Equity		1,798,040	<u>45,51%</u>	9.50%	4.32%	7.02%
4	Total	\$	3,951,117	100.00%		7.87%	10.56%

5 Tax Conversion Factor*

1.6231

Sources:

KCPL Response to Staff's Data Request No. 0251.

* Schedule JPW-1 (KCPL-MO).

Schedule MPG-18 Page 2 of 3

Standard & Poor's Credit Metrics (Financial Capital Structure)

<u>Line</u>	Description	<u>Ar</u>	<u>nount (000)</u> (1)	<u>Weight</u> (2)	
1	Long-Term Debt	\$	2,129,487	52.28%	
2	Off Balance Sheet Debt*		121,900	<u>2.99</u> %	
3	Total Debt	\$	2,251,387	55.28%	
4	Preferred Stock	\$	23,590	0.58%	
5	Common Equity		1,798,040	<u>44.15</u> %	
6	Total	\$	4,073,017	100.00%	

Sources:

KCPL Response to Staff's Data Request No. 0251.

* Standard & Poor's Ratings Direct "Kansas City Power & Light Co.," April 27, 2012.

Schedule MPG-18 Page 3 of 3

Summary of Adjusted Hadaway DCF

<u>Líne</u>	Description	<u>Hadaway</u> (1)	Hadaway <u>Adjusted*</u> (2)
	Constant Growth DCF		
1	Average	10.0%	10.0%
2	Median	10.0%	10.0%
	Long-Term Constant Growth DCF		
3	Average	10.2%	9.3%
4	Median	10.4%	9.5%
	Multi-Stage Growth DCF		
5	Average	10.0%	9.2%
6	Median	10.1%	9.3%

Sources:

1

Schedule MPG-19, pages 2-4.

* The adjustment reflects changing the GDP Growth Rate to 4.9%.

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

		13-Week	Next Year's				Average		
		Stock		Dividend	EPS Analysts' Growth Rates			_ Growth	Constant
<u>Line</u>	Company	Price ¹	<u>Dividend</u>	Yield	Value Line ²	Zacks ³	Thomson*	Rate	Growth DCF
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	ALLETE, Inc.	\$39,13	\$1.80	4.60%	6.00%	5.00%	6.50%	5.83%	10.4%
2	Alliant Energy Corp.	\$41.06	\$1.80	4.38%	6,50%	6.00%	4.90%	5.80%	10.2%
3	Ameren Corporation	\$31.77	\$1.62	5.10%	NA	4.00%	NA	4.00%	9.1%
4	American Electric Power	\$38,85	\$1.90	4.89%	4.50%	4.00%	3.87%	4.12%	9.0%
5	Avista Corporation	\$24.90	\$1.18	4.74%	4.50%	4.70%	4.50%	4.57%	9.3%
6	Black Hills Corporation	\$32.25	\$1.48	4.59%	8,50%	5.00%	6.00%	6.50%	11.1%
7	Cleco Corporation	\$35,75	\$1.25	3.50%	6,00%	7.00%	3.00%	5,33%	8,8%
8	DTE Energy Company	\$51,36	\$2.42	4.71%	4.50%	4.20%	3.75%	4.15%	8,9%
9	Edison International	\$39.32	\$1.31	3,33%	NA	5.00%	3.18%	4.09%	7.4%
10	Great Plains Energy Inc.	\$20.57	\$0.86	4.18%	6.00%	6.50%	4,10%	5.53%	9.7%
11	Hawaiian Electric	\$25 .27	\$1.24	4.91%	11.00%	8.60%	13.47%	11,02%	15.9%
12	IDACORP, Inc.	\$40.27	\$1.20	2.98%	4.00%	4.70%	4.50%	4.40%	7,4%
13	Pinnacle West Capital	\$45.61	\$2.10	4.60%	6,00%	5.30%	5.58%	5.63%	10.2%
14	Portland General Electric	\$24,35	\$1.08	4.44%	7.50%	5.00%	5.88%	6.13%	10.6%
15	SCANA Corporation	\$42.28	\$1,98	4.69%	3,00%	4.20%	4.48%	3.89%	8.6%
16	Sempra Energy	\$52.63	\$2.08	3.95%	3,50%	7.00%	7.33%	5.94%	9.9%
17	Southern Company	\$43.58	\$1.94	4.45%	6.00%	5,10%	5.92%	5.67%	10.1%
18	TECO Energy, Inc.	\$18.16	\$0.89	4.90%	10.50%	4.70%	5.41%	6.87%	11.8%
19	Vectren Corporation	\$28,31	\$1.41	4.98%	5.50%	4.30%	5,50%	5.10%	10,1%
20	Westar Energy, Inc.	\$27.01	\$1,32	4.89%	8,50%	6,10%	5.08%	6.56%	11.4%
21	Wisconsin Energy Corp.	\$32.63	\$1.20	3.68%	8.50%	6,30%	7.80%	7.53%	11.2%
22	Xcel Energy Inc.	\$25.72	\$1,06	4.12%	5.00%	5,10%	5.13%	5.08%	9.2%
23	Average	\$34.58	\$1.51	4.39%	6.28%	5.35%	5.52%	5.63%	10.0%
24	Median			4.59%				5.58%	10.0%

Source:

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

Line	<u>Company</u>	Recent Stock <u>Price</u> (1)	Next Year' s <u>Dividend</u> (2)	Dividend <u>Yield</u> (3)	GDP <u>Growth*</u> (4)	Long-Term Constant <u>Growth DCF</u> (5)
1	ALLETE, Inc.	\$39,13	\$1.80	4.60%	4.90%	9.5%
2	Alliant Energy Corp.	\$41.06	\$1.80	4.38%	4,90%	9.3%
З	Ameren Corporation	\$31,77	\$1.62	5,10%	4.90%	10.0%
4	American Electric Power	\$38.85	\$1.90	4.89%	4,90%	9,8%
5	Avista Corporation	\$24,90	\$1.18	4.74%	4.90%	9.6%
6	Black Hills Corporation	\$32.25	\$1.48	4.59%	4.90%	9,5%
7	Cleco Corporation	\$35.75	\$1.25	3.50%	4.90%	8,4%
8	DTE Energy Company	\$51.38	\$2.42	4.71%	4.90%	9.6%
9	Edison International	\$39. 3 2	\$1.31	3.33%	4.90%	8.2%
10	Great Plains Energy Inc.	\$2 0.57	\$0,86	4.18%	4.90%	9.1%
11	Hawaiian Electric	\$25.27	\$1.24	4,91%	4,90%	9,8%
12	IDACORP, Inc.	\$40.27	\$1.20	2.98%	4.90%	7.9%
13	Pinnacle West Capital	\$45.61	\$2.10	4.60%	4.90%	9.5%
14	Portland General Electric	\$24.35	\$1.08	4.44%	4.90%	9,3%
15	SCANA Corporation	\$42.26	\$1.98	4.89%	4.90%	9.6%
16	Sempra Energy	\$52.63	\$2.08	3.95%	4.90%	8.9%
17	Southern Company	\$43.58	\$1.94	4.45%	4.90%	9.4%
18	TECO Energy, Inc.	\$18.16	\$0.89	4.90%	4.90%	9.8%
19	Vectren Corporation	\$28.31	\$1,41	4.98%	4.90%	9,9%
20	Westar Energy, Inc.	\$27.01	\$1,32	4.89%	4.90%	9.8%
21	Wisconsin Energy Corp.	\$32.63	\$1.20	3.68%	4.90%	8.6%
22	Xcel Energy Inc.	\$25.72	\$1.06	4.12%	4.90%	9.0%
23 24	Average Median	\$34.58	\$1.51	4.39% 4.59%	4.90%	9.3% 9.5%

Sources:

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*Blue Chip Financial Forecasts, June 1, 2012 at 14.

