

Exhibit No.: 128
Issue: Cost of Capital; Capital Structure
Witness: Robert B. Hevert
Type of Exhibit: Rebuttal Testimony
Sponsoring Party: Kansas City Power & Light Company
Case No.: ER-2016-0285
Date Testimony Prepared: December 30, 2016

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO.: ER-2016-0285

FILED²

FEB 16 2017

Missouri Public
Service Commission

REBUTTAL TESTIMONY

OF

ROBERT B. HEVERT

ON BEHALF OF

KANSAS CITY POWER & LIGHT COMPANY

Kansas City, Missouri
December 30, 2016

KCP+L Exhibit No. 128
Date 2-7-17 Reporter mb
File No. ER-2016-0285

TABLE OF CONTENTS

I.	INTRODUCTION AND OVERVIEW	1
II.	RESPONSE TO STAFF WITNESS WOOLRIDGE.....	14
	A. <i>Recommended ROE</i>	15
	B. <i>Proxy Group Selection</i>	16
	C. <i>Application of the Constant Growth DCF Approach</i>	18
	D. <i>Application of the CAPM</i>	36
	E. <i>Market-To-Book Ratios and the Cost of Equity</i>	38
	F. <i>Relative Risk</i>	44
	G. <i>Capital Structure</i>	46
III.	RESPONSE TO OPC WITNESS GORMAN	47
	A. <i>Proxy Group Composition</i>	48
	B. <i>Constant Growth DCF Model</i>	49
	C. <i>Application of Capital Asset Pricing Model</i>	53
	D. <i>Application of the Risk Premium Model</i>	55
	E. <i>Risk Factors</i>	62
	F. <i>Financial Integrity</i>	63
IV.	CONCLUSIONS AND RECOMMENDATION	68

REBUTTAL TESTIMONY

OF

ROBERT B. HEVERT

Case No. ER-2016-0285

1 **I. INTRODUCTION AND OVERVIEW**

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

3 A: My name is Robert B. Hevert. I am a Partner with ScottMadden, Inc. (“ScottMadden”),
4 and my business address is 1900 West Park Drive, Suite 250, Westborough, MA 01581.

5 **Q: Are you the same Robert B. Hevert who pre-filed Direct Testimony in this matter?**

6 A: Yes, I am.

7 **Q: What is the purpose of your Rebuttal Testimony?**

8 A: On behalf of Kansas City Power & Light (“KCP&L” or the “Company”), my Rebuttal
9 Testimony responds to the Revenue Requirement Cost of Service Report (the “Staff
10 Report”) submitted in this proceeding by the Missouri Public Service Commission
11 Utility Services Division (“Staff”) as it relates to the recommended Return on Equity
12 (“ROE”), and capital structure for the Company. Dr. J. Randall Woolridge presents
13 Staff’s ROE recommendation. I also respond to the direct testimony of Mr. Michael P.
14 Gorman on behalf of the Office of Public Counsel (“OPC”), as his direct testimony
15 relates to the Company’s ROE. My analyses and conclusions are supported by the data
16 presented in Schedules RBH-13 through RBH-29, which have been prepared by me or
17 under my direction.

1 **Q: Please provide a summary overview of the recommendations contained in your**
2 **Rebuttal Testimony.**

3 A: In my Direct Testimony I recommended an ROE within a range of 9.75 percent to 10.50
4 percent. As my Direct Testimony discussed, my ROE recommendation and the analytical
5 results on which it is based consider a variety of factors, including certain risks faced by
6 KCP&L such as the regulatory environment in which the Company operates, the
7 Company's generation portfolio, and the Company's capital expenditure plans.

8 Because the application of financial models and the interpretation of their results
9 are often sources of disagreement among analysts in regulatory proceedings, I believe it
10 is important to review and consider a variety of data points; doing so enables us to put in
11 context both quantitative analyses and the associated recommendations. As such, I have
12 updated many of the analyses contained in my Direct Testimony, and I have provided
13 several new analyses in response to issues raised by Dr. Woolridge and Mr. Gorman ("the
14 Opposing Witnesses"). As discussed throughout the balance of my Rebuttal Testimony,
15 those analyses continue to support my ROE range and recommendation.

16 In addition, the Company's capital structure consisting of 49.88 percent common
17 equity and 50.12 percent long-term debt is consistent with industry practice, reasonable
18 relative to its peers, and supports KCP&L's financial integrity.¹

19 **Q: Please summarize the updated analyses contained in your Rebuttal Testimony.**

20 A: In response to the Opposing Witnesses, I have updated the Constant Growth and Multi-
21 Stage forms of the DCF, CAPM, and Bond Yield Risk Premium analyses based on data
22 through November 30, 2016 and applied those analyses to my updated proxy group,
23 comprised of the proxy group contained in my Direct Testimony including Black Hills

1 Corporation (“BKH”) and WEC Energy Group (“WEC”). BKH and WEC were removed
2 from the proxy group in my Direct Testimony because of their significant acquisitions of
3 SourceGas Holdings LLC and Integrys Energy Group, Inc., respectively.² Because
4 enough time has passed to ensure that the analytical results are not affected by those
5 acquisitions, I have included BKH and WEC in my updated proxy group.

6 **Q: Are there capital market measures that are helpful to observe in assessing ROE**
7 **recommendations?**

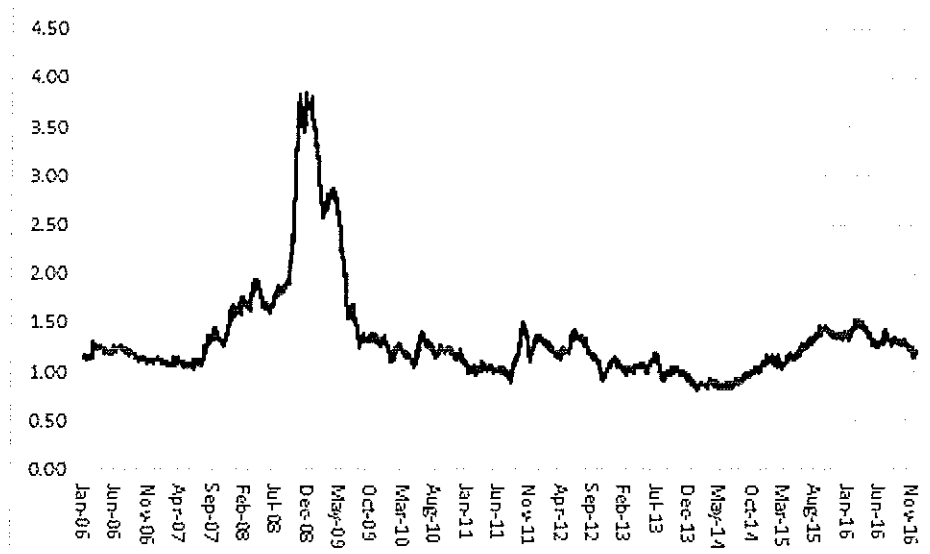
8 **A:** Yes, there are. For example, credit spreads, which represent the difference between the
9 yields on debt and Treasury yields, can be directly observed. Although credit spreads are
10 not a full measure of equity risk, they can be seen to reflect, to some extent, investors’
11 assessments of risk at a given point in time. As Chart 1 below indicates, current credit
12 spreads (for A-rated utilities) are near their highest level since the year 2006, excluding
13 the financial crisis of 2008 and 2009.

¹ Direct Testimony of Robert B. Hevert at 60-62 and Schedule RBH-12.

² Black Hills Corporation, SEC Form 8-K, February 12, 2016. Wisconsin Energy Corporation, *Wisconsin Energy completes acquisition of Integrys to form WEC Energy Group*, Press Release, June 29, 2015. The combined company is now called WEC Energy Group, Inc.

1

Chart 1: A-Rated Utility Credit Spreads³



2

3 Looking to the period subsequent to the financial crisis, the 30-day average credit spread
4 is in the top 63rd percentile. Taken from that perspective, it is apparent that investors
5 currently see the utility sector as relatively risky, and require higher returns as
6 compensation for that risk.

7

8 As to the relationship between the level of Treasury yields and credit spreads,
9 Treasury yields explain virtually none of the change in credit spreads.⁴ Equity market
10 volatility (as measured by the VIX), on the other hand, explains about 68.00 percent of
11 the change in credit spreads.⁵ That is, investors are concerned with market uncertainty,
12 and require higher returns as uncertainty increases. Based on data from the Chicago
13 Board Options Exchange, broad market volatility is expected to increase by over 75.00
percent over the coming two years.⁶

³ Source: Bloomberg Professional

⁴ Source: Bloomberg Professional.

⁵ Source: Bloomberg Professional.

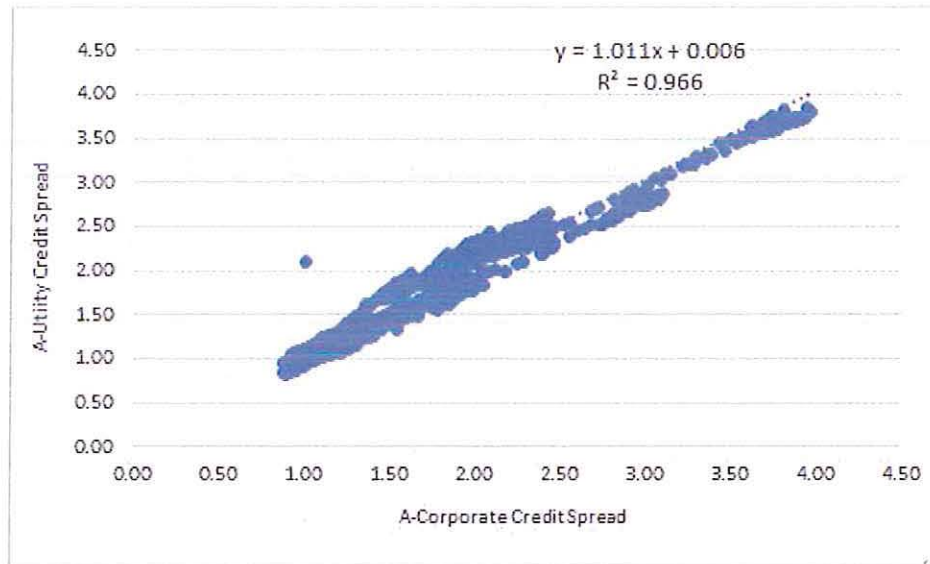
⁶ Source: CBOE.com, accessed December 9, 2016.

1 **Q: Have you also reviewed the relationship between credit spreads for A-rated utility**
2 **debt relative to A-rated corporate debt?**

3 **A: Yes, I have. Given the historical volatility in the spread between corporate and utility A-**
4 **rated debt, there is no reason to conclude that utility yields are different than those of**
5 **their corporate counterparts. That conclusion is consistent with the finding that over**
6 **time, there has been a nearly one-to-one relationship between credit spreads on A-rated**
7 **corporate and utility bonds. In fact, a regression analysis in which corporate credit**
8 **spreads are the explanatory variable and utility credit spreads are the dependent variable**
9 **shows that slope is approximately 1.00 and highly significant (see Chart 2, below).**
10 **Because the intercept term is statistically insignificant, we can conclude that there has**
11 **been no material difference between the two, and there certainly is no meaningful**
12 **difference in the current market. Those findings tell us that among A-rated companies,**
13 **debt investors do not require a lower return for utilities than they do for other corporate**
14 **entities.**

1

Chart 2: Corporate and Utility Credit Spreads (A-Rated)⁷



2

3 **Q: Does market-based data indicate that investors see a probability of increasing**
4 **interest rates?**

5 **A:** Yes. There is observable market data indicating investors expect interest rates to increase
6 in the near future. Regarding future Federal Funds rate increases, data compiled by CME
7 Groups indicates that investors see a 97.00 percent likelihood of further Federal Funds
8 rate increases, even after the December 14, 2016 increase. As shown in Table 1, (below)
9 the market is now anticipating at least one additional rate hike (74.30 percent probability)
10 and possibly two or three (33.60 percent and 8.80 percent probability, respectively) by
11 December 2017.

⁷ Source: Bloomberg Professional. Please note that for a univariate regression, the correlation coefficient equals the square root of the R-square. In this case, the square root of 0.9669 is approximately 0.98 (98.00 percent).

1 **Table 1: Probability of Federal Funds Rate Increases⁸**

Target Rate (bps)	Federal Reserve Meeting Date							
	2/1/17	3/15/17	5/3/17	6/14/17	7/26/17	9/20/17	11/1/17	12/13/17
50-75	96.0%	79.0%	63.8%	25.5%	19.8%	10.1%	8.5%	3.5%
75-100	4.0%	20.3%	31.6%	50.9%	45.2%	32.8%	29.1%	17.5%
100-125		0.7%	4.5%	20.7%	27.5%	36.2%	35.7%	32.7%
125-150			0.1%	2.7%	6.8%	16.9%	20.0%	28.8%
150-175				0.1%	0.7%	3.7%	5.8%	13.4%
175-200						0.3%	0.9%	3.5%
200-225							0.1%	0.5%

2
3 In fact, the probability of no increase in the coming year is only 3.50 percent.

4 Looking to long-term interest rates, consensus projections gathered by *Blue Chip*
5 *Financial Forecasts* suggest a 30-year Treasury yield of 3.40 percent by the first quarter
6 of 2018 (an approximately 38 basis point increase over the 3.02 percent yield as of end of
7 November, and 25 basis points above the December 15 spot yield).⁹ The Social Security
8 Administration (“SSA”) projects that long-term Treasury yields will rise from 2.40
9 percent in 2016 to 4.80 percent by 2021. Similarly, and as discussed earlier, market
10 expectations for increased long-term Treasury yields are apparent in the market prices to
11 buy or sell at-the-money options in long-term Government bond funds. That is, the value
12 of the option to sell the TLT (an exchange-traded fund of long-term Government bonds)
13 in January 2019 at today’s price is approximately one and a half times more than the
14 value of the option to buy that fund.¹⁰ Since bond prices fall as interest rates increase,
15 investors see a greater likelihood of increases in long-term interest rates than decreases.

16 Lastly, we can view the market’s expectations of future interest rates based on the
17 current yield curve. Those expected rates, often referred to as “forward yields” are

⁸ Source: <http://www.cmegroup.com/trading/interest-rates/countdown-to-fomc.html>, accessed 12/15/2016.

⁹ Blue Chip Financial Forecasts, Vol. 35, No. 12, December 1, 2016, at 2.

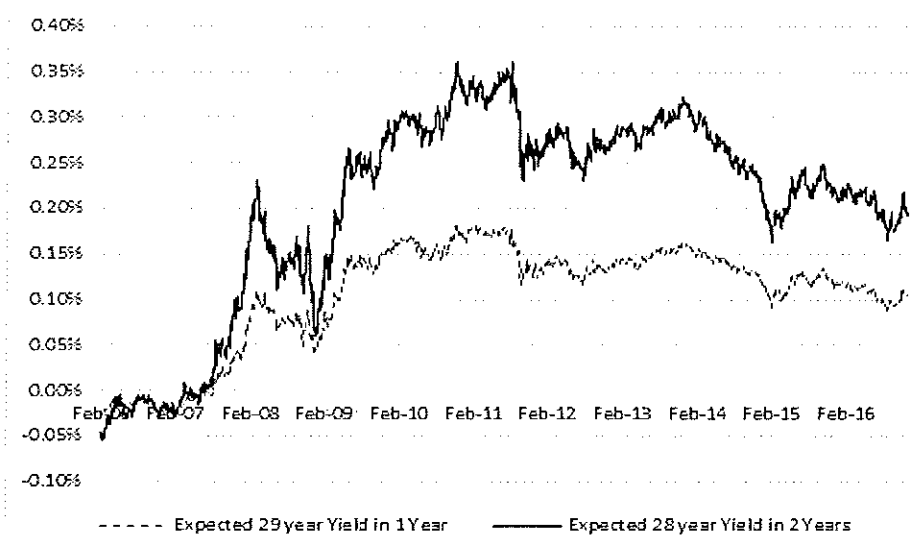
1 derived from the “Expectations” theory, which states that (for example) the current 30-
2 year Treasury yield equals the combination of the current three-year Treasury yield, and
3 the 29-year Treasury yield expected in one year. That is, an investor would be indifferent
4 to (1) holding a 30-year Treasury to maturity, or (2) holding a one-year Treasury to
5 maturity, then a 29-year Treasury bond, also to maturity.¹¹ As Chart 3 (below) indicates,
6 since 2006 the implied forward 29- and 28- year yields (one and two years hence,
7 respectively) consistently exceeded the (interpolated) spot yields. That is, just as
8 economists’ projections implied increased interest rates, so did observable Treasury
9 yields.

¹⁰ <http://www.nasdaq.com/symbol/tlt/option-chain?dateindex=8>

¹¹ In addition to the Expectations theory, there are other theories regarding the term structure of interest rates including: the Liquidity Premium Theory, which asserts that investors require a premium for holding long term bonds; the Market Segmentation Theory, which states that securities of different terms are not substitutable and, as such, the supply of and demand for short-term and long-term instruments is developed independently; and the Preferred Habitat Theory, which states that in addition to interest rate expectations, certain investors have distinct investment horizons and will require a return premium for bonds with maturities outside of that preference.

1

Chart 3: Forward vs. Interpolated Treasury Yields¹²



2

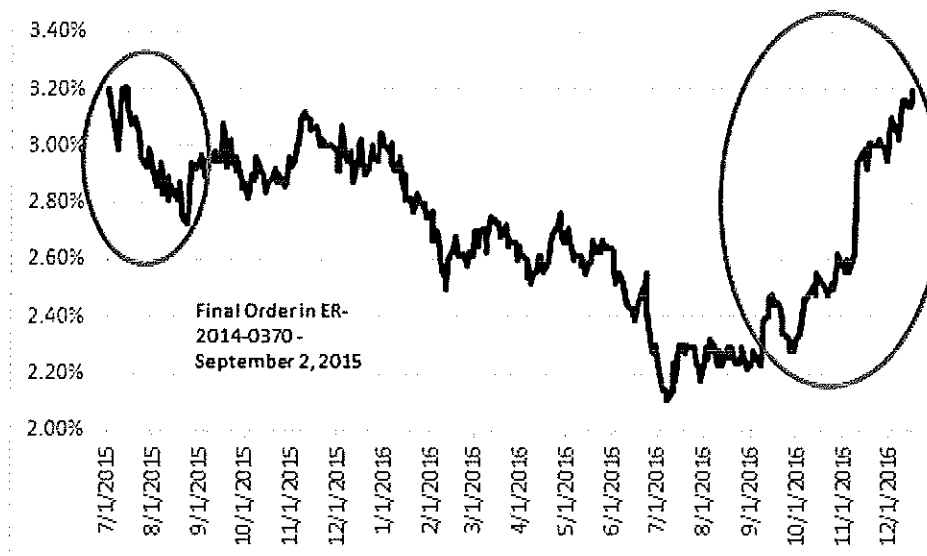
3 **Q: How have Treasury yields changed since the Company’s previous rate case?**

4 A: The Company was authorized an ROE of 9.50 percent in Case No. ER-2014-0370 on
 5 September 2, 2015. As shown in Chart 4, below, the period leading up to that Order was
 6 one of decreasing Treasury yields. That no longer is the case. Since July 6, 2016,
 7 Treasury yields have increased by over 100 basis points.

¹² Source: Federal Reserve Schedule H.15. Spot yields are interpolated.

1

Chart 4: 30-Year Treasury Bond Yields



2

3 **Q. Have you considered other data points in your assessment of general economic**
4 **conditions?**

5 **A.** Yes. Although a single observation, I note that the Bureau of Economic Analysis
6 recently announced that third quarter Gross Domestic Product rose by 3.50 percent.¹³ At
7 the same time, expected inflation (as measured by the 30-year TIPS spread) was in the
8 range of 2.05 percent to 2.10 percent,¹⁴ suggesting nominal GDP growth in the range of
9 5.60 percent to 5.65 percent.

10 **Q: What do you conclude from those analyses?**

11 **A:** First, it is clear that interest rates have increased from the low levels experienced in 2015
12 and 2016. It also is clear that investor expectations, as measured by forward Treasury
13 yields and the implied probability of Federal Funds rate increases, suggest rising capital
14 costs in the near term. Those higher Treasury yields, combined with elevated credit
15 spreads again indicate expectations for increased capital costs. The observation that

¹³ Bureau of Economic Analysis, News Release dated December 22, 2016.

1 interest rates and GDP growth have increased indicate that the financial community sees
2 the strong prospect of increased growth throughout the economy. As that occurs, and as
3 interest rates continue to rise, it would be reasonable to expect higher dividend yields and
4 higher growth rates. In the context of the Discounted Cash Flow model, those variables
5 would combine to indicate increases in the Cost of Equity.

6 Although the market data discussed above indicate increasing costs of capital, it is
7 important to keep in mind that estimating the Cost of Equity is an empirical, but not an
8 entirely mathematical exercise; that the methods used, or the weight given to any one
9 method, may change from case to case; and that the returns authorized in other
10 jurisdictions provide a relevant, observable and verifiable benchmark for assessing the
11 reasonableness of analytical assumptions, results, and conclusions. With those points in
12 mind, I continue to believe that a reasonable range of ROE estimates is from 9.75 percent
13 to 10.50 percent.

14 **Q: Have there been other recent periods when utility valuation levels were high relative**
15 **to both their long-term average and the market?**

16 **A:** Yes. In early 2015, the utility sector (as measured by the S&P Electric Utility Index)
17 traded at a Price/Earnings ratio of approximately 18.00. During the same period, the
18 overall market (as measured by the S&P 500) traded at a P/E of approximately 18.00. In
19 late January 2015, the utility sector began to lose value, and by June 2015 it had lost
20 approximately 15.50 percent of its value. Similarly, the P/E ratio of the S&P Electric
21 Utility Index was only slightly below that of the S&P 500 in early July 2016. Since then,
22 the S&P Electric Utility Index lost approximately 13.00 percent of its value, while the
23 S&P 500 increased approximately 4.70 percent. Also during that time, the 30-year

¹⁴ Federal Reserve Schedule H.15, dated December 27, 2016.

1 Treasury yield increased by almost 90 basis points (an increase of over 40.00 percent).
2 The point simply is that as investors see an increasing likelihood of higher interest rates,
3 they will move out of sectors that provided higher yields relative to the overall market.
4 As they do, valuations and P/E ratios fall.

5 **Q: What conclusions do you draw from those analyses?**

6 A: In my view, we cannot conclude that the recent levels of utility valuations are due to a
7 fundamental change in the risk perceptions of utility investors. Based on those
8 observations, I disagree that the Company's Cost of Equity is 9.00 percent, or below, as
9 the Opposing Witnesses propose.

10 **Q: Please provide an overview of your response to the ROE recommendations made by**
11 **the Opposing Witnesses.**

12 A: As the Commission has pointed out, because no one financial model is any more
13 "correct" than any other in all circumstances, it is important to consider the results of a
14 variety of methods.¹⁵ I agree with the Commission's finding that at times certain model
15 results simply do not make sense. In keeping with that approach, my Rebuttal Testimony
16 considers a variety of analytical methods, and reflects both Company-specific and general
17 market factors.

18 The Commission also has found that because ratemaking is an inexact science,
19 and given that there is no statutorily prescribed method to estimate the Cost of Equity,
20 different approaches may be used in different cases.¹⁶ I agree with the Commission on
21 that point, as well. Although doing so requires the use of financial models, determining
22 the Cost of Equity does not always lend itself to a strictly mathematical solution. Rather,

¹⁵ In re Union Elec. Co., No. ER-2011-0028, Report and Order (Mo. P.S.C., July 13, 2011), at 67.

¹⁶ In re Kansas City Power & Light Co., No. ER-2010-0355, Report and Order (Mo. P.S.C., Apr. 12, 2011) at 124.

1 it requires the application of reasoned judgment in vetting the models and assumptions
2 used by various analysts, and in assessing the reasonableness of their recommendations.
3 That judgment may well lead to the conclusion that the emphasis applied to a particular
4 method in a prior proceeding is not appropriate in the current instance.

5 In this proceeding the Opposing Witnesses have given considerable weight to the
6 Discounted Cash Flow (“DCF”) method, even though their models produce ROE
7 estimates that are 20 to 50 basis points, and more, below the returns authorized by state
8 commissions across the country for other electric utilities. Both Staff and Mr. Gorman
9 give considerable weight to their Constant Growth DCF models, even though the highest
10 of their DCF estimates are below the lowest ROE ever authorized for a vertically
11 integrated electric utility.

12 Given their common dependence on a method that produces disproportionately
13 low estimates, it is not surprising that the Opposing Witnesses’ ROE recommendations
14 are clustered in a narrow range. Nor is it surprising that their recommendations fall far
15 below the range of returns authorized in other jurisdictions. Like this Commission, other
16 regulatory authorities have been reluctant to give undue weight to models and methods
17 that produce unreasonably low results. As discussed in my response to Mr. Gorman,
18 ROE recommendations of 9.00 percent, and lower, are below even those authorized for
19 utilities that do not have the operating, environmental, and financial risks associated with
20 owning electric generating assets. In fact, they are below the returns authorized in
21 regulatory environments considered less constructive than Missouri.¹⁷ Consequently,

¹⁷ I note that Missouri is currently ranked “Average/2” by Regulatory Research Associates. However, citing concerns regarding the potential failure of the legislature or the Commission to take action to address regulatory lag concerns, or if the Commission exercises authority in the Great Plains Energy and Westar Energy merger, “a

1 there is no reason to conclude that because the Opposing Witnesses make similar
2 recommendations, their methods are sound or their assumptions are reasonable.

3 Taken as a group, the Opposing Witnesses' ROE recommendations are far below
4 any objective measure of the Company's Cost of Equity. For the reasons discussed
5 throughout the balance of my Rebuttal Testimony, their recommendations cannot be
6 supported by the reasonable application of financial models, nor can they be justified by
7 current or expected market conditions. Rather, the Opposing Witnesses' ROE
8 recommendations are outliers that would only serve to increase the Company's regulatory
9 and financial risk, diminish its ability to compete for capital, and have the counter-
10 productive effect of increasing KCP&L's overall cost of capital, ultimately to the
11 detriment of its customers.

12 II. RESPONSE TO STAFF WITNESS WOOLRIDGE

13 **Q: Please provide a brief summary of Dr. Woolridge's testimony and ROE**
14 **recommendation.**

15 **A:** Dr. Woolridge recommends an ROE of 8.65 percent, which is at the upper end of his
16 DCF and CAPM results. Dr. Woolridge makes clear, however, that his recommendation
17 relies primarily on his Constant Growth DCF model results.¹⁸

18 **Q: What are the principal areas of disagreement between you and Dr. Woolridge?**

19 **A:** There are several areas in which I disagree with Dr. Woolridge. In general, those areas
20 include: (1) The reasonableness of an ROE recommendation far below recently
21 authorized ROEs; (2) the composition and selection of the proxy group companies; (3)

reduction in the ranking may be justified." See Regulatory Research Associates, Assessment of the Missouri Public Service Commission, updated October 6, 2016.

¹⁸ Staff Revenue Requirement Cost of Service Report, at 29.

1 the growth rates applied in the Constant Growth DCF model; (4) the application of the
2 CAPM; (5) the relevance of Market-to-Book (“M/B”) ratios in excess of unity; (6) the
3 business risk of KCP&L relative to the proxy group; and (7) the appropriate capital
4 structure for the Company. In addition, I disagree with Dr. Woolridge’s presentation and
5 interpretation of certain data relating to capital market conditions.

6
7 ***A. Recommended ROE***

8 **Q: Is Dr. Woolridge’s 8.65 percent consistent with recently authorized returns for**
9 **electric utilities?**

10 **A:** No. As shown in Schedule RBH-18, an ROE of 8.65 percent is far below the returns
11 currently authorized for electric utilities. In fact, as noted by Dr. Woolridge, an 8.65
12 percent ROE would be approximately 93 to 136 basis points below the recent average
13 returns for electric utilities.¹⁹

14 **Q: What is your conclusion regarding the reasonableness of Dr. Woolridge’s**
15 **recommended ROE?**

16 **A:** Regardless of how Dr. Woolridge arrived at his recommendation, it is very difficult to
17 reconcile an ROE of 8.65 percent with past, current, and expected market environments.
18 The implications of Dr. Woolridge not reconciling his ROE recommendation with
19 authorized returns are particularly acute since, as described below, his conclusion is
20 based principally on his application of a single model for which his inputs are quite
21 subjective, his results cannot be replicated, and whose underlying assumptions are
22 incompatible with prevailing market conditions.

1

2 ***B. Proxy Group Selection***

3 **Q: Please describe the screening criteria by which Dr. Woolridge developed his Proxy**
4 **Group.**

5 A: Dr. Woolridge relied on six screening criteria to develop his sample of 30 companies:

- 6 1. Proxy companies must derive at least 50.00 percent of revenues from regulated
7 electric operations;
- 8 2. Each company selected must be listed as an Electric Utility by Value Line and as
9 an Electric Utility or Combination Electric and Gas company by AUS Utilities
10 Reports;
- 11 3. Selected companies must have an investment grade bond rating;
- 12 4. Companies must have a consistent dividend record with no cuts or omissions for
13 the past six months;
- 14 5. Each company must not be involved in an acquisition, or be the target of an
15 acquisition in the past six months; and
- 16 6. Proxy companies must have long-term EPS growth forecasts available from
17 Yahoo!, Reuters, or Zacks.²⁰

18 **Q: Do you agree with Dr. Woolridge's screening criteria?**

19 A: Not entirely. Although we do have certain criteria in common (for example we both
20 exclude companies that are party to a significant corporate transaction or that do not

¹⁹ At page 43 of the Staff Revenue Requirement Cost of Service Report, Dr. Woolridge refers to authorized returns for electric utilities.

²⁰ Staff Revenue Requirement Cost of Service Report, at 22.

1 consistently pay dividends), as explained below, I do not believe that Dr. Woolridge's
2 screens render a group of companies that is sufficiently comparable to KCP&L.

3 **Q: Do any of Dr. Woolridge's proxy companies fail his proxy group screening criteria?**

4 A: I believe so. Dr. Woolridge included in his proxy group Dominion Resources
5 ("Dominion"), Duke Energy Corporation ("Duke"), and Southern Company
6 ("Southern"), which are all party to significant acquisitions: Dominion completed its
7 acquisition of Questar on September 16, 2016;²¹ Duke completed its acquisition of
8 Piedmont Natural Gas Company, Inc. on October 3, 2016;²² and Southern completed its
9 acquisition of AGL Resources Inc. on July 1, 2016.²³ As such, those companies should
10 be removed from the proxy group.

11 **Q: What is your concern with Dr. Woolridge's use of revenue, rather than income, as a**
12 **screening criterion?**

13 A: Measures of income are far more likely to be considered by the financial community in
14 making credit assessments and investment decisions than are measures of revenue. From
15 the perspective of credit markets, measures of financial strength and liquidity are focused
16 on cash from operations, which is directly derivative of earnings, as opposed to revenue.
17 For example, Moody's assigns a 40.00 percent weight to measures of financial strength
18 and liquidity, of which 32.50 percent specifically relates to the ability to cover debt
19 obligations with cash from operations.²⁴

20 Just as rating agencies focus on measures of cash from operations, equity
21 investors prefer measures of income in assessing equity valuation levels; common

²¹ Dominion Resources, Inc., Merger Press Release, September 16, 2016.

²² Duke Energy Corporation, SEC Form 8-K, October 3, 2016.

²³ Southern Company, SEC Form 8-K, July 1, 2016.

1 measures of relative equity valuation include the Price/Earnings ratio, and the ratio of
2 Enterprise Value/EBITDA (Earnings Before Interest, Taxes, Depreciation, and
3 Amortization). Revenue, however, may be several steps removed from the earnings and
4 cash flows that are the basis of equity valuations. For example, energy trading and
5 marketing units often represent high revenue but low margin operations. Those
6 operations may generate a comparatively large proportion of the combined entity's
7 revenue, but only a small percentage of its income. In such cases, focusing on revenue
8 may mislead the analyst into assuming that a given operating unit is the primary driver of
9 expected growth, when other business segments create the majority of earnings and cash
10 flows. Here, we are considering whether the underlying utility is the principal source of
11 long-term growth and as such, it could be misleading to focus on revenue rather than
12 earnings for the purpose of identifying proxy companies.

13
14 ***C. Application of the Constant Growth DCF Approach***

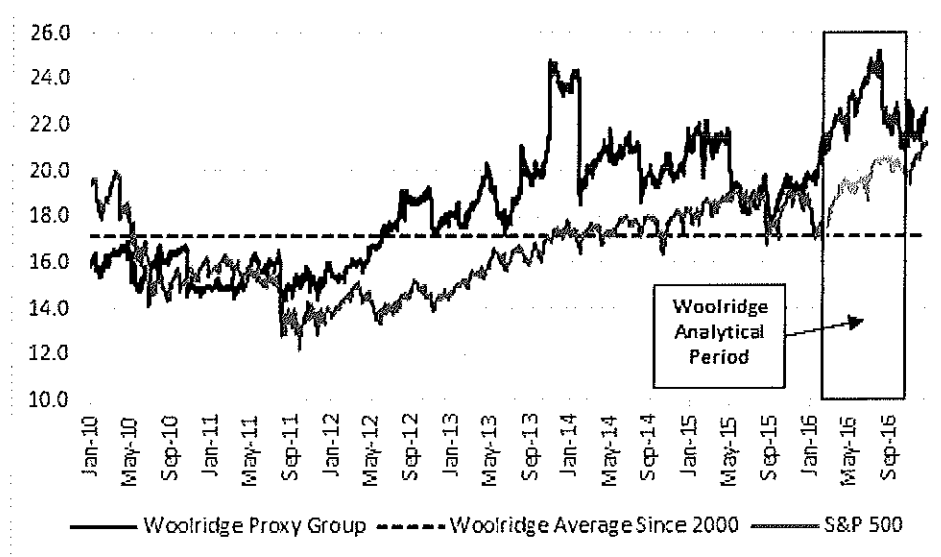
15 **Q: Please summarize your concerns with the Constant Growth DCF model and Dr.**
16 **Woolridge's application of that method.**

17 **A:** There are several aspects of Dr. Woolridge's DCF analyses and conclusions that are
18 incompatible with market conditions, and inconsistent with the practical interpretation of
19 the models' results. For example, the market data used in Dr. Woolridge's DCF analyses
20 conflict with the models' underlying assumptions. In particular, the market prices used to
21 calculate the dividend yield were taken from a period during which utilities in general,
22 and the proxy companies in particular, traded at unusually high, and likely unsustainable,

²⁴ See Moody's Investors Service, Rating Methodology, *Regulated Electric and Gas Utilities*, December 23, 2013,

1 levels. In fact, as shown in Chart 5 below, during Dr. Woolridge’s study period, utility
2 P/E ratios exceeded their long-term average, and were higher than the market P/E ratio
3 (as measured by the S&P 500).²⁵

4 **Chart 5: P/E Ratios Over Time**



5
6 The elevated P/E ratios are an important factor simply because the Constant
7 Growth DCF model assumes constant P/E ratios in perpetuity. Consequently, the basis of
8 Dr. Woolridge’s recommendation – the Constant Growth DCF model – assumes data that
9 are inconsistent with the model’s fundamental assumptions.

10 Lastly, Dr. Woolridge’s application of the Constant Growth DCF model includes
11 a degree of subjectivity that prevents us from replicating the fundamental inputs which
12 drive his results. It is entirely possible that analysts looking at the same data would come
13 to different conclusions. For example, based on his review of historical and projected
14 dividend, book value, earnings and “sustainable” growth rates, Dr. Woolridge assumes a

at 10-14.
²⁵ Source: SNL Financial, Bloomberg Professional. The dividend yields in Dr. Woolridge’s DCF study (see Exhibit JRW-10) are calculated on the 30-, 90-, and 180-trading day periods ending October 21, 2016.

1 growth rate of 5.00 percent for the companies in his proxy group, although it is unclear
2 how he calculates that estimate.²⁶ Moreover, Dr. Woolridge’s judgment is to give
3 “primary weight”²⁷ to growth rate projections produced by equity analysts, despite his
4 position that those analysts knowingly and persistently produce biased forecasts.

5 **Q: What growth rates did Dr. Woolridge review in his Constant Growth DCF analysis?**

6 **A:** Dr. Woolridge reviewed a number of growth rates, including historical and projected
7 DPS, BVPS, and EPS growth rates as reported by Value Line; analysts’ consensus EPS
8 growth rate projections from Yahoo!, Reuters, and Zacks; and an estimate of “Sustainable
9 Growth” derived from data provided by Value Line. Dr. Woolridge states that in arriving
10 at his 8.45 percent DCF estimate, he gave more weight to projected EPS growth rates.²⁸

²⁶ Staff Revenue Requirement Cost of Service Report, at 36.

²⁷ *Ibid.*

²⁸ *Ibid.*

1 **Table 2: Summary of Dr. Woolridge's Growth Rate Estimates**²⁹

	Dr. Woolridge Proxy Group
Value Line Historical Growth Rates (DPS, BVPS, EPS)	4.20%
Value Line Projected Growth Rates (DPS, BVPS, EPS)	4.90%
Sustainable Growth	3.80%
Analyst Projected EPS Growth Rates (excl. Value Line) – Mean/Median	4.50%/5.20%
Dr. Woolridge's Assumed DCF Growth Rate	5.00%

2
3 **Q: Do you agree with Dr. Woolridge's Sustainable Growth rate estimate?**

4 **A:** No, I do not. The Sustainable Growth model assumes that growth is a function of
5 expected earnings, and the extent to which those earnings are retained (that is, not paid
6 out in dividends). Dr. Woolridge relies on the simplest form of the Sustainable Growth
7 model, the "br" approach (where "b" is the earnings retention rate, and "r" is the expected
8 Return on Common Equity). As Schedule RBH-19 demonstrates, the "br" method is
9 essentially equal to Value Line's "Retained to Common Equity" rate (differences are due
10 to rounding).

11 If Dr. Woolridge is going to consider a form of Sustainable Growth, he should use
12 the "br + sv" form of the model, which reflects growth from both internally generated
13 funds (*i.e.*, the "br" term) and from issuances of equity (*i.e.*, the "sv" term). As noted
14 above, the first term is the product of the retention ratio (*i.e.*, "b", or the portion of net
15 income not paid in dividends) and the expected return on equity (*i.e.*, "r"). The "sv" term
16 can be represented as:

²⁹ See *Ibid.*, at 48 and Exhibit JRW-10, at 6.

1
$$\left(\frac{m}{b} - 1\right) \times \text{Growth Rate in Common Shares}$$

2 Where:

3
$$\frac{m}{b} = \text{The Market to Book Ratio}$$

4 In this form, the “sv” term reflects an element of growth as the product of (1) the
5 growth in shares outstanding and (2) that portion of the market-to-book ratio that exceeds
6 unity.

7 In addition, it is important to realize that for the purpose of setting utility rates,
8 Sustainable Growth requires an estimate of the expected earned Return on Common
9 Equity. Since the “r” in the “br” approach refers to the equity return, Dr. Woolridge
10 effectively has pre-supposed the Return on Common Equity projected by Value Line for
11 his proxy group companies. Notwithstanding that Dr. Woolridge has assumed the
12 reasonableness of Value Line’s projections for the purpose of his Sustainable Growth
13 calculation, as demonstrated in Schedule RBH-19, his recommended Cost of Equity of
14 8.65 percent is 190 basis points below the mean Return on Common Equity estimate for
15 his proxy group of 10.55 percent.

16 **Q: Are there reasons to doubt the results of a DCF analysis that uses the Sustainable**
17 **Growth rate for electric utilities in particular?**

18 A: Yes. As noted below, the projected realized Return on Common Equity for many of the
19 proxy companies is significantly diluted by recent or projected additions to net plant.

20 **Q: Have you conducted any analyses to demonstrate how the proxy companies’ earned**
21 **ROE projections are diluted by ongoing capital expenditures?**

22 A: Yes, I have. In my Direct Testimony I analyzed Value Line’s earned ROE projections
23 using the “DuPont” formula, which decomposes the Return on Common Equity into three

1 components: (1) the Profit Margin (net income/revenues); (2) Asset Turnover
2 (revenues/net plant); and (3) the Equity Multiplier (net plant/equity).³⁰

3 As Schedule RBH-9 in my Direct Testimony demonstrates, the Asset Turnover
4 rate declined from 2003 through 2015 and is expected to remain at its current level
5 through Value Line's 2019 to 2021 projection period. Over that same period the proxy
6 company average Net Plant experienced a cumulative increase of approximately 205.58
7 percent. Because the utility industry is going through a period of increased capital
8 investment, the lag between the addition of net plant and revenue generated by those
9 investments dilute the Asset Turnover ratio, at least in the near term. Consequently, the
10 projected Return on Common Equity also is diminished, such that its usefulness as a
11 measure of investors' expectations of long-term (*i.e.*, in perpetuity) growth is limited.

12 As also shown in Schedule RBH-9, there is a statistically significant negative
13 relationship between the annual change in the Asset Turnover rate and the annual change
14 in Net Plant, such that as annual net plant increases, the Asset Turnover ratio decreases.
15 Again, that analysis calls into question the reasonableness of the "Sustainable Growth"
16 method as a measure of long-term growth.

17 **Q: Do Dr. Woolridge's analyses account for abnormally elevated P/E ratios?**

18 **A:** Not on a consistent basis. DCF-based methods, such as the Constant Growth model on
19 which Dr. Woolridge relies, depend on recent stock prices as a principal input, and (in the
20 case of the Constant Growth model) assume that Price/Earnings ratios, and resulting Cost
21 of Equity will remain constant in perpetuity. As noted above, an important analytical

³⁰ See Schedule RBH-9.

1 issue is that utility sector P/E ratios recently have been well above their historical
2 levels.³¹

3 To support his Capital Asset Pricing Model analysis, Dr. Woolridge refers to
4 “Building Block” approaches as part of the studies that he uses to estimate the Market
5 Risk Premium (*see* Exhibit JRW-11, pages 5 and 6). Among the “Building Block”
6 studies included in that review are those produced by Ibbotson and Chen. The Duff &
7 Phelps 2016 SBBI Yearbook also discusses the “Building Block” model,³² and in
8 discussing the effect of increasing P/E ratios on the market return concludes that
9 “reported earnings are affected not only by the long-term productivity, but also by ‘one-
10 time’ items that do not necessarily have the same consistent impact year after year.”³³
11 Duff & Phelps therefore uses three-year average P/E ratios to develop its Supply-Side
12 market return estimate.

13 **Q: What is the effect of Dr. Woolridge’s inconsistent use of these elevated P/E ratios?**

14 **A:** Although Dr. Woolridge recognized and adjusted his analyses to reflect the abnormal
15 expansion in P/E ratios in his Building Blocks calculation, he did not acknowledge the
16 same principle in his DCF analysis. That is, Dr. Woolridge relies on an analysis that
17 adjusts abnormally high P/E ratios in a manner that reduces his CAPM estimate (the
18 Building Blocks approach to developing the Equity Risk Premium),³⁴ and at the same
19 time relies on DCF estimates that do not recognize or adjust for the abnormal expansion

³¹ Since the beginning of 2000, the long-term average P/E ratio for Dr. Woolridge’s proxy group was 17.18. The 30-day average P/E ratio for the period ending November 30, 2016 was 21.76 for Dr. Woolridge’s proxy group. Source: SNL Financial. Looking forward, indicators suggest that the industry’s current valuation levels may not persist. Value Line, for example, expects a decline in the P/E ratio for all but three of the companies in Dr. Woolridge’s proxy group over the coming three to five years (*See* Schedule RBH-20).

³² Duff & Phelps refers to the method as the “Supply Side” approach.

³³ Duff & Phelps, 2016 SBBI Yearbook Stocks, Bonds, Bills and Inflation, at 10-28.

³⁴ *See* Staff Revenue Requirement Cost of Service Report, Exhibit JRW-11, at 5-6 and Duff & Phelps, 2016 SBBI Yearbook Stocks, Bonds, Bills and Inflation, at 10-28.

1 in P/E ratios for his proxy companies. If Dr. Woolridge were to adjust his DCF results
2 for abnormal P/E ratios, stock prices would decrease, which would increase his dividend
3 yields and DCF results.

4 **Q: Please summarize Dr. Woolridge’s reference to a March 2015 report by Moody’s**
5 **regarding the effect of ROEs on utilities’ near-term credit profiles.**

6 A: Dr. Woolridge points to the March 2015 Moody’s report and concludes (among other
7 things) that lower authorized ROEs are not impairing utilities’ credit profiles, and are not
8 “detering them from raising record amounts of capital.”³⁵ Dr. Woolridge further states
9 that the Moody’s article “supports the prevailing/emerging belief that lower authorized
10 ROEs are unlikely to hurt the financial integrity of utilities or their ability to attract
11 capital.”³⁶

12 **Q: What is your response to Dr. Woolridge in that regard?**

13 A: The Moody’s article makes clear that utilities’ cash flow have benefited from increased
14 deferred taxes, which themselves are due to bonus depreciation.³⁷ As Moody’s noted, the
15 rise in deferred taxes eventually will reverse.³⁸ That may be one reason that the Moody’s
16 study refers to “near-term credit profiles”. In the longer-term, utilities will not have the
17 benefits of bonus depreciation to offset lower authorized returns.

18 Lastly, Moody’s observed that although interest rates remain at relatively low
19 levels, they “will go up, eventually.” When they do, Moody’s warns, “this could spell
20 trouble for utilities.” Moody’s concludes, “[f]or now, utilities can enjoy their

³⁵ Staff Revenue Requirement Cost of Service Report, at 45.

³⁶ *Ibid.*

³⁷ Bonus depreciation represents an additional amount of depreciation that a company may take in the first year that a depreciable item is placed in service.

³⁸ Moody’s Investors Service, *Lower Authorized Returns Will Not Hurt Near-Term Credit Profiles*, March 10, 2015, at 4.

1 (historically) high equity valuations in terms of dividend yield and price-earnings
2 ratios.”³⁹ That is, in March 2015, Moody’s observed that the then-current valuations
3 were unusual, and that some degree of reversion toward long-term means was likely. For
4 the electric utility sector, that was the case, as the S&P Electric Utility Index P/E ratio fell
5 from 18.09 on February 1, 2015 to 15.40 on July 1, 2015.⁴⁰ That observation is
6 consistent with a point made earlier in my Rebuttal Testimony: unusually high P/E ratios
7 are unlikely to persist and, therefore, Dr. Woolridge’s approach of giving primary weight
8 to his Constant Growth DCF estimates should be viewed with considerable caution.

9 **Q: Do you have any observations regarding cost recovery mechanisms supporting**
10 **elevated P/E ratios?**

11 **A:** Yes. Dr. Woolridge further argues that the Moody’s article supports the notion that
12 elevated P/E ratios are a result of cost recovery mechanisms reducing utilities’ risk.⁴¹ As
13 a preliminary matter, neither the article nor Dr. Woolridge provides any evidence or
14 analysis to support the basis for the claim that cost recovery mechanisms have led to
15 higher P/E multiples. To be clear, Moody’s does not state that the cause of higher P/E
16 multiples is cost recovery mechanisms. As stated in my Direct Testimony, the Federal
17 Reserve’s monetary policy actions intentionally lowered long-term interest rates (another
18 of the factors cited in the Moody’s article) and have affected utility P/E ratios.⁴² In any
19 case, as noted above, electric utility P/E ratios declined by nearly 15.00 percent shortly
20 after the Moody’s article was published.

³⁹ *Ibid*, at 5.

⁴⁰ Source: Bloomberg Professional. Represents 30-day moving average.

⁴¹ Staff Revenue Requirement Cost of Service Report, at 45.

⁴² Direct Testimony of Robert B. Hevert, at 56-57.

1 **Q: Do you have any concerns with Dr. Woolridge’s belief that analysts’ projections are**
2 **consistently biased?**

3 A: Yes, I do. Dr. Woolridge asserts that there is an upward bias in analysts’ growth
4 estimates and as such, “the DCF growth rate will provide an overstated equity cost
5 rate.”⁴³ His position, however, is based on observations with respect to the broad market.
6 Dr. Woolridge has provided no evidence that any of the growth rates used in my (or for
7 that matter, his) DCF analyses are the result of a consistent and pervasive bias on the part
8 of the analysts providing those projections. Despite his view that they are biased, Dr.
9 Woolridge states that it was by “giving primary weight to the projected EPS growth rate
10 of Wall Street analysts” that he arrived at his assumed growth rates.⁴⁴

11 **Q: What is your response to Dr. Woolridge in that regard?**

12 A: There is no reason to believe that the analyst growth rates used in our respective DCF
13 analyses are biased. As a practical matter, the October 2003 Global Research Analyst
14 Settlement required financial institutions to insulate investment banking from analysis,
15 prohibited analysts from participating in “road shows,” and required the settling financial
16 institutions to fund independent third-party research.⁴⁵ I have reviewed the Letters of
17 Acceptance, Waiver and Consent signed by financial institutions that were party to the
18 Global Settlement, and found no reference to misconduct by analysts following the utility
19 sector.

⁴³ Staff Revenue Requirement Cost of Service Report, at 35.

⁴⁴ *Ibid.*, at 36.

⁴⁵ The 2002 Global Financial Settlement resolved an investigation by the U.S. Securities and Exchange Commission and the New York Attorney General’s Office of a number of investment banks related to concerns about conflicts of interest that might influence the independence of investment research provided by equity analysts.

1 Moreover, pursuant to Regulation AC, which became effective in April 2003,
2 analysts must certify that "...the views expressed in the report accurately reflect his or
3 her personal views, and disclose whether or not the analyst received compensation or
4 other payments in connection with his or her specific recommendations or views."⁴⁶ I
5 further understand that industry practice is to avoid conflicts of interest by ensuring that
6 compensation is not directly or indirectly linked to the opinions contained in those
7 reports. Dr. Woolridge has not explained why any of the analysts covering our respective
8 proxy companies would bias their projections in light of those certification requirements.

9 **Q: Is the use of analysts' earnings growth projections in the DCF model supported by**
10 **financial literature?**

11 **A:** Yes, it is. As noted in my Direct Testimony, a number of published articles support the
12 use of analysts' earnings growth projections in the DCF model.⁴⁷ Dr. Robert Harris, for
13 example, demonstrated that financial analysts' earnings forecasts (referred to in the
14 article as "FAF") in the Constant Growth DCF formula are an appropriate method of
15 calculating the expected MRP.⁴⁸ In that regard, Dr. Harris noted that:

16 ... a growing body of knowledge shows that analysts' earnings forecasts
17 are indeed reflected in stock prices. Such studies typically employ a
18 consensus measure of FAF calculated as a simple average of forecasts by
19 individual analysts.⁴⁹

20 Dr. Harris further noted that:

21 Given the demonstrated relationship of FAF to equity prices and the direct
22 theoretical appeal of expectational data, it is no surprise that FAF have

⁴⁶ Securities and Exchange Commission, 17 CFR PART 242 [Release Nos. 33-8193; 34-47384; File No. S7-30-02], RIN 3235-AI60 Regulation Analyst Certification.

⁴⁷ Direct Testimony of Robert B. Hevert, at 19-20.

⁴⁸ See Robert S. Harris, *Using Analysts' Growth Forecasts to Estimate Shareholder Required Rates of Return, Financial Management*, 1986, at 66.

⁴⁹ *Ibid.*, at 59. Emphasis added. As noted in my direct testimony, Zacks and First Call, the sources of earnings growth projections that I use in addition to Value Line, are consensus forecasts.

1 been used in conjunction with DCF models to estimate equity return
2 requirements.⁵⁰

3 Similarly, in *Estimating Shareholder Risk Premia Using Analysts Growth Forecasts*,
4 Harris and Marston presented “estimates of shareholder required rates of return and risk
5 premia which are derived using forward-looking analysts' growth forecasts.”⁵¹ Harris
6 and Marston reported that:

7 ... in addition to fitting the theoretical requirement of being forward-
8 looking, the utilization of analysts' forecasts in estimating return
9 requirements provides reasonable empirical results that can be useful in
10 practical applications.⁵²

11 Here again, the finding was clear: Analysts' earnings forecasts are highly related
12 to stock price valuations and are appropriate inputs to stock valuation and ROE
13 estimation models.⁵³

14 **Q: Do you agree with Dr. Woolridge's assertion that “the DCF growth rate will provide
15 an overstated equity cost rate”?**⁵⁴

16 **A:** No, I do not. First, if current stock prices (and therefore the dividend yield) already
17 reflect analysts' bias, it is unclear why it is necessary to adjust the growth rate. In
18 addition, although Dr. Woolridge asserts that “...long-term EPS growth rate forecasts of
19 Wall Street securities analysts are overly optimistic and upwardly biased”⁵⁵ in general, he
20 has not demonstrated that to be true for the electric companies in our proxy groups, in
21 particular. To that point, I reviewed quarterly earnings presentations for several of the

⁵⁰ *Ibid.*, at 60.

⁵¹ Robert S. Harris, Felicia C. Marston, *Estimating Shareholder Risk Premia Using Analysts' Growth Forecasts*, Financial Management, Summer 1992.

⁵² *Ibid.*, at 63.

⁵³ In *The Risk Premium Approach to Measuring a Utility's Cost of Equity*, published in Financial Management, Spring 1985, Brigham, Shome and Vinson noted that “evidence in the current literature indicates that (i) analysts' forecasts are superior to forecasts based solely on time series data; and (ii) investors do rely on analysts' forecasts.”

⁵⁴ Staff Revenue Requirement Cost of Service Report, at 35.

1 companies in Dr. Woolridge's proxy group and found that the analysts' growth rate
 2 projections were consistent with the long-term growth rate ranges provided by the
 3 companies' management teams (*see* Table 3, below). I therefore disagree that the
 4 earnings projections included in our respective analyses are likely to be systemically
 5 biased.

6 **Table 3: Analysts' Earnings Growth Projections Relative to Management**
 7 **Presentations⁵⁶**

Company	Ticker	Zacks Earnings Growth	First Call Earnings Growth	Value Line Earnings Growth	Investor Presentation Earnings Growth
Alliant Energy Corporation	LNT	6.10%	6.60%	6.00%	5.00% - 7.00%
Ameren Corporation	AEE	6.10%	5.60%	6.00%	5.00% - 8.00%
American Electric Power Company, Inc.	AEP	5.40%	1.89%	4.00%	4.00% - 6.00%
Avista Corporation	AVA	5.30%	5.65%	5.00%	4.00% - 5.00%
CMS Energy Corporation	CMS	6.60%	7.27%	6.00%	6.00% - 8.00%
Eversource Energy	ES	6.10%	5.82%	6.00%	5.00% - 7.00%
PNM Resources, Inc.	PNM	6.80%	6.85%	9.00%	7.00% - 9.00%
SCANA Corporation	SCG	5.50%	6.33%	4.50%	4.00% - 6.00%
Xcel Energy Inc.	XEL	5.40%	5.72%	5.50%	4.00% - 6.00%

8
 9 **Q: Do you agree with Dr. Woolridge that dividend and book value growth rates are**
 10 **appropriate measures of expected growth for the Constant Growth DCF model?⁵⁷**

11 **A:** No, I do not. Schedule RBH-21 illustrates that under the strict assumptions of the
 12 Constant Growth DCF model, earnings, dividends, book value, and stock prices all grow
 13 at the same, constant rate in perpetuity. In addition, Value Line is the only service on
 14 which Dr. Woolridge relies that provides DPS, BVPS, or Sustainable Growth projections.

⁵⁵ *Ibid.*, at 34-35.

1 To the extent that the earnings projections services such as Zacks and First Call represent
2 consensus estimates, the results are less likely to be skewed in one direction or another as
3 a result of an individual analyst.

4 In any event, academic research clearly has indicated that measures of earnings
5 are strongly related to stock valuation.⁵⁸ As discussed below, that conclusion holds true
6 for the Value Line universe of electric utilities. Consequently, dividend and book value
7 growth should not be used in the application of the Constant Growth DCF model.
8 Rather, projected earnings growth rates are the appropriate measure of long-term growth.

