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**MISSOURI PUBLIC SERVICE COMMISSION**

**FILE NO.: ER-2016-0179**

**REBUTTAL TESTIMONY**

**OF**

**ROBERT B. HEVERT**

**ON BEHALF OF**

**UNION ELECTRIC COMPANY  
d/b/a Ameren Missouri**

**Westborough, Massachusetts  
January 20, 2017**

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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.  
4 (“ScottMadden”), and my business address is 1900 West Park Drive, Suite 250, Westborough,  
5 MA 01581.

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

8 A. Yes, I am.

9 **Q. What is the purpose of your Rebuttal Testimony?**

10 A. On behalf of Union Electric Company d/b/a Ameren Missouri (“Ameren  
11 Missouri” or the “Company”) my Rebuttal Testimony responds to the Revenue Requirement  
12 Cost of Service Report (the “Staff Report”) submitted in this proceeding by the Missouri Public  
13 Service Commission Utility Services Division (“Staff”) as it relates to the recommended Return  
14 on Equity (“ROE”) for the Company. Dr. J. Randall Woolridge presents Staff’s ROE  
15 recommendation. I also respond to the direct testimony of Mr. Michael P. Gorman on behalf of  
16 Midwest Energy Consumer’s Group and Missouri Industrial Energy Consumers, as his direct  
17 testimony relates to the Company’s ROE. My analyses and conclusions are supported by the  
18 data presented in Schedules RBH-R1 through RBH-R18, which have been prepared by me or  
19 under my direction.

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

3           A.     In my Direct Testimony I recommended an ROE within a range of 9.75 percent to  
4 10.50 percent. As my Direct Testimony discussed, my ROE recommendation and the analytical  
5 results on which it is based reflect a variety of factors, including certain risks faced by Ameren  
6 Missouri (such as the regulatory environment in which the Company operates, the Company’s  
7 generation portfolio, and its capital expenditure plans), and consider prior Orders by the  
8 Commission.

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

17           **Q.     Please summarize the updated analyses contained in your Rebuttal**  
18 **Testimony.**

19           A.     In response to the Opposing Witnesses, I have updated the Constant Growth and  
20 Multi-Stage forms of the Discounted Cash Flow (“DCF”), the Capital Asset Pricing Model  
21 (“CAPM”), and Bond Yield Risk Premium analyses based on data through December 30, 2016,  
22 and have applied those analyses to my updated proxy group, which includes the proxy group  
23 contained in my Direct Testimony with the addition of Black Hills Corporation (“BKH”) and

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

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

8 A. Yes, there are. For example, from July 2016 (when Treasury yields fell to their  
9 lowest levels) to December 2016, the 30-year Treasury yield increased by 88 basis points; the 10  
10 and 20-year yields increased by 99 and 102 basis points, respectively.<sup>2</sup> In each case (that is, for  
11 the 10, 20, and 30-year yields) the basis point increase was in the top 96<sup>th</sup> percentile of all  
12 five-month periods observed from 1990 through 2016. In terms of the percentage increase, the  
13 10 and 20-year yield increase (from July through December 2016) was the highest observed; the  
14 30-year yield increase was in the top 99<sup>th</sup> percentile. In short, the increase in yields observed  
15 during through December 2016 was historically high. Because the Cost of Equity is related to  
16 Treasury yields, it is reasonable to conclude that it, too, has increased.

17 **Q. Does market-based data indicate that investors see a probability of further**  
18 **increasing interest rates?**

19 A. Yes, market data indicates expected increases in both short and long-term interest  
20 rates. Regarding future Federal Funds rate increases, data compiled by CME Groups indicates

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<sup>1</sup> 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.

<sup>2</sup> Source: Federal Reserve Board Schedule H.15. Yields measured on a monthly basis.

1 that investors see a 92.80 percent likelihood of further Federal Funds rate increases, even after  
 2 the December 14, 2016 increase. As shown in Table 1, (below) the market is now anticipating at  
 3 least one additional rate hike (68.00 percent probability) and possibly two or three (34.40 percent  
 4 and 11.20 percent probability, respectively) by December 2017. In fact, the implied probability  
 5 of no increase in the coming year is only 7.20 percent.

6 **Table 1: Probability of Federal Funds Rate Increases<sup>3</sup>**

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	97.0%	75.5%	62.6%	30.8%	25.5%	18.5%	14.8%	7.2%
75-100	3.0%	23.8%	32.7%	47.9%	44.9%	39.6%	35.4%	24.8%
100-125		0.7%	4.6%	18.9%	23.9%	29.6%	31.6%	33.6%
125-150			0.1%	2.4%	5.3%	10.3%	14.2%	23.2%
150-175				0.1%	0.5%	1.8%	3.5%	9.0%
175-200						0.1%	0.5%	2.0%
200-225								0.3%

7  
 8 Looking to long-term interest rates, consensus projections gathered by *Blue Chip*  
 9 *Financial Forecasts* suggest a 30-year Treasury yield of 3.60 percent by the first quarter of 2018  
 10 (an approximately 54 basis point increase over the 3.06 percent yield as of end of December, and  
 11 an approximately 140-basis point increase over the 2.24 percent yield as of the filing of my  
 12 Direct Testimony).<sup>4</sup> The Social Security Administration (“SSA”) projects that long-term  
 13 Treasury yields will rise from 2.40 percent in 2016 to 4.80 percent by 2021. Similarly, market  
 14 expectations for increased long-term Treasury yields are apparent in the market prices to buy or  
 15 sell at-the-money options in long-term Government bond funds. That is, the value of the option  
 16 to sell the TLT (an exchange-traded fund of long-term Government bonds) in January 2019 at

<sup>3</sup> Source: <http://www.cmegroup.com/trading/interest-rates/countdown-to-fomc.html>, accessed January 16, 2017.

<sup>4</sup> Blue Chip Financial Forecasts, Vol. 36, No. 1, January 1, 2016, at 2.

1 today's price is approximately one and a half times more than the value of the option to buy that  
2 fund.<sup>5</sup> Since bond prices fall as interest rates increase, investors see a greater likelihood of  
3 increases in long-term interest rates than decreases.

4 Lastly, we can view the market's expectations of future interest rates based on the current  
5 yield curve. Those expected rates, often referred to as "forward yields", are derived from the  
6 "Expectations" theory which states that (for example) the current 30-year Treasury yield equals  
7 the combination of the current three-year Treasury yield, and the 29-year Treasury yield  
8 expected in one year. That is, an investor would be indifferent to (1) holding a 30-year Treasury  
9 to maturity, or (2) holding a one-year Treasury to maturity, then a 29-year Treasury bond, also to  
10 maturity.<sup>6</sup> As Chart 1 (below) indicates, since 2006 the implied forward 29- and 28- year yields  
11 (one and two years hence, respectively) consistently exceeded the (interpolated) spot yields.  
12 That is, just as economists' projections implied increased interest rates, so did observable  
13 Treasury yields.

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<sup>5</sup> <http://www.nasdaq.com/symbol/ilt/option-chain?dateindex=8>.

<sup>6</sup> 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 1: Forward vs. Interpolated Treasury Yields<sup>7</sup>**



2

3 **Q. Have you considered other data points in your assessment of general**  
4 **economic 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.<sup>8</sup> At the  
7 same time, expected inflation (as measured by the 30-year TIPS spread) was in the range of 2.05  
8 percent to 2.10 percent,<sup>9</sup> suggesting nominal GDP growth in the range of 5.60 percent to 5.65  
9 percent.

10 **Q. What do you conclude from this data?**

11 A. First, it is clear that interest rates have increased from the low levels experienced  
12 in 2015 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 costs in

<sup>7</sup> Source: Federal Reserve Schedule H.15. Spot yields are interpolated.

<sup>8</sup> Bureau of Economic Analysis, News Release dated December 22, 2016.

<sup>9</sup> Federal Reserve Schedule H.15, dated December 27, 2016.

1 the near term. Those higher Treasury yields, again, indicate expectations for increased capital  
2 costs. The observation that interest rates and GDP growth have increased indicate that the  
3 financial community sees the strong prospect of increased growth throughout the economy. As  
4 that occurs, and as interest rates continue to rise, it would be reasonable to expect higher  
5 dividend yields and higher growth rates. In the context of the DCF model, those variables would  
6 combine to indicate increases in the Cost of Equity relative to recent years.

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

14 **Q. Have there been other recent periods when utility valuation levels were high**  
15 **relative 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  
17 Index) 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 late  
19 January 2015, the utility sector began to lose value, and by June 2015 it had lost approximately  
20 15.50 percent of its value. Similarly, the P/E ratio of the S&P Electric Utility Index was only  
21 slightly below that of the S&P 500 in early July 2016. Since then, the S&P Electric Utility Index  
22 lost approximately 9.00 percent of its value, while the S&P 500 increased approximately 6.62  
23 percent. Also during that time, the 30-year Treasury yield increased by 92 basis points (an

1 increase of approximately 43.00 percent). The point simply is that as investors see an increasing  
2 likelihood of higher interest rates, they will move out of sectors that provided higher yields  
3 relative to the overall market. As they do, valuations and P/E ratios fall.

4 **Q. What conclusions do you draw from those analyses?**

5 A. In my view, we cannot conclude that the recent levels of utility valuations are due  
6 to a fundamental change in the risk perceptions of utility investors. Based on those observations,  
7 I disagree that the Company's Cost of Equity is 9.20 percent, and certainly not well below 9.20  
8 percent, as the Opposing Witnesses propose.

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

11 A. As the Commission has pointed out, because no one financial model is any more  
12 "correct" than any other in all circumstances, it is important to consider the results of a variety of  
13 methods.<sup>10</sup> I agree with the Commission's finding that, at times, certain model results simply do  
14 not make sense. In keeping with that approach, my Rebuttal Testimony considers a variety of  
15 analytical methods, and reflects both Company-specific and general market factors.

16 The Commission also has found that because ratemaking is an inexact science, and given  
17 that there is no statutorily prescribed method to estimate the Cost of Equity, different approaches  
18 may be used in different cases.<sup>11</sup> I agree with the Commission on that point, as well. Although  
19 doing so requires the use of financial models, determining the Cost of Equity does not always  
20 lend itself to a strictly mathematical solution. Rather, it requires the application of reasoned  
21 judgment in vetting the models and assumptions used by various analysts, and in assessing the

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<sup>10</sup> In re Union Elec. Co., File No. ER-2011-0028, Report and Order (Mo. P.S.C., July 13, 2011), at 67.

<sup>11</sup> In re Kansas City Power & Light Co., No. ER-2010-0355, Report and Order (Mo. P.S.C., Apr. 12, 2011) at 124.

1 reasonableness of their recommendations. That judgment may well lead to the conclusion that  
2 the emphasis applied to a particular method in a prior proceeding is not appropriate in the current  
3 instance.

4 In this proceeding the Opposing Witnesses have given considerable weight to the DCF  
5 method, even though their models produce ROE estimates that are approximately 45 to 106 basis  
6 points below the returns authorized by state commissions across the country for other electric  
7 utilities. Both Staff and Mr. Gorman give considerable weight to their Constant Growth DCF  
8 models, even though the highest of their DCF estimates are approximately equal to the lowest  
9 ROE *ever* authorized for a vertically integrated electric utility.

10 Given their common dependence on a method that produces disproportionately low  
11 estimates, it is not surprising that the Opposing Witnesses' ROE recommendations fall far below  
12 the range of returns authorized in other jurisdictions. Like this Commission, other regulatory  
13 authorities have been reluctant to give undue weight to models and methods that produce  
14 unreasonably low results. As I discuss below, Mr. Gorman's ROE recommendation of 9.20  
15 percent, and certainly Dr. Woolridge's recommendation of 8.75 percent, are below even those  
16 authorized for utilities that do not have the operating, environmental, and financial risks  
17 associated with owning electric generating assets. In fact, they are below the returns authorized  
18 in regulatory environments considered less constructive than Missouri.<sup>12</sup> Consequently, there is  
19 no reason to conclude that the Opposing Witnesses' recommendations or their methods are  
20 sound or their assumptions are reasonable.

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<sup>12</sup> 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, or if the Commission exercises authority in the Great Plains Energy and Westar Energy merger, "a reduction in the ranking may be justified." See Regulatory Research Associates, Assessment of the Missouri Public Service Commission, updated October 6, 2016.

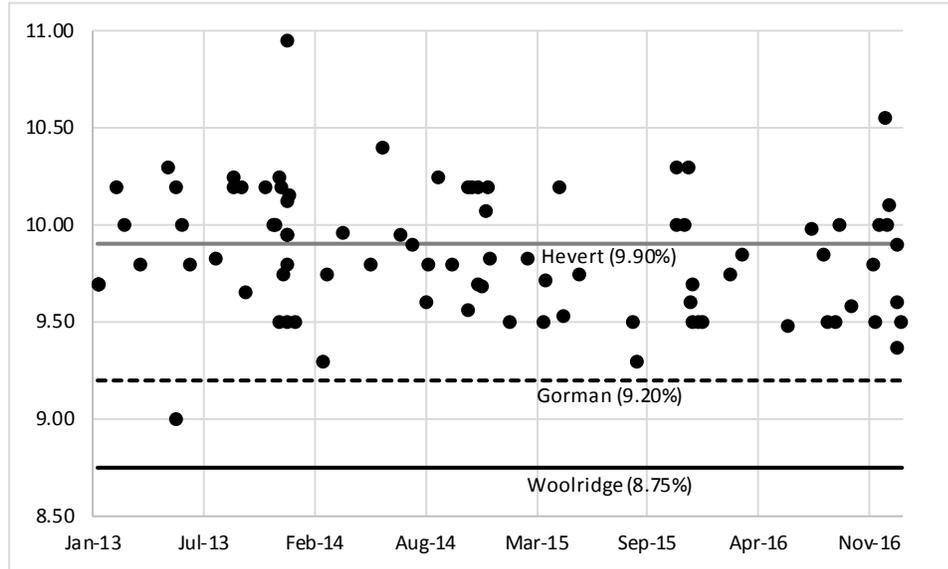
1           In my Direct Testimony, I recommended an ROE of 9.90 percent, based on a range of  
2 ROE estimates of 9.75 percent to 10.50 percent. My updated analyses continue to support my  
3 position that my ROE recommendation of 9.90 percent is within a reasonable range of estimates  
4 of the Company's Cost of Equity. By contrast, Dr. Woolridge's and Mr. Gorman's  
5 recommendations of 8.75 percent and 9.20 percent, respectively, are unreasonably low.  
6 Dr. Woolridge's recommendation, in particular, diverges so far from the range of reasonableness  
7 that it should be considered an outlier.

8           Taken as a group, the Opposing Witnesses' ROE recommendations are far below any  
9 objective measure of the Company's Cost of Equity. For example, as shown in Chart 2, below,  
10 Mr. Gorman's revised recommendation is below all but one return authorized for a vertically  
11 integrated electric utility; that one case included a 50 basis points penalty for "system  
12 inefficiencies."<sup>13</sup> Dr. Woolridge's 8.75 percent recommendation is 25 basis points below the  
13 lowest authorized return since at least 1980.

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<sup>13</sup> Source: Regulatory Research Associates. The lowest return authorized for a vertically integrated electric utility was 9.00 percent given to Maui Electric Company and included a 50 basis point reduction due to the company's "inability to address certain apparent system inefficiencies" (*see* Decision and Order No. 31288, Public Utilities Commission of the State of Hawaii, Docket No. 2011-0092, at 107).

1 **Chart 2: Authorized Returns for Vertically Integrated Electric Utilities 2013-2016**



2  
3 It also is important to note that over that period, the average authorized return was 9.77  
4 percent, only 13 basis points from my 9.90 percent recommendation.<sup>14</sup> Mr. Gorman’s 9.20  
5 percent ROE recommendation on the other hand, is 57 basis points from the average;  
6 Dr. Woolridge’s recommendation is 102 basis points removed. On that basis alone, it is apparent  
7 that Dr. Woolridge’s 8.75 percent recommendation is an outlier that falls beyond an objective  
8 measure of reasonableness – returns authorized in other jurisdictions. And as discussed earlier,  
9 but for the 50 basis points adjustment in Maui Electric’s rate proceeding, Mr. Gorman’s  
10 recommendation would set the floor.