		Recent			Annual	Cash Flows						
Line	Company	Stock <u>Price</u>	2012 <u>Dividend</u>	2015 Dividend	Change <u>2015</u>	2012 Dividend	2013 Dividend	2014 Dividend	2015 Dividend	2016 Dividend	GDP Growth*	Two-Stage Growth DCF
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	ALLETE, Inc.	\$ 39,13	\$1.80	\$1.95	\$0.05	\$1,80	\$1.85	\$1.90	\$1,95	\$2.05	4,90%	9,2%
2	Alliant Energy Corp.	\$41.06	\$1.80	\$2,10	\$0,10	\$1.80	\$1,90	\$2.00	\$2.10	\$2.20	4.90%	9.3%
3	Ameren Corporation	\$31.77	\$1,62	\$1,75	\$0.04	\$1.62	\$1,66	\$1,71	\$1.75	\$1.64	4,90%	9.7%
4	American Electric Power	\$38,85	\$1.90	\$2.10	\$0.07	\$1,90	\$1.97	\$2.03	\$2,10	\$2.20	4.90%	9.6%
5	Avista Corporation	\$24.90	\$1,18	\$1,40	\$0.07	\$1.18	\$1.25	\$1.33	\$1,40	\$1.47	4.90%	9,8%
6	Black Hills Corporation	\$32,25	\$1.48	\$1.55	\$0.02	\$1,48	\$1.50	\$1.53	\$1,55	\$1.63	4.90%	9.1%
7	Clece Corporation	\$35.75	\$1,25	\$1,60	\$0.12	\$1.25	\$1.37	\$1.48	\$1.60	\$1.68	4.90%	8.7%
8	DTE Energy Company	\$51.36	\$2.42	\$2.70	\$0.09	\$2.42	\$2.51	\$2.61	\$2.70	\$2.83	4.90%	9.5%
9	Edison International	\$39,32	\$1.31	\$1.40	\$0.03	\$1,31	\$1,34	\$1.37	\$1.40	\$1.47	4.90%	8,0%
10	Great Plains Energy Inc.	\$20,57	\$0,66	\$1,10	\$0.08	\$0,88	\$0,94	\$1.02	\$1,10	\$1,15	4,90%	9.5%
11	Hawaiian Electric	\$25.27	\$1,24	\$1,30	\$0.02	\$1.24	\$1.26	\$1.28	\$1,30	\$1,36	4.90%	9.4%
12	IDACORP, Inc.	\$40.27	\$1.20	\$1.50	\$0,10	\$1.20	\$1.30	\$1.40	\$1.50	\$1.57	4.90%	8.1%
13	Pinnacle West Capital	\$45.61	\$2.10	\$2.30	\$0.07	\$2.10	\$2.17	\$2.23	\$2.30	\$2.41	4.90%	9.3%
14	Portland General Electric	\$24.35	\$1.08	\$1,20	\$0.04	\$1.08	\$1.12	\$1.18	\$1.20	\$1.28	4.90%	9.2%
15	SCANA Corporation	\$42.26	\$1,98	\$2.10	\$0.04	\$1.98	\$2.02	\$2.06	\$2.10	\$2.20	4.90%	9.2%
16	Sempra Energy	\$52,63	\$2,08	\$2,50	\$0.14	\$2,08	\$2.22	\$2.36	\$2.50	\$2.62	4,90%	9.0%
17	Southern Company	\$43,58	\$1.94	\$2.20	\$0.09	\$1.94	\$2.03	\$2.11	\$2,20	\$2.31	4.90%	9.3%
18	TECO Energy, Inc.	\$18,16	\$0.89	\$1,05	\$0.05	\$0.89	\$0,94	\$1.00	\$1.05	\$1,10	4,90%	9.9%
19	Vectren Corporation	\$28.31	\$1,41	\$1.60	\$0.06	\$1,41	\$1.47	\$1,54	\$1,60	\$1,68	4.90%	9.8%
20	Westar Energy, Inc.	\$27.01	\$1.32	\$1.44	\$0.04	\$1.32	\$1,36	\$1.40	\$1.44	\$1.51	4.90%	9.5%
21	Wisconsin Energy Corp.	\$32.63	\$1.20	\$1.65	\$0,15	\$1.20	\$1,35	\$1.50	\$1.65	\$1.73	4,90%	9.2%
22	Xcel Energy Inc.	\$25,72	\$1.06	\$1.15	\$0.03	\$1.06	\$1.09	\$1.12	\$1.15	\$1.21	4.90%	8,8%
23	Average	\$34.58	\$1.51	\$1.71	\$0.07	\$1,51	\$1.57	\$1.64	\$1.71	\$1.79	4.90%	9.2%
24	Median											9.3%

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

Sources:

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* Blue Chip Financial Forecasts, June 1, 2012 at 14.