9 **Q: Do you agree with Dr. Woolridge that historical growth rates are appropriate**
10 **measures of expected growth for the Constant Growth DCF model?**⁵⁹

11 **A:** No, I do not. I do not believe that historical growth rates are appropriate for the Constant
12 Growth DCF model.

13 **Q: Have you conducted any analyses to determine which measures of growth are**
14 **statistically related to the proxy companies' stock valuation levels?**

15 **A:** Yes, I did. I performed a series of regression analyses in which the historical and
16 projected growth rates were included as explanatory variables, with the P/E ratio as the

⁵⁶ Source: Zacks, Yahoo Finance, Value Line, and individual company first quarter 2016 earnings presentations and investor presentations.

⁵⁷ See Staff Revenue Requirement Cost of Service Report, at 36.

⁵⁸ In *The Risk Premium Approach to Measuring a Utility's Cost of Equity*, published in *Financial Management*, Spring 1985, Brigham, Shome and Vinson noted that "evidence in the current literature indicates that (1) analysts' forecasts are superior to forecasts based solely on time series data; and (2) investors do rely on analysts' forecasts." Similarly, in a review of literature regarding the extent to which analyst forecasts are reflected in stock prices (Using Analyst's Growth Forecasts to Estimate Shareholder Required Rates of Return, *Financial Management*, Spring 1986), Harris noted: "VanderWeide and Carleton recently compare consensus [financial analyst forecasts] of earnings growth to 41 different historical growth measures. They conclude that 'there is overwhelming evidence that the consensus analysts' forecast of future growth is superior to historically-oriented growth measures in predicting the firm's stock price...consistent with the hypothesis that investors use analysts' forecasts, rather than historically-oriented growth calculations, in making stock buy and sell decisions.'" The VanderWeide and Carleton study was updated in 2004 under the direction of Dr. VanderWeide. The results of the updated study were consistent with the original study's conclusions.

⁵⁹ See Staff Revenue Requirement Cost of Service Report, at 36.

1 dependent variable. The intent of those analyses was to determine whether or not
2 historical and projected earnings, retention and dividend growth rates are statistically
3 related to the companies' valuation levels.

4 **Q: What did those analyses reveal?**

5 A: As shown in Schedule RBH-22, the results indicate that the only positive statistically
6 significant variable was the projected EPS growth rate. That is, none of the historical or
7 projected DPS growth rates, nor projected retention growth rates have a positive
8 statistically significant relationship to valuation levels. Since the DCF model defines
9 stock prices as a function of growth rates, only those growth rates that have a strong
10 theoretical and empirical relationship to valuation levels should be used in the analysis.
11 Consequently, projected EPS growth rates are the appropriate measure of growth for the
12 purpose of the DCF models.

13 **Q: Is it possible to replicate Dr. Woolridge's DCF analysis?**

14 A: No, it is not. Although Dr. Woolridge reviews historical and projected measures of
15 growth for each of his proxy companies, his growth rate estimates rely on his subjective
16 judgment as to what may or may not be representative of sustainable long-term growth.
17 As such, Dr. Woolridge's analyses cannot be replicated. Whereas utility analysts often
18 research the factors that fundamentally influence a given company's long-term growth,
19 Dr. Woolridge instead selects his long-term growth estimate based on a summary review
20 of earnings, dividend, and retention growth estimates. In effect, Dr. Woolridge has
21 substituted his judgment for those of utility analysts, who based their growth rate
22 projections on detailed, fundamental analyses.

1 **Q: Please provide examples of the type of information utility analysts review in**
2 **assessing a company's growth potential.**

3 **A: One of the companies in Dr. Woolridge's proxy group is American Electric Power**
4 **("AEP"). On January 28, 2016, AEP held a conference call to review its fourth quarter**
5 **earnings.⁶⁰ Analysts from several firms attended that call, including:**

- 6 • Barclays Capital
- 7 • Evercore
- 8 • Jeffries & Co.
- 9 • JPMorgan
- 10 • Glenrock Associates
- 11 • KeyBanc
- 12 • UBS

13 During the course of that call, the analysts asked questions and were given
14 answers regarding a number of issues that bear directly on the factors that determine the
15 Return on Common Equity, including:

- 16 • Increasing leverage on certain subsidiaries;
- 17 • Growth in sales forecasts for shale plays;
- 18 • EPS and cash flow guidance for 2016;
- 19 • Incremental earnings and legal issues associated with AEP's PPA;
- 20 • Capital Expenditure plans;
- 21 • Expectations for future tax amounts;
- 22 • Breakdown of load growth by customer class;

⁶⁰ See American Electric Power Co., Inc., Q4 2015 Earnings Call Transcript, January 28, 2016.

- 1 • Estimated ROE for the Transmission segment in 2016; and
- 2 • Sale completion date of the Merchant business⁶¹

3 In the first quarter (2016) call (which took place on April 28, 2016), analysts were
4 provided with updated and additional information. During the course of the call, the
5 company's management reiterated its earnings growth targets, and the various regulatory
6 environments in which it operates. After the company's presentation, the analysts asked
7 questions along several lines, included:

- 8 • Potential re-regulation of PPA assets;
- 9 • Political developments in Ohio and the upcoming federal election;
- 10 • Effect of the PPA on growth targets;
- 11 • Tax issues in the state of Louisiana;
- 12 • Potential degradation of returns of various operating subsidiaries;
- 13 • Guidance for O&M growth going forward; and
- 14 • Comments surrounding the recent Senate energy bill.⁶²

15 In its earnings conference call to review second quarter (2016) earnings, the
16 company's management reiterated its long-term earnings growth target. After the
17 company's presentation, analysts asked questions along several lines, all of which are
18 relevant to Dr. Woolridge's construct. Examples of such topics include:

- 19 • Industrial customer sales trends;
- 20 • AEP's plan for meeting sales growth targets;
- 21 • Maintaining credit metrics such as FFO-to-debt and debt-to-EBITDA;
- 22 • Expectations for renewable generation projects within the Generation and

⁶¹ See American Electric Power Co., Inc., Q4 2015 Earnings Call Transcript, January 28, 2016.

1 Marketing segment;

- 2 • Regulatory preference for investment in generation or PPAs;
- 3 • AEP's recent tax audit and potential implication for future taxes; and
- 4 • Transmission investment plans.⁶³

5 In the case of just one of Dr. Woolridge's proxy companies, therefore, the level of
6 fundamental research performed by analysts on issues that directly bear on long-term
7 growth far exceed his review of growth estimates. In my view, by estimating growth by
8 selectively reviewing a range of long-term growth estimates when observable analyst
9 growth rate forecasts are readily available, Dr. Woolridge has introduced a level of
10 measurement error that is not necessary.

11 **Q: Do you have any concerns with the projected analysts' EPS growth rates relied on**
12 **by Dr. Woolridge?**

13 **A:** Yes. In determining his projected analysts' EPS growth rate, Dr. Woolridge includes
14 negative growth estimates. In doing so, Dr. Woolridge has implicitly assumed that
15 investors would consider committing capital to a company that is expected to have
16 negative growth, in perpetuity. As Schedule RBH-23 demonstrates, eliminating negative
17 growth rates from Dr. Woolridge's DCF analysis increases the mean projected EPS
18 growth rate by 52 basis points. However, given that Dr. Woolridge's 5.00 percent growth
19 rate is based on his subjective judgment, it is difficult to say how removing negative
20 growth rates would affect his analyses and recommendation.

21

⁶² See American Electric Power Co., Inc., Q1 2016 Earnings Call Transcript, April 28, 2016.

⁶³ See American Electric Power Co., Inc., Q2 2016 Earnings Call Transcript, July 28, 2016.

1 *D. Application of the CAPM*

2 **Q: Please briefly describe Dr. Woolridge’s CAPM analysis and results.**

3 A: Dr. Woolridge’s CAPM analysis produces an estimated Cost of Equity of 7.90 percent.⁶⁴
4 Although Dr. Woolridge relies primarily on his DCF analysis, he also considers his
5 CAPM results in determining what he considers an appropriate range of the Company’s
6 Cost of Equity.⁶⁵ As with Dr. Woolridge’s DCF results, I strongly disagree that a CAPM
7 result of 7.90 percent is a reasonable estimate of the Company’s ROE. As discussed
8 below, Dr. Woolridge’s unduly low CAPM estimate primarily is the result of his
9 estimated Market Risk Premium.

10 **Q: Please describe how Dr. Woolridge calculates his Market Risk Premium (“MRP”)**
11 **estimate.**

12 A: Dr. Woolridge reviews a series of studies that calculate the MRP using different
13 methodologies; he also considers the results of his “Building Blocks” approach. Based
14 on those reviews, Dr. Woolridge concludes that the MRP ranges from 4.00 percent to
15 6.00 percent and, within that range, 5.50 percent is reasonable.⁶⁶

16 **Q: Do any of the authors cited in Woolridge’s Equity Risk Premium survey provide**
17 **support for your approach to estimating the current MRP?**

18 A: Yes. A study by Pablo Fernandez titled “Market Risk Premium used in 71 countries in
19 2016: a survey with 6,932 answers” discusses how the required Equity Risk Premium is
20 commonly calculated using a Constant Growth DCF approach.⁶⁷ That study states:

⁶⁴ See Staff Revenue Requirement Cost of Service Report, Exhibit JRW-11, at 1.

⁶⁵ See *Ibid.*, at 43.

⁶⁶ *Ibid.*, at 42; Exhibit JRW-11, at 1, 5-6.

⁶⁷ Dr. Woolridge cites Pablo Fernandez’s research; see Staff Revenue Requirement Cost of Service Report, Exhibit JRW-11, at 5.

1 [t]he [implied equity premium] is the implicit [required equity
2 premium] used in the valuation of a stock (or market index) that
3 matches the current market price. The most widely used model to
4 calculate the [implied equity premium] is the dividend discount
5 model: the current price (P₀) is the present value of expected
6 dividends discounted at the required rate of return (K_e). If d₁ is the
7 dividend per share expected to be received in year 1, and g the
8 expected long term growth rate in dividends per share:
9 $P_0 = d_1 / (K_e - g)$, which implies:

10 [implied equity premium] = $d_1/P_0 + g - R_f$ ⁶⁸

11 As discussed in my Direct Testimony, I calculated the *ex-ante* MRP in a similar
12 manner using a market capitalization weighted Constant Growth DCF calculation on the
13 individual companies in the S&P 500 Index.

14 **Q: Do you have any other observations regarding Dr. Woolridge's Equity Risk
15 Premium estimates?**

16 **A:** Yes. Many of Dr. Woolridge's Equity Risk Premium estimates assume market returns
17 equal to or below the Company's required return and do not make either theoretical or
18 practical sense. For example, Exhibit JRW-11, page 5 of 6 indicates that the average
19 estimated Equity Risk Premium over all the articles included in the survey is 4.64
20 percent. Combining that estimate with Dr. Woolridge's 4.00 percent estimated Risk-Free
21 Rate (Exhibit JRW-11, page 1 of 6) produces an estimated market return of 8.64 percent,
22 which is one basis point below Dr. Woolridge's 8.65 percent recommendation.

23 Dr. Woolridge observes that "...a regulated public utility is less risky than the
24 market," and should have a Beta coefficient less than 1.0.⁶⁹ Because his implied 8.64
25 percent market return is essentially equal to his 8.65 percent ROE recommendation, its
26 relevance to investors' actual required returns is questionable. Even focusing on studies

⁶⁸ Pablo Fernandez, Alberto Ortiz, and Isabel Fernandez Acín, *Market Risk Premium used in 71 countries in 2016: a survey with 6,932 answers*, IESE Business School, at 10.

1 from 2010 to 2015 (Exhibit JRW-11, page 6 of 6), the expected market return would be
2 approximately 8.88 percent, which is only 23 basis points above Dr. Woolridge's 8.65
3 percent recommendation for KCP&L. Because such important elements of his CAPM
4 analyses contradict each other, Dr. Woolridge's CAPM results are not reliable.

5
6 *E. Market-To-Book Ratios and the Cost of Equity*

7 **Q: Please briefly summarize Dr. Woolridge's position regarding the relationship**
8 **between Market-to-Book ("M/B") ratios and the Cost of Equity.**

9 A: Dr. Woolridge suggests that M/B ratios in excess of unity (*i.e.*, above 1.00) indicate that
10 the subject company's earned Return on Equity exceeds its Cost of Equity.⁷⁰ In support
11 of that position, Dr. Woolridge provides a series of three regression analyses reflecting
12 the relationship between the Return on Equity and M/B ratios for electric, natural gas,
13 and water utilities, respectively. Because the Coefficient of Determination (sometimes
14 referred to as the "R-squared") ranges from 77.00 percent in the case of electric utilities,
15 to 56.00 percent in the case of natural gas utilities, Dr. Woolridge concludes that there is
16 a "strong positive relationship" between M/B ratios and the ROE for utilities.⁷¹

17 **Q: Do M/B ratios above 1.00 necessarily suggest that authorized ROEs have been too**
18 **high?**

19 A: No, they do not. First, it is important to note that the M/B ratio equals the market value
20 (or stock price) per share, divided by the total common equity (or the book equity) per
21 share. Book value per share is an accounting construct, which reflects historical costs. In

⁶⁹ Staff Revenue Requirement Cost of Service Report, at 39.

⁷⁰ See Staff Revenue Requirement Cost of Service Report, at 27.

1 contrast, market value per share (*i.e.*, the stock price) is forward-looking, and a function
2 of many variables, including (but not limited to) expected earnings and cash flow growth,
3 expected payout ratios, measures of “earnings quality”, the regulatory climate, the equity
4 ratio, expected capital expenditures, and the earned return on common equity.⁷²

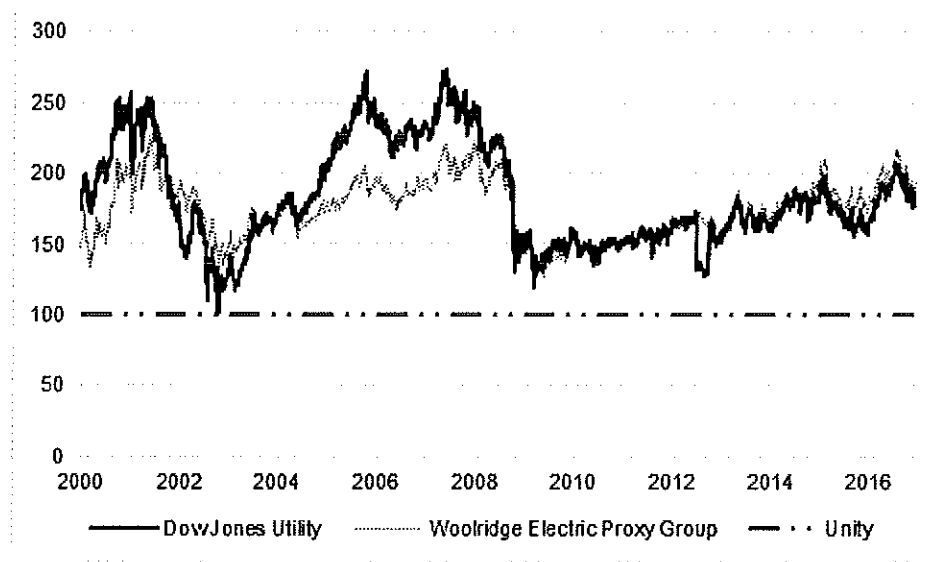
5 M/B ratios in excess of unity simply means that the firm is worth more as a going
6 concern than the book value of its assets. If Dr. Woolridge is of the view that M/B ratios
7 in excess of unity reflect earned returns in excess of the Cost of Equity, it would follow
8 that he also is of the view that utility commissions consistently authorize returns in excess
9 of the Cost of Equity. To put the issue in context, the M/B ratio for the companies in the
10 Dow Jones Utility Index, as well as Dr. Woolridge’s proxy group have been well in
11 excess of 1.00 since at least 2000 (*see* Chart 6, below).

⁷¹ See *Ibid.*, at 26-27 and Exhibit JRW-6. Please note that there were only nine observations for the water group and twelve for the gas company group.

⁷² See for example, Roger A. Morin, New Regulatory Finance, Public Utility Reports, Inc., 2006, at 366. Please note that Dr. Morin cites several academic articles that address the various factors that affect the M/B ratio for utilities. In addition, the notion that book values should be set at a value approaching unity by regulatory commissions has been refuted for many years. As noted by Stewart Myers in 1972: “In short, a straightforward application of the cost of capital to a book value rate base does not automatically imply that market and book values will be equal. This is an obvious but important point. If straightforward approaches did imply equality of market and book values, then there would be no need to estimate the cost of capital. It would suffice to lower (raise) allowed earnings whenever markets were above (below) book.” Stewart C. Myers, The Application of Finance Theory to Public Utility Rate Cases, The Bell Journal of Economics and Management Science, Vol. 3, No. 1 (Spring 1972), at 76.

1

Chart 6: Market/Book Ratios Over Time⁷³



2

3

Because Dr. Woolridge does not provide any additional support for his position beyond the general observation that M/B ratios for electric utilities have been greater than 100.00 percent, I disagree with that conclusion.

4

5

6

The notion that book values should be set at a value approaching unity by regulatory commissions has been refuted for many years. As noted by Stewart Myers in 1972: “In short, a straightforward application of the cost of capital to a book value rate base does not automatically imply that market and book values will be equal. This is an obvious but important point. *If straightforward approaches did imply equality of market and book values, then there would be no need to estimate the cost of capital.* It would suffice to lower (raise) allowed earnings whenever markets were above (below) book [emphasis added].”⁷⁴

7

8

9

10

11

12

13

⁷³ Source: SNL Financial and Bloomberg Professional.

⁷⁴ See, Roger A. Morin, New Regulatory Finance, Public Utility Reports, Inc., 2006, at 366, citing Stewart C. Myers, The Application of Finance Theory to Public Utility Rate Cases, The Bell Journal of Economics and Management Science, Vol. 3, No. 1 (Spring 1972), at 76.

1 In addition, as Dr. Morin states, it is very rare in cost of service regulation that
2 M/B ratios equal 1.00:

3 The third and perhaps most important reason for caution and
4 skepticism is that application of the DCF model produces estimates of
5 common equity cost that are consistent with investors' expected
6 return only when stock price and book value are reasonably similar,
7 that is, when the M/B is close to unity. As shown below, application
8 of the standard DCF model to utility stocks understates the investor's
9 expected return when the market-to-book (M/B) ratio of a given stock
10 exceeds unity. This was particularly relevant in the capital market
11 environment of the 1990s and 2000s whose utility stocks are trading
12 at M/B ratios well above unity and have been for nearly two decades.
13 The converse is also true, that is, the DCF model overstates the
14 investor's return when the stock's M/B ratio is less than unity. The
15 reason for the distortion is that the DCF market return is applied to a
16 book value rate base by the regulator, that is, a utility's earnings are
17 limited to earnings on a book value rate base.⁷⁵

18 Because the Constant Growth DCF model traditionally used in rate regulation
19 assumes a M/B of unity, it would understate investors' required rate of return when
20 market value exceeds book value. It would do so because investors evaluate and receive
21 their returns on the market value of a utility's equity, whereas regulators authorize returns
22 on book common equity. Consequently, the market-based DCF model will result in a
23 total annual dollar return on book common equity equal to the total annual dollar return
24 expected by investors only when market and book values are equal, a rare and unlikely
25 situation.

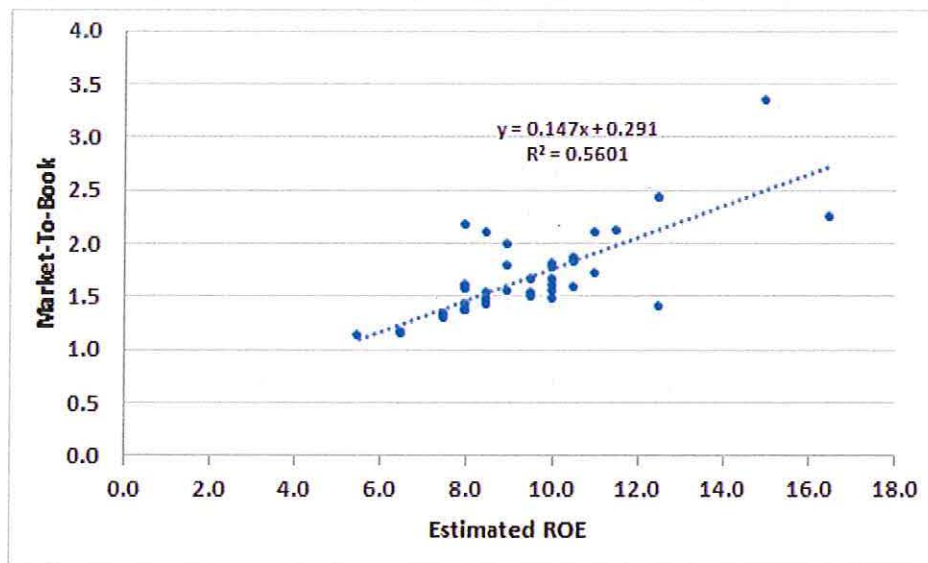
26 Lastly, although the earned Return on Equity may be one factor explaining M/B
27 ratios, it is not the only factor. If it were, the regression equations presented in Exhibit
28 JRW-6 would produce reasonable ROE estimates when the M/B ratio equals unity.

⁷⁵ Roger A. Morin, New Regulatory Finance, Public Utilities Reports, Inc., 2006, at 434. [emphasis added]

1 Q: In that regard, have you reviewed the ROE and M/B ratio data provided in Exhibit
2 JRW-6?

3 A: Yes, I have updated the chart contained in Exhibit JRW-6, Panel A (Electric Companies),
4 including the regression coefficients, using recent data from Value Line in Chart 7
5 (below).

6 **Chart 7: Update of Exhibit JRW-6, Panel A, With Regression Coefficients⁷⁶**



7
8 Based on that data, an M/B ratio of 1.00 is associated with an ROE of 4.82
9 percent.⁷⁷ That estimate is 69 basis points below the Company's cost of debt (*i.e.*, 5.51
10 percent). In other words, for the M/B ratio to equal 1.00, the Cost of Equity would be
11 nearly equal to the cost of debt, a condition that is highly improbable and would be
12 financially threatening to a utility if it existed. Dr. Woolridge's own data therefore do not
13 support his theory that ROEs in excess of unity indicate that the subject company's return
14 exceeds investors' required returns.

⁷⁶ Source: Value Line, downloaded as of November 16, 2016. Note that Dr. Woolridge's Exhibit JRW-6, Panel A, includes 42 observations, however using more recent data two companies were no longer in the Value Line universe and the R^2 declines from approximately 0.77 to 0.56.

1 **Q: Have you analyzed whether the actual earned Return on Equity explains the M/B**
2 **ratios for Dr. Woolridge’s proxy group?**

3 A: Yes, I have. Based on data from SNL Financial, I performed a regression analysis in
4 which the M/B ratio was the dependent variable, and the most recent twelve-month
5 Return on Average Common Equity (“ROACE”) was the explanatory variable. As
6 shown in Schedule RBH-24, the R-squared was approximately 34.00 percent (the
7 coefficients and equation were statistically significant). Thus, other factors explain up to
8 66.00 percent of M/B ratios for Dr. Woolridge’s proxy group.⁷⁸ Those results support the
9 position that although the earned return on equity is a factor that explains M/B ratios, it is
10 not the only factor. In any case, the regression equation indicates that a M/B ratio of 1.00
11 is associated with a Return on Common Equity of 0.79 percent; an M/B ratio of 1.10
12 relates to an ROACE of 1.94 percent. Because those estimates are far below the
13 Company’s 5.51 percent cost of debt, I do not agree that M/B ratios in excess of unity
14 demonstrate earnings in excess of investors’ requirements.

15 **Q: Do you have any other points regarding this issue?**

16 A: Yes. It is important to keep in mind that, like P/E multiples, M/B ratios tend to be used in
17 practice as measures of relative, rather than absolute valuation. That is, investors often
18 use M/B ratios to value an individual company based on the average M/B ratio of its
19 peers. Such “market comparable” approaches to valuation are useful because no one
20 financial model is accepted as the true measure of value at all times and under all
21 conditions.

22

⁷⁷ $1.00 = 0.291 + (4.822\% \times 0.147)$.

⁷⁸ $0.66 = (1 - 0.34)$.

1 **F. Relative Risk**

2 **Q: Do you believe that credit ratings are an appropriate measure to determine the**
3 **equity risk of KCP&L relative to the proxy group?**⁷⁹

4 **A:** Although I agree in general that credit spreads are directionally related to the Cost of
5 Equity,⁸⁰ I do not agree that changes in one is a direct measure of changes in the other.
6 Debt and equity are entirely different securities with different risk/return characteristics,
7 different lives, and different investors. Debt investors have a contractual, priority claim
8 on cash flows not available to equity investors, and equity investors bear the residual risk
9 of ownership. Moreover, because the life of debt is finite, debt investors' exposure to
10 business and financial risk likewise is finite. On the other hand, equity is perpetual and
11 equity investors are exposed to residual risk in perpetuity. Because debt and equity are
12 distinct securities with different risk and return profiles, debt and equity investors
13 themselves have different risk and return requirements. Any inferences drawn from
14 changes in credit spreads for the Companies' Cost of Equity should be drawn with
15 caution.

16 A visible measure of the distinction of the risks to which debt and equity investors
17 are exposed is the difference in their respective Beta coefficients. Although I disagree
18 with his conclusions, Dr. Woolridge recommends average Beta coefficients of 0.70 for
19 both of our proxy groups.⁸¹ Duff & Phelps notes that as of December 2015, Beta
20 coefficients for A-rated debt was negative 0.07.⁸² That is, the Beta coefficients of A-

⁷⁹ See Staff Revenue Requirement Cost of Service Report, at 23.

⁸⁰ As noted by Robert S. Harris and Felicia C. Marston, *Estimating Shareholder Risk Premia Using Analysts' Growth Forecasts*, Financial Management, Summer 1992, at 68, "equity risk premia... increased with the increases in the spread between corporate and government bond yields".

⁸¹ Exhibit JRW-11, at 3.

⁸² Duff & Phelps 2016 Valuation Handbook, John Wiley & Sons, Inc., 2016, at Appendix 3b.

1 rated debt are well below those of the equity Beta coefficients assumed by Dr.
2 Woolridge. In fact, the debt Beta coefficients in the range of 0.45 to 0.55 are associated
3 with Ba and B rated debt, both of which are considered to be below investment grade.⁸³
4 Those differences are a clear indication that the risks assumed by debt investors are far
5 different than those assumed by equity investors.

6 **Q: Did you perform any analyses to determine whether Dr. Woolridge's data supports**
7 **the assumption that there is a quantifiable difference in the Cost of Equity for**
8 **companies with different bond credit ratings?**

9 A: Yes, I did. I first produced Constant Growth DCF results for each of the comparison
10 companies using the growth rates and dividend yields reported by Dr. Woolridge. I then
11 applied "credit scores" to Dr. Woolridge's comparison companies by converting the S&P
12 bond ratings reported in his Direct Testimony to a numerical value. If there is a
13 quantifiable relationship between the proxy companies' credit ratings and Cost of Equity,
14 there should be a positive, statistically significant relationship between the credit score
15 and the DCF results. That is, as credit quality deteriorates (resulting in a higher score),
16 the Cost of Equity should increase. I therefore performed a regression analysis, in which
17 the dependent variable was the DCF result, and the explanatory variable was the credit
18 score.

19 **Q: Did your analysis come to a different conclusion than Dr. Woolridge's?**

20 A: Yes. As shown in Schedule RBH-25, the regression analysis showed no statistically
21 significant statistical relationship between the two. In fact, the R-squared of the

⁸³ Duff & Phelps 2016 Valuation Handbook, John Wiley & Sons, Inc., 2016, at Appendix 3b. Debt Beta coefficients for BBB-rated companies were 0.08.

1 regression was only 0.005, which indicates that credit ratings accounted for only 0.50
2 percent of the change in the DCF-estimated Cost of Equity.

3 **G. Capital Structure**

4 **Q: Please summarize Dr. Woolridge's position on the Company's capital structure.**

5 A: Dr. Woolridge recommends a capital structure consisting of 50.80 percent long-term debt
6 and 49.20 percent common equity, which is based on the capital structure of Great Plains
7 Energy. To support his conclusion, Dr. Woolridge compares the Company's capital
8 structure to the capital structures in place at the holding company level.⁸⁴ As discussed in
9 my Direct Testimony, I analyzed the actual capital structures in place at the operating
10 companies held within my proxy group. Doing so reflects the nature of assets financed
11 by vertically integrated utilities such as KCP&L. Based on that review, it is apparent that
12 the Company's capital structure is generally consistent with the capital structures of the
13 proxy companies.

14 **Q: Is there a specific example that demonstrates the varied nature of a utility holding
15 company's unregulated operations and capital structures?**

16 A: Yes, there is. NextEra Energy Resources, ("NEER"), a wholly owned, indirect
17 subsidiary of NextEra Energy ("NEE"), owns approximately 21,100 MW of generating
18 capacity across the U.S. and Canada.⁸⁵ As of 2015, approximately 66.00 percent of
19 NEER's generating capacity was fully committed under long-term contracts, with a
20 weighted average life of approximately fifteen years.⁸⁶ NEER's generating portfolio is
21 diverse, with wind, natural gas and nuclear assets representing 91.00 percent of the

⁸⁴ Staff Revenue Requirement Cost of Service Report, at 23-24, and Exhibit JRW-4.

⁸⁵ NextEra Energy, Inc., SEC Form 10-K for the Fiscal Year Ended December 31, 2015, at 4.

⁸⁶ *Ibid.*, at 16.

1 capacity.⁸⁷ In fact, NEER owns 2,721 MW of nuclear generating capacity, of which
2 1,621 MW is contracted.⁸⁸ NEER is responsible for the ultimate decommissioning of
3 those plants.⁸⁹ Although Dr. Woolridge suggests that parent company capital structures
4 are the better comparator of KCP&L's operating capital structure, he does not consider
5 the effect of non-utility, project-financed assets at the consolidated parent level.

6 Lastly, as shown in Schedule RBH-26, my updated capital structure analysis
7 continues to support the reasonableness of the Company's current capital structure.

8 III. RESPONSE TO OPC WITNESS GORMAN

9 **Q:** Please briefly summarize Mr. Gorman's recommendation regarding the Company's
10 Cost of Equity.

11 **A:** Mr. Gorman recommends an ROE of 9.00 percent, within a recommended range of 8.80
12 to 9.20 percent.⁹⁰ Mr. Gorman establishes his recommended ROE by reference to: (1) his
13 constant growth DCF model using both consensus analyst growth rates and a sustainable
14 growth rate (with median and average results ranging from 7.32 percent to 8.80
15 percent);⁹¹ (2) his Multi-Stage DCF method (with mean and median results of 7.74
16 percent and 7.82 percent, respectively);⁹² (3) his Risk Premium estimates (9.20
17 percent);⁹³ and (4) his Capital Asset Pricing Model analyses (ranging from 7.38 percent
18 to 8.88 percent).⁹⁴ In particular, Mr. Gorman's 9.00 percent recommendation represents
19 the approximate midpoint of his range of results, set by reference to the low-results from

⁸⁷ *Ibid.*

⁸⁸ *Ibid.*, at 16, 18.

⁸⁹ *Ibid.*, at 18.

⁹⁰ See Direct Testimony of Michael P. Gorman, at 2.

⁹¹ *Ibid.*, at 40.

⁹² *Ibid.*

⁹³ *Ibid.*, at 46.

⁹⁴ *Ibid.*, at 52.

1 the DCF (8.80 percent) on the low-end and the Risk Premium (9.20 percent) analyses on
2 the high-end.⁹⁵

3 **Q: What are the principal analytical areas in which you disagree with Mr. Gorman?**

4 **A:** The principal analytical areas in which I disagree with Mr. Gorman include:

- 5 1. Proxy group composition;
- 6 2. The application of the Constant Growth DCF model, and interpretation of its
7 results;
- 8 3. The Market Risk Premium component of his CAPM analysis, in particular the
9 expected market return from which the MRP is calculated;
- 10 4. The assumptions and methods underlying Mr. Gorman's Risk Premium analyses;
- 11 5. Mr. Gorman's assessment of the Company's relative risk; and
- 12 6. Mr. Gorman's assessment of how his recommended ROE will affect the
13 Company's financial integrity.

14 ***A. Proxy Group Composition***

15 **Q: Do you agree with Mr. Gorman's exclusion of Otter Tail Corporation from the**
16 **proxy group?⁹⁶**

17 **A:** No, I continue to include Otter Tail Corporation ("OTTR") in my analyses. Mr. Gorman
18 excluded OTTR from his proxy group because analyst earnings growth rates estimates
19 were not available from any of the data sources he relies on (Zacks, SNL Financial, and
20 Reuters). Because two of the data sources I rely on for earnings growth estimates
21 (Yahoo! Finance and Value Line) report earnings growth rates for OTTR, I continue to
22 include the company in my proxy group.

⁹⁵ *Ibid.*, at 53.

1 **B. Constant Growth DCF Model**

2 **Q: As a preliminary matter, does Mr. Gorman give his Constant Growth DCF results**
3 **any weight in arriving at his 9.00 percent ROE recommendation?**

4 A: Yes, as noted earlier, Mr. Gorman's 9.00 percent recommendation represents the
5 midpoint of his 8.80 percent to 9.20 percent recommended range. The bottom end of that
6 range (8.80 percent) is based on Mr. Gorman's Constant Growth DCF average and
7 median result of approximately 8.80 percent,⁹⁷ and the upper bound (9.20 percent)
8 represents the point estimate of his Risk Premium results.⁹⁸

9 To arrive at his DCF estimate, Mr. Gorman discards his Multi-Stage DCF results
10 (7.82 percent based on the median result), and his Constant Growth DCF model results
11 based on the "sustainable growth" method (7.32 percent based on the median results) in
12 favor of his Constant Growth DCF results based on analysts' growth rate projections
13 (8.80 percent).⁹⁹ Because Mr. Gorman states that his recommendation is "primarily
14 based" on his Constant Growth DCF results, and not his Multi-Stage or sustainable
15 growth DCF methods, I will not comment on his application of those approaches in my
16 Rebuttal Testimony.

17 **Q: Do you have any concerns with the Constant Growth DCF model in general, and the**
18 **weight that Mr. Gorman applies to those results in particular?**

19 A: Yes, I do. The Constant Growth DCF model is based on several underlying assumptions
20 that combine to establish an inverse relationship between expected growth and the
21 dividend yield. That is, as expected growth increases, the price would increase and the

⁹⁶ *Ibid.*, at 25.

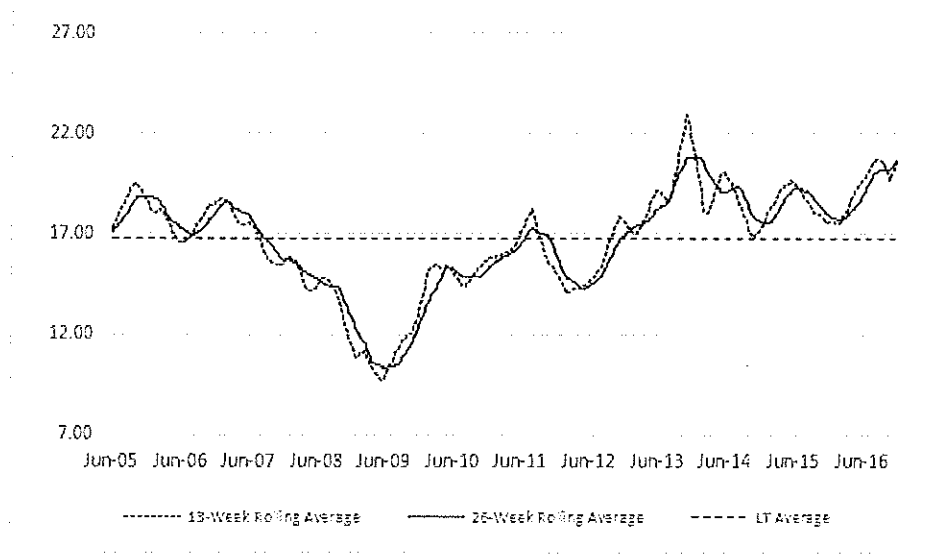
⁹⁷ *Ibid.*, at 40, Table 6.

⁹⁸ *Ibid.*, at 46.

⁹⁹ *Ibid.*, at 40.

1 dividend yield would decrease. Conversely, as expected growth decreases, the price
2 would decrease and the dividend yield would increase. Mr. Gorman's Constant Growth
3 DCF analysis, however, assumes P/E ratios that are high by historical standards, (*see*
4 Chart 8 below), but growth rates that are relatively low.

5 **Chart 8: Proxy Group Rolling Average P/E Ratio¹⁰⁰**



6 **Q: Are the growth rates assumed in Mr. Gorman's analysis consistent with historically**
7 **high valuation levels?**

8 **A:** No, they are not. Mr. Gorman's analysis assumes an average growth rate of 5.41 percent
9 (*see* Schedule MPG-5) which, he notes, is well below the long-term compound average
10 growth rate for the economy as a whole (6.20 percent), and the long-term rate of stock
11 market capital appreciation (on geometric average basis, 5.80 percent).¹⁰¹ As discussed
12 earlier, the Constant Growth DCF model assumes that low growth rates would be
13 associated with low prices (and high dividend yields), yet the proxy group average P/E

¹⁰⁰ Sources: SNL Financial. Proxy Group P/E ratio calculated as an index.

¹⁰¹ Direct Testimony of Michael P. Gorman, at 36.

1 ratio is well above its long-term average. In the context of the Constant Growth DCF
2 model, the two are not compatible.

3 Mr. Gorman acknowledges that unsustainable expansions in P/E ratios create
4 analytical concerns that should be addressed in determining the Cost of Equity. At page
5 45 of his direct testimony, Mr. Gorman discusses the Market Risk Premium component
6 of his Capital Asset Pricing Model, and explains that Ibbotson & Chen found an
7 “abnormal expansion” of P/E ratios relative to earnings and dividend growth. That is,
8 Ibbotson & Chen found that because higher P/E ratios during the 1980 to 2001 period
9 were not explained by higher growth in earnings or dividends, their analyses required
10 adjustment.¹⁰² Duff & Phelps, the source referenced by Mr. Gorman, calculates an
11 adjustment using three-year average P/E ratios, rather than relying on the current year,
12 because “the three-year average allows the adjustment *to smooth out the volatility of*
13 *extraordinary events and allows earnings to better reflect a normalized trend* [emphasis
14 added].”¹⁰³ As did Ibbotson, Duff & Phelps recognized that abnormally high P/E ratios
15 will produce questionable analytical results, and emphasized that the long-term trend is
16 important.

17 The same conditions hold here. The utility sector had undergone an “abnormal
18 expansion” in P/E ratios; there is no dispute on that point. Whereas Duff & Phelps
19 recognized and adjusted its analyses to reflect the abnormal expansion in P/E ratios, Mr.
20 Gorman’s DCF analyses and his interpretation of their results do not. Therefore, Mr.
21 Gorman’s DCF analysis understates the current ROE for Minnesota Power.

¹⁰² See Direct Testimony of Michael P. Gorman at 51; Morningstar Inc., Ibbotson SBBI 2014 Classic Yearbook, at 156 - 157.

¹⁰³ Duff & Phelps, 2016 Valuation Handbook: Guide to Cost of Capital, at 3-30.

1 Lastly, if Mr. Gorman’s position is that the current P/E ratio will sustain itself
2 over the long-run, I have addressed that concern by calculating the terminal value portion
3 of the Multi-Stage DCF model by reference to current P/E ratios.¹⁰⁴

4 **Q: Please summarize your concerns with Mr. Gorman’s use of a sustainable long-term**
5 **growth in his DCF analysis.**

6 **A:** Although we agree that it is appropriate to rely on analyst earnings growth estimates in
7 applying the Constant Growth DCF model, Mr. Gorman asserts that those estimates
8 should be limited to what he considers to be a reasonable estimate of long-term
9 “sustainable” growth.

10 As noted in my response to Dr. Woolridge, prior academic research indicates that
11 investors rely on analysts’ earnings growth projections. In addition, the Commission has
12 found the use of analysts’ growth rates in the DCF model reasonable in past cases.¹⁰⁵
13 Although Mr. Gorman may be of the view that analyst growth rates are not sustainable,
14 the relevant issue in rate cases is whether investors rely on those projections in making
15 their investment decisions. The projections prepared by analysts reflect widely held
16 expectations that influence investors at the time they make their pricing decisions, *i.e.*,
17 the market prices investors are willing to pay. I am not aware of empirical evidence
18 supporting the position that investors would disregard analysts’ estimates of growth in
19 Earnings Per Share for the companies in our respective proxy groups, nor has Mr.
20 Gorman provided any such evidence. Rather, the academic research discussed above

¹⁰⁴ See Schedule RBH-14.

¹⁰⁵ For example, in its report and order in Case No. GR-2014-0152 the Commission found my constant growth and Multi-Stage DCF approaches to be reasonable. Both of those models relied on analysts’ growth rates. *See In the Matter of Liberty Utilities (Midstates Natural) Gas Corp. d/b/a Liberty Utilities’ Tariff Revisions Designed to Implement a General Rate Increase for Natural Gas Service in the Missouri Service Areas of the Company*, Case No. GR-2014-0152, at 23-24.

1 supports the use of analysts' earnings growth projections. I therefore disagree with Mr.
2 Gorman's conclusion that *his* subjective view of sustainable growth, rather than analysts'
3 projections, is the more relevant measure of investor expectations.

4 **C. Application of Capital Asset Pricing Model**

5 **Q: Please briefly summarize Mr. Gorman's CAPM analysis and results.**

6 **A:** Mr. Gorman's two CAPM estimates (8.88 and 7.38 percent) are based on two measures
7 of principally historical Market Risk Premium estimates: (1) Blue Chip's projected 30-
8 year Treasury yield of 3.10 percent as the risk-free rate,¹⁰⁶ and (2) an average Beta
9 coefficient of 0.71, as reported by Value Line.¹⁰⁷ Based on his assessment of risk
10 premiums in the current market, Mr. Gorman relies on the high-end rounded to 8.90
11 percent CAPM when estimating KCP&L's Cost of Equity.¹⁰⁸ Mr. Gorman's analyses
12 assume Market Risk Premium estimates of 8.10 percent (based on the long-term
13 historical arithmetic average real market return from 1926 through 2015 as reported by
14 Duff & Phelps, adjusted for current inflation forecasts), and 6.00 percent (based on the
15 historical difference between the average return on the S&P 500 and the average total
16 return on long-term government bonds).¹⁰⁹ Combining those Market Risk Premium
17 estimates with his projected long-term risk-free rate, Mr. Gorman develops expected
18 market returns in the range of 9.10 to 11.20 percent.¹¹⁰

¹⁰⁶ *Ibid.*, at 48 and Schedule MPG-18.

¹⁰⁷ *Ibid.*

¹⁰⁸ *Ibid.*, at 52.

¹⁰⁹ *Ibid.*, at 49-50 and Schedule MPG-18.

¹¹⁰ Mr. Gorman's low Market Risk Premium of 6.00 percent plus his projected risk-free rate of 3.10 percent equals an estimated market return of 9.10 percent. *See* Direct Testimony of Michael P. Gorman, at 48-51; Schedule MPG-18.

1 **Q: Turning first to the expected total market return, do you agree with Mr. Gorman's**
2 **9.10 and 11.20 percent estimates?**

3 **A:** No, I do not. As a practical matter, Mr. Gorman's 9.10 percent estimate, which is more
4 than 285 basis points below the long-term average market return, falls in the bottom 9th
5 percentile of the 90 annual returns reported by Morningstar.¹¹¹ His 11.20 percent
6 estimate, which I believe is more reasonable, still falls in the bottom 24th percentile.

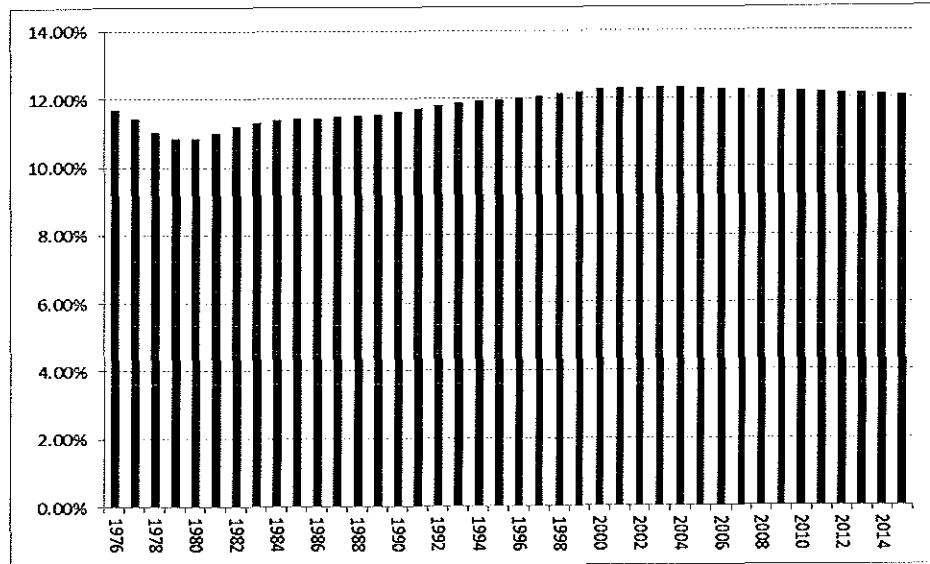
7 A helpful perspective on the historical market return is the rolling 50-year average
8 annual market return. As Mr. Gorman points out, from 1926 through 2015 the arithmetic
9 average market return was 12.00 percent.¹¹² Over the 50 years ended 2015, the average
10 return was 12.10 percent, only ten basis points removed from the longer-term average
11 that Mr. Gorman reports. Over time, the fifty-year average return has been quite
12 consistent, in the range of approximately 12.00 percent (*see* Chart 9, below).

¹¹¹ On a rolling average basis.

¹¹² Direct Testimony of Michael P. Gorman, at 50.

1

Chart 9: 50-Year Rolling Average Market Return (1976 – 2015)¹¹³



2

Taken from that perspective, Mr. Gorman’s 9.10 percent expected market return is well

3

below the long-term market experience, and, therefore, is not reasonable.

4

D. Application of the Risk Premium Model

5

Q: Please briefly describe Mr. Gorman’s Risk Premium analyses.

6

A: Mr. Gorman defines the “Risk Premium” as the difference between average annual

7

authorized equity returns for electric utilities, and a measure of long-term interest rates

8

each year from 1986 through September 2016.¹¹⁴ Mr. Gorman’s first approach calculates

9

the annual risk premium by reference to the 30-year Treasury yield, and his second

10

approach considers the average A-rated utility bond yield.¹¹⁵ In each case, Mr. Gorman

11

establishes his risk premium estimate by reference to five-year and ten-year rolling

12

averages. The lower and upper bounds of Mr. Gorman’s Risk Premium range are defined

¹¹³ Source: Morningstar, Inc., 2016 SBBI Appendix A Tables.

¹¹⁴ Direct Testimony of Michael P. Gorman, at 49-50.

¹¹⁵ See Direct Testimony of Michael P. Gorman, 41-42, Schedule MPG-13 and MPG-14.

1 by the lowest and highest rolling average, respectively, regardless of the year in which
2 those observations occurred.¹¹⁶

3 Regarding the period over which he gathers and analyzes his data, Mr. Gorman
4 suggests that his 31-year horizon is a “generally accepted period to develop a risk
5 premium study using ‘expectational’ data.”¹¹⁷ On page 43 of his direct testimony Mr.
6 Gorman further states that “it is reasonable to assume that averages of annual achieved
7 returns over long time periods will generally converge on the investors’ expected
8 returns,” and concludes that his “risk premium study is based on expectational data, not
9 actual investment returns, and, thus, need not encompass a very long historical time
10 period.”¹¹⁸ Based on those assumptions, Mr. Gorman calculates a range of risk premium
11 estimates of 4.25 percent to 6.75 percent using his Treasury bond analysis, and 2.88
12 percent to 5.58 percent using his A-rated utility bond analysis. Combined with a 3.10
13 percent projected Treasury yield and a 4.28 percent Baa-rated utility bond yield estimate,
14 Mr. Gorman’s Risk Premium analysis produces results ranging from 7.16 percent to 9.86
15 percent.¹¹⁹ To calculate his Risk Premium-based ROE estimate, Mr. Gorman gives 75.00
16 percent weight to the high end of his risk premium estimates, and 25.00 percent to the
17 low end, producing a range of 9.23 percent to 9.19 percent which Mr. Gorman rounds to
18 9.20 percent.¹²⁰

¹¹⁶ Direct Testimony of Michael P. Gorman at 46; Schedule MPG-13 and MPG-14.

¹¹⁷ *Ibid.*, at 42.

¹¹⁸ *Ibid.*

¹¹⁹ $4.28\% + 2.88\% = 7.16\%$; $4.28\% + 5.58\% = 9.86\%$; $3.10\% + 4.25\% = 7.35\%$; $3.10\% + 6.75\% = 9.85\%$.

¹²⁰ *Ibid.*, at 46.

1 **Q: Do you have any general concerns with Mr. Gorman's Risk Premium estimates and**
2 **their effect on his overall ROE recommendation?**

3 A: Yes, I do. In assessing his DCF analyses, Mr. Gorman decided to rely on his highest
4 result and essentially discarded four of his six results, which ranged from 7.32 percent to
5 7.82 percent.¹²¹ However, in his Risk Premium analysis, Mr. Gorman retained risk
6 premiums that produced ROE estimates that were more than 45 basis points *below* the
7 DCF estimates that he chose not to rely on. Despite their low levels, Mr. Gorman gave
8 those risk premium estimates (producing ROE results of 7.16 and 7.35 percent) weights
9 of 25.00 percent in aggregate. Mr. Gorman offers no explanation as to why he would
10 exclude DCF results of 7.82 percent and lower, yet include Risk Premium results of 7.16
11 percent and 7.35 percent.¹²² This shows the inconsistency in and the subjective nature of
12 his Risk Premium analysis.

13 **Q: What are your specific concerns with Mr. Gorman's Risk Premium analysis?**

14 A: I have three concerns with his analysis: (1) Mr. Gorman's method understates the
15 required risk premium in the current market because it ignores an important relationship
16 confirmed by his own data, *i.e.*, that the risk premium is inversely related to the level of
17 interest rates (whether measured by Treasury or utility bond yields); (2) the low end of
18 Mr. Gorman's Risk Premium results (*i.e.*, 7.16 and 7.35 percent) is far lower than any
19 ROE authorized since at least 1986 and as such, has no relevance in estimating the
20 Company's Cost of Equity; and (3) Mr. Gorman suggests that a Market/Book of 1.00 is a
21 relevant benchmark for assessing authorized ROEs.¹²³

¹²¹ *Ibid.* at 40.

¹²² *Ibid.* at 46 (2.88% + 4.28% = 7.16% and 4.25% + 3.10% = 7.35%).

¹²³ *Ibid.* at 41.

1 **Q: Turning first to the issue of Market/Book ratios, as discussed on page 41 of his**
2 **direct testimony, do you agree with Mr. Gorman that M/B ratios should be used to**
3 **assess the reasonableness of ROE recommendations?**

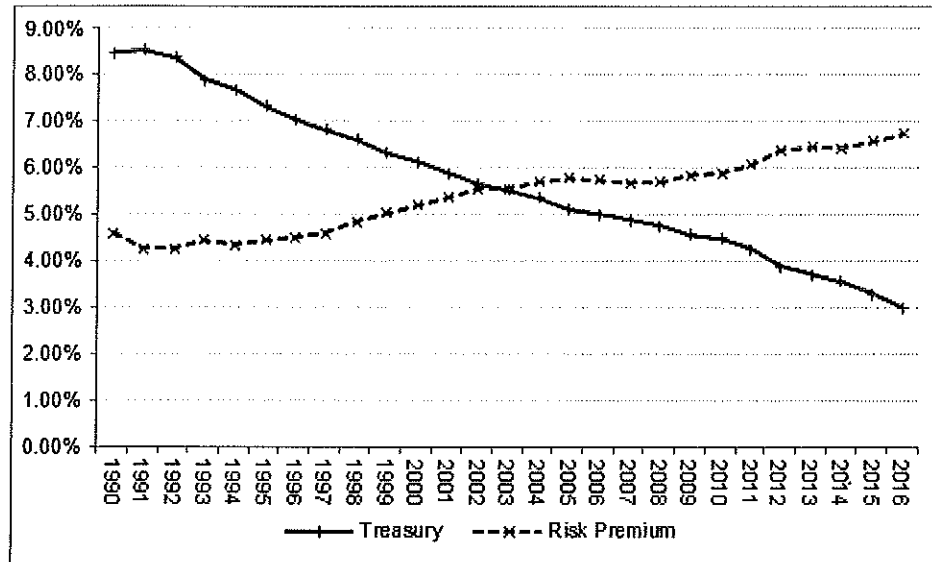
4 A: Although Mr. Gorman frames his discussions in the context of authorized returns that
5 “were sufficient to support market prices that at least exceeded book value,”¹²⁴ he does
6 not suggest whether the Market/Book ratio should exceed some level, or even explain the
7 extent of the relationship between authorized returns and Market/Book ratios. As
8 discussed in my response to Dr. Woolridge, I do not believe that M/B ratios should serve
9 as a measure of the sufficiency of authorized returns.

10 **Q: What problems did you find in Mr. Gorman’s Risk Premium analyses?**

11 A: Mr. Gorman failed to consider the inverse relationship between interest rates and the
12 Equity Risk Premium, which artificially depresses his Risk Premium ROE
13 recommendation. Considering first the Treasury yield-based analysis, I plotted the yields
14 and Risk Premia over the 1986 to 2016 period included in Mr. Gorman’s analysis. That
15 graph, which is presented in Chart 10 (below), clearly indicates the inverse relationship
16 between interest rates and the Equity Risk Premium.

¹²⁴ *Ibid.*, at 41.

Chart 10: Mr. Gorman's Treasury Yield-Based Risk Premium Data¹²⁵



There are several other points made clear in Chart 10. First, the low end of Mr. Gorman's Risk Premium range, 4.25 percent, was observed in the five-year period ending 1991. There is little question that Risk Premium estimates associated with economic environments 25 years ago have little to do with current market conditions. A very visible measure of such differences is the fact that before 2002, Treasury yields exceeded the Risk Premium (on a five-year average basis). Since then, as Chart 10 (*see also* Schedule RBH-27) demonstrates, the opposite has been true – the Risk Premium has consistently exceeded Treasury yields. By that measure alone, it is clear that the low end of Mr. Gorman's range has little, if any, relevance to the current market environment.

The high end of Mr. Gorman's range, 6.75 percent, occurred more recently (for the five year period ending September 2016). In fact, Schedule MPG-13 indicates that his Equity Risk Premium averaged approximately 6.94 percent over the more recent

¹²⁵ Source: Direct Testimony of Michael P. Gorman, Schedule MPG-13; based on five-year rolling average.

1 period from 2015 through September 2016.¹²⁶ Adding that 6.94 percent Equity Risk
2 Premium to Mr. Gorman's projected Treasury yield of 3.10 percent produces an ROE
3 estimate of 10.04 percent.