11 For the reasons discussed throughout the balance of my Rebuttal Testimony, their  
12 recommendations cannot be supported by the reasonable application of financial models, nor can  
13 they be justified by current or expected market conditions. Rather, the Opposing Witnesses’  
14 ROE recommendations are unproductive and would only serve to increase the Company’s

<sup>14</sup> The average authorized return in 2016 was 9.77 percent.

1 regulatory and financial risk, diminish its ability to compete for capital, and have the counter-  
2 productive effect of increasing Ameren Missouri's overall cost of capital, ultimately to the  
3 detriment of its customers.

4 Lastly, although Dr. Woolridge's recommendation is far below a reasonable level, a few  
5 very reasonable adjustments to Mr. Gorman's analyses produce results ranging from 9.65 percent  
6 to 10.15 percent, which is very consistent with my recommendation. Those adjustments are  
7 discussed in more detail in Section III.

8 **Q. Please summarize your response to the Opposing Witnesses.**

9 A. My responses to Staff Witness Woolridge and OPC Witness Gorman are  
10 summarized below:

- 11 • *ROE Recommendations.* The Opposing Witnesses' recommended ROEs are  
12 unreasonably low and far removed from recently authorized returns.  
13 Dr. Woolridge's recommendation in particular is significantly below the lowest  
14 authorized return for any vertically integrated utility since at least 1980 and over  
15 100 basis points below the average authorized return in the United States in 2016.
- 16 • *Reasonable Adjustments to Mr. Gorman's Analytical Models Increase his ROE*  
17 *Recommendation.* Adjusting Mr. Gorman's CAPM analysis to rely on more  
18 reasonable estimates of the market return results in a range of estimates from 9.44  
19 percent to 10.37 percent. Adjusting Mr. Gorman's Risk Premium analysis to  
20 exclude results well below any reasonable measure of the Company's ROE (and  
21 which are below other results which Mr. Gorman discards in his DCF analysis),  
22 suggests a range of estimates from 9.96 percent to 10.15 percent. Similarly, if  
23 Mr. Gorman had relied on the widely understood inverse relationship between the

1 Equity Risk Premium and interest rates in his Risk Premium analysis, his results  
2 would range from 9.65 percent to 9.88 percent. Had Mr. Gorman relied on the  
3 more reasonable analyses noted above, and given less weight to the DCF analysis,  
4 which is less reliable under current market conditions, his recommended ROE  
5 likely would be similar to the low end of my recommended range, (i.e., 9.75  
6 percent).

7 • *Application of Discounted Cash Flow methods.* As a general matter, DCF-based  
8 methods define the Cost of Equity as the discount rate that sets the current market  
9 price of a stock equal to the present value of the cash flows expected from owning  
10 that stock. In calculating expected cash flows, the Opposing Witnesses rely on  
11 growth rates that are inappropriately low, or that are constrained by what they  
12 may consider to be “sustainable” levels of perpetual growth. Regardless of how  
13 they develop their models, DCF estimates of 9.00 percent (Mr. Gorman’s DCF  
14 result), or below, fail to meet the *Hope* and *Bluefield* “end result” standard, and  
15 should be given no weight in determining the Company’s ROE.

16 • *Application of Risk Premium Models.* Risk Premium methods are based on the  
17 financial principle that equity investors assume greater risk than do debt investors  
18 and, therefore, require higher returns. The measure of that incremental return is  
19 the “Equity Risk Premium,” or the difference between the required return on debt  
20 and the required Return on Equity. It is important to recognize that the Equity  
21 Risk Premium is not constant over time. Rather, as interest rates fall, the Equity  
22 Risk Premium increases, even when we consider additional measures of market

1 risk. By not properly reflecting that well-documented relationship, certain of the  
2 Opposing Witnesses have under-estimated Ameren's Cost of Equity.

- 3 • *Application of the Capital Asset Pricing Model ("CAPM").* The CAPM, which  
4 also is a risk premium-based method, assumes that investors must be compensated  
5 for the time value of money, and for taking on additional risk. The time value of  
6 money is measured by long-term Treasury yields; compensation for additional  
7 risk is measured by the stock's Beta coefficient and the expected Market Risk  
8 Premium ("MRP"). The MRP, which weighs heavily in CAPM estimates, reflects  
9 the additional return that investors expect to receive by investing in the market as  
10 a whole over the return they would receive by investing only in long-term  
11 Treasury bonds. Dr. Woolridge relies on Equity Risk Premium estimates that  
12 result in a market return approximately equal to his recommended ROE for  
13 Ameren. In addition, Mr. Gorman developed MRP estimates based on historical  
14 market returns and interest rates. Dr. Woolridge and Mr. Gorman have assumed  
15 relationships between those two variables that do not reasonably reflect current or  
16 expected market conditions. As a result, their ROE estimates are unreasonably  
17 low.

- 18 • *Assessment of the Company's relative risk.* Determination of required ROE is a  
19 risk-comparable exercise. The Opposing Witnesses do not fully consider the  
20 range of business risks and other factors when determining where Ameren's  
21 required ROE falls within the range of analytical results.

1                   **II.     RESPONSE TO STAFF WITNESS WOOLRIDGE**

2           **Q.     Please provide a brief summary of Dr. Woolridge’s testimony and ROE**  
3 **recommendation.**

4           A.     Dr. Woolridge recommends an ROE of 8.75 percent, which is at the upper end of  
5 his DCF and CAPM results. Dr. Woolridge makes clear, however, that his recommendation  
6 relies primarily on his Constant Growth DCF model results.<sup>15</sup>

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

9           A.     There are several areas in which I disagree with Dr. Woolridge. In general, those  
10 areas include: (1) The reasonableness of an ROE recommendation far below recently authorized  
11 ROEs; (2) the composition and selection of the proxy group companies; (3) the growth rates  
12 applied in the Constant Growth DCF model; (4) the application of the CAPM; (5) the relevance  
13 of Market-to-Book (“M/B”) ratios in excess of unity; and (6) the business risk of Ameren  
14 Missouri relative to the proxy group. In addition, I disagree with Dr. Woolridge’s presentation  
15 and interpretation of certain data relating to capital market conditions.

16           **A.     Recommended ROE**

17           **Q.     Is Dr. Woolridge’s 8.75 percent consistent with recently authorized returns**  
18 **for electric utilities?**

19           A.     No. As shown in Schedule RBH-R6, an ROE of 8.75 percent is far below the  
20 returns currently authorized for electric utilities. In fact, as noted by Dr. Woolridge, an 8.75

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<sup>15</sup> Staff Revenue Requirement Cost of Service Report, at 35.

1 percent ROE would be approximately 83 to 126 basis points below the recent average returns for  
2 electric utilities.<sup>16</sup>

3 **Q. How does Dr. Woolridge’s recommended ROE compare to authorized ROEs**  
4 **in the United States?**

5 A. Dr. Woolridge’s 8.75 percent recommended ROE is below any authorized ROE  
6 for a vertically integrated utility in the United States since at least 1980, and over 100 basis  
7 points below the average authorized return in 2016. See Attachment A. In fact, the lowest  
8 authorized ROE over that time was 25 basis points higher than Dr. Woolridge’s  
9 recommendation. As shown in Chart 2, my recommended ROE is similar to numerous recently  
10 authorized returns; Dr. Woolridge’s recommendation, however, is significantly removed from  
11 any recently authorized return.

12 **Q. How does Dr. Woolridge’s recommended ROE compare to authorized ROEs**  
13 **in Missouri?**

14 A. An authorized return of 8.75 percent would be 75 basis points below the lowest  
15 authorized return for any electric or natural gas utility in Missouri since at least 1980.

16 **Q. What is your conclusion regarding the reasonableness of Dr. Woolridge’s**  
17 **recommended ROE?**

18 A. Regardless of how Dr. Woolridge arrived at his recommendation, it is very  
19 difficult to reconcile an ROE of 8.75 percent with past, current, and expected market  
20 environments. The implications of Dr. Woolridge not reconciling his ROE recommendation  
21 with authorized returns are particularly acute since, as described below, his conclusion is based

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<sup>16</sup> At page 50 of the Staff Revenue Requirement Cost of Service Report, Dr. Woolridge refers to authorized returns for electric utilities.

1 principally on his application of a single model for which his inputs are quite subjective, his  
2 results cannot be replicated, and whose underlying assumptions are incompatible with prevailing  
3 market conditions.

4 ***B. Proxy Group Selection***

5 **Q. Please describe the screening criteria by which Dr. Woolridge developed his**  
6 **Proxy Group.**

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

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

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<sup>17</sup> Staff Revenue Requirement Cost of Service Report, at 26.

1           **Q.     Do you agree with Dr. Woolridge’s screening criteria?**

2           A.     Not entirely. Although we do have certain criteria in common (for example we  
3 both exclude companies that are party to a significant corporate transaction or that do not  
4 consistently pay dividends), as explained below, I do not believe that Dr. Woolridge’s screens  
5 render a group of companies that is sufficiently comparable to Ameren Missouri. For example,  
6 Dr. Woolridge includes Ameren Corporation, the parent company of Ameren Missouri, in his  
7 proxy group. However, to avoid the circular logic that would otherwise occur, I removed  
8 Ameren Corporation from my proxy group.<sup>18</sup>

9           **Q.     Do any of Dr. Woolridge’s proxy companies fail his proxy group screening**  
10 **criteria?**

11          A.     I believe so. Dr. Woolridge included in his proxy group Dominion Resources  
12 (“Dominion”), Duke Energy Corporation (“Duke”), and Southern Company (“Southern”), which  
13 are all party to significant acquisitions: Dominion completed its acquisition of Questar on  
14 September 16, 2016;<sup>19</sup> Duke completed its acquisition of Piedmont Natural Gas Company, Inc.  
15 on October 3, 2016;<sup>20</sup> and Southern completed its acquisition of AGL Resources Inc. on July 1,  
16 2016.<sup>21</sup> As such, those companies should be removed from the proxy group.

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<sup>18</sup> See, Direct Testimony of Robert B. Hevert, Appendix A, at 42.

<sup>19</sup> Dominion Resources, Inc., Merger Press Release, September 16, 2016.

<sup>20</sup> Duke Energy Corporation, SEC Form 8-K, October 3, 2016.

<sup>21</sup> Southern Company, SEC Form 8-K, July 1, 2016.

1           **Q.     What is your concern with Dr. Woolridge’s use of revenue, rather than**  
2 **income, as a screening criterion?**

3           A.     Measures of income are far more likely to be considered by the financial  
4 community in making credit assessments and investment decisions than are measures of revenue.  
5 From the perspective of credit markets, measures of financial strength and liquidity are focused  
6 on cash from operations, which is directly derivative of earnings, as opposed to revenue. For  
7 example, Moody’s assigns a 40.00 percent weight to measures of financial strength and liquidity,  
8 of which 32.50 percent specifically relates to the ability to cover debt obligations with cash from  
9 operations.<sup>22</sup>

10           Just as rating agencies focus on measures of cash from operations, equity investors prefer  
11 measures of income in assessing equity valuation levels; common measures of relative equity  
12 valuation include the Price/Earnings (“P/E”) ratio, and the ratio of Enterprise Value/EBITDA  
13 (Earnings Before Interest, Taxes, Depreciation, and Amortization). Revenue, however, may be  
14 several steps removed from the earnings and cash flows that are the basis of equity valuations.  
15 For example, energy trading and marketing units often represent high revenue but low margin  
16 operations. Those operations may generate a comparatively large proportion of the combined  
17 entity’s revenue, but only a small percentage of its income. In such cases, focusing on revenue  
18 may mislead the analyst into assuming that a given operating unit is the primary driver of  
19 expected growth, when other business segments create the majority of earnings and cash flows.  
20 Here, we are considering whether the underlying utility is the principal source of long-term

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<sup>22</sup> See Moody’s Investors Service, Rating Methodology, *Regulated Electric and Gas Utilities*, December 23, 2013, at 10-14.

1 growth and as such, it could be misleading to focus on revenue rather than earnings for the  
2 purpose of identifying proxy companies.

3 **C. Application of the Constant Growth DCF Approach**

4 **Q. Please summarize your concerns with the Constant Growth DCF model and**  
5 **Dr. Woolridge’s application of that method.**

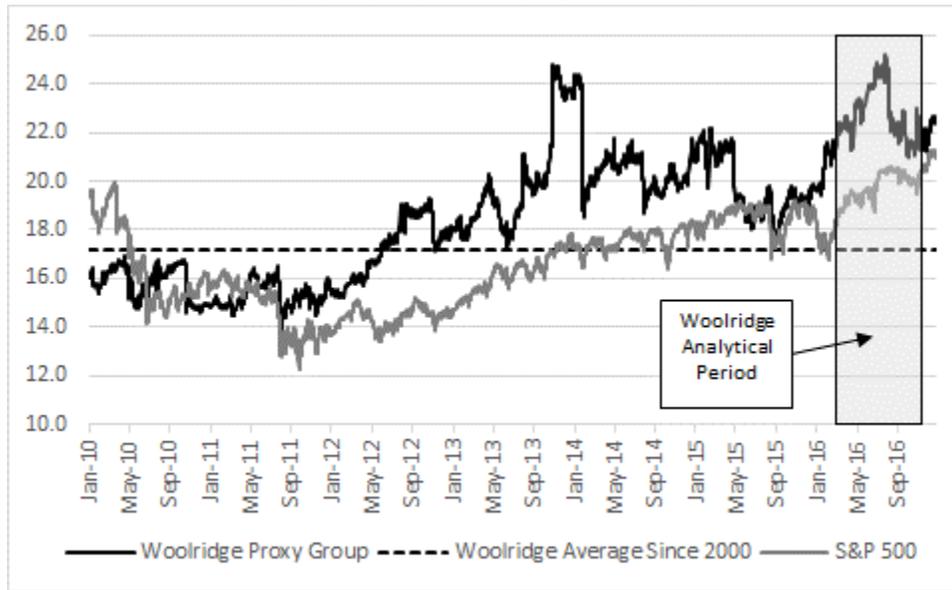
6 A. There are several aspects of Dr. Woolridge’s DCF analyses and conclusions that  
7 are incompatible with market conditions, and inconsistent with the practical interpretation of the  
8 models’ results. For example, the market data used in Dr. Woolridge’s DCF analyses conflict  
9 with the models’ underlying assumptions. In particular, the market prices used to calculate the  
10 dividend yield were taken from a period during which utilities in general, and the proxy  
11 companies in particular, traded at unusually high, and likely unsustainable, levels. In fact, as  
12 shown in Chart 3 below, during Dr. Woolridge’s study period, utility P/E ratios exceeded their  
13 long-term average, and were higher than the market P/E ratio (as measured by the S&P 500).<sup>23</sup>

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<sup>23</sup> 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 November 17, 2016.

1

**Chart 3: P/E Ratios Over Time**



2

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

7 Lastly, Dr. Woolridge’s application of the Constant Growth DCF model includes a  
 8 degree of subjectivity that prevents us from replicating the fundamental inputs which drive his  
 9 results. It is entirely feasible that analysts looking at the same data would come to different  
 10 conclusions. For example, based on his review of historical and projected dividend, book value,  
 11 earnings and “sustainable” growth rates, Dr. Woolridge assumes a growth rate of 5.00 percent  
 12 for the companies in his proxy group, although it is unclear how he calculates that estimate.<sup>24</sup>  
 13 Moreover, Dr. Woolridge’s judgment is to give “primary weight”<sup>25</sup> to growth rate projections  
 14 produced by equity analysts, despite his position that those analysts knowingly and persistently

15

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<sup>24</sup> Staff Revenue Requirement Cost of Service Report, at 42.

<sup>25</sup> *Ibid.*

1 produce biased forecasts.

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

4 A. Dr. Woolridge reviewed a number of growth rates, including: historical and  
5 projected dividends per share (“DPS”), book value per share (“BVPS”), and EPS growth rates as  
6 reported by Value Line; analysts’ consensus EPS growth rate projections from Yahoo!, Reuters,  
7 and Zacks; and an estimate of “Sustainable Growth” derived from data provided by Value Line.  
8 Dr. Woolridge states that in arriving at his 8.55 percent DCF estimate, he gave more weight to  
9 projected EPS growth rates.<sup>26</sup>

10 **Table 2: Summary of Dr. Woolridge’s Growth Rate Estimates<sup>27</sup>**

	<b>Dr. Woolridge Proxy Group</b>
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	4.40%/5.30%
Dr. Woolridge’s Assumed DCF Growth Rate	5.00%

11 **Q. Do you agree with Dr. Woolridge’s Sustainable Growth rate estimate?**

12 A. No, I do not. The Sustainable Growth model assumes that growth is a function of  
13 expected earnings, and the extent to which those earnings are retained (that is, not paid out in  
14 dividends). Dr. Woolridge relies on the simplest form of the Sustainable Growth model, the “br”

15

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<sup>26</sup> *Ibid.*

<sup>27</sup> *See Ibid.*, and Exhibit JRW-10, at 6.