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

Inter Date Actual Yield (1) Projected (2) Projected (3) In Projected (3) In Projected (3) Higher (Lower) (4) 1 Dec-00 5.8% 5.8% 10,02 5.8% 0.2% 2 Mar-01 5.7% 5.8% 30,02 5.2% 0.0% 4 Sep-01 5.7% 5.9% 40,02 5.1% 0.2% 5 Dec-01 5.5% 5.7% 10,03 5.0% 0.2% 6 Mar-02 5.8% 5.9% 40,02 5.1% 0.8% 7 Jun-02 5.8% 5.0% 40,03 5.2% 0.0% 8 Dec-02 5.8% 5.0% 40,03 5.2% 0.7% 9 Dec-03 5.7% 20,04 5.4% 0.3% 11 14 Mar-04 5.2% 5.9% 20,05 4.6% 1.4% 17 Dec-03 5.2% 5.9% 20,05 4.6% 1.4% 18 Mar-04 <th colspan="2"></th> <th>p</th> <th>ublication Dat</th> <th>Actual Yield</th> <th>Projected Yield</th>			p	ublication Dat	Actual Yield	Projected Yield	
Line Date Actual Yield Yield Quarter Then Actual Yield 1 Dec-00 5.8% 5.9% 10,02 5.6% 0.2% 2 Mar-01 5.7% 5.8% 20,02 5.6% 0.2% 3 Jun-01 6.4% 5.8% 20,02 5.7% 0.6% 5 Dec-01 5.5% 5.7% 10,03 5.0% 0.7% 4 Sep-01 5.7% 10,04 4.9% 0.8% 0.7% 6 Mar-03 5.1% 6.7% 10,04 4.9% 0.3% 10 Mar-03 5.1% 5.7% 10,04 4.9% 0.3% 11 Jun-02 5.8% 5.8% 40,04 4.9% 0.3% 11 Jun-03 5.0% 40,04 4.9% 0.3% 12 Sep-03 5.2% 5.8% 10,05 4.8% 1.2% 13 Dec-04 5.4% 5.8% 10,05 4.8% 1.			Prior Quarter	Projected	Projected	in Projected	Higher (Lower)
(1)(2)(3)(4)(6)1Dec-00 5.8% 5.8% $10, 02$ 5.8% 0.2% 2Mar-01 5.7% 5.8% $20, 02$ 5.8% 0.2% 3Jun-01 6.4% 5.8% $20, 02$ 5.8% 0.2% 4Sep-01 5.7% 5.8% $40, 02$ 5.1% 0.8% 5Dec-01 5.5% 5.7% $10, 03$ 5.2% 0.8% 7Jun-02 5.8% 5.9% $40, 03$ 5.2% 0.7% 8Sep-02 5.8% 5.7% $10, 04$ 4.8% 0.8% 9Dec-02 5.2% 5.7% $10, 04$ 4.9% 0.3% 10Mar-03 5.1% 5.7% $20, 04$ 5.4% 0.3% 11Jun-03 5.0% 5.9% $20, 04$ 5.4% 0.3% 12Sep-03 4.7% 5.8% $40, 04$ 4.9% 0.9% 13Dec-03 5.2% 5.9% $20, 05$ 4.8% 1.7% 14Mar-04 5.2% 5.9% $20, 05$ 4.8% 1.7% 15Jun-04 4.9% 6.2% $30, 05$ 4.8% 1.7% 16Sep-04 5.4% 5.8% $10, 06$ 4.8% 1.2% 17Dec-04 5.1% 5.8% $10, 06$ 4.7% 0.5% 20Sep-05 4.9% 5.9% $20, 07$ 5.0% 0.5% 21Dec-05 4.9% 5.1% $20, 07$	Line	Date	Actual Yield	Yleid	Quarter	Quarter	Than Actual Yield*
			(1)	(2)	(3)	(4)	(6)
1 Dec-00 5.8% 5.8% 10, 02 5.8% 0.2% 3 Jun-01 5.4% 5.8% 30, 02 5.2% 0.0% 4 Sop-01 5.7% 5.8% 40, 02 5.1% 0.8% 5 Dec-01 5.5% 5.7% 10, 03 5.0% 0.2% 7 Jun-02 5.8% 6.2% 30, 03 5.2% 0.7% 6 Mar-02 5.8% 5.7% 10, 04 4.9% 0.8% 7 Jun-03 5.1% 5.7% 10, 04 4.9% 0.8% 10 Mar-03 5.1% 5.7% 10, 04 4.9% 0.9% 11 Jun-03 5.0% 5.4% 30, 04 5.1% 0.3% 11 Jun-04 4.9% 6.2% 30, 05 4.8% 1.7% 13 Dec-03 5.2% 5.9% 20, 06 4.8% 1.2% 14 Mar-04 5.9% 5.6% 30, 05 4.6% 1.7% 14 Mar-05 4.9% 5.6% 30, 06 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							
2 Mar-01 5.7% 5.8% 20,02 5.8% -0.2% 3 Jun-01 5.7% 5.8% 40,02 5.1% 0.8% 5 Dec-01 5.7% 5.8% 40,02 5.1% 0.8% 6 Mar-02 5.3% 5.9% 40,03 5.2% 1.0% 8 Sep-02 5.8% 5.7% 10,04 4.8% 0.8% 10 Mar-03 5.1% 6.7% 20,04 6.4% 0.3% 11 Jun-03 5.0% 5.4% 30,04 5.1% 0.3% 11 Jun-03 5.0% 5.7% 10,04 4.9% 0.9% 13 Dec-03 5.2% 5.9% 10,05 4.8% 0.9% 13 Dec-03 5.2% 5.9% 10,05 4.8% 1.4% 14 Mar-04 5.2% 5.9% 10,05 4.8% 1.2% 14 Mar-05 4.9% 5.8% 10,06 4.8% 1.2% 16 Sep-04 5.1% 5.8% 30,07 <t< td=""><td>1</td><td>Dec-00</td><td>5.8%</td><td>5.6%</td><td>1Q, 02</td><td>5.6%</td><td>0.2%</td></t<>	1	Dec-00	5.8%	5.6%	1Q, 02	5.6%	0.2%
3 Jun-01 6.4% 5.3% 30,02 5.2% 0.8% 4 Sep-01 5.7% 5.9% 40,02 5.1% 0.8% 5 Dec-01 5.5% 5.7% 10,03 5.0% 0.7% 6 Mar-02 5.3% 6.2% 30,03 5.2% 0.7% 7 Jun-02 5.8% 5.9% 40,03 5.2% 0.7% 9 Dec-02 5.2% 5.7% 10,04 4.9% 0.8% 10 Mar-03 5.0% 5.4% 30,04 5.4% 0.3% 11 Jun-03 5.0% 5.8% 40,04 4.9% 0.3% 13 Dec-03 5.2% 5.9% 20,05 4.8% 1.1% 14 Mar-04 5.2% 5.9% 20,05 4.8% 1.2% 16 Sep-04 5.4% 6.0% 40,05 4.8% 1.2% 17 Dec-04 5.1% 5.8% 10,06 5.0% 0.5% 20 Sep-05 4.0% 5.2% 40,07	2	Mar-01	5.7%	5.8%	20,02	5.8%	-0.2%
4 Sep-01 5.7% 5.9% 40,02 5.1% 0.0% 5 Dec-01 5.5% 5.7% 10,03 5.2% 0.7% 6 Mar-02 5.3% 5.9% 20,03 4.7% 1.2% 7 Jun-02 5.8% 6.2% 30,03 5.2% 10% 9 Dec-02 5.2% 5.7% 10,04 4.9% 0.8% 10 Mar-03 5.1% 5.7% 10,04 4.9% 0.8% 11 Jun-03 5.0% 5.4% 30,04 5.4% 0.3% 12 Sep-03 4.7% 5.8% 40,04 4.9% 0.9% 12 Sep-03 4.7% 5.8% 10,05 4.8% 1.1% 14 Mar-04 5.2% 5.9% 10,05 4.8% 1.2% 15 Jun-04 4.9% 5.8% 10,06 5.1% 0.5% 12 Jun-04 5.8% 10,06 5.1% 0.5% 0.5% 10 Jun-05 4.9% 5.5% 30,06 <td< td=""><td>3</td><td>Jun-01</td><td>5.4%</td><td>5.8%</td><td>30,02</td><td>5.2%</td><td>0,6%</td></td<>	3	Jun-01	5.4%	5.8%	30,02	5.2%	0,6%
6 Marcl2 5.3% 5.9% 20,03 5.0% 1.2% 7 Jun-02 5.8% 6.2% 30,03 5.2% 1.0% 6 Sep-02 5.2% 5.7% 40,03 5.2% 0.7% 9 Dec-02 5.2% 5.7% 10,04 4.8% 0.8% 10 Mar.03 5.1% 5.7% 10,04 4.8% 0.8% 11 Jun-03 5.0% 5.8% 40,04 4.9% 0.9% 13 Dec-03 5.2% 5.9% 10,05 4.8% 1.1% 14 Mar.04 5.2% 5.9% 10,05 4.8% 1.1% 15 Jun-04 4.9% 6.2% 30,05 4.5% 1.7% 16 Sep-04 5.4% 5.6% 20,06 5.1% 1.2% 18 Mar.05 4.9% 5.6% 30,07 4.9% 0.5% 20 Dec-05 4.5% 5.3% 30,07 4.9% 0.4% 21 Dec-05 5.1% 5.2% 40,07 <	4	Sep-01	5.7%	5.9%	4Q, 02	5.1%	0.6%