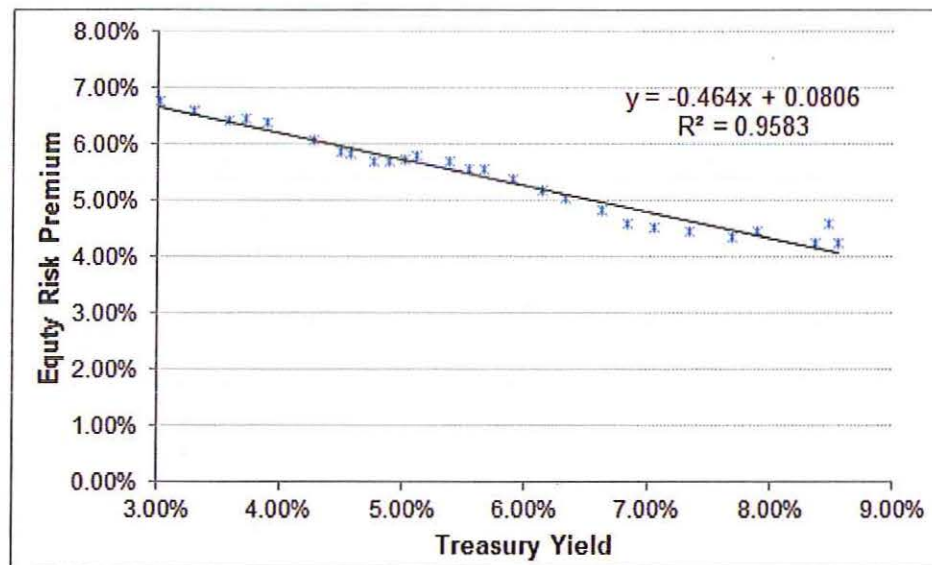
4 **Q: Has the Risk Premium increased as Treasury yields have decreased?**

5 A: Yes. The relationship between the five-year average Equity Risk Premium and Treasury
6 yields is very clear. A simple linear regression demonstrates that the two are highly
7 related, with a Coefficient of Determination (R-Square) of approximately 96.00 percent.
8 That is, Mr. Gorman's data demonstrate that changes in Treasury yields account for 96.00
9 percent of the change in the Equity Risk Premium (*see* Chart 11, below).¹²⁷

¹²⁶ Based on Indicated Risk Premium.

¹²⁷ Those findings are supported in academic studies. For example, Dr. Roger Morin notes that: "... [p]ublished studies by Brigham, Shome, and Vinson (1985), Harris (1986), Harris and Marston (1992, 1993), Carleton, Chambers, and Lakonishok (1983), Morin (2005), and McShane (2005), and others demonstrate that, beginning in 1980, risk premiums varied inversely with the level of interest rates - rising when rates fell and declining when interest rates rose." Roger A: Morin, New Regulatory Finance, Public Utilities Reports, Inc. 2006, at 128 [clarification added].

1 **Chart 11: Treasury Yield vs. Equity Risk Premium (Five-Year Rolling Average)**¹²⁸



2 Turning back to Mr. Gorman’s data, a simple linear regression analysis using
3 annual (rather than the rolling average data) demonstrates that for every 100 basis point
4 decrease in Treasury yields, the Equity Risk Premium increases by approximately 46
5 basis points (*see* Schedule RBH-28).¹²⁹ Similarly, the Equity Risk Premium increases
6 approximately 46 basis points for every 100 basis point decrease in utility bond yields.
7 Those results are consistent with those reported by Maddox, Pippert, and Sullivan, who
8 determined that the Risk Premium would increase by 37 basis points for every 100 basis
9 point decrease in the 30-year Treasury yield.¹³⁰

10 As noted in my Direct Testimony, I also have found that accounting for additional
11 factors by incorporating the credit spread does not change the sign, statistical
12 significance, or the magnitude of the slope coefficient.¹³¹ In other words, consideration

¹²⁸ See Schedule RBH-27. Source: Schedule MPG-13.
¹²⁹ Serial correlation is not present or is inconclusive.
¹³⁰ See Farris M. Maddox, Donna T. Pippert, and Rodney N. Sullivan, *An Empirical Study of Ex Ante Risk Premiums for the Electric Utility Industry*, Financial Management, Vol. 24, No. 3, Autumn 1995, at 93.
¹³¹ See Schedule RBH-7.

1 of credit spreads does not change the finding that interest rates and the Equity Risk
2 Premium are inversely related.

3 **Q: What are your conclusions regarding Mr. Gorman's Risk Premium analysis?**

4 A: Mr. Gorman's inclusion of rolling average estimates in his Risk Premium analysis does
5 not negate the unreasonableness of his reliance on outdated and unrepresentative data.
6 The market data upon which Mr. Gorman relies are so disconnected in time and
7 substance from the current environment that there is no reasonable basis for his
8 conclusion that 9.60 percent represents a proper Risk Premium-based estimate of the
9 Company's Cost of Equity. Consequently, it is appropriate to apply methods that have
10 been accepted in published literature, and which reflect the finding that interest rates and
11 the Equity Risk Premium move in opposite directions. Taking this finding into account
12 leads to more reasonable ROE estimates that are consistent with authorized returns
13 available to other vertically integrated electric utilities.¹³²

14 ***E. Risk Factors***

15 **Q: Please briefly summarize Mr. Gorman's assessment of the Company's overall
16 business risk.**

17 A: Mr. Gorman summarizes certain rating agency reports and concludes that utilities in
18 general are seen as a low-risk sector, which has provided utilities "strong access to
19 capital."¹³³ Adopting an ROE as low as Mr. Gorman's recommendation (which is 87
20 basis points below the average authorized for vertically integrated electric utilities since
21 the 2013), however, would have the opposite effect of increasing the Company's
22 regulatory risk and its cost of capital. Since 2013 there was only one authorized return

¹³² See, for example, Schedule RBH-18, which contains a range of results from 10.01 percent to 10.34 percent.

1 for a vertically integrated electric utility as low as the *high end* of Mr. Gorman's
2 recommended range (i.e., 9.20 percent).

3 **Q: Do the Company's current credit ratings distinguish it from other utilities?**

4 A: No, they do not. As S&P notes, the vast majority of utility ratings fall within the BBB to
5 A- range.¹³⁴ The Company's current credit rating of BBB+ falls within that range. If Mr.
6 Gorman's point is that utilities in general are viewed as less risky than the overall market,
7 I agree. In fact, the Beta coefficients included in my CAPM analysis are less than 1.00,
8 indicating less systematic risk than the overall market. That does not mean, however,
9 that the return required for equity investments in vertically integrated electric utilities
10 such as KCP&L should be lower than the returns authorized for other vertically-
11 integrated electric utilities around the country, as Mr. Gorman's 9.00 percent ROE
12 recommendation suggests.

13 ***F. Financial Integrity***

14 **Q: Please briefly summarize Mr. Gorman's assessment of his recommendation as it**
15 **affects measures of the Company's financial integrity.**

16 A: Mr. Gorman evaluates the reasonableness of his ROE recommendation by calculating the
17 *pro forma* effect that his recommended ROE would have on two of the Company's key
18 financial ratios with the goal of assessing whether those ratios would still fall within
19 S&P's guideline ranges sufficient for an investment grade rating.¹³⁵ In that regard, Mr.
20 Gorman develops the following *pro forma* ratios: (1) Debt to EBITDA; and (2) Funds
21 From Operations ("FFO") to Total Debt. An important point is that Mr. Gorman's

¹³³ Direct Testimony of Michael P. Gorman, at 15.

¹³⁴ Standard & Poor's RatingsDirect, Industry Report Card: The Outlook For U.S. Regulated Utilities Remains Stable On Increasing Capital Spending And Robust Financial Performance, December 16, 2014, at 6.

1 analysis assumes that the Company actually will earn the entirety of its authorized ROE
2 on a going-forward basis.

3 Mr. Gorman develops the *pro forma* financial ratios noted above based on the
4 Company's retail cost of service, and his recommended ROE of 9.00 percent and equity
5 ratio of 49.88 percent. Mr. Gorman notes that his *pro forma* financial analysis suggests
6 that his recommended ROE of 9.00 percent would be sufficient to maintain "an
7 investment grade bond rating."¹³⁶

8 **Q: Do you agree with Mr. Gorman's analysis and conclusion?**

9 **A:** No, I do not. First, simply maintaining an "investment grade" rating is an inappropriate
10 standard. According to Standard & Poor's, only 6 of 221 utilities have had below
11 investment grade ratings.¹³⁷ KCP&L must compete for capital within the utility sector in
12 the first instance, and with companies beyond utilities, overall. If Mr. Gorman is of the
13 view that simply maintaining an investment grade rating is sufficient for that purpose, I
14 disagree. In my practical experience raising capital for a regulated utility, I can say
15 firsthand that the competition for capital can be acute. Based on that practical
16 experience, I also can say that Mr. Gorman's "investment grade" standard would frustrate
17 and potentially harm the ability of KCP&L, or any other regulated utility, to raise capital
18 under a variety of market conditions, and at reasonable costs and terms.

19 That fundamental concern aside, I believe relying on Mr. Gorman's *pro forma*
20 results to assess the credit supportiveness of any specific ROE or equity ratio is
21 misplaced. In particular, I examined the robustness of using his *pro forma* credit metrics

¹³⁵ See Direct Testimony of Michael P. Gorman, at 56-57.

¹³⁶ *Ibid.* at 57.

¹³⁷ See Standard & Poor's RatingsDirect, The Outlook for U.S. Regulated Utilities Remains Stable on Increasing Capital Spending and Robust Financial Performance, December 16, 2014, at 7-20.

1 as a threshold benchmark by recreating the results in Mr. Gorman's Table 4 (using the
2 data and assumptions provided in Mr. Gorman's highly confidential workpaper). As
3 shown in in Table 4 below, Mr. Gorman's *pro forma* analysis suggests that an ROE as
4 low as 6.18 percent would be sufficient to achieve Debt to EBITDA and FFO to Total
5 Debt ratios in the "Intermediate" and "Significant" ranges, as suggested by Mr. Gorman's
6 analysis. Clearly, however, a return of 6.18 percent, which is only 67 basis points above
7 KCP&L's cost of long-term debt, is an unrealistic estimate of the Company's Cost of
8 Equity.

9 However, the usefulness of an analysis which suggests that an ROE as low as 2.12
10 percent (see Table 4, below) would be sufficient to achieve those metrics in Company's
11 current "Significant" risk range is severely limited and provides no practical meaning as a
12 check as to the appropriateness of Mr. Gorman's recommended ROE.

1 **Table 4: Mr. Gorman’s Financial Integrity Test Using Alternate Assumptions**¹³⁸

	Debt / EBITDA	FFO/ DEBT	
S&P Benchmark Ranges			
“Intermediate”	2.5x-3.5x	23%-35%	
“Significant”	3.5x-4.5x	13%-23%	
SCENARIO	Debt / EBITDA	FFO/ DEBT	Implied Risk Rating
Gorman as Filed (9.00% ROE and 49.88% Equity Ratio)	3.03x	22.12%	Intermediate /Significant
9.90% ROE and 49.88% Equity Ratio	2.91x	22.99%	Intermediate /Significant
6.18% ROE and 49.88% Equity Ratio	3.50x	19.40%	Intermediate /Significant
2.12% ROE and 49.88% Equity Ratio	4.50x	15.48%	Significant
Company current Financial Risk rating = “Significant”			

2

3

4

5

6

7

8

9

10

11

12

13

Mr. Gorman concludes that his 9.00 percent recommendation produces *pro forma* ratios within S&P’s “Intermediate” and “Significant” guidelines and therefore reflects less risk and a stronger metric than needed to support KCP&L’s current “Significant” ranking.¹³⁹ Again, Mr. Gorman’s conclusions are questionable given that his analysis suggests an ROE of 2.12 percent would produce coverage ratios that support the Company’s current “Significant” range. I do not believe there is any question that 2.12 percent is an unrealistic estimate of the Company’s Cost of Equity even if it produces *pro forma* credit metrics in the “Significant” range. As shown in Table 4 (above), the Company’s requested 9.90 percent ROE and 49.88 percent equity ratio also produces coverage ratios that fall within the “Intermediate” and “Significant” ranges, similar to Mr. Gorman’s recommended ROE.

¹³⁸ Analysis based on Mr. Gorman’s workpaper supporting Schedule MPG-19, page 4 of 4. See Schedule RBH-29.

1 In my view, the observation that Mr. Gorman's 9.00 percent ROE produces *pro*
2 *forma* ratios that fall within the "Intermediate" and "Significant" ranges does not lead to
3 the conclusion that his recommendation would support the Company's financial integrity.
4 As noted earlier, there are factors well beyond *pro forma* coverage ratios that weigh in
5 rating determinations.

6 Mr. Gorman's analysis also assumes that the Company actually will be able to
7 earn its authorized return, and that its Funds From Operations will not be diluted by
8 regulatory lag, additional capital spending, or any of the other factors that may dilute
9 earnings and cash flow.

10 Lastly, as Mr. Gorman recognizes, credit rating agencies consider a number of
11 factors beyond coverage ratios. For example, Moody's considers the regulatory structure
12 to be so important that 50.00 percent of the factors that weigh in its ratings determination
13 are related to the nature of regulation.¹⁴⁰ Among the factors considered by Moody's in
14 assessing the regulatory framework are the predictability and consistency of regulatory
15 actions:

16 As the revenues set by the regulator are a primary component of a utility's
17 cash flow, the utility's ability to obtain predictable and supportive
18 treatment within its regulatory framework is one of the most significant
19 factors in assessing a utility's credit quality. The regulatory framework
20 generally provides more certainty around a utility's cash flow and
21 typically allows the company to operate with significantly less cushion in
22 its cash flow metrics than comparably rated companies in other industrial
23 sectors.

24 ***

25 In situations where the regulatory framework is less supportive, or is more
26 contentious, a utility's credit quality can deteriorate rapidly.¹⁴¹

¹³⁹ Direct Testimony of Michael P. Gorman, at 56-57.

¹⁴⁰ Moody's Investors Service, *Rating Methodology; Regulated Gas and Electric Utilities* at 6 (Dec. 23, 2013).

¹⁴¹ Moody's Investors Service, *Regulatory Frameworks – Ratings and Credit Quality for Investor-Owned Utilities* at 2 (June 18, 2010).

1 Mr. Gorman's ROE recommendation, which is far below the national average
2 return for vertically integrated electric utilities, would introduce an element of regulatory
3 risk that could put pressure on KCP&L's credit profile, potentially increasing its cost of
4 capital. Because Mr. Gorman's analysis is overly simplistic, relying on its results may
5 well lead to incorrect conclusions and should not be relied upon.

6 IV. CONCLUSIONS AND RECOMMENDATION

7 **Q: What is your conclusion regarding the Company's Cost of Equity?**

8 **A:** Based on the analyses discussed throughout my Rebuttal Testimony, I conclude that the
9 reasonable range of ROE estimates is from 9.75 percent to 10.50 percent for the
10 Company's Cost of Equity. The results of the updated DCF, CAPM, and Bond Yield
11 Plus Risk Premium analyses, along with my analyses of capital market data, and
12 authorized returns in other regulatory jurisdictions support the reasonableness of my
13 range of ROE estimates and my recommendation.

14 **Q: Does this conclude your Rebuttal Testimony?**

15 **A:** Yes, it does.

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) Case No. ER-2016-0285
A General Rate Increase for Electric Service)

AFFIDAVIT OF ROBERT B. HEVERT

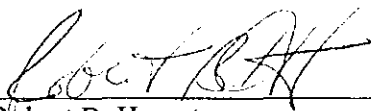
COMMONWEALTH OF MASSACHUSETTS)
) ss
COUNTY OF WORCESTER)

Robert B. Hevert, being first duly sworn on his oath, states:

1. My name is Robert B. Hevert and my business address is ScottMadden, Inc., 1900 W. Park Drive, Suite 250, Westborough, MA 01581. I have been retained to serve as an expert witness to provide testimony on behalf of Kansas City Power & Light Company.


2. Attached hereto and made a part hereof for all purposes is my Rebuttal Testimony on behalf of Kansas City Power & Light Company consisting of sixty-eight (68) pages, having been prepared in written form for introduction into evidence in the above-captioned docket.

3. I have knowledge of the matters set forth therein. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded, including any attachments thereto, are true and accurate to the best of my knowledge, information and belief.



Robert B. Hevert

Subscribed and sworn before me this 23rd day of December, 2016.



Notary Public

My commission expires: March 11, 2022



Constant Growth Discounted Cash Flow Model with Half Year Growth Adjustment
30 Day Average Stock Price

Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
		Annualized Dividend	Average Stock Price	Dividend Yield	Expected Dividend Yield	Zacks Earnings Growth	First Call Earnings Growth	Value Line Earnings Growth	Average Earnings Growth	Low ROE	Mean ROE	High ROE
ALLETE, Inc.	ALE	\$2.08	\$60.56	3.43%	3.52%	5.50%	5.00%	4.00%	4.83%	7.50%	8.35%	9.03%
Alliant Energy Corp.	LNT	\$1.18	\$36.72	3.20%	3.30%	6.10%	6.60%	6.00%	6.23%	9.30%	9.53%	9.91%
Ameren Corp.	AEE	\$1.76	\$49.16	3.58%	3.69%	6.50%	5.60%	6.00%	6.03%	9.28%	9.72%	10.20%
American Electric Power	AEP	\$2.36	\$61.38	3.84%	3.92%	5.40%	1.89%	4.00%	3.76%	5.77%	7.68%	9.35%
Avista Corp.	AVA	\$1.37	\$40.53	3.38%	3.47%	5.30%	5.65%	5.00%	5.32%	8.46%	8.79%	9.13%
Black Hills Corp.	BKH	\$1.68	\$59.68	2.82%	2.91%	6.00%	7.00%	7.50%	6.83%	8.90%	9.74%	10.42%
CMS Energy Corp.	CMS	\$1.24	\$40.81	3.04%	3.14%	6.60%	7.27%	6.00%	6.62%	9.13%	9.76%	10.42%
DTE Energy Co.	DTE	\$3.30	\$93.34	3.54%	3.64%	5.80%	5.63%	6.00%	5.81%	9.26%	9.45%	9.64%
IDACORP, Inc.	IDA	\$2.20	\$76.33	2.88%	2.94%	4.30%	4.10%	3.00%	3.80%	5.93%	6.74%	7.24%
NorthWestern Corporation	NWE	\$2.00	\$56.52	3.54%	3.63%	5.00%	4.50%	6.50%	5.33%	8.12%	8.97%	10.15%
OGE Energy Corp.	OGE	\$1.21	\$30.91	3.91%	3.99%	5.20%	4.00%	3.00%	4.07%	6.97%	8.06%	9.22%
Otter Tail Corporation	OTTR	\$1.25	\$36.29	3.44%	3.55%	NA	6.00%	6.00%	6.00%	9.55%	9.55%	9.55%
Pinnacle West Capital	PNW	\$2.62	\$74.56	3.51%	3.59%	4.70%	4.85%	4.00%	4.52%	7.58%	8.11%	8.45%
PNM Resources, Inc.	PNM	\$0.88	\$32.28	2.73%	2.83%	6.80%	6.85%	9.00%	7.55%	9.62%	10.38%	11.85%
Portland General Electric Co.	POR	\$1.28	\$42.23	3.03%	3.12%	6.30%	6.50%	5.50%	6.10%	8.61%	9.22%	9.63%
SCANA Corp.	SCG	\$2.30	\$70.88	3.24%	3.33%	5.50%	6.33%	4.50%	5.44%	7.82%	8.78%	9.68%
WEC Energy Group Inc.	WEC	\$1.98	\$57.17	3.46%	3.57%	6.20%	7.01%	6.00%	6.40%	9.57%	9.98%	10.59%
Xcel Energy, Inc.	XEL	\$1.36	\$39.94	3.41%	3.50%	5.40%	5.72%	5.50%	5.54%	8.90%	9.04%	9.22%
Proxy Group Mean				3.33%	3.42%	5.68%	5.58%	5.42%	5.57%	8.35%	8.99%	9.65%
Proxy Group Median				3.42%	3.51%	5.50%	5.69%	5.75%	5.68%	8.76%	9.13%	9.64%

Notes:

[1] Source: Bloomberg Professional

[2] Source: Bloomberg Professional, equals indicated number of trading day average as of November 30, 2016

[3] Equals [1] / [2]

[4] Equals [3] x (1 + 0.5 x [8])

[5] Source: Zacks

[6] Source: Yahoo! Finance

[7] Source: Value Line

[8] Equals Average([5], [6], [7])

[9] Equals [3] x (1 + 0.5 x Minimum([5], [6], [7])) + Minimum([5], [6], [7])

[10] Equals [4] + [8]

[11] Equals [3] x (1 + 0.5 x Maximum([5], [6], [7])) + Maximum([5], [6], [7])

Constant Growth Discounted Cash Flow Model with Half Year Growth Adjustment
90 Day Average Stock Price

Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
		Annualized Dividend	Average Stock Price	Dividend Yield	Expected Dividend Yield	Zacks Earnings Growth	First Call Earnings Growth	Value Line Earnings Growth	Average Earnings Growth	Low ROE	Mean ROE	High ROE
ALLETE, Inc.	ALE	\$2.08	\$60.39	3.44%	3.53%	5.50%	5.00%	4.00%	4.83%	7.51%	8.36%	9.04%
Alliant Energy Corp.	LNT	\$1.18	\$37.96	3.10%	3.19%	6.10%	6.60%	6.00%	6.23%	9.19%	9.43%	9.80%
Ameren Corp.	AEE	\$1.76	\$49.66	3.54%	3.65%	6.50%	5.60%	6.00%	6.03%	9.24%	9.68%	10.16%
American Electric Power	AEP	\$2.36	\$64.15	3.68%	3.75%	5.40%	1.89%	4.00%	3.76%	5.60%	7.51%	9.18%
Avista Corp.	AVA	\$1.37	\$41.24	3.32%	3.41%	5.30%	5.65%	5.00%	5.32%	8.41%	8.73%	9.07%
Black Hills Corp.	BKH	\$1.68	\$59.80	2.81%	2.91%	6.00%	7.00%	7.50%	6.83%	8.89%	9.74%	10.41%
CMS Energy Corp.	CMS	\$1.24	\$42.03	2.95%	3.05%	6.60%	7.27%	6.00%	6.62%	9.04%	9.67%	10.33%
DTE Energy Co.	DTE	\$3.30	\$93.97	3.51%	3.61%	5.80%	5.63%	6.00%	5.81%	9.24%	9.42%	9.62%
IDACORP, Inc.	IDA	\$2.20	\$77.11	2.85%	2.91%	4.30%	4.10%	3.00%	3.80%	5.90%	6.71%	7.21%
NorthWestern Corporation	NWE	\$2.00	\$57.62	3.47%	3.56%	5.00%	4.50%	6.50%	5.33%	8.05%	8.90%	10.08%
OGE Energy Corp.	OGE	\$1.21	\$31.13	3.89%	3.97%	5.20%	4.00%	3.00%	4.07%	6.95%	8.03%	9.19%
Otter Tail Corporation	OTTR	\$1.25	\$35.13	3.56%	3.67%	NA	6.00%	6.00%	6.00%	9.67%	9.67%	9.67%
Pinnacle West Capital	PNW	\$2.62	\$75.74	3.46%	3.54%	4.70%	4.85%	4.00%	4.52%	7.53%	8.05%	8.39%
PNM Resources, Inc.	PNM	\$0.88	\$32.60	2.70%	2.80%	6.80%	6.85%	9.00%	7.55%	9.59%	10.35%	11.82%
Portland General Electric Co.	POR	\$1.28	\$42.50	3.01%	3.10%	6.30%	6.50%	5.50%	6.10%	8.59%	9.20%	9.61%
SCANA Corp.	SCG	\$2.30	\$71.63	3.21%	3.30%	5.50%	6.33%	4.50%	5.44%	7.78%	8.74%	9.64%
WEC Energy Group Inc.	WEC	\$1.98	\$59.64	3.32%	3.43%	6.20%	7.01%	6.00%	6.40%	9.42%	9.83%	10.45%
Xcel Energy, Inc.	XEL	\$1.36	\$41.19	3.30%	3.39%	5.40%	5.72%	5.50%	5.54%	8.79%	8.93%	9.12%
Proxy Group Mean				3.28%	3.38%	5.68%	5.58%	5.42%	5.57%	8.30%	8.94%	9.60%
Proxy Group Median				3.32%	3.42%	5.50%	5.69%	5.75%	5.68%	8.69%	9.07%	9.63%

Notes:

- [1] Source: Bloomberg Professional
- [2] Source: Bloomberg Professional, equals indicated number of trading day average as of November 30, 2016
- [3] Equals [1] / [2]
- [4] Equals [3] x (1 + 0.5 x [8])
- [5] Source: Zacks
- [6] Source: Yahoo! Finance
- [7] Source: Value Line
- [8] Equals Average([5], [6], [7])
- [9] Equals [3] x (1 + 0.5 x Minimum([5], [6], [7])) + Minimum([5], [6], [7])
- [10] Equals [4] + [8]
- [11] Equals [3] x (1 + 0.5 x Maximum([5], [6], [7])) + Maximum([5], [6], [7])

Constant Growth Discounted Cash Flow Model with Half Year Growth Adjustment
180 Day Average Stock Price

Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
		Annualized Dividend	Average Stock Price	Dividend Yield	Expected Dividend Yield	Zacks Earnings Growth	First Call Earnings Growth	Value Line Earnings Growth	Average Earnings Growth	Low ROE	Mean ROE	High ROE
ALLETE, Inc.	ALE	\$2.08	\$59.57	3.49%	3.58%	5.50%	5.00%	4.00%	4.83%	7.56%	8.41%	9.09%
Alliant Energy Corp.	LNT	\$1.18	\$37.75	3.11%	3.21%	6.10%	6.60%	6.00%	6.23%	9.21%	9.44%	9.82%
Ameren Corp.	AEE	\$1.76	\$49.74	3.54%	3.64%	6.50%	5.60%	6.00%	6.03%	9.24%	9.68%	10.15%
American Electric Power	AEP	\$2.36	\$65.20	3.62%	3.69%	5.40%	1.89%	4.00%	3.76%	5.54%	7.45%	9.12%
Avista Corp.	AVA	\$1.37	\$41.33	3.31%	3.40%	5.30%	5.65%	5.00%	5.32%	8.40%	8.72%	9.06%
Black Hills Corp.	BKH	\$1.68	\$60.20	2.79%	2.89%	6.00%	7.00%	7.50%	6.83%	8.87%	9.72%	10.40%
CMS Energy Corp.	CMS	\$1.24	\$42.29	2.93%	3.03%	6.60%	7.27%	6.00%	6.62%	9.02%	9.65%	10.31%
DTE Energy Co.	DTE	\$3.30	\$93.03	3.55%	3.65%	5.80%	5.63%	6.00%	5.81%	9.28%	9.46%	9.65%
IDACORP, Inc.	IDA	\$2.20	\$76.09	2.89%	2.95%	4.30%	4.10%	3.00%	3.80%	5.93%	6.75%	7.25%
NorthWestern Corporation	NWE	\$2.00	\$58.74	3.40%	3.50%	5.00%	4.50%	6.50%	5.33%	7.98%	8.83%	10.02%
OGE Energy Corp.	OGE	\$1.21	\$30.65	3.95%	4.03%	5.20%	4.00%	3.00%	4.07%	7.01%	8.10%	9.25%
Otter Tail Corporation	OTTR	\$1.25	\$32.86	3.80%	3.92%	NA	6.00%	6.00%	6.00%	9.92%	9.92%	9.92%
Pinnacle West Capital	PNW	\$2.62	\$75.62	3.46%	3.54%	4.70%	4.85%	4.00%	4.52%	7.53%	8.06%	8.40%
PNM Resources, Inc.	PNM	\$0.88	\$32.93	2.67%	2.77%	6.80%	6.85%	9.00%	7.55%	9.56%	10.32%	11.79%
Portland General Electric Co.	POR	\$1.28	\$41.88	3.06%	3.15%	6.30%	6.50%	5.50%	6.10%	8.64%	9.25%	9.66%
SCANA Corp.	SCG	\$2.30	\$71.16	3.23%	3.32%	5.50%	6.33%	4.50%	5.44%	7.80%	8.76%	9.66%
WEC Energy Group Inc.	WEC	\$1.98	\$60.23	3.29%	3.39%	6.20%	7.01%	6.00%	6.40%	9.39%	9.80%	10.41%
Xcel Energy, Inc.	XEL	\$1.36	\$41.53	3.27%	3.37%	5.40%	5.72%	5.50%	5.54%	8.76%	8.91%	9.09%
Proxy Group Mean				3.30%	3.39%	5.68%	5.58%	5.42%	5.57%	8.31%	8.96%	9.61%
Proxy Group Median				3.30%	3.40%	5.50%	5.69%	5.75%	5.68%	8.70%	9.08%	9.66%

Notes:

- [1] Source: Bloomberg Professional
- [2] Source: Bloomberg Professional, equals indicated number of trading day average as of November 30, 2016
- [3] Equals [1] / [2]
- [4] Equals [3] x (1 + 0.5 x [8])
- [5] Source: Zacks
- [6] Source: Yahoo! Finance
- [7] Source: Value Line
- [8] Equals Average([5], [6], [7])
- [9] Equals [3] x (1 + 0.5 x Minimum([5], [6], [7])) + Minimum([5], [6], [7])
- [10] Equals [4] + [8]
- [11] Equals [3] x (1 + 0.5 x Maximum([5], [6], [7])) + Maximum([5], [6], [7])

Multistage Growth Discounted Cash Flow Model
 90 Day Average Stock Price
 Low EPS Growth Rate Estimate in First Stage

Inputs	Company	Ticker	Price	EPS Growth Rate Estimates					Long-Term				Terminal																																																												
				Zacks	First Call	Line	Growth	Growth	Payout Ratio		Pref	IRR	P/E Ratio	PEG Ratio	Terminal	Terminal																																																									
									2016	2020							Value																																																								
																	Low	High																																																							
Parative Solution														(10)	(11)	(12)	(13)																																																								
														(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)																																											
														(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)	(48)	(49)	(50)	(51)	(52)	(53)	(54)	(55)	(56)	(57)	(58)	(59)	(60)	(61)	(62)	(63)	(64)	(65)	(66)	(67)	(68)	(69)	(70)	(71)	(72)	(73)	(74)	(75)	(76)	(77)	(78)	(79)	(80)	(81)	(82)	(83)	(84)	(85)	(86)	(87)	(88)	(89)	(90)

Multi-Stage DCF Notes:

- [1] Source: Bloomberg; based on 30-, 90-, and 180-day historical average as of November 30, 2016
- [2] Source: Zacks
- [3] Source: Yahoo! Finance
- [4] Source: Value Line
- [5] Equals indicated value (average, minimum, maximum) of Columns [2], [3], [4]
- [6] Source: Federal Reserve, Bureau of Economic Analysis
- [7] Source: Value Line
- [8] Source: Value Line
- [9] Source: Bloomberg Professional
- [10] Equals Column [1] + Column [62]
- [11] Equals result of Excel Solver function; goal: Column [10] equals \$0.00
- [12] Equals Column [61] / Column [30]
- [13] Equals Column [12] / (Column [6] x 100)
- [14] Source: Value Line
- [15] Equals Column [14] x (1 + Column [5])
- [16] Equals Column [15] x (1 + Column [5])
- [17] Equals Column [16] x (1 + Column [5])
- [18] Equals Column [17] x (1 + Column [5])
- [19] Equals Column [18] x (1 + Column [5])
- [20] Equals (1 + (Column [6] + (((Column [7] - Column [6]) / (2026 - 2021 + 1)) x (2021 - 2020)))) x Column [19]
- [21] Equals (1 + (Column [6] + (((Column [7] - Column [6]) / (2026 - 2021 + 1)) x (2022 - 2020)))) x Column [20]
- [22] Equals (1 + (Column [6] + (((Column [7] - Column [6]) / (2026 - 2021 + 1)) x (2023 - 2020)))) x Column [21]
- [23] Equals (1 + (Column [6] + (((Column [7] - Column [6]) / (2026 - 2021 + 1)) x (2024 - 2020)))) x Column [22]
- [24] Equals (1 + (Column [6] + (((Column [7] - Column [6]) / (2026 - 2021 + 1)) x (2025 - 2020)))) x Column [23]
- [25] Equals Column [24] x (1 + Column [6])
- [26] Equals Column [25] x (1 + Column [6])
- [27] Equals Column [26] x (1 + Column [6])
- [28] Equals Column [27] x (1 + Column [6])
- [29] Equals Column [28] x (1 + Column [6])
- [30] Equals Column [29] x (1 + Column [6])
- [31] Equals Column [7]
- [32] Equals Column [31] + ((Column [35] - Column [31]) / 4)
- [33] Equals Column [32] + ((Column [35] - Column [31]) / 4)
- [34] Equals Column [33] + ((Column [35] - Column [31]) / 4)
- [35] Equals Column [8]
- [36] Equals Column [35] + ((Column [41] - Column [35]) / 6)
- [37] Equals Column [36] + ((Column [41] - Column [35]) / 6)
- [38] Equals Column [37] + ((Column [41] - Column [35]) / 6)
- [39] Equals Column [38] + ((Column [41] - Column [35]) / 6)
- [40] Equals Column [39] + ((Column [41] - Column [35]) / 6)
- [41] Equals Column [9]
- [42] Equals Column [9]
- [43] Equals Column [9]
- [44] Equals Column [9]
- [45] Equals Column [9]
- [46] Equals Column [9]
- [47] Equals Column [15] x Column [31]
- [48] Equals Column [16] x Column [32]
- [49] Equals Column [17] x Column [33]
- [50] Equals Column [18] x Column [34]
- [51] Equals Column [19] x Column [35]
- [52] Equals Column [20] x Column [36]
- [53] Equals Column [21] x Column [37]
- [54] Equals Column [22] x Column [38]
- [55] Equals Column [23] x Column [39]
- [56] Equals Column [24] x Column [40]
- [57] Equals Column [25] x Column [41]
- [58] Equals Column [26] x Column [42]
- [59] Equals Column [27] x Column [43]
- [60] Equals Column [28] x Column [44]
- [61] Equals Column [29] x Column [45]
- [62] Equals Column [30] x Column [46]
- [63] Equals (Column [62] x (1 + Column [6])) / (Column [11] - Column [6])
- [64] Equals negative net present value; discount rate equals Column [11], cash flows equal Column [65] through Column [81]
- [65] Equals \$0.00
- [66] Equals Column [47] x (12/31/2016 - 5/31/2016) / 365
- [67] Equals Column [47] + (0.5 x Column [5])
- [68] Equals Column [49]
- [69] Equals Column [50]
- [70] Equals Column [51]
- [71] Equals Column [52]
- [72] Equals Column [53]
- [73] Equals Column [54]
- [74] Equals Column [55]
- [75] Equals Column [56]
- [76] Equals Column [57]
- [77] Equals Column [58]
- [78] Equals Column [59]
- [79] Equals Column [60]
- [80] Equals Column [61]
- [81] Equals Column [62] + [63]

Multi-Stage DCF Notes:

- [1] Source: Bloomberg; based on 30-, 90-, and 180-day historical average as of November 30, 2016
 [2] Source: Zacks
 [3] Source: Yahoo! Finance
 [4] Source: Value Line
 [5] Equals indicated value (average, minimum, maximum) of Columns [2], [3], [4]
 [6] Source: Federal Reserve, Bureau of Economic Analysis
 [7] Source: Value Line
 [8] Source: Value Line
 [9] Source: Bloomberg Professional
 [10] Equals Column [1] + Column [62]
 [11] Equals result of Excel Solver function; goal: Column [10] equals \$0.00
 [12] Equals Column [61] / Column [30]
 [13] Equals Column [12] / (Column [6] x 100)
 [14] Source: Value Line
 [15] Equals Column [14] x (1 + Column [5])
 [16] Equals Column [15] x (1 + Column [5])
 [17] Equals Column [16] x (1 + Column [5])
 [18] Equals Column [17] x (1 + Column [5])
 [19] Equals Column [18] x (1 + Column [5])
 [20] Equals (1 + (Column [6] + (((Column [7] - Column [6]) / (2026 - 2021 + 1)) x (2021 - 2020)))) x Column [19]
 [21] Equals (1 + (Column [6] + (((Column [7] - Column [6]) / (2026 - 2021 + 1)) x (2022 - 2020)))) x Column [20]
 [22] Equals (1 + (Column [6] + (((Column [7] - Column [6]) / (2026 - 2021 + 1)) x (2023 - 2020)))) x Column [21]
 [23] Equals (1 + (Column [6] + (((Column [7] - Column [6]) / (2026 - 2021 + 1)) x (2024 - 2020)))) x Column [22]
 [24] Equals (1 + (Column [6] + (((Column [7] - Column [6]) / (2026 - 2021 + 1)) x (2025 - 2020)))) x Column [23]
 [25] Equals Column [24] x (1 + Column [6])
 [26] Equals Column [25] x (1 + Column [6])
 [27] Equals Column [26] x (1 + Column [6])
 [28] Equals Column [27] x (1 + Column [6])
 [29] Equals Column [28] x (1 + Column [6])
 [30] Equals Column [29] x (1 + Column [6])
 [31] Equals Column [7]
 [32] Equals Column [31] + ((Column [35] - Column [31]) / 4)
 [33] Equals Column [32] + ((Column [35] - Column [31]) / 4)
 [34] Equals Column [33] + ((Column [35] - Column [31]) / 4)
 [35] Equals Column [8]
 [36] Equals Column [35] + ((Column [41] - Column [35]) / 6)
 [37] Equals Column [36] + ((Column [41] - Column [35]) / 6)
 [38] Equals Column [37] + ((Column [41] - Column [35]) / 6)
 [39] Equals Column [38] + ((Column [41] - Column [35]) / 6)
 [40] Equals Column [39] + ((Column [41] - Column [35]) / 6)
 [41] Equals Column [9]
 [42] Equals Column [9]
 [43] Equals Column [9]
 [44] Equals Column [9]
 [45] Equals Column [9]
 [46] Equals Column [9]
 [47] Equals Column [15] x Column [31]
 [48] Equals Column [16] x Column [32]
 [49] Equals Column [17] x Column [33]
 [50] Equals Column [18] x Column [34]
 [51] Equals Column [19] x Column [35]
 [52] Equals Column [20] x Column [36]
 [53] Equals Column [21] x Column [37]
 [54] Equals Column [22] x Column [38]
 [55] Equals Column [23] x Column [39]
 [56] Equals Column [24] x Column [40]
 [57] Equals Column [25] x Column [41]
 [58] Equals Column [26] x Column [42]
 [59] Equals Column [27] x Column [43]
 [60] Equals Column [28] x Column [44]
 [61] Equals Column [29] x Column [45]
 [62] Equals Column [30] x Column [46]
 [63] Equals Column [12] x Column [30]
 [64] Equals negative net present value; discount rate equals Column [11], cash flows equal Column [65] through Column [81]
 [65] Equals \$0.00
 [66] Equals Column [47] x (12/31/2016 - 5/31/2016) / 365
 [67] Equals Column [47] + (0.5 x Column [5])
 [68] Equals Column [49]
 [69] Equals Column [50]
 [70] Equals Column [51]
 [71] Equals Column [52]
 [72] Equals Column [53]
 [73] Equals Column [54]
 [74] Equals Column [55]
 [75] Equals Column [56]
 [76] Equals Column [57]
 [77] Equals Column [58]
 [78] Equals Column [59]
 [79] Equals Column [60]
 [80] Equals Column [61]
 [81] Equals Column [62] + [63]

Ex-Ante Market Risk Premium
Market DCF Method Based - Bloomberg

(1)	(2)	(3)
S&P 500 Est. Required Market Return	Current 30-Year Treasury (30-day average)	Implied Market Risk Premium
12.94%	2.75%	10.19%

(4)	(5)	(6)	(7)	(8)	(9)	
Company	Ticker	Market Capitalization	Weight in index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result Weighted DCF Result
AGILENT TECHNOLOGIES INC	A	14,266.44	0.07%	1.14%	9.35%	0.0075%
AMERICAN AIRLINES GROUP INC	AAL	24,061.73	0.12%	0.89%	-18.84%	-0.0217%
ADVANCE AUTO PARTS INC	AAP	12,500.49	0.06%	0.15%	11.33%	0.0072%
APPLE INC	AAPL	569,327.23	2.94%	2.07%	9.66%	0.3480%
ABBVIE INC	ABBV	98,806.02	0.49%	3.74%	10.54%	0.0714%
AMERISOURCEBERGEN CORP	ABC	17,165.62	0.09%	1.85%	11.44%	0.0115%
ABBOTT LABORATORIES	ABT	56,050.82	0.28%	2.74%	11.05%	0.0390%
ACCENTURE PLC-CL A	ACN	77,537.06	0.39%	2.03%	8.25%	0.0401%
ADOBE SYSTEMS INC	ADBE	51,119.91	0.26%	0.00%	17.32%	0.0442%
ANALOG DEVICES INC	ADI	22,878.58	0.11%	2.29%	11.18%	0.0155%
ARCHER-DANIELS-MIDLAND CO	ADM	24,874.53	0.12%	2.78%	4.30%	0.0089%
AUTOMATIC DATA PROCESSING	ADP	43,321.65	0.22%	2.31%	10.99%	0.0290%
ALLIANCE DATA SYSTEMS CORP	ADS	13,214.15	0.07%	0.23%	14.60%	0.0098%
AUTODESK INC	ADSK	16,111.65	0.08%	0.00%	9.59%	0.0077%
AMEREN CORPORATION	AEE	11,918.22	0.06%	3.52%	5.50%	0.0054%
AMERICAN ELECTRIC POWER	AEP	29,035.57	0.14%	3.84%	4.38%	0.0120%
AES CORP	AES	7,547.56	0.04%	3.86%	4.93%	0.0033%
AETNA INC	AET	45,911.76	0.23%	0.76%	10.54%	0.0260%
AFLAC INC	AFL	29,130.33	0.15%	2.33%	5.00%	0.0107%
ALLERGAN PLC	AGN	72,878.08	0.36%	0.24%	12.44%	0.0462%
AMERICAN INTERNATIONAL GROUP	AI	65,048.47	0.32%	2.02%	9.50%	0.0377%
APARTMENT INVT & MGMT CO -A	AIV	6,604.98	0.03%	3.12%	7.13%	0.0034%
ASSURANT INC	AIZ	4,922.47	0.02%	2.35%	8.83%	0.0028%
ARTHUR J GALLAGHER & CO	AJG	8,959.33	0.04%	3.02%	8.99%	0.0054%
AKAMAI TECHNOLOGIES INC	AKAM	11,559.10	0.06%	0.00%	14.80%	0.0085%
ALBEMARLE CORP	ALB	9,873.14	0.05%	1.34%	14.85%	0.0080%
ALASKA AIR GROUP INC	ALK	10,141.54	0.05%	1.34%	-0.72%	0.0003%
ALLSTATE CORP	ALL	25,747.82	0.13%	1.88%	8.33%	0.0132%
ALLEGION PLC	ALLE	6,424.39	0.03%	0.72%	13.10%	0.0044%
ALEXION PHARMACEUTICALS INC	ALXN	27,490.56	0.14%	0.00%	27.64%	0.0379%
APPLIED MATERIALS INC	AMAT	34,804.78	0.17%	1.28%	12.13%	0.0234%
AMETEK INC	AME	10,958.30	0.05%	0.78%	9.56%	0.0057%
AFFILIATED MANAGERS GROUP	AMG	8,118.46	0.04%	0.00%	12.30%	0.0050%
AMGEN INC	AMGN	107,176.91	0.53%	2.77%	7.83%	0.0573%
AMERIPRISE FINANCIAL INC	AMP	18,050.63	N/A	2.55%	N/A	N/A
AMERICAN TOWER CORP	AMT	43,535.10	0.22%	2.10%	18.86%	0.0455%
AMAZON.COM INC	AMZN	356,645.74	1.78%	0.00%	44.53%	0.7926%
AUTONATION INC	AN	4,512.63	0.02%	0.00%	6.08%	0.0014%
ANTHEM INC	ANTM	37,547.45	0.19%	1.82%	8.75%	0.0200%
ACN PLC	ACN	30,019.03	0.15%	1.13%	10.36%	0.0173%
APACHE CORP	APA	25,023.36	0.12%	1.53%	-3.07%	-0.0020%
ANADARKO PETROLEUM CORP	APC	38,648.00	0.19%	0.29%	1.46%	0.0034%
AIR PRODUCTS & CHEMICALS INC	APD	31,402.01	0.16%	2.40%	6.22%	0.0136%
AMPHENOL CORP-CL A	APH	21,056.73	0.11%	0.83%	10.44%	0.0119%
ARCONIC INC	ARNK	8,453.86	0.04%	1.79%	4.80%	0.0028%
ACTIVISION BLIZZARD INC	ATVI	27,209.04	0.14%	0.71%	15.30%	0.0218%
AVALONBAY COMMUNITIES INC	AVB	22,588.73	0.11%	3.27%	6.96%	0.0117%
BROADCOM LTD	AVGO	67,740.71	0.34%	1.12%	14.58%	0.0533%
AVERY DENNISON CORP	AVY	6,412.73	0.03%	2.23%	6.55%	0.0028%
AMERICAN WATER WORKS CO INC	AWK	12,699.90	0.06%	1.98%	7.53%	0.0062%
AMERICAN EXPRESS CO	AXP	65,935.00	0.33%	1.69%	8.99%	0.0354%
ACUTY BRANDS INC	AYI	11,083.07	0.06%	0.21%	19.60%	0.0110%
AUTOZONE INC	AZO	22,603.67	0.11%	0.00%	12.58%	0.0142%
BOEING CO/THE	BA	92,920.50	0.46%	2.87%	12.93%	0.0742%
BANK OF AMERICA CORP	BAC	213,418.69	1.07%	1.18%	9.67%	0.1162%
BAXTER INTERNATIONAL INC	BAX	24,133.73	0.12%	1.17%	12.36%	0.0164%
BED BATH & BEYOND INC	BBBY	8,814.89	0.03%	0.97%	6.42%	0.0025%
BB&T CORP	BBT	36,716.95	0.18%	2.54%	8.37%	0.0202%
BEST BUY CO INC	BBY	14,499.44	0.07%	2.95%	12.26%	0.0111%
CR BARD INC	BCR	15,480.97	0.08%	0.48%	10.75%	0.0087%
BECTON DICKINSON AND CO	BDX	35,903.24	0.18%	1.73%	10.08%	0.0213%
FRANKLIN RESOURCES INC	BEN	22,331.30	0.11%	1.97%	10.00%	0.0135%
BROWN-FORMAN CORP-CLASS B	BF/B	18,183.86	0.09%	1.56%	9.08%	0.0097%
BAKER HUGHES INC	BHI	27,198.34	0.14%	1.06%	34.67%	0.0487%
BIAGEN INC	BIIB	63,982.13	0.32%	0.00%	8.92%	0.0285%
BANK OF NEW YORK MELLON CORP	BK	50,138.90	0.25%	1.53%	15.35%	0.0425%
BLACKROCK INC	BLK	60,682.08	0.30%	2.47%	11.87%	0.0439%
BALL CORP	BLL	13,120.98	0.07%	0.69%	6.23%	0.0045%
BRISTOL-MYERS SQUIBB CO	BMJ	94,324.22	0.47%	2.70%	17.57%	0.0965%
BERKSHIRE HATHAWAY INC-CL B	BRK/B	388,915.42	1.94%	0.00%	2.00%	0.0388%
BOSTON SCIENTIFIC CORP	BSX	27,859.91	0.14%	0.00%	12.71%	0.0177%
BORGWARNER INC	BWA	7,582.29	0.04%	1.53%	11.39%	0.0049%
BOSTON PROPERTIES INC	BXP	19,049.46	0.10%	2.32%	6.50%	0.0085%
CITIGROUP INC	C	160,696.29	0.80%	0.74%	4.35%	0.0410%
CA INC	CA	13,354.07	0.07%	3.23%	7.60%	0.0073%
CONAGRA BRANDS INC	CAG	16,061.77	0.08%	2.05%	8.60%	0.0088%
CARDINAL HEALTH INC	CAH	22,727.70	0.11%	2.55%	11.34%	0.0159%
CATERPILLAR INC	CAT	55,909.54	0.28%	3.22%	7.64%	0.0307%
CHUBB LTD	CB	59,563.41	0.30%	2.15%	10.00%	0.0364%
CBRE GROUP INC - A	CBG	9,794.59	0.05%	0.00%	8.63%	0.0042%
CBS CORP-CLASS B NON VOTING	CBS	26,142.11	0.13%	1.08%	16.15%	0.0226%
CROWN CASTLE INTL CORP	CCI	30,096.08	0.15%	4.29%	9.95%	0.0217%
CARNIVAL CORP	CCL	37,260.54	0.19%	2.60%	15.06%	0.0332%
CELGENE CORP	CELG	91,869.37	0.46%	0.00%	21.52%	0.0987%
CERNER CORP	CERN	16,900.13	0.08%	0.00%	13.80%	0.0116%
CF INDUSTRIES HOLDINGS INC	CF	6,746.32	0.03%	4.15%	-0.05%	0.0014%
CITIZENS FINANCIAL GROUP	CFG	17,153.03	0.09%	1.36%	18.00%	0.0167%
CHURCH & DWIGHT CO INC	CHD	11,324.26	0.06%	1.62%	9.04%	0.0061%

Ex-Ante Market Risk Premium
Market DCF Method Based - Bloomberg

[1]	[2]	[3]
S&P 500	Current 30-Year	
Est. Required	Treasury (30-day	Implied Market
Market Return	average)	Risk Premium
12.94%	2.75%	10.19%

Company	Ticker	[4] Market Capitalization	[5] Weight in Index	[6] Estimated Dividend Yield	[7] Long-Term Growth Est.	[8] DCF Result	[9] Weighted DCF Result
CHESAPEAKE ENERGY CORP	CHK	6,211.73	0.03%	0.00%	0.82%	0.82%	0.0003%
C.H. ROBINSON WORLDWIDE INC	CHRW	10,599.47	0.05%	2.32%	9.52%	11.95%	0.0063%
CHARTER COMMUNICATIONS INC-A	CHTR	85,617.62	0.43%	0.00%	30.51%	30.51%	0.1304%
CIGNA CORP	CI	34,592.96	0.17%	0.02%	10.99%	11.01%	0.0190%
CINCINNATI FINANCIAL CORP	CINF	12,642.81	N/A	0.00%	N/A	N/A	N/A
COLGATE-PALMOLIVE CO	CL	57,979.20	0.29%	2.40%	9.62%	12.13%	0.0351%
CLOROX COMPANY	CLX	14,877.62	0.07%	2.79%	7.46%	10.36%	0.0077%
COMERICA INC	CMA	10,981.77	0.05%	1.40%	0.20%	1.60%	0.0009%
COMCAST CORP-CLASS A	CMCSA	166,325.78	0.83%	1.59%	11.75%	13.43%	0.1115%
CME GROUP INC	CME	38,316.04	0.19%	4.71%	10.42%	15.38%	0.0294%
CHIPOTLE MEXICAN GRILL INC	CMG	11,473.42	0.06%	0.00%	14.48%	14.48%	0.0083%
CUMMINS INC	CMI	23,858.05	0.12%	2.82%	4.73%	7.61%	0.0091%
CMS ENERGY CORP	CMS	11,257.90	0.06%	3.06%	6.03%	9.20%	0.0052%
CENTENE CORP	CNC	9,848.51	0.05%	0.00%	15.86%	15.86%	0.0078%
CENTERPOINT ENERGY INC	CNP	10,276.08	0.05%	4.32%	4.67%	9.09%	0.0047%
CAPITAL ONE FINANCIAL CORP	COF	40,532.61	0.20%	1.90%	3.35%	5.29%	0.0107%
CABOT OIL & GAS CORP	COG	10,289.11	0.05%	0.36%	38.40%	38.83%	0.0199%
COACH INC	COH	10,202.49	0.05%	3.73%	11.69%	15.64%	0.0030%
ROCKWELL COLLINS INC	COL	12,077.40	0.06%	1.50%	9.03%	10.60%	0.0064%
COOPER COS INC/THE	COO	8,017.60	0.04%	0.04%	11.88%	11.92%	0.0048%
CONOCOPHILLIPS	COP	60,117.61	0.30%	2.06%	6.67%	8.80%	0.0264%
COSTCO WHOLESALE CORP	COST	65,617.07	0.33%	1.18%	9.85%	11.08%	0.0383%
COTY INC-CLA	COTY	13,963.70	0.07%	1.82%	0.41%	2.23%	0.0016%
CAMPBELL SOUP CO	CPB	17,515.01	0.09%	2.49%	5.33%	7.89%	0.0069%
SALESFORCE COM INC	CRM	50,162.40	0.25%	0.00%	26.81%	26.81%	0.0671%
CISCO SYSTEMS INC	CSCO	149,669.21	0.75%	3.62%	8.04%	11.81%	0.0382%
CSRA INC	CSRA	5,231.27	0.03%	0.00%	10.00%	10.00%	0.0026%
CSX CORP	CSX	33,541.83	0.17%	2.02%	7.42%	9.51%	0.0159%
CINTAS CORP	CTAS	12,025.63	0.06%	1.02%	11.40%	12.48%	0.0075%
CENTURYLINK INC	CTL	12,858.15	0.06%	9.18%	-4.24%	4.75%	0.0030%
COGNIZANT TECH SOLUTIONS-A	CTSH	33,417.29	0.17%	0.00%	12.13%	12.13%	0.0202%
CITRIX SYSTEMS INC	CTXS	13,526.93	0.07%	0.00%	16.18%	16.18%	0.0109%
CVS HEALTH CORP	CVS	81,998.51	0.41%	2.16%	12.36%	14.66%	0.0600%
CHEVRON CORP	CVX	210,599.55	1.05%	3.85%	1.55%	5.42%	0.0570%
CONCHO RESOURCES INC	CXO	20,888.19	0.10%	0.00%	11.50%	11.50%	0.0120%
DOMINION RESOURCES INC/VA	D	45,934.54	0.23%	3.82%	6.14%	10.08%	0.0231%
DELTA AIR LINES INC	DAL	36,082.37	0.18%	1.39%	15.39%	16.88%	0.0304%
DU PONT (E.I.) DE NEMOURS	DD	63,992.26	0.32%	2.07%	7.53%	9.67%	0.0309%
DEERE & CO	DE	31,505.18	0.16%	2.44%	8.68%	11.22%	0.0176%
DISCOVER FINANCIAL SERVICES	DFS	26,728.40	0.13%	1.71%	6.17%	7.94%	0.0106%
DOLLAR GENERAL CORP	DG	21,784.47	0.11%	1.29%	12.53%	13.90%	0.0151%
QUEST DIAGNOSTICS INC	DGX	12,125.45	0.06%	1.83%	7.28%	9.18%	0.0056%
DR HORTON INC	DHI	10,537.16	0.05%	1.37%	10.33%	11.77%	0.0062%
DANAHER CORP	DHR	54,070.35	0.27%	0.74%	8.75%	9.53%	0.0257%
WALT DISNEY CO/THE	DIS	157,745.61	0.79%	1.58%	8.56%	10.21%	0.0804%
DISCOVERY COMMUNICATIONS-A	DISCA	16,281.84	0.08%	0.00%	17.53%	17.53%	0.0142%
DELPHI AUTOMOTIVE PLC	DLPH	17,333.74	0.09%	1.62%	13.63%	15.57%	0.0135%
DIGITAL REALTY TRUST INC	DLR	14,907.24	0.07%	3.81%	5.20%	9.11%	0.0068%
DOLLAR TREE INC	DLTR	20,785.96	0.10%	0.00%	16.00%	16.00%	0.0166%
DUN & BRADSTREET CORP	DNB	4,477.31	0.02%	1.59%	8.00%	9.65%	0.0022%
DOVER CORP	DOV	11,279.73	0.06%	2.36%	10.54%	13.03%	0.0073%
DOW CHEMICAL CO/THE	DOW	62,483.34	0.31%	3.40%	3.53%	6.99%	0.0218%
DR PEPPER SNAPPLE GROUP INC	DPS	15,935.45	0.08%	2.42%	8.80%	11.33%	0.0090%
DARDEN RESTAURANTS INC	DRI	9,021.82	0.05%	3.08%	10.95%	14.20%	0.0064%
DTE ENERGY COMPANY	DTE	16,703.64	0.08%	3.26%	4.95%	8.29%	0.0069%
DUKE ENERGY CORP	DUK	50,822.62	0.25%	4.60%	4.21%	8.91%	0.0226%
DAVITA INC	DVA	12,505.29	0.06%	0.00%	12.00%	12.00%	0.0075%
DEVON ENERGY CORP	DVN	25,305.59	0.13%	0.87%	9.85%	10.76%	0.0136%
ELECTRONIC ARTS INC	EA	23,911.11	0.12%	0.00%	15.00%	15.00%	0.0179%
EBAY INC	EBAY	31,089.53	0.16%	0.00%	9.67%	9.67%	0.0150%
ECOLAB INC	ECL	34,032.86	0.17%	1.22%	12.88%	14.18%	0.0241%
CONSOLIDATED EDISON INC	ED	21,260.84	0.11%	3.83%	2.90%	6.78%	0.0072%
EQUIFAX INC	EFX	13,706.68	0.07%	1.15%	12.20%	13.42%	0.0092%
EDISON INTERNATIONAL	EIX	22,406.04	0.11%	2.83%	6.10%	9.01%	0.0101%
ESTEE LAUDER COMPANIES-CL A	EL	28,472.42	0.14%	1.70%	11.37%	13.17%	0.0187%
EASTMAN CHEMICAL CO	EMN	11,023.93	0.06%	2.47%	5.63%	8.17%	0.0045%
EMERSON ELECTRIC CO	EMR	36,278.33	0.18%	3.44%	7.03%	10.59%	0.0192%
ENDO INTERNATIONAL PLC	ENDP	3,568.26	0.02%	0.00%	1.92%	1.92%	0.0003%
EOG RESOURCES INC	EOG	59,098.44	0.29%	0.65%	-11.81%	-11.20%	-0.0330%
EQUINIX INC	EQIX	24,180.45	0.12%	2.07%	21.03%	23.32%	0.0281%
EQUITY RESIDENTIAL	EQR	21,943.43	0.11%	15.41%	5.94%	21.81%	0.0239%
EQT CORP	EQT	12,106.88	0.06%	0.17%	17.50%	17.69%	0.0107%
EVERSOURCE ENERGY	ES	16,357.65	0.08%	3.46%	6.50%	10.08%	0.0082%
EXPRESS SCRIPTS HOLDING CO	ESRX	46,789.20	0.23%	0.00%	13.97%	13.97%	0.0326%
ESSEX PROPERTY TRUST INC	ESS	14,146.52	0.07%	2.94%	6.57%	9.61%	0.0068%
E*TRADE FINANCIAL CORP	ETFC	9,449.26	0.05%	0.00%	18.28%	18.28%	0.0086%
EATON CORP PLC	ETN	30,042.57	0.15%	3.42%	8.30%	11.86%	0.0178%
ENTERGY CORP	ETR	12,311.46	0.06%	5.02%	-5.33%	-0.45%	-0.0003%
EDWARDS LIFESCIENCES CORP	EW	17,714.48	0.09%	0.00%	17.73%	17.73%	0.0157%
EXELON CORP	EXC	29,964.30	0.15%	3.88%	2.88%	6.82%	0.0102%
EXPEDITORS INTL WASH INC	EXPD	9,512.96	0.05%	1.49%	8.30%	9.85%	0.0047%
EXPEDIA INC	EXPE	18,611.21	0.09%	0.80%	17.34%	18.21%	0.0169%
EXTRA SPACE STORAGE INC	EXR	8,826.56	0.04%	4.23%	9.62%	14.05%	0.0062%
FORD MOTOR CO	F	47,525.63	0.24%	5.47%	2.05%	7.57%	0.0180%
FASTENAL CO	FAST	13,700.12	0.07%	2.53%	15.50%	18.22%	0.0125%
FACEBOOK INC-A	FB	342,138.36	1.71%	0.00%	32.93%	32.93%	0.5623%
FORTUNE BRANDS HOME & SECURI	FBHS	8,510.03	0.04%	1.16%	15.20%	16.45%	0.0070%
FREEMPORT-MCMORAN INC	FCX	20,901.92	0.10%	0.00%	15.75%	15.75%	0.0164%