1 approach (where “b” is the earnings retention rate, and “r” is the expected Return on Common  
2 Equity). As Schedule RBH-R7 demonstrates, the “br” method is essentially equal to Value  
3 Line’s “Retained to Common Equity” rate (differences are due to rounding).

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

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

9  
10 Where:

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

11  
12 In this form, the “sv” term reflects an element of growth as the product of: (1) the growth  
13 in shares outstanding; and (2) that portion of the market-to-book ratio that exceeds unity.

14 In addition, it is important to realize that for the purpose of setting utility rates,  
15 Sustainable Growth requires an estimate of the expected earned Return on Common Equity.  
16 Since the “r” in the “br” approach refers to the equity return, Dr. Woolridge effectively has  
17 pre-supposed the Return on Common Equity projected by Value Line for his proxy group  
18 companies. Notwithstanding that Dr. Woolridge has assumed the reasonableness of Value  
19 Line’s projections for the purpose of his Sustainable Growth calculation, as demonstrated in  
20 Schedule RBH-R7, his recommended Cost of Equity of 8.75 percent is 185 basis points below  
21 the mean Return on Common Equity estimate for his proxy group of 10.60 percent.

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

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

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

7           A.     Yes, I have. I analyzed Value Line’s earned ROE projections using the “DuPont”  
8 formula, which decomposes the Return on Common Equity into three components: (1) the Profit  
9 Margin (net income/revenues); (2) Asset Turnover (revenues/net plant); and (3) the Equity  
10 Multiplier (net plant/equity).<sup>28</sup>

11           As Schedule RBH-R9 demonstrates, the Asset Turnover rate declined from 2008 through  
12 2015 and is expected to remain at its current level through Value Line’s 2019 to 2021 projection  
13 period. Over that same period the proxy company average Net Plant experienced a cumulative  
14 increase of approximately 133.04 percent. Because the utility industry is going through a period  
15 of increased capital investment, the lag between the addition of net plant and revenue generated  
16 by those investments dilute the Asset Turnover ratio, at least in the near term. Consequently, the  
17 projected Return on Common Equity also is diminished, such that its usefulness as a measure of  
18 investors’ expectations of long-term (*i.e.*, in perpetuity) growth is limited.

19           As also shown in Schedule RBH-R9, there is a statistically significant negative  
20 relationship between the annual change in the Asset Turnover rate and the annual change in Net  
21 Plant, such that as annual net plant increases, the Asset Turnover ratio decreases. Again, that

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<sup>28</sup> See Schedule RBH-R8.

1 analysis calls into question the reasonableness of the “Sustainable Growth” method as a measure  
2 of long-term growth.

3 **Q. Do Dr. Woolridge’s analyses account for abnormally elevated P/E ratios?**

4 A. Not on a consistent basis. DCF-based methods, such as the Constant Growth  
5 model on which Dr. Woolridge relies, depend on recent stock prices as a principal input, and (in  
6 the case of the Constant Growth model) assume that P/E ratios, and resulting Cost of Equity, will  
7 remain constant in perpetuity. As noted above, an important analytical issue is that utility sector  
8 P/E ratios recently have been well above their historical levels.<sup>29</sup>

9 To support his CAPM analysis, Dr. Woolridge refers to “Building Block” approaches as  
10 part of the studies that he uses to estimate the Market Risk Premium (“MRP”) (*see* Exhibit  
11 JRW-11, pages 5 and 6). Among the “Building Block” studies included in that review are those  
12 produced by Ibbotson and Chen. The Duff & Phelps 2016 SBBI Yearbook also discusses the  
13 “Building Block” model,<sup>30</sup> and in discussing the effect of increasing P/E ratios on the market  
14 return, concludes that “reported earnings are affected not only by the long-term productivity, but  
15 also by ‘one-time’ items that do not necessarily have the same consistent impact year after  
16 year.”<sup>31</sup> Duff & Phelps therefore uses three-year average P/E ratios to develop its Supply-Side  
17 market return estimate.

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<sup>29</sup> Since the beginning of 2000, the long-term average P/E ratio for Dr. Woolridge’s proxy group was 17.20. The 30-day average P/E ratio for the period ending December 30, 2016 was 22.06 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-R10).

<sup>30</sup> Duff & Phelps refers to the method as the “Supply Side” approach.

<sup>31</sup> Duff & Phelps, 2016 SBBI Yearbook Stocks, Bonds, Bills and Inflation, at 10-28.

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

3           A.     Although Dr. Woolridge recognized and adjusted his analyses to reflect the  
4 abnormal expansion in P/E ratios in his Building Blocks calculation, he did not acknowledge the  
5 same principle in his DCF analysis. That is, Dr. Woolridge relies on an analysis that adjusts  
6 abnormally high P/E ratios in a manner that reduces his CAPM estimate (the Building Blocks  
7 approach to developing the Equity Risk Premium),<sup>32</sup> and at the same time relies on DCF  
8 estimates that do not recognize or adjust for the abnormal expansion in P/E ratios for his proxy  
9 companies. If Dr. Woolridge were to adjust his DCF results for abnormal P/E ratios, stock prices  
10 would decrease, which would increase his dividend yields and DCF results.

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

13           A.     Dr. Woolridge points to the March 2015 Moody’s report and concludes (among  
14 other things) that lower authorized ROEs are not impairing utilities’ credit profiles, and are not  
15 “detering them from raising record amounts of capital.”<sup>33</sup> Dr. Woolridge further states that the  
16 Moody’s article “supports the prevailing/emerging belief that lower authorized ROEs are  
17 unlikely to hurt the financial integrity of utilities or their ability to attract capital.”<sup>34</sup>

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<sup>32</sup> See Staff Revenue Requirement Cost of Service Report, Exhibit JRW-11, at 5-6 and Duff & Phelps, 2016 SBB  
Yearbook Stocks, Bonds, Bills and Inflation, at 10-28.

<sup>33</sup> Staff Revenue Requirement Cost of Service Report, at 51.

<sup>34</sup> *Ibid.*

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

2           A.     The Moody's article makes clear that utilities' cash flow have benefited from  
3 increased deferred taxes, which themselves are due to bonus depreciation.<sup>35</sup> As Moody's noted,  
4 the rise in deferred taxes eventually will reverse.<sup>36</sup> That may be one reason that the Moody's  
5 study refers to "near-term credit profiles". In the longer-term, utilities will not have the benefits  
6 of bonus depreciation to offset lower authorized returns.

7           Lastly, Moody's observed that although interest rates remained at relatively low levels,  
8 they "will go up, eventually." When they do, Moody's warns, "this could spell trouble for  
9 utilities." Moody's concludes, "[f]or now, utilities can enjoy their (historically) high equity  
10 valuations in terms of dividend yield and price-earnings ratios."<sup>37</sup> That is, in March 2015,  
11 Moody's observed that the then-current valuations were unusual, and that some degree of  
12 reversion toward long-term means was likely. For the electric utility sector, that was the case, as  
13 the S&P Electric Utility Index P/E ratio fell from 18.06 on February 2, 2015 to 15.57 on July 1,  
14 2015.<sup>38</sup> That observation is consistent with a point made earlier in my Rebuttal Testimony:  
15 unusually high P/E ratios are unlikely to persist and, therefore, Dr. Woolridge's approach of  
16 giving primary weight to his Constant Growth DCF estimates should be viewed with  
17 considerable caution.

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<sup>35</sup> 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.

<sup>36</sup> Moody's Investors Service, *Lower Authorized Returns Will Not Hurt Near-Term Credit Profiles*, March 10, 2015, at 4.

<sup>37</sup> *Ibid.*, at 5.

<sup>38</sup> Source: Bloomberg Professional. Represents 30-day moving average.

1           **Q. Do you have any observations regarding cost recovery mechanisms**  
2 **supporting elevated P/E ratios?**

3           A. Yes. Dr. Woolridge further argues that the Moody's article supports the notion  
4 that elevated P/E ratios are a result of cost recovery mechanisms reducing utilities' risk.<sup>39</sup> As a  
5 preliminary matter, neither the article nor Dr. Woolridge provides any evidence or analysis to  
6 support the claim that cost recovery mechanisms have led to higher P/E multiples. To be clear,  
7 Moody's does not state that the cause of higher P/E multiples is cost recovery mechanisms. As  
8 stated in my Direct Testimony, the Federal Reserve's monetary policy actions intentionally  
9 lowered long-term interest rates (another of the factors cited in the Moody's article) and have  
10 affected utility P/E ratios.<sup>40</sup> In any case, as noted above, electric utility P/E ratios declined by  
11 nearly 15.00 percent shortly after the Moody's article was published.

12           **Q. Do you have any concerns with Dr. Woolridge's belief that analysts'**  
13 **projections are consistently biased?**

14           A. Yes, I do. Dr. Woolridge asserts that there is an upward bias in analysts' growth  
15 estimates and as such, "the DCF growth rate will provide an overstated equity cost rate."<sup>41</sup> His  
16 position, however, is based on observations with respect to the broad market. Dr. Woolridge has  
17 provided no evidence that any of the growth rates used in my (or for that matter, his) DCF  
18 analyses are the result of a consistent and pervasive bias on the part of the analysts providing  
19 those projections. Despite his view that they are biased, Dr. Woolridge states that it was by

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<sup>39</sup> Staff Revenue Requirement Cost of Service Report, at 51.

<sup>40</sup> Direct Testimony of Robert B. Hevert, at 38-39.

<sup>41</sup> Staff Revenue Requirement Cost of Service Report, at 41.

1 “giving primary weight to the projected EPS growth rate of Wall Street analysts” that he arrived  
2 at his assumed growth rates.<sup>42</sup>

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

4 A. There is no reason to believe that the analyst growth rates used in our respective  
5 DCF analyses are biased. As a practical matter, the October 2003 Global Research Analyst  
6 Settlement required financial institutions to insulate investment banking from analysis,  
7 prohibited analysts from participating in “road shows,” and required the settling financial  
8 institutions to fund independent third-party research.<sup>43</sup> I have reviewed the Letters of  
9 Acceptance, Waiver and Consent signed by financial institutions that were party to the Global  
10 Settlement, and found no reference to misconduct by analysts following the utility sector.

11 Moreover, pursuant to Regulation AC, which became effective in April 2003, analysts  
12 must certify that “...the views expressed in the report accurately reflect his or her personal  
13 views, and disclose whether or not the analyst received compensation or other payments in  
14 connection with his or her specific recommendations or views.”<sup>44</sup> I further understand that  
15 industry practice is to avoid conflicts of interest by ensuring that compensation is not directly or  
16 indirectly linked to the opinions contained in those reports. Dr. Woolridge has not explained  
17 why any of the analysts covering our respective proxy companies would bias their projections in  
18 light of those certification requirements.

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<sup>42</sup> *Ibid.*, at 42.

<sup>43</sup> 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.

<sup>44</sup> 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.

1           **Q. Is the use of analysts’ earnings growth projections in the DCF model**  
2 **supported by financial literature?**

3           A. Yes, it is. As noted in my Direct Testimony, a number of published articles  
4 support the use of analysts’ earnings growth projections in the DCF model.<sup>45</sup> Dr. Robert Harris,  
5 for example, demonstrated that financial analysts’ earnings forecasts (referred to in the article as  
6 “FAF”) in the Constant Growth DCF formula are an appropriate method of calculating the  
7 expected MRP.<sup>46</sup> In that regard, Dr. Harris noted that:

8                     ... a growing body of knowledge shows that analysts’ earnings forecasts  
9 are indeed reflected in stock prices. Such studies typically employ a  
10 consensus measure of FAF calculated as a simple average of forecasts by  
11 individual analysts.<sup>47</sup>

12           Dr. Harris further noted that:

13                     Given the demonstrated relationship of FAF to equity prices and the direct  
14 theoretical appeal of expectational data, it is no surprise that FAF have  
15 been used in conjunction with DCF models to estimate equity return  
16 requirements.<sup>48</sup>

17           Similarly, in *Estimating Shareholder Risk Premia Using Analysts Growth Forecasts*,  
18 Harris and Marston presented “estimates of shareholder required rates of return and risk premia  
19 which are derived using forward-looking analysts' growth forecasts.”<sup>49</sup> Harris and Marston  
20 reported that:

21                     ... in addition to fitting the theoretical requirement of being forward-  
22 looking, the utilization of analysts' forecasts in estimating return

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<sup>45</sup> Direct Testimony of Robert B. Hevert, at 45-46.

<sup>46</sup> See Robert S. Harris, *Using Analysts’ Growth Forecasts to Estimate Shareholder Required Rates of Return*, *Financial Management*, 1986, at 66.

<sup>47</sup> *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.

<sup>48</sup> *Ibid.*, at 60.

<sup>49</sup> Robert S. Harris, Felicia C. Marston, *Estimating Shareholder Risk Premia Using Analysts’ Growth Forecasts*, *Financial Management*, Summer 1992.

1 requirements provides reasonable empirical results that can be useful in  
2 practical applications.<sup>50</sup>

3 Here again, the finding was clear: analysts' earnings forecasts are highly related to stock  
4 price valuations and are appropriate inputs to stock valuation and ROE estimation models.<sup>51</sup>

5 **Q. Do you agree with Dr. Woolridge's assertion that the "DCF growth rate will  
6 provide an overstated equity cost rate"?**<sup>52</sup>

7 A. No, I do not. First, if current stock prices (and therefore the dividend yield)  
8 already reflect analysts' bias, it is unclear why it is necessary to adjust the growth rate. In  
9 addition, although Dr. Woolridge asserts that "...long-term EPS growth rate forecasts of Wall  
10 Street securities analysts are overly optimistic and upwardly biased"<sup>53</sup> in general, he has not  
11 demonstrated that to be true for the electric companies in our proxy groups, in particular. To that  
12 point, I reviewed quarterly earnings presentations for several of the companies in  
13 Dr. Woolridge's proxy group and found that the analysts' growth rate projections were consistent  
14 with the long-term growth rate ranges provided by the companies' management teams (*see* Table  
15 3, below). I therefore disagree that the earnings projections included in our respective analyses  
16 are likely to be systemically biased.

17 **Table 3: Analysts' Earnings Growth Projections Relative to Management Presentations**<sup>54</sup>

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<sup>50</sup> *Ibid.*, at 63.

<sup>51</sup> 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."

<sup>52</sup> Staff Revenue Requirement Cost of Service Report, at 41.

<sup>53</sup> *Ibid.*, at 40.

<sup>54</sup> Source: Zacks, Yahoo Finance, Value Line, and individual company investor presentations.

Company	Ticker	Zacks Earnings Growth	First Call Earnings Growth	Value Line Earnings Growth	Investor Presentation Earnings Growth
Alliant Energy Corporation	LNT	5.50%	6.00%	6.00%	5.00% - 7.00%
American Electric Power Company, Inc.	AEP	5.40%	1.90%	5.00%	5.00% - 7.00%
Avista Corporation	AVA	NA	5.65%	5.00%	4.00% - 5.00%
CMS Energy Corporation	CMS	6.00%	7.27%	6.00%	6.00% - 8.00%
PNM Resources, Inc.	PNM	5.30%	6.85%	9.00%	7.00% - 8.00%
SCANA Corporation	SCG	5.70%	6.03%	4.50%	4.00% - 6.00%
Xcel Energy Inc.	XEL	5.40%	5.65%	5.50%	4.00% - 6.00%

1           **Q. Do you agree with Dr. Woolridge that dividend and book value growth rates**  
2 **are appropriate measures of expected growth for the Constant Growth DCF model?**<sup>55</sup>

3           A. No, I do not. Schedule RBH-R11 illustrates that, under the strict assumptions of  
4 the Constant Growth DCF model, earnings, dividends, book value, and stock prices all grow at  
5 the same, constant rate in perpetuity. In addition, Value Line is the only service on which  
6 Dr. Woolridge relies that provides DPS, BVPS, or Sustainable Growth projections. To the extent  
7 that the earnings projections services such as Zacks and First Call represent consensus estimates,  
8 the results are less likely to be skewed in one direction or another as a result of an individual  
9 analyst.