6 Mar-02 5.3% 5.9% 20,03 4.7% 1.2% 7 JUn-02 5.8% 5.1% 40,03 5.2% 1.0% 8 Sep-02 5.8% 5.1% 40,03 5.2% 0.7% 9 Dec-02 5.2% 5.7% 10,04 4.8% 0.8% 11 Jun-03 5.0% 5.4% 30,04 5.1% 0.3% 12 Sep-03 4.7% 5.8% 40,04 4.9% 0.9% 13 Dec-03 5.2% 5.9% 10,05 4.8% 1.1% 14 Mar-04 5.2% 5.9% 10,05 4.8% 1.2% 17 Dec-04 5.1% 5.8% 10,06 4.8% 1.2% 17 Dec-04 5.1% 5.8% 10,06 4.8% 1.2% 10 Mar-05 4.9% 5.6% 30,06 5.1% 0.5% 20 Sep-05 4.9% 5.3% 10,07 4.8% 0.5% 21 Dec-05 4.5% 5.3% 10,07 <	5	Dec-01	5,5%	5,7%	10,03	5.0%	0.7%
7 Jun-02 5.8% 5.2% 30,03 5.2% 1.7% 9 Dec-02 5.2% 5.7% 10,04 4.9% 0.8% 10 Mar-03 5.1% 5.7% 10,04 4.9% 0.8% 11 Jun-03 5.0% 5.4% 30,04 5.1% 0.3% 11 Jun-03 5.0% 5.0% 10,05 4.8% 0.3% 12 Sep-03 4.7% 5.8% 40,04 4.9% 0.3% 13 Duc-04 5.2% 5.9% 10,05 4.8% 1.1% 14 Mar-04 4.9% 6.2% 30,05 4.5% 1.7% 15 Jun-04 4.9% 5.6% 20,05 4.8% 1.2% 16 Bep-04 5.1% 5.8% 10,06 4.8% 1.2% 16 Bep-04 5.1% 5.8% 30,06 5.0% 0.5% 20 Sep-05 4.8% 5.5% 30,06 5.0% 0.5% 21 Dec-05 4.5% 5.3% 30,07	6	Mar-02	5.3%	5,9%	20, 03	4.7%	1.2%
6 Sep-02 5.8% 5.8% 4.0,03 5.2% 0.7% 9 Dec-02 5.2% 5.7% 20,04 5.4% 0.3% 11 Jun-03 5.1% 5.7% 20,04 5.4% 0.3% 12 Sep-03 4.7% 5.8% 40,04 4.8% 0.9% 13 Dec-03 5.2% 5.9% 10,05 4.8% 1.4% 14 Mar-04 5.2% 5.9% 10,05 4.6% 1.7% 15 Jun-04 4.9% 6.2% 30,05 4.6% 1.7% 16 Sep-04 5.4% 6.0% 40,05 4.6% 1.7% 16 Mar-05 4.9% 5.6% 30,06 5.0% 0.5% 20 Sep-04 5.4% 5.3% 30,07 4.9% 0.4% 21 Mar-05 4.5% 5.3% 30,07 4.9% 0.4% 22 Mar-06 4.5% 5.3% 30,08 <t< td=""><td>7</td><td>Jun-02</td><td>5.8%</td><td>0.2%</td><td>30, 03</td><td>5.2%</td><td>1.0%</td></t<>	7	Jun-02	5.8%	0.2%	30, 03	5.2%	1.0%
9 Dec-02 5.2% 5.7% 10,04 4.9% 0.8% 0.8% 10 Mar-03 5.1% 5.7% 20,04 5.4% 0.3% 11 Jun-03 5.0% 5.4% 30,04 5.1% 0.3% 12 Sep-03 4.7% 5.8% 40,04 4.9% 0.3% 13 Dec-03 5.2% 5.9% 10,05 4.8% 1.1% 14 Mar-04 5.2% 5.9% 20,05 4.8% 1.2% 15 Jun-04 4.9% 6.2% 30,05 4.5% 1.7% 16 Sep-04 5.4% 6.0% 40,05 4.8% 1.2% 17 Dec-04 5.1% 5.8% 10,06 4.8% 1.2% 18 Mar-05 4.8% 5.5% 30,06 5.1% 0.5% 19 Jun-05 4.8% 5.5% 30,06 5.0% 0.5% 20 Sep-05 4.8% 5.5% 30,06 5.0% 0.5% 21 Dec-06 4.5% 5.1% 0.07 4.8% 0.5% 22 Mar-06 4.8% 5.1% 20,07 5.0% 0.4% 23 Jun-08 4.6% 5.3% 10,07 4.9% 0.4% 24 Sep-06 5.1% 5.2% 40,07 4.9% 0.4% 25 Dec-06 5.0% 5.1% 0.69 4.8% 0.5% 26 Mar-07 4.7% 5.1% 20,07 5.0% 0.1% 28 Sep-07 5.8% 5.1% 30,08 4.5% 0.5% 29 Dec-07 4.8% 5.1% 30,08 4.5% 0.5% 31 Jun-08 4.6% 5.1% 40,09 3.7% 1.5% 20 Sep-07 5.4% 5.2% 40,09 3.7% 1.5% 20 Mar-08 4.6% 5.1% 40,09 3.7% 1.5% 25 Dec-07 4.8% 5.1% 30,09 4.3% 0.6% 31 Jun-08 4.6% 5.1% 40,09 3.7% 1.5% 32 Sep-07 5.4% 5.2% 40,09 3.7% 1.5% 33 Jun-08 4.6% 5.1% 40,09 3.7% 1.5% 34 Mar-09 3.5% 4.6% 30,10 3.9% 0.8% 35 Jun-09 3.5% 4.6% 30,10 3.9% 0.8% 35 Jun-09 3.5% 4.6% 30,10 3.9% 0.8% 36 Mar-09 3.5% 4.6% 30,10 3.9% 0.8% 37 Jun-10 4.8% 5.2% 40,11 4.3% 0.6% 38 Mar-10 4.3% 5.2% 40,11 3.7% 1.5% 39 Jun-10 4.6% 5.2% 30,11 3.7% 1.5% 34 Mar-09 3.5% 4.6% 30,10 3.9% 0.8% 35 Jun-09 3.5% 4.6% 30,10 3.9% 0.8% 36 Mar-10 4.3% 5.2% 40,11 4.3% 0.8% 37 Dec-08 4.6% 5.1% 40,09 4.3% 0.6% 38 Mar-10 4.3% 5.2% 30,11 3.7% 1.5% 39 Jun-11 4.6% 5.2% 30,11 3.7% 1.5% 30 Mar-12 3.0% 3.8% 20,12 44 Mar-11 4.2% 5.0% 20,12 45 Apr-11 4.8% 5.2% 30,12 46 Map-11 4.8% 5.2% 30,12 47 Jun-11 4.6% 5.2% 30,12 48 Jun-11 4.6% 5.2% 30,12 47 Jun-11 4.6% 5.2% 30,12 48 Jun-11 4.6% 5.2% 30,12 48 Jun-11 4.2% 5.0% 40,12 50 Sep-11 4.3% 4.2% 40,12 50 Sep-11 4.3% 4.2% 40,12 50 Sep-11 4.3% 4.2% 40,12 50 Sep-11 4.3% 4.2% 40,12 50 Sep-11 4.3% 5.0% 40,12 50 Sep-11 4.3% 4.2% 40,12 50 Sep-11 4.3% 5.0% 40,12 50 Sep-11 4.3% 5.0% 40,12 50 Sep-11 4.3% 5.0% 40,12 50 Sep-11 4.3% 5.0% 40,13 50 Mar-12 3.0% 3.8% 20,13 50 Mar-12 3.0% 3.8% 20,	6	Sep-02	5.8%	5,8%	40, 03	5.2%	0.7%
10 Marc03 5.1% 5.7% 2Q.04 5.4% 0.3% 11 Jun-03 5.0% 5.4% 3Q.04 5.1% 0.3% 12 Sep-03 4.7% 5.8% 4Q.044 4.9% 0.9% 13 Dec-03 5.2% 5.9% 1Q.05 4.8% 1.1% 14 Marc04 5.2% 5.9% 4Q.05 4.8% 1.2% 16 Sep-04 5.4% 6.0% 4Q.05 4.8% 1.2% 17 Dec-04 5.1% 5.8% 1Q.06 4.8% 1.2% 18 Marc05 4.8% 5.5% 3Q.06 5.1% 0.5% 20 Sep-04 5.4% 5.3% 1Q.07 4.8% 0.5% 21 Dac-03 4.5% 5.3% 3Q.07 4.9% 0.4% 22 Mar-06 4.6% 5.3% 3Q.09 4.3% 0.6% 22 Mar-07 4.7% 5.1% 2Q.08 4.6% 0.6% 24 Sep-06 5.0% 5.2% 4Q.07	9	Dec-02	5.2%	5.7%	10,04	4.8%	0.8%
11 Jun-03 5.0% 5.4% 3Q, 04 5.1% 0.3% 12 Sep-03 4.7% 5.8% 1Q, 05 4.8% 1,1% 14 Mar-04 5.2% 5.9% 1Q, 05 4.8% 1,1% 14 Mar-04 5.2% 5.9% 1Q, 05 4.8% 1,2% 17 Dec-04 5.1% 5.6% 1Q, 06 4.8% 1,2% 17 Dec-04 5.1% 5.6% 3Q, 06 5.0% 0,5% 20 Sep-04 4.9% 5.5% 3Q, 06 5.0% 0,5% 20 Sep-05 4.9% 5.5% 3Q, 06 5.0% 0,5% 21 Dac-05 4.5% 5.3% 1Q, 07 4.9% 0.4% 23 Jun-06 4.6% 5.1% 5.2% 4Q, 07 4.8% 0.5% 23 Jun-06 5.1% 5.2% 4Q, 07 4.6% 0.6% 0.5% 24 Sep-06 5.1% 5.2% 4Q, 08 3.7% 1.5% 0.6% 0.5% 25	10	Mar-03	5.1%	5.7%	2Q, 04	5.4%	0.3%
12 Sep-03 4.7% 5.8% 40.04 4.9% 0.9% 13 Dec-03 5.2% 5.9% 10.05 4.6% 1.1% 14 Mar-04 5.2% 5.9% 20.05 4.6% 1.7% 15 Jun-04 4.9% 6.2% 30.05 4.5% 1.7% 16 Sep-04 5.4% 5.0% 12.06 4.8% 1.2% 17 Dec-04 5.1% 5.6% 20.06 5.1% 0.5% 19 Jun-05 4.8% 5.5% 30.06 5.0% 0.5% 20 Sep-05 4.8% 5.1% 20.07 4.9% 0.5% 21 Dac-06 4.5% 5.3% 10.07 4.8% 0.5% 21 Dac-06 5.1% 5.2% 40.07 4.6% 0.6% 24 Sep-06 5.1% 5.2% 40.07 4.6% 0.6% 25 Dec-06 5.0% 5.1% 30.08 4.5% 0.5% 27 Jun-07 4.8% 5.1% 30.08	11	Jun-03	5.0%	5.4%	3Q, 04	5.1%	0.3%