Ex-Ante Market Risk Premium
Market DCF Method Based - Bloomberg

(1)	(2)	(3)
S&P 500 Est. Required Market Return	Current 30-Year Treasury (30-day average)	Implied Market Risk Premium
12.94%	2.75%	10.19%

Company	Ticker	(4) Market Capitalization	(5) Weight in Index	(6) Estimated Dividend Yield	(7) Long-Term Growth Est.	(8) DCF Result	(9) Weighted DCF Result
FEDEX CORP	FDX	50,938.10	0.25%	0.84%	12.72%	13.61%	0.0346%
FIRSTENERGY CORP	FE	13,321.51	0.07%	4.61%	-0.67%	3.92%	0.0026%
F5 NETWORKS INC	FFIV	9,193.23	0.05%	0.00%	12.22%	12.22%	0.0056%
FIDELITY NATIONAL INFO SERV	FIS	25,335.91	0.13%	1.33%	12.00%	13.41%	0.0170%
FISERV INC	FISV	22,708.54	0.11%	0.00%	12.54%	12.54%	0.0142%
FIFTH THIRD BANCORP	FTB	19,661.06	0.10%	2.04%	2.27%	4.33%	0.0042%
FOOT LOCKER INC	FL	9,549.99	0.05%	1.50%	10.04%	11.61%	0.0055%
FLIR SYSTEMS INC	FLIR	4,888.43	0.02%	1.31%	15.00%	16.41%	0.0040%
FLUOR CORP	FLR	7,451.28	0.04%	1.56%	8.25%	9.68%	0.0037%
FLOWERVE CORP	FLS	6,189.95	0.03%	1.49%	7.94%	9.49%	0.0029%
FMC CORP	FMC	7,511.03	0.04%	1.18%	11.03%	12.28%	0.0046%
TWENTY-FIRST CENTURY FOX-A	FOXA	52,113.45	0.26%	1.33%	12.15%	13.56%	0.0353%
FEDERAL REALTY INVS TRUST	FRT	10,080.26	0.05%	2.74%	5.24%	8.05%	0.0040%
FIRST SOLAR INC	FSLR	3,150.64	0.02%	0.00%	-27.37%	-27.37%	-0.0043%
FMC TECHNOLOGIES INC	FTI	7,732.55	0.04%	0.00%	-10.45%	-10.45%	-0.0040%
FRONTIER COMMUNICATIONS CORP	FTR	4,281.55	0.02%	11.51%	1.00%	12.56%	0.0027%
FORTIVE CORP	FTV	19,012.16	0.09%	0.22%	8.16%	8.39%	0.0080%
GENERAL DYNAMICS CORP	GD	53,397.50	0.27%	1.69%	8.11%	9.66%	0.0263%
GENERAL ELECTRIC CO	GE	272,114.96	1.36%	3.01%	10.24%	13.40%	0.1820%
GENERAL GROWTH PROPERTIES	GGP	22,445.38	0.11%	3.56%	6.72%	10.39%	0.0116%
GILEAD SCIENCES INC	GILD	97,096.51	0.48%	2.50%	-0.72%	1.77%	0.0086%
GENERAL MILLS INC	GIS	36,038.90	0.18%	3.11%	8.54%	11.79%	0.0212%
CORNING INC	GLW	22,857.94	0.11%	2.26%	12.45%	14.85%	0.0169%
GENERAL MOTORS CO	GM	52,635.60	0.26%	4.41%	4.27%	8.77%	0.0230%
ALPHABET INC-CL A	GOOGL	528,181.32	2.64%	0.00%	25.00%	25.00%	0.6591%
GENUINE PARTS CO	GPC	14,312.98	0.07%	2.74%	6.81%	9.64%	0.0069%
GLOBAL PAYMENTS INC	GPB	10,535.98	0.05%	0.08%	13.00%	13.06%	0.0069%
GAP INC/THE	GPS	9,949.97	0.05%	3.68%	6.67%	10.48%	0.0052%
GARMIN LTD	GRMN	9,829.34	0.05%	3.93%	5.47%	9.51%	0.0047%
GOLDMAN SACHS GROUP INC	GS	91,544.27	0.46%	1.19%	9.89%	11.14%	0.0509%
GOODYEAR TIRE & RUBBER CO	GT	8,011.70	N/A	0.97%	N/A	N/A	N/A
WW GRAINGER INC	GWW	13,734.95	0.07%	2.10%	11.95%	14.17%	0.0097%
HALLIBURTON CO	HAL	45,893.77	0.23%	1.35%	17.21%	18.68%	0.0428%
HARMAN INTERNATIONAL	HAR	7,622.97	0.04%	1.32%	16.00%	17.42%	0.0066%
HASBRO INC	HAS	10,655.61	0.05%	2.39%	10.35%	12.66%	0.0068%
HUNTINGTON BANCSHARES INC	HBAN	13,516.39	0.07%	2.32%	5.82%	8.21%	0.0055%
HANESBRANDS INC	HBI	8,779.67	0.04%	1.89%	16.40%	18.44%	0.0081%
HCA HOLDINGS INC	HCA	26,561.47	0.13%	0.00%	11.50%	11.50%	0.0152%
WELLTOWER INC	HCN	22,759.74	0.11%	5.48%	5.45%	11.08%	0.0126%
HCP INC	HCP	13,819.19	0.07%	7.23%	0.20%	7.44%	0.0051%
HOME DEPOT INC	HD	157,630.03	0.79%	2.14%	13.48%	15.77%	0.1240%
HESS CORP	HES	17,718.11	0.09%	1.81%	-7.49%	-5.75%	-0.0051%
HARTFORD FINANCIAL SVCS GRP	HFG	17,788.84	0.09%	1.87%	9.67%	11.62%	0.0103%
HARLEY-DAVIDSON INC	HOG	10,763.73	0.05%	2.30%	11.00%	13.43%	0.0072%
HOLOGIC INC	HOLX	10,650.10	0.05%	0.00%	10.05%	10.05%	0.0053%
HONEYWELL INTERNATIONAL INC	HON	86,836.49	0.43%	2.15%	9.16%	11.40%	0.0494%
HELMERICH & PAYNE	HP	8,183.61	0.04%	3.69%	-6.18%	-2.60%	-0.0011%
HEWLETT PACKARD ENTERPRIS	HPE	39,639.79	0.20%	1.02%	4.86%	5.90%	0.0117%
HP INC	HPQ	26,347.49	0.13%	3.45%	2.50%	6.00%	0.0079%
H&R BLOCK INC	HRB	4,855.11	0.02%	3.93%	11.00%	15.14%	0.0037%
HORMEL FOODS CORP	HRL	18,119.84	0.09%	1.92%	5.17%	7.13%	0.0065%
HARRIS CORP	HRS	12,870.10	N/A	2.05%	N/A	N/A	N/A
HENRY SCHEIN INC	HSIC	11,989.93	0.06%	0.00%	11.67%	11.67%	0.0070%
HOST HOTELS & RESORTS INC	HST	13,199.19	0.07%	4.69%	6.00%	10.83%	0.0071%
HERSHEY CO/THE	HSY	20,509.85	0.10%	2.44%	8.74%	11.28%	0.0115%
HUMANA INC	HUM	31,704.87	0.16%	0.55%	12.95%	13.53%	0.0214%
INTL BUSINESS MACHINES CORP	IBM	154,247.63	0.77%	3.35%	5.02%	8.46%	0.0651%
INTERCONTINENTAL EXCHANGE IN	ICE	33,000.45	0.16%	1.14%	8.42%	9.60%	0.0159%
INTL FLAVORS & FRAGRANCES	IFF	9,614.25	0.05%	1.96%	9.43%	11.49%	0.0055%
ILLUMINA INC	ILMN	19,558.27	0.10%	0.00%	13.07%	13.07%	0.0128%
INTEL CORP	INTC	164,443.30	0.82%	2.84%	8.65%	11.61%	0.0953%
INTUIT INC	INTU	29,178.09	0.15%	1.18%	16.45%	17.73%	0.0258%
INTERNATIONAL PAPER CO	IP	20,034.32	0.10%	3.66%	6.38%	10.15%	0.0102%
INTERPUBLIC GROUP OF COS INC	IPG	9,556.03	0.05%	2.48%	6.00%	8.55%	0.0041%
INGERSOLL-RAND PLC	IR	19,255.98	0.10%	1.77%	10.82%	12.68%	0.0122%
IRON MOUNTAIN INC	IRM	8,693.78	0.04%	5.85%	10.70%	16.87%	0.0073%
INTUITIVE SURGICAL INC	ISRG	24,943.00	0.12%	0.00%	14.09%	14.09%	0.0175%
ILLINOIS TOOL WORKS	ITW	43,938.77	0.22%	1.83%	9.27%	7.37%	0.0203%
INVESCO LTD	IVZ	12,791.25	0.06%	3.57%	10.21%	13.96%	0.0089%
HUNT (JB) TRANSPRT SVCS INC	JBHT	10,699.09	0.05%	0.92%	15.00%	15.99%	0.0085%
JOHNSON CONTROLS INTERNATION	JCI	42,133.58	0.21%	2.27%	8.96%	11.33%	0.0238%
JACOBS ENGINEERING GROUP INC	JEC	7,487.72	0.04%	0.00%	8.35%	8.35%	0.0031%
JOHNSON & JOHNSON	JNJ	302,795.18	1.51%	2.61%	6.60%	9.50%	0.1435%
JUNIPER NETWORKS INC	JNPR	10,474.10	0.05%	1.47%	9.49%	11.03%	0.0058%
JPMORGAN CHASE & CO	JPM	286,869.45	1.43%	2.34%	6.56%	8.97%	0.1285%
NORDSTROM INC	JWN	9,693.29	0.05%	2.73%	9.55%	12.41%	0.0060%
KELLOGG CO	K	25,265.17	0.13%	2.85%	6.80%	9.74%	0.0123%
KEYCORP	KEY	18,707.12	0.09%	1.91%	4.58%	6.53%	0.0061%
KRAFT HEINZ CO/THE	KHC	99,390.11	0.50%	2.88%	21.47%	24.66%	0.1223%
KIMCO REALTY CORP	KIM	10,855.16	0.05%	4.02%	5.69%	9.82%	0.0053%
KLA-TENCOR CORP	KLAC	12,480.49	0.06%	2.68%	4.50%	7.24%	0.0045%
KIMBERLY-CLARK CORP	KMB	41,406.35	0.21%	3.17%	7.08%	10.36%	0.0214%
KINDER MORGAN INC	KMI	49,558.49	0.25%	2.25%	10.55%	12.92%	0.0320%
CARMAX INC	KMX	10,999.14	0.05%	0.00%	12.89%	12.89%	0.0071%
COCA-COLA CO/THE	KO	174,027.91	0.87%	3.47%	4.67%	8.27%	0.0714%
MICHAEL KORS HOLDINGS LTD	KORS	7,635.86	0.04%	0.00%	7.61%	7.61%	0.0029%
KROGER CO	KR	30,496.80	0.15%	1.43%	6.00%	9.49%	0.0144%
KOHL'S CORP	KSS	9,667.49	0.05%	3.75%	4.90%	8.74%	0.0042%

Ex-Ante Market Risk Premium
Market DCF Method Based - Bloomberg

[1]	[2]	[3]
S&P 500	Current 30-Year	
Est. Required	Treasury (30-day	Implied Market
Market Return	average)	Risk Premium
12.94%	2.75%	10.19%

[4]	[5]	[6]	[7]	[8]	[9]		
Company	Ticker	Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
KANSAS CITY SOUTHERN	KSU	9,543.34	0.05%	1.50%	11.20%	12.79%	0.0061%
LOEWS CORP	L	15,045.24	N/A	0.56%	N/A	N/A	N/A
L BRANDS INC	LB	20,080.94	0.10%	5.57%	9.94%	15.79%	0.0158%
LEGETT & PLATT INC	LEG	6,424.68	N/A	2.73%	N/A	N/A	N/A
LENNAR CORP-A	LEN	9,419.99	0.05%	0.38%	11.52%	11.91%	0.0056%
LABORATORY CRP OF AMER HLDGS	LH	12,962.55	0.06%	0.00%	11.17%	11.17%	0.0072%
LKQ CORP	LKQ	10,095.57	0.05%	0.00%	15.43%	15.43%	0.0078%
L-3 COMMUNICATIONS HOLDINGS	LLL	12,197.02	0.06%	1.82%	18.17%	20.15%	0.0123%
LINEAR TECHNOLOGY CORP	LLTC	15,029.58	0.08%	2.05%	8.27%	10.40%	0.0078%
ELI LILLY & CO	LLY	74,097.01	0.37%	3.04%	10.00%	13.19%	0.0488%
LEGG MASON INC	LM	3,222.11	0.02%	2.76%	14.97%	17.94%	0.0028%
LOCKHEED MARTIN CORP	LMT	77,712.24	0.39%	2.55%	7.65%	10.31%	0.0400%
LINCOLN NATIONAL CORP	LNC	14,650.72	0.07%	1.59%	8.00%	9.65%	0.0071%
ALLIANT ENERGY CORP	LNT	8,171.82	0.04%	3.28%	7.95%	11.36%	0.0046%
LOWE'S COS INC	LOW	61,367.72	0.31%	1.83%	15.43%	17.39%	0.0533%
LAM RESEARCH CORP	LRCX	17,263.23	0.09%	1.27%	9.94%	11.27%	0.0097%
LEUCADIA NATIONAL CORP	LUK	7,927.68	0.04%	1.14%	18.00%	19.24%	0.0076%
SOUTHWEST AIRLINES CO	LUV	28,693.01	0.14%	0.84%	8.57%	9.44%	0.0135%
LEVEL 3 COMMUNICATIONS INC	LVLT	19,821.10	0.10%	0.00%	7.50%	7.50%	0.0074%
LYONDELLBASELL INDU-CL A	LYB	36,807.55	0.18%	3.71%	4.15%	7.94%	0.0146%
MACY'S INC	M	13,017.34	0.06%	3.57%	7.33%	11.03%	0.0072%
MASTERCARD INC - A	MA	111,358.60	0.56%	0.74%	15.40%	16.19%	0.0900%
MACERICH CO/THE	MAC	9,757.50	0.05%	6.32%	6.92%	13.45%	0.0066%
MARRIOTT INTERNATIONAL -CL A	MAR	30,762.00	0.15%	1.46%	11.36%	12.90%	0.0198%
MASCO CORP	MAS	10,390.92	0.05%	1.25%	14.03%	15.37%	0.0080%
MATTEL INC	MAT	10,798.37	0.05%	4.81%	10.40%	15.47%	0.0083%
MCDONALD'S CORP	MCO	99,047.01	0.49%	3.06%	10.19%	13.40%	0.0682%
MICROCHIP TECHNOLOGY INC	MCHP	14,295.95	0.07%	2.13%	14.36%	16.64%	0.0119%
MCKESSON CORP	MCK	32,513.57	0.16%	0.78%	10.07%	10.90%	0.0177%
MOODY'S CORP	MCO	19,212.66	0.10%	1.44%	10.00%	11.51%	0.0110%
MONDELEZ INTERNATIONAL INC-A	MDLZ	63,691.54	0.32%	1.66%	11.38%	13.14%	0.0418%
MEDTRONIC PLC	MDT	100,895.12	0.50%	2.30%	7.28%	9.66%	0.0486%
METLIFE INC	MET	60,463.44	0.30%	2.86%	8.74%	11.73%	0.0354%
MOHAWK INDUSTRIES INC	MHK	14,643.20	0.07%	0.00%	9.33%	9.33%	0.0068%
MEAD JOHNSON NUTRITION CO	MJN	13,316.71	0.07%	2.38%	7.98%	10.45%	0.0069%
MCCORMICK & CO-NON VTG SHRS	MKC	11,512.66	0.06%	1.89%	7.90%	9.87%	0.0057%
MARTIN MARIETTA MATERIALS	MLM	13,927.65	0.07%	0.74%	23.23%	24.06%	0.0167%
MARSH & MCLENNAN COS	MMC	35,735.81	0.18%	1.88%	12.01%	14.00%	0.0250%
3M CO	MMM	103,295.84	0.52%	2.59%	9.08%	11.78%	0.0607%
MALLINCKRODT PLC	MNK	5,578.73	0.03%	0.00%	9.00%	9.00%	0.0025%
MONSTER BEVERAGE CORP	MNST	25,551.12	0.13%	0.00%	19.60%	19.60%	0.0253%
ALTRIA GROUP INC	MO	124,680.81	0.62%	3.70%	7.77%	11.61%	0.0722%
MONSANTO CO	MON	45,005.08	0.22%	2.22%	10.78%	13.11%	0.0295%
MOSAIC CO/THE	MOS	9,946.77	0.05%	3.87%	-0.05%	3.82%	0.0019%
MARATHON PETROLEUM CORP	MPC	24,817.87	0.12%	2.91%	3.87%	6.83%	0.0085%
MERCK & CO. INC.	MRK	168,709.24	0.84%	3.02%	5.17%	8.26%	0.0695%
MARATHON OIL CORP	MRO	15,300.64	0.08%	1.11%	5.00%	6.14%	0.0047%
MORGAN STANLEY	MS	77,459.89	0.39%	1.67%	10.64%	12.41%	0.0480%
MICROSOFT CORP	MSFT	468,542.62	2.34%	2.57%	10.42%	10.2437%	0.2437%
MOTOROLA SOLUTIONS INC	MSI	13,318.57	0.07%	2.07%	5.87%	8.00%	0.0053%
M & T BANK CORP	MTB	22,317.70	0.11%	1.95%	2.69%	4.66%	0.0052%
METTLER-TOLEDO INTERNATIONAL	MTD	10,809.58	0.05%	0.00%	12.14%	12.14%	0.0065%
MICRON TECHNOLOGY INC	MU	20,341.22	0.10%	0.00%	9.50%	9.50%	0.0096%
MURPHY OIL CORP	MUR	5,839.30	N/A	3.64%	N/A	N/A	N/A
MYLAN NV	MYL	19,590.20	0.10%	0.00%	16.10%	16.10%	0.0157%
NAVIENT CORP	NAVI	5,222.39	N/A	3.76%	N/A	N/A	N/A
NOBLE ENERGY INC	NBL	16,997.42	0.08%	1.05%	3.79%	4.85%	0.0040%
NASDAQ INC	NDAQ	10,587.86	0.05%	1.91%	15.50%	17.56%	0.0093%
NEXTERA ENERGY INC	NEE	54,746.78	0.27%	3.05%	6.34%	9.49%	0.0259%
NEWMONT MINING CORP	NEM	17,217.53	0.09%	0.38%	4.87%	5.26%	0.0045%
NETFLIX INC	NFLX	50,209.97	0.25%	0.00%	38.29%	38.29%	0.0959%
NEWFIELD EXPLORATION CO	NFX	8,993.56	0.04%	0.00%	21.71%	21.71%	0.0097%
NISOURCE INC	NI	7,080.87	0.04%	2.93%	7.52%	10.56%	0.0037%
NIKE INC -CL B	NKE	83,388.29	0.42%	1.38%	11.86%	13.32%	0.0554%
NIELSEN HOLDINGS PLC	NLSN	15,405.23	0.08%	2.81%	12.00%	14.98%	0.0115%
NORTHROP GRUMMAN CORP	NOC	44,003.80	0.22%	1.40%	8.16%	9.61%	0.0211%
NATIONAL OILWELL VARCO INC	NOV	14,110.26	0.07%	1.63%	-14.54%	-13.02%	-0.0092%
NRG ENERGY INC	NRG	3,577.12	0.02%	2.12%	-6.00%	-3.95%	-0.0079%
NORFOLK SOUTHERN CORP	NSC	31,080.17	0.16%	2.22%	10.28%	12.61%	0.0196%
NETAPP INC	NTAP	10,188.10	0.05%	2.09%	9.98%	12.17%	0.0062%
NORTHERN TRUST CORP	NTRS	18,601.32	0.09%	1.81%	12.10%	14.01%	0.0130%
NUCOR CORP	NUE	19,806.59	0.10%	2.41%	10.90%	13.44%	0.0133%
VIDIA CORP	NVDA	49,695.80	0.25%	0.52%	11.43%	11.99%	0.0207%
NEWELL BRANDS INC	NWL	22,677.62	0.11%	1.61%	13.47%	15.18%	0.0172%
NEWS CORP - CLASS A	NWSA	6,798.20	0.03%	1.71%	10.49%	12.30%	0.0042%
REALTY INCOME CORP	O	14,336.74	0.07%	4.32%	5.20%	9.64%	0.0069%
OWENS-ILLINOIS INC	OI	2,979.56	0.01%	0.00%	9.38%	9.38%	0.0014%
ONEOK INC	OKE	11,583.97	0.06%	4.48%	10.00%	14.70%	0.0085%
OMNICOM GROUP	OMC	20,507.48	0.10%	2.46%	4.00%	6.51%	0.0067%
ORACLE CORP	ORCL	165,005.86	0.82%	1.48%	8.86%	10.40%	0.0857%
O'REILLY AUTOMOTIVE INC	ORLY	25,829.60	0.13%	0.00%	15.54%	15.54%	0.0201%
OCCIDENTAL PETROLEUM CORP	OXY	54,532.49	0.27%	4.23%	8.00%	12.40%	0.0337%
PAYCHEX INC	PAYX	21,319.35	0.11%	3.12%	8.86%	12.11%	0.0129%
PEOPLE'S UNITED FINANCIAL	PBCT	5,829.23	N/A	3.63%	N/A	N/A	N/A
PITNEY BOWES INC	PBI	2,665.64	0.01%	5.23%	10.00%	15.49%	0.0021%
PACCAR INC	PCAR	21,785.89	0.11%	2.84%	4.78%	7.69%	0.0084%
P G & E CORP	PCG	29,733.20	0.15%	3.30%	5.03%	8.40%	0.0125%
PRICELINE GROUP INC/THE	PCLN	74,199.10	0.37%	0.00%	17.62%	17.62%	0.0652%

Ex-Ante Market Risk Premium
Market DCF Method Based - Bloomberg

[1]	[2]	[3]
S&P 500 Est. Required Market Return	Current 30-Year Treasury (30-day average)	Implied Market Risk Premium
12.94%	2.75%	10.19%

Company	Ticker	[4] Market Capitalization	[5] Weight in Index	[6] Estimated Dividend Yield	[7] Long-Term Growth Est	[8] DCF Result	[9] Weighted DCF Result
PATTERSON COS INC	PDCO	3,838.09	0.02%	2.61%	4.01%	6.67%	0.0013%
PUBLIC SERVICE ENTERPRISE GP	PEG	20,898.57	0.10%	3.97%	2.34%	6.36%	0.0066%
PEPSICO INC	PEP	143,561.73	0.72%	2.95%	6.77%	9.82%	0.0703%
PFIZER INC	PFE	195,036.93	0.97%	3.73%	4.90%	8.72%	0.0849%
PRINCIPAL FINANCIAL GROUP	PFG	16,596.30	0.08%	2.78%	8.44%	11.33%	0.0094%
PROCTER & GAMBLE CO/THE	PG	220,662.34	1.10%	3.30%	8.02%	11.45%	0.1261%
PROGRESSIVE CORP	PGR	19,340.01	0.10%	2.02%	9.16%	11.27%	0.0109%
PARKER HANNIFIN CORP	PH	18,533.05	0.09%	1.85%	8.57%	10.50%	0.0097%
PULTEGROUP INC	PHM	6,237.75	0.03%	1.91%	23.92%	26.05%	0.0081%
PERKINELMER INC	PKI	5,556.14	0.03%	0.55%	6.67%	7.24%	0.0020%
PROLOGIS INC	PLD	26,726.61	0.13%	3.30%	4.66%	8.24%	0.0110%
PHILIP MORRIS INTERNATIONAL	PM	136,953.17	0.68%	4.67%	9.40%	14.29%	0.0977%
PNC FINANCIAL SERVICES GROUP	PNC	53,777.68	0.27%	1.92%	3.93%	5.88%	0.0158%
PENTAIR PLC	PNR	10,442.77	0.05%	2.34%	6.55%	8.97%	0.0047%
PINNACLE WEST CAPITAL	PNW	8,228.86	0.04%	3.43%	5.28%	8.80%	0.0036%
PPG INDUSTRIES INC	PPG	25,325.06	0.13%	1.63%	8.10%	9.79%	0.0124%
PPL CORP	PPL	22,689.03	0.11%	4.55%	1.43%	6.01%	0.0068%
PERRIGO CO PLC	PRGO	12,378.95	0.06%	0.67%	4.01%	4.70%	0.0029%
PRUDENTIAL FINANCIAL INC	PRU	43,258.00	0.22%	2.83%	8.33%	11.28%	0.0244%
PUBLIC STORAGE	PSA	36,301.05	0.18%	3.50%	5.38%	8.97%	0.0163%
PHILLIPS 66	PSX	43,272.24	0.22%	2.93%	6.17%	9.20%	0.0199%
PVH CORP	PVH	8,499.46	0.04%	0.15%	7.08%	7.23%	0.0031%
QUANTA SERVICES INC	PWR	5,110.31	0.03%	0.00%	2.60%	2.60%	0.0007%
PRAXAIR INC	PX	34,332.30	0.17%	2.50%	9.07%	11.68%	0.0200%
PIONEER NATURAL RESOURCES CO	PXD	32,423.44	0.16%	0.04%	20.00%	20.05%	0.0324%
PAYPAL HOLDINGS INC	PYPL	47,397.05	0.24%	0.00%	14.86%	14.86%	0.0351%
QUALCOMM INC	QCOM	100,620.29	0.50%	3.19%	3.19%	12.54%	0.0630%
QORVO INC	QRVO	6,821.94	0.03%	0.00%	14.93%	14.93%	0.0051%
RYDER SYSTEM INC	R	4,186.58	0.02%	1.52%	15.00%	16.63%	0.0035%
REYNOLDS AMERICAN INC	RAI	77,135.15	0.38%	3.28%	8.79%	12.21%	0.0470%
ROYAL CARIBBEAN CRUISES LTD	RCL	17,374.71	0.09%	2.11%	18.55%	20.86%	0.0181%
REGENERON PHARMACEUTICALS	REGN	39,998.56	0.20%	0.00%	21.62%	21.62%	0.0432%
REGIONS FINANCIAL CORP	RF	16,667.40	0.08%	1.92%	5.09%	7.06%	0.0059%
ROBERT HALF INTL INC	RHI	5,783.13	0.03%	1.95%	10.85%	12.91%	0.0037%
RED HAT INC	RHT	14,207.85	0.07%	0.00%	18.73%	18.73%	0.0133%
TRANSOCEAN LTD	RIG	4,714.83	N/A	0.00%	N/A	N/A	N/A
RALPH LAUREN CORP	RL	8,598.54	0.04%	1.97%	8.84%	10.90%	0.0047%
ROCKWELL AUTOMATION INC	ROK	17,145.52	0.09%	2.27%	7.10%	9.44%	0.0081%
ROPER TECHNOLOGIES INC	ROP	18,370.75	0.09%	0.64%	11.40%	12.08%	0.0111%
ROSS STORES INC	ROST	26,804.83	0.13%	0.80%	12.79%	13.64%	0.0182%
RANGE RESOURCES CORP	RRC	8,694.57	0.04%	0.25%	-13.93%	-13.70%	-0.0059%
REPUBLIC SERVICES INC	RSG	18,864.48	0.09%	2.20%	8.55%	10.84%	0.0102%
RAYTHEON COMPANY	RTN	43,911.97	0.22%	1.93%	8.08%	10.09%	0.0221%
STARBUCKS CORP	SBUX	84,369.54	0.42%	1.73%	17.70%	19.58%	0.0824%
SCANA CORP	SCG	10,079.93	0.05%	3.25%	6.30%	9.65%	0.0049%
SCHWAB (CHARLES) CORP	SCHW	51,250.48	0.26%	0.70%	17.48%	18.23%	0.0466%
SPECTRA ENERGY CORP	SE	28,727.25	0.14%	3.99%	8.00%	12.14%	0.0174%
SEALED AIR CORP	SEE	8,814.82	0.04%	1.34%	4.62%	5.99%	0.0026%
SHERWIN-WILLIAMS CO/THE	SHW	24,961.52	0.12%	1.25%	13.75%	15.09%	0.0188%
SIGNET JEWELERS LTD	SIG	6,352.02	0.03%	1.15%	11.20%	12.42%	0.0039%
JM SMUCKER CO/THE	SJM	14,664.90	0.07%	2.34%	7.88%	10.30%	0.0075%
SCHLUMBERGER LTD	SLB	116,939.47	0.58%	2.38%	7.35%	9.82%	0.0573%
SL GREEN REALTY CORP	SLG	10,833.11	0.05%	2.78%	5.00%	7.84%	0.0042%
SNAP-ON INC	SNA	9,701.80	0.05%	1.53%	4.40%	5.96%	0.0029%
SCRIPPS NETWORKS INTER-CL A	SNI	8,942.01	0.04%	1.45%	9.89%	11.41%	0.0051%
SOUTHERN CO/THE	SO	45,883.58	0.23%	4.75%	4.12%	8.97%	0.0205%
SIMON PROPERTY GROUP INC	SPG	56,452.77	0.28%	3.63%	8.27%	12.05%	0.0340%
S&P GLOBAL INC	SPGI	30,830.31	0.15%	1.21%	10.67%	11.94%	0.0184%
STAPLES INC	SPLS	6,290.78	0.03%	4.96%	0.52%	5.50%	0.0017%
STERICYCLE INC	SRCL	6,208.54	0.03%	0.23%	9.45%	9.69%	0.0030%
SEMPRA ENERGY	SRE	24,956.09	0.12%	3.02%	6.98%	10.11%	0.0126%
SUNTRUST BANKS INC	STI	25,496.94	0.13%	1.92%	5.40%	7.37%	0.0094%
ST JUDE MEDICAL INC	STJ	22,628.74	0.11%	1.57%	12.08%	13.74%	0.0155%
STATE STREET CORP	STT	30,395.89	0.15%	1.82%	3.60%	5.45%	0.0083%
SEAGATE TECHNOLOGY	STX	11,810.36	0.06%	5.65%	8.79%	14.68%	0.0087%
CONSTELLATION BRANDS INC-A	STZ	30,489.11	0.15%	1.06%	15.56%	16.70%	0.0254%
STANLEY BLACK & DECKER INC	SWK	17,876.20	0.09%	1.89%	10.67%	12.66%	0.0113%
SKYWORKS SOLUTIONS INC	SWKS	14,279.80	0.07%	1.48%	15.56%	17.16%	0.0122%
SOUTHWESTERN ENERGY CO	SWN	5,623.39	0.03%	0.00%	-9.78%	-9.78%	-0.0027%
SYNCHRONY FINANCIAL	SYF	28,528.10	0.14%	0.73%	4.91%	5.66%	0.0081%
STRYKER CORP	SYK	42,560.18	0.21%	1.35%	9.31%	10.73%	0.0228%
SYMANTEC CORP	SYMC	15,205.19	0.08%	1.30%	9.77%	11.13%	0.0084%
SYSCO CORP	SYO	29,124.09	0.15%	2.39%	9.55%	12.06%	0.0175%
AT&T INC	T	237,226.83	1.18%	5.00%	5.00%	10.12%	0.1199%
MOLSON COORS BREWING CO -B	TAP	21,090.39	0.11%	1.67%	12.70%	14.48%	0.0152%
TERADATA CORP	TDC	3,487.82	0.02%	0.00%	7.22%	7.22%	0.0013%
TRANSIGM GROUP INC	TDG	13,413.22	0.07%	0.00%	10.63%	10.63%	0.0071%
TE CONNECTIVITY LTD	TEL	24,035.40	0.12%	2.21%	6.00%	8.28%	0.0099%
TGNA INC	TGNA	4,809.36	0.02%	2.50%	2.00%	4.52%	0.0011%
TARGET CORP	TGT	43,385.36	0.22%	2.99%	7.97%	11.08%	0.0240%
TIFFANY & CO	TIF	10,265.04	0.05%	2.07%	9.46%	11.63%	0.0060%
TJX COMPANIES INC	TJX	51,069.90	0.25%	1.30%	11.50%	12.88%	0.0328%
TORCHMARK CORP	TMK	8,316.58	0.04%	0.79%	7.47%	8.29%	0.0034%
THERMO FISHER SCIENTIFIC INC	TMO	55,346.98	0.28%	0.43%	13.33%	13.79%	0.0381%
TRIPADVISOR INC	TRIP	7,034.45	0.04%	0.00%	10.31%	10.31%	0.0036%
T ROWE PRICE GROUP INC	TROW	18,028.66	0.09%	2.92%	10.42%	13.49%	0.0121%
TRAVELERS COS INC/THE	TRV	32,188.06	0.16%	2.31%	7.38%	9.77%	0.0157%
TRACTOR SUPPLY COMPANY	TSCO	9,852.91	0.05%	1.18%	13.91%	15.18%	0.0075%

Ex-Ante Market Risk Premium
Market DCF Method Based - Bloomberg

[1]	[2]	[3]
S&P 500 Est. Required Market Return	Current 30-Year Treasury (30-day average)	Implied Market Risk Premium
12.94%	2.75%	10.19%

Company	Ticker	[4] Market Capitalization	[5] Weight in Index	[6] Estimated Dividend Yield	[7] Long-Term Growth Est.	[8] DCF Result	[9] Weighted DCF Result
TYSON FOODS INC-CL A	TSN	22,296.17	0.11%	1.42%	12.43%	13.94%	0.0155%
TESORO CORP	TSO	9,507.92	0.05%	2.58%	3.48%	6.11%	0.0029%
TOTAL SYSTEM SERVICES INC	TSS	9,047.46	0.05%	0.81%	12.50%	13.36%	0.0060%
TIME WARNER INC	TWX	70,805.12	0.35%	1.75%	11.95%	13.80%	0.0488%
TEXAS INSTRUMENTS INC	TXN	73,891.98	0.37%	2.20%	10.00%	12.32%	0.0454%
TEXTRON INC	TXT	12,437.68	0.06%	0.24%	8.44%	8.69%	0.0054%
UNDER ARMOUR INC-CLASS A	UA	12,304.42	0.06%	0.00%	21.84%	21.84%	0.0134%
UNITED CONTINENTAL HOLDINGS	UAL	22,230.05	0.11%	0.00%	-8.74%	-8.74%	-0.0097%
UDR INC	UDR	9,097.14	0.05%	3.46%	6.65%	10.23%	0.0046%
UNIVERSAL HEALTH SERVICES-B	UHS	11,926.86	0.06%	0.33%	9.01%	9.35%	0.0056%
ULTA SALON COSMETICS & FRAGR	ULTA	16,184.95	0.08%	0.00%	19.65%	19.65%	0.0159%
UNITEDHEALTH GROUP INC	UNH	150,691.54	0.75%	1.50%	13.73%	15.33%	0.1153%
UNUM GROUP	UNM	9,811.67	0.05%	1.82%	7.00%	8.88%	0.0043%
UNION PACIFIC CORP	UNP	83,507.31	0.42%	2.18%	9.46%	11.74%	0.0469%
UNITED PARCEL SERVICE-CL B	UPS	101,158.22	0.50%	2.69%	7.56%	10.35%	0.0523%
URBAN OUTFITTERS INC	URBN	3,672.98	0.02%	0.00%	12.65%	12.65%	0.0023%
UNITED RENTALS INC	URI	8,515.94	0.04%	0.00%	12.60%	12.60%	0.0054%
US BANCORP	USB	84,337.94	0.42%	2.16%	5.48%	7.69%	0.0324%
UNITED TECHNOLOGIES CORP	UTX	88,697.26	0.44%	2.40%	8.11%	10.62%	0.0470%
VISA INC-CLASS A SHARES	V	180,891.68	0.90%	0.94%	16.83%	17.84%	0.1611%
VARIAN MEDICAL SYSTEMS INC	VAR	8,391.02	0.04%	0.00%	12.50%	12.50%	0.0052%
VF CORP	VFC	22,551.40	0.11%	2.79%	9.51%	12.44%	0.0140%
VIACOM INC-CLASS B	VIAB	15,074.96	0.08%	2.28%	3.16%	5.47%	0.0041%
VALERO ENERGY CORP	VLO	27,866.04	0.14%	3.90%	4.06%	8.04%	0.0112%
VULCAN MATERIALS CO	VMC	16,624.66	0.08%	0.64%	24.93%	25.65%	0.0213%
VORNADO REALTY TRUST	VNO	18,474.19	0.09%	2.59%	5.03%	7.69%	0.0071%
VERISK ANALYTICS INC	VRSK	13,911.83	0.07%	0.00%	11.48%	11.48%	0.0080%
VERISIGN INC	VRSN	8,245.70	0.04%	0.00%	10.35%	10.35%	0.0043%
VERTEX PHARMACEUTICALS INC	VRTX	20,242.00	0.10%	0.00%	53.71%	53.71%	0.0543%
VENTAS INC	VTR	21,395.30	0.11%	4.88%	6.37%	11.41%	0.0122%
VERIZON COMMUNICATIONS INC	VZ	203,424.03	1.02%	4.59%	5.33%	10.04%	0.1019%
WATERS CORP	WAT	10,843.36	0.05%	0.00%	8.41%	8.41%	0.0046%
WALGREENS BOOTS ALLIANCE INC	WBA	91,786.54	0.46%	1.78%	13.33%	15.24%	0.0698%
WESTERN DIGITAL CORP	WDC	18,173.27	0.09%	3.17%	4.10%	7.33%	0.0067%
WEC ENERGY GROUP INC	WEC	17,677.72	0.09%	3.54%	6.30%	9.95%	0.0088%
WELLS FARGO & CO	WFC	265,780.28	1.33%	2.87%	8.46%	11.45%	0.1519%
WHOLE FOODS MARKET INC	WFM	9,676.35	0.05%	1.87%	7.73%	9.68%	0.0047%
WHIRLPOOL CORP	WHR	12,200.57	0.06%	2.41%	15.55%	18.15%	0.0110%
WILLIS TOWERS WATSON PLC	WLTW	17,007.15	0.08%	1.54%	10.00%	11.62%	0.0099%
WASTE MANAGEMENT INC	WM	30,728.05	0.15%	2.35%	8.66%	11.31%	0.0173%
WILLIAMS COS INC	WMB	23,050.71	0.12%	5.47%	15.13%	21.02%	0.0242%
WAL-MART STORES INC	WMT	217,600.08	1.09%	2.84%	2.69%	5.57%	0.0605%
WESTROCK CO	WRK	12,856.41	0.06%	3.13%	3.87%	7.06%	0.0045%
WESTERN UNION CO	WU	10,196.50	0.05%	3.02%	6.38%	9.49%	0.0048%
WEYERHAEUSER CO	WY	23,062.64	0.12%	4.04%	12.93%	17.24%	0.0198%
WYNDHAM WORLDWIDE CORP	WYN	7,758.83	0.04%	2.78%	8.70%	11.60%	0.0045%
WYNN RESORTS LTD	WYNN	10,376.56	0.05%	1.96%	28.30%	30.54%	0.0158%
CIMAREX ENERGY CO	XEC	13,093.66	0.07%	0.30%	71.56%	71.96%	0.0470%
XCEL ENERGY INC	XEL	19,815.24	0.10%	3.49%	4.95%	8.52%	0.0084%
XL GROUP LTD	XL	9,721.13	0.05%	2.23%	13.25%	15.62%	0.0076%
XILINX INC	XLNX	13,630.56	0.07%	2.58%	7.94%	10.62%	0.0072%
EXXON MOBIL CORP	XOM	362,006.33	1.81%	3.42%	13.37%	17.02%	0.3076%
DENTSPLY SIRONA INC	XRAY	13,432.63	0.07%	0.51%	9.85%	10.38%	0.0070%
XEROX CORP	XRX	9,478.81	0.05%	3.25%	11.60%	15.04%	0.0071%
XYLEM INC	XYL	9,253.19	0.05%	1.17%	10.96%	9.73%	0.0051%
YAHOO! INC	YHOO	39,138.19	0.20%	0.00%	5.74%	5.74%	0.0112%
YUM! BRANDS INC	YUM	23,264.48	0.12%	3.11%	13.33%	16.64%	0.0193%
ZIMMER BIOMET HOLDINGS INC	ZBH	20,402.51	0.10%	0.94%	10.81%	11.80%	0.0120%
ZIONS BANCORPORATION	ZION	8,105.94	0.04%	0.70%	14.07%	14.82%	0.0060%
ZOETIS INC	ZTS	24,879.28	0.12%	0.75%	14.91%	15.72%	0.0195%
Total Market Capitalization:		20,036,736.05					12.94%

Notes:

- [1] Equals sum of Col. [9]
- [2] Source: Bloomberg Professional
- [3] Equals [1] - [2]
- [4] Source: Bloomberg Professional
- [5] Equals weight in S&P 500 based on market capitalization
- [6] Source: Bloomberg Professional
- [7] Source: Bloomberg Professional
- [8] Equals ([6] x (1 + (0.5 x [7]))) + [7]
- [9] Equals Col. [5] x Col. [8]

Ex-Ante Market Risk Premium
Market DCF Method Based - Value Line

[1]	[2]	[3]
S&P 500 Est. Required Market Return	Current 30-Year Treasury (30-day average)	Impled Market Risk Premium
13.96%	2.75%	11.21%

Company	Ticker	[4] Market Capitalization	[5] Weight in Index	[6] Estimated Dividend Yield	[7] Long-Term Growth Est.	[8] DCF Result	[9] Weighted DCF Result
AGILENT TECHNOLOGIES INC	A	14,466.60	0.08%	1.19%	4.50%	5.72%	0.0045%
AMERICAN AIRLINES GROUP INC	AAL	24,057.92	N/A	0.86%	N/A	N/A	N/A
ADVANCE AUTO PARTS INC	AAP	12,861.35	0.07%	0.14%	11.50%	11.65%	0.0082%
APPLE INC	AAPL	599,881.80	3.29%	2.14%	11.50%	13.76%	0.4530%
ABBVIE INC	ABBV	97,786.96	0.54%	4.25%	13.00%	17.53%	0.0940%
AMERISOURCEBERGEN CORP	ABC	16,892.72	0.09%	1.86%	11.00%	12.96%	0.0120%
ABBOTT LABORATORIES	ABT	57,390.65	0.31%	2.67%	7.50%	10.27%	0.0323%
ACCENTURE PLC-CL A	ACN	76,995.14	0.42%	2.09%	7.50%	9.67%	0.0408%
ADOBE SYSTEMS INC	ADBE	51,794.98	0.28%	0.00%	36.50%	36.50%	0.1037%
ANALOG DEVICES INC	ADI	22,627.01	0.12%	2.28%	11.00%	13.41%	0.0166%
ARCHER-DANIELS-MIDLAND CO	ADM	24,998.50	0.14%	2.78%	5.00%	7.85%	0.0106%
AUTOMATIC DATA PROCESSING	ADP	43,792.11	0.24%	2.36%	10.00%	12.48%	0.0300%
ALLIANCE DATA SYSTEMS CORP	ADS	13,585.89	0.07%	0.89%	11.00%	11.94%	0.0089%
AUTODESK INC	ADSK	16,675.26	N/A	0.00%	N/A	N/A	N/A
AMEREN CORPORATION	AEE	11,904.38	0.07%	3.59%	6.00%	9.70%	0.0063%
AMERICAN ELECTRIC POWER	AEP	28,922.32	0.16%	4.01%	4.00%	8.09%	0.0128%
AES CORP	AES	7,475.06	0.04%	3.88%	8.50%	12.54%	0.0051%
AETNA INC	AET	45,368.96	0.25%	0.77%	9.50%	10.31%	0.0257%
AFLAC INC	AFL	29,372.43	0.16%	2.40%	4.50%	6.95%	0.0112%
ALLERGAN PLC	AGN	76,425.02	0.42%	0.15%	13.50%	13.66%	0.0573%
AMERICAN INTERNATIONAL GROUP	AI	69,649.38	0.38%	1.99%	10.00%	12.09%	0.0462%
APARTMENT INVT & MGMT CO -A	AIV	-	N/A	3.25%	N/A	N/A	N/A
ASSURANT INC	AIZ	5,224.15	0.03%	2.46%	7.00%	9.55%	0.0027%
ARTHUR J GALLAGHER & CO	AJG	9,190.32	0.05%	2.94%	13.50%	16.64%	0.0084%
AKAMAI TECHNOLOGIES INC	AKAM	11,545.65	0.06%	0.00%	13.00%	13.00%	0.0082%
ALBEMARLE CORP	ALB	9,433.65	0.05%	1.45%	7.50%	9.00%	0.0047%
ALASKA AIR GROUP INC	ALK	10,226.15	0.06%	1.33%	10.00%	11.40%	0.0064%
ALLSTATE CORP	ALL	26,660.40	0.15%	1.82%	6.50%	8.38%	0.0123%
ALLEGION PLC	ALLE	6,500.22	0.04%	0.71%	10.50%	11.25%	0.0040%
ALEXION PHARMACEUTICALS INC	ALXN	26,664.72	0.15%	0.00%	27.50%	27.50%	0.0402%
APPLIED MATERIALS INC	AMAT	34,462.28	0.19%	1.26%	18.00%	19.37%	0.0366%
AMETEK INC	AME	10,966.08	0.06%	0.76%	6.00%	6.78%	0.0041%
AFFILIATED MANAGERS GROUP	AMG	8,346.24	0.05%	0.00%	8.50%	8.50%	0.0039%
AMGEN INC	AMGN	108,018.30	0.59%	2.97%	9.00%	12.10%	0.0717%
AMERIPRISE FINANCIAL INC	AMP	18,019.41	0.10%	2.64%	10.50%	13.28%	0.0131%
AMERICAN TOWER CORP	AMT	45,447.92	0.25%	2.32%	15.50%	18.00%	0.0449%
AMAZON.COM INC	AMZN	370,557.00	2.03%	0.00%	91.00%	91.00%	1.8501%
AUTONATION INC	AN	4,547.61	0.02%	0.00%	9.00%	9.00%	0.0022%
ANTHEM INC	ANTM	37,828.93	0.21%	1.81%	7.50%	9.38%	0.0195%
AON PLC	AON	29,909.88	0.16%	1.16%	12.00%	13.23%	0.0217%
APACHE CORP	APA	24,150.66	0.13%	1.57%	6.00%	7.62%	0.0101%
ANADARKO PETROLEUM CORP	APC	35,815.00	N/A	0.31%	N/A	N/A	N/A
AIR PRODUCTS & CHEMICALS INC	APD	30,479.41	0.17%	2.44%	11.00%	13.57%	0.0227%
AMPHENOL CORP-CL A	APH	21,003.95	0.12%	0.94%	8.00%	8.98%	0.0103%
ARCONIC INC	ARNC	N/A	N/A	0.00%	N/A	N/A	N/A
ACTIVISION BLIZZARD INC	ATVI	27,688.58	0.15%	0.75%	8.00%	8.76%	0.0133%
AVALONBAY COMMUNITIES INC	AVB	-	N/A	3.57%	N/A	N/A	N/A
BROADCOM LTD	AVGO	70,201.77	0.39%	1.15%	23.00%	24.28%	0.0935%
AVERY DENNISON CORP	AVY	6,352.47	0.03%	2.39%	8.50%	10.99%	0.0038%
AMERICAN WATER WORKS CO INC	AWK	12,903.08	0.07%	2.17%	8.00%	10.26%	0.0073%
AMERICAN EXPRESS CO	AXP	67,414.01	0.37%	1.84%	4.50%	6.38%	0.0236%
ACUTY BRANDS INC	AYI	11,181.53	0.06%	0.20%	19.50%	19.72%	0.0121%
AUTOZONE INC	AZO	23,543.27	0.13%	0.00%	11.50%	11.50%	0.0149%
BOEING CO/THE	BA	92,683.06	0.51%	3.13%	10.50%	13.79%	0.0701%
BANK OF AMERICA CORP	BAC	210,057.00	1.15%	1.51%	15.50%	17.13%	0.1974%
BAXTER INTERNATIONAL INC	BAX	25,324.59	0.14%	1.12%	-4.50%	-3.41%	-0.0047%
BED BATH & BEYOND INC	BBBY	7,014.12	0.04%	1.10%	2.50%	3.61%	0.0014%
BB&T CORP	BBT	36,197.63	0.20%	2.74%	7.50%	10.34%	0.0205%
BEST BUY CO INC	BBY	14,686.32	0.08%	2.56%	8.00%	10.66%	0.0087%
CR BARD INC	BCR	15,440.46	0.08%	0.51%	10.00%	10.54%	0.0089%
BECTON DICKINSON AND CO	BDX	35,873.77	0.20%	1.73%	10.00%	11.82%	0.0233%
FRANKLIN RESOURCES INC	BEN	22,650.15	0.12%	2.14%	4.50%	6.69%	0.0083%
BROWN-FORMAN CORP-CLASS B	BF/B	17,939.08	0.10%	1.59%	9.00%	10.66%	0.0105%
BAKER HUGHES INC	BHI	26,213.23	0.14%	1.10%	29.00%	30.26%	0.0435%
BIAGEN INC	BIIB	66,562.41	0.37%	0.00%	11.50%	11.50%	0.0420%
BANK OF NEW YORK MELLON CORP	BK	50,191.79	0.28%	1.60%	10.50%	12.18%	0.0336%
BLACKROCK INC	BLK	60,525.46	0.33%	2.46%	8.00%	10.56%	0.0351%
BALL CORP	BLL	10,928.78	0.06%	0.67%	11.00%	11.71%	0.0070%
BRISTOL-MYERS SQUIBB CO	BMJ	94,842.30	0.52%	2.68%	19.50%	22.44%	0.1168%
BERKSHIRE HATHAWAY INC-CL B	BRK/B	-	N/A	0.00%	N/A	N/A	N/A
BOSTON SCIENTIFIC CORP	BSX	28,563.09	0.16%	0.00%	20.00%	20.00%	0.0313%
BORGWARNER INC	BWA	7,537.57	0.04%	1.58%	8.50%	10.15%	0.0042%
BOSTON PROPERTIES INC	BXP	-	N/A	2.25%	N/A	N/A	N/A
CITIGROUP INC	C	161,551.20	0.89%	1.13%	11.50%	12.69%	0.1125%
CA INC	CA	13,055.54	0.07%	3.23%	6.50%	9.83%	0.0070%
CONAGRA BRANDS INC	CAG	16,271.91	0.09%	2.69%	6.00%	8.77%	0.0078%
CARDINAL HEALTH INC	CAH	22,576.00	0.12%	2.68%	14.50%	17.35%	0.0215%
CATERPILLAR INC	CAT	56,272.32	0.31%	3.20%	3.00%	6.25%	0.0193%
HUBBS LTD	CB	58,912.37	0.32%	2.18%	8.00%	10.27%	0.0332%
CBRE GROUP INC - A	CBG	9,973.34	0.05%	0.00%	10.00%	10.00%	0.0055%
CBS CORP-CLASS B NON VOTING	CBS	26,224.37	0.14%	1.20%	13.00%	14.28%	0.0285%
CROWN CASTLE INTL CORP	CCI	28,409.89	0.16%	4.60%	8.50%	13.30%	0.0207%
CARNIVAL CORP	CCL	38,179.00	0.21%	2.68%	15.50%	18.39%	0.0385%
CELGENE CORP	CELG	93,707.09	0.51%	0.00%	27.50%	27.50%	0.1414%
CERNER CORP	CERN	17,146.73	0.09%	0.00%	13.50%	13.50%	0.0127%
CF INDUSTRIES HOLDINGS INC	CF	6,815.75	0.04%	4.76%	-1.50%	3.22%	0.0012%
CITIZENS FINANCIAL GROUP	CFG	16,788.00	N/A	1.67%	N/A	N/A	N/A
CHURCH & DWIGHT CO INC	CHD	11,538.31	0.06%	1.59%	7.00%	8.65%	0.0055%

Ex-Ante Market Risk Premium
Market DCF Method Based - Value Line

[1]	[2]	[3]
S&P 500 Est. Required Market Return	Current 30-Year Treasury (30-day average)	Implied Market Risk Premium
13.96%	2.75%	11.21%