10           In any event, academic research clearly has indicated that measures of earnings are

11

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<sup>55</sup> See Staff Revenue Requirement Cost of Service Report, at 38-39.

1 strongly related to stock valuation.<sup>56</sup> As discussed below, that conclusion holds true for the  
2 Value Line universe of electric utilities. Consequently, dividend and book value growth should  
3 not be used in the application of the Constant Growth DCF model. Rather, projected earnings  
4 growth rates are the appropriate measure of long-term growth.

5 **Q. Do you agree with Dr. Woolridge that historical growth rates are**  
6 **appropriate measures of expected growth for the Constant Growth DCF model?**<sup>57</sup>

7 A. No, I do not believe that historical growth rates are appropriate for the Constant  
8 Growth DCF model.

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

11 A. Yes, I have. I performed a series of regression analyses in which the historical  
12 and projected growth rates were included as explanatory variables, with the P/E ratio as the  
13 dependent variable. The intent of those analyses was to determine whether or not historical and  
14 projected earnings, retention and dividend growth rates are statistically related to the companies'  
15 valuation levels.

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<sup>56</sup> 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.

<sup>57</sup> See Staff Revenue Requirement Cost of Service Report, at 38-39.

1           **Q.     What did those analyses reveal?**

2           A.     As shown in Schedule RBH-R12, the results indicate that the only positive  
3 statistically significant variable was the projected EPS growth rate. That is, none of the  
4 historical or projected DPS growth rates, nor projected retention growth rates, have a positive  
5 statistically significant relationship to valuation levels. Since the DCF model defines stock  
6 prices as a function of growth rates, only those growth rates that have a strong theoretical and  
7 empirical relationship to valuation levels should be used in the analysis. Consequently, projected  
8 EPS growth rates are the appropriate measure of growth for the purpose of the DCF models.

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

10          A.     No, it is not. Although Dr. Woolridge reviews historical and projected measures  
11 of growth for each of his proxy companies, his growth rate estimates rely on his subjective  
12 judgment as to what may or may not be representative of sustainable long-term growth. As such,  
13 Dr. Woolridge's analyses cannot be replicated. Whereas utility analysts often research the  
14 factors that fundamentally influence a given company's long-term growth, Dr. Woolridge instead  
15 selects his long-term growth estimate based on a summary review of earnings, dividend, and  
16 retention growth estimates. In effect, Dr. Woolridge has substituted his subjective judgment for  
17 those of utility analysts, who based their growth rate projections on detailed, fundamental  
18 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  
4 Power (“AEP”). On January 28, 2016, AEP held a conference call to review its fourth quarter  
5 earnings.<sup>58</sup> Analysts from several firms attended that call, including:

- 6                     • Barclays Capital
- 7                     • Evercore
- 8                     • Jeffries & Co.
- 9                     • JPMorgan

10

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<sup>58</sup> See American Electric Power Co., Inc., Q4 2015 Earnings Call Transcript, January 28, 2016.

- 1                   • Glenrock Associates
- 2                   • KeyBanc
- 3                   • UBS

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

- 7           • Increasing leverage on certain subsidiaries;
- 8           • Growth in sales forecasts for shale plays;
- 9           • EPS and cash flow guidance for 2016;
- 10          • Incremental earnings and legal issues associated with AEP’s purchase power  
11 agreement (“PPA”);
- 12          • Capital Expenditure plans;
- 13          • Expectations for future tax amounts;
- 14          • Breakdown of load growth by customer class;
- 15          • Estimated ROE for the Transmission segment in 2016; and
- 16          • Sale completion date of the Merchant business<sup>59</sup>

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

22

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<sup>59</sup> See American Electric Power Co., Inc., Q4 2015 Earnings Call Transcript, January 28, 2016.

- 1 • Potential re-regulation of PPA assets;
- 2 • Political developments in Ohio and the upcoming federal election;
- 3 • Effect of the PPA on growth targets;
- 4 • Tax issues in the state of Louisiana;
- 5 • Potential degradation of returns of various operating subsidiaries;
- 6 • Guidance for operations and maintenance (“O&M”) growth going
- 7 forward; and
- 8 • Comments surrounding the recent Senate energy bill.<sup>60</sup>

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

- 13 • Industrial customer sales trends;
- 14 • AEP’s plan for meeting sales growth targets;
- 15 • Maintaining credit metrics such as funds from operations (“FFO”)-to-debt
- 16 and debt-to-EBITDA;
- 17 • Expectations for renewable generation projects within the Generation and
- 18 Marketing segment;
- 19 • Regulatory preference for investment in generation or PPAs;
- 20 • AEP’s recent tax audit and potential implication for future taxes; and
- 21 • Transmission investment plans.<sup>61</sup>

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<sup>60</sup> See American Electric Power Co., Inc., Q1 2016 Earnings Call Transcript, April 28, 2016.

<sup>61</sup> See American Electric Power Co., Inc., Q2 2016 Earnings Call Transcript, July 28, 2016.

1           In the case of just one of Dr. Woolridge’s proxy companies, therefore, the level of  
2 fundamental research performed by analysts on issues that directly bear on long-term growth far  
3 exceed his review of growth estimates. In my view, by estimating growth by selectively  
4 reviewing a range of long-term growth estimates when observable analyst growth rate forecasts  
5 are readily available, Dr. Woolridge has introduced a level of measurement error that is  
6 unnecessary and unsupported.

7           **Q. Do you have any concerns with the projected analysts’ EPS growth rates**  
8 **relied on by Dr. Woolridge?**

9           A. Yes. In determining his projected analysts’ EPS growth rate, Dr. Woolridge  
10 includes negative growth estimates. In doing so, Dr. Woolridge has implicitly assumed that  
11 investors would consider committing capital to a company that is expected to have negative  
12 growth, in perpetuity. As Schedule RBH-R13 demonstrates, eliminating negative growth rates  
13 from Dr. Woolridge’s DCF analysis increases the mean projected EPS growth rate by 70 basis  
14 points. However, given that Dr. Woolridge’s 5.00 percent growth rate is based on his subjective  
15 judgment, it is difficult to say how removing negative growth rates would affect his analyses and  
16 recommendation.

17           **D. Application of the CAPM**

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

19           A. Dr. Woolridge’s CAPM analysis produces an estimated Cost of Equity of 7.90  
20 percent.<sup>62</sup> Although Dr. Woolridge relies primarily on his DCF analysis, he also considers his  
21 CAPM results in determining what he considers an appropriate range of the Company’s Cost of

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<sup>62</sup> See Staff Revenue Requirement Cost of Service Report, Exhibit JRW-11, at 1.

1 Equity.<sup>63</sup> As with Dr. Woolridge’s DCF results, I strongly disagree that a CAPM result of 7.90  
2 percent is a reasonable estimate of the Company’s ROE. As discussed below, Dr. Woolridge’s  
3 unduly low CAPM estimate primarily is the result of his estimated MRP.

4 **Q. Please describe how Dr. Woolridge calculates his MRP estimate.**

5 A. Dr. Woolridge reviews a series of studies that calculate the MRP using different  
6 methodologies; he also considers the results of his “Building Blocks” approach. Based on those  
7 reviews, Dr. Woolridge concludes that the MRP ranges from 4.00 percent to 6.00 percent and,  
8 within that range, 5.50 percent is reasonable.<sup>64</sup>

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

11 A. Yes. A study by Pablo Fernandez titled “Market Risk Premium used in 71  
12 countries in 2016: a survey with 6,932 answers” discusses how the required Equity Risk  
13 Premium is commonly calculated using a Constant Growth DCF approach.<sup>65</sup> That study states:

14 [t]he [implied equity premium] is the implicit [required equity premium] used in the  
15 valuation of a stock (or market index) that matches the current market price. The most widely  
16 used model to calculate the [implied equity premium] is the dividend discount model: the current  
17 price ( $P_0$ ) is the present value of expected dividends discounted at the required rate of return  
18 ( $K_e$ ). If  $d_1$  is the dividend per share expected to be received in year 1, and  $g$  the expected long  
19 term growth rate in dividends per share:

20 
$$P_0 = d_1 / (K_e - g), \text{ which implies:}$$

21

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<sup>63</sup> See *Ibid.*, at 49.

<sup>64</sup> *Ibid.*, at 48; Exhibit JRW-11, at 1, 5-6.

<sup>65</sup> Dr. Woolridge cites Pablo Fernandez’s research; see Staff Revenue Requirement Cost of Service Report, Exhibit JRW-11, at 5.

1 [implied equity premium] =  $d_1/P_0 + g - R_f$ <sup>66</sup>

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

5 **Q. Do you have any other observations regarding Dr. Woolridge’s Equity Risk**  
6 **Premium estimates?**

7 A. Yes. Many of Dr. Woolridge’s Equity Risk Premium estimates assume market  
8 returns equal to or below the Company’s required return and do not make either theoretical or  
9 practical sense. For example, his Exhibit JRW-11, page 5 of 6, indicates that the average  
10 estimated Equity Risk Premium over all the articles included in the survey is 4.64 percent.  
11 Combining that estimate with Dr. Woolridge’s 4.00 percent estimated Risk-Free Rate (Exhibit  
12 JRW-11, page 1 of 6) produces an estimated market return of 8.64 percent, which is eleven basis  
13 point below Dr. Woolridge’s 8.75 percent recommendation.

14 Dr. Woolridge observes that “...a regulated public utility is less risky than the market,”  
15 and should have a Beta coefficient less than 1.0.<sup>67</sup> Because his implied 8.64 percent market  
16 return is eleven basis points below to his 8.75 percent ROE recommendation, its relevance to  
17 investors’ actual required returns is questionable. Even focusing on studies from 2010 to 2015  
18 (Exhibit JRW-11, page 6 of 6), the expected market return would be approximately 8.88 percent,  
19 which is only 13 basis points above Dr. Woolridge’s 8.75 percent recommendation for Ameren  
20 Missouri. Because such important elements of his CAPM analyses contradict each other,  
21 Dr. Woolridge’s CAPM results are not reliable.

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<sup>66</sup> 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.

<sup>67</sup> Staff Revenue Requirement Cost of Service Report, at 45.

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

2 **Q. Please briefly summarize Dr. Woolridge’s position regarding the relationship**  
3 **between Market-to-Book (“M/B”) ratios and the Cost of Equity.**

4 A. Dr. Woolridge suggests that M/B ratios in excess of unity (*i.e.*, above 1.00)  
5 indicate that the subject company’s earned Return on Equity exceeds its Cost of Equity.<sup>68</sup> In  
6 support of that position, Dr. Woolridge provides a series of three regression analyses reflecting  
7 the relationship between the Return on Equity and M/B ratios for electric, natural gas, and water  
8 utilities, respectively. Because the Coefficient of Determination (sometimes referred to as the  
9 “R-squared”) ranges from 77.00 percent in the case of electric utilities, to 56.00 percent in the  
10 case of natural gas utilities, Dr. Woolridge concludes that there is a “strong positive relationship”  
11 between M/B ratios and the ROE for utilities.<sup>69</sup>

12 **Q. Do M/B ratios above 1.00 necessarily suggest that authorized ROEs have**  
13 **been too high?**

14 A. No, they do not. First, it is important to note that the M/B ratio equals the market  
15 value (or stock price) per share, divided by the total common equity (or the book equity) per  
16 share. Book value per share is an accounting construct, which reflects historical costs. In  
17 contrast, market value per share (*i.e.*, the stock price) is forward-looking, and a function of many  
18 variables, including (but not limited to) expected earnings and cash flow growth, expected  
19 payout ratios, measures of “earnings quality”, the regulatory climate, the equity ratio, expected  
20

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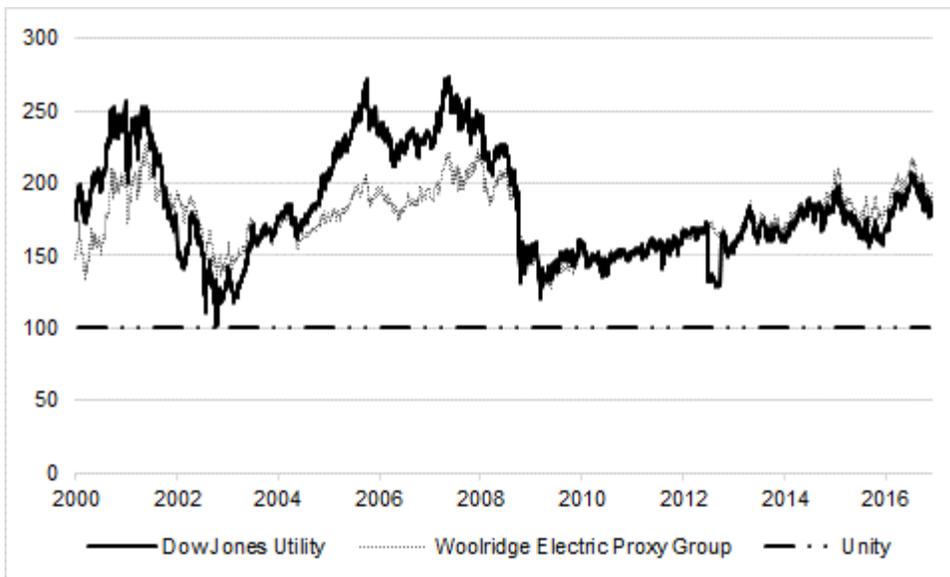
<sup>68</sup> See Staff Revenue Requirement Cost of Service Report, at 32.

<sup>69</sup> See *Ibid.*, at 32-33 and Exhibit JRW-6. Please note that there were only nine observations for the water group and twelve for the gas company group.

1 capital expenditures, and the earned return on common equity.<sup>70</sup>

2 M/B ratios in excess of unity simply means that the firm is worth more as a going  
3 concern than the book value of its assets. If Dr. Woolridge is of the view that M/B ratios in  
4 excess of unity reflect earned returns in excess of the Cost of Equity, it would follow that he also  
5 is of the view that utility commissions consistently authorize returns in excess of the Cost of  
6 Equity. To put the issue in context, the M/B ratio for the companies in the Dow Jones Utility  
7 Index, as well as Dr. Woolridge's proxy group have been well in excess of 1.00 since at least  
8 2000 (see Chart 4, below).

9 **Chart 4: Market/Book Ratios Over Time<sup>71</sup>**



10

<sup>70</sup> 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.

<sup>71</sup> Source: SNL Financial and Bloomberg Professional.

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

4 The notion that book values should be set at a value approaching unity by regulatory  
5 commissions has been refuted for many years. As noted by Stewart Myers in 1972: “In short, a  
6 straightforward application of the cost of capital to a book value rate base does not automatically  
7 imply that market and book values will be equal. This is an obvious but important point. *If*  
8 *straightforward approaches did imply equality of market and book values, then there would be*  
9 *no need to estimate the cost of capital.* It would suffice to lower (raise) allowed earnings  
10 whenever markets were above (below) book [emphasis added].”<sup>72</sup>

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

13 The third and perhaps most important reason for caution and  
14 skepticism is that application of the DCF model produces estimates of  
15 common equity cost that are consistent with investors’ expected return  
16 only when stock price and book value are reasonably similar, that is,  
17 when the M/B is close to unity. As shown below, application of the  
18 standard DCF model to utility stocks understates the investor’s  
19 expected return when the market-to-book (M/B) ratio of a given stock  
20 exceeds unity. This was particularly relevant in the capital market  
21 environment of the 1990s and 2000s whose utility stocks are trading at  
22 M/B ratios well above unity and have been for nearly two decades.  
23 The converse is also true, that is, the DCF model overstates the  
24 investor’s return when the stock’s M/B ratio is less than unity. The  
25 reason for the distortion is that the DCF market return is applied to a  
26 book value rate base by the regulator, that is, a utility’s earnings are  
27 limited to earnings on a book value rate base.<sup>73</sup>

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<sup>72</sup> 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.