13 Dec:03 5.2% 5.9% 10, 05 4.8% 1.1% 14 Mar:04 5.2% 5.9% 20, 05 4.6% 1.1% 15 Jun:04 4.9% 6.0% 4.0% 1.4% 1.7% 16 Sep-04 5.4% 6.0% 40, 05 4.8% 1.2% 17 Dec:04 5.1% 5.8% 120, 06 5.1% 0.5% 19 Jun:05 4.8% 5.5% 30, 06 5.0% 0.5% 20 Sep-05 4.6% 5.2% 40, 06 4.7% 0.5% 21 Dec:05 4.5% 5.3% 30, 07 4.9% 0.4% 23 Jun:06 4.6% 5.3% 30, 07 4.9% 0.4% 23 Jun:06 4.6% 5.1% 30, 07 4.9% 0.4% 24 Sep-06 5.1% 5.0% 10, 08 4.6% 0.8% 25 Dec:06 5.0% 10, 08 4.5% 0.8% 1.1% 25 Dec:06 5.1% 5.0% 10,	12	Sep-03	4.7%	5,8%	40,04	4.0%	0.9%
Main-Q4 5.2% 20,05 4.0% 1.4% 15 Jun-04 4.9% 6.2% 3Q,05 4.5% 1.7% 16 Sep-04 5.4% 6.0% 4Q,05 4.8% 1.2% 17 Dec-04 5.1% 5.8% 1Q,06 4.8% 1.2% 18 Mar-05 4.8% 5.5% 3Q,06 5.0% 0.5% 20 Sep-05 4.8% 5.5% 3Q,07 4.8% 0.5% 21 Dec-05 4.5% 5.3% 1Q,07 5.0% 0.1% 23 Jun-06 4.6% 5.3% 1Q,08 4.6% 0.8% 24 Sep-06 5.1% 5.2% 4Q,08 3.7% 0.8% 25 Dec-08 5.0% 5.0% 1Q,08 4.6% 0.8% 25 Mar-07 4.7% 5.1% 2Q,08 4.6% 0.6% 26 Mar-07 5.0% 5.1% 3Q,09 4.3% 0.8% <td>13</td> <td>U80-03</td> <td>5.2%</td> <td>3,8%</td> <td>10,05</td> <td>4,8%</td> <td>1.1%</td>	13	U80-03	5.2%	3,8%	10,05	4,8%	1.1%
15 $Sep.04$ 5.4% 6.0% 42,05 4.5% 1.7% 16 $Sep.04$ 5.1% 5.8% 10,06 4.8% 1.2% 17 $Dec.04$ 5.1% 5.8% 10,06 4.8% 1.2% 18 $Mar-05$ 4.8% 5.5% 30,06 5.7% 0.5% 0.5% 20 $Sep.05$ 4.8% 5.5% 30,07 4.8% 0.5% 0.5% 21 $Dec.05$ 4.5% 5.3% 30,07 4.9% 0.4% 0.8% 22 $Mar-06$ 4.6% 5.1% 20,07 4.6% 0.4% 0.8% 23 $Jun-06$ 4.6% 5.1% 30,07 4.9% 0.4% 0.8% 24 $Sep.06$ 5.1% 5.2% 40,07 4.6% 0.8% 0.8% 25 $Dec.07$ 4.9% 5.1% 30,08 4.5% 0.8% 0.8% 25 $Jun-07$ 4.8% 5.1% 40,09 3.7% 1.5% 26 $Sep.07$ 5.0% 20,08 4.6%	14	Mar-u4	5.2%	5.9%	20,05	4.8%	1.4%
10 DepC4 3.4% 0.0% 4Q, US 4.5% 1.2% 17 DecO4 5.1% 5.8% 1Q, 06 4.6% 1.2% 18 Mar-05 4.9% 5.6% 3Q, 06 5.1% 0.5% 19 Jun-05 4.8% 5.2% 4Q, 06 4.7% 0.5% 21 Dec-05 4.5% 5.3% 1Q, 07 4.8% 0.5% 21 Dec-05 4.5% 5.3% 1Q, 07 4.9% 0.4% 23 Jun-06 4.6% 5.1% 2Q, 07 6.0% 0.6% 23 Jun-06 5.1% 5.2% 4Q, 07 4.6% 0.6% 24 Sep-06 5.1% 5.2% 4Q, 08 3.7% 1.6% 25 Dec-06 5.0% 5.1% 3Q, 08 4.5% 0.6% 0.5% 27 Jun-07 4.8% 5.1% 3Q, 09 3.7% 1.6% 0.8% 26 Dec-07 5.0% 5.1% 3Q, 09 4.3% 0.8% 0.8% 27 Jun-08	10	,187-04 Coo 24	4,876 5,414	©,,,2% ¢.0%	30,05	4,3%	1,7%
1 DecU4 5.1% 10, 06 4.6% 1.2% 18 Mar-05 4.9% 5.6% 20, 06 5.1% 0.5% 20 Sep-05 4.6% 5.2% 40, 06 4.7% 0.5% 21 Dec-05 4.6% 5.3% 10, 07 4.8% 0.5% 21 Dec-05 4.6% 5.3% 20, 07 5.0% 0.1% 23 Jun-06 4.6% 5.3% 40, 07 4.6% 0.6% 24 Sep-06 5.1% 5.2% 40, 07 4.6% 0.6% 25 Dec-08 5.0% 5.0% 10, 08 4.4% 0.6% 25 Dec-07 4.8% 5.1% 20, 08 4.6% 0.5% 26 Mar-07 4.8% 4.8% 10, 09 3.5% 1.6% 28 Sep-07 5.0% 5.2% 40, 09 3.7% 1.5% 29 Dec-07 4.8% 10, 09 3.5% 1.4% 30 Mar-08 4.6% 5.0% 30, 09 4.3% 0.	10	Dep-04	0.41%	5.0% E 604	40,00	9.0%	1.2%
Ib Men-D5 4.8% 5.5% 30.06 5.1% 0.5% 19 Jun-D5 4.8% 5.5% 30.06 5.0% 0.5% 20 Sep-D5 4.8% 5.2% 40.06 4.7% 0.5% 21 Dec-05 4.5% 5.3% 10.07 4.8% 0.5% 22 Mar-06 4.6% 5.3% 20.07 4.9% 0.4% 23 Jun-08 4.6% 5.3% 20.07 4.9% 0.4% 24 Sep-06 5.1% 5.2% 40.07 4.6% 0.6% 25 Dec-08 5.0% 5.1% 20.08 4.6% 0.5% 26 Mar-07 4.7% 5.1% 20.08 4.6% 0.5% 29 Dec-07 4.9% 48.0% 10.08 3.7% 1.6% 21 Jun-08 4.4% 4.9% 30.09 4.3% 0.6% 32 Sep-107 4.9% 5.1% 40.09	10	LACC-U4	3.17	3.6%	10,00	4.075	1,2%
10 Jun-10 4.0% 5.0% Jun-20 5.0% Jun-20 20 Sep-05 4.0% 5.1% 40,06 4.7% 0.5% 21 Dec-05 4.5% 5.3% 10,07 4.8% 0.5% 21 Dec-06 4.6% 5.1% 20,07 5.0% 0.1% 23 Jun-06 4.6% 5.2% 40,07 4.8% 0.8% 24 Sep-06 5.1% 5.2% 40,07 4.6% 0.8% 25 Dec-06 5.0% 5.0% 10,08 4.4% 0.8% 26 Mar-07 4.7% 5.1% 30,08 4.6% 0.5% 27 Jun-07 4.8% 5.1% 30,08 4.5% 0.7% 1.5% 29 Dec-07 5.0% 5.2% 40,09 3.7% 1.6% 0.6% 31 Jun-08 4.4% 4.9% 30,09 4.3% 0.6% 0.6% 32 Sep-08 4.6% 5.1% 40,09 3.5% 1.4% 0.6% 33	10	Man-UO	4.076	0.0%	20,06	0,1%s	0.5%
20 $309-05$ $4,0\%$ $0,2\%$ $40,06$ $4,7\%$ 0.5% 21 $Dec-05$ 4.5% 5.3% $20,07$ 5.0% 0.1% 23 $Jun-06$ 4.6% 5.3% $30,07$ 4.9% 0.4% 24 $Sep-06$ 5.1% 5.2% $40,07$ 4.9% 0.6% 26 $Dec-06$ 5.0% 5.0% 5.0% 0.08 4.6% 0.6% 26 $Mar-07$ 4.7% 5.1% $30,08$ 4.6% 0.6% 27 $Jun-07$ 4.8% 5.1% $30,08$ 4.5% 0.7% 28 $Dec-07$ 4.9% 4.8% $10,09$ 3.5% 1.6% 29 $Dec-07$ 4.9% 4.9% $30,09$ 4.3% 0.6% 30 $Mar-08$ 4.8% 4.8% $10,09$ 3.5% 1.4% 30 $Mar-08$ 4.5% 4.9% $30,09$ 4.3% 0.6% 31 $Jun-08$ 4.4% 4.9% $30,09$	19	CLARENCE	9.0% 4.0%	9,976	352,90	0.U% 4 TH	0.5%
21 Dec-US 4.3% 5.3% 10, 07 4.8% 0.3% 22 Mar-O6 4.6% 5.1% 20, 07 5.0% 0.1% 23 Jun-O6 4.6% 5.3% 30, 07 4.9% 0.4% 24 Sep-O6 5.1% 5.2% 40, 07 4.6% 0.6% 26 Mar-O7 4.7% 5.1% 20, 08 4.6% 0.5% 27 Jun-O7 4.8% 5.1% 30, 08 4.6% 0.5% 27 Jun-O7 4.8% 5.1% 30, 08 4.5% 0.7% 29 Dec-07 5.8% 4.6% 10, 09 3.5% 1.4% 30 Mar-O8 4.8% 4.8% 10, 09 3.5% 0.6% 31 Jun-O8 4.4% 4.9% 30, 09 4.3% 0.8% 33 Dec-08 4.6% 5.1% 40, 09 4.3% 0.6% 32 Sep-08 4.6% 5.0% 40, 10 4.8% 0.0% 34 Mar-O9 3.7% 4.1% 20,	20	200-02	4,076	0,274 5.024	40,00	4,7%	0.5%