[4]	[5]	[6]	[7]	[8]	[9]		
Company	Ticker	Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
CHESAPEAKE ENERGY CORP	CHK	5,150.85	N/A	0.00%	N/A	N/A	N/A
C.H. ROBINSON WORLDWIDE INC	CHRW	10,517.48	0.06%	2.32%	7.50%	9.91%	0.0057%
CHARTER COMMUNICATIONS INC-A	CHTR	73,776.41	N/A	0.00%	N/A	N/A	N/A
CIGNA CORP	CI	35,799.21	0.20%	0.03%	12.50%	12.53%	0.0246%
CINCINNATI FINANCIAL CORP	CINF	12,485.55	0.07%	2.53%	6.50%	9.11%	0.0062%
COLGATE-PALMOLIVE CO	CL	58,654.75	0.32%	2.50%	14.00%	16.68%	0.0537%
CLOROX COMPANY	CLX	14,863.20	0.08%	2.80%	9.50%	12.43%	0.0101%
COMERICA INC	CMA	10,697.47	0.05%	1.48%	6.50%	8.03%	0.0047%
COMCAST CORP-CLASS A	CMCSA	185,009.70	0.91%	1.60%	10.00%	11.68%	0.1057%
CME GROUP INC	CME	38,053.28	0.21%	2.13%	9.50%	11.73%	0.0245%
CHIPOTLE MEXICAN GRILL INC	CMG	11,894.50	0.07%	0.00%	11.00%	11.00%	0.0072%
CUMMINS INC	CMH	23,696.64	0.13%	2.91%	5.00%	7.98%	0.0104%
CMS ENERGY CORP	CMS	11,085.85	0.06%	3.27%	6.00%	9.37%	0.0057%
CENTENE CORP	CNC	9,638.27	0.05%	0.00%	24.50%	24.50%	0.0130%
CENTERPOINT ENERGY INC	CNP	10,168.38	0.06%	4.49%	2.00%	6.53%	0.0038%
CAPITAL ONE FINANCIAL CORP	COF	41,397.79	0.23%	1.89%	2.50%	4.41%	0.0100%
CABOT OIL & GAS CORP	COG	10,837.97	0.06%	0.34%	39.00%	39.41%	0.0234%
COACH INC	COH	10,757.91	0.06%	3.52%	4.00%	7.59%	0.0045%
ROCKWELL COLLINS INC	COL	11,835.18	0.06%	1.45%	8.00%	9.51%	0.0062%
COOPER COS INC/THE	COO	8,221.31	0.05%	0.04%	14.50%	14.54%	0.0066%
CONOCOPHILLIPS	COP	57,366.95	0.31%	2.16%	7.00%	9.24%	0.0291%
COSTCO WHOLESALE CORP	COST	66,456.69	0.36%	1.19%	9.00%	10.24%	0.0374%
COTY INC-CL A	COTY	6,715.02	0.04%	1.41%	14.50%	16.01%	0.0059%
CAMPBELL SOUP CO	CPB	17,500.56	0.10%	2.46%	5.50%	8.03%	0.0077%
SALESFORCE COM INC	CRM	50,655.75	N/A	0.00%	N/A	N/A	N/A
CISCO SYSTEMS INC	CSCO	149,560.10	0.82%	3.77%	6.00%	9.88%	0.0811%
CSRA INC	CSRA	5,190.65	N/A	1.26%	N/A	N/A	N/A
CSX CORP	CSX	32,717.67	0.18%	2.06%	7.00%	9.13%	0.0184%
CINTAS CORP	CTAS	12,017.84	0.07%	1.15%	10.00%	11.21%	0.0074%
CENTURYLINK INC	CTL	13,339.24	0.07%	8.85%	14.00%	23.47%	0.0172%
COGNIZANT TECH SOLUTIONS-A	CTSH	31,458.28	0.17%	0.00%	12.50%	12.50%	0.0216%
CITRIX SYSTEMS INC	CTXS	13,650.63	0.07%	0.00%	11.00%	11.00%	0.0082%
CVS HEALTH CORP	CVS	78,532.22	0.43%	2.31%	11.50%	13.94%	0.0601%
CHEVRON CORP	CVX	209,542.40	1.15%	3.89%	3.50%	7.46%	0.0857%
CONCHO RESOURCES INC	CXO	19,669.79	0.11%	0.00%	16.50%	16.50%	0.0178%
DOMINION RESOURCES INC/VA	D	45,689.49	0.25%	4.14%	10.00%	14.35%	0.0360%
DELTA AIR LINES INC	DAL	36,237.50	0.20%	1.65%	12.00%	13.75%	0.0273%
DU PONT (E.I.) DE NEMOURS	DD	61,130.24	0.34%	2.30%	6.50%	8.87%	0.0298%
DEERE & CO	DE	32,124.60	0.18%	2.35%	-2.00%	0.33%	0.0006%
DISCOVER FINANCIAL SERVICES	DFS	27,068.72	0.15%	1.76%	5.00%	8.80%	0.0101%
DOLLAR GENERAL CORP	DG	22,457.82	0.12%	1.44%	12.00%	13.63%	0.0167%
QUEST DIAGNOSTICS INC	DGX	12,206.98	0.07%	2.05%	10.00%	12.15%	0.0081%
DR HORTON INC	DHI	10,722.28	0.06%	1.39%	13.00%	14.48%	0.0085%
DANAHER CORP	DHR	54,747.06	0.30%	0.63%	8.00%	8.66%	0.0260%
WALT DISNEY CO/THE	DIS	167,042.00	0.92%	1.45%	10.00%	11.52%	0.1056%
DISCOVERY COMMUNICATIONS-A	DISCA	10,669.92	0.08%	0.00%	15.50%	15.50%	0.0091%
DELPHI AUTOMOTIVE PLC	DLPH	18,191.90	0.10%	1.85%	14.50%	16.48%	0.0165%
DIGITAL REALTY TRUST INC	DLR	-	N/A	4.25%	N/A	N/A	N/A
DOLLAR TREE INC	DLTR	20,844.30	0.11%	0.00%	21.00%	21.00%	0.0241%
DUN & BRADSTREET CORP	DNB	4,546.76	0.02%	1.56%	4.50%	6.10%	0.0015%
DOVER CORP	DOV	11,222.27	0.06%	2.44%	3.50%	5.93%	0.0037%
DOW CHEMICAL CO/THE	DOW	60,633.07	0.33%	3.63%	10.00%	13.81%	0.0459%
DR PEPPER SNAPPLE GROUP INC	DPS	16,037.43	0.09%	2.50%	9.00%	11.61%	0.0102%
DARDEN RESTAURANTS INC	DRI	9,168.30	0.05%	3.06%	15.00%	18.29%	0.0092%
DTE ENERGY COMPANY	DTE	16,626.45	0.09%	3.56%	6.00%	9.67%	0.0088%
DUKE ENERGY CORP	DUK	50,669.05	0.28%	4.73%	4.50%	9.34%	0.0260%
DAVITA INC	DVA	12,721.29	0.07%	0.00%	11.00%	11.00%	0.0077%
DEVON ENERGY CORP	DVN	23,600.96	0.13%	0.53%	1.00%	1.53%	0.0023%
ELECTRONIC ARTS INC	EA	23,805.00	0.13%	0.00%	14.00%	14.00%	0.0183%
EBAY INC	EBAY	32,281.30	0.18%	0.00%	4.00%	4.00%	0.0071%
ECOLAB INC	ECL	34,050.36	0.19%	1.20%	8.50%	9.75%	0.0182%
CONSOLIDATED EDISON INC	ED	19,613.10	0.11%	3.97%	2.50%	6.52%	0.0070%
EQUIFAX INC	EFX	14,360.37	0.08%	1.10%	11.00%	12.16%	0.0096%
EDISON INTERNATIONAL	EIX	22,477.70	0.12%	2.99%	3.50%	6.54%	0.0081%
ESTEE LAUDER COMPANIES-CL A	EL	28,492.60	0.16%	1.75%	8.00%	9.82%	0.0154%
EASTMAN CHEMICAL CO	EMN	11,232.82	0.06%	2.40%	8.00%	10.50%	0.0065%
EMERSON ELECTRIC CO	EMR	35,425.77	0.19%	3.49%	2.00%	5.52%	0.0107%
ENDO INTERNATIONAL PLC	ENDP	3,720.18	0.02%	0.00%	32.00%	32.00%	0.0065%
EOG RESOURCES INC	EOG	53,469.21	0.29%	0.73%	4.00%	4.74%	0.0138%
EQUINIX INC	EQIX	24,141.09	0.13%	2.07%	19.50%	21.77%	0.0288%
EQUITY RESIDENTIAL	EQR	-	N/A	3.58%	N/A	N/A	N/A
EQT CORP	EQT	12,298.64	0.07%	0.17%	11.00%	11.18%	0.0075%
EVERSOURCE ENERGY	ES	16,395.68	0.09%	3.67%	6.00%	9.78%	0.0088%
EXPRESS SCRIPTS HOLDING CO	ESRX	47,361.04	0.26%	0.00%	15.50%	15.50%	0.0403%
ESSEX PROPERTY TRUST INC	ESS	-	N/A	3.21%	N/A	N/A	N/A
E*TRADE FINANCIAL CORP	ETFC	9,461.01	0.05%	0.00%	17.50%	17.50%	0.0091%
EATON CORP PLC	ETN	30,233.01	0.17%	3.43%	5.00%	8.52%	0.0141%
ENTERGY CORP	ETR	12,202.20	0.07%	5.11%	2.00%	7.16%	0.0048%
EDWARDS LIFESCIENCES CORP	EW	18,561.98	0.10%	0.00%	19.50%	19.50%	0.0199%
EXELON CORP	EXC	29,830.85	0.16%	3.99%	6.00%	10.11%	0.0165%
EXPEDITORS INTL WASH INC	EXPD	9,516.88	0.05%	1.52%	10.00%	11.60%	0.0061%
EXPEDIA INC	EXPE	18,944.76	0.10%	0.82%	21.50%	22.41%	0.0233%
EXTRA SPACE STORAGE INC	EXR	-	N/A	4.57%	N/A	N/A	N/A
FORD MOTOR CO	F	46,444.07	0.25%	5.04%	5.00%	10.17%	0.0259%
FASTEHAL CO	FAST	13,360.86	0.07%	2.60%	7.00%	9.69%	0.0071%
FACEBOOK INC-A	FB	348,260.90	1.91%	0.00%	37.50%	37.50%	0.7165%
FORTUNE BRANDS HOME & SECURI	FBHS	8,807.84	0.05%	1.12%	15.50%	16.71%	0.0081%
FREEMONT-MCMORAN INC	FCX	22,078.02	0.12%	0.00%	36.50%	36.50%	0.0442%

Ex-Ante Market Risk Premium
Market DCF Method Based - Value Line

[1]	[2]	[3]
S&P 500 Est. Required Market Return	Current 30-Year Treasury (30-day average)	Impled Market Risk Premium
13.96%	2.75%	11.21%

Company	Ticker	[4] Market Capitalization	[5] Weight in Index	[6] Estimated Dividend Yield	[7] Long-Term Growth Est.	[8] DCF Result	[9] Weighted DCF Result
FEDEX CORP	FDX	50,526.10	0.28%	0.84%	12.00%	12.69%	0.0357%
FIRSTENERGY CORP	FE	13,405.65	0.07%	4.57%	6.00%	10.71%	0.0079%
F5 NETWORKS INC	FFIV	9,526.76	0.05%	0.00%	9.00%	9.00%	0.0047%
FIDELITY NATIONAL INFO SERV	FIS	25,912.00	0.14%	1.32%	14.50%	15.92%	0.0226%
FISERV INC	FISV	23,435.28	0.13%	0.00%	9.50%	9.50%	0.0122%
FIFTH THIRD BANCORP	FITB	19,664.25	0.11%	2.13%	3.00%	5.16%	0.0056%
FOOT LOCKER INC	FL	9,872.91	0.05%	1.48%	9.00%	10.55%	0.0057%
FLIR SYSTEMS INC	FLIR	4,835.23	0.03%	1.44%	8.00%	9.50%	0.0025%
FLUOR CORP	FLR	7,550.14	0.04%	1.55%	1.50%	3.06%	0.0013%
FLOWSERVE CORP	FLS	6,080.58	0.03%	1.62%	2.50%	4.14%	0.0014%
FMC CORP	FMC	7,399.96	0.04%	1.25%	4.00%	5.28%	0.0021%
TWENTY-FIRST CENTURY FOX-A	FOXA	52,700.09	0.29%	1.27%	12.00%	13.35%	0.0386%
FEDERAL REALTY INVS TRUST	FRT	-	N/A	2.83%	N/A	N/A	N/A
FIRST SOLAR INC	FSLR	3,094.50	0.02%	0.00%	8.50%	8.50%	0.0014%
FMC TECHNOLOGIES INC	FTI	7,834.05	0.04%	0.00%	-1.00%	-1.00%	-0.0004%
FRONTIER COMMUNICATIONS CORP	FTR	4,246.65	0.02%	11.60%	13.50%	25.68%	0.0060%
FORTIVE CORP	FTV	-	N/A	0.50%	N/A	N/A	N/A
GENERAL DYNAMICS CORP	GD	51,935.88	0.28%	1.78%	7.00%	8.84%	0.0252%
GENERAL ELECTRIC CO	GE	293,946.90	1.61%	2.94%	12.00%	15.12%	0.2438%
GENERAL GROWTH PROPERTIES	GGP	-	N/A	3.46%	N/A	N/A	N/A
GILEAD SCIENCES INC	GILD	99,546.60	0.55%	2.50%	10.00%	12.63%	0.0690%
GENERAL MILLS INC	GIS	36,556.01	0.20%	3.16%	7.00%	10.27%	0.0206%
CORNING INC	GLW	23,004.69	0.13%	2.23%	6.50%	8.80%	0.0111%
GENERAL MOTORS CO	GM	50,790.00	0.28%	4.49%	9.50%	14.20%	0.0396%
ALPHABET INC-CL A	GOOGL	N/A	N/A	0.00%	N/A	N/A	N/A
GENUINE PARTS CO	GPC	14,473.60	0.08%	2.70%	7.00%	9.79%	0.0078%
GLOBAL PAYMENTS INC	GPN	11,079.08	0.06%	0.06%	14.50%	14.56%	0.0089%
GAP INC/THE	GPS	10,419.64	0.06%	3.51%	-0.50%	3.00%	0.0017%
GARMIN LTD	GRMN	9,899.07	0.05%	3.94%	1.50%	5.47%	0.0030%
GOLDMAN SACHS GROUP INC	GS	66,323.34	0.47%	1.23%	7.00%	8.27%	0.0392%
GOODYEAR TIRE & RUBBER CO	GT	8,070.12	0.04%	1.29%	8.50%	9.84%	0.0044%
WW GRAINGER INC	GWV	13,380.61	0.07%	2.17%	6.00%	8.24%	0.0060%
HALLIBURTON CO	HAL	42,742.08	0.23%	1.46%	8.00%	9.52%	0.0223%
HARMAN INTERNATIONAL	HAR	7,632.04	0.04%	1.28%	17.00%	18.39%	0.0077%
HASBRO INC	HAS	10,856.30	0.06%	2.35%	12.00%	14.49%	0.0086%
HUNTINGTON BANCSHARES INC	HBAN	10,077.33	0.06%	2.54%	9.00%	11.65%	0.0064%
HANESBRANDS INC	HBI	9,251.68	0.05%	1.80%	13.00%	14.92%	0.0076%
HCA HOLDINGS INC	HCA	26,706.01	0.15%	0.00%	11.50%	11.50%	0.0169%
WELLTOWER INC	HCN	-	N/A	5.77%	N/A	N/A	N/A
HCP INC	HCP	-	N/A	5.02%	N/A	N/A	N/A
HOME DEPOT INC	HD	160,076.20	0.88%	2.33%	12.50%	14.88%	0.1315%
HESS CORP	HES	16,844.24	0.09%	1.88%	-1.00%	0.87%	0.0008%
HARTFORD FINANCIAL SVCS GRP	HIC	18,619.92	0.10%	1.92%	11.50%	13.53%	0.0138%
HARLEY-DAVIDSON INC	HOG	10,597.54	0.06%	2.34%	9.00%	11.45%	0.0067%
HOLOGIC INC	HOLX	10,797.50	0.06%	0.00%	21.00%	21.00%	0.0124%
HONEYWELL INTERNATIONAL INC	HON	86,752.89	0.48%	2.34%	9.00%	11.45%	0.0545%
HELMERCH & PAYNE	HP	7,589.33	0.04%	3.99%	-6.00%	-2.13%	-0.0009%
HEWLETT PACKARD ENTERPRIS	HPE	39,187.20	N/A	1.10%	N/A	N/A	N/A
HP INC	HPQ	25,440.73	N/A	3.56%	N/A	N/A	N/A
H&R BLOCK INC	HRB	5,188.12	0.03%	3.72%	10.00%	13.91%	0.0040%
HORMEL FOODS CORP	HRL	18,641.36	0.10%	1.93%	14.00%	16.07%	0.0164%
HARRIS CORP	HRS	12,925.93	0.07%	2.05%	7.50%	9.63%	0.0068%
HENRY SCHEIN INC	HSIC	12,335.31	0.07%	0.00%	9.00%	9.00%	0.0061%
HOST HOTELS & RESORTS INC	HST	-	N/A	4.86%	N/A	N/A	N/A
HERSHEY CO/THE	HSY	20,753.09	0.11%	2.54%	5.50%	8.11%	0.0092%
HUMANA INC	HUM	30,995.50	0.17%	0.56%	9.50%	10.09%	0.0172%
INTL BUSINESS MACHINES CORP	IBM	154,827.60	0.85%	3.52%	0.50%	4.03%	0.0342%
INTERCONTINENTAL EXCHANGE IN	ICE	32,363.08	0.18%	1.25%	14.00%	15.34%	0.0272%
INTL FLAVORS & FRAGRANCES	IFF	9,563.47	0.05%	2.13%	7.00%	9.20%	0.0048%
ILLUMINA INC	ILMN	19,747.77	0.11%	0.00%	21.50%	21.50%	0.0233%
INTEL CORP	INTC	166,812.80	0.92%	2.96%	9.50%	12.60%	0.1153%
INTUIT INC	INTU	29,864.54	0.16%	1.17%	13.50%	14.75%	0.0242%
INTERNATIONAL PAPER CO	IP	20,032.88	0.11%	3.80%	15.00%	19.09%	0.0210%
INTERPUBLIC GROUP OF COS INC	IPG	9,999.01	0.05%	2.83%	13.00%	16.01%	0.0088%
INGERSOLL-RAND PLC	IR	19,524.66	0.11%	2.12%	10.00%	12.23%	0.0131%
IRON MOUNTAIN INC	IRM	8,706.06	0.05%	6.65%	11.50%	18.53%	0.0089%
INTUITIVE SURGICAL INC	ISRG	24,972.34	0.14%	0.00%	11.50%	11.50%	0.0158%
ILLINOIS TOOL WORKS	ITW	43,854.57	0.24%	2.08%	10.50%	12.69%	0.0305%
INVESCO LTD	IVZ	12,938.30	0.07%	3.54%	7.00%	10.66%	0.0076%
HUNT (JB) TRANSPRT SVCS INC	JBHT	10,470.22	0.06%	0.95%	10.50%	11.50%	0.0066%
JOHNSON CONTROLS INTERNATIONAL	JCI	29,087.60	0.16%	2.54%	9.50%	12.16%	0.0194%
JACOBS ENGINEERING GROUP INC	JEC	7,507.92	0.04%	0.00%	4.00%	4.00%	0.0016%
JOHNSON & JOHNSON	JNJ	307,842.60	1.69%	2.92%	8.50%	11.54%	0.1950%
JUNIPER NETWORKS INC	JNPR	10,030.84	0.06%	1.59%	10.00%	11.67%	0.0064%
JPMORGAN CHASE & CO	JPM	284,840.90	1.66%	2.51%	6.00%	8.59%	0.1342%
NORDSTROM INC	JWN	10,143.25	0.06%	2.58%	0.50%	3.09%	0.0017%
KELLOGG CO	K	25,759.89	0.14%	2.85%	5.00%	7.92%	0.0112%
KEYCORP	KEY	15,782.65	0.09%	2.06%	8.00%	10.14%	0.0088%
KRAFT HEINZ CO/THE	KHC	100,377.30	N/A	2.95%	N/A	N/A	N/A
KIMCO REALTY CORP	KIM	-	N/A	4.14%	N/A	N/A	N/A
KLA-TENCOR CORP	KLAC	12,791.58	0.07%	2.64%	12.00%	14.80%	0.0104%
KIMBERLY-CLARK CORP	KMB	41,030.23	0.23%	3.21%	10.00%	13.37%	0.0301%
KINDER MORGAN INC	KMI	48,615.85	0.27%	2.29%	13.00%	15.44%	0.0412%
CARMAX INC	KMX	11,159.01	0.06%	0.00%	10.50%	10.50%	0.0064%
COCA-COLA CO/THE	KO	177,350.60	0.97%	3.55%	4.00%	7.62%	0.0742%
MICHAEL KORS HOLDINGS LTD	KORS	7,980.13	0.04%	0.00%	6.00%	6.00%	0.0026%
KROGER CO	KR	31,812.80	0.17%	1.51%	10.00%	11.58%	0.0202%
KOHL'S CORP	KSS	9,972.80	0.05%	3.82%	8.00%	11.97%	0.0066%

Ex-Ante Market Risk Premium
Market DCF Method Based - Value Line

[1]	[2]	[3]
S&P 500 Est. Required Market Return	Current 30-Year Treasury (30-day average)	Imp'd Market Risk Premium
13.96%	2.75%	11.21%

Company	Ticker	[4] Market Capitalization	[5] Weight in Index	[6] Estimated Dividend Yield	[7] Long-Term Growth Est.	[8] DCF Result	[9] Weighted DCF Result
KANSAS CITY SOUTHERN	KSU	9,479.85	0.05%	1.50%	9.00%	10.57%	0.0055%
LOEWS CORP	L	15,088.87	0.08%	0.56%	13.00%	13.60%	0.0113%
L BRANDS INC	LB	20,614.88	0.11%	3.33%	6.00%	9.43%	0.0107%
LEGETT & PLATT INC	LEG	6,561.02	0.04%	2.77%	11.00%	13.92%	0.0050%
LENNAR CORP-A	LEN	9,993.72	0.05%	0.37%	12.50%	12.89%	0.0071%
LABORATORY CRP OF AMER HLDGS	LH	12,953.83	0.07%	0.00%	10.00%	10.00%	0.0071%
LKQ CORP	LKQ	10,236.24	0.06%	0.00%	15.00%	15.00%	0.0084%
L-3 COMMUNICATIONS HOLDINGS	LLL	11,989.41	0.07%	1.81%	6.50%	8.37%	0.0055%
LINEAR TECHNOLOGY CORP	LLTC	14,928.37	0.08%	2.06%	5.50%	7.62%	0.0062%
ELI LILLY & CO	LLY	75,068.46	0.41%	3.00%	9.50%	12.64%	0.0521%
LEGG MASON INC	LM	3,254.68	0.02%	2.73%	21.50%	24.52%	0.0044%
LOCKHEED MARTIN CORP	LMT	77,463.13	0.43%	2.75%	8.00%	10.86%	0.0462%
LINCOLN NATIONAL CORP	LNC	14,933.16	0.08%	1.81%	7.00%	8.87%	0.0073%
ALLIANT ENERGY CORP	LNT	8,133.13	0.04%	3.30%	6.50%	9.91%	0.0044%
LOWE'S COS INC	LOW	63,229.38	0.35%	1.95%	15.00%	17.10%	0.0593%
LAM RESEARCH CORP	LRCX	17,294.46	0.09%	1.68%	16.00%	17.81%	0.0169%
LEUCADIA NATIONAL CORP	LUK	7,660.99	0.04%	1.17%	16.50%	17.77%	0.0075%
SOUTHWEST AIRLINES CO	LUV	29,160.88	0.16%	0.84%	14.50%	15.40%	0.0246%
LEVEL 3 COMMUNICATIONS INC	LVT	20,347.55	0.11%	0.00%	36.00%	36.00%	0.0402%
LYONDELLBASELL INDOU-CL A	LYB	35,450.14	0.19%	3.92%	3.50%	7.49%	0.0146%
MACY'S INC	M	13,853.30	N/A	3.41%	N/A	N/A	N/A
MASTERCARD INC - A	MA	114,179.50	0.63%	0.73%	12.00%	12.77%	0.0800%
MACERICH CO/THE	MAC	-	N/A	4.11%	N/A	N/A	N/A
MARRIOTT INTERNATIONAL -CL A	MAR	30,488.68	0.17%	1.54%	13.00%	14.64%	0.0245%
MASCO CORP	MAS	10,510.55	0.06%	1.24%	15.00%	16.33%	0.0094%
MATTEL INC	MAT	10,954.04	0.06%	4.75%	6.50%	11.40%	0.0069%
MCDONALD'S CORP	MCD	99,764.26	0.55%	3.13%	6.00%	9.22%	0.0505%
MICROCHIP TECHNOLOGY INC	MCHP	14,276.72	0.08%	2.18%	8.00%	10.27%	0.0080%
MCKESSON CORP	MCK	31,939.31	0.18%	0.79%	12.00%	12.84%	0.0225%
MOODY'S CORP	MCO	19,281.51	0.11%	1.47%	7.00%	8.52%	0.0090%
MONDELEZ INTERNATIONAL INC-A	MDLZ	65,687.83	0.36%	1.84%	11.50%	13.45%	0.0485%
MEDTRONIC PLC	MDT	104,723.10	0.57%	2.30%	6.50%	8.87%	0.0510%
METLIFE INC	MET	60,818.25	0.33%	3.02%	6.50%	9.62%	0.0321%
MOHAWK INDUSTRIES INC	MHK	14,883.31	0.08%	0.00%	10.50%	10.50%	0.0066%
MEAD JOHNSON NUTRITION CO	MJN	13,732.38	0.08%	2.28%	6.00%	8.35%	0.0063%
MCCORMICK & CO-NON VTG SHRS	MKC	11,482.73	0.06%	1.89%	7.50%	9.46%	0.0060%
MARTIN MARIETTA MATERIALS	MLM	14,230.35	0.08%	0.75%	24.50%	25.34%	0.0198%
MARSH & MCLENNAN COS	MMC	35,877.69	0.20%	1.96%	9.00%	11.05%	0.0217%
3M CO	MMM	103,602.50	0.57%	2.58%	8.50%	11.19%	0.0636%
MALLINCKRODT PLC	MNK	6,122.60	N/A	0.00%	N/A	N/A	N/A
MONSTER BEVERAGE CORP	MNST	25,558.98	0.14%	0.00%	14.50%	14.50%	0.0203%
ALTRIA GROUP INC	MO	124,928.80	0.69%	3.81%	9.50%	13.49%	0.0925%
MONSANTO CO	MON	44,838.96	0.25%	2.11%	9.50%	11.71%	0.0288%
MOSAIC CO/THE	MOS	9,605.47	0.05%	4.48%	0.50%	4.99%	0.0026%
MARATHON PETROLEUM CORP	MPC	25,095.46	0.14%	3.19%	4.00%	7.25%	0.0100%
MERCK & CO. INC.	MRK	170,228.80	0.93%	3.05%	6.00%	9.14%	0.0854%
MARATHON OIL CORP	MRO	14,212.66	0.08%	1.19%	14.50%	15.78%	0.0123%
MORGAN STANLEY	MS	78,460.60	0.43%	1.95%	14.50%	16.59%	0.0714%
MICROSOFT CORP	MSFT	470,153.60	2.58%	2.58%	8.00%	10.68%	0.2756%
MOTOROLA SOLUTIONS INC	MSI	13,323.16	0.07%	2.34%	9.00%	11.45%	0.0084%
M & T BANK CORP	MTB	22,672.14	0.12%	1.95%	6.50%	8.51%	0.0106%
METTLER-TOLEDO INTERNATIONAL	MTD	11,015.18	0.06%	0.00%	9.50%	9.50%	0.0057%
MICRON TECHNOLOGY INC	MU	20,706.40	0.11%	0.00%	-3.50%	-3.50%	-0.0040%
MURPHY OIL CORP	MUR	5,384.69	N/A	3.20%	N/A	N/A	N/A
MYLAN NV	MYL	19,717.44	0.11%	0.00%	20.50%	20.50%	0.0222%
NAVIENT CORP	NAVI	5,408.55	N/A	3.59%	N/A	N/A	N/A
NOBLE ENERGY INC	NBL	15,683.26	N/A	1.10%	N/A	N/A	N/A
NASDAQ INC	NDAQ	10,794.10	0.06%	1.96%	10.00%	12.06%	0.0071%
NEXTERA ENERGY INC	NEE	52,967.14	0.29%	3.36%	4.50%	7.94%	0.0231%
NEWMONT MINING CORP	NEM	16,718.63	0.09%	0.64%	9.00%	9.67%	0.0089%
NETFLIX INC	NFLX	50,506.07	0.28%	0.00%	36.50%	36.50%	0.1011%
NEWFIELD EXPLORATION CO	NFX	8,356.77	0.05%	0.00%	12.00%	12.00%	0.0055%
NISOURCE INC	NI	6,980.29	0.04%	3.05%	1.50%	4.57%	0.0018%
NIKE INC -CL B	NKE	85,635.12	0.47%	1.40%	14.50%	16.00%	0.0752%
NIELSEN HOLDINGS PLC	NLSH	15,408.81	0.08%	2.88%	8.00%	11.00%	0.0093%
NORTHROP GRUMMAN CORP	NOC	43,769.95	0.24%	1.45%	7.50%	9.00%	0.0216%
NATIONAL OILWELL VARCO INC	NOV	13,726.89	0.08%	0.55%	-9.50%	-8.98%	-0.0068%
NRG ENERGY INC	NRG	3,479.34	N/A	1.09%	N/A	N/A	N/A
NORFOLK SOUTHERN CORP	NSC	30,373.64	0.17%	2.27%	6.50%	8.84%	0.0147%
NETAPP INC	NTAP	10,105.30	0.06%	2.09%	3.50%	5.63%	0.0031%
NORTHERN TRUST CORP	NTRS	18,571.87	0.10%	1.85%	7.50%	9.42%	0.0096%
NUCOR CORP	NUE	19,908.50	0.11%	2.40%	24.50%	27.19%	0.0297%
NVIDIA CORP	NVDA	50,273.95	0.28%	0.60%	15.50%	16.15%	0.0445%
NEWELL BRANDS INC	NWL	23,237.21	0.13%	1.58%	14.00%	15.69%	0.0200%
NEWS CORP - CLASS A	NWSA	6,859.86	0.04%	1.70%	59.00%	61.20%	0.0230%
REALTY INCOME CORP	O	-	N/A	4.31%	N/A	N/A	N/A
OWENS-ILLINOIS INC	OI	3,003.89	0.02%	0.60%	6.00%	6.00%	0.0010%
ONEOK INC	OKE	11,357.45	0.06%	4.76%	12.50%	17.56%	0.0109%
OMNICOM GROUP	OMC	20,698.56	0.11%	2.62%	9.00%	11.74%	0.0133%
ORACLE CORP	ORCL	164,650.60	0.90%	1.50%	6.00%	7.55%	0.0682%
O'REILLY AUTOMOTIVE INC	ORLY	26,094.72	0.14%	0.00%	13.00%	13.00%	0.0186%
OCCIDENTAL PETROLEUM CORP	OXY	53,378.54	0.29%	4.35%	4.00%	8.44%	0.0247%
PAYCHEX INC	PAYX	20,996.69	0.12%	3.27%	9.00%	10.42%	0.0143%
PEOPLE'S UNITED FINANCIAL	PBCT	5,759.72	0.03%	3.67%	10.50%	14.36%	0.0045%
PITNEY BOWES INC	PBI	2,765.99	0.02%	5.03%	4.50%	9.64%	0.0015%
PACCAR INC	PCAR	21,730.19	0.12%	4.03%	4.50%	8.62%	0.0103%
P G & E CORP	PCG	29,659.35	0.16%	3.46%	12.00%	15.69%	0.0255%
PRICELINE GROUP INC/THE	PCLN	75,255.55	0.41%	0.00%	15.50%	15.50%	0.0640%

Ex-Ante Market Risk Premium
Market DCF Method Based - Value Line

[1]	[2]	[3]
S&P 500 Est. Required Market Return	Current 30-Year Treasury (30-day average)	Imp'd Market Risk Premium
13.96%	2.75%	11.21%

Company	Ticker	[4] Market Capitalization	[5] Weight in Index	[6] Estimated Dividend Yield	[7] Long-Term Growth Est.	[8] DCF Result	[9] Weighted DCF Result
PATTERSON COS INC	PDCO	3,889.61	0.02%	2.67%	11.50%	14.32%	0.0031%
PUBLIC SERVICE ENTERPRISE GP	PEG	20,573.70	0.11%	4.22%	2.00%	6.26%	0.0071%
PEPSICO INC	PEP	145,797.10	0.80%	2.99%	7.00%	10.09%	0.0808%
PFIZER INC	PFE	190,582.80	1.05%	3.82%	12.00%	16.05%	0.1678%
PRINCIPAL FINANCIAL GROUP	PFG	16,822.08	0.09%	3.00%	5.00%	8.08%	0.0075%
PROCTER & GAMBLE CO/THE	PG	221,251.10	1.21%	3.24%	9.00%	12.39%	0.1504%
PROGRESSIVE CORP	PGR	19,435.46	0.11%	2.67%	8.50%	11.28%	0.0120%
PARKER HANNIFIN CORP	PH	18,447.61	0.10%	1.82%	6.50%	8.38%	0.0085%
PULTEGROUP INC	PHM	6,630.11	0.04%	2.05%	13.00%	15.18%	0.0055%
PERKINELMER INC	PKI	5,684.72	0.03%	0.54%	8.00%	8.56%	0.0027%
PROLOGIS INC	PLD	-	N/A	3.38%	N/A	N/A	N/A
PHILIP MORRIS INTERNATIONAL	PM	137,899.20	0.76%	4.68%	5.00%	9.80%	0.0741%
PNC FINANCIAL SERVICES GROUP	PNC	54,236.32	0.30%	1.98%	3.00%	5.01%	0.0149%
PENTAIR PLC	PNR	10,472.61	0.06%	2.35%	10.00%	12.47%	0.0072%
PINNACLE WEST CAPITAL	PNW	8,225.68	0.05%	3.54%	4.00%	7.61%	0.0034%
PPG INDUSTRIES INC	PPG	25,763.27	0.14%	1.64%	9.50%	11.22%	0.0159%
PPL CORP	PPL	22,286.78	0.12%	4.82%	1.00%	5.84%	0.0071%
FERRIGO CO PLC	PRGO	12,792.06	0.07%	0.68%	8.50%	9.21%	0.0065%
PRUDENTIAL FINANCIAL INC	PRU	44,154.69	0.24%	2.78%	1.50%	4.30%	0.0104%
PUBLIC STORAGE	PSA	-	N/A	3.91%	N/A	N/A	N/A
PHILLIPS 66	PSX	44,303.50	0.24%	3.14%	2.50%	5.68%	0.0138%
PVH CORP	PVH	8,757.69	0.05%	0.14%	6.00%	6.14%	0.0030%
QUANTA SERVICES INC	PWR	4,738.45	0.03%	0.00%	8.50%	8.50%	0.0022%
PRAXAIR INC	PX	33,878.53	0.19%	2.70%	6.50%	9.29%	0.0173%
PIONEER NATURAL RESOURCES CO	PXD	31,484.20	0.17%	0.04%	20.00%	20.04%	0.0346%
PAYPAL HOLDINGS INC	PYPL	46,300.30	N/A	0.00%	N/A	N/A	N/A
QUALCOMM INC	QCOM	100,355.50	0.55%	3.26%	4.50%	7.83%	0.0431%
QORVO INC	QRVO	6,935.20	N/A	0.00%	N/A	N/A	N/A
RYDER SYSTEM INC	R	4,308.99	0.02%	2.18%	9.00%	11.28%	0.0027%
REYNOLDS AMERICAN INC	RAI	77,491.58	0.43%	3.39%	14.00%	17.63%	0.0749%
ROYAL CARIBBEAN CRUISES LTD	RCL	17,721.34	0.10%	2.33%	16.50%	19.02%	0.0185%
REGENERON PHARMACEUTICALS	REGN	43,163.42	0.24%	0.00%	23.50%	23.50%	0.0557%
REGIONS FINANCIAL CORP	RF	16,443.33	0.09%	2.11%	7.00%	9.18%	0.0083%
ROBERT HALF INTL INC	RHI	5,774.09	0.03%	2.03%	9.00%	11.12%	0.0035%
RED HAT INC	RHT	14,141.37	0.08%	0.00%	17.00%	17.00%	0.0132%
TRANSOCEAN LTD	RIG	4,301.49	0.02%	0.00%	-19.00%	-19.00%	-0.0045%
RALPH LAUREN CORP	RL	9,249.14	0.05%	1.82%	3.50%	5.35%	0.0027%
ROCKWELL AUTOMATION INC	ROK	17,062.68	0.09%	2.42%	3.00%	5.48%	0.0051%
ROPER TECHNOLOGIES INC	ROP	18,684.14	0.10%	0.76%	7.00%	7.79%	0.0080%
ROSS STORES INC	ROST	27,463.16	0.15%	0.85%	9.00%	9.89%	0.0149%
RANGE RESOURCES CORP	RRC	9,088.34	0.05%	0.22%	13.50%	13.73%	0.0068%
REPUBLIC SERVICES INC	RSO	18,805.34	0.10%	2.36%	8.50%	10.96%	0.0113%
RAYTHEON COMPANY	RTH	43,476.72	0.24%	1.98%	9.00%	11.07%	0.0264%
STARBUCKS CORP	SBUX	84,449.97	0.46%	1.74%	16.50%	18.38%	0.0852%
SCANA CORP	SCG	9,984.42	0.05%	3.46%	4.50%	8.04%	0.0044%
SCHWAB (CHARLES) CORP	SCHW	51,782.70	0.28%	0.72%	12.00%	12.76%	0.0363%
SPECTRA ENERGY CORP	SE	29,371.90	0.16%	3.87%	12.00%	16.10%	0.0259%
SEALED AIR CORP	SEE	9,168.60	0.05%	1.35%	16.00%	17.46%	0.0088%
SHERWIN-WILLIAMS CO/THE	SHW	25,309.07	0.14%	1.30%	11.00%	12.37%	0.0172%
SIGNET JEWELERS LTD	SIG	7,095.82	0.04%	1.19%	13.00%	14.27%	0.0056%
JM SMUCKER CO/THE	SJM	14,622.03	0.08%	2.39%	7.50%	9.98%	0.0080%
SCHLUMBERGER LTD	SLB	113,252.50	0.62%	2.46%	10.00%	12.58%	0.0782%
SL GREEN REALTY CORP	SLG	-	N/A	2.84%	N/A	N/A	N/A
SNAP-ON INC	SNA	9,816.67	0.05%	1.68%	10.00%	11.76%	0.0063%
SCRIPPS NETWORKS INTER-CL A	SNI	9,055.64	0.05%	1.43%	9.00%	10.49%	0.0052%
SOUTHERN CO/THE	SO	46,285.36	0.25%	4.87%	4.00%	8.97%	0.0228%
SIMON PROPERTY GROUP INC	SPG	-	N/A	3.78%	N/A	N/A	N/A
S&P GLOBAL INC	SPGI	31,735.44	0.17%	1.30%	11.50%	12.87%	0.0224%
STAPLES INC	SPLS	6,466.41	N/A	4.83%	N/A	N/A	N/A
STERICYCLE INC	SRCL	6,429.76	0.04%	0.00%	8.00%	8.00%	0.0028%
SEMPRA ENERGY	SRE	24,670.00	0.14%	3.26%	8.00%	11.39%	0.0154%
SUNTRUST BANKS INC	STI	25,967.21	0.14%	2.06%	7.00%	9.13%	0.0130%
ST JUDE MEDICAL INC	STJ	22,853.79	0.13%	1.63%	5.00%	6.67%	0.0084%
STATE STREET CORP	STT	30,182.42	0.17%	2.04%	5.50%	7.60%	0.0126%
SEAGATE TECHNOLOGY	STX	11,591.92	0.06%	6.49%	-0.50%	5.97%	0.0038%
CONSTELLATION BRANDS INC-A	STZ	32,641.01	0.18%	1.06%	15.50%	16.64%	0.0298%
STANLEY BLACK & DECKER INC	SWK	16,142.96	0.10%	1.93%	9.00%	11.02%	0.0110%
SKYWORKS SOLUTIONS INC	SWKS	14,683.13	0.08%	1.43%	16.50%	18.05%	0.0145%
SOUTHWESTERN ENERGY CO	SWN	5,674.27	0.03%	0.00%	-6.50%	-6.50%	-0.0020%
SYNCHRONY FINANCIAL	SYF	28,858.22	N/A	1.49%	N/A	N/A	N/A
STRYKER CORP	SYK	41,794.50	0.23%	1.36%	18.50%	19.99%	0.0458%
SYMANTEC CORP	SYMC	15,490.20	0.08%	1.21%	5.00%	6.24%	0.0053%
SYSCO CORP	SYI	29,404.01	0.16%	2.47%	11.50%	14.11%	0.0228%
AT&T INC	T	237,831.80	1.30%	5.06%	6.50%	11.72%	0.1530%
MOLSON COORS BREWING CO -B	TAP	21,251.46	0.12%	1.66%	17.00%	17.00%	0.0219%
TERADATA CORP	TDC	3,550.03	0.02%	0.00%	3.50%	3.50%	0.0007%
TRANSFORM GROUP INC	TG	13,797.24	0.08%	0.00%	20.80%	20.50%	0.0155%
TE CONNECTIVITY LTD	TEL	24,003.74	0.13%	2.20%	9.00%	11.30%	0.0149%
TGNA INC	TGNA	4,751.48	0.03%	2.53%	1.00%	3.54%	0.0009%
TARGET CORP	TGT	44,237.37	0.24%	3.06%	9.00%	12.20%	0.0296%
TIFFANY & CO	TIF	9,889.58	0.05%	2.32%	7.50%	9.91%	0.0054%
TJX COMPANIES INC	TJX	52,157.31	0.29%	1.31%	10.50%	11.88%	0.0340%
TORCHMARK CORP	TMK	8,499.98	0.05%	0.79%	7.50%	8.32%	0.0039%
TRIMBO FISHER SCIENTIFIC INC	TMO	56,690.04	0.31%	0.42%	10.50%	10.94%	0.0340%
TRIPADVISOR INC	TRIP	7,396.14	0.04%	0.00%	14.50%	14.50%	0.0059%
T ROWE PRICE GROUP INC	TROW	18,185.90	0.10%	3.03%	7.50%	10.64%	0.0106%
TRAVELERS COS INC/THE	TRV	32,598.08	0.18%	2.37%	1.50%	3.89%	0.0070%
TRACTOR SUPPLY COMPANY	TSCO	9,937.40	0.05%	1.28%	12.00%	13.36%	0.0073%

Ex-Ante Market Risk Premium
Market DCF Method Based - Value Line

[1]	[2]	[3]
S&P 500 Est. Required Market Return	Current 30-Year Treasury (30-day average)	Implied Market Risk Premium
13.96%	2.75%	11.21%

Company	Ticker	[4] Market Capitalization	[5] Weight in Index	[6] Estimated Dividend Yield	[7] Long-Term Growth Est	[8] DCF Result	[9] Weighted DCF Result
TYSON FOODS INC-CL A	TSN	21,555.03	0.12%	1.16%	12.50%	13.73%	0.0162%
TESORO CORP	TSO	10,063.84	0.06%	2.56%	8.50%	11.17%	0.0062%
TOTAL SYSTEM SERVICES INC	TSS	9,473.98	0.05%	0.78%	11.50%	12.32%	0.0064%
TIME WARNER INC	TWX	71,718.94	0.39%	1.74%	11.00%	12.84%	0.0505%
TEXAS INSTRUMENTS INC	TXN	74,143.09	0.41%	2.70%	8.00%	10.81%	0.0440%
TEXTRON INC	TXT	12,330.57	0.07%	0.18%	15.50%	15.69%	0.0106%
UNDER ARMOUR INC-CLASS A	UA	13,455.68	0.07%	0.00%	22.00%	22.00%	0.0162%
UNITED CONTINENTAL HOLDINGS	UAL	22,215.27	0.12%	0.00%	5.50%	5.50%	0.0067%
UDR INC	UDR	-	N/A	3.98%	N/A	N/A	N/A
UNIVERSAL HEALTH SERVICES-B	UHS	11,835.78	0.06%	0.33%	11.50%	11.85%	0.0077%
ULTA SALON COSMETICS & FRAGR	ULTA	16,350.57	0.09%	0.00%	22.50%	22.50%	0.0202%
UNITEDHEALTH GROUP INC	UNH	148,170.10	0.80%	1.63%	14.00%	15.74%	0.1263%
UNUM GROUP	UNM	10,114.87	0.05%	1.86%	10.50%	12.46%	0.0069%
UNION PACIFIC CORP	UNP	83,666.93	0.46%	2.39%	7.00%	9.47%	0.0435%
UNITED PARCEL SERVICE-CL B	UPS	100,988.60	0.55%	2.87%	9.50%	12.51%	0.0693%
URBAN OUTFITTERS INC	URBN	4,018.97	0.02%	0.00%	13.50%	13.50%	0.0030%
UNITED RENTALS INC	URI	8,244.28	0.05%	0.00%	12.50%	12.50%	0.0057%
US BANCORP	USB	84,133.31	0.46%	2.27%	4.50%	6.82%	0.0315%
UNITED TECHNOLOGIES CORP	UTX	89,018.31	0.49%	2.44%	7.00%	9.53%	0.0465%
VISA INC-CLASS A SHARES	V	171,314.20	0.94%	0.83%	13.50%	14.39%	0.1352%
VARIAN MEDICAL SYSTEMS INC	VAR	8,640.32	0.05%	0.00%	7.50%	7.50%	0.0036%
VF CORP	VFC	23,646.06	0.13%	2.94%	10.00%	13.09%	0.0170%
VIACOM INC-CLASS B	VIAB	14,780.80	0.08%	2.15%	2.50%	4.68%	0.0038%
VALERO ENERGY CORP	VLO	29,323.66	0.16%	3.71%	5.50%	9.31%	0.0150%
VULCAN MATERIALS CO	VMC	17,155.19	0.09%	0.62%	33.50%	34.22%	0.0322%
VORNADO REALTY TRUST	VNO	18,236.03	0.10%	2.73%	22.50%	25.54%	0.0256%
VERISK ANALYTICS INC	VRSK	14,122.13	0.08%	0.00%	11.00%	11.00%	0.0085%
VERISIGN INC	VRSN	8,385.53	0.05%	0.00%	12.00%	12.00%	0.0055%
VERTEX PHARMACEUTICALS INC	VRTX	21,662.85	N/A	0.00%	N/A	N/A	N/A
VENTAS INC	VTR	-	N/A	4.97%	N/A	N/A	N/A
VERIZON COMMUNICATIONS INC	VZ	204,752.70	1.12%	4.60%	3.00%	7.67%	0.0862%
WATERS CORP	WAT	11,145.62	0.06%	0.00%	7.00%	7.00%	0.0043%
WALGREENS BOOTS ALLIANCE INC	WBA	90,925.46	0.50%	1.79%	13.00%	14.91%	0.0744%
WESTERN DIGITAL CORP	WDC	17,396.40	0.10%	3.28%	1.50%	4.80%	0.0046%
WEC ENERGY GROUP INC	WEC	17,588.18	0.10%	3.70%	6.00%	9.81%	0.0095%
WELLS FARGO & CO	WFC	262,046.10	1.44%	2.95%	4.50%	7.52%	0.1081%
WHOLE FOODS MARKET INC	WFM	9,924.24	0.05%	1.86%	6.50%	8.42%	0.0046%
WHIRLPOOL CORP	WHR	12,399.00	0.07%	2.42%	10.50%	13.05%	0.0089%
WILLIS TOWERS WATSON PLC	WLTW	17,235.24	N/A	1.64%	N/A	N/A	N/A
WASTE MANAGEMENT INC	WM	30,736.47	0.17%	2.43%	8.50%	11.03%	0.0186%
WILLIAMS COS INC	WMB	22,834.38	0.13%	2.61%	16.50%	19.33%	0.0243%
WAL-MART STORES INC	WMT	219,360.50	1.20%	2.87%	2.00%	4.90%	0.0590%
WESTROCK CO	WRK	12,791.29	N/A	3.15%	N/A	N/A	N/A
WESTERN UNION CO	WU	10,417.25	0.06%	2.98%	8.00%	11.10%	0.0063%
WEYERHAEUSER CO	WY	23,791.75	0.13%	3.90%	8.50%	12.57%	0.0164%
WYNDHAM WORLDWIDE CORP	WYN	8,023.46	0.04%	2.68%	5.50%	8.25%	0.0036%
WYNN RESORTS LTD	WYNN	10,308.40	0.06%	1.97%	6.50%	8.53%	0.0048%
CIMAREX ENERGY CO	XEC	12,317.78	0.07%	0.25%	16.50%	16.77%	0.0113%
XCEL ENERGY INC	XEL	19,693.34	0.11%	3.66%	5.50%	9.26%	0.0100%
XL GROUP LTD	XL	10,908.51	0.06%	2.16%	9.00%	11.26%	0.0067%
XILINX INC	XLNX	13,413.38	0.07%	2.49%	6.00%	8.56%	0.0063%
EXXON MOBIL CORP	XOM	360,457.20	1.98%	3.50%	5.00%	8.59%	0.1698%
DENTSPLY SIRONA INC	XRAY	14,098.83	0.08%	0.51%	8.00%	8.53%	0.0066%
XEROX CORP	XRX	9,397.71	0.05%	3.34%	4.50%	7.92%	0.0041%
XYLEM INC	XYL	9,472.51	0.05%	1.17%	9.50%	10.73%	0.0056%
YAHOO! INC	YHOO	39,054.01	N/A	0.00%	N/A	N/A	N/A
YUM! BRANDS INC	YUM	23,744.40	0.13%	3.28%	3.50%	6.84%	0.0069%
ZIMMER BIOMET HOLDINGS INC	ZBH	20,220.20	0.11%	1.03%	15.00%	16.11%	0.0179%
ZIONS BANCORPORATION	ZION	7,974.61	0.04%	0.87%	11.00%	11.92%	0.0052%
ZOETIS INC	ZTS	24,801.01	0.14%	0.76%	11.00%	11.80%	0.0161%
Total Market Capitalization:		18,226,227.65					13.96%

Notes:

- [1] Equals sum of Col. [9]
- [2] Source: Bloomberg Professional
- [3] Equals [1] - [2]
- [4] Source: Value Line
- [5] Equals weight in S&P 500 based on market capitalization
- [6] Source: Value Line
- [7] Source: Value Line
- [8] Equals ([6] x (1 + (0.5 x [7]))) + [7]
- [9] Equals Col. [6] x Col. [8]

Bloomberg and Value Line Beta Coefficients

Company	Ticker	[1]	[2]
		Bloomberg	Value Line
ALLETE, Inc.	ALE	0.650	0.750
Alliant Energy Corp.	LNT	0.567	0.750
Ameren Corp.	AEE	0.579	0.700
American Electric Power	AEP	0.529	0.650
Avista Corp.	AVA	0.624	0.700
Black Hills Corp.	BKH	0.560	0.900
CMS Energy Corp.	CMS	0.502	0.650
DTE Energy Co.	DTE	0.575	0.700
IDACORP, Inc.	IDA	0.693	0.750
NorthWestern Corporation	NWE	0.589	0.700
OGE Energy Corp.	OGE	0.675	0.900
Otter Tail Corporation	OTTR	0.797	0.850
Pinnacle West Capital	PNW	0.586	0.700
PNM Resources, Inc.	PNM	0.613	0.750
Portland General Electric Co.	POR	0.574	0.700
SCANA Corp.	SCG	0.565	0.700
WEC Energy Group Inc.	WEC	0.497	0.650
Xcel Energy, Inc.	XEL	0.451	0.600
Mean		0.590	0.728

Notes:

[1] Source: Bloomberg Professional

[2] Source: Value Line

Capital Asset Pricing Model Results
Bloomberg, and Value Line Derived Market Risk Premium

	[1]	[2]	[3]	[4]	[5]	[6]
	Risk-Free Rate	Average Beta Coefficient	Bloomberg Market DCF Derived	Value Line Market DCF Derived	Bloomberg MRP	Value Line MRP
PROXY GROUP AVERAGE BLOOMBERG BETA COEFFICIENT						
Current 30-Year Treasury [7]	2.75%	0.590	10.19%	11.21%	8.77%	9.37%
Near-Term Projected 30-Year Treasury [8]	3.13%	0.590	10.19%	11.21%	9.15%	9.75%
Mean					8.96%	9.56%
PROXY GROUP AVERAGE VALUE LINE AVERAGE BETA COEFFICIENT						
Current 30-Year Treasury [7]	2.75%	0.728	10.19%	11.21%	10.17%	10.91%
Near-Term Projected 30-Year Treasury [8]	3.13%	0.728	10.19%	11.21%	10.55%	11.29%
Mean					10.36%	11.10%

Notes:

[1] See Note [7]

[2] Source: RBH-4

[3] Source: RBH-3

[4] Source: RBH-3

[5] Equals Col. [1] + (Col. [2] x Col. [3])

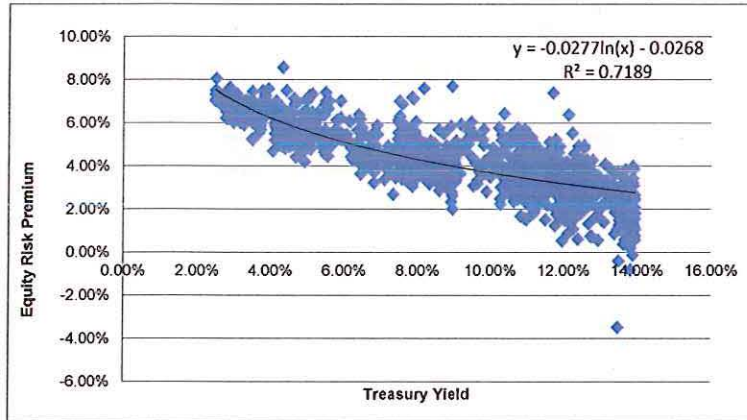
[6] Equals Col. [1] + (Col. [2] x Col. [4])

[7] Source: Bloomberg Professional

[8] Source: Blue Chip Financial Forecasts, Vol. 35, No. 12, December 1, 2016, at 2.