<sup>73</sup> Roger A. Morin, New Regulatory Finance, Public Utilities Reports, Inc., 2006, at 434. [emphasis added]

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

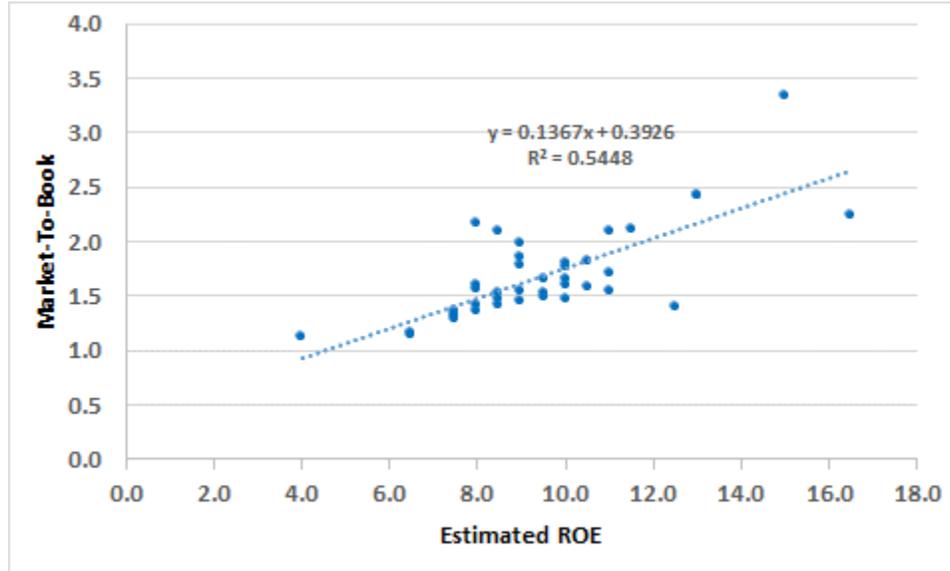
8           Lastly, although the earned Return on Equity may be one factor explaining M/B ratios, it  
9 is not the only factor. If it were, the regression equations presented in Dr. Woolridge's Exhibit  
10 JRW-6 would produce reasonable ROE estimates when the M/B ratio equals unity.

11           **Q.     In that regard, have you reviewed the ROE and M/B ratio data provided in**  
12 **Exhibit JRW-6?**

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

1

**Chart 5: Update of Exhibit JRW-6, Panel A, With Regression Coefficients<sup>74</sup>**



2

3 Based on that data, an M/B ratio of 1.00 is associated with an ROE of just 4.44 percent.<sup>75</sup>

4 That estimate is 95 basis points below the Company's *cost of debt* (i.e., 5.39 percent). In other

5 words, for the M/B ratio to equal 1.00, the Cost of Equity would be below the cost of debt, a

6 condition that is highly improbable and would be financially threatening to a utility if it existed.

7 Dr. Woolridge's own data therefore do not support his theory that ROEs in excess of unity

8 indicate that the subject company's return exceeds investors' required returns.

9 **Q. Have you analyzed whether the actual earned Return on Equity explains the**

10 **M/B ratios for Dr. Woolridge's proxy group?**

11 A. Yes, I have. Based on data from SNL Financial, I performed a regression analysis

12 in which the M/B ratio was the dependent variable, and the most recent twelve-month Return on

13 Average Common Equity ("ROACE") was the explanatory variable. As shown in Schedule

<sup>74</sup> Source: Value Line, downloaded as of January 10, 2017. 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 0.54.

<sup>75</sup>  $1.00 = 0.393 + (4.442\% \times 0.137)$ .

1 RBH-R14, the R-squared was approximately 34.00 percent (the coefficients and equation were  
2 statistically significant). Thus, other factors explain up to 66.00 percent of M/B ratios for  
3 Dr. Woolridge's proxy group.<sup>76</sup> Those results support the position that although the earned  
4 return on equity is a factor that explains M/B ratios, it is not the only factor. In any case, the  
5 regression equation indicates that a M/B ratio of 1.00 is associated with a Return on Common  
6 Equity of 0.79 percent; an M/B ratio of 1.10 relates to an ROACE of 1.94 percent. Because  
7 those estimates are far below the Company's 5.39 percent cost of debt, I do not agree that M/B  
8 ratios in excess of unity demonstrate earnings in excess of investors' requirements.

9 **Q. Do you have any other points regarding this issue?**

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

15 **F. Relative Risk**

16 **Q. Do you believe that credit ratings are an appropriate measure to determine**  
17 **the equity risk of Ameren Missouri relative to the proxy group?**<sup>77</sup>

18 A. Although I agree in general that credit spreads are directionally related to the Cost  
19 of Equity,<sup>78</sup> I do not agree that changes in one are a direct measure of changes in the other. Debt  
20 and equity are entirely different securities with different risk/return characteristics, different

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<sup>76</sup>  $0.66 = (1 - 0.34)$ .

<sup>77</sup> See Staff Revenue Requirement Cost of Service Report, at 17.

<sup>78</sup> 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".

1 lives, and different investors. Debt investors have a contractual, priority claim on cash flows not  
2 available to equity investors, and equity investors bear the residual risk of ownership. Moreover,  
3 because the life of debt is finite, debt investors' exposure to business and financial risk likewise  
4 is finite. On the other hand, equity is perpetual and equity investors are exposed to residual risk  
5 in perpetuity. Because debt and equity are distinct securities with different risk and return  
6 profiles, debt and equity investors themselves have different risk and return requirements. Any  
7 inferences drawn from changes in credit spreads for the Companies' Cost of Equity should be  
8 drawn with caution.

9 A visible measure of the distinction of the risks to which debt and equity investors are  
10 exposed is the difference in their respective Beta coefficients. Although I disagree with his  
11 conclusions, Dr. Woolridge recommends average Beta coefficients of 0.70 for both of our proxy  
12 groups.<sup>79</sup> Duff & Phelps notes that as of December 2015, Beta coefficients for A-rated debt was  
13 negative 0.07.<sup>80</sup> That is, the Beta coefficients of A-rated debt are well below those of the equity  
14 Beta coefficients assumed by Dr. Woolridge. In fact, the debt Beta coefficients in the range of  
15 0.45 to 0.55 are associated with Ba and B rated debt, both of which are considered to be below  
16 investment grade.<sup>81</sup> Those differences are a clear indication that the risks assumed by debt  
17 investors are far different than those assumed by equity investors.

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<sup>79</sup> Exhibit JRW-11, at 3.

<sup>80</sup> Duff & Phelps 2016 Valuation Handbook, John Wiley & Sons, Inc., 2016, at Appendix 3b.

<sup>81</sup> Duff & Phelps 2016 Valuation Handbook, John Wiley & Sons, Inc., 2016, at Appendix 3b. Debt Beta coefficients for BBB-rated companies were 0.08.

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

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

13           **Q. Did your analysis come to a different conclusion than Dr. Woolridge’s?**

14           A. Yes. As shown in Schedule RBH-R15, the regression analysis showed no  
15 statistically significant relationship between the two. In fact, the R-squared of the regression was  
16 only 0.045, which indicates that credit ratings accounted for only 4.50 percent of the change in  
17 the DCF-estimated Cost of Equity.

18           **Q. What conclusion do you reach after evaluating Dr. Woolridge’s**  
19 **recommendation?**

20           A. As shown in Chart 2, Dr. Woolridge’s ROE recommendation is far below the  
21 national average return for vertically integrated electric utilities. Because his recommendation is  
22 so far removed from other authorized returns his recommendation is an outlier.

1 **III. RESPONSE TO OPC WITNESS GORMAN**

2 **Q. Please briefly summarize Mr. Gorman's recommendation regarding the**  
3 **Company's Cost of Equity.**

4 A. Mr. Gorman recommends an ROE of 9.20 percent, within a recommended range  
5 of 9.00 to 9.40 percent.<sup>82</sup> Mr. Gorman establishes his recommended ROE by reference to: (1)  
6 his constant growth DCF model using both consensus analyst growth rates and a sustainable  
7 growth rate (with median and average results ranging from 7.47 percent to 9.02 percent);<sup>83</sup> (2)  
8 his Multi-Stage DCF method (with mean and median results of 7.89 percent and 7.99 percent,  
9 respectively);<sup>84</sup> (3) his Risk Premium estimates (9.40 percent);<sup>85</sup> and (4) his CAPM analyses  
10 (9.00 percent).<sup>86</sup> In particular, Mr. Gorman's 9.20 percent recommendation represents the  
11 approximate midpoint of his range of results, set by reference to the results from the DCF and  
12 CAPM (9.00 percent) on the low end and the Risk Premium (9.40 percent) analyses on the high  
13 end.<sup>87</sup>

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

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

- 17 1. Proxy group composition;
- 18 2. The application of the Constant Growth DCF model, and interpretation of its results;
- 19 3. The MRP component of his CAPM analysis, in particular the expected market return
- 20

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<sup>82</sup> See Direct Testimony of Michael P. Gorman, at 2.

<sup>83</sup> *Ibid.*, at 29, 31, 39.

<sup>84</sup> *Ibid.* at 39.

<sup>85</sup> *Ibid.*, at 46.

<sup>86</sup> *Ibid.*, at 51.

<sup>87</sup> *Ibid.*, at 52.

1 from which the MRP is calculated;

2 4. The assumptions and methods underlying Mr. Gorman's Risk Premium analyses;

3 5. Mr. Gorman's assessment of the Company's relative risk; and

4 6. Mr. Gorman's assessment of how his recommended ROE will affect the Company's  
5 financial integrity.

6 **A. Proxy Group Composition**

7 **Q. Do you agree with Mr. Gorman's exclusion of Otter Tail Corporation from**  
8 **the proxy group?<sup>88</sup>**

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

15 **B. Constant Growth DCF Model**

16 **Q. As a preliminary matter, does Mr. Gorman give his Constant Growth DCF**  
17 **results any weight in arriving at his 9.20 percent ROE recommendation?**

18 A. Yes, as noted earlier, Mr. Gorman's 9.20 percent recommendation represents the  
19 midpoint of his 9.00 percent to 9.40 percent recommended range. The bottom end of that range  
20 (9.00 percent) is based on Mr. Gorman's Constant Growth DCF median result of approximately

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<sup>88</sup> *Ibid.*, at 24.

1 9.00 percent,<sup>89</sup> and the upper bound (9.40 percent) represents the point estimate of his Risk  
2 Premium results.<sup>90</sup>

3 To arrive at his DCF estimate, Mr. Gorman discards his Multi-Stage DCF results (7.99  
4 percent based on the median result), and his Constant Growth DCF model results based on the  
5 “sustainable growth” method (7.47 percent based on the median result) in favor of his Constant  
6 Growth DCF results based on analysts’ growth rate projections (9.02 percent based on the  
7 median result).<sup>91</sup> Because Mr. Gorman states that his recommendation is “primarily based” on  
8 his Constant Growth DCF results, and not his Multi-Stage or sustainable growth DCF methods, I  
9 will not comment on his application of those approaches in my Rebuttal Testimony.

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

12 A. Yes, I do. The Constant Growth DCF model is based on several underlying  
13 assumptions that combine to establish an inverse relationship between expected growth and the  
14 dividend yield. That is, as expected growth increases, the price would increase and the dividend  
15 yield would decrease. Conversely, as expected growth decreases, the price would decrease and  
16 the dividend yield would increase. Mr. Gorman’s Constant Growth DCF analysis, however,  
17 assumes P/E ratios that are high by historical standards, (*see* Chart 6 below), but growth rates  
18 that are relatively low.

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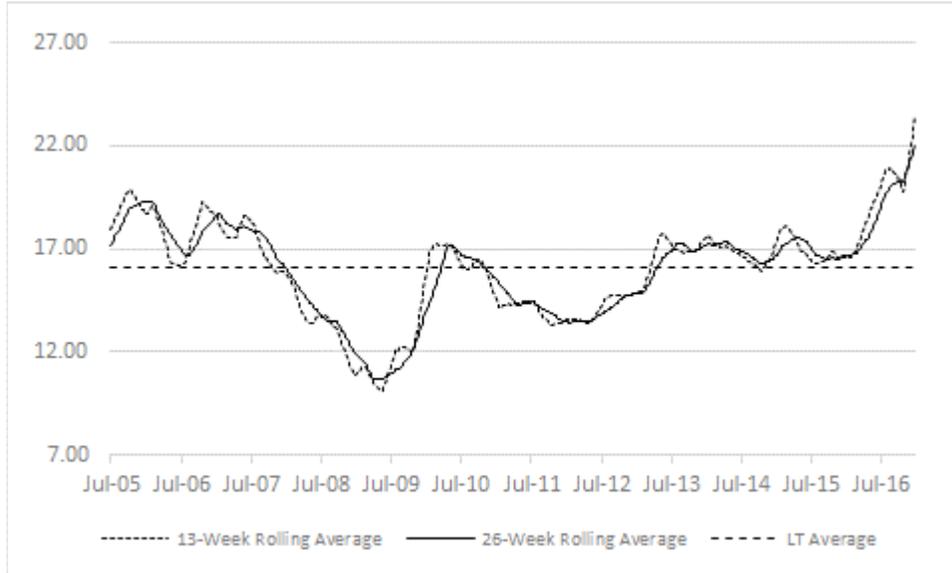
<sup>89</sup> *Ibid.*, at 39, Table 7.

<sup>90</sup> *Ibid.*, at 46.

<sup>91</sup> *Ibid.*, at 39, Table 7.

1

**Chart 6: Proxy Group Rolling Average P/E Ratio<sup>92</sup>**



2

3 **Q. Are the growth rates assumed in Mr. Gorman’s analysis consistent with**  
4 **historically high valuation levels?**

5 A. No, they are not. Mr. Gorman’s analysis assumes an average growth rate of 5.47  
6 percent (*see* Schedule MPG-5) which, he notes, is well below the long-term compound average  
7 growth rate for the economy as a whole (6.20 percent), and the long-term rate of stock market  
8 capital appreciation (on geometric average basis, 5.80 percent).<sup>93</sup> As discussed earlier, the  
9 Constant Growth DCF model assumes that low growth rates would be associated with low prices  
10 (and high dividend yields), yet the proxy group average P/E ratio is well above its long-term  
11 average. In the context of the Constant Growth DCF model, the two are not compatible.

12 Mr. Gorman acknowledges that unsustainable expansions in P/E ratios create analytical  
13 concerns that should be addressed in determining the Cost of Equity. At page 50 of his direct  
14 testimony, Mr. Gorman discusses the MRP component of his CAPM, and explains that Ibbotson

<sup>92</sup> Sources: SNL Financial. Proxy Group P/E ratio calculated as an index.

<sup>93</sup> Direct Testimony of Michael P. Gorman, at 35.

1 & Chen found an “abnormal expansion” of P/E ratios relative to earnings and dividend growth.  
2 That is, Ibbotson & Chen found that because higher P/E ratios during the 1980 to 2001 period  
3 were not explained by higher growth in earnings or dividends, their analyses required  
4 adjustment.<sup>94</sup> Duff & Phelps, the source referenced by Mr. Gorman, calculates an adjustment  
5 using three-year average P/E ratios, rather than relying on the current year, because “the three-  
6 year average allows the adjustment *to smooth out the volatility of extraordinary events and*  
7 *allows earnings to better reflect a normalized trend* [emphasis added].”<sup>95</sup> As did Ibbotson, Duff  
8 & Phelps recognized that abnormally high P/E ratios will produce questionable analytical results,  
9 and emphasized that the long-term trend is important.

10 The same conditions hold here. The utility sector has undergone an “abnormal  
11 expansion” in P/E ratios; there is no dispute on that point. Whereas Duff & Phelps recognized  
12 and adjusted its analyses to reflect the abnormal expansion in P/E ratios, Mr. Gorman’s DCF  
13 analyses and his interpretation of their results do not. Therefore, Mr. Gorman’s DCF analysis  
14 understates the current ROE for Ameren Missouri.

15 Lastly, if Mr. Gorman’s position is that the current P/E ratio will sustain itself over the  
16 long-run, I have addressed that concern by calculating the terminal value portion of the Multi-  
17 Stage DCF model by reference to current P/E ratios.<sup>96</sup>

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

20 A. Although we agree that it is appropriate to rely on analyst earnings growth  
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<sup>94</sup> See Direct Testimony of Michael P. Gorman at 51; Morningstar Inc., Ibbotson SBBI 2014 Classic Yearbook, at 156 - 157.

<sup>95</sup> Duff & Phelps, 2016 Valuation Handbook: Guide to Cost of Capital, at 3-30.

<sup>96</sup> See Schedule RBH-R2.

1 estimates in applying the Constant Growth DCF model, Mr. Gorman asserts that those estimates  
2 should be limited to what he considers to be a reasonable estimate of long-term “sustainable”  
3 growth.