12 Jun-b6 4.6% 5.1% 24.07 5.0% 0.1% 23 Jun-b6 4.6% 5.3% 30.07 4.9% 0.4% 24 Sep-06 5.1% 5.2% 40.07 4.6% 0.6% 26 Mar-07 4.7% 5.1% 20.08 4.6% 0.5% 27 Jun-07 4.8% 5.1% 30.08 4.5% 0.7% 28 Sep-07 5.8% 4.8% 10.09 3.5% 1.4% 29 Dec-07 4.9% 4.8% 10.09 3.5% 1.4% 30 Mar-08 4.8% 4.9% 30.09 4.3% 0.6% 31 Jun-08 4.4% 4.9% 30.09 4.3% 0.6% 32 Sep-06 4.6% 5.1% 40.09 4.3% 0.6% 33 Dec-08 4.5% 4.6% 30.10 3.9% 0.8% 34 Mar-09 3.7% 4.6% 5.0% <td< td=""><td>21</td><td>Mar 00</td><td>₩.⊃78 4 662</td><td>3,3% 5 104</td><td>10,97</td><td>4,070 # 06/</td><td>U.3% 0.4%</td></td<>	21	Mar 00	₩.⊃78 4 662	3,3% 5 104	10,97	4,070 # 06/	U.3% 0.4%
24 Sep-06 5.1% 5.2% 40,07 4.6% 0.6% 25 Dec-08 5.0% 5.0% 10,08 4.4% 0.8% 26 Mar-07 4.7% 5.1% 20,08 4.6% 0.5% 27 Jun-07 4.8% 5.1% 30,08 4.5% 0.7% 28 Sep-07 5.0% 5.1% 30,08 4.5% 0.7% 29 Dec-07 4.9% 5.1% 40,08 3.7% 1.5% 29 Dec-07 4.9% 4.8% 10,09 3.5% 1.4% 30 Mar-08 4.6% 4.9% 30,09 4.3% 0.8% 31 Jun-08 4.4% 4.9% 30,09 4.3% 0.8% 33 Dec-08 4.5% 4.6% 10,10 4.6% 0.9% 34 Mar-09 3.7% 4.6% 30,10 3.9% 0.8% 35 Jun-09 3.5% 4.6% 30,10 3.9% 0.8% 35 Jun-10 4.6% 5.2% 30,11	22	Hun Dià	4,071	07, 1300 45, 2004	202,07	0.0%	10,179 21,40/
25 Decode 5.0% 5.1% 44, 07 4.0% 0.0% 26 Mar-07 4.7% 5.1% 20, 08 4.6% 0.5% 27 Jun-07 4.8% 5.1% 30, 08 4.5% 0.7% 28 Sep-07 5.0% 5.2% 40, 09 3.7% 1.5% 29 Dec-07 4.8% 4.8% 10, 09 3.5% 1.4% 30 Mar-08 4.8% 4.8% 10, 09 3.5% 1.4% 30 Mar-08 4.8% 4.9% 30, 09 4.3% 0.8% 31 Jun-08 4.4% 4.9% 30, 09 4.3% 0.8% 32 Sep-06 4.8% 5.1% 40, 09 4.3% 0.8% 33 Dec-08 4.5% 4.6% 30, 10 3.9% 0.8% 34 Mar-09 3.7% 4.1% 20, 10 4.4% -0.3% 35 Jun-09 3.5% 4.6% 30, 10 3.9% 0.8% 36 Sep-09 4.0% 5.0% 40	2.0 13.4	Sac 06	4.070 5.164	0.370 5 10 H	30,07 AZI 07	4.070	12.470 n 40/
26 Mar-07 4.7% 5.1% 22,08 4.6% 0.5% 27 Jun-07 4.8% 5.1% 30,08 4.5% 0.7% 28 Sep-07 5.6% 5.2% 40,09 3.7% 1.5% 29 Dec-07 4.9% 4.8% 10,09 3.5% 1.4% 30 Mar-08 4.6% 4.8% 20,09 4.0% 0.8% 31 Jun-08 4.4% 4.9% 30,09 4.3% 0.6% 31 Jun-08 4.4% 4.9% 30,09 4.3% 0.6% 32 Sep-06 4.6% 5.1% 40,09 4.3% 0.6% 33 Dec-08 4.5% 4.1% 40,09 4.3% 0.6% 34 Mar-09 3.7% 4.1% 40,10 4.6% -0.3% 34 Mar-09 3.5% 4.6% 30,10 3.9% 0.8% 35 Jun-09 3.5% 5.0% 40,10 4.2% 0.8% 36 Sep-09 4.0% 5.0% 20,11	25	Dec-08	5.0%	5.2% 5.0%	4% x, 07 10 08	*.070	0.070
27 Jun-07 4.8% 5.1% 20.08 4.5% 0.7% 28 Sep-07 5.0% 5.2% 40.08 3.7% 1.5% 29 Dec-07 4.9% 4.8% 10.09 3.5% 1.4% 30 Mar-08 4.8% 4.8% 20.08 4.0% 0.8% 31 Jun-08 4.4% 4.9% 30.09 4.3% 0.6% 31 Jun-08 4.4% 4.9% 30.09 4.3% 0.6% 32 Sep-08 4.6% 5.1% 40.09 4.3% 0.6% 33 Dec-08 4.5% 4.6% 10.10 4.8% 0.0% 34 Mar-09 3.7% 4.1% 20.10 4.4% -0.3% 35 Jun-09 3.5% 4.6% 30.10 3.9% 0.8% 36 Sep-09 4.0% 5.0% 40.10 4.2% 0.8% 36 Sep-10 4.4% 4.7% 40.11 3.0% 1.5% 40 Sep-10 4.4% 5.2% 30.11	26	Mac-07	47%	51%	20,00	4 6%	0.5%
28 Sep-07 5.0% 5.2% 42,08 3.7% 1.5% 29 Dec-07 4.9% 4.8% 10,09 3.5% 1.4% 30 Mar-08 4.6% 4.8% 20,09 4.0% 0.8% 31 Jun-08 4.4% 4.9% 30,09 4.3% 0.6% 31 Jun-08 4.4% 4.9% 30,09 4.3% 0.6% 32 Sep-06 4.6% 5.1% 40,09 4.3% 0.6% 33 Dec-08 4.5% 4.6% 10,10 4.8% 0.0% 34 Mar-09 3.7% 4.1% 20,10 4.4% -0.3% 35 Jun-09 3.5% 4.6% 30,10 3.9% 0.8% 36 Sep-09 4.0% 5.0% 40,10 4.2% 0.8% 36 Sep-10 4.4% 5.0% 40,11 3.7% 1.5% 39 Jun-10 4.6% 5.2% 30,11 3.7% 1.5% 40 Sep-10 4.4% 4.7% 40,11	27	Jun-07	4 8%	5 1%	30 08	4.5%	0.7%
29 Dec.07 4.8% 4.8% 10,09 3.5% 1.4% 30 Mar-08 4.8% 4.8% 20,09 4.3% 0.8% 31 Jun-08 4.4% 4.9% 30,09 4.3% 0.8% 32 Sep-08 4.8% 5.1% 40,09 4.3% 0.8% 33 Dec-08 4.5% 5.1% 40,09 4.3% 0.8% 33 Dec-08 4.5% 4.6% 10,10 4.6% 0.0% 34 Mar-09 3.5% 4.6% 30,10 3.9% 0.8% 35 Jun-09 3.5% 4.6% 30,10 3.9% 0.8% 36 Sep-09 4.0% 5.0% 40,10 4.2% 0.8% 36 Mar-10 4.3% 5.2% 30,11 4.3% 0.8% 37 Dec-09 4.3% 5.2% 30,11 3.7% 1.5% 40 Sep-10 4.4% 4.7% 40,11 3.7% 1.5% 40 Sep-11 4.2% 5.0% 20,12	28	Sec-07	5.8%	5.2%	40.09	3.7%	1.5%
30 Mar-08 4.8% 4.8% 20,08 4.0% 0.8% 31 Jun-08 4.4% 4.9% 30,09 4.3% 0.6% 32 Sep-06 4.6% 5.1% 40,09 4.3% 0.6% 33 Dec-08 4.5% 4.6% 10,10 4.4% 0.0% 34 Mar-09 3.7% 4.1% 20,10 4.4% -0.3% 35 Jun-09 3.5% 4.6% 30,10 3.9% 0.8% 36 Sep-09 4.0% 5.0% 40,10 4.2% 0.8% 37 Dec-08 4.3% 5.0% 10,11 4.6% 0.8% 38 Mar-10 4.3% 5.0% 20,11 3.9% 0.8% 38 Mar-10 4.3% 5.2% 20,11 3.7% 1.5% 40 Sep-10 4.4% 4.7% 40,12 3.1% 1.5% 41 Dec-10 3.9% 4.6% 10,12 3.1% 1.5% 42 Jan-11 4.2% 5.0% 20,12	29	Dec-07	4.9%	4.8%	10.09	3.5%	1.4%
31 Jun-08 4.4% 4.9% 30, 09 4.3% 0.6% 32 Sep-06 4.6% 5.1% 40, 06 4.3% 0.8% 33 Dec-08 4.5% 4.6% 10, 10 4.6% 0.0% 34 Mar-09 3.7% 4.1% 20, 10 4.4% -0.3% 35 Jun-09 3.5% 4.6% 30, 10 3.9% 0.8% 36 Sep-09 4.0% 5.0% 40, 10 4.2% 0.8% 36 Sep-09 4.0% 5.0% 40, 11 4.6% 0.4% 37 Dec-08 4.3% 5.0% 10, 11 4.6% 0.8% 38 Mar-10 4.3% 5.2% 20, 11 3.7% 1.5% 40 Sep-10 4.4% 5.2% 30, 11 3.7% 1.5% 41 Dec-10 3.9% 4.6% 10, 12 3.1% 1.5% 42 Jan-11 4.2% 5.0% 20, 12 44 Mar-11 4.2% 5.0% 20, 12 44 Mar-11 <td< td=""><td>30</td><td>Mar-08</td><td>4.8%</td><td>4.6%</td><td>20,09</td><td>4.0%</td><td>0.8%</td></td<>	30	Mar-08	4.8%	4.6%	20,09	4.0%	0.8%