Bond Yield Plus Risk Premium

[1]	[2]	[3]	[4]	[5]	
Constant	Slope	30-Year Treasury Yield	Risk Premium	Return on Equity	
-2.68%	-2.77%				
		Current 30-Year Treasury	2.75%	7.26%	10.01%
		Near-Term Projected 30-Year Treasury	3.13%	6.90%	10.03%
		Long-Term Projected 30-Year Treasury	4.35%	5.99%	10.34%



Notes:

- [1] Constant of regression equation
- [2] Slope of regression equation
- [3] Source: Current = Bloomberg Professional,
Near Term Projected = Blue Chip Financial Forecasts, Vol. 35, No. 12, December 1, 2016, at 2,
Long Term Projected = Blue Chip Financial Forecasts, Vol. 35, No. 12, December 1, 2016, at 14.
- [4] Equals [1] + ln([3]) x [2]
- [5] Equals [3] + [4]
- [6] Source: SNL Financial
- [7] Source: SNL Financial
- [8] Source: Bloomberg Professional, equals 201-trading day average (i.e. lag period)
- [9] Equals [7] - [8]

Bond Yield Plus Risk Premium

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
1/1/1980	14.50%	9.36%	5.14%
1/7/1980	14.39%	9.38%	5.01%
1/9/1980	15.00%	9.40%	5.60%
1/14/1980	15.17%	9.42%	5.75%
1/17/1980	13.93%	9.44%	4.49%
1/23/1980	15.50%	9.47%	6.03%
1/30/1980	13.86%	9.52%	4.34%
1/31/1980	12.61%	9.53%	3.08%
2/6/1980	13.71%	9.58%	4.13%
2/13/1980	12.80%	9.63%	3.17%
2/14/1980	13.00%	9.65%	3.35%
2/19/1980	13.50%	9.68%	3.82%
2/27/1980	13.75%	9.78%	3.97%
2/29/1980	13.75%	9.81%	3.94%
2/29/1980	14.00%	9.81%	4.19%
2/29/1980	14.77%	9.81%	4.96%
3/7/1980	12.70%	9.89%	2.81%
3/14/1980	13.50%	9.97%	3.53%
3/26/1980	14.16%	10.10%	4.06%
3/27/1980	14.24%	10.12%	4.12%
3/28/1980	14.50%	10.13%	4.37%
4/11/1980	12.75%	10.27%	2.48%
4/14/1980	13.85%	10.29%	3.56%
4/16/1980	15.50%	10.31%	5.19%
4/22/1980	13.25%	10.35%	2.90%
4/22/1980	13.90%	10.35%	3.55%
4/24/1980	16.80%	10.38%	6.43%
4/29/1980	15.50%	10.41%	5.09%
5/6/1980	13.70%	10.45%	3.25%
5/7/1980	15.00%	10.45%	4.55%
5/8/1980	13.75%	10.46%	3.29%
5/9/1980	14.35%	10.47%	3.88%
5/13/1980	13.60%	10.48%	3.12%
5/15/1980	13.25%	10.49%	2.76%
5/19/1980	13.75%	10.51%	3.24%
5/27/1980	13.62%	10.54%	3.08%
5/27/1980	14.60%	10.54%	4.06%
5/29/1980	16.00%	10.56%	5.44%
5/30/1980	13.80%	10.56%	3.24%
6/2/1980	15.63%	10.57%	5.06%
6/9/1980	15.90%	10.60%	5.30%
6/10/1980	13.78%	10.60%	3.18%
6/12/1980	14.25%	10.61%	3.64%
6/19/1980	13.40%	10.62%	2.78%
6/30/1980	13.00%	10.65%	2.35%
6/30/1980	13.40%	10.65%	2.75%
7/9/1980	14.75%	10.67%	4.08%
7/10/1980	15.00%	10.68%	4.32%
7/15/1980	15.80%	10.70%	5.10%
7/18/1980	13.80%	10.71%	3.09%
7/22/1980	14.10%	10.72%	3.38%
7/24/1980	15.00%	10.73%	4.27%
7/25/1980	13.48%	10.73%	2.75%
7/31/1980	14.58%	10.75%	3.83%
8/8/1980	13.50%	10.78%	2.72%
8/8/1980	14.00%	10.78%	3.22%
8/8/1980	15.45%	10.78%	4.67%
8/11/1980	14.85%	10.78%	4.07%
8/14/1980	14.00%	10.79%	3.21%
8/14/1980	16.25%	10.79%	5.46%
8/25/1980	13.75%	10.82%	2.93%
8/27/1980	13.80%	10.83%	2.97%
8/29/1980	12.50%	10.84%	1.66%
9/15/1980	13.50%	10.88%	2.62%
9/15/1980	13.93%	10.88%	3.05%
9/15/1980	15.80%	10.88%	4.92%
9/24/1980	12.50%	10.93%	1.57%
9/24/1980	15.00%	10.93%	4.07%

Bond Yield Plus Risk Premium

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
9/26/1980	13.75%	10.94%	2.81%
9/30/1980	14.10%	10.96%	3.14%
9/30/1980	14.20%	10.96%	3.24%
10/1/1980	13.90%	10.97%	2.93%
10/3/1980	15.50%	10.98%	4.52%
10/7/1980	12.50%	10.99%	1.51%
10/9/1980	13.25%	11.00%	2.25%
10/9/1980	14.50%	11.00%	3.50%
10/9/1980	14.50%	11.00%	3.50%
10/16/1980	16.10%	11.02%	5.08%
10/17/1980	14.50%	11.03%	3.47%
10/31/1980	13.75%	11.11%	2.64%
10/31/1980	14.25%	11.11%	3.14%
11/4/1980	15.00%	11.12%	3.88%
11/5/1980	13.75%	11.12%	2.63%
11/5/1980	14.00%	11.12%	2.88%
11/8/1980	13.75%	11.14%	2.61%
11/10/1980	14.85%	11.15%	3.70%
11/17/1980	14.00%	11.18%	2.82%
11/18/1980	14.00%	11.19%	2.81%
11/19/1980	13.00%	11.19%	1.81%
11/24/1980	14.00%	11.21%	2.79%
11/26/1980	14.00%	11.21%	2.79%
12/8/1980	14.15%	11.22%	2.93%
12/8/1980	15.10%	11.22%	3.88%
12/9/1980	15.35%	11.22%	4.13%
12/12/1980	15.45%	11.23%	4.22%
12/17/1980	13.25%	11.23%	2.02%
12/18/1980	15.80%	11.23%	4.57%
12/19/1980	14.50%	11.23%	3.27%
12/19/1980	14.64%	11.23%	3.41%
12/22/1980	13.45%	11.23%	2.22%
12/22/1980	15.00%	11.23%	3.77%
12/30/1980	14.50%	11.22%	3.28%
12/30/1980	14.95%	11.22%	3.73%
12/31/1980	13.39%	11.22%	2.17%
1/2/1981	15.25%	11.22%	4.03%
1/7/1981	14.30%	11.21%	3.09%
1/19/1981	15.25%	11.20%	4.05%
1/23/1981	13.10%	11.20%	1.90%
1/23/1981	14.40%	11.20%	3.20%
1/26/1981	15.25%	11.20%	4.05%
1/27/1981	15.00%	11.21%	3.79%
1/31/1981	13.47%	11.22%	2.25%
2/3/1981	15.25%	11.23%	4.02%
2/5/1981	15.75%	11.25%	4.50%
2/11/1981	15.60%	11.28%	4.32%
2/20/1981	15.25%	11.33%	3.92%
3/11/1981	15.40%	11.49%	3.91%
3/12/1981	14.51%	11.50%	3.01%
3/12/1981	16.00%	11.50%	4.50%
3/13/1981	13.02%	11.52%	1.50%
3/18/1981	16.19%	11.55%	4.64%
3/19/1981	13.75%	11.56%	2.19%
3/23/1981	14.30%	11.58%	2.72%
3/25/1981	15.30%	11.60%	3.70%
4/1/1981	14.53%	11.68%	2.85%
4/3/1981	19.10%	11.71%	7.39%
4/9/1981	15.00%	11.78%	3.22%
4/9/1981	15.30%	11.78%	3.52%
4/9/1981	16.50%	11.78%	4.72%
4/9/1981	17.00%	11.78%	5.22%
4/10/1981	13.75%	11.80%	1.95%
4/13/1981	13.57%	11.82%	1.75%
4/15/1981	15.30%	11.85%	3.45%
4/16/1981	13.50%	11.87%	1.63%
4/17/1981	14.10%	11.87%	2.23%
4/21/1981	14.00%	11.90%	2.10%

Bond Yield Plus Risk Premium

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
4/21/1981	16.80%	11.90%	4.90%
4/24/1981	16.00%	11.95%	4.05%
4/27/1981	12.50%	11.97%	0.53%
4/27/1981	13.61%	11.97%	1.64%
4/29/1981	13.65%	12.00%	1.65%
4/30/1981	13.50%	12.02%	1.48%
5/4/1981	16.22%	12.05%	4.17%
5/5/1981	14.40%	12.07%	2.33%
5/7/1981	16.25%	12.11%	4.14%
5/7/1981	16.27%	12.11%	4.16%
5/8/1981	13.00%	12.13%	0.87%
5/8/1981	16.00%	12.13%	3.87%
5/12/1981	13.50%	12.16%	1.34%
5/15/1981	15.75%	12.22%	3.53%
5/18/1981	14.88%	12.23%	2.65%
5/20/1981	16.00%	12.26%	3.74%
5/21/1981	14.00%	12.27%	1.73%
5/26/1981	14.90%	12.30%	2.60%
5/27/1981	15.00%	12.31%	2.69%
5/29/1981	15.50%	12.34%	3.16%
6/1/1981	16.50%	12.35%	4.15%
6/3/1981	14.67%	12.37%	2.30%
6/5/1981	13.00%	12.39%	0.61%
6/10/1981	16.75%	12.42%	4.33%
6/17/1981	14.40%	12.46%	1.94%
6/18/1981	16.33%	12.47%	3.86%
6/25/1981	14.75%	12.51%	2.24%
6/26/1981	16.00%	12.52%	3.48%
6/30/1981	15.25%	12.54%	2.71%
7/1/1981	15.50%	12.56%	2.94%
7/1/1981	17.50%	12.56%	4.94%
7/10/1981	16.00%	12.62%	3.38%
7/14/1981	16.90%	12.64%	4.26%
7/15/1981	16.00%	12.65%	3.35%
7/17/1981	15.00%	12.67%	2.33%
7/20/1981	15.00%	12.68%	2.32%
7/21/1981	14.00%	12.69%	1.31%
7/28/1981	13.48%	12.74%	0.74%
7/31/1981	13.50%	12.78%	0.72%
7/31/1981	15.00%	12.78%	2.22%
7/31/1981	16.00%	12.78%	3.22%
8/5/1981	15.71%	12.83%	2.88%
8/10/1981	14.50%	12.87%	1.63%
8/11/1981	15.00%	12.88%	2.12%
8/20/1981	13.50%	12.95%	0.55%
8/20/1981	16.50%	12.95%	3.55%
8/24/1981	15.00%	12.97%	2.03%
8/28/1981	15.00%	13.01%	1.99%
9/3/1981	14.50%	13.05%	1.45%
9/10/1981	14.50%	13.11%	1.39%
9/11/1981	16.00%	13.12%	2.88%
9/16/1981	16.00%	13.15%	2.85%
9/17/1981	16.50%	13.16%	3.34%
9/23/1981	15.85%	13.20%	2.65%
9/28/1981	15.50%	13.23%	2.27%
10/9/1981	15.75%	13.33%	2.42%
10/15/1981	16.25%	13.37%	2.88%
10/16/1981	15.50%	13.38%	2.12%
10/16/1981	16.50%	13.38%	3.12%
10/19/1981	14.25%	13.39%	0.86%
10/20/1981	15.25%	13.41%	1.84%
10/20/1981	17.00%	13.41%	3.59%
10/23/1981	16.00%	13.45%	2.55%
10/27/1981	10.00%	13.48%	-3.48%
10/29/1981	14.75%	13.51%	1.24%
10/29/1981	16.50%	13.51%	2.99%
11/3/1981	15.17%	13.53%	1.64%
11/5/1981	16.60%	13.55%	3.05%

Bond Yield Plus Risk Premium

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
11/6/1981	15.17%	13.56%	1.61%
11/24/1981	15.50%	13.61%	1.89%
11/25/1981	15.25%	13.61%	1.64%
11/25/1981	15.35%	13.61%	1.74%
11/25/1981	16.10%	13.61%	2.49%
11/25/1981	16.10%	13.61%	2.49%
12/1/1981	15.70%	13.61%	2.09%
12/1/1981	16.00%	13.61%	2.39%
12/1/1981	16.49%	13.61%	2.88%
12/1/1981	16.50%	13.61%	2.89%
12/4/1981	16.00%	13.61%	2.39%
12/11/1981	16.25%	13.63%	2.62%
12/14/1981	14.00%	13.63%	0.37%
12/15/1981	15.81%	13.63%	2.18%
12/15/1981	16.00%	13.63%	2.37%
12/16/1981	15.25%	13.63%	1.62%
12/17/1981	16.50%	13.63%	2.87%
12/18/1981	15.45%	13.63%	1.82%
12/30/1981	14.25%	13.67%	0.58%
12/30/1981	16.00%	13.67%	2.33%
12/30/1981	16.25%	13.67%	2.58%
12/31/1981	16.15%	13.67%	2.48%
1/4/1982	15.50%	13.67%	1.83%
1/11/1982	14.50%	13.72%	0.78%
1/11/1982	17.00%	13.72%	3.28%
1/13/1982	14.75%	13.74%	1.01%
1/14/1982	15.75%	13.75%	2.00%
1/15/1982	15.00%	13.76%	1.24%
1/15/1982	16.50%	13.76%	2.74%
1/22/1982	16.25%	13.79%	2.46%
1/27/1982	16.84%	13.81%	3.03%
1/28/1982	13.00%	13.81%	-0.81%
1/29/1982	15.50%	13.82%	1.68%
2/1/1982	15.85%	13.82%	2.03%
2/3/1982	16.44%	13.84%	2.60%
2/8/1982	15.50%	13.86%	1.64%
2/11/1982	16.00%	13.88%	2.12%
2/11/1982	16.20%	13.88%	2.32%
2/17/1982	15.00%	13.89%	1.11%
2/19/1982	15.17%	13.89%	1.28%
2/26/1982	15.25%	13.89%	1.36%
3/1/1982	15.03%	13.89%	1.14%
3/1/1982	16.00%	13.89%	2.11%
3/3/1982	15.00%	13.88%	1.12%
3/8/1982	17.10%	13.88%	3.22%
3/12/1982	16.25%	13.88%	2.37%
3/17/1982	17.30%	13.88%	3.42%
3/22/1982	15.10%	13.89%	1.21%
3/27/1982	15.40%	13.89%	1.51%
3/30/1982	15.50%	13.90%	1.60%
3/31/1982	17.00%	13.91%	3.09%
4/1/1982	14.70%	13.91%	0.79%
4/1/1982	16.50%	13.91%	2.59%
4/2/1982	15.50%	13.91%	1.59%
4/5/1982	15.50%	13.92%	1.58%
4/8/1982	16.40%	13.93%	2.47%
4/13/1982	14.50%	13.94%	0.56%
4/23/1982	15.75%	13.94%	1.81%
4/27/1982	15.00%	13.94%	1.06%
4/28/1982	15.75%	13.94%	1.81%
4/30/1982	14.70%	13.94%	0.76%
4/30/1982	15.50%	13.94%	1.56%
5/3/1982	16.60%	13.94%	2.66%
5/4/1982	16.00%	13.94%	2.06%
5/14/1982	15.50%	13.92%	1.58%
5/18/1982	15.42%	13.92%	1.50%
5/19/1982	14.69%	13.92%	0.77%
5/20/1982	15.00%	13.91%	1.09%

Bond Yield Plus Risk Premium

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
5/20/1982	15.10%	13.91%	1.19%
5/20/1982	15.50%	13.91%	1.59%
5/20/1982	16.30%	13.91%	2.39%
5/21/1982	17.75%	13.91%	3.84%
5/27/1982	15.00%	13.89%	1.11%
5/28/1982	15.50%	13.89%	1.61%
5/28/1982	17.00%	13.89%	3.11%
6/1/1982	13.75%	13.89%	-0.14%
6/1/1982	16.60%	13.89%	2.71%
6/9/1982	17.86%	13.88%	3.98%
6/14/1982	15.75%	13.88%	1.87%
6/15/1982	14.85%	13.88%	0.97%
6/18/1982	15.50%	13.87%	1.63%
6/21/1982	14.90%	13.87%	1.03%
6/23/1982	16.00%	13.86%	2.14%
6/23/1982	16.17%	13.86%	2.31%
6/24/1982	14.85%	13.86%	0.99%
6/25/1982	14.70%	13.86%	0.84%
7/1/1982	16.00%	13.84%	2.16%
7/2/1982	15.62%	13.84%	1.78%
7/2/1982	17.00%	13.84%	3.16%
7/13/1982	14.00%	13.82%	0.18%
7/13/1982	16.80%	13.82%	2.98%
7/14/1982	15.76%	13.82%	1.94%
7/14/1982	16.02%	13.82%	2.20%
7/19/1982	16.50%	13.80%	2.70%
7/22/1982	14.50%	13.77%	0.73%
7/22/1982	17.00%	13.77%	3.23%
7/27/1982	16.75%	13.75%	3.00%
7/29/1982	16.50%	13.74%	2.76%
8/11/1982	17.50%	13.68%	3.82%
8/18/1982	17.07%	13.63%	3.44%
8/20/1982	15.73%	13.60%	2.13%
8/25/1982	16.00%	13.57%	2.43%
8/26/1982	15.50%	13.56%	1.94%
8/30/1982	15.00%	13.55%	1.45%
9/3/1982	16.20%	13.53%	2.67%
9/8/1982	15.00%	13.52%	1.48%
9/15/1982	13.08%	13.50%	-0.42%
9/15/1982	16.25%	13.50%	2.75%
9/16/1982	16.00%	13.50%	2.50%
9/17/1982	15.25%	13.50%	1.75%
9/23/1982	17.17%	13.47%	3.70%
9/24/1982	14.50%	13.46%	1.04%
9/27/1982	15.25%	13.46%	1.79%
10/1/1982	15.50%	13.42%	2.08%
10/15/1982	15.90%	13.32%	2.58%
10/22/1982	15.75%	13.24%	2.51%
10/22/1982	17.15%	13.24%	3.91%
10/29/1982	15.54%	13.16%	2.38%
11/1/1982	15.50%	13.15%	2.35%
11/3/1982	17.20%	13.13%	4.07%
11/4/1982	16.25%	13.11%	3.14%
11/5/1982	16.20%	13.09%	3.11%
11/9/1982	16.00%	13.05%	2.95%
11/23/1982	15.50%	12.89%	2.61%
11/23/1982	15.85%	12.89%	2.96%
11/30/1982	16.50%	12.81%	3.69%
12/1/1982	17.04%	12.79%	4.25%
12/6/1982	15.00%	12.73%	2.27%
12/6/1982	16.35%	12.73%	3.62%
12/10/1982	15.50%	12.66%	2.84%
12/13/1982	16.00%	12.65%	3.35%
12/14/1982	15.30%	12.63%	2.67%
12/14/1982	16.40%	12.63%	3.77%
12/20/1982	16.00%	12.57%	3.43%
12/21/1982	14.75%	12.56%	2.19%
12/21/1982	15.85%	12.56%	3.29%

Bond Yield Plus Risk Premium

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
12/22/1982	16.25%	12.54%	3.71%
12/22/1982	16.58%	12.54%	4.04%
12/22/1982	16.75%	12.54%	4.21%
12/29/1982	14.90%	12.48%	2.42%
12/29/1982	16.25%	12.48%	3.77%
12/30/1982	16.00%	12.47%	3.53%
12/30/1982	16.35%	12.47%	3.88%
12/30/1982	16.77%	12.47%	4.30%
1/5/1983	17.33%	12.40%	4.93%
1/11/1983	15.90%	12.34%	3.56%
1/12/1983	14.63%	12.33%	2.30%
1/12/1983	15.50%	12.33%	3.17%
1/20/1983	17.75%	12.24%	5.51%
1/21/1983	15.00%	12.22%	2.78%
1/24/1983	14.50%	12.21%	2.29%
1/24/1983	15.50%	12.21%	3.29%
1/25/1983	15.85%	12.19%	3.66%
1/27/1983	16.14%	12.17%	3.97%
2/1/1983	18.50%	12.13%	6.37%
2/4/1983	14.00%	12.10%	1.90%
2/10/1983	15.00%	12.06%	2.94%
2/21/1983	15.50%	11.98%	3.52%
2/22/1983	15.50%	11.97%	3.53%
2/23/1983	15.10%	11.96%	3.14%
2/23/1983	16.00%	11.96%	4.04%
3/2/1983	15.25%	11.89%	3.36%
3/9/1983	15.20%	11.82%	3.38%
3/15/1983	13.00%	11.77%	1.23%
3/18/1983	15.25%	11.73%	3.52%
3/23/1983	15.40%	11.69%	3.71%
3/24/1983	15.00%	11.67%	3.33%
3/29/1983	15.50%	11.63%	3.87%
3/30/1983	16.71%	11.61%	5.10%
3/31/1983	15.00%	11.59%	3.41%
4/4/1983	15.20%	11.58%	3.62%
4/8/1983	15.50%	11.51%	3.99%
4/11/1983	14.81%	11.49%	3.32%
4/19/1983	14.50%	11.38%	3.12%
4/20/1983	16.00%	11.36%	4.64%
4/29/1983	16.00%	11.24%	4.76%
5/1/1983	14.50%	11.24%	3.26%
5/9/1983	15.50%	11.15%	4.35%
5/11/1983	16.46%	11.12%	5.34%
5/12/1983	14.14%	11.11%	3.03%
5/18/1983	15.00%	11.05%	3.95%
5/23/1983	14.90%	11.01%	3.89%
5/23/1983	15.50%	11.01%	4.49%
5/25/1983	15.50%	10.98%	4.52%
5/27/1983	15.00%	10.96%	4.04%
5/31/1983	14.00%	10.95%	3.05%
5/31/1983	15.50%	10.95%	4.55%
6/2/1983	14.50%	10.93%	3.57%
6/17/1983	15.03%	10.84%	4.19%
7/1/1983	14.80%	10.78%	4.02%
7/1/1983	14.90%	10.78%	4.12%
7/8/1983	16.25%	10.76%	5.49%
7/13/1983	13.20%	10.75%	2.45%
7/19/1983	15.00%	10.74%	4.26%
7/19/1983	15.10%	10.74%	4.36%
7/25/1983	16.25%	10.73%	5.52%
7/28/1983	15.90%	10.74%	5.16%
8/3/1983	16.34%	10.75%	5.59%
8/3/1983	16.50%	10.75%	5.75%
8/19/1983	15.00%	10.80%	4.20%
8/22/1983	15.50%	10.80%	4.70%
8/22/1983	16.40%	10.80%	5.60%
8/31/1983	14.75%	10.84%	3.91%
9/7/1983	15.00%	10.86%	4.14%

Bond Yield Plus Risk Premium

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
9/14/1983	15.78%	10.89%	4.89%
9/16/1983	15.00%	10.90%	4.10%
9/19/1983	14.50%	10.91%	3.59%
9/20/1983	16.50%	10.91%	5.59%
9/28/1983	14.50%	10.94%	3.56%
9/29/1983	15.50%	10.95%	4.55%
9/30/1983	15.25%	10.95%	4.30%
9/30/1983	16.15%	10.95%	5.20%
10/4/1983	14.80%	10.96%	3.84%
10/7/1983	16.00%	10.97%	5.03%
10/13/1983	15.52%	10.99%	4.53%
10/17/1983	15.50%	11.00%	4.50%
10/18/1983	14.50%	11.00%	3.50%
10/19/1983	16.25%	11.01%	5.24%
10/19/1983	16.50%	11.01%	5.49%
10/26/1983	15.00%	11.04%	3.96%
10/27/1983	15.20%	11.04%	4.16%
11/1/1983	16.00%	11.06%	4.94%
11/9/1983	14.90%	11.09%	3.81%
11/10/1983	14.35%	11.10%	3.25%
11/23/1983	16.00%	11.13%	4.87%
11/23/1983	16.15%	11.13%	5.02%
11/30/1983	15.00%	11.14%	3.86%
12/5/1983	15.25%	11.15%	4.10%
12/6/1983	15.07%	11.15%	3.92%
12/8/1983	15.90%	11.16%	4.74%
12/9/1983	14.75%	11.17%	3.58%
12/12/1983	14.50%	11.17%	3.33%
12/15/1983	15.56%	11.19%	4.37%
12/19/1983	14.80%	11.21%	3.59%
12/20/1983	14.69%	11.22%	3.47%
12/20/1983	16.00%	11.22%	4.78%
12/20/1983	16.25%	11.22%	5.03%
12/22/1983	14.75%	11.23%	3.52%
12/22/1983	15.75%	11.23%	4.52%
1/3/1984	14.75%	11.27%	3.48%
1/10/1984	15.90%	11.30%	4.60%
1/12/1984	15.60%	11.31%	4.29%
1/18/1984	13.75%	11.33%	2.42%
1/19/1984	15.90%	11.33%	4.57%
1/30/1984	16.10%	11.37%	4.73%
1/31/1984	15.25%	11.37%	3.88%
2/1/1984	14.80%	11.38%	3.42%
2/6/1984	13.75%	11.40%	2.35%
2/6/1984	14.75%	11.40%	3.35%
2/9/1984	15.25%	11.42%	3.83%
2/15/1984	15.70%	11.44%	4.26%
2/20/1984	15.00%	11.46%	3.54%
2/20/1984	15.00%	11.46%	3.54%
2/22/1984	14.75%	11.47%	3.28%
2/28/1984	14.50%	11.51%	2.99%
3/2/1984	14.25%	11.54%	2.71%
3/20/1984	16.00%	11.64%	4.36%
3/23/1984	15.50%	11.67%	3.83%
3/26/1984	14.71%	11.68%	3.03%
4/2/1984	15.50%	11.71%	3.79%
4/6/1984	14.74%	11.75%	2.99%
4/11/1984	15.72%	11.78%	3.94%
4/17/1984	15.00%	11.81%	3.19%
4/18/1984	16.20%	11.82%	4.38%
4/25/1984	14.64%	11.85%	2.79%
4/30/1984	14.40%	11.87%	2.53%
5/16/1984	14.69%	11.98%	2.71%
5/16/1984	15.00%	11.98%	3.02%
5/22/1984	14.40%	12.02%	2.38%
5/29/1984	15.10%	12.06%	3.04%
6/13/1984	15.25%	12.15%	3.10%
6/15/1984	15.60%	12.17%	3.43%

Bond Yield Plus Risk Premium

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
6/22/1984	16.25%	12.21%	4.04%
6/29/1984	15.25%	12.26%	2.99%
7/2/1984	13.35%	12.27%	1.08%
7/10/1984	16.00%	12.31%	3.69%
7/12/1984	16.50%	12.32%	4.18%
7/13/1984	16.25%	12.33%	3.92%
7/17/1984	14.14%	12.35%	1.79%
7/18/1984	15.30%	12.36%	2.94%
7/18/1984	15.50%	12.36%	3.14%
7/19/1984	14.30%	12.37%	1.93%
7/24/1984	16.79%	12.39%	4.40%
7/31/1984	16.00%	12.43%	3.57%
8/3/1984	14.25%	12.44%	1.81%
8/17/1984	14.30%	12.49%	1.81%
8/20/1984	15.00%	12.49%	2.51%
8/27/1984	16.30%	12.51%	3.79%
8/31/1984	15.55%	12.52%	3.03%
9/6/1984	16.00%	12.53%	3.47%
9/10/1984	14.75%	12.54%	2.21%
9/13/1984	15.00%	12.55%	2.45%
9/17/1984	17.38%	12.56%	4.82%
9/26/1984	14.50%	12.57%	1.93%
9/28/1984	15.00%	12.57%	2.43%
9/28/1984	16.25%	12.57%	3.68%
10/9/1984	14.75%	12.58%	2.17%
10/12/1984	15.60%	12.59%	3.01%
10/22/1984	15.00%	12.59%	2.41%
10/26/1984	16.40%	12.58%	3.82%
10/31/1984	16.25%	12.58%	3.67%
11/7/1984	15.60%	12.58%	3.02%
11/9/1984	16.00%	12.58%	3.42%
11/14/1984	15.75%	12.58%	3.17%
11/20/1984	15.25%	12.58%	2.67%
11/20/1984	15.92%	12.58%	3.34%
11/23/1984	15.00%	12.58%	2.42%
11/28/1984	16.15%	12.57%	3.58%
12/3/1984	15.80%	12.56%	3.24%
12/4/1984	16.50%	12.56%	3.94%
12/18/1984	16.40%	12.53%	3.87%
12/19/1984	14.75%	12.53%	2.22%
12/19/1984	15.00%	12.53%	2.47%
12/20/1984	16.00%	12.53%	3.47%
12/28/1984	16.00%	12.50%	3.50%
1/3/1985	14.75%	12.49%	2.26%
1/10/1985	15.75%	12.47%	3.28%
1/11/1985	16.30%	12.46%	3.84%
1/23/1985	15.80%	12.43%	3.37%
1/24/1985	15.82%	12.43%	3.39%
1/25/1985	16.75%	12.42%	4.33%
1/30/1985	14.90%	12.40%	2.50%
1/31/1985	14.75%	12.39%	2.36%
2/8/1985	14.47%	12.35%	2.12%
3/1/1985	13.84%	12.31%	1.53%
3/8/1985	16.85%	12.28%	4.57%
3/14/1985	15.50%	12.25%	3.25%
3/15/1985	15.62%	12.25%	3.37%
3/29/1985	15.62%	12.17%	3.45%
4/3/1985	14.60%	12.14%	2.46%
4/9/1985	15.50%	12.11%	3.39%
4/16/1985	15.70%	12.06%	3.64%
4/22/1985	14.00%	12.02%	1.98%
4/26/1985	15.50%	11.98%	3.52%
4/29/1985	15.00%	11.97%	3.03%
5/2/1985	14.68%	11.94%	2.74%
5/8/1985	15.62%	11.89%	3.73%
5/10/1985	16.50%	11.87%	4.63%
5/29/1985	14.61%	11.73%	2.88%
5/31/1985	16.00%	11.71%	4.29%

Bond Yield Plus Risk Premium

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
6/14/1985	15.50%	11.61%	3.89%
7/9/1985	15.00%	11.45%	3.55%
7/16/1985	14.50%	11.39%	3.11%
7/26/1985	14.50%	11.33%	3.17%
8/2/1985	14.80%	11.29%	3.51%
8/7/1985	15.00%	11.27%	3.73%
8/28/1985	14.25%	11.15%	3.10%
8/28/1985	15.50%	11.15%	4.35%
8/29/1985	14.50%	11.15%	3.35%
9/9/1985	14.60%	11.11%	3.49%
9/9/1985	14.90%	11.11%	3.79%
9/17/1985	14.90%	11.08%	3.82%
9/23/1985	15.00%	11.06%	3.94%
9/27/1985	15.50%	11.05%	4.45%
9/27/1985	15.80%	11.05%	4.75%
10/2/1985	14.00%	11.03%	2.97%
10/2/1985	14.75%	11.03%	3.72%
10/3/1985	15.25%	11.03%	4.22%
10/24/1985	15.40%	10.96%	4.44%
10/24/1985	15.82%	10.96%	4.86%
10/24/1985	15.85%	10.96%	4.89%
10/28/1985	16.00%	10.95%	5.05%
10/29/1985	16.65%	10.94%	5.71%
10/31/1985	15.06%	10.93%	4.13%
11/4/1985	14.50%	10.92%	3.58%
11/7/1985	15.50%	10.90%	4.60%
11/8/1985	14.30%	10.89%	3.41%
12/12/1985	14.75%	10.73%	4.02%
12/18/1985	15.00%	10.69%	4.31%
12/20/1985	14.50%	10.67%	3.83%
12/20/1985	14.50%	10.67%	3.83%
12/20/1985	15.00%	10.67%	4.33%
1/24/1986	15.40%	10.41%	4.99%
1/31/1986	15.00%	10.35%	4.65%
2/5/1986	15.00%	10.32%	4.68%
2/5/1986	15.75%	10.32%	5.43%
2/10/1986	13.30%	10.29%	3.01%
2/11/1986	12.50%	10.28%	2.22%
2/14/1986	14.40%	10.24%	4.16%
2/18/1986	16.00%	10.23%	5.77%
2/24/1986	14.50%	10.18%	4.32%
2/26/1986	14.00%	10.15%	3.85%
3/5/1986	14.90%	10.08%	4.82%
3/11/1986	14.50%	10.02%	4.48%
3/12/1986	13.50%	10.00%	3.50%
3/27/1986	14.10%	9.86%	4.24%
3/31/1986	13.50%	9.84%	3.66%
4/1/1986	14.00%	9.83%	4.17%
4/2/1986	15.50%	9.81%	5.69%
4/4/1986	15.00%	9.78%	5.22%
4/14/1986	13.40%	9.69%	3.71%
4/23/1986	15.00%	9.57%	5.43%
5/16/1986	14.50%	9.32%	5.18%
5/16/1986	14.50%	9.32%	5.18%
5/29/1986	13.90%	9.19%	4.71%
5/30/1986	15.10%	9.18%	5.92%
6/2/1986	12.81%	9.17%	3.64%
6/11/1986	14.00%	9.07%	4.93%
6/24/1986	16.63%	8.94%	7.69%
6/26/1986	12.00%	8.91%	3.09%
6/26/1986	14.75%	8.91%	5.84%
6/30/1986	13.00%	8.87%	4.13%
7/10/1986	14.34%	8.75%	5.59%
7/11/1986	12.75%	8.73%	4.02%
7/14/1986	12.60%	8.71%	3.89%
7/17/1986	12.40%	8.66%	3.74%
7/25/1986	14.25%	8.57%	5.68%
8/6/1986	13.50%	8.44%	5.06%

Bond Yield Plus Risk Premium

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
8/14/1986	13.50%	8.35%	5.15%
9/16/1986	12.75%	8.06%	4.69%
9/19/1986	13.25%	8.03%	5.22%
10/1/1986	14.00%	7.95%	6.05%
10/3/1986	13.40%	7.93%	5.47%
10/31/1986	13.50%	7.77%	5.73%
11/5/1986	13.00%	7.75%	5.25%
12/3/1986	12.90%	7.58%	5.32%
12/4/1986	14.44%	7.58%	6.86%
12/16/1986	13.60%	7.52%	6.08%
12/22/1986	13.80%	7.51%	6.29%
12/30/1986	13.00%	7.49%	5.51%
1/2/1987	13.00%	7.49%	5.51%
1/12/1987	12.40%	7.47%	4.93%
1/27/1987	12.71%	7.46%	5.25%
3/2/1987	12.47%	7.47%	5.00%
3/3/1987	13.60%	7.47%	6.13%
3/4/1987	12.36%	7.47%	4.91%
3/10/1987	13.50%	7.47%	6.03%
3/13/1987	13.00%	7.47%	5.53%
3/31/1987	13.00%	7.46%	5.54%
4/6/1987	13.00%	7.47%	5.53%
4/14/1987	12.50%	7.49%	5.01%
4/16/1987	14.50%	7.50%	7.00%
4/27/1987	12.00%	7.54%	4.46%
5/5/1987	12.85%	7.58%	5.27%
5/12/1987	12.65%	7.62%	5.03%
5/28/1987	13.50%	7.70%	5.80%
6/15/1987	13.20%	7.78%	5.42%
6/29/1987	15.00%	7.83%	7.17%
6/30/1987	12.50%	7.84%	4.66%
7/8/1987	12.00%	7.86%	4.14%
7/10/1987	12.90%	7.86%	5.04%
7/15/1987	13.50%	7.88%	5.62%
7/16/1987	13.50%	7.88%	5.62%
7/16/1987	15.00%	7.88%	7.12%
7/27/1987	13.00%	7.92%	5.08%
7/27/1987	13.40%	7.92%	5.48%
7/27/1987	13.50%	7.92%	5.58%
7/31/1987	12.98%	7.95%	5.03%
8/26/1987	12.63%	8.06%	4.57%
8/26/1987	12.75%	8.06%	4.69%
8/27/1987	13.25%	8.06%	5.19%
9/9/1987	13.00%	8.14%	4.86%
9/30/1987	12.75%	8.31%	4.44%
9/30/1987	13.00%	8.31%	4.69%
10/2/1987	11.50%	8.33%	3.17%
10/15/1987	13.00%	8.43%	4.57%
11/2/1987	13.00%	8.55%	4.45%
11/19/1987	13.00%	8.64%	4.36%
11/30/1987	12.00%	8.68%	3.32%
12/3/1987	14.20%	8.70%	5.50%
12/15/1987	13.25%	8.77%	4.48%
12/16/1987	13.50%	8.78%	4.72%
12/16/1987	13.72%	8.78%	4.94%
12/17/1987	11.75%	8.79%	2.96%
12/18/1987	13.50%	8.80%	4.70%
12/21/1987	12.01%	8.81%	3.20%
12/22/1987	12.00%	8.81%	3.19%
12/22/1987	12.00%	8.81%	3.19%
12/22/1987	12.75%	8.81%	3.94%
12/22/1987	13.00%	8.81%	4.19%
1/20/1988	13.80%	8.94%	4.86%
1/26/1988	13.90%	8.95%	4.95%
1/29/1988	13.20%	8.96%	4.24%
2/4/1988	12.60%	8.96%	3.64%
3/1/1988	11.56%	8.94%	2.62%
3/23/1988	12.87%	8.92%	3.95%

Bond Yield Plus Risk Premium

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
3/24/1988	11.24%	8.92%	2.32%
3/30/1988	12.72%	8.92%	3.80%
4/1/1988	12.50%	8.92%	3.58%
4/7/1988	13.25%	8.93%	4.32%
4/25/1988	10.96%	8.96%	2.00%
5/3/1988	12.91%	8.97%	3.94%
5/11/1988	13.50%	8.99%	4.51%
5/16/1988	13.00%	8.99%	4.01%
6/30/1988	12.75%	9.00%	3.75%
7/1/1988	12.75%	8.99%	3.76%
7/20/1988	13.40%	8.96%	4.44%
8/5/1988	12.75%	8.92%	3.83%
8/23/1988	11.70%	8.93%	2.77%
8/29/1988	12.75%	8.94%	3.81%
8/30/1988	13.50%	8.94%	4.56%
9/8/1988	12.60%	8.95%	3.65%
10/13/1988	13.10%	8.93%	4.17%
12/19/1988	13.00%	9.02%	3.98%
12/20/1988	12.25%	9.02%	3.23%
12/20/1988	13.00%	9.02%	3.98%
12/21/1988	12.90%	9.02%	3.88%
12/27/1988	13.00%	9.03%	3.97%
12/28/1988	13.10%	9.03%	4.07%
12/30/1988	13.40%	9.04%	4.36%
1/27/1989	13.00%	9.05%	3.95%
1/31/1989	13.00%	9.05%	3.95%
2/17/1989	13.00%	9.05%	3.95%
2/20/1989	12.40%	9.05%	3.35%
3/1/1989	12.76%	9.05%	3.71%
3/8/1989	13.00%	9.05%	3.95%
3/30/1989	14.00%	9.05%	4.95%
4/5/1989	14.20%	9.05%	5.15%
4/18/1989	13.00%	9.05%	3.95%
5/5/1989	12.40%	9.05%	3.35%
6/2/1989	13.20%	9.00%	4.20%
6/8/1989	13.50%	8.98%	4.52%
6/27/1989	13.25%	8.91%	4.34%
6/30/1989	13.00%	8.90%	4.10%
8/14/1989	12.50%	8.77%	3.73%
9/28/1989	12.25%	8.63%	3.62%
10/24/1989	12.50%	8.54%	3.96%
11/9/1989	13.00%	8.49%	4.51%
12/15/1989	13.00%	8.34%	4.66%
12/20/1989	12.90%	8.32%	4.58%
12/21/1989	12.90%	8.31%	4.59%
12/27/1989	12.50%	8.29%	4.21%
12/27/1989	13.00%	8.29%	4.71%
1/10/1990	12.80%	8.24%	4.56%
1/11/1990	12.90%	8.24%	4.66%
1/17/1990	12.80%	8.22%	4.58%
1/26/1990	12.00%	8.20%	3.80%
2/9/1990	12.10%	8.17%	3.93%
2/24/1990	12.86%	8.15%	4.71%
3/30/1990	12.90%	8.16%	4.74%
4/4/1990	15.76%	8.17%	7.59%
4/12/1990	12.52%	8.18%	4.34%
4/19/1990	12.75%	8.20%	4.55%
5/21/1990	12.10%	8.28%	3.82%
5/29/1990	12.40%	8.30%	4.10%
5/31/1990	12.00%	8.30%	3.70%
6/4/1990	12.90%	8.30%	4.60%
6/6/1990	12.25%	8.31%	3.94%
6/15/1990	13.20%	8.32%	4.88%
6/20/1990	12.92%	8.32%	4.60%
6/27/1990	12.90%	8.33%	4.57%
6/29/1990	12.50%	8.33%	4.17%
7/6/1990	12.10%	8.34%	3.76%
7/6/1990	12.35%	8.34%	4.01%

Bond Yield Plus Risk Premium

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
8/10/1990	12.55%	8.41%	4.14%
8/16/1990	13.21%	8.43%	4.78%
8/22/1990	13.10%	8.45%	4.65%
8/24/1990	13.00%	8.46%	4.54%
9/26/1990	11.45%	8.59%	2.86%
10/2/1990	13.00%	8.61%	4.39%
10/5/1990	12.84%	8.62%	4.22%
10/19/1990	13.00%	8.67%	4.33%
10/25/1990	12.30%	8.68%	3.62%
11/21/1990	12.70%	8.69%	4.01%
12/13/1990	12.30%	8.67%	3.63%
12/17/1990	12.87%	8.67%	4.20%
12/18/1990	13.10%	8.67%	4.43%
12/19/1990	12.00%	8.66%	3.34%
12/20/1990	12.75%	8.66%	4.09%
12/21/1990	12.50%	8.66%	3.84%
12/27/1990	12.79%	8.66%	4.13%
1/2/1991	13.10%	8.65%	4.45%
1/4/1991	12.50%	8.65%	3.85%
1/15/1991	12.75%	8.64%	4.11%
1/25/1991	11.70%	8.63%	3.07%
2/4/1991	12.50%	8.60%	3.90%
2/7/1991	12.50%	8.59%	3.91%
2/12/1991	13.00%	8.58%	4.43%
2/14/1991	12.72%	8.57%	4.15%
2/22/1991	12.80%	8.55%	4.25%
3/6/1991	13.10%	8.53%	4.57%
3/8/1991	12.30%	8.52%	3.78%
3/8/1991	13.00%	8.52%	4.48%
4/22/1991	13.00%	8.49%	4.51%
5/7/1991	13.50%	8.47%	5.03%
5/13/1991	13.25%	8.47%	4.78%
5/30/1991	12.75%	8.44%	4.31%
6/12/1991	12.00%	8.41%	3.59%
6/25/1991	11.70%	8.39%	3.31%
6/28/1991	12.50%	8.38%	4.12%
7/1/1991	12.00%	8.38%	3.62%
7/3/1991	12.50%	8.37%	4.13%
7/19/1991	12.10%	8.34%	3.76%
8/1/1991	12.90%	8.32%	4.58%
8/16/1991	13.20%	8.29%	4.91%
9/27/1991	12.50%	8.23%	4.27%
9/30/1991	12.25%	8.23%	4.02%
10/17/1991	13.00%	8.20%	4.80%
10/23/1991	12.50%	8.20%	4.30%
10/23/1991	12.55%	8.20%	4.35%
10/31/1991	11.80%	8.19%	3.61%
11/1/1991	12.00%	8.19%	3.81%
11/5/1991	12.25%	8.19%	4.06%
11/12/1991	12.50%	8.18%	4.32%
11/12/1991	13.25%	8.18%	5.07%
11/25/1991	12.40%	8.18%	4.22%
11/26/1991	11.60%	8.18%	3.42%
11/26/1991	12.50%	8.18%	4.32%
11/27/1991	12.10%	8.18%	3.92%
12/18/1991	12.25%	8.15%	4.10%
12/19/1991	12.60%	8.15%	4.45%
12/19/1991	12.80%	8.15%	4.65%
12/20/1991	12.65%	8.14%	4.51%
1/9/1992	12.80%	8.09%	4.71%
1/16/1992	12.75%	8.07%	4.68%
1/21/1992	12.00%	8.06%	3.94%
1/22/1992	13.00%	8.06%	4.94%
1/27/1992	12.65%	8.05%	4.60%
1/31/1992	12.00%	8.04%	3.96%
2/11/1992	12.40%	8.03%	4.37%
2/25/1992	12.50%	8.01%	4.49%
3/16/1992	11.43%	7.98%	3.45%

Bond Yield Plus Risk Premium

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
3/18/1992	12.28%	7.98%	4.30%
4/2/1992	12.10%	7.95%	4.15%
4/9/1992	11.45%	7.94%	3.51%
4/10/1992	11.50%	7.93%	3.57%
4/14/1992	11.50%	7.93%	3.57%
5/5/1992	11.50%	7.89%	3.61%
5/12/1992	11.87%	7.88%	3.99%
5/12/1992	12.46%	7.88%	4.58%
6/1/1992	12.30%	7.87%	4.43%
6/12/1992	10.90%	7.86%	3.04%
6/26/1992	12.35%	7.85%	4.50%
6/29/1992	11.00%	7.85%	3.15%
6/30/1992	13.00%	7.85%	5.15%
7/13/1992	11.90%	7.84%	4.06%
7/13/1992	13.50%	7.84%	5.66%
7/22/1992	11.20%	7.83%	3.37%
8/3/1992	12.00%	7.81%	4.19%
8/6/1992	12.50%	7.80%	4.70%
9/22/1992	12.00%	7.71%	4.29%
9/28/1992	11.40%	7.71%	3.69%
9/30/1992	11.75%	7.70%	4.05%
10/2/1992	13.00%	7.70%	5.30%
10/12/1992	12.20%	7.70%	4.50%
10/16/1992	13.16%	7.70%	5.46%
10/30/1992	11.75%	7.71%	4.04%
11/3/1992	12.00%	7.71%	4.29%
12/3/1992	11.85%	7.68%	4.17%
12/15/1992	11.00%	7.66%	3.34%
12/16/1992	11.90%	7.66%	4.24%
12/16/1992	12.40%	7.66%	4.74%
12/17/1992	12.00%	7.66%	4.34%
12/22/1992	12.30%	7.65%	4.65%
12/22/1992	12.40%	7.65%	4.75%
12/29/1992	12.25%	7.63%	4.62%
12/30/1992	12.00%	7.63%	4.37%
12/31/1992	11.90%	7.63%	4.27%
1/12/1993	12.00%	7.61%	4.39%
1/21/1993	11.25%	7.59%	3.66%
2/2/1993	11.40%	7.56%	3.84%
2/15/1993	12.30%	7.52%	4.78%
2/24/1993	11.90%	7.49%	4.41%
2/26/1993	11.80%	7.48%	4.32%
2/26/1993	12.20%	7.48%	4.72%
4/23/1993	11.75%	7.29%	4.46%
5/11/1993	11.75%	7.25%	4.50%
5/14/1993	11.50%	7.24%	4.26%
5/25/1993	11.50%	7.23%	4.27%
5/28/1993	11.00%	7.22%	3.78%
6/3/1993	12.00%	7.21%	4.79%
6/16/1993	11.50%	7.19%	4.31%
6/18/1993	12.10%	7.18%	4.92%
6/25/1993	11.67%	7.17%	4.50%
7/21/1993	11.38%	7.10%	4.28%
7/23/1993	10.46%	7.09%	3.37%
8/24/1993	11.50%	6.96%	4.54%
9/21/1993	10.50%	6.81%	3.69%
9/29/1993	11.47%	6.77%	4.70%
9/30/1993	11.60%	6.76%	4.84%
11/2/1993	10.80%	6.60%	4.20%
11/12/1993	12.00%	6.57%	5.43%
11/26/1993	11.00%	6.52%	4.48%
12/14/1993	10.55%	6.48%	4.07%
12/16/1993	10.60%	6.48%	4.12%
12/21/1993	11.30%	6.47%	4.83%
1/4/1994	10.07%	6.44%	3.63%
1/13/1994	11.00%	6.42%	4.58%
1/21/1994	11.00%	6.40%	4.60%
1/28/1994	11.35%	6.39%	4.96%

Bond Yield Plus Risk Premium

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
2/3/1994	11.40%	6.38%	5.02%
2/17/1994	10.60%	6.36%	4.24%
2/25/1994	11.25%	6.35%	4.90%
2/25/1994	12.00%	6.35%	5.65%
3/1/1994	11.00%	6.35%	4.65%
3/4/1994	11.00%	6.35%	4.65%
4/25/1994	11.00%	6.41%	4.59%
5/10/1994	11.75%	6.45%	5.30%
5/13/1994	10.50%	6.46%	4.04%
6/3/1994	11.00%	6.54%	4.46%
6/27/1994	11.40%	6.65%	4.75%
8/5/1994	12.75%	6.88%	5.87%
10/31/1994	10.00%	7.33%	2.67%
11/9/1994	10.85%	7.39%	3.46%
11/9/1994	10.85%	7.39%	3.46%
11/18/1994	11.20%	7.45%	3.75%
11/22/1994	11.60%	7.47%	4.13%
11/28/1994	11.06%	7.49%	3.57%
12/8/1994	11.50%	7.54%	3.96%
12/8/1994	11.70%	7.54%	4.16%
12/14/1994	10.95%	7.56%	3.39%
12/15/1994	11.50%	7.57%	3.93%
12/19/1994	11.50%	7.58%	3.92%
12/28/1994	12.15%	7.61%	4.54%
1/9/1995	12.28%	7.64%	4.64%
1/31/1995	11.00%	7.69%	3.31%
2/10/1995	12.60%	7.70%	4.90%
2/17/1995	11.90%	7.70%	4.20%
3/9/1995	11.50%	7.71%	3.79%
3/20/1995	12.00%	7.72%	4.28%
3/23/1995	12.81%	7.72%	5.09%
3/29/1995	11.60%	7.72%	3.88%
4/6/1995	11.10%	7.71%	3.39%
4/7/1995	11.00%	7.71%	3.29%
4/19/1995	11.00%	7.70%	3.30%
5/12/1995	11.63%	7.68%	3.95%
5/25/1995	11.20%	7.65%	3.55%
6/9/1995	11.25%	7.60%	3.65%
6/21/1995	12.25%	7.56%	4.69%
6/30/1995	11.10%	7.52%	3.58%
9/11/1995	11.30%	7.20%	4.10%
9/27/1995	11.30%	7.12%	4.18%
9/27/1995	11.50%	7.12%	4.38%
9/27/1995	11.75%	7.12%	4.63%
9/29/1995	11.00%	7.11%	3.89%
11/9/1995	11.38%	6.90%	4.48%
11/9/1995	12.36%	6.90%	5.46%
11/17/1995	11.00%	6.86%	4.14%
12/4/1995	11.35%	6.78%	4.57%
12/11/1995	11.40%	6.74%	4.66%
12/20/1995	11.60%	6.70%	4.90%
12/27/1995	12.00%	6.66%	5.34%
2/5/1996	12.25%	6.48%	5.77%
3/29/1996	10.67%	6.42%	4.25%
4/8/1996	11.00%	6.42%	4.58%
4/11/1996	12.59%	6.43%	6.16%
4/11/1996	12.59%	6.43%	6.16%
4/24/1996	11.25%	6.43%	4.82%
4/30/1996	11.00%	6.43%	4.57%
5/13/1996	11.00%	6.44%	4.56%
5/23/1996	11.25%	6.43%	4.82%
6/25/1996	11.25%	6.48%	4.77%
6/27/1996	11.20%	6.48%	4.72%
8/12/1996	10.40%	6.57%	3.83%
9/27/1996	11.00%	6.71%	4.29%
10/16/1996	12.25%	6.76%	5.49%
11/5/1996	11.00%	6.81%	4.19%
11/26/1996	11.30%	6.83%	4.47%

Bond Yield Plus Risk Premium

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
12/18/1996	11.75%	6.83%	4.92%
12/31/1996	11.50%	6.83%	4.67%
1/3/1997	10.70%	6.83%	3.87%
2/13/1997	11.80%	6.82%	4.98%
2/20/1997	11.80%	6.82%	4.98%
3/31/1997	10.02%	6.80%	3.22%
4/2/1997	11.65%	6.80%	4.85%
4/28/1997	11.50%	6.81%	4.69%
4/29/1997	11.70%	6.81%	4.89%
7/17/1997	12.00%	6.77%	5.23%
12/12/1997	11.00%	6.60%	4.40%
12/23/1997	11.12%	6.57%	4.55%
2/2/1998	12.75%	6.39%	6.36%
3/2/1998	11.25%	6.29%	4.96%
3/6/1998	10.75%	6.27%	4.48%
3/20/1998	10.50%	6.22%	4.28%
4/30/1998	12.20%	6.12%	6.08%
7/10/1998	11.40%	5.94%	5.46%
9/15/1998	11.90%	5.78%	6.12%
11/30/1998	12.60%	5.58%	7.02%
12/10/1998	12.20%	5.54%	6.66%
12/17/1998	12.10%	5.52%	6.58%
2/5/1999	10.30%	5.38%	4.92%
3/4/1999	10.50%	5.34%	5.16%
4/6/1999	10.94%	5.32%	5.62%
7/29/1999	10.75%	5.52%	5.23%
9/23/1999	10.75%	5.70%	5.05%
11/17/1999	11.10%	5.90%	5.20%
1/7/2000	11.50%	6.05%	5.45%
1/7/2000	11.50%	6.05%	5.45%
2/17/2000	10.60%	6.17%	4.43%
3/28/2000	11.25%	6.20%	5.05%
5/24/2000	11.00%	6.18%	4.82%
7/18/2000	12.20%	6.16%	6.04%
9/29/2000	11.16%	6.03%	5.13%
11/28/2000	12.90%	5.89%	7.01%
11/30/2000	12.10%	5.88%	6.22%
1/23/2001	11.25%	5.79%	5.46%
2/8/2001	11.50%	5.77%	5.73%
5/8/2001	10.75%	5.62%	5.13%
6/26/2001	11.00%	5.62%	5.38%
7/25/2001	11.02%	5.60%	5.42%
7/25/2001	11.02%	5.60%	5.42%
7/31/2001	11.00%	5.59%	5.41%
8/31/2001	10.50%	5.56%	4.94%
9/7/2001	10.75%	5.55%	5.20%
9/10/2001	11.00%	5.55%	5.45%
9/20/2001	10.00%	5.55%	4.45%
10/24/2001	10.30%	5.54%	4.76%
11/28/2001	10.60%	5.49%	5.11%
12/3/2001	12.88%	5.49%	7.39%
12/20/2001	12.50%	5.50%	7.00%
1/22/2002	10.00%	5.50%	4.50%
3/27/2002	10.10%	5.45%	4.65%
4/22/2002	11.80%	5.45%	6.35%
5/28/2002	10.17%	5.46%	4.71%
6/10/2002	12.00%	5.47%	6.53%
6/18/2002	11.16%	5.48%	5.68%
6/20/2002	11.00%	5.48%	5.52%
6/20/2002	12.30%	5.48%	6.82%
7/15/2002	11.00%	5.48%	5.52%
9/12/2002	12.30%	5.45%	6.85%
9/26/2002	10.45%	5.41%	5.04%
12/4/2002	11.55%	5.29%	6.26%
12/13/2002	11.75%	5.27%	6.48%
12/20/2002	11.40%	5.25%	6.15%
1/8/2003	11.10%	5.19%	5.91%
1/31/2003	12.45%	5.13%	7.32%