4 As noted in my response to Dr. Woolridge, prior academic research indicates that  
5 investors rely on analysts’ earnings growth projections. In addition, the Commission has found  
6 the use of analysts’ growth rates in the DCF model reasonable in past cases.<sup>97</sup> Although  
7 Mr. Gorman may be of the view that analyst growth rates are not sustainable, the relevant issue  
8 in rate cases is whether investors rely on those projections in making their investment decisions.  
9 The projections prepared by analysts reflect widely held expectations that influence investors at  
10 the time they make their pricing decisions, *i.e.*, the market prices investors are willing to pay. I  
11 am not aware of empirical evidence supporting the position that investors would disregard  
12 analysts’ estimates of growth in EPS for the companies in our respective proxy groups, nor has  
13 Mr. Gorman provided any such evidence. Rather, the academic research discussed above  
14 supports the use of analysts’ earnings growth projections. I therefore disagree with  
15 Mr. Gorman’s conclusion that *his* subjective view of sustainable growth, rather than analysts’  
16 projections, is the more relevant measure of investor expectations.

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

18 **Q. Please briefly summarize Mr. Gorman’s CAPM analysis and results.**

19 A. Mr. Gorman’s two CAPM estimates (8.97 and 7.69 percent) are based on two  
20 measures of principally historical Market Risk Premium estimates: (1) Blue Chip’s projected

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<sup>97</sup> For example, in its Report and Order in File 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*, File No. GR-2014-0152, at 23-24.

1 30-year Treasury yield of 3.40 percent as the risk-free rate;<sup>98</sup> and (2) an average Beta coefficient  
2 of 0.71, as reported by Value Line.<sup>99</sup> Based on his assessment of risk premiums in the current  
3 market, Mr. Gorman relies on the high-end rounded to 9.00 percent CAPM when estimating  
4 Ameren Missouri Cost of Equity.<sup>100</sup> Mr. Gorman's analyses assume MRP estimates of 7.80  
5 percent (based on the long-term historical arithmetic average real market return from 1926  
6 through 2015 as reported by Duff & Phelps, adjusted for current inflation forecasts), and 6.00  
7 percent (based on the historical difference between the average return on the S&P 500 and the  
8 average total return on long-term government bonds).<sup>101</sup> Combining those MRP estimates with  
9 his projected long-term risk-free rate, Mr. Gorman develops expected market returns in the range  
10 of 9.40 to 11.20 percent.<sup>102</sup>

11 **Q. Turning first to the expected total market return, do you agree with**  
12 **Mr. Gorman's 9.40 and 11.20 percent estimates?**

13 A. No, I do not. As a practical matter, Mr. Gorman's 9.40 percent estimate, which is  
14 255 basis points below the long-term average market return, falls in the bottom 9<sup>th</sup> percentile of  
15 the 90 annual returns reported by Morningstar.<sup>103</sup> His 11.20 percent estimate, which I believe is  
16 more reasonable, still falls in the bottom 24<sup>th</sup> percentile.

17 A helpful perspective on the historical market return is the rolling 50-year average annual  
18 market return. As Mr. Gorman points out, from 1926 through 2015 the arithmetic average

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<sup>98</sup> *Ibid.*, at 47 and Schedule MPG-18.

<sup>99</sup> *Ibid.* at 48.

<sup>100</sup> *Ibid.*, at 51.

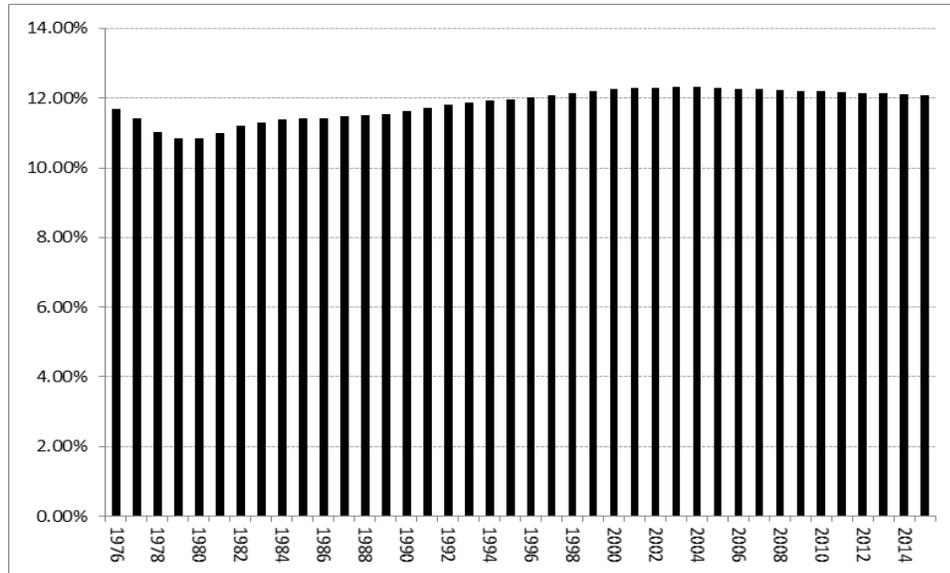
<sup>101</sup> *Ibid.*, at 49-50 and Schedule MPG-18.

<sup>102</sup> Mr. Gorman's low Market Risk Premium of 6.00 percent plus his projected risk-free rate of 3.40 percent equals an estimated market return of 9.40 percent. *See* Direct Testimony of Michael P. Gorman, at 48-51; Schedule MPG-18.

<sup>103</sup> On a rolling average basis.

1 market return was 12.00 percent.<sup>104</sup> Over the 50 years ended 2015, the average return was 12.10  
2 percent, only ten basis points removed from the longer-term average that Mr. Gorman reports.  
3 Over time, the fifty-year average return has been quite consistent, in the range of approximately  
4 12.00 percent (see Chart 7, below).

5 **Chart 7: 50-Year Rolling Average Market Return (1976 – 2015)<sup>105</sup>**



6  
7 Taken from that perspective, Mr. Gorman’s 9.40 percent expected market return is well  
8 below the long-term market experience, and, therefore, is not reasonable.

9 **Q. Did you make any adjustments to Mr. Gorman’s CAPM?**

10 A. Yes. As discussed above, although Mr. Gorman’s market return of 11.20 percent  
11 is more reasonable than his lower estimate, as shown in Chart 7, it is still low relative to the  
12 historical market return. As such, I recalculated his CAPM analysis using more reasonable  
13 estimates of the market return. The first method is the average of his 11.20 percent estimate and  
14 the lower of my two updated market return estimates (see Schedule RBH-R3) of 12.60 percent

<sup>104</sup> Direct Testimony of Michael P. Gorman, at 50.

<sup>105</sup> Source: Morningstar, Inc., 2016 SBBI Appendix A Tables.

1 from Bloomberg Professional (i.e., 11.90 percent). I relied on Mr. Gorman’s average Beta  
2 coefficient and risk-free rate. I then calculated his CAPM analysis based on the average market  
3 returns from Bloomberg Professional and Value Line presented in Schedule RBH-R3. The  
4 results of those analyses are provided in Table 4, below.

5 **Table 4: Mr. Gorman Updated CAPM Results**

Scenario	Result
As filed - 9.40% Market Return	7.69%
As filed - 11.20% Market Return	8.97%
Average Gorman High, Hevert Low – 11.90% Market Return <sup>106</sup>	9.44%
Average Hevert Market Return – 13.22% Market Return <sup>107</sup>	10.37%

6 The updated results in Table 4 are more reasonable estimates of the Company’s ROE and  
7 are within the range of recently authorized returns.

8 **D. Application of the Risk Premium Model**

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

10 A. Mr. Gorman defines the “Risk Premium” as the difference between average  
11 annual authorized equity returns for electric utilities, and a measure of long-term interest rates  
12 each year from 1986 through September 2016.<sup>108</sup> Mr. Gorman’s first approach calculates the  
13 annual risk premium by reference to the 30-year Treasury yield, and his second approach  
14 considers the average A-rated utility bond yield.<sup>109</sup> In each case, Mr. Gorman establishes his risk

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<sup>106</sup>  $9.44\% = 3.40\% + 0.71 * (11.90\% - 3.40\%)$ .

<sup>107</sup>  $10.37\% = 3.40\% + 0.71 * (13.22\% - 3.40\%)$ .

<sup>108</sup> Direct Testimony of Michael P. Gorman, at 40.

<sup>109</sup> See Direct Testimony of Michael P. Gorman, 40-41, Schedule MPG-13 and MPG-14.

1 premium estimate by reference to five-year and ten-year rolling averages. The lower and upper  
2 bounds of Mr. Gorman’s Risk Premium range are defined by the lowest and highest rolling  
3 average, respectively, regardless of the year in which those observations occurred.<sup>110</sup>

4 Regarding the period over which he gathers and analyzes his data, Mr. Gorman suggests  
5 that his 31-year horizon is a “generally accepted period to develop a risk premium study using  
6 ‘expectational’ data.”<sup>111</sup> On page 42 of his direct testimony Mr. Gorman further states that “it is  
7 reasonable to assume that averages of annual achieved returns over long time periods will  
8 generally converge on the investors’ expected returns,” and concludes that his “risk premium  
9 study is based on expectational data, not actual investment returns, and, thus, need not  
10 encompass a very long historical time period.”<sup>112</sup> Based on those assumptions, Mr. Gorman  
11 calculates a range of risk premium estimates of 4.25 percent to 6.75 percent using his Treasury  
12 bond analysis, and 2.88 percent to 5.58 percent using his A-rated utility bond analysis.  
13 Combined with a 3.40 percent projected Treasury yield and a 4.38 percent Baa-rated utility bond  
14 yield estimate, Mr. Gorman’s Risk Premium analysis produces results ranging from 7.26 percent  
15 to 10.15 percent.<sup>113</sup> To calculate his Risk Premium-based ROE estimate, Mr. Gorman gives  
16 75.00 percent weight to the high end of his risk premium estimates, and 25.00 percent to the low  
17 end, producing a range of 9.30 percent to 9.50 percent, from which Mr. Gorman selects a  
18 midpoint of 9.40 percent.<sup>114</sup>

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<sup>110</sup> Direct Testimony of Michael P. Gorman at 41; Schedules MPG-13 and MPG-14.

<sup>111</sup> *Ibid.*, at 41.

<sup>112</sup> *Ibid.*, at 42.

<sup>113</sup>  $4.38\% + 2.88\% = 7.26\%$ ;  $4.38\% + 5.58\% = 9.96\%$ ;  $3.40\% + 4.25\% = 7.65\%$ ;  $3.40\% + 6.75\% = 10.15\%$ ;  
Schedules MPG-13 and MPG-14

<sup>114</sup> *Ibid.*, at 46.

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

3           A. Yes, I do. In assessing his DCF analyses, Mr. Gorman decided to rely on his  
4 highest result and essentially discarded four of his six results, which ranged from 7.47 percent to  
5 7.99 percent.<sup>115</sup> However, in his Risk Premium analysis, Mr. Gorman retained risk premiums  
6 that produced ROE estimates that were 34 basis points *below* the DCF estimates that he chose  
7 not to rely on. Despite their low levels, Mr. Gorman gave those risk premium estimates  
8 (producing ROE results of 7.26 and 7.65 percent) weights of 25.00 percent in aggregate.  
9 Mr. Gorman offers no explanation as to why he would exclude DCF results of 7.99 percent and  
10 lower, yet include Risk Premium results of 7.26 percent and 7.65 percent.<sup>116</sup> If Mr. Gorman had  
11 not given any weight to his unduly low risk premium estimates (as he did in his DCF analysis),  
12 his range would increase to 9.96 percent<sup>117</sup> to 10.15 percent.<sup>118</sup> This shows the inconsistency in  
13 and the subjective nature of his Risk Premium analysis.

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

15           A. I have three concerns with his analysis: (1) Mr. Gorman's method understates the  
16 required risk premium in the current market because it ignores an important relationship  
17 confirmed by his own data, *i.e.*, that the risk premium is inversely related to the level of interest  
18 rates (whether measured by Treasury or utility bond yields); (2) the low end of Mr. Gorman's  
19 Risk Premium results (*i.e.*, 7.26 and 7.65 percent) is far lower than any ROE authorized since at  
20 least 1986 and as such, has no relevance in estimating the Company's Cost of Equity; and

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<sup>115</sup> *Ibid.* at 39.

<sup>116</sup> *Ibid.* at 46 (2.88% + 4.38% = 7.26% and 4.25% + 3.40% = 7.65%).

<sup>117</sup> 9.96% = 5.58% + 4.38%

<sup>118</sup> 10.15% = 6.75% + 3.40%

1 (3) Mr. Gorman suggests that a Market/Book ratio of 1.00 is a relevant benchmark for assessing  
2 authorized ROEs.<sup>119</sup>

3 **Q. Turning first to the issue of M/B ratios, as discussed on page 40 of his direct**  
4 **testimony, do you agree with Mr. Gorman that M/B ratios should be used to assess the**  
5 **reasonableness of ROE recommendations?**

6 A. Although Mr. Gorman frames his discussions in the context of authorized returns  
7 that “were sufficient to support market prices that at least exceeded book value,”<sup>120</sup> he does not  
8 suggest whether the M/B ratio should exceed some level, or even explain the extent of the  
9 relationship between authorized returns and M/B ratios. As discussed in my response to  
10 Dr. Woolridge, I do not believe that M/B ratios should serve as a measure of the sufficiency of  
11 authorized returns.

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

13 A. Mr. Gorman failed to consider the inverse relationship between interest rates and  
14 the Equity Risk Premium, which artificially depresses his Risk Premium ROE recommendation.  
15 Considering first the Treasury yield-based analysis, I plotted the yields and Risk Premia over the  
16 1986 to 2016 period included in Mr. Gorman’s analysis. That graph, which is presented in Chart  
17 8 (below), clearly indicates the inverse relationship between interest rates and the Equity Risk  
18 Premium.

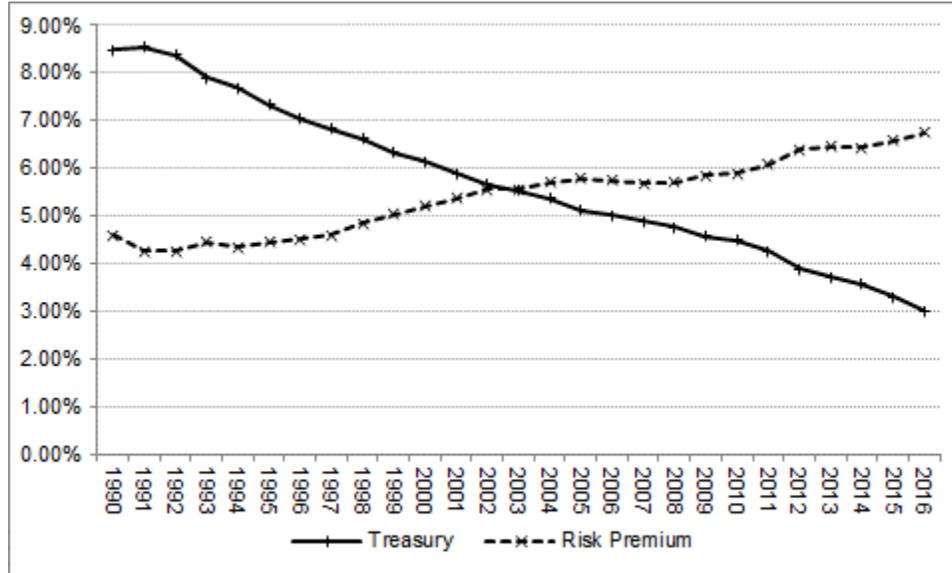
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<sup>119</sup> *Ibid.* at 40.

<sup>120</sup> *Ibid.*, at 40.

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**Chart 8: Mr. Gorman’s Treasury Yield-Based Risk Premium Data<sup>121</sup>**



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There are several other points made clear in Chart 8. 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 8 (*see also* Schedule RBH-R16) 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.