32 Sep-08 4.8% 5.1% 40.09 4.3% 0.8% 33 Dec-08 4.5% 4.6% 10,10 4.6% 0.0% 34 Mar-09 3.7% 4.1% 20,10 4.4% -0.3% 35 Jun-09 3.5% 4.6% 30,10 3.9% 0.8% 36 Sep-09 4.0% 5.0% 40,10 4.2% 0.8% 37 Dec-09 4.3% 5.0% 10,11 4.6% 0.8% 37 Dec-09 4.3% 5.0% 10,11 4.8% 0.8% 38 Mar-10 4.3% 5.2% 20,11 4.3% 0.8% 39 Jun-10 4.8% 5.2% 30,11 3.7% 1.5% 40 Sep-10 4.4% 4.7% 40,11 3.0% 1.7% 41 Dec-10 3.9% 4.6% 10,12 3.1% 1.5% 42 Jan-11 4.2% 5.0% 20,12 44 Mar-11 4.2% 5.0% 20,12 44 44 <	31	Jun-08	4.4%	4.9%	3Q, 09	4.3%	0.6%
33 Dec-08 4.5% 4.6% 10, 10 4.8% 0.0% 34 Mar-09 3.7% 4.1% 20, 10 4.4% -0.3% 35 Jun-09 3.5% 4.6% 30, 10 3.9% 0.8% 36 Sep-09 4.0% 5.0% 40, 10 4.2% 0.8% 37 Dec-08 4.3% 5.0% 40, 10 4.2% 0.8% 38 Mar-10 4.3% 5.0% 20, 11 4.8% 0.4% 38 Mar-10 4.3% 5.2% 20, 11 4.3% 0.9% 39 Jun-10 4.8% 5.2% 30, 11 3.7% 1.5% 40 Sep-10 4.4% 4.7% 40, 11 3.0% 1.7% 41 Dec-10 3.9% 4.6% 5.2% 30, 12 1.5% 42 Jan-11 4.2% 5.0% 20, 12 1.5% 1.5% 42 Jan-11 4.2% 5.0% 20, 12 1.5% 1.5% 44 Mar-11 4.2% 5.0% 20	32	Sep-08	4.8%	5.1%	40,09	4.3%	0.6%
34Mar-09 3.7% 4.1% $2Q, 10$ 4.4% -0.3% 35Jun-09 3.5% 4.6% $3Q, 10$ 3.9% 0.8% 36Sep-09 4.0% 5.0% $4Q, 10$ 4.2% 0.8% 37Dec-09 4.3% 5.0% $1Q, 11$ 4.6% 0.4% 38Mar-10 4.3% 5.2% $2Q, 11$ 4.2% 0.8% 39Jun-10 4.8% 5.2% $3Q, 11$ 3.7% 1.5% 40Sep-10 4.4% 4.7% $4Q, 11$ 3.0% 1.7% 41Dec-10 3.9% 4.6% $1Q, 12$ 3.1% 1.5% 42Jan-11 4.2% 5.0% $2Q, 12$ 4 4.4% 5.2% $3Q, 12$ 44Mar-11 4.2% 5.0% $2Q, 12$ 4 4.4% 5.2% $3Q, 12$ 45Apr-11 4.6% 5.2% $3Q, 12$ 4 4.4% 5.2% $3Q, 12$ 46May-11 4.6% 5.2% $3Q, 12$ 4 4.4% 5.2% $3Q, 12$ 47Jun-11 4.6% 5.2% $3Q, 12$ 4 4.4% 5.2% $3Q, 12$ 48Jul-11 4.3% 5.0% $4Q, 12$ 5 50% $4Q, 12$ 50Sep-11 4.3% 5.0% $4Q, 13$ 5 51 $Qcl-11$ 3.7% 3.8% $1Q, 13$ 5 52Nov-11 3.7% 3.8% $2Q, 13$ 5 53Dec-11<	33	Dec-08	4.5%	4.6%	10, 10	4,6%	0.0%
35 Jun-09 3.5% 4.6% 30, 10 3.9% 0.8% 36 Sep-09 4.0% 5.0% 40, 10 4.2% 0.8% 37 Dec-09 4.3% 5.0% 10, 11 4.8% 0.4% 38 Mar-10 4.3% 5.2% 20, 11 4.3% 0.8% 39 Jun-10 4.6% 5.2% 30, 11 3.7% 1.5% 40 Sep-10 4.4% 4.7% 40, 11 3.0% 1.7% 41 Dec-10 3.9% 4.6% 10, 12 3.1% 1.5% 42 Jan-11 4.2% 5.0% 20, 12 4 4 43 Feb-11 4.2% 5.0% 20, 12 4 4 44 Mar-11 4.2% 5.0% 20, 12 4 4 4 4 1.5% 1.5% 45 Apr-11 4.6% 5.2% 30, 12 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	34	Mar-09	3,7%	4,1%	20, 10	4.4%	-0.3%
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	35	Jun-09	3.5%	4.6%	3Q, 10	3.9%	0.8%
37 Dec-09 4.3% 5.0% 1Q, 11 4.6% 0.4% 38 Mar-10 4.3% 5.2% 2Q, 11 4.3% 0.9% 39 Jun-10 4.6% 5.2% 3Q, 11 3.7% 1.5% 40 Sep-10 4.4% 4.7% 4Q, 11 3.0% 1.7% 41 Dec-10 3.9% 4.6% 1Q, 12 3.1% 1.5% 42 Jan-11 4.2% 5.0% 2Q, 12 4 4 4.1 1.5% 42 Jan-11 4.2% 5.0% 2Q, 12 4 4 5.1% 2Q, 12 4 43 Feb-11 4.2% 5.0% 2Q, 12 4 4 5.2% 3Q, 12 4 4 4 4 4.5% 5.2% 3Q, 12 4 4 4.6% 5.2% 3Q, 12 4 4 4 4.6% 5.2% 3Q, 12 4 4 4 4.6% 5.2% 3Q, 12 4 5 5 5 5 5 5 5 5 5 5<	36	Sep-09	4.0%	5.0%	40, 10	4.2%	0.8%
38 Mar-10 4.3% 5.2% 20, 11 4.3% 0.9% 39 Jun-10 4.8% 5.2% 30, 11 3.7% 1.5% 40 Sep-10 4.4% 4.7% 40, 11 3.7% 1.5% 40 Sep-10 4.4% 4.7% 40, 11 3.0% 1.7% 41 Dec-10 3.9% 4.6% 12, 12 3.1% 1.5% 42 Jan-11 4.2% 5.0% 20, 12 12 14 43 Feb-11 4.2% 5.0% 20, 12 14 1.5% 44 Mar-11 4.2% 5.0% 20, 12 14 1.5% 45 Apr-11 4.6% 5.2% 30, 12 14 1.5% 46 May-11 4.6% 5.2% 30, 12 14 14 14 1.6% 5.2% 30, 12 14 14 14 14 14 14 14 16 12 14 14 16 15 16 12 12 14 14 16 12 <t< td=""><td>37</td><td>Dec-09</td><td>4.3%</td><td>5.0%</td><td>10, 11</td><td>4.6%</td><td>0.4%</td></t<>	37	Dec-09	4.3%	5.0%	10, 11	4.6%	0.4%
39 Jun-10 4.8% 5.2% 3Q, 11 3.7% 1.5% 40 Sep-10 4.4% 4.7% 4Q, 11 3.0% 1.7% 41 Dec-10 3.9% 4.6% 1Q, 12 3.1% 1.5% 42 Jan-11 4.2% 5.0% 2Q, 12 4 4 1.5% 42 Jan-11 4.2% 5.0% 2Q, 12 4 4 5.1% 2Q, 12 4 44 Mar-11 4.2% 5.1% 2Q, 12 4 4 5.2% 3Q, 12 4 4 4.6% 5.2% 3Q, 12 4 4 4.6% 5.2% 3Q, 12 4 4 4 4.6% 5.2% 3Q, 12 4 4 4 4 4 4.6% 5.2% 3Q, 12 4 4 4 4 4 5.2% 3Q, 12 4	38	Mar-10	4.3%	5.2%	20, 11	4.3%	0.8%
40Sep-104.4%4.7%40, 113.0%1.7%41Dec-103.9%4.6%10, 123.1%1.5%42Jan-114.2%5.0%20, 12143Feb-144.2%5.0%20, 12144Mar-114.2%5.0%20, 12145Apr-114.6%5.2%30, 12146May-114.6%5.2%30, 12147Jun-114.6%5.2%30, 12148Jul-144.3%5.0%40, 12150Sep-114.3%5.0%40, 12151Oct-113.7%3.8%10, 13152Nov-113.7%3.8%10, 13153Dec-113.7%3.8%20, 13154Jan-123.0%3.8%20, 13156Feb-123.0%3.8%20, 13157Apr-123.1%3.9%30, 13158Mar-123.0%3.8%20, 13158Mar-123.1%3.9%30, 131	39	Jun-10	4.8%	5.2%	3Q, 11	3.7%	1.5%
41 Dec-10 3.9% 4.6% 10, 12 3.1% 1.5% 42 Jan-11 4.2% 5.0% 20, 12 12 43 Feb-11 4.2% 5.0% 20, 12 14 44 Mar-11 4.2% 5.0% 20, 12 14 45 Apr-11 4.6% 5.2% 30, 12 14 46 May-11 4.6% 5.2% 30, 12 14 47 Jun-11 4.6% 5.2% 30, 12 14 48 Jul-11 4.6% 5.2% 30, 12 14 49 Aug-11 4.3% 5.0% 40, 12 12 50 Sep-11 4.3% 5.0% 40, 12 13 51 Oct-11 3.7% 3.8% 10, 13 14 52 Nov-11 3.7% 3.8% 10, 13 14 53 Dec-11 3.7% 3.8% 20, 13 15 54 Jan-12 3.0% 3.8% 20, 13 15 55 Feb-12 3.0% <td>40</td> <td>Sep-10</td> <td>4.4%</td> <td>4,7%</td> <td>40, 11</td> <td>3.0%</td> <td>1.7%</td>	40	Sep-10	4.4%	4,7%	40, 11	3.0%	1.7%