Bond Yield Plus Risk Premium

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
2/28/2003	12.30%	5.05%	7.25%
3/6/2003	10.75%	5.03%	5.72%
3/7/2003	9.96%	5.02%	4.94%
3/20/2003	12.00%	4.98%	7.02%
4/3/2003	12.00%	4.96%	7.04%
4/15/2003	11.15%	4.94%	6.21%
6/25/2003	10.75%	4.79%	5.96%
6/26/2003	10.75%	4.79%	5.96%
7/9/2003	9.75%	4.79%	4.96%
7/16/2003	9.75%	4.79%	4.96%
7/25/2003	9.50%	4.80%	4.70%
8/26/2003	10.50%	4.83%	5.67%
12/17/2003	9.85%	4.94%	4.91%
12/17/2003	10.70%	4.94%	5.76%
12/18/2003	11.50%	4.94%	6.56%
12/19/2003	12.00%	4.94%	7.06%
12/19/2003	12.00%	4.94%	7.06%
12/23/2003	10.50%	4.94%	5.56%
1/13/2004	12.00%	4.95%	7.05%
3/2/2004	10.75%	4.99%	5.76%
3/26/2004	10.25%	5.02%	5.23%
4/5/2004	11.25%	5.03%	6.22%
5/18/2004	10.50%	5.07%	5.43%
5/25/2004	10.25%	5.08%	5.17%
5/27/2004	10.25%	5.08%	5.17%
6/2/2004	11.22%	5.08%	6.14%
6/30/2004	10.50%	5.10%	5.40%
6/30/2004	10.50%	5.10%	5.40%
7/16/2004	11.60%	5.11%	6.49%
8/25/2004	10.25%	5.10%	5.15%
9/9/2004	10.40%	5.10%	5.30%
11/9/2004	10.50%	5.07%	5.43%
11/23/2004	11.00%	5.06%	5.94%
12/14/2004	10.97%	5.07%	5.90%
12/21/2004	11.25%	5.07%	6.18%
12/21/2004	11.50%	5.07%	6.43%
12/22/2004	10.70%	5.07%	5.63%
12/22/2004	11.50%	5.07%	6.43%
12/29/2004	9.85%	5.07%	4.78%
1/6/2005	10.70%	5.08%	5.62%
2/18/2005	10.30%	4.98%	5.32%
2/25/2005	10.50%	4.96%	5.54%
3/10/2005	11.00%	4.93%	6.07%
3/24/2005	10.30%	4.90%	5.40%
4/4/2005	10.00%	4.88%	5.12%
4/7/2005	10.25%	4.87%	5.38%
5/18/2005	10.25%	4.78%	5.47%
5/25/2005	10.75%	4.76%	5.99%
5/26/2005	9.75%	4.76%	4.99%
6/1/2005	9.75%	4.75%	5.00%
7/19/2005	11.50%	4.64%	6.86%
8/5/2005	11.75%	4.62%	7.13%
8/15/2005	10.13%	4.61%	5.52%
9/28/2005	10.00%	4.54%	5.46%
10/4/2005	10.75%	4.54%	6.21%
12/12/2005	11.00%	4.55%	6.45%
12/13/2005	10.75%	4.55%	6.20%
12/21/2005	10.29%	4.54%	5.75%
12/21/2005	10.40%	4.54%	5.86%
12/22/2005	11.00%	4.54%	6.46%
12/22/2005	11.15%	4.54%	6.61%
12/28/2005	10.00%	4.54%	5.46%
12/28/2005	10.00%	4.54%	5.46%
1/5/2006	11.00%	4.53%	6.47%
1/27/2006	9.75%	4.52%	5.23%
3/3/2006	10.39%	4.53%	5.86%
4/17/2006	10.20%	4.61%	5.59%
4/26/2006	10.60%	4.64%	5.96%

Bond Yield Plus Risk Premium

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
5/17/2006	11.60%	4.69%	6.91%
6/6/2006	10.00%	4.74%	5.26%
6/27/2006	10.75%	4.80%	5.95%
7/6/2006	10.20%	4.83%	5.37%
7/24/2006	9.60%	4.86%	4.74%
7/26/2006	10.50%	4.86%	5.64%
7/28/2006	10.05%	4.86%	5.19%
8/23/2006	9.55%	4.89%	4.66%
9/1/2006	10.54%	4.90%	5.64%
9/14/2006	10.00%	4.91%	5.09%
10/6/2006	9.67%	4.92%	4.75%
11/21/2006	10.08%	4.95%	5.13%
11/21/2006	10.08%	4.95%	5.13%
11/21/2006	10.12%	4.95%	5.17%
12/1/2006	10.25%	4.95%	5.30%
12/1/2006	10.50%	4.95%	5.55%
12/7/2006	10.75%	4.95%	5.80%
12/21/2006	10.90%	4.95%	5.95%
12/21/2006	11.25%	4.95%	6.30%
12/22/2006	10.25%	4.95%	5.30%
1/5/2007	10.00%	4.95%	5.05%
1/11/2007	10.10%	4.95%	5.15%
1/11/2007	10.10%	4.95%	5.15%
1/11/2007	10.90%	4.95%	5.95%
1/12/2007	10.10%	4.95%	5.15%
1/13/2007	10.40%	4.95%	5.45%
1/19/2007	10.80%	4.94%	5.86%
3/21/2007	11.35%	4.87%	6.48%
3/22/2007	9.75%	4.86%	4.89%
5/15/2007	10.00%	4.81%	5.19%
5/17/2007	10.25%	4.81%	5.44%
5/17/2007	10.25%	4.81%	5.44%
5/22/2007	10.20%	4.80%	5.40%
5/22/2007	10.50%	4.80%	5.70%
5/23/2007	10.70%	4.80%	5.90%
5/25/2007	9.67%	4.80%	4.87%
6/15/2007	9.90%	4.82%	5.08%
6/21/2007	10.20%	4.83%	5.37%
6/22/2007	10.50%	4.83%	5.67%
6/28/2007	10.75%	4.84%	5.91%
7/12/2007	9.67%	4.86%	4.81%
7/19/2007	10.00%	4.87%	5.13%
7/19/2007	10.00%	4.87%	5.13%
8/15/2007	10.40%	4.88%	5.52%
10/9/2007	10.00%	4.91%	5.09%
10/17/2007	9.10%	4.91%	4.19%
10/31/2007	9.96%	4.90%	5.06%
11/29/2007	10.90%	4.87%	6.03%
12/6/2007	10.75%	4.86%	5.89%
12/13/2007	9.96%	4.86%	5.10%
12/14/2007	10.70%	4.86%	5.84%
12/14/2007	10.80%	4.86%	5.94%
12/19/2007	10.20%	4.86%	5.34%
12/20/2007	10.20%	4.85%	5.35%
12/20/2007	11.00%	4.85%	6.15%
12/28/2007	10.25%	4.85%	5.40%
12/31/2007	11.25%	4.85%	6.40%
1/8/2008	10.75%	4.83%	5.92%
1/17/2008	10.75%	4.81%	5.94%
1/28/2008	9.40%	4.80%	4.60%
1/30/2008	10.00%	4.79%	5.21%
1/31/2008	10.71%	4.79%	5.92%
2/29/2008	10.25%	4.75%	5.50%
3/12/2008	10.25%	4.73%	5.52%
3/25/2008	9.10%	4.68%	4.42%
4/22/2008	10.25%	4.60%	5.65%
4/24/2008	10.10%	4.60%	5.50%
5/1/2008	10.70%	4.59%	6.11%

Bond Yield Plus Risk Premium

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
5/19/2008	11.00%	4.56%	6.44%
5/27/2008	10.00%	4.55%	5.45%
6/10/2008	10.70%	4.54%	6.16%
6/27/2008	10.50%	4.54%	5.96%
6/27/2008	11.04%	4.54%	6.50%
7/10/2008	10.43%	4.52%	5.91%
7/16/2008	9.40%	4.52%	4.88%
7/30/2008	10.80%	4.51%	6.29%
7/31/2008	10.70%	4.51%	6.19%
8/11/2008	10.25%	4.51%	5.74%
8/26/2008	10.18%	4.50%	5.68%
9/10/2008	10.30%	4.50%	5.80%
9/24/2008	10.65%	4.48%	6.17%
9/24/2008	10.65%	4.48%	6.17%
9/24/2008	10.65%	4.48%	6.17%
9/30/2008	10.20%	4.48%	5.72%
10/8/2008	10.15%	4.46%	5.69%
11/13/2008	10.55%	4.45%	6.10%
11/17/2008	10.20%	4.44%	5.76%
12/1/2008	10.25%	4.40%	5.85%
12/23/2008	11.00%	4.27%	6.73%
12/29/2008	10.00%	4.24%	5.76%
12/29/2008	10.20%	4.24%	5.96%
12/31/2008	10.75%	4.22%	6.53%
1/14/2009	10.50%	4.15%	6.35%
1/21/2009	10.50%	4.12%	6.38%
1/21/2009	10.50%	4.12%	6.38%
1/21/2009	10.50%	4.12%	6.38%
1/27/2009	10.76%	4.09%	6.67%
1/30/2009	10.50%	4.08%	6.42%
2/4/2009	8.75%	4.06%	4.69%
3/4/2009	10.50%	3.96%	6.54%
3/12/2009	11.50%	3.93%	7.57%
4/2/2009	11.10%	3.85%	7.25%
4/21/2009	10.61%	3.80%	6.81%
4/24/2009	10.00%	3.79%	6.21%
4/30/2009	11.25%	3.78%	7.47%
5/4/2009	10.74%	3.77%	6.97%
5/20/2009	10.25%	3.74%	6.51%
5/28/2009	10.50%	3.74%	6.76%
6/22/2009	10.00%	3.76%	6.24%
6/24/2009	10.80%	3.77%	7.03%
7/8/2009	10.63%	3.77%	6.86%
7/17/2009	10.50%	3.78%	6.72%
8/31/2009	10.25%	3.82%	6.43%
10/14/2009	10.70%	4.01%	6.69%
10/23/2009	10.88%	4.06%	6.82%
11/2/2009	10.70%	4.09%	6.61%
11/3/2009	10.70%	4.10%	6.60%
11/24/2009	10.25%	4.15%	6.10%
11/25/2009	10.75%	4.16%	6.59%
11/30/2009	10.35%	4.17%	6.18%
12/3/2009	10.50%	4.18%	6.32%
12/7/2009	10.70%	4.18%	6.52%
12/16/2009	10.90%	4.21%	6.69%
12/16/2009	11.00%	4.21%	6.79%
12/18/2009	10.40%	4.22%	6.18%
12/18/2009	10.40%	4.22%	6.18%
12/22/2009	10.20%	4.23%	5.97%
12/22/2009	10.40%	4.23%	6.17%
12/22/2009	10.40%	4.23%	6.17%
12/30/2009	10.00%	4.26%	5.74%
1/4/2010	10.80%	4.28%	6.52%
1/11/2010	11.00%	4.30%	6.70%
1/26/2010	10.13%	4.35%	5.78%
1/27/2010	10.40%	4.35%	6.05%
1/27/2010	10.40%	4.35%	6.05%
1/27/2010	10.70%	4.35%	6.35%

Bond Yield Plus Risk Premium

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
2/9/2010	9.80%	4.38%	5.42%
2/18/2010	10.60%	4.40%	6.20%
2/24/2010	10.18%	4.41%	5.77%
3/2/2010	9.63%	4.41%	5.22%
3/4/2010	10.50%	4.41%	6.09%
3/5/2010	10.50%	4.41%	6.09%
3/11/2010	11.90%	4.42%	7.48%
3/17/2010	10.00%	4.41%	5.59%
3/25/2010	10.15%	4.42%	5.73%
4/2/2010	10.10%	4.43%	5.67%
4/27/2010	10.00%	4.46%	5.54%
4/29/2010	9.90%	4.46%	5.44%
4/29/2010	10.06%	4.46%	5.60%
4/29/2010	10.26%	4.46%	5.80%
5/12/2010	10.30%	4.45%	5.85%
5/12/2010	10.30%	4.45%	5.85%
5/28/2010	10.10%	4.44%	5.66%
5/28/2010	10.20%	4.44%	5.76%
6/7/2010	10.30%	4.44%	5.86%
6/16/2010	10.00%	4.44%	5.56%
6/28/2010	9.67%	4.43%	5.24%
6/28/2010	10.50%	4.43%	6.07%
6/30/2010	9.40%	4.43%	4.97%
7/1/2010	10.25%	4.43%	5.82%
7/15/2010	10.53%	4.43%	6.10%
7/15/2010	10.70%	4.43%	6.27%
7/30/2010	10.70%	4.41%	6.29%
8/4/2010	10.50%	4.41%	6.09%
8/6/2010	9.83%	4.41%	5.42%
8/25/2010	9.90%	4.37%	5.53%
9/3/2010	10.60%	4.35%	6.25%
9/14/2010	10.70%	4.33%	6.37%
9/16/2010	10.00%	4.33%	5.67%
9/16/2010	10.00%	4.33%	5.67%
9/30/2010	9.75%	4.29%	5.46%
10/14/2010	10.35%	4.24%	6.11%
10/28/2010	10.70%	4.21%	6.49%
11/2/2010	10.38%	4.20%	6.18%
11/4/2010	10.70%	4.20%	6.50%
11/19/2010	10.20%	4.18%	6.02%
11/22/2010	10.00%	4.18%	5.82%
12/1/2010	10.13%	4.16%	5.97%
12/6/2010	9.86%	4.15%	5.71%
12/9/2010	10.25%	4.15%	6.10%
12/13/2010	10.70%	4.15%	6.55%
12/14/2010	10.13%	4.15%	5.98%
12/15/2010	10.44%	4.15%	6.29%
12/17/2010	10.00%	4.15%	5.85%
12/20/2010	10.60%	4.15%	6.45%
12/21/2010	10.30%	4.14%	6.16%
12/27/2010	9.90%	4.14%	5.76%
12/29/2010	11.15%	4.14%	7.01%
1/5/2011	10.15%	4.13%	6.02%
1/12/2011	10.30%	4.12%	6.18%
1/13/2011	10.30%	4.12%	6.18%
1/18/2011	10.00%	4.12%	5.88%
1/20/2011	9.30%	4.12%	5.18%
1/20/2011	10.13%	4.12%	6.01%
1/31/2011	9.60%	4.12%	5.48%
2/3/2011	10.00%	4.12%	5.88%
2/25/2011	10.00%	4.14%	5.86%
3/25/2011	9.80%	4.18%	5.62%
3/30/2011	10.00%	4.18%	5.82%
4/12/2011	10.00%	4.21%	5.79%
4/25/2011	10.74%	4.23%	6.51%
4/26/2011	9.67%	4.23%	5.44%
4/27/2011	10.40%	4.24%	6.16%
5/4/2011	10.00%	4.24%	5.76%

Bond Yield Plus Risk Premium

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
5/4/2011	10.00%	4.24%	5.76%
5/24/2011	10.50%	4.27%	6.23%
6/8/2011	10.75%	4.30%	6.45%
6/16/2011	9.20%	4.32%	4.88%
6/17/2011	9.95%	4.32%	5.63%
7/13/2011	10.20%	4.36%	5.84%
8/1/2011	9.20%	4.39%	4.81%
8/8/2011	10.00%	4.38%	5.62%
8/11/2011	10.00%	4.38%	5.62%
8/12/2011	10.35%	4.37%	5.98%
8/19/2011	10.25%	4.36%	5.89%
9/2/2011	12.88%	4.32%	8.56%
9/22/2011	10.00%	4.24%	5.76%
10/12/2011	10.30%	4.14%	6.16%
10/20/2011	10.50%	4.10%	6.40%
11/30/2011	10.90%	3.87%	7.03%
11/30/2011	10.90%	3.87%	7.03%
12/14/2011	10.00%	3.80%	6.20%
12/14/2011	10.30%	3.80%	6.50%
12/20/2011	10.20%	3.76%	6.44%
12/21/2011	10.20%	3.76%	6.44%
12/22/2011	9.90%	3.75%	6.15%
12/22/2011	10.40%	3.75%	6.65%
12/23/2011	10.19%	3.74%	6.45%
1/25/2012	10.50%	3.57%	6.93%
1/27/2012	10.50%	3.56%	6.94%
2/15/2012	10.20%	3.47%	6.73%
2/23/2012	9.90%	3.44%	6.46%
2/27/2012	10.25%	3.43%	6.82%
2/29/2012	10.40%	3.41%	6.99%
3/29/2012	10.37%	3.32%	7.05%
4/4/2012	10.00%	3.30%	6.70%
4/26/2012	10.00%	3.21%	6.79%
5/2/2012	10.00%	3.18%	6.82%
5/7/2012	9.80%	3.17%	6.63%
5/15/2012	10.00%	3.14%	6.86%
5/29/2012	10.05%	3.11%	6.94%
6/7/2012	10.30%	3.08%	7.22%
6/14/2012	9.40%	3.06%	6.34%
6/15/2012	10.40%	3.06%	7.34%
6/18/2012	9.60%	3.06%	6.54%
6/19/2012	9.25%	3.05%	6.20%
6/26/2012	10.10%	3.04%	7.06%
6/29/2012	10.00%	3.04%	6.96%
7/9/2012	10.20%	3.03%	7.17%
7/16/2012	9.80%	3.02%	6.78%
7/20/2012	9.31%	3.01%	6.30%
7/20/2012	9.81%	3.01%	6.80%
9/13/2012	9.80%	2.94%	6.86%
9/19/2012	9.80%	2.94%	6.86%
9/19/2012	10.05%	2.94%	7.11%
9/26/2012	9.50%	2.94%	6.56%
10/12/2012	9.60%	2.93%	6.67%
10/23/2012	9.75%	2.93%	6.82%
10/24/2012	10.30%	2.93%	7.37%
11/9/2012	10.30%	2.92%	7.38%
11/28/2012	10.40%	2.90%	7.50%
11/29/2012	9.75%	2.89%	6.86%
11/29/2012	9.88%	2.89%	6.99%
12/5/2012	9.71%	2.89%	6.82%
12/5/2012	10.40%	2.89%	7.51%
12/12/2012	9.80%	2.88%	6.92%
12/13/2012	9.50%	2.88%	6.62%
12/13/2012	10.50%	2.88%	7.62%
12/14/2012	10.40%	2.88%	7.52%
12/19/2012	9.71%	2.87%	6.84%
12/19/2012	10.25%	2.87%	7.38%
12/20/2012	9.50%	2.87%	6.63%

Bond Yield Plus Risk Premium

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
12/20/2012	9.80%	2.87%	6.93%
12/20/2012	10.25%	2.87%	7.38%
12/20/2012	10.25%	2.87%	7.38%
12/20/2012	10.30%	2.87%	7.43%
12/20/2012	10.40%	2.87%	7.53%
12/20/2012	10.45%	2.87%	7.58%
12/21/2012	10.20%	2.87%	7.33%
12/26/2012	9.80%	2.86%	6.94%
1/9/2013	9.70%	2.85%	6.85%
1/9/2013	9.70%	2.85%	6.85%
1/9/2013	9.70%	2.85%	6.85%
1/16/2013	9.60%	2.84%	6.76%
1/16/2013	9.60%	2.84%	6.76%
2/13/2013	10.20%	2.84%	7.36%
2/22/2013	9.75%	2.85%	6.90%
2/27/2013	10.00%	2.86%	7.14%
3/14/2013	9.30%	2.88%	6.42%
3/27/2013	9.80%	2.90%	6.90%
5/1/2013	9.84%	2.94%	6.90%
5/15/2013	10.30%	2.96%	7.34%
5/30/2013	10.20%	2.98%	7.22%
5/31/2013	9.00%	2.98%	6.02%
6/11/2013	10.00%	3.00%	7.00%
6/21/2013	9.75%	3.02%	6.73%
6/25/2013	9.80%	3.03%	6.77%
7/12/2013	9.36%	3.07%	6.29%
8/8/2013	9.83%	3.14%	6.69%
8/14/2013	9.15%	3.16%	5.99%
9/11/2013	10.20%	3.26%	6.94%
9/11/2013	10.25%	3.26%	6.99%
9/24/2013	10.20%	3.31%	6.89%
10/3/2013	9.65%	3.33%	6.32%
11/6/2013	10.20%	3.41%	6.79%
11/21/2013	10.00%	3.44%	6.56%
11/26/2013	10.00%	3.45%	6.55%
12/3/2013	10.25%	3.47%	6.78%
12/4/2013	9.50%	3.47%	6.03%
12/5/2013	10.20%	3.48%	6.72%
12/9/2013	8.72%	3.48%	5.24%
12/9/2013	9.75%	3.48%	6.27%
12/13/2013	9.75%	3.50%	6.25%
12/16/2013	9.95%	3.50%	6.45%
12/16/2013	9.95%	3.50%	6.45%
12/16/2013	10.12%	3.50%	6.62%
12/17/2013	9.50%	3.51%	5.99%
12/17/2013	10.95%	3.51%	7.44%
12/18/2013	8.72%	3.51%	5.21%
12/18/2013	9.80%	3.51%	6.29%
12/19/2013	10.15%	3.51%	6.64%
12/30/2013	9.50%	3.54%	5.96%
2/20/2014	9.20%	3.68%	5.52%
2/26/2014	9.75%	3.69%	6.06%
3/17/2014	9.55%	3.72%	5.83%
3/26/2014	9.40%	3.73%	5.67%
3/26/2014	9.96%	3.73%	6.23%
4/2/2014	9.70%	3.73%	5.97%
5/16/2014	9.80%	3.70%	6.10%
5/30/2014	9.70%	3.68%	6.02%
6/6/2014	10.40%	3.67%	6.73%
6/30/2014	9.55%	3.64%	5.91%
7/2/2014	9.62%	3.64%	5.98%
7/10/2014	9.95%	3.63%	6.32%
7/23/2014	9.75%	3.61%	6.14%
7/29/2014	9.45%	3.60%	5.85%
7/31/2014	9.90%	3.60%	6.30%
8/20/2014	9.75%	3.57%	6.18%
8/25/2014	9.60%	3.56%	6.04%
8/29/2014	9.80%	3.54%	6.26%

Bond Yield Plus Risk Premium

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
9/11/2014	9.60%	3.51%	6.09%
9/15/2014	10.25%	3.51%	6.74%
10/9/2014	9.80%	3.45%	6.35%
11/6/2014	9.56%	3.37%	6.19%
11/6/2014	10.20%	3.37%	6.83%
11/14/2014	10.20%	3.35%	6.85%
11/26/2014	9.70%	3.33%	6.37%
11/26/2014	10.20%	3.33%	6.87%
12/4/2014	9.68%	3.31%	6.37%
12/10/2014	9.25%	3.29%	5.96%
12/10/2014	9.25%	3.29%	5.96%
12/11/2014	10.07%	3.29%	6.78%
12/12/2014	10.20%	3.28%	6.92%
12/17/2014	9.17%	3.27%	5.90%
12/18/2014	9.83%	3.26%	6.57%
1/23/2015	9.50%	3.14%	6.36%
2/24/2015	9.83%	3.04%	6.79%
3/18/2015	9.75%	2.98%	6.77%
3/25/2015	9.50%	2.96%	6.54%
3/26/2015	9.72%	2.95%	6.77%
4/23/2015	10.20%	2.87%	7.33%
4/29/2015	9.53%	2.86%	6.67%
5/1/2015	9.60%	2.85%	6.75%
5/26/2015	9.75%	2.83%	6.92%
6/17/2015	9.00%	2.82%	6.18%
6/17/2015	9.00%	2.82%	6.18%
9/2/2015	9.50%	2.79%	6.71%
9/10/2015	9.30%	2.79%	6.51%
10/15/2015	9.00%	2.81%	6.19%
11/19/2015	10.00%	2.88%	7.12%
11/19/2015	10.30%	2.88%	7.42%
12/3/2015	10.00%	2.90%	7.10%
12/9/2015	9.14%	2.90%	6.24%
12/9/2015	9.14%	2.90%	6.24%
12/11/2015	10.30%	2.90%	7.40%
12/15/2015	9.60%	2.91%	6.69%
12/17/2015	9.70%	2.91%	6.79%
12/18/2015	9.50%	2.91%	6.59%
12/30/2015	9.50%	2.93%	6.57%
1/6/2016	9.50%	2.94%	6.56%
2/23/2016	9.75%	2.94%	6.81%
3/16/2016	9.85%	2.91%	6.94%
4/29/2016	9.80%	2.83%	6.97%
6/3/2016	9.75%	2.80%	6.95%
6/8/2016	9.48%	2.80%	6.68%
6/15/2016	9.00%	2.78%	6.22%
6/15/2016	9.00%	2.78%	6.22%
7/18/2016	9.98%	2.71%	7.27%
8/9/2016	9.85%	2.66%	7.19%
8/18/2016	9.50%	2.63%	6.87%
8/24/2016	9.75%	2.62%	7.13%
9/1/2016	9.50%	2.59%	6.91%
9/8/2016	10.00%	2.58%	7.42%
9/28/2016	9.58%	2.54%	7.04%
9/30/2016	9.90%	2.53%	7.37%
11/9/2016	9.80%	2.48%	7.32%
11/10/2016	9.50%	2.48%	7.02%
11/15/2016	9.55%	2.49%	7.06%
11/18/2016	10.00%	2.50%	7.50%
11/29/2016	10.55%	2.51%	8.04%

of Cases: 1,488
Average: 4.53%

Value Line Projected Sustainable Growth And Return On Common Equity

Company	Value Line Return on Common Equity ("R")	Value Line Payout Ratio	Retention Ratio ("B")	B x R	Value Line Retained to Common Equity	Difference
ALE	8.50%	65.00%	35.00%	2.98%	3.00%	-0.03%
LNT	12.50%	61.00%	39.00%	4.88%	5.50%	-0.63%
AEE	9.50%	63.00%	37.00%	3.52%	3.50%	0.01%
AEP	9.50%	67.00%	33.00%	3.14%	3.50%	-0.37%
AVA	8.50%	64.00%	36.00%	3.06%	3.00%	0.06%
BKH	10.50%	53.00%	47.00%	4.94%	5.00%	-0.07%
CMS	13.50%	62.00%	38.00%	5.13%	5.00%	0.13%
ED	8.50%	66.00%	34.00%	2.89%	3.00%	-0.11%
D	19.00%	67.00%	33.00%	6.27%	6.00%	0.27%
DTE	10.00%	60.00%	40.00%	4.00%	4.00%	0.00%
DUK	8.50%	73.00%	27.00%	2.30%	2.00%	0.30%
EIX	11.50%	55.00%	45.00%	5.18%	5.50%	-0.33%
EE	9.00%	59.00%	41.00%	3.69%	4.00%	-0.31%
ETR	10.00%	65.00%	35.00%	3.50%	3.50%	0.00%
ES	9.50%	58.00%	42.00%	3.99%	4.00%	-0.01%
FE	8.50%	59.00%	41.00%	3.49%	3.50%	-0.01%
IDA	9.00%	60.00%	40.00%	3.60%	3.50%	0.10%
MGEE	13.00%	44.00%	56.00%	7.28%	7.00%	0.28%
NWE	10.00%	58.00%	42.00%	4.20%	4.00%	0.20%
OGE	11.50%	74.00%	26.00%	2.99%	3.00%	-0.01%
OTTR	10.00%	64.00%	36.00%	3.60%	3.50%	0.10%
PCG	11.00%	59.00%	41.00%	4.51%	4.50%	0.01%
PNW	10.00%	64.00%	36.00%	3.60%	3.50%	0.10%
PNM	9.50%	55.00%	45.00%	4.28%	3.50%	0.77%
POR	9.00%	59.00%	41.00%	3.69%	3.50%	0.19%
PPL	13.50%	69.00%	31.00%	4.19%	4.00%	0.19%
SCG	10.00%	57.00%	43.00%	4.30%	4.50%	-0.20%
SO	11.00%	72.00%	28.00%	3.08%	3.00%	0.08%
WEC	11.00%	67.00%	33.00%	3.63%	3.50%	0.13%
XEL	11.00%	62.00%	38.00%	4.18%	4.00%	0.18%
AVERAGE:	10.55%	62.03%	37.97%	4.00%	3.97%	0.03%
MEDIAN:	10.00%	62.00%	38.00%	3.69%	3.50%	0.04%

Source: Value Line projections 2019-2021 period, as of November 30, 2016.

Note: Retention Ratio equals 1 - Payout Ratio

Value Line P/E Ratios

Company	Ticker	Trailing P/E	P/E	Forecasted P/E	Percent Change Trailing to Forecast	Percent Change to Forecast
ALLETE, Inc.	ALE	17.60	19.30	15.00	-15%	-22%
Alliant Energy Corporation	LNT	22.10	19.90	15.00	-32%	-25%
Ameren Corporation	AEE	19.40	19.00	15.00	-23%	-21%
American Electric Power Company, Inc.	AEP	18.70	16.20	15.50	-17%	-4%
Avista Corporation	AVA	19.50	19.60	15.00	-23%	-23%
Black Hills Corporation	BKH	23.90	21.00	15.00	-37%	-29%
CMS Energy Corporation	CMS	21.90	20.30	15.00	-32%	-26%
Consolidated Edison, Inc.	ED	19.30	18.50	16.00	-17%	-14%
Dominion Resources, Inc.	D	22.80	19.20	17.50	-23%	-9%
DTE Energy Co.	DTE	20.80	18.70	14.00	-33%	-25%
Duke Energy Corporation	DUK	19.10	17.90	17.50	-8%	-2%
Edison International	EIX	19.20	18.10	15.00	-22%	-17%
El Paso Electric Company	EE	23.90	17.90	17.00	-29%	-5%
Entergy Corporation	ETR	10.20	11.30	14.00	37%	24%
Eversource Energy	ES	19.60	17.50	16.00	-18%	-9%
FirstEnergy Corp.	FE	16.70	17.80	14.50	-13%	-19%
IDACORP, Inc.	IDA	20.40	18.90	15.00	-26%	-21%
MGE Energy, Inc.	MGEE	26.50	23.90	15.00	-43%	-37%
NorthWestern Corporation	NWE	16.60	15.10	14.00	-16%	-7%
OGE Energy Corp.	OGE	21.10	17.50	18.00	-15%	3%
Otter Tail Corporation	OTTR	21.80	21.80	18.00	-17%	-17%
PG&E Corporation	PCG	38.60	17.30	14.50	-62%	-16%
Pinnacle West Capital Corporation	PNW	19.80	18.30	15.50	-22%	-15%
PNM Resources, Inc.	PNM	NMF	18.90	16.00	N/A	-15%
Portland General Electric Company	POR	20.20	18.80	14.00	-31%	-26%
PPL Corporation	PPL	12.80	14.60	16.00	25%	10%
SCANA Corporation	SCG	18.40	17.50	14.50	-21%	-17%
Southern Company	SO	17.40	18.30	15.00	-14%	-18%
Wisconsin Energy Corporation	WEC	21.90	20.40	16.50	-25%	-19%
Xcel Energy Inc.	XEL	19.20	17.90	15.50	-19%	-13%

Source: Value Line as of November 30, 2016

Proof Concept: Earnings, Dividends, Book Value and
Stock Price Growth Rate Equivalence in Constant Growth DCF

Line Description	IMPLIED GROWTH RATE AT ALLOWED ROE	
Input	Dividend Yield	3.33% [1]
Assumes g = Allowed ROE - Div. Yield	Assumed Growth Rate	5.66%
Input	Total Return	8.99% [1]
Input	Payout Ratio	67.50% [2]
Input	Book Value/Share	20 [2]

		0	1	2	3	4	5	6	7	8	9	10	250
BV/S Escalates at Constant Growth g	Book Value/Share	\$ 20.00	\$ 21.13	\$ 22.33	\$ 23.59	\$ 24.93	\$ 26.34	\$ 27.83	\$ 29.40	\$ 31.06	\$ 32.82	\$ 34.63	\$ 18,928,824.45
Demonstrating Constant BV/S growth		5.66%	5.66%	5.66%	5.66%	5.66%	5.66%	5.66%	5.66%	5.66%	5.66%	5.66%	5.66%
Earnings based on ROE applied to BV/S	Earnings/Share	\$ 1.80	\$ 1.90	\$ 2.01	\$ 2.12	\$ 2.24	\$ 2.37	\$ 2.50	\$ 2.64	\$ 2.79	\$ 2.95	\$ 3.12	\$ 1,701,961.83
Demonstrating Constant EPS growth		5.66%	5.66%	5.66%	5.66%	5.66%	5.66%	5.66%	5.66%	5.66%	5.66%	5.66%	5.66%
Demonstrating Constant Return Earned based on BV/S and EPS	Allowed ROE	8.99%	8.99%	8.99%	8.99%	8.99%	8.99%	8.99%	8.99%	8.99%	8.99%	8.99%	8.99%
Div/S based on EPS and Constant Payout ratio	Dividends/Share	\$ 1.21	\$ 1.28	\$ 1.36	\$ 1.43	\$ 1.51	\$ 1.60	\$ 1.69	\$ 1.78	\$ 1.89	\$ 1.99	\$ 2.10	\$ 1,148,824.24
Demonstrating Constant Div/S growth		5.66%	5.66%	5.66%	5.66%	5.66%	5.66%	5.66%	5.66%	5.66%	5.66%	5.66%	5.66%
Retained Earnings based on difference between EPS and Div/S	Earnings retained to book value	\$ 0.58	\$ 0.62	\$ 0.65	\$ 0.69	\$ 0.73	\$ 0.77	\$ 0.81	\$ 0.86	\$ 0.91	\$ 0.96	\$ 1.01	\$ 553,137.60
Demonstrating Constant growth in Retained Earnings		5.66%	5.66%	5.66%	5.66%	5.66%	5.66%	5.66%	5.66%	5.66%	5.66%	5.66%	5.66%
Demonstrating Constant Market/Book ratio	Market/Book Ratio	1.924	1.924	1.924	1.924	1.924	1.924	1.924	1.924	1.924	1.924	1.924	1.924
DCF calculation of market price = Div/S(1+g)/(ROE-g)	Market Price	\$ 38.48	\$ 40.66	\$ 42.96	\$ 45.39	\$ 47.96	\$ 50.67	\$ 53.54	\$ 56.57	\$ 59.77	\$ 63.15	\$ 66.72	\$ 36,419,725.70
Demonstrating Price Appreciation equals Long Term Growth Rate	Price Appreciation	5.66%	OK	== Price appreciation should equal long term growth rate									
Demonstrating Constant Price/Earnings Ratio	Price/Earnings	21.40	21.40	21.40	21.40	21.40	21.40	21.40	21.40	21.40	21.40	21.40	21.40
Present Value Factor calculated based upon the current period and the Constant ROE	Present Value Factor		0.9175	0.8418	0.7724	0.7086	0.6502	0.5966	0.5473	0.5022	0.4603	0.4227	0.0000

CASE 1		DIVIDENDS IN PERPETUITY											
Present value of Div/S obtained by multiplying nominal Div/S by the Present Value Factor for the period	Present Value Dividend	1.1767	1.1407	1.1059	1.0720	1.0393	1.0075	0.9767	0.9468	0.9178	0.8896		0.0005
Total Value of investment sum of all Present Value Dividends in perpetuity (250 instances for demonstration purposes)	Value of Investment	\$ 38.48											

CASE 2		10-YEAR HOLDING PERIOD											
Present value of Div/S obtained by multiplying nominal Div/S by the Present Value Factor for the period	Present Value of Dividend	\$ 1.18	\$ 1.14	\$ 1.11	\$ 1.07	\$ 1.04	\$ 1.01	\$ 0.98	\$ 0.95	\$ 0.92	\$ 0.89		
Present value of Stock Price obtained by multiplying nominal Stock Price by the Present Value Factor for the 10th Period (Terminal Value)	Present Value of Stock Price												28.21
Value of dividends = sum of all Present Value Dividends for periods 1-10	Value of Dividends	\$ 10.27											
Present value of Stock Price obtained by multiplying nominal Stock Price by the Present Value Factor for the 10th Period (Terminal Value)	Value of Stock Price	\$ 28.21											
Total Value of investment sum of all Present Value Dividends for periods 1-10 and Present Value of Stock in period 10 (Terminal Value)	Value of Investment	\$ 38.48											

CASE 3		5-YEAR HOLDING PERIOD				
Present value of Div/S obtained by multiplying nominal Div/S by the Present Value Factor for the period	Present Value of Dividend	\$ 1.18	\$ 1.14	\$ 1.11	\$ 1.07	\$ 1.04
Present value of Stock Price obtained by multiplying nominal Stock Price by the Present Value Factor for the 5th Period (Terminal Value)	Present Value of Stock Price					32.95
Value of dividends = sum of all Present Value Dividends for periods 1-5	Value of Dividends	\$ 5.63				
Present value of Stock Price obtained by multiplying nominal Stock Price by the Present Value Factor for the 5th Period (Terminal Value)	Value of Stock Price	\$ 32.95				
Total Value of investment sum of all Present Value Dividends for periods 1-5 and Present Value of Stock in period 5 (Terminal Value)	Value of Investment	\$ 38.48				

[1] Source: Rebuttal Schedule 1. Note, for purposes of this exhibit, these data are illustrative only.
[2] Note: Illustrative only.

Growth Rate Regression Analysis

Company	Ticker	Median P/E Ratio	Past 10 Year Dividend Growth Rate	Past 5 Year Dividend Growth Rate	Proj. Earnings Growth Rate	Proj. Dividend Growth Rate	Proj. Retention Growth Rate	Proj. Book Value Growth Rate
ALLETE, Inc.	ALE	16.00	9.50%	2.50%	4.00%	3.50%	3.00%	4.00%
Aflant Energy Corporation	LNT	15.00	7.00%	6.50%	6.00%	4.50%	5.50%	4.00%
Ameren Corporation	AEE	15.00	-4.50%	-3.00%	6.00%	4.00%	3.50%	3.50%
American Electric Power Company, Inc.	AEP	14.00	3.00%	4.00%	4.00%	5.00%	3.50%	4.00%
Avista Corporation	AVA	16.00	9.50%	9.00%	5.00%	4.00%	3.00%	3.50%
Black Hills Corporation	BKH	17.00	2.50%	2.00%	7.50%	6.00%	5.00%	4.50%
CMS Energy Corporation	CMS	16.00	NMF	16.50%	6.00%	6.50%	5.00%	6.00%
Consolidated Edison, Inc.	ED	15.00	1.00%	1.50%	2.50%	3.00%	3.00%	3.50%
Dominion Resources, Inc.	D	18.00	6.50%	7.00%	10.00%	8.00%	6.00%	6.00%
DTE Energy Company	DTE	16.00	3.00%	5.00%	6.00%	5.50%	4.00%	4.50%
Duke Energy Corporation	DUK	NMF	NMF	2.50%	4.00%	3.50%	2.00%	1.00%
Edison International	EIX	12.00	9.50%	4.00%	3.50%	9.50%	5.50%	5.50%
El Paso Electric Company	EE	15.00	NMF	NMF	4.00%	7.00%	4.00%	4.00%
Entergy Corporation	ETR	13.00	6.00%	1.50%	2.00%	3.00%	3.50%	3.00%
Eversource Energy	ES	17.00	9.50%	11.00%	6.00%	6.00%	4.00%	4.00%
FirstEnergy Corp.	FE	16.00	-1.00%	-7.50%	6.00%	1.00%	3.50%	1.00%
IDACORP, Inc.	IDA	14.00	2.50%	8.00%	3.00%	7.50%	3.50%	4.00%
MGE Energy, Inc.	MGEE	16.00	2.00%	2.50%	7.00%	4.00%	7.00%	5.00%
NorthWestern Corporation	NWE	16.00	13.00%	4.50%	6.50%	5.50%	4.00%	4.50%
OGE Energy Corp.	OGE	14.00	3.50%	6.00%	3.00%	9.50%	3.00%	3.50%
Otter Tail Corporation	OTTR	23.00	1.00%	0.50%	6.00%	1.50%	3.50%	5.50%
PG&E Corporation	PCG	16.00	NMF	1.50%	12.00%	7.00%	4.50%	4.50%
Pinnacle West Capital Corporation	PNW	15.00	2.50%	2.00%	4.00%	5.00%	3.50%	3.50%
PNM Resources, Inc.	PNM	17.00	1.00%	7.00%	9.00%	10.00%	3.50%	3.50%
Portland General Electric Company	POR	15.00	NMF	2.50%	5.50%	6.00%	3.50%	3.50%
PPL Corporation	PPL	14.00	5.50%	1.50%	NMF	3.00%	4.00%	NMF
SCANA Corporation	SCG	14.00	3.50%	2.50%	4.50%	5.00%	4.50%	5.00%
Southern Company	SO	16.00	4.00%	3.50%	4.00%	3.50%	3.00%	6.50%
Wisconsin Energy Corporation	WEC	16.00	14.00%	18.50%	6.00%	7.00%	3.50%	7.00%
Xcel Energy Inc.	XEL	15.00	4.00%	4.50%	5.50%	6.00%	4.00%	4.00%

Notes:

Source: Value Line Reports as of November 30, 2016.

Growth Rate Regression Analysis

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.10198
R Square	0.01040
Adjusted R Square	-0.03263
Standard Error	2.09491
Observations	25

ANOVA					
	df	SS	MS	F	Significance F
Regression	1	1.06071	1.06071	0.24169	0.62765
Residual	23	100.93929	4.38866		
Total	24	102.00000			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	15.82966	0.62751	25.22613	0.00000	14.53155	17.12776	14.53155	17.12776
Past 10 Year Dividend Growth Rate	-4.86564	9.89710	-0.49162	0.62765	-25.33934	15.60807	-25.33934	15.60807

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.02990
R Square	0.00089
Adjusted R Square	-0.03753
Standard Error	1.98636
Observations	28

ANOVA					
	df	SS	MS	F	Significance F
Regression	1	0.09180	0.09180	0.02327	0.87994
Residual	26	102.58677	3.94565		
Total	27	102.67857			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	15.55659	0.50075	31.06672	0.00000	14.52729	16.58589	14.52729	16.58589
Past 5 Year Dividend Growth Rate	1.13234	7.42358	0.15253	0.87994	-14.12705	16.39172	-14.12705	16.39172

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.49245
R Square	0.24251
Adjusted R Square	0.21337
Standard Error	1.71053
Observations	28

ANOVA					
	df	SS	MS	F	Significance F
Regression	1	24.35461	24.35461	8.32374	0.00776
Residual	26	76.07396	2.92592		
Total	27	100.42857			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	13.28258	0.87642	15.16688	0.00000	11.49107	15.09409	11.49107	15.09409
Proj. Earnings Growth Rate	42.59395	14.76348	2.88509	0.00776	12.24719	72.94071	12.24719	72.94071

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.23959
R Square	0.05740
Adjusted R Square	0.02249
Standard Error	1.89659
Observations	29

ANOVA					
	df	SS	MS	F	Significance F
Regression	1	5.91437	5.91437	1.64423	0.21065
Residual	27	97.12012	3.59704		
Total	28	103.03448			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	16.68900	0.92935	17.95773	0.00000	14.78214	18.59587	14.78214	18.59587
Proj. Dividend Growth Rate	-20.37015	15.88593	-1.28228	0.21065	-52.96539	12.22510	-52.96539	12.22510

Growth Rate Regression Analysis

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.01718
R Square	0.00030
Adjusted R Square	-0.03673
Standard Error	1.95319
Observations	29

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	0.03040	0.03040	0.00797	0.92953
Residual	27	103.00408	3.81497		
Total	28	103.03448			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	15.45198	1.54675	9.98996	0.00000	12.27831	18.62565	12.27831	18.62565
Proj. Retention Growth Rate	3.32706	37.26932	0.08927	0.92953	-73.14327	79.79738	-73.14327	79.79738

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.24916
R Square	0.06208
Adjusted R Square	0.02601
Standard Error	1.90338
Observations	28

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	6.23470	6.23470	1.72094	0.20104
Residual	26	94.19387	3.62284		
Total	27	100.42857			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	13.92831	1.35556	10.27492	0.00000	11.14191	16.71472	11.14191	16.71472
Proj. Book Value Growth Rate	39.67538	30.24391	1.31185	0.20104	-22.49186	101.84262	-22.49186	101.84262

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.82161
R Square	0.67505
Adjusted R Square	0.56036
Standard Error	1.37795
Observations	24

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	6	67.05467	11.17578	5.88588	0.00178
Residual	17	32.27866	1.89874		
Total	23	99.33333			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	14.22099	1.43013	9.94383	0.00000	11.20368	17.23830	11.20368	17.23830
Past 10 Year Dividend Growth Rate	-6.17709	9.45763	-0.65313	0.52241	-26.13094	13.77676	-26.13094	13.77676
Past 5 Year Dividend Growth Rate	3.31525	10.92701	0.30340	0.76527	-19.73873	26.36922	-19.73873	26.36922
Proj. Earnings Growth Rate	82.27552	17.34037	4.74474	0.00019	45.69054	118.86050	45.69054	118.86050
Proj. Dividend Growth Rate	-41.30406	15.59145	-2.64915	0.01687	-74.19915	-8.40897	-74.19915	-8.40897
Proj. Retention Growth Rate	-74.88187	34.28013	-2.18441	0.04323	-147.20663	-2.55711	-147.20663	-2.55711
Proj. Book Value Growth Rate	58.59237	29.53756	1.91595	0.07234	-5.72844	118.91118	-5.72844	118.91118

Analysts' Projected EPS Growth Rates - Woolridge Proxy Group as Filed

Company	Ticker	Yahoo	Reuters	Zacks	Mean
ALLETE, Inc.	ALE	5.0%	5.0%	5.5%	5.2%
Alliant Energy Corporation	LNT	6.6%	6.6%	6.1%	6.4%
Ameren Corporation	AEE	5.2%	5.6%	6.1%	5.6%
American Electric Power Company, Inc.	AEP	2.3%	2.3%	5.2%	3.3%
Avista Corporation	AVA	5.0%	NA	5.3%	5.2%
Black Hills Corporation	BKH	6.7%	6.7%	5.8%	6.4%
CMS Energy Corporation	CMS	7.3%	7.3%	6.6%	7.1%
Consolidated Edison, Inc.	ED	2.1%	2.1%	2.8%	2.3%
Dominion Resources, Inc.	D	5.8%	5.8%	6.2%	5.9%
DTE Energy Company	DTE	5.5%	5.5%	5.8%	5.6%
Duke Energy Corporation	DUK	4.4%	3.7%	4.7%	4.3%
Edison International	EIX	2.3%	2.3%	5.3%	3.3%
El Paso Electric Company	EE	7.0%	NA	4.4%	5.7%
Entergy Corporation	ETR	-2.6%	-2.6%	-4.4%	-3.2%
Eversource Energy	ES	6.3%	6.3%	6.1%	6.2%
FirstEnergy Corp.	FE	-2.6%	-2.0%	-2.0%	-2.2%
IDACORP, Inc.	IDA	4.0%	3.8%	4.4%	4.1%
MGE Energy, Inc.	MGEE	4.0%	NA	NA	4.0%
NorthWestern Corporation	NWE	5.0%	4.5%	5.0%	4.8%
OGE Energy Corp.	OGE	4.3%	4.3%	5.2%	4.6%
Otter Tail Corporation	OTTR	6.0%	NA	NA	6.0%
PG&E Corporation	PCG	5.7%	5.6%	4.3%	5.2%
Pinnacle West Capital Corporation	PNW	4.0%	4.0%	4.3%	4.1%
PNM Resources, Inc.	PNM	5.9%	5.9%	6.7%	6.2%
Portland General Electric Company	POR	5.9%	5.9%	6.0%	5.9%
PPL Corporation	PPL	2.5%	1.7%	3.5%	2.6%
SCANA Corporation	SCG	6.0%	6.0%	5.5%	5.8%
Southern Company	SO	3.2%	3.7%	3.9%	3.6%
WEC Energy Group, Inc.	WEC	6.7%	6.8%	6.2%	6.6%
Xcel Energy Inc.	XEL	5.3%	5.3%	5.4%	5.3%
Average		4.5%	4.3%	4.6%	4.5%
Median		5.1%	5.2%	5.3%	5.2%

Source: Exhibit JRW-10, Page 5

Analysts' Projected EPS Growth Rates - Woolridge Proxy Group Corrected

Company	Ticker	Yahoo	Reuters	Zacks	Mean
ALLETE, Inc.	ALE	5.0%	5.0%	5.5%	5.2%
Alliant Energy Corporation	LNT	6.6%	6.6%	6.1%	6.4%
Ameren Corporation	AEE	5.2%	5.6%	6.1%	5.6%
American Electric Power Company, Inc.	AEP	2.3%	2.3%	5.2%	3.3%
Avista Corporation	AVA	5.0%	NA	5.3%	5.2%
Black Hills Corporation	BKH	6.7%	6.7%	5.8%	6.4%
CMS Energy Corporation	CMS	7.3%	7.3%	6.6%	7.1%
Consolidated Edison, Inc.	ED	2.1%	2.1%	2.8%	2.3%
Dominion Resources, Inc.	D	5.8%	5.8%	6.2%	5.9%
DTE Energy Company	DTE	5.5%	5.5%	5.8%	5.6%
Duke Energy Corporation	DUK	4.4%	3.7%	4.7%	4.3%
Edison International	EIX	2.3%	2.3%	5.3%	3.3%
El Paso Electric Company	EE	7.0%	NA	4.4%	5.7%
Entergy Corporation	ETR	NA	NA	NA	NA
Eversource Energy	ES	6.3%	6.3%	6.1%	6.2%
FirstEnergy Corp.	FE	NA	NA	NA	NA
IDACORP, Inc.	IDA	4.0%	3.8%	4.4%	4.1%
MGE Energy, Inc.	MGEE	4.0%	NA	NA	4.0%
NorthWestern Corporation	NWE	5.0%	4.5%	5.0%	4.8%
OGE Energy Corp.	OGE	4.3%	4.3%	5.2%	4.6%
Otter Tail Corporation	OTTR	6.0%	NA	NA	6.0%
PG&E Corporation	PCG	5.7%	5.6%	4.3%	5.2%
Pinnacle West Capital Corporation	PNW	4.0%	4.0%	4.3%	4.1%
PNM Resources, Inc.	PNM	5.9%	5.9%	6.7%	6.2%
Portland General Electric Company	POR	5.9%	5.9%	6.0%	5.9%
PPL Corporation	PPL	2.5%	1.7%	3.5%	2.6%
SCANA Corporation	SCG	6.0%	6.0%	5.5%	5.8%
Southern Company	SO	3.2%	3.7%	3.9%	3.6%
WEC Energy Group, Inc.	WEC	6.7%	6.8%	6.2%	6.6%
Xcel Energy Inc.	XEL	5.3%	5.3%	5.4%	5.3%
Average		5.0%	4.9%	5.2%	5.0%
Median		5.3%	5.4%	5.4%	5.3%

Source: Exhibit JRW-10, Page 5

Difference: 0.52%

Implied Return on Equity with M/B Ratio at Unity

Institution Name	Ticker	ROACE (%)	Price/ Book (%)
		2015	2015
ALLETE, Inc.	ALE	7.97	137.0
Alliant Energy Corporation	LNT	10.40	190.3
Ameren Corporation	AEE	9.23	151.0
American Electric Power Company, Inc.	AEP	11.74	159.9
Avista Corporation	AVA	8.17	144.2
Black Hills Corporation	BKH	N/A	162.1
CMS Energy Corporation	CMS	13.65	253.9
Consolidated Edison, Inc.	ED	9.28	144.3
Dominion Resources, Inc.	D	15.46	318.5
DTE Energy Company	DTE	8.41	164.1
Duke Energy Corporation	DUK	7.01	123.7
Edison International	EIX	9.03	169.7
El Paso Electric Company	EE	8.21	153.2
Entergy Corporation	ETR	N/A	131.7
Eversource Energy	ES	8.62	156.5
FirstEnergy Corp.	FE	4.63	108.2
IDACORP, Inc.	IDA	9.72	166.3
MGE Energy, Inc.	MGEE	10.56	233.0
NorthWestern Corporation	NWE	9.95	163.3
OGE Energy Corp.	OGE	8.24	157.9
Otter Tail Corporation	OTTR	10.05	166.6
PG&E Corporation	PCG	5.42	157.9
Pinnacle West Capital Corporation	PNW	9.76	156.1
PNM Resources, Inc.	PNM	0.91	147.1
Portland General Electric Company	POR	8.12	143.0
PPL Corporation	PPL	5.92	231.9
SCANA Corporation	SCG	14.00	158.8
Southern Company	SO	11.67	207.2
WEC Energy Group, Inc.	WEC	9.08	187.2
Xcel Energy Inc.	XEL	9.50	171.9

Source: SNL Financial

Implied Return on Equity with M/B Ratio at Unity

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.58379882
R Square	0.340821062
Adjusted R Square	0.315468026
Standard Error	35.64337804
Observations	28

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	17078.67464	17078.67464	13.44300782	0.001108688
Residual	26	33031.71035	1270.450398		
Total	27	50110.38499			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	93.11525796	22.60689647	4.118887265	0.000342669	46.64611676	139.5843992
ROACE (%)	8.697998077	2.372308045	3.666470759	0.001108688	3.821649053	13.5743471

ROE (%)	PRICE/BOOK
0.79	100.00
1.94	110.00

Constant Growth Discounted Cash Flow Model and Credit Rating Regression
30 Day Dividend Yield

Company	Ticker	[1] Yield	[2] Dividend	[3] Earnings	[4] Earnings	[5] Earnings	[6] Earnings	[7] ROE	[8] Issuer	Credit
ALLETE, Inc.	ALE	3.40%	3.49%	5.00%	5.00%	5.50%	5.17%	8.65%	BBB+	5
Alliant Energy Corporation	LNT	3.00%	3.10%	6.60%	6.40%	6.10%	6.37%	9.46%	A-	4
Ameren Corporation	AEE	3.30%	3.39%	5.20%	5.20%	6.10%	5.50%	8.89%	BBB+	5
American Electric Power Company, Inc.	AEP	3.30%	3.37%	3.80%	3.90%	4.90%	4.20%	7.57%	BBB+	5
Avista Corporation	AVA	3.30%	3.38%	5.00%	NA	5.00%	5.00%	8.38%	BBB	6
Black Hills Corporation	BKH	2.80%	2.90%	7.90%	7.90%	6.50%	7.43%	10.34%	BBB	6
CMS Energy Corporation	CMS	2.90%	3.00%	7.30%	7.30%	6.60%	7.07%	10.07%	BBB+	5
Consolidated Edison, Inc.	ED	3.50%	3.54%	2.00%	2.00%	2.70%	2.23%	5.77%	A-	4
Dominion Resources, Inc.	D	3.70%	3.81%	6.00%	6.00%	6.20%	6.07%	9.88%	BBB+	5
DTE Energy Company	DTE	3.20%	3.29%	5.40%	5.30%	5.80%	5.50%	8.79%	BBB+	5
Duke Energy Corporation	DUK	4.10%	4.19%	4.40%	4.40%	4.40%	4.53%	8.73%	A-	4
Edison International	EIX	2.60%	2.65%	2.30%	3.20%	5.30%	3.60%	6.25%	BBB+	5
El Paso Electric Company	EE	2.70%	2.78%	7.00%	NA	4.40%	5.70%	8.48%	BBB	6
Energy Corporation	ETR	4.30%	4.27%	-2.10%	-0.30%	-2.30%	-1.57%	2.70%	BBB+	5
Eversource Energy	ES	3.20%	3.30%	6.30%	6.30%	6.30%	6.30%	9.60%	A	3
FirstEnergy Corp.	FE	4.30%	4.24%	-4.00%	-2.20%	-2.00%	-2.73%	1.51%	BBB-	7
IDACORP, Inc.	IDA	2.60%	2.65%	4.00%	4.00%	4.00%	4.00%	6.65%	BBB	6
MGE Energy, Inc.	MGEE	2.20%	2.24%	4.00%	NA	NA	4.00%	6.24%	AA-	1
NorthWestern Corporation	NWE	3.40%	3.49%	5.00%	5.00%	5.00%	5.00%	8.49%	BBB	6
OGE Energy Corp.	OGE	3.50%	3.58%	4.30%	4.30%	5.20%	4.60%	8.18%	A-	4
Otter Tail Corporation	OTTR	3.60%	3.71%	6.00%	NA	NA	6.00%	9.71%	BBB	6
PG&E Corporation	PCG	3.10%	3.18%	5.70%	5.80%	4.40%	5.30%	8.48%	BBB+	5
Pinnacle West Capital Corporation	PNW	3.20%	3.26%	3.80%	3.80%	4.10%	3.90%	7.16%	A-	4
PNM Resources, Inc.	PNM	2.70%	2.82%	9.00%	9.00%	7.60%	8.53%	11.35%	BBB+	5
Portland General Electric Company	POR	3.00%	3.09%	6.30%	6.00%	6.20%	6.17%	9.26%	BBB	6
PPL Corporation	PPL	4.20%	4.28%	3.20%	3.50%	4.50%	3.73%	8.01%	A-	4
SCANA Corporation	SCG	3.20%	3.28%	5.40%	5.10%	5.30%	5.27%	8.55%	BBB+	5
Southern Company	SO	4.30%	4.38%	3.20%	3.70%	3.90%	3.60%	7.98%	A-	4
WEC Energy Group, Inc.	WEC	3.20%	3.31%	6.70%	6.80%	6.20%	6.57%	9.87%	A-	4
Xcel Energy Inc.	XEL	3.20%	3.29%	5.40%	5.30%	5.40%	5.37%	8.65%	A-	4
PROXY GROUP MEAN		3.30%	3.37%	4.67%	4.72%	4.78%	4.75%	8.12%	BBB+	4.8
PROXY GROUP MEDIAN		3.20%	3.30%	5.10%	5.05%	5.25%	5.22%	8.52%	BBB+	5.0