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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 period from 2015 through

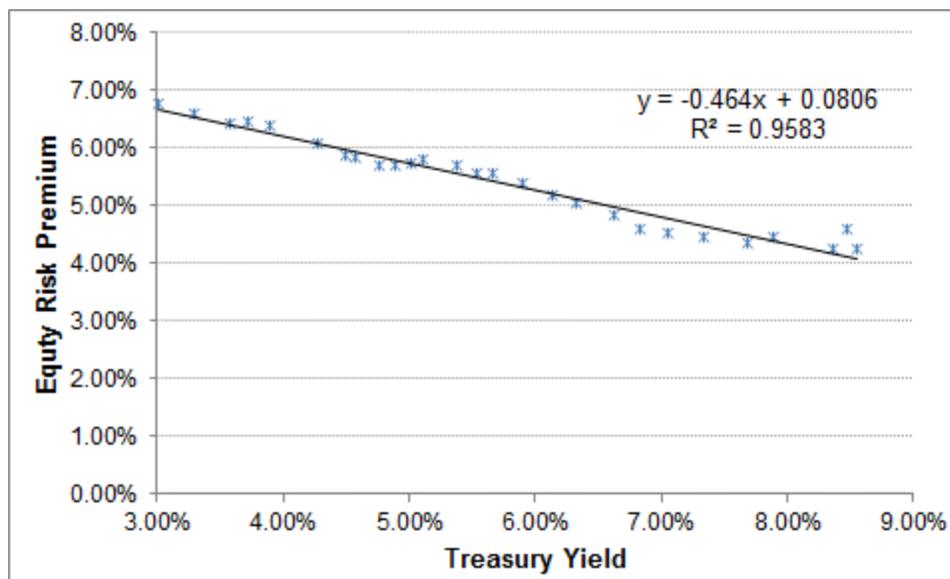
<sup>121</sup> Source: Direct Testimony of Michael P. Gorman, Schedule MPG-13; based on five-year rolling average.

1 September 2016.<sup>122</sup> Adding that 6.94 percent Equity Risk Premium to Mr. Gorman’s projected  
2 Treasury yield of 3.40 percent produces an ROE estimate of 10.34 percent.

3 **Q. Has the Risk Premium increased as Treasury yields have decreased?**

4 A. Yes. The relationship between the five-year average Equity Risk Premium and  
5 Treasury yields is very clear. A simple linear regression demonstrates that the two are highly  
6 related, with a Coefficient of Determination (R-Square) of approximately 96.00 percent. That is,  
7 Mr. Gorman’s data demonstrate that changes in Treasury yields account for 96.00 percent of the  
8 change in the Equity Risk Premium (*see* Chart 9, below).<sup>123</sup>

9 **Chart 9: Treasury Yield vs. Equity Risk Premium (Five-Year Rolling Average)<sup>124</sup>**



10

11 Turning back to Mr. Gorman’s data, a simple linear regression analysis using annual

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<sup>122</sup> Based on Indicated Risk Premium.

<sup>123</sup> 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].

<sup>124</sup> See Schedule RBH-R16. Source: Schedule MPG-13.

1 (rather than the rolling average) data demonstrates that for every 100 basis point decrease in  
2 Treasury yields, the Equity Risk Premium increases by approximately 45 basis points (*see*  
3 Schedule RBH-R17).<sup>125</sup> Similarly, the Equity Risk Premium increases approximately 45 basis  
4 points for every 100 basis point decrease in utility bond yields. Those results are consistent with  
5 those reported by Maddox, Pippert, and Sullivan, who determined that the Risk Premium would  
6 increase by 37 basis points for every 100 basis point decrease in the 30-year Treasury yield.<sup>126</sup>

7 As noted in my Direct Testimony, I also have found that accounting for additional factors  
8 by incorporating the credit spread does not change the sign, statistical significance, or the  
9 magnitude of the slope coefficient.<sup>127</sup> In other words, consideration of credit spreads does not  
10 change the finding that interest rates and the Equity Risk Premium are inversely related.

11 **Q. What would Mr. Gorman's Risk Premium analysis results be had he relied**  
12 **on the inverse relationship shown in Chart 9, above?**

13 A. As shown on page 3 of Schedule RBH-R16, had Mr. Gorman recognized the  
14 inverse relationship between the Equity Risk Premium and Treasury yields in his Risk Premium  
15 analysis, his result would be 9.88 percent. Similarly, applying the same relationship to the utility  
16 bond yield data presented by Mr. Gorman, the result would be 9.65 percent.<sup>128</sup>

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

18 A. Mr. Gorman's inclusion of rolling average estimates in his Risk Premium analysis  
19 does not negate the unreasonableness of his reliance on outdated and unrepresentative data. The  
20 market data upon which Mr. Gorman relies are so disconnected in time and substance from the

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<sup>125</sup> Serial correlation is not present or is inconclusive.

<sup>126</sup> 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.

<sup>127</sup> See Schedule RBH-7.

<sup>128</sup> See, Schedule RBH-R16.

1 current environment that there is no reasonable basis for his conclusion that 9.40 percent  
2 represents a proper Risk Premium-based estimate of the Company's Cost of Equity.  
3 Consequently, it is appropriate to apply methods that have been accepted in published literature,  
4 and which reflect the finding that interest rates and the Equity Risk Premium move in opposite  
5 directions. Taking this finding into account leads to more reasonable ROE estimates that are  
6 consistent with authorized returns available to other vertically integrated electric utilities.<sup>129</sup>

7 **E. Risk Factors**

8 **Q. Please briefly summarize Mr. Gorman's assessment of the Company's**  
9 **overall business risk.**

10 A. Mr. Gorman summarizes certain rating agency reports and concludes that utilities  
11 in general are seen as a low-risk sector, which has provided utilities "strong access to capital."<sup>130</sup>  
12 Adopting an ROE as low as Mr. Gorman's recommendation (which is 86 basis points below the  
13 average authorized for vertically integrated electric utilities since 2013), however, would have  
14 the opposite effect of increasing the Company's regulatory risk and its cost of capital. Since  
15 2013, there was only one authorized return for a vertically integrated electric utility as low  
16 Mr. Gorman's recommended ROE (i.e., 9.20 percent).

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

18 A. No, they do not. As S&P notes, the vast majority of utility ratings fall within the  
19 BBB to A- range.<sup>131</sup> The Company's current credit rating of BBB+ falls within that range. If  
20 Mr. Gorman's point is that utilities in general are viewed as less risky than the overall market, I

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<sup>129</sup> See, for example, Schedule RBH-R6, which contains a range of results from 10.01 percent to 10.33 percent.

<sup>130</sup> Direct Testimony of Michael P. Gorman, at 15.

<sup>131</sup> 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 agree. In fact, the Beta coefficients included in my CAPM analysis are less than 1.00, indicating  
2 less systematic risk than the overall market. That does not mean, however, that the return  
3 required for equity investments in vertically integrated electric utilities such as Ameren Missouri  
4 should be lower than the returns authorized for other vertically-integrated electric utilities around  
5 the country, as Mr. Gorman's 9.20 percent ROE recommendation suggests.

6 **F. Financial Integrity**

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

9 A. Mr. Gorman evaluates the reasonableness of his ROE recommendation by  
10 calculating the *pro forma* effect that his recommended ROE would have on two of the  
11 Company's key financial ratios with the goal of assessing whether those ratios would still fall  
12 within S&P's guideline ranges sufficient for an investment grade rating.<sup>132</sup> In that regard,  
13 Mr. Gorman develops the following *pro forma* ratios: (1) Debt to EBITDA; and (2) FFO to Total  
14 Debt. An important point is that Mr. Gorman's analysis assumes that the Company actually will  
15 earn the entirety of its authorized ROE on a going-forward basis.

16 Mr. Gorman develops the *pro forma* financial ratios noted above based on the Company's  
17 retail cost of service, and his recommended ROE of 9.20 percent and equity ratio of 51.38  
18 percent. Mr. Gorman notes that his *pro forma* financial analysis suggests that his recommended  
19 ROE of 9.20 percent would be sufficient to maintain "an investment grade bond rating."<sup>133</sup>

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<sup>132</sup> See Direct Testimony of Michael P. Gorman, at 56-57.

<sup>133</sup> *Ibid.* at 53.

1           **Q.     Do you agree with Mr. Gorman’s analysis and conclusion?**

2           A.     No, I do not. First, simply maintaining an “investment grade” rating is an  
3 inappropriate standard. According to Standard & Poor’s, only 6 of 221 utilities have had below  
4 investment grade ratings.<sup>134</sup> Ameren Missouri must compete for capital within the utility sector  
5 in the first instance, and with companies beyond utilities, overall. If Mr. Gorman is of the view  
6 that simply maintaining an investment grade rating is sufficient for that purpose, I disagree. In  
7 my practical experience raising capital for a regulated utility, I can say firsthand that the  
8 competition for capital can be acute. Based on that practical experience, I also can say that  
9 Mr. Gorman’s “investment grade” standard would frustrate, and potentially harm, the ability of  
10 Ameren Missouri (or any other regulated utility) to raise capital under a variety of market  
11 conditions, and at reasonable costs and terms.

12           That fundamental concern aside, I believe relying on Mr. Gorman’s *pro forma* results to  
13 assess the credit supportiveness of any specific ROE or equity ratio is misplaced. In particular, I  
14 examined the robustness of using his *pro forma* credit metrics as a threshold benchmark by  
15 recreating the results in Mr. Gorman’s Schedule MPG-19. As shown in in Table 5 below,  
16 Mr. Gorman’s *pro forma* analysis suggests that an ROE as low as 6.83 percent would be  
17 sufficient to achieve Debt to EBITDA and FFO to Total Debt ratios in the “Intermediate” range,  
18 as suggested by Mr. Gorman’s analysis. Clearly, however, a return of 6.83 percent, which is  
19 only 144 basis points above Ameren Missouri’s cost of long-term debt, is an unrealistic estimate  
20 of the Company’s Cost of Equity.

21           However, the usefulness of an analysis which suggests that an ROE as low as 6.83  
22

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<sup>134</sup> 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 percent (see Table 5, below) would be sufficient to achieve those metrics in Company’s current  
 2 “Intermediate” risk range is severely limited and provides no practical meaning as a check as to  
 3 the appropriateness of Mr. Gorman’s recommended ROE.

4 **Table 5: Mr. Gorman’s Financial Integrity Test Using Alternate Assumptions**<sup>135</sup>

	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 (9.20% ROE and 51.80% Equity Ratio)	2.58x	26.15%	Intermediate
9.90% ROE and 51.80% Equity Ratio	2.50x	26.93%	Intermediate
6.83% ROE and 51.80% Equity Ratio	2.97x	23.00%	Intermediate
Company current Financial Risk rating = “Intermediate”			

5 Mr. Gorman concludes that his 9.20 percent recommendation produces *pro forma* ratios  
 6 within S&P’s “Intermediate” guideline and therefore supports Ameren Missouri’s current  
 7 “Intermediate” ranking.<sup>136</sup> Again, Mr. Gorman’s conclusions are questionable given that his  
 8 analysis suggests an ROE of 6.83 percent would produce coverage ratios that support the  
 9 Company’s current “Intermediate” range. I do not believe there is any question that 6.83 percent  
 10 is an unrealistic estimate of the Company’s Cost of Equity, even if it produces pro forma credit  
 11 metrics in the “Intermediate” range. As shown in Table 5 (above), the Company’s requested  
 12 9.90 percent ROE and 51.80 percent equity ratio also produces coverage ratios that fall within  
 13

<sup>135</sup> Analysis based on Mr. Gorman’s Schedule MPG-19. See Schedule RBH-R18.

<sup>136</sup> Direct Testimony of Michael P. Gorman, at 56.

1 the “Intermediate” range, similar to Mr. Gorman’s recommended ROE.

2 In my view, the observation that Mr. Gorman’s 9.20 percent ROE produces *pro forma*  
3 ratios that fall within the “Intermediate” range does not lead to the conclusion that his  
4 recommendation would support the Company’s financial integrity. As noted earlier, there are  
5 factors well beyond *pro forma* coverage ratios that weigh in rating determinations.

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

9 Lastly, as Mr. Gorman recognizes, credit rating agencies consider a number of factors  
10 beyond coverage ratios. For example, Moody’s considers the regulatory structure to be so  
11 important that 50.00 percent of the factors that weigh in its ratings determination are related to  
12 the nature of regulation.<sup>137</sup> Among the factors considered by Moody’s in assessing the  
13 regulatory framework are the predictability and consistency of regulatory actions:

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

22 \*\*\*

23 In situations where the regulatory framework is less supportive, or is more  
24 contentious, a utility’s credit quality can deteriorate rapidly.<sup>138</sup>

25 As shown in Chart 2, Mr. Gorman’s ROE recommendation is far below the national  
26 average return for vertically integrated electric utilities. This introduces an element of regulatory

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<sup>137</sup> Moody’s Investors Service, *Rating Methodology; Regulated Gas and Electric Utilities* at 6 (Dec. 23, 2013).

<sup>138</sup> Moody’s Investors Service, *Regulatory Frameworks – Ratings and Credit Quality for Investor-Owned Utilities* at 2 (June 18, 2010).

1 risk that could put pressure on Ameren Missouri's credit profile, potentially increasing its cost of  
2 capital. Because Mr. Gorman's analysis is overly simplistic, relying on its results may well lead  
3 to incorrect conclusions and therefore those results should not be relied upon.

4 **G. Recommended ROE**

5 **Q. Please summarize the adjustments you made to Mr. Gorman's CAPM and**  
6 **Risk Premium analyses.**

7 A. I updated Mr. Gorman's ROE based on the average of his highest MRP and my  
8 lowest MRP, as well as based on the average of the MRPs in my updated CAPM analysis. Based  
9 on those results his CAPM ranges from 9.44 percent to 10.37 percent.

10 Mr. Gorman gives 25.00 percent weight in calculating the Equity Risk Premium  
11 component of his Risk Premium analysis to Equity Risk Premia, which result in estimates of the  
12 Company's ROE far below any reasonable measure and below other estimates of the ROE that  
13 Mr. Gorman excludes because they are unreasonable. As such, I removed those estimates from  
14 Mr. Gorman's analysis. Doing so results in a range of Risk Premium estimates of 9.96 percent to  
15 10.15 percent. In addition, I calculated Mr. Gorman's Risk Premium analysis based on the  
16 inverse relationship between the Equity Risk Premium and interest rates. That adjustment  
17 suggests a range of results from 9.65 percent to 9.88 percent.

18 **Q. How would those changes affect Mr. Gorman's recommended ROE?**

19 A. Each of those reasonable adjustments should have the effect of increasing  
20 Mr. Gorman's recommendation. As discussed throughout my Direct and Rebuttal Testimonies, I  
21 also believe the DCF model should be given less weight under current market conditions.  
22 Taking each of those models and factors into account, his recommendation would likely be at  
23 approximately the low end of my recommended range (i.e., 9.75 percent).