42 Jan-11 4.2% 5.0% 20, 12 43 Feb-11 4.2% 5.0% 20, 12 44 Mar-11 4.2% 5.1% 20, 12 45 Apr-11 4.6% 5.2% 30, 12 46 May-11 4.6% 5.2% 30, 12 47 Jun-11 4.6% 5.2% 30, 12 48 Jul-11 4.6% 5.2% 30, 12 47 Jun-11 4.6% 5.2% 30, 12 48 Jul-11 4.6% 5.2% 30, 12 50 Sep-11 4.3% 5.0% 40, 12 50 Sep-11 3.7% 3.8% 10, 13 52 Nav-11 3.7% 3.8% 10, 13 53 Dec-11 3.7% 3.8% 10, 13 54 Jan-12 3.0% 3.8% 20, 13 55 Feb-12 3.0% 3.8% 20, 13 56 Mar-12 3.0% 3.8% 20, 13 57 Apr-12 3.1% 3.9% <t< td=""><td>41</td><td>Dec-10</td><td>3,9%</td><td>4.6%</td><td>10, 12</td><td>3.1%</td><td>1,5%</td></t<>	41	Dec-10	3,9%	4.6%	10, 12	3.1%	1,5%
43 Feb-11 4.2% 5.0% 2Q, 12 44 Mar-11 4.2% 5.1% 2Q, 12 45 Apr-11 4.8% 5.2% 3Q, 12 46 May-11 4.8% 5.2% 3Q, 12 47 Jun-11 4.6% 5.2% 3Q, 12 48 Jul-11 4.6% 5.2% 3Q, 12 49 Aug-11 4.3% 5.0% 4Q, 12 50 Sep-11 4.3% 5.0% 4Q, 12 51 Qct-11 3.7% 3.9% 1Q, 13 52 Nov-11 3.7% 3.8% 1Q, 13 53 Dec-11 3.7% 3.8% 1Q, 13 54 Jan-12 3.0% 3.6% 2Q, 13 55 Feb-12 3.0% 3.6% 2Q, 13 56 Mar-12 3.0% 3.6% 2Q, 13 57 Apr-12 3.1% 3.9% 3Q, 13 58 May-12 3.1% 3.9% 3Q, 13	42	Jan-11	4.2%	5.0%	20, 12		
44 Mar-11 4.2% 5.1% $2Q, 12$ 45 Apr-11 4.8% 5.2% $3Q, 12$ 46 May-11 4.8% 5.2% $3Q, 12$ 47 Jun-11 4.6% 5.2% $3Q, 12$ 48 Jul-11 4.6% 5.2% $3Q, 12$ 49 Aug-11 4.3% 5.0% $4Q, 12$ 50 Sep-11 4.3% 4.2% $4Q, 12$ 51 Qct-11 3.7% 3.9% $1Q, 13$ 52 Nov-11 3.7% 3.8% $1Q, 13$ 53 Dec-11 3.7% 3.8% $2Q, 13$ 54 Jan-12 3.0% 3.8% $2Q, 13$ 55 Feb-12 3.0% 3.8% $2Q, 13$ 56 Mar-12 3.0% 3.8% $2Q, 13$ 57 Apr-12 3.1% 3.9% $3Q, 13$ 58 Mar-12 3.1% 3.9% $3Q, 13$	43	Feb-11	4.2%	5.0%	20, 12		
45 Apr-11 4.6% 5.2% 3Q, 12 46 May-11 4.6% 5.2% 3Q, 12 47 Jun-11 4.6% 5.2% 3Q, 12 48 Jun-11 4.6% 5.2% 4Q, 12 49 Aug-11 4.3% 5.0% 4Q, 12 50 Sep-11 4.3% 4.2% 4Q, 12 51 Qct+11 3.7% 3.9% 1Q, 13 52 Nov-11 3.7% 3.8% 1Q, 13 53 Dec-11 3.7% 3.8% 1Q, 13 54 Jan-12 3.0% 3.8% 2Q, 13 55 Feb-12 3.0% 3.8% 2Q, 13 56 Mar-12 3.0% 3.8% 2Q, 13 57 Apr-12 3.1% 3.9% 3Q, 13 58 May-12 3.1% 3.9% 3Q, 13	44	Mar-11	4.2%	5,1%	20,12		
40 May-11 4.8% 5.2% 30, 12 47 Jun-11 4.6% 5.2% 30, 12 48 Jui-11 4.6% 5.2% 30, 12 49 Aug-11 4.3% 5.0% 40, 12 50 Sep-11 4.3% 4.2% 40, 12 51 Oct-11 3.7% 3.8% 10, 13 52 Nov-11 3.7% 3.8% 10, 13 53 Dec-11 3.7% 3.8% 10, 13 54 Jan-12 3.0% 3.8% 20, 13 55 Feb-12 3.0% 3.8% 20, 13 56 Mar-12 3.0% 3.8% 20, 13 57 Apr-12 3.1% 3.9% 30, 13 58 May-12 3.1% 3.9% 30, 13	45	Apr-11	4.6%	5.2%	30, 12		
47 Jun-11 4.6% 5.2% 30,12 48 Jul-11 4.4% 5.2% 40,12 49 Aug-11 4.3% 5.0% 40,12 50 Sep-11 4.3% 4.2% 40,12 51 Qct-11 3.7% 3.9% 10,13 52 Nav-11 3.7% 3.8% 10,13 53 Dec-11 3.7% 3.8% 10,13 54 Jan-12 3.0% 3.8% 20,13 55 Feb-12 3.0% 3.8% 20,13 56 Mar-12 3.0% 3.8% 20,13 57 Apr-12 3.1% 3.9% 30,13	46	May-11	4.8%	5.2%	30, 12		
46 JGF-17 4.9% 5.2% 40,12 49 Aug-11 4.3% 5.0% 40,12 50 Sep-11 4.3% 4.2% 40,12 51 Qct-11 3.7% 3.9% 10,13 52 Nov-11 3.7% 3.8% 10,13 53 Dec-11 3.7% 3.8% 20,13 54 Jan-12 3.0% 3.8% 20,13 55 Feb-12 3.0% 3.6% 20,13 56 Mar-12 3.1% 3.9% 30,13 58 May-12 3.1% 3.9% 30,13	47	Jun-11	4,0%	5,2%	30, 12		
49 Aug-11 4.3% 5.0% 40,12 50 Sep-11 4.3% 4.2% 40,12 51 QcE-11 3.7% 3.9% 10,13 52 Nov-11 3.7% 3.8% 10,13 53 Dec-11 3.7% 3.8% 10,13 54 Jan-12 3.0% 3.8% 20,13 55 Feb-12 3.0% 3.8% 20,13 56 Mar-12 3.1% 3.9% 30,13 56 Mary-12 3.1% 3.9% 30,13	46	JUI-TT	4.9%	5.2%	40, 12		
30 300 300 4.2% 40,12 51 QcL-11 3.7% 3.9% 1Q,13 52 Nov-11 3.7% 3.8% 1Q,13 53 Dec-11 3.7% 3.8% 1Q,13 54 Jan-12 3.0% 3.8% 2Q,13 55 Feb-12 3.0% 3.8% 2Q,13 56 Mar-12 3.0% 3.8% 2Q,13 57 Apr-12 3.1% 3.9% 3Q,13 58 May-12 3.1% 3.9% 3Q,13	47 EA	MUQ-11 Cos 11	9.070 6.007	0,U70 4 104	40,12		
57 Querri 3,7% 3,8% 1Q,13 52 Nov-11 3,7% 3,8% 1Q,13 53 Dec-11 3,7% 3,8% 1Q,13 54 Jan-12 3,0% 3,8% 2Q,13 55 Feb-12 3,0% 3,8% 2Q,13 56 Mar-12 3,0% 3,8% 2Q,13 57 Apr-12 3,1% 3,9% 3Q,13 58 May-12 3,1% 3,9% 3Q,13	⇒U &^	Det 11	44,37%b 31,744	4.2%	4U,1∠ 10.+2		
Jac Jac <thjac< th=""> <thjac< th=""> <thjac< th=""></thjac<></thjac<></thjac<>	37 54	A26⊫11 Meni⊀≉	.∃./7/0 ~5.**ar	√.∜%a a.co.v	10,13		
53 Decrif 3.7% 3.6% 10, 13 54 Jan-12 3.0% 3.8% 20, 13 55 Feb-12 3.0% 3.8% 20, 13 56 Mar-12 3.0% 3.8% 20, 13 57 Apr-12 3.1% 3.9% 30, 13 58 May-12 3.1% 3.9% 30, 13	き ま だた	ENGV-TT Electrication	0.1% 0.704	3.570 0.864	10,13		
Joint Line J.U/2 J.G/2 J.G/2 <thj.g 2<="" th=""> J.G/2 J.G/2</thj.g>	03 64	LINGER 7 1	3.8%0 3.0%	3,0% 3,0%	102,102		
56 Mar-12 3.0% 3.6% 20,13 57 Apr-12 3.1% 3.9% 30,13 58 Mar-12 3.1% 3.9% 30,13	54 55	voiri. Feb. 17	3.V71 3 Au	3.07% 3.09%	∡⊊,32 20 12		
57 Apr-12 3.1% 3.9% 3Q,13 58 May-12 3.1% 3.9% 3Q,13	50	Mar-12	3.0%	38%	20 13		
58 May-12 3,1% 3,9% 3D 13	57	Apr-12	3,1%	3.9%	30, 13		
	58	May-12	3,1%	3.9%	30, 13		
59 Jun-12 3.1% 3.7% 30.13	59	Jun-12	3.1%	3.7%	30, 13		
60 Jul-12 2,9% 3,8% 4Q, 13	60	Jul-12	2.9%	3,8%	40, 13		

Source:

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