REGRESSION OUTPUT

Regression Statistics	
Multiple R	0.071110
R Square	0.005057
Adjusted R Square	-0.030477
Standard Error	0.021058
Observations	30

ANOVA

	df	SS	MS	F	Signif. F
Regression	1	0.000063	0.000063	0.142303	0.708846
Residual	28	0.012416	0.000443		
Total	29	0.012479			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	0.087338	0.016676	5.237312	0.000014	0.053178	0.121497
Credit Rating	-0.001275	0.003381	-0.377231	0.708846	-0.008200	0.005650

Notes:

- [1] Source: JRW-10
- [2] Equals [1] x (1 + 0.5 x [6])
- [3] Source: JRW-10
- [4] Source: JRW-10
- [5] Source: JRW-10
- [6] Equals Average([3], [4], [5])
- [7] Equals [4] + [8]
- [8] Source: JRW-4

Constant Growth Discounted Cash Flow Model and Credit Rating Regression
90 Day Dividend Yield

Company	Ticker	[1] Yield	[2] Dividend	[3] Earnings	[4] Earnings	[5] Earnings	[6] Earnings	[7] ROE	[8] Issuer	Credit
ALLETE, Inc.	ALE	3.50%	3.59%	5.00%	5.00%	5.50%	5.17%	8.76%	BBB+	5
Alliant Energy Corporation	LNT	3.10%	3.20%	6.60%	6.40%	6.10%	6.37%	9.57%	A-	4
Ameren Corporation	AEE	3.40%	3.49%	5.20%	5.20%	6.10%	5.60%	8.99%	BBB+	5
American Electric Power Company, Inc.	AEP	3.40%	3.47%	3.80%	3.90%	4.90%	4.20%	7.67%	BBB+	5
Avista Corporation	AVA	3.30%	3.38%	5.00%	NA	5.00%	5.00%	8.38%	BBB	6
Black Hills Corporation	BKH	2.80%	2.90%	7.90%	7.90%	6.50%	7.43%	10.34%	BBB	6
CMS Energy Corporation	CMS	2.90%	3.00%	7.30%	7.30%	6.60%	7.07%	10.07%	BBB+	5
Consolidated Edison, Inc.	ED	3.50%	3.54%	2.00%	2.00%	2.70%	2.23%	5.77%	A-	4
Dominion Resources, Inc.	D	3.80%	3.92%	6.00%	6.00%	6.20%	6.07%	9.98%	BBB+	5
DTE Energy Company	DTE	3.30%	3.39%	5.40%	5.30%	5.80%	5.50%	8.89%	BBB+	5
Duke Energy Corporation	DUK	4.20%	4.30%	4.40%	4.40%	4.80%	4.53%	8.83%	A-	4
Edison International	EIX	2.60%	2.65%	2.30%	3.20%	5.30%	3.60%	6.25%	BBB+	5
El Paso Electric Company	EE	2.70%	2.78%	7.00%	NA	4.40%	5.70%	8.48%	BBB	6
Energy Corporation	ETR	4.40%	4.37%	-2.10%	-0.30%	-2.30%	-1.57%	2.80%	BBB+	5
Eversource Energy	ES	3.10%	3.20%	6.30%	6.30%	6.30%	6.30%	9.50%	A	3
FirstEnergy Corp.	FE	4.30%	4.24%	-4.00%	-2.20%	-2.00%	-2.73%	1.51%	BBB-	7
IDACORP, Inc.	IDA	2.70%	2.75%	4.00%	4.00%	4.00%	4.00%	6.75%	BBB	6
MGE Energy, Inc.	MGEE	2.30%	2.35%	4.00%	NA	NA	4.00%	6.35%	AA-	1
NorthWestern Corporation	NWE	3.40%	3.49%	5.00%	5.00%	5.00%	5.00%	8.49%	BBB	6
OGE Energy Corp.	OGE	3.60%	3.68%	4.30%	4.30%	5.20%	4.60%	8.28%	A-	4
Otter Tail Corporation	OTTR	3.90%	4.02%	6.00%	NA	NA	6.00%	10.02%	BBB	6
PG&E Corporation	PCG	3.20%	3.28%	5.70%	5.80%	4.40%	5.30%	8.58%	BBB+	5
Pinnacle West Capital Corporation	PNW	3.30%	3.36%	3.80%	3.80%	4.10%	3.90%	7.26%	A-	4
PNM Resources, Inc.	PNM	2.60%	2.71%	9.00%	9.00%	7.60%	8.53%	11.24%	BBB+	5
Portland General Electric Company	POR	3.00%	3.09%	6.30%	6.00%	6.20%	6.17%	9.26%	BBB	6
PPL Corporation	PPL	4.10%	4.18%	3.20%	3.50%	4.50%	3.73%	7.91%	A-	4
SCANA Corporation	SCG	3.20%	3.28%	5.40%	5.10%	5.30%	5.27%	8.55%	BBB+	5
Southern Company	SO	4.40%	4.48%	3.20%	3.70%	3.90%	3.60%	8.08%	A-	4
WEC Energy Group, Inc.	WEC	3.20%	3.31%	6.70%	6.80%	6.20%	6.57%	9.87%	A-	4
Xcel Energy Inc.	XEL	3.20%	3.29%	5.40%	5.30%	5.40%	5.37%	8.65%	A-	4
PROXY GROUP MEAN		3.35%	3.42%	4.67%	4.72%	4.78%	4.75%	8.17%	BBB+	4.8
PROXY GROUP MEDIAN		3.30%	3.37%	5.10%	5.05%	5.25%	5.22%	8.57%	BBB+	5.0

REGRESSION OUTPUT

Regression Statistics	
Multiple R	0.070050
R Square	0.004907
Adjusted R Square	-0.030632
Standard Error	0.021007
Observations	30

ANOVA

	df	SS	MS	F	Signif. F
Regression	1	0.000061	0.000061	0.138074	0.713001
Residual	28	0.012357	0.000441		
Total	29	0.012418			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	0.087708	0.016636	5.272126	0.000013	0.053631	0.121788
Credit Rating	-0.001253	0.003373	-0.371583	0.713001	-0.008161	0.005655

Notes:

- [1] Source: JRW-10
- [2] Equals [1] x (1 + 0.5 x [6])
- [3] Source: JRW-10
- [4] Source: JRW-10
- [5] Source: JRW-10
- [6] Equals Average([3], [4], [5])
- [7] Equals [4] + [8]
- [8] Source: JRW-4

Constant Growth Discounted Cash Flow Model and Credit Rating Regression
180 Day Dividend Yield

Company	Ticker	[1] Yield	[2] Dividend	[3] Earnings	[4] Earnings	[5] Earnings	[6] Earnings	[7] ROE	[8] Issuer	Credit
ALLETE, Inc.	ALE	3.70%	3.80%	5.00%	5.00%	5.50%	5.17%	8.96%	BBB+	5
Alliant Energy Corporation	LNT	3.30%	3.41%	6.60%	6.40%	6.10%	6.37%	9.77%	A-	4
Ameren Corporation	AEE	3.50%	3.60%	5.20%	5.20%	6.10%	5.50%	9.10%	BBB+	5
American Electric Power Company, Inc.	AEP	3.50%	3.57%	3.80%	3.90%	4.90%	4.20%	7.77%	BBB+	5
Avista Corporation	AVA	3.50%	3.59%	5.00%	NA	5.00%	5.00%	8.59%	BBB	6
Black Hills Corporation	BKH	3.00%	3.11%	7.90%	7.90%	6.50%	7.43%	10.54%	BBB	6
CMS Energy Corporation	CMS	3.00%	3.11%	7.30%	7.30%	6.60%	7.07%	10.17%	BBB+	5
Consolidated Edison, Inc.	ED	3.70%	3.74%	2.00%	2.00%	2.70%	2.23%	5.97%	A-	4
Dominion Resources, Inc.	D	3.90%	4.02%	6.00%	6.00%	6.20%	6.07%	10.08%	BBB+	5
DTE Energy Company	DTE	3.50%	3.60%	5.40%	5.30%	5.80%	5.50%	9.10%	BBB+	5
Duke Energy Corporation	DUK	4.40%	4.50%	4.40%	4.40%	4.80%	4.53%	9.03%	A-	4
Edison International	EIX	2.80%	2.85%	2.30%	3.20%	5.30%	3.60%	6.45%	BBB+	5
El Paso Electric Company	EE	2.80%	2.88%	7.00%	NA	4.40%	5.70%	8.58%	BBB	6
Entergy Corporation	ETR	4.60%	4.56%	-2.10%	-0.30%	-2.30%	-1.57%	3.00%	BBB+	5
Eversource Energy	ES	3.20%	3.30%	6.30%	6.30%	6.30%	6.30%	9.60%	A	3
FirstEnergy Corp.	FE	4.30%	4.24%	-4.00%	-2.20%	-2.00%	-2.73%	1.51%	BBB-	7
IDACORP, Inc.	IDA	2.80%	2.86%	4.00%	4.00%	4.00%	4.00%	6.86%	BBB	6
MGE Energy, Inc.	MGEE	2.40%	2.45%	4.00%	NA	NA	4.00%	6.45%	AA-	1
NorthWestern Corporation	NWE	3.40%	3.49%	5.00%	5.00%	5.00%	5.00%	8.49%	BBB	6
OGE Energy Corp.	OGE	3.80%	3.89%	4.30%	4.30%	5.20%	4.60%	8.49%	A-	4
Otter Tail Corporation	OTTR	4.20%	4.33%	6.00%	NA	NA	6.00%	10.33%	BBB	6
PG&E Corporation	PCG	3.30%	3.39%	5.70%	5.80%	4.40%	5.30%	8.69%	BBB+	5
Pinnacle West Capital Corporation	PNW	3.50%	3.57%	3.30%	3.80%	4.10%	3.90%	7.47%	A-	4
PNM Resources, Inc.	PNM	2.70%	2.82%	9.00%	9.00%	7.60%	8.53%	11.35%	BBB+	5
Portland General Electric Company	POR	3.20%	3.30%	6.30%	6.00%	6.20%	6.17%	9.47%	BBB	6
PPL Corporation	PPL	4.20%	4.28%	3.20%	3.50%	4.50%	3.73%	8.01%	A-	4
SCANA Corporation	SCG	3.40%	3.49%	5.40%	5.10%	5.30%	5.27%	8.76%	BBB+	5
Southern Company	SO	4.50%	4.58%	3.20%	3.70%	3.90%	3.60%	8.18%	A-	4
WEC Energy Group, Inc.	WEC	3.40%	3.51%	6.70%	6.80%	6.20%	6.57%	10.08%	A-	4
Xcel Energy Inc.	XEL	3.40%	3.49%	5.40%	5.30%	5.40%	5.37%	8.86%	A-	4
PROXY GROUP MEAN		3.50%	3.58%	4.67%	4.72%	4.78%	4.76%	8.32%	BBB+	4.8
PROXY GROUP MEDIAN		3.45%	3.54%	5.10%	5.05%	5.25%	5.22%	8.72%	BBB+	5.0

REGRESSION OUTPUT

Regression Statistics	
Multiple R	0.072271
R Square	0.005223
Adjusted R Square	-0.030305
Standard Error	0.021183
Observations	30

ANOVA

	df	SS	MS	F	Signif. F
Regression	1	0.000066	0.000066	0.147015	0.704300
Residual	28	0.012564	0.000449		
Total	29	0.012630			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	0.089489	0.016775	5.334623	0.000011	0.055127	0.123851
Credit Rating	-0.001304	0.003401	-0.383426	0.704300	-0.008270	0.005662

Notes:

- [1] Source: JRW-10
- [2] Equals [1] x (1 + 0.5 x [6])
- [3] Source: JRW-10
- [4] Source: JRW-10
- [5] Source: JRW-10
- [6] Equals Average([3], [4], [5])
- [7] Equals [4] + [8]
- [8] Source: JRW-4

Proxy Group Capital Structure

Company	Ticker	% Common Equity								
		2016Q2	2016Q1	2015Q4	2015Q3	2015Q2	2015Q1	2014Q4	2014Q3	Average
ALLETE, Inc.	ALE	59.08%	58.83%	58.04%	58.01%	58.93%	58.70%	56.98%	56.18%	58.09%
Alliant Energy Corporation	LNT	51.22%	51.65%	51.24%	51.27%	51.18%	50.32%	50.11%	54.23%	51.40%
Ameren Corporation	AEE	53.11%	52.82%	52.22%	53.40%	52.44%	52.88%	52.82%	54.54%	53.03%
American Electric Power Company, Inc.	AEP	49.66%	49.13%	48.82%	49.13%	49.63%	52.23%	52.11%	52.27%	50.37%
Avista Corporation	AVA	55.46%	55.13%	54.30%	54.95%	54.98%	54.81%	51.39%	52.62%	54.20%
Black Hills Corp.	BKH	52.80%	52.88%	52.87%	52.54%	52.29%	52.22%	57.65%	64.57%	54.72%
CMS Energy Corporation	CMS	52.32%	51.42%	50.63%	51.44%	51.15%	51.35%	50.21%	49.99%	51.06%
DTE Energy Company	DTE	49.35%	50.53%	50.39%	50.32%	49.81%	48.42%	50.39%	49.32%	49.82%
IDACORP, Inc.	IDA	52.46%	50.70%	52.34%	52.25%	51.61%	49.38%	52.94%	52.92%	51.82%
NorthWestern Corporation	NWE	47.66%	47.54%	47.31%	46.01%	46.97%	47.54%	47.06%	47.78%	47.24%
OGE Energy Corp.	OGE	55.50%	55.17%	54.30%	54.38%	53.31%	52.98%	53.08%	55.43%	54.27%
Otter Tail Corporation	OTTR	54.15%	53.10%	52.75%	52.51%	52.32%	51.13%	49.80%	49.32%	51.89%
Pinnacle West Capital Corporation	PNW	53.13%	55.54%	55.50%	57.11%	55.72%	55.86%	57.54%	58.43%	56.10%
PNM Resources, Inc.	PNM	44.88%	45.35%	45.32%	44.76%	45.63%	46.11%	45.86%	47.43%	45.67%
Portland General Electric Company	POR	49.64%	50.89%	50.61%	50.31%	49.57%	44.11%	43.31%	44.86%	47.91%
SCANA Corporation	SCG	50.84%	52.77%	52.57%	52.55%	52.08%	53.72%	53.46%	53.47%	52.68%
WEC Energy Group Inc.	WEC	55.88%	55.80%	55.39%	56.72%	55.93%	56.91%	56.59%	56.38%	56.20%
Xcel Energy Inc.	XEL	54.17%	54.68%	54.43%	53.02%	53.88%	54.97%	54.62%	54.54%	54.29%
Mean		52.29%	52.44%	52.17%	52.26%	52.08%	51.87%	52.00%	53.02%	52.27%

Operating Company Capital Structure

Operating Company	Parent	% Common Equity								
		2016Q2	2016Q1	2015Q4	2015Q3	2015Q2	2015Q1	2014Q4	2014Q3	Average
ALLETE (Minnesota Power)	ALE	56.63%	56.60%	55.86%	55.62%	57.67%	57.56%	55.24%	53.98%	56.15%
Superior Water, Light and Power Company	ALE	61.52%	61.06%	60.23%	60.40%	60.19%	59.83%	58.72%	58.39%	60.04%
Interstate Power and Light Company	LNT	50.54%	51.52%	50.91%	50.90%	51.72%	50.09%	49.90%	54.01%	51.20%
Wisconsin Power and Light Company	LNT	51.89%	51.78%	51.56%	51.63%	50.65%	50.54%	50.32%	54.45%	51.60%
Ameren Illinois Company	AEE	55.11%	53.67%	53.42%	55.55%	54.67%	54.39%	53.90%	56.91%	54.70%
Union Electric Company	AEE	51.10%	51.97%	51.03%	51.25%	50.21%	51.37%	51.74%	52.17%	51.35%
AEP Texas Central Company	AEP	45.01%	44.18%	43.63%	43.32%	47.46%	45.01%	42.39%	43.93%	44.37%
AEP Texas North Company	AEP	42.84%	42.64%	42.36%	42.36%	45.03%	48.87%	47.15%	46.96%	45.36%
Appalachian Power Company	AEP	46.41%	47.20%	46.77%	46.66%	46.50%	46.52%	45.83%	46.29%	46.52%
Indiana Michigan Power Company	AEP	48.50%	48.26%	52.65%	52.41%	52.08%	51.94%	51.36%	51.45%	51.08%
Kentucky Power Company	AEP	43.50%	43.58%	43.26%	43.72%	43.87%	44.19%	44.74%	46.25%	44.14%
Kingsport Power Company	AEP	64.34%	65.21%	59.70%	59.76%	60.44%	60.77%	61.00%	60.55%	61.47%
Ohio Power Company	AEP	54.87%	50.03%	50.09%	50.36%	50.33%	49.30%	48.96%	46.03%	49.99%
Public Service Company of Oklahoma	AEP	47.42%	46.80%	46.45%	46.30%	45.29%	44.66%	49.69%	49.43%	47.00%
Southwestern Electric Power Company	AEP	49.66%	49.51%	49.59%	49.88%	47.62%	46.25%	50.46%	50.60%	49.20%
Wheeling Power Company	AEP	54.08%	53.90%	53.73%	53.89%	53.82%	66.56%	79.75%	81.14%	64.61%
Alaska Electric Light and Power Company	AVA	59.10%	58.86%	58.18%	58.09%	58.07%	57.83%	NA	NA	NA
Avista Corporation	AVA	51.82%	51.39%	50.41%	51.80%	51.90%	51.78%	51.39%	52.62%	51.64%
Black Hills Power Company	BKH	53.13%	53.27%	53.35%	53.22%	53.20%	52.94%	52.23%	58.72%	53.76%
Black Hills Corp.	BKH	52.47%	52.45%	52.39%	51.85%	51.37%	51.50%	63.07%	70.42%	55.69%
Consumers Energy Company	CMS	52.32%	51.42%	50.63%	51.44%	51.15%	51.35%	50.21%	49.99%	51.06%
DTE Electric Company	DTE	49.35%	50.53%	50.39%	50.32%	49.81%	48.42%	50.39%	49.32%	49.82%
Idaho Power Co.	IDA	52.46%	50.70%	52.34%	52.25%	51.61%	49.38%	52.94%	52.92%	51.82%
NorthWestern Corporation	NWE	47.66%	47.54%	47.31%	46.01%	46.97%	47.54%	47.06%	47.78%	47.24%
Oklahoma Gas and Electric Company	OGE	55.50%	55.17%	54.30%	54.38%	53.31%	52.98%	53.08%	55.43%	54.27%
Otter Tail Power Company	OTTR	54.15%	53.10%	52.75%	52.51%	52.32%	51.13%	49.80%	49.32%	51.89%
Arizona Public Service Company	PNW	53.13%	55.54%	55.50%	57.11%	55.72%	55.86%	57.54%	58.43%	56.10%
Public Service Company of New Mexico	PNM	44.88%	45.35%	45.32%	44.76%	45.63%	46.11%	45.86%	47.43%	45.67%
Texas-New Mexico Power Company	PNM	NA	NA	NA	NA	NA	NA	NA	NA	NA
Portland General Electric Company	POR	49.64%	50.89%	50.61%	50.31%	49.57%	44.11%	43.31%	44.86%	47.91%
South Carolina Electric & Gas Co.	SCG	50.84%	52.77%	52.57%	52.55%	52.08%	53.72%	53.46%	53.47%	52.68%
Wisconsin Electric Power Company	WEC	57.15%	56.95%	57.25%	57.07%	56.76%	59.02%	58.57%	58.45%	57.65%
Wisconsin Public Service Corporation	WEC	54.61%	54.65%	53.53%	56.36%	55.10%	54.80%	54.61%	54.32%	54.75%
Northern States Power Company - MN	XEL	51.86%	53.68%	53.26%	51.95%	53.34%	53.03%	52.89%	52.84%	52.86%
Northern States Power Company - WI	XEL	54.57%	54.43%	54.27%	52.92%	52.53%	56.36%	55.18%	55.01%	54.41%
Public Service Company of Colorado	XEL	55.93%	56.49%	56.34%	56.00%	55.55%	56.94%	56.79%	56.51%	56.32%
Southwestern Public Service Company	XEL	54.30%	54.13%	53.83%	51.20%	54.08%	53.54%	53.62%	53.81%	53.56%
Mean		52.17%	52.14%	51.83%	51.91%	51.99%	52.62%	52.66%	53.55%	52.23%

Source: SNL Financial

Proxy Group Capital Structure

Company	Ticker	% Long-Term Debt								
		2016Q2	2016Q1	2015Q4	2015Q3	2015Q2	2015Q1	2014Q4	2014Q3	Average
ALLETE, Inc.	ALE	40.92%	41.17%	41.96%	41.99%	41.07%	41.30%	43.02%	43.82%	41.91%
Alliant Energy Corporation	LNT	48.78%	48.35%	48.76%	48.73%	48.82%	49.68%	49.89%	45.77%	48.60%
Ameren Corporation	AEE	46.89%	47.18%	47.78%	46.60%	47.56%	47.12%	47.18%	45.46%	46.97%
American Electric Power Company, Inc.	AEP	50.34%	50.87%	51.18%	50.87%	50.37%	47.77%	47.89%	47.73%	49.63%
Avista Corporation	AVA	44.54%	44.87%	45.70%	45.05%	45.02%	45.19%	48.61%	47.38%	45.80%
Black Hills Corp.	BKH	47.20%	47.14%	47.13%	47.46%	47.71%	47.78%	42.35%	35.43%	45.28%
CMS Energy Corporation	CMS	47.68%	48.58%	49.37%	48.56%	48.85%	48.65%	49.79%	50.01%	48.94%
DTE Energy Company	DTE	50.65%	49.47%	49.61%	49.68%	50.19%	51.58%	49.61%	50.68%	50.18%
IDACORP, Inc.	IDA	47.54%	49.30%	47.66%	47.75%	48.39%	50.62%	47.06%	47.08%	48.18%
NorthWestern Corporation	NWE	52.34%	52.46%	52.69%	53.99%	53.03%	52.46%	52.94%	52.22%	52.76%
OGE Energy Corp.	OGE	44.50%	44.83%	45.70%	45.62%	46.69%	47.02%	46.92%	44.57%	45.73%
Otter Tail Corporation	OTTR	45.85%	46.90%	47.25%	47.49%	47.68%	48.87%	50.20%	50.68%	48.11%
Pinnacle West Capital Corporation	PNW	46.87%	44.46%	44.50%	42.89%	44.28%	44.14%	42.46%	41.57%	43.90%
PNM Resources, Inc.	PNM	55.12%	54.65%	54.68%	55.24%	54.37%	53.89%	54.14%	52.57%	54.33%
Portland General Electric Company	POR	50.36%	49.11%	49.39%	49.69%	50.43%	55.89%	56.69%	55.14%	52.09%
SCANA Corporation	SCG	49.16%	47.23%	47.43%	47.45%	47.92%	46.28%	46.54%	46.53%	47.32%
WEC Energy Group Inc.	WEC	44.12%	44.20%	44.61%	43.28%	44.07%	43.09%	43.41%	43.62%	43.80%
Xcel Energy Inc.	XEL	45.83%	45.32%	45.57%	46.98%	46.12%	45.03%	45.38%	45.46%	45.71%
Mean		47.71%	47.56%	47.83%	47.74%	47.92%	48.13%	48.00%	46.98%	47.73%

Operating Company Capital Structure

Operating Company	Parent	% Long-Term Debt								
		2016Q2	2016Q1	2015Q4	2015Q3	2015Q2	2015Q1	2014Q4	2014Q3	Average
ALLETE (Minnesota Power)	ALE	43.37%	43.40%	44.14%	44.38%	42.33%	42.44%	44.76%	46.02%	43.85%
Superior Water, Light and Power Company	ALE	38.48%	38.94%	39.77%	39.60%	39.81%	40.17%	41.28%	41.61%	39.96%
Interstate Power and Light Company	LNT	49.46%	48.48%	49.09%	49.10%	48.28%	49.91%	50.10%	45.99%	48.80%
Wisconsin Power and Light Company	LNT	48.11%	48.22%	48.44%	48.37%	49.35%	49.46%	49.68%	45.55%	48.40%
Ameren Illinois Company	AEE	44.89%	46.33%	46.58%	44.45%	45.33%	45.61%	46.10%	43.09%	45.30%
Union Electric Company	AEE	48.90%	48.03%	48.97%	48.75%	49.79%	48.63%	48.26%	47.83%	48.65%
AEP Texas Central Company	AEP	54.99%	55.82%	56.37%	56.68%	52.54%	54.99%	57.61%	56.07%	55.63%
AEP Texas North Company	AEP	57.16%	57.36%	57.64%	54.97%	51.13%	52.85%	53.04%	52.94%	54.64%
Appalachian Power Company	AEP	53.59%	52.80%	53.23%	53.34%	53.50%	53.48%	54.17%	53.71%	53.48%
Indiana Michigan Power Company	AEP	51.50%	51.74%	47.35%	47.59%	47.92%	48.06%	48.64%	48.55%	48.92%
Kentucky Power Company	AEP	56.50%	56.42%	56.74%	56.28%	56.13%	55.81%	55.26%	53.75%	55.86%
Kingsport Power Company	AEP	35.66%	34.79%	40.30%	40.24%	39.56%	39.23%	39.00%	39.45%	38.53%
Ohio Power Company	AEP	45.13%	49.97%	49.91%	49.64%	49.67%	50.70%	51.04%	53.97%	50.01%
Public Service Company of Oklahoma	AEP	52.58%	53.20%	53.55%	53.70%	54.71%	55.34%	50.31%	50.57%	53.00%
Southwestern Electric Power Company	AEP	50.34%	50.49%	50.41%	50.12%	52.38%	53.75%	49.54%	49.40%	50.80%
Wheeling Power Company	AEP	45.92%	46.10%	46.27%	46.11%	46.18%	13.44%	20.25%	18.86%	35.39%
Alaska Electric Light and Power Company	AVA	40.90%	41.14%	41.82%	41.91%	41.93%	42.17%	NA	NA	NA
Avista Corporation	AVA	48.18%	48.61%	49.59%	48.20%	48.10%	48.22%	48.61%	47.38%	48.36%
Black Hills Power Company	BKH	46.87%	46.73%	46.65%	46.78%	46.80%	47.06%	47.77%	41.28%	46.24%
Black Hills Corp.	BKH	47.53%	47.55%	47.61%	48.15%	48.63%	48.50%	36.93%	29.58%	44.31%
Consumers Energy Company	CMS	47.68%	48.58%	49.37%	48.56%	48.85%	48.65%	49.79%	50.01%	48.94%
DTE Electric Company	DTE	50.65%	49.47%	49.61%	49.68%	50.19%	51.58%	49.61%	50.68%	50.18%
Idaho Power Co.	IDA	47.54%	49.30%	47.66%	47.75%	48.39%	50.62%	47.06%	47.08%	48.18%
NorthWestern Corporation	NWE	52.34%	52.46%	52.69%	53.99%	53.03%	52.46%	52.94%	52.22%	52.76%
Oklahoma Gas and Electric Company	OGE	44.50%	44.83%	45.70%	45.62%	46.69%	47.02%	46.92%	44.57%	45.73%
Otter Tail Power Company	OTTR	45.85%	46.90%	47.25%	47.49%	47.68%	48.87%	50.20%	50.68%	48.11%
Arizona Public Service Company	PNW	46.87%	44.46%	44.50%	42.89%	44.28%	44.14%	42.46%	41.57%	43.90%
Public Service Company of New Mexico	PNM	55.12%	54.65%	54.68%	55.24%	54.37%	53.89%	54.14%	52.57%	54.33%
Texas-New Mexico Power Company	PNM	NA	NA	NA	NA	NA	NA	NA	NA	NA
Portland General Electric Company	POR	50.36%	49.11%	49.39%	49.69%	50.43%	55.89%	56.69%	55.14%	52.09%
South Carolina Electric & Gas Co.	SCG	49.16%	47.23%	47.43%	47.45%	47.92%	46.28%	46.54%	46.53%	47.32%
Wisconsin Electric Power Company	WEC	42.85%	43.05%	42.75%	42.93%	43.24%	40.98%	41.43%	41.55%	42.35%
Wisconsin Public Service Corporation	WEC	45.39%	45.35%	46.47%	43.64%	44.90%	45.20%	45.39%	45.68%	45.25%
Northern States Power Company - MN	XEL	48.14%	46.32%	46.74%	48.05%	46.66%	46.97%	47.11%	47.16%	47.14%
Northern States Power Company - WI	XEL	45.43%	45.57%	45.73%	47.08%	47.47%	43.64%	44.82%	44.99%	45.59%
Public Service Company of Colorado	XEL	44.07%	43.51%	43.66%	44.00%	44.45%	43.06%	43.21%	43.49%	43.68%
Southwestern Public Service Company	XEL	45.70%	45.87%	46.17%	48.80%	45.92%	46.46%	46.38%	46.19%	46.44%
Mean		47.83%	47.86%	48.17%	48.09%	48.01%	47.38%	47.34%	46.45%	47.77%

Analysis Using Goman's Rolling Average Equity Risk Premium Data

Year	Authorized Electric Returns	Treasury Bond Yield	Indicated Risk Premium	Rolling 5-Year Average Treasury	Rolling 5-Year Average Risk Premium	Slope	Rolling 10-Year Average Treasury	Rolling 10-Year Average Risk Premium	Slope
1986	13.93%	7.80%	6.13%						
1987	12.99%	8.58%	4.41%						
1988	12.79%	8.96%	3.83%						
1989	12.97%	8.45%	4.52%						
1990	12.70%	8.61%	4.09%	8.48%	4.60%	-46.40%			-47.87%
1991	12.55%	8.14%	4.41%	8.55%	4.25%				
1992	12.09%	7.67%	4.42%	8.36%	4.26%				
1993	11.41%	6.60%	4.81%	7.89%	4.45%				
1994	11.34%	7.37%	3.97%	7.66%	4.34%				
1995	11.55%	6.88%	4.67%	7.33%	4.46%		7.91%	4.53%	
1996	11.39%	6.70%	4.69%	7.04%	4.51%		7.80%	4.38%	
1997	11.40%	6.61%	4.79%	6.83%	4.59%		7.60%	4.42%	
1998	11.66%	5.58%	6.08%	6.83%	4.84%		7.25%	4.65%	
1999	10.77%	5.87%	4.90%	6.33%	5.03%		7.00%	4.63%	
2000	11.43%	5.94%	5.49%	6.14%	5.19%		6.73%	4.82%	
2001	11.09%	5.49%	5.60%	5.90%	5.37%		6.47%	4.94%	
2002	11.16%	5.43%	5.73%	5.66%	5.56%		6.25%	5.07%	
2003	10.97%	4.96%	6.01%	5.54%	5.55%		6.08%	5.19%	
2004	10.75%	5.05%	5.70%	5.37%	5.71%		5.85%	5.37%	
2005	10.54%	4.65%	5.89%	5.11%	5.79%		5.63%	5.49%	
2006	10.34%	4.99%	5.35%	5.01%	5.74%		5.46%	5.56%	
2007	10.31%	4.83%	5.48%	4.90%	5.69%		5.28%	5.62%	
2008	10.37%	4.28%	6.09%	4.76%	5.70%		5.15%	5.62%	
2009	10.52%	4.07%	6.45%	4.56%	5.85%		4.97%	5.78%	
2010	10.29%	4.25%	6.04%	4.49%	5.88%		4.80%	5.83%	
2011	10.19%	3.91%	6.28%	4.27%	6.07%		4.64%	5.90%	
2012	10.01%	2.92%	7.09%	3.89%	6.39%		4.39%	6.04%	
2013	9.81%	3.45%	6.36%	3.72%	6.44%		4.24%	6.07%	
2014	9.75%	3.34%	6.41%	3.57%	6.44%		4.07%	6.14%	
2015	9.60%	2.84%	6.76%	3.29%	6.58%		3.89%	6.23%	
2016	9.64%	2.52%	7.12%	3.01%	6.75%		3.64%	6.41%	
Average	11.17%	5.70%	5.47%	5.72%	5.41%		5.69%	5.40%	
Minimum				3.01%	4.25%		3.64%	4.38%	
Maximum				8.55%	6.75%		7.91%	6.41%	

Source: Exhibit MPG-13

Analysis Using Gorman's Rolling Average Equity Risk Premium Data

Year	Authorized Electric Returns	Utility Bond Yield	Rolling Indicated Risk Premium	Rolling 5-Year Average Utility Bond	5-Year Average Risk Premium	Rolling Slope	Rolling 10-Year Average Utility Bond	10-Year Average Risk Premium	Slope
1986	13.93%	9.58%	4.35%						
1987	12.99%	10.10%	2.89%						
1988	12.79%	10.49%	2.30%						
1989	12.97%	9.77%	3.20%						
1990	12.70%	9.86%	2.84%	9.96%	3.12%	-45.63%			-45.11%
1991	12.55%	9.36%	3.19%	9.92%	2.88%				
1992	12.09%	8.69%	3.40%	9.63%	2.99%				
1993	11.41%	7.59%	3.82%	9.05%	3.29%				
1994	11.34%	8.31%	3.03%	8.76%	3.26%				
1995	11.55%	7.89%	3.66%	8.37%	3.42%		9.16%	3.27%	
1996	11.39%	7.75%	3.64%	8.05%	3.51%		8.98%	3.20%	
1997	11.40%	7.60%	3.80%	7.83%	3.59%		8.73%	3.29%	
1998	11.66%	7.04%	4.62%	7.72%	3.75%		8.39%	3.52%	
1999	10.77%	7.62%	3.15%	7.58%	3.77%		8.17%	3.52%	
2000	11.43%	8.24%	3.19%	7.65%	3.68%		8.01%	3.55%	
2001	11.09%	7.76%	3.33%	7.65%	3.62%		7.85%	3.56%	
2002	11.16%	7.37%	3.79%	7.61%	3.61%		7.72%	3.60%	
2003	10.97%	6.58%	4.39%	7.52%	3.57%		7.62%	3.66%	
2004	10.75%	6.16%	4.59%	7.22%	3.86%		7.40%	3.81%	
2005	10.54%	5.65%	4.89%	6.71%	4.20%		7.18%	3.94%	
2006	10.34%	6.07%	4.27%	6.37%	4.39%		7.01%	4.00%	
2007	10.31%	6.07%	4.24%	6.11%	4.46%		6.86%	4.04%	
2008	10.37%	6.53%	3.84%	6.10%	4.37%		6.81%	3.97%	
2009	10.52%	6.04%	4.48%	6.07%	4.34%		6.65%	4.10%	
2010	10.29%	5.46%	4.83%	6.03%	4.33%		6.37%	4.26%	
2011	10.19%	5.04%	5.15%	5.83%	4.51%		6.10%	4.45%	
2012	10.01%	4.13%	5.88%	5.44%	4.84%		5.77%	4.66%	
2013	9.81%	4.48%	5.33%	5.03%	5.13%		5.56%	4.75%	
2014	9.75%	4.28%	5.47%	4.68%	5.33%		5.37%	4.84%	
2015	9.60%	4.12%	5.48%	4.41%	5.46%		5.22%	4.90%	
2016	9.64%	3.89%	5.75%	4.18%	5.58%		5.00%	5.05%	
Average	11.17%	7.08%	4.09%	7.09%	4.03%		7.09%	4.00%	
Minimum				4.18%	2.88%		5.00%	3.20%	
Maximum				9.96%	5.58%		9.16%	5.05%	

Source: Exhibit MPG-14

Analysis Using Gorman's Rolling Average Equity Risk Premium Data

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.978904
R Square	0.958253
Adjusted R Square	0.956583
Standard Error	0.001631
Observations	27

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.001527	0.001527	573.845818	0.000000
Residual	25	0.000067	0.000003		
Total	26	0.001593			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.080601	0.001151	70.038382	0.000000	0.078230	0.082971	0.078230	0.082971
X Variable 1	-0.464047	0.019372	-23.955079	0.000000	-0.503944	-0.424151	-0.503944	-0.424151

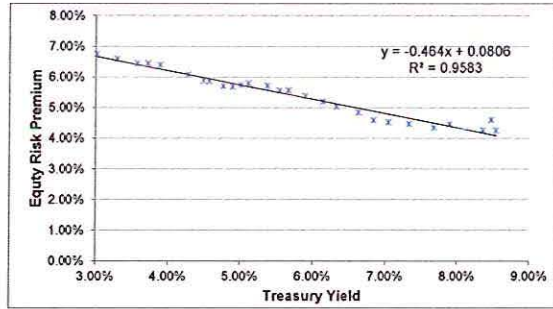
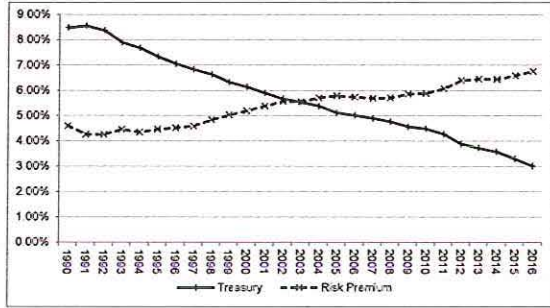
SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.978809
R Square	0.958067
Adjusted R Square	0.956389
Standard Error	0.001586
Observations	27

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.001437	0.001437	571.183261	0.000000
Residual	25	0.000063	0.000003		
Total	26	0.001500			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.072681	0.001388	52.367148	0.000000	0.069822	0.075539	0.069822	0.075539
X Variable 1	-0.456325	0.019094	-23.899441	0.000000	-0.495649	-0.417001	-0.495649	-0.417001



Analysis Using Mr. Goman's Annual Equity Risk Premium Data

Year	ROE	Utility "A" Bond Yield	Treasury Bond Yield	Credit Spread	Treasury Equity Risk Premium	Utility Bond Equity Risk Premium	Treasury Yield	Credit Spread
1986	13.93%	9.58%	7.80%	1.78%	6.13%	4.35%	7.80%	1.78%
1987	12.99%	10.10%	8.58%	1.52%	4.41%	2.89%	8.58%	1.52%
1988	12.79%	10.49%	8.96%	1.53%	3.83%	2.30%	8.96%	1.53%
1989	12.97%	9.77%	8.45%	1.32%	4.52%	3.20%	8.45%	1.32%
1990	12.70%	9.86%	8.61%	1.25%	4.09%	2.84%	8.61%	1.25%
1991	12.55%	9.36%	8.14%	1.22%	4.41%	3.19%	8.14%	1.22%
1992	12.09%	8.69%	7.67%	1.02%	4.42%	3.40%	7.67%	1.02%
1993	11.41%	7.59%	6.60%	0.99%	4.81%	3.82%	6.60%	0.99%
1994	11.34%	8.31%	7.37%	0.94%	3.97%	3.03%	7.37%	0.94%
1995	11.55%	7.89%	6.88%	1.01%	4.67%	3.66%	6.88%	1.01%
1996	11.39%	7.75%	6.70%	1.05%	4.69%	3.64%	6.70%	1.05%
1997	11.40%	7.60%	6.61%	0.99%	4.79%	3.60%	6.61%	0.99%
1998	11.66%	7.04%	5.58%	1.46%	6.08%	4.62%	5.58%	1.46%
1999	10.77%	7.62%	5.87%	1.75%	4.90%	3.15%	5.87%	1.75%
2000	11.43%	8.24%	5.94%	2.30%	5.49%	3.19%	5.94%	2.30%
2001	11.09%	7.76%	5.49%	2.27%	5.60%	3.33%	5.49%	2.27%
2002	11.16%	7.37%	5.43%	1.94%	5.73%	3.79%	5.43%	1.94%
2003	10.97%	6.58%	4.96%	1.62%	6.01%	4.39%	4.96%	1.62%
2004	10.75%	6.16%	5.05%	1.11%	5.70%	4.59%	5.05%	1.11%
2005	10.54%	5.65%	4.65%	1.00%	5.89%	4.89%	4.65%	1.00%
2006	10.34%	6.07%	4.99%	1.08%	5.35%	4.27%	4.99%	1.08%
2007	10.31%	6.07%	4.83%	1.24%	5.48%	4.24%	4.83%	1.24%
2008	10.37%	6.53%	4.28%	2.25%	6.09%	3.84%	4.28%	2.25%
2009	10.52%	6.04%	4.07%	1.97%	6.45%	4.48%	4.07%	1.97%
2010	10.29%	5.46%	4.25%	1.21%	6.04%	4.83%	4.25%	1.21%
2011	10.19%	5.04%	3.91%	1.13%	6.28%	5.15%	3.91%	1.13%
2012	10.01%	4.13%	2.92%	1.21%	7.09%	5.88%	2.92%	1.21%
2013	9.81%	4.48%	3.45%	1.03%	6.36%	5.33%	3.45%	1.03%
2014	9.75%	4.28%	3.34%	0.94%	6.41%	5.47%	3.34%	0.94%
2015	9.60%	4.12%	2.84%	1.27%	6.76%	5.48%	2.84%	1.27%
2016	9.64%	3.89%	2.52%	1.37%	7.12%	5.75%	2.52%	1.37%

Sources: Exhibit MPG-13 and MPG-14

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.900422
R Square	0.810759
Adjusted R Square	0.804233
Standard Error	0.004118
Observations	31

ANOVA					
	df	SS	MS	F	Significance F
Regression	1	0.002107	0.002107	124.243725	0.000000
Residual	29	0.000492	0.000017		
Total	30	0.002599			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	0.080105	0.002396	33.436484	0.000000	0.075205	0.085005
Treasury Yield	-0.445545	0.039972	-11.146467	0.000000	-0.527296	-0.363793

RESIDUAL OUTPUT

Observation	Predicted Equity Risk Premium	Residuals	$(e_i - e_{i-1})^2$	$(e_i)^2$
1	0.045359716	0.015956951		
2	0.041877041	0.002222959	0.00019	0.00000
3	0.040187684	-0.001878351	0.00002	0.00000
4	0.042459952	0.002748371	0.00002	0.00001
5	0.041750804	-0.000834137	0.00001	0.00000
6	0.043856003	0.000285664	0.00000	0.00000
7	0.04594635	-0.001713017	0.00000	0.00000
8	0.050706253	-0.002589588	0.00000	0.00001
9	0.047268133	-0.007568133	0.00002	0.00006
10	0.049432738	-0.002774404	0.00002	0.00001
11	0.05024957	-0.003357903	0.00000	0.00001
12	0.050672837	-0.00273117	0.00000	0.00001
13	0.055250809	0.005565857	0.00007	0.00003
14	0.053969868	-0.004928202	0.00011	0.00002
15	0.053628284	0.001246716	0.00004	0.00000
16	0.055629522	0.000337144	0.00000	0.00000
17	0.055911701	0.001388299	0.00000	0.00000
18	0.0580169	0.0021081	0.00000	0.00000
19	0.057619622	-0.000586289	0.00001	0.00000
20	0.059405514	-0.000463847	0.00000	0.00000
21	0.057860959	-0.004385959	0.00002	0.00002
22	0.058566405	-0.003808071	0.00000	0.00001
23	0.061039178	-0.000130845	0.00001	0.00000
24	0.061974822	0.002533511	0.00001	0.00001
25	0.061165416	-0.000773749	0.00001	0.00000
26	0.062680268	0.000111399	0.00000	0.00000
27	0.067091161	0.003800506	0.00001	0.00001
28	0.064740912	-0.001124246	0.00002	0.00000
29	0.065223598	-0.001123586	0.00000	0.00000
30	0.067447597	0.00014407	0.00000	0.00000
31	0.068877053	0.002322947	0.00000	0.00001

	Durbin-Watson	2.58575	0.00024
dL		1.147	4-dL
dU		1.274	2.853
DW>2	TRUE		
DW<4-dU?	TRUE	No Autocorrelation	

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.916547
R Square	0.840059
Adjusted R Square	0.834544
Standard Error	0.003856
Observations	31

ANOVA					
	df	SS	MS	F	Significance F
Regression	1	0.002264	0.002264	152.317172	0.000000
Residual	29	0.000431	0.000015		
Total	30	0.002695			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	0.072920	0.002685	27.155980	0.000000	0.067428	0.078412
Utility "A" Bond Yield	-0.452169	0.036638	-12.341684	0.000000	-0.527101	-0.377237

RESIDUAL OUTPUT

Observation	Predicted Equity Risk Premium	Residuals	(e _i - e _{p,i}) ²	(e _i) ²
1	0.029601947	0.013898053	0.00015	0.00000
2	0.027250667	0.001849333	0.00002	0.00001
3	0.025487207	-0.002487207	0.00003	0.00001
4	0.028742826	0.003257174	0.00001	0.00000
5	0.028335873	6.41268E-05	0.00000	0.00000
6	0.030596719	0.001303281	0.00000	0.00000
7	0.033626253	0.000373747	0.00000	0.00000
8	0.038600115	-0.000400115	0.00000	0.00000
9	0.035344496	-0.005044496	0.00002	0.00003
10	0.037243607	-0.000643607	0.00002	0.00000
11	0.037876644	-0.001476644	0.00000	0.00000
12	0.038554898	-0.000554898	0.00000	0.00000
13	0.041087046	0.005112954	0.00003	0.00003
14	0.038464464	-0.006964464	0.00015	0.00005
15	0.035642174	-0.003783841	0.00001	0.00001
16	0.037820123	-0.004545123	0.00000	0.00002
17	0.039583583	-0.001708583	0.00001	0.00000
18	0.043163256	0.000728411	0.00001	0.00000
19	0.045085758	0.000633409	0.00000	0.00000
20	0.047375966	0.001532367	0.00000	0.00000
21	0.045480623	-0.002763957	0.00002	0.00001
22	0.045458015	-0.003091348	0.00000	0.00001
23	0.043400645	-0.004983978	0.00000	0.00002
24	0.045623495	-0.00079086	0.00002	0.00000
25	0.048225641	6.1801E-05	0.00000	0.00000
26	0.050125392	0.001383465	0.00000	0.00000
27	0.054241613	0.00455052	0.00001	0.00002
28	0.052680183	0.000658751	0.00002	0.00000
29	0.05357863	0.001147276	0.00000	0.00000
30	0.054311202	0.000534831	0.00000	0.00000
31	0.055330377	0.002169623	0.00000	0.00000
			0.00053	0.00024
		Durbin-Watson	2.22614	
	dL		1.147	4-dL
	dU		1.274	2.853
	DW>2	TRUE		2.728
	DW<4-dU?	TRUE	No Autocorrelation	

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.916406
R Square	0.839800
Adjusted R Square	0.828357
Standard Error	0.003856
Observations	31

ANOVA					
	df	SS	MS	F	Significance F
Regression	2	0.002183	0.001091	73.390525	0.000000
Residual	28	0.000416	0.000015		
Total	30	0.002599			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	0.074767	0.003263	22.914675	0.000000	0.068083	0.081450
Treasury Yield	-0.444549	0.037431	-11.876584	0.000000	-0.521223	-0.367876
Credit Spread	0.382569	0.169809	2.252942	0.032285	0.034732	0.730406

RESIDUAL OUTPUT

Observation	Predicted Equity Risk Premium	Residuals	$(e_i - e_{i-1})^2$	$(e_i)^2$
1	0.046915427	0.014401239		
2	0.042439478	0.001860522	0.00016	0.00000
3	0.040795338	-0.002487006	0.00002	0.00001
4	0.042259147	0.002949186	0.00003	0.00001
5	0.041286963	-0.000370296	0.00001	0.00000
6	0.043282253	0.000859414	0.00000	0.00000
7	0.044599605	-0.000366272	0.00000	0.00000
8	0.049227728	-0.001111061	0.00000	0.00000
9	0.045599628	-0.005899628	0.00002	0.00003
10	0.048011255	-0.001352921	0.00002	0.00000
11	0.048992042	-0.002100375	0.00000	0.00000
12	0.049203951	-0.001262284	0.00000	0.00000
13	0.055560205	0.005256462	0.00004	0.00003
14	0.055401139	-0.006359472	0.00013	0.00004
15	0.057154881	-0.002279881	0.00002	0.00001
16	0.059027314	-0.003060647	0.00000	0.00001
17	0.058059138	-0.000759138	0.00001	0.00000
18	0.058938602	0.001186398	0.00000	0.00000
19	0.056591431	0.000441902	0.00000	0.00000
20	0.057952189	0.000989478	0.00000	0.00000
21	0.056688446	-0.003213446	0.00002	0.00001
22	0.058017179	-0.003256845	0.00000	0.00001
23	0.064348371	-0.003440038	0.00000	0.00001
24	0.064204624	0.000303709	0.00001	0.00000
25	0.060500417	-0.00010875	0.00000	0.00000
26	0.061705289	0.001086378	0.00000	0.00000
27	0.06641113	0.004490536	0.00001	0.00002
28	0.063389168	0.000247498	0.00002	0.00000
29	0.063505059	0.000594941	0.00000	0.00000
30	0.067013948	0.000577719	0.00000	0.00000
31	0.068805321	0.002394679	0.00000	0.00001
			0.00054	0.00021
		Durbin-Watson	2.58115	
	dL		1.085	4-dL
	dU		1.345	2.915
	DW>2	TRUE		2.655
	DW<4-dU	TRUE	No Autocorrelation	

Mr. Gorman's Financial Integrity Analysis (Exhibit MPG-19)

Description	Retail				Reference
	Cost of Service Amount (1)	S&P Benchmark (Medial Volatity)			
		Intermediate (2)	Significant (3)	Aggressive (4)	
Rate Base	\$ 2,576,273,286				Schedule RAK-1 (KCPL-MO).
Weighted Common Return	4.49%				Page 2, Line 2, Col 4.
Pre-Tax Rate of Return	10.05%				Page 2, Line 3, Col 5.
Income to Common	\$ 115,656,589				Line 1 x Line 2.
EBIT	\$ 258,868,491				Line 1 x Line 3.
Depreciation & Amortization	\$ 148,735,448				Schedule RAK-3 (KCPL-MO).
Imputed Amortization	\$ 16,707,260				S&P Capital IQ, downloaded on October 25, 2016.
Deferred Income Taxes & ITC	\$ 13,528,201				Schedule RAK-3 (KCPL-MO).
Funds from Operations (FFO)	\$ 294,627,498				Sum of Line 4 and Lines 8 through 8.
Imputed & Capitalized Interest Expense	\$ 15,240,365				S&P Capital IQ, downloaded on October 25, 2016.
EBITDA	\$ 439,551,564				Sum of Lines 5 through 7 and Line 10.
Total Debt Ratio	51.7%				Page 3, Line 3, Col 2
Debt to EBITDA	3.03x	2.5x - 3.5x	3.5x - 4.5x	4.5x - 5.5x	(Line 1 x Line 12) / Line 11.
FFO to Total Debt	22.12%	23% - 35%	13% - 23%	9% - 13%	Line 9 / (Line 1 x Line 12).

Gorman's Financial Integrity Analysis, ROE of 9.90%

Description	Retail				Reference
	Cost of Service Amount (1)	S&P Benchmark (Medial Volatity)			
		Intermediate (2)	Significant (3)	Aggressive (4)	
Rate Base	\$ 2,576,273,286				Schedule RAK-1 (KCPL-MO).
Weighted Common Return	4.94%				Page 2, Line 2, Col 4.
Pre-Tax Rate of Return	10.78%				Page 2, Line 3, Col 5.
Income to Common	\$ 127,222,248				Line 1 x Line 2.
EBIT	\$ 277,640,828				Line 1 x Line 3.
Depreciation & Amortization	\$ 148,735,448				Schedule RAK-3 (KCPL-MO).
Imputed Amortization	\$ 16,707,260				S&P Capital IQ, downloaded on October 25, 2016.
Deferred Income Taxes & ITC	\$ 13,528,201				Schedule RAK-3 (KCPL-MO).
Funds from Operations (FFO)	\$ 306,193,157				Sum of Line 4 and Lines 6 through 8.
Imputed Interest Expense	\$ 15,240,365				S&P Capital IQ, downloaded on October 25, 2016.
EBITDA	\$ 458,323,901				Sum of Lines 5 through 7 and Line 10.
Total Debt Ratio	51.7%				Page 4, Line 3, Col 2
Debt to EBITDA	2.91x	2.5x - 3.5x	3.5x - 4.5x	4.5x - 5.5x	(Line 1 x Line 12) / Line 11.
FFO to Total Debt	22.99%	23% - 35%	13% - 23%	9% - 13%	Line 9 / (Line 1 x Line 12).

Gorman's Financial Integrity Analysis, ROE of 6.18%

Description	Retail				Reference
	Cost of Service Amount (1)	S&P Benchmark (Medial Volatity)			
		Intermediate (2)	Significant (3)	Aggressive (4)	
Rate Base	\$ 2,576,273,286				Schedule RAK-1 (KCPL-MO).
Weighted Common Return	3.08%				Page 2, Line 2, Col 4.
Pre-Tax Rate of Return	7.77%				Page 2, Line 3, Col 5.
Income to Common	\$ 79,417,524				Line 1 x Line 2.
EBIT	\$ 200,048,503				Line 1 x Line 3.
Depreciation & Amortization	\$ 148,735,448				Schedule RAK-3 (KCPL-MO).
Imputed Amortization	\$ 16,707,260				S&P Capital IQ, downloaded on October 25, 2016.
Deferred Income Taxes & ITC	\$ 13,528,201				Schedule RAK-3 (KCPL-MO).
Funds from Operations (FFO)	\$ 258,388,433				Sum of Line 4 and Lines 6 through 8.
Imputed Interest Expense	\$ 15,240,365				S&P Capital IQ, downloaded on October 25, 2016.
EBITDA	\$ 380,731,576				Sum of Lines 5 through 7 and Line 10.
Total Debt Ratio	51.7%				Page 4, Line 3, Col 2
Debt to EBITDA	3.50x	2.5x - 3.5x	3.5x - 4.5x	4.5x - 5.5x	(Line 1 x Line 12) / Line 11.
FFO to Total Debt	19.40%	23% - 35%	13% - 23%	9% - 13%	Line 9 / (Line 1 x Line 12).

Gorman's Financial Integrity Analysis, ROE of 2.12%

Description	Retail				Reference
	Cost of Service Amount (1)	S&P Benchmark (Medial Volatity)			
		Intermediate (2)	Significant (3)	Aggressive (4)	
Rate Base	\$ 2,576,273,286				Schedule RAK-1 (KCPL-MO).
Weighted Common Return	1.06%				Page 2, Line 2, Col 4.
Pre-Tax Rate of Return	4.48%				Page 2, Line 3, Col 5.
Income to Common	\$ 27,205,229				Line 1 x Line 2.
EBIT	\$ 115,302,204				Line 1 x Line 3.
Depreciation & Amortization	\$ 148,735,448				Schedule RAK-3 (KCPL-MO).
Imputed Amortization	\$ 16,707,260				S&P Capital IQ, downloaded on October 25, 2016.
Deferred Income Taxes & ITC	\$ 13,528,201				Schedule RAK-3 (KCPL-MO).
Funds from Operations (FFO)	\$ 206,176,138				Sum of Line 4 and Lines 6 through 8.
Imputed Interest Expense	\$ 15,240,365				S&P Capital IQ, downloaded on October 25, 2016.
EBITDA	\$ 295,985,277				Sum of Lines 5 through 7 and Line 10.
Total Debt Ratio	51.7%				Page 4, Line 3, Col 2
Debt to EBITDA	4.50x	2.5x - 3.5x	3.5x - 4.5x	4.5x - 5.5x	(Line 1 x Line 12) / Line 11.
FFO to Total Debt	15.48%	23% - 35%	13% - 23%	9% - 13%	Line 9 / (Line 1 x Line 12).

Source:
Exhibit MPG-19 (differences due to rounding)