1                                    **IV.    CONCLUSIONS AND RECOMMENDATION**

2                    **Q.    What is your conclusion regarding the Company's Cost of Equity?**

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

9                    **Q.    Does this conclude your Rebuttal Testimony?**

10                  A.    Yes, it does.



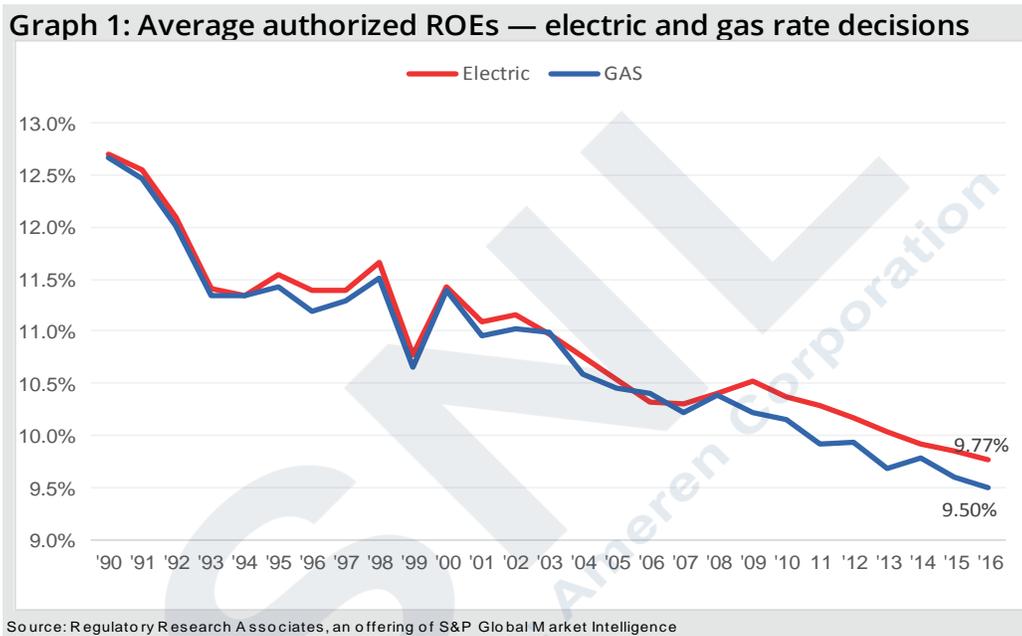
# REGULATORY FOCUS

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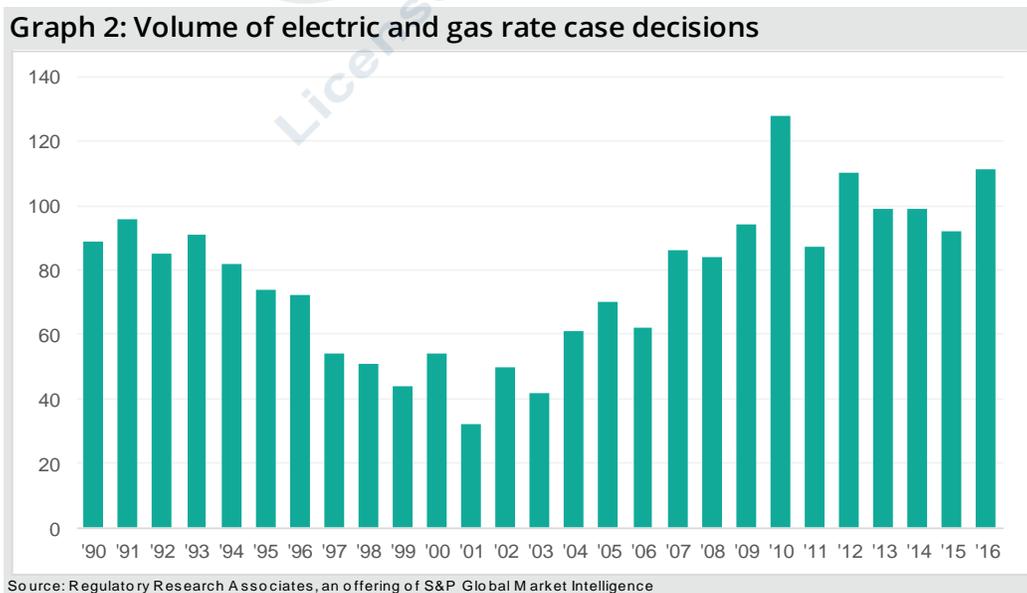
January 18, 2017

## MAJOR RATE CASE DECISIONS — JANUARY-DECEMBER 2016

The average ROE authorized electric utilities was 9.77% in rate cases decided in 2016, compared to 9.85% in 2015. There were 42 electric ROE determinations in 2016, versus 30 in 2015. This data includes several limited issue rider cases; excluding these cases from the data, the average authorized ROE was 9.6% in rate cases decided in 2016, the same as in 2015. RRA notes that this differential in electric authorized ROEs is largely driven by Virginia statutes that authorize the State Corporation Commission to approve ROE premiums of up to 200 basis points for certain generation projects (see the [Virginia Commission Profile](#)). The average ROE authorized gas utilities was 9.5% in 2016 versus 9.6% in 2015. There were 24 gas cases that included an ROE determination in 2016, versus 16 in 2015.

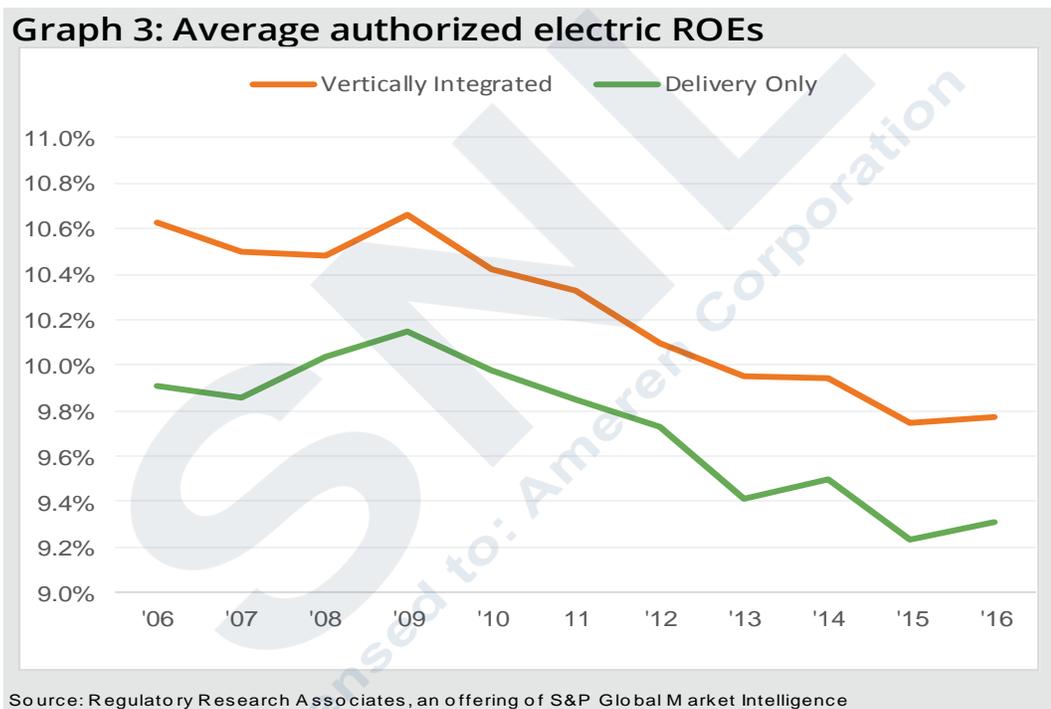


As shown in Graph 2 below, after reaching a low in the early-2000s, the number of rate case decisions for energy companies has generally increased over the last several years, peaking in 2010 at more than 125 cases.



Since 2010, the number of rate cases has moderated somewhat but has been 90 or more in the last five calendar years. There were 111 electric and gas rate cases resolved in 2016, 92 in 2015, 99 in both 2014 and 2013, and 110 in 2012, and this level of rate case activity remains robust compared to the late 1990s/early 2000s. Increased costs associated with environmental compliance, including possible CO<sub>2</sub> reduction mandates, generation and delivery infrastructure upgrades and expansion, renewable generation mandates and employee benefits argue for the continuation of an active rate case agenda over the next few years. In addition, if the Federal Reserve continues its policy initiated in December 2015 to gradually raise the federal funds rate, utilities eventually would face higher capital costs and would need to initiate rate cases to reflect the higher capital costs in rates. However, the magnitude and pace of any additional Federal Reserve action to raise the federal funds rate is quite uncertain.

Included in tables on pages 6 and 7 of this report are comparisons, since 2006, of average authorized ROEs by settled versus fully litigated cases, general rate cases versus limited issues rider proceedings and vertically integrated cases versus delivery only cases. For both electric and gas cases, no pattern exists in average annual authorized ROEs in cases that were settled versus those that were fully litigated. In some years, the average authorized ROE was higher for fully litigated cases, in others it was higher for settled cases, and in a few years the authorized ROE was similar for fully litigated versus settled cases. Regarding electric cases that involve limited issue riders, over the last several years the annual average authorized ROEs in these cases was typically at least 100 basis points higher than in general rate cases, driven by the ROE premiums authorized in Virginia. Limited issue rider cases in which an ROE is determined have had extremely limited use in the gas industry. Comparing electric vertically integrated cases versus delivery only proceedings, RRA finds that the annual average authorized ROEs in vertically integrated cases are from roughly 40 to 70 basis points higher than in delivery only cases, arguably reflecting the increased risk associated with generation assets.



We note that this report utilizes the simple mean for the return averages. In addition, the average equity returns indicated in this report reflect the cases decided in the specified time periods and are not necessarily representative of the returns actually earned by utilities industry wide.

As a result of electric industry restructuring, certain states unbundled electric rates and implemented retail competition for generation. Commissions in those states now have jurisdiction only over the revenue requirement and return parameters for delivery operations, which we footnote in our chronology beginning on page 8, thus complicating historical data comparability. We note that from 2008 through 2015, interest rates declined significantly, and average authorized ROEs have declined modestly. We also note the increased utilization of limited issue rider proceedings that allow utilities to recover certain costs outside of a general rate case and typically incorporate previously-determined return parameters.

The table on page 4 shows the average ROE authorized in major electric and gas rate decisions annually since 1990, and by quarter since 2013, followed by the number of observations in each period. The tables on page 5 indicate the composite electric and gas industry data for all major cases summarized annually since 2002 and by quarter for the past eight quarters. The individual electric and gas cases decided in 2016 are listed on pages 8-13, with the decision date shown first, followed by the company name, the abbreviation for the state

issuing the decision, the authorized rate of return, or ROR, ROE, and percentage of common equity in the adopted capital structure. Next we indicate the month and year in which the adopted test year ended, whether the commission utilized an average or a year-end rate base, and the amount of the permanent rate change authorized. The dollar amounts represent the permanent rate change ordered at the time decisions were rendered. Fuel adjustment clause rate changes are not reflected in this study.

The table below tracks the average equity return authorized for all electric and gas rate cases combined, by year, for the last 27 years. As the table indicates, since 1990 authorized ROEs have generally trended downward, reflecting the significant decline in interest rates and capital costs that has occurred over this time frame. The combined average equity returns authorized for electric and gas utilities in each of the years 1990 through 2016, and the number of observations for each year are as follows:

<b>Composite Electric and Gas Average Annual Authorized ROEs: 1990 — 2016</b>					
<b>Year</b>	<b>Average ROE (%)</b>	<b>Observations</b>	<b>Year</b>	<b>Average ROE (%)</b>	<b>Observations</b>
1990	12.69	(75)	2004	10.67	(39)
1991	12.51	(80)	2005	10.50	(55)
1992	12.06	(77)	2006	10.39	(42)
1993	11.37	(77)	2007	10.30	(76)
1994	11.34	(59)	2008	10.42	(67)
1995	11.51	(49)	2009	10.36	(68)
1996	11.29	(42)	2010	10.28	(100)
1997	11.34	(24)	2011	10.21	(59)
1998	11.59	(20)	2012	10.08	(93)
1999	10.74	(29)	2013	9.92	(71)
2000	11.41	(24)	2014	9.86	(63)
2001	11.05	(25)	2015	9.76	(46)
2002	11.10	(43)	2016	9.67	(66)
2003	10.98	(47)			

Source: Regulatory Research Associates, an offering of S&P Global Market Intelligence

*Please Note: Historical data provided in this report may not match data provided on RRA's website due to certain differences in presentation, including the treatment of cases that were withdrawn or dismissed.*

Dennis Spurduto

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## Average Equity Returns Authorized January 1990 - December 2016

Year	Period	Electric Utilities		Gas Utilities	
		ROE %	(# Cases)	ROE %	(# Cases)
1990	Full Year	12.70	(44)	12.67	(31)
1991	Full Year	12.55	(45)	12.46	(35)
1992	Full Year	12.09	(48)	12.01	(29)
1993	Full Year	11.41	(32)	11.35	(45)
1994	Full Year	11.34	(31)	11.35	(28)
1995	Full Year	11.55	(33)	11.43	(16)
1996	Full Year	11.39	(22)	11.19	(20)
1997	Full Year	11.40	(11)	11.29	(13)
1998	Full Year	11.66	(10)	11.51	(10)
1999	Full Year	10.77	(20)	10.66	(9)
2000	Full Year	11.43	(12)	11.39	(12)
2001	Full Year	11.09	(18)	10.95	(7)
2002	Full Year	11.16	(22)	11.03	(21)
2003	Full Year	10.97	(22)	10.99	(25)
2004	Full Year	10.75	(19)	10.59	(20)
2005	Full Year	10.54	(29)	10.46	(26)
2006	Full Year	10.32	(26)	10.40	(15)
2007	Full Year	10.30	(38)	10.22	(35)
2008	Full Year	10.41	(37)	10.39	(32)
2009	Full Year	10.52	(40)	10.22	(30)
2010	Full Year	10.37	(61)	10.15	(39)
2011	Full Year	10.29	(42)	9.92	(16)
2012	Full Year	10.17	(58)	9.94	(35)
	1st Quarter	10.28	(14)	9.57	(3)
	2nd Quarter	9.84	(7)	9.47	(6)
	3rd Quarter	10.06	(7)	9.60	(1)
	4th Quarter	9.91	(21)	9.83	(11)
<b>2013</b>	<b>Full Year</b>	<b>10.03</b>	<b>(49)</b>	<b>9.68</b>	<b>(21)</b>
	1st Quarter	10.23	(8)	9.54	(6)
	2nd Quarter	9.83	(5)	9.84	(8)
	3rd Quarter	9.87	(12)	9.45	(6)
	4th Quarter	9.78	(13)	10.28	(6)
<b>2014</b>	<b>Full Year</b>	<b>9.91</b>	<b>(38)</b>	<b>9.78</b>	<b>(26)</b>
	1st Quarter	10.37	(9)	9.47	(3)
	2nd Quarter	9.73	(7)	9.43	(3)
	3rd Quarter	9.40	(2)	9.75	(1)
	4th Quarter	9.62	(12)	9.68	(9)
<b>2015</b>	<b>Full Year</b>	<b>9.85</b>	<b>(30)</b>	<b>9.60</b>	<b>(16)</b>
	1st Quarter	10.29	(9)	9.48	(6)
	2nd Quarter	9.60	(7)	9.42	(6)
	3rd Quarter	9.76	(8)	9.47	(4)
	4th Quarter	9.57	(18)	9.60	(8)
<b>2016</b>	<b>Full Year</b>	<b>9.77</b>	<b>(42)</b>	<b>9.50</b>	<b>(24)</b>

Source: Regulatory Research Associates, an offering of S&amp;P Global Market Intelligence

### Electric Utilities--Summary Table

	Period	ROR %	(# Cases)	ROE %	(# Cases)	Cap. Struc.	(# Cases)	\$ Mil.	(# Cases)
2002	Full Year	8.72	(20)	11.16	(22)	46.27	(19)	-475.4	(24)
2003	Full Year	8.86	(20)	10.97	(22)	49.41	(19)	313.8	(12)
2004	Full Year	8.44	(18)	10.75	(19)	46.84	(17)	1,091.5	(30)
2005	Full Year	8.30	(26)	10.54	(29)	46.73	(27)	1,373.7	(36)
2006	Full Year	8.32	(26)	10.32	(26)	48.54	(25)	1,318.1	(39)
2007	Full Year	8.18	(37)	10.30	(38)	47.88	(36)	1,405.7	(43)
2008	Full Year	8.21	(39)	10.41	(37)	47.94	(36)	2,823.2	(44)
2009	Full Year	8.24	(40)	10.52	(40)	48.57	(39)	4,191.7	(58)
2010	Full Year	8.01	(62)	10.37	(61)	48.63	(57)	4,921.9	(78)
2011	Full Year	8.00	(43)	10.29	(42)	48.26	(42)	2,595.1	(56)
2012	Full Year	7.95	(51)	10.17	(58)	50.69	(52)	3,080.7	(69)
2013	Full Year	7.66	(45)	10.03	(49)	49.25	(43)	3,328.6	(61)
2014	Full Year	7.60	(32)	9.91	(38)	50.28	(35)	2,053.7	(51)
	1st Quarter	7.74	(10)	10.37	(9)	51.91	(9)	203.6	(11)
	2nd Quarter	7.04	(9)	9.73	(7)	47.83	(6)	819.5	(17)
	3rd Quarter	7.85	(3)	9.40	(2)	51.08	(3)	379.6	(5)
	4th Quarter	7.22	(13)	9.62	(12)	48.24	(12)	488.7	(19)
<b>2015</b>	<b>Full Year</b>	<b>7.38</b>	<b>(35)</b>	<b>9.85</b>	<b>(30)</b>	<b>49.54</b>	<b>(30)</b>	<b>1,891.5</b>	<b>(52)</b>
	1st Quarter	7.03	(9)	10.29	(9)	46.06	(9)	311.2	(12)
	2nd Quarter	7.42	(7)	9.60	(7)	49.91	(7)	117.7	(9)
	3rd Quarter	7.23	(8)	9.76	(8)	49.11	(8)	499.1	(13)
	4th Quarter	7.38	(17)	9.57	(18)	49.93	(17)	1,421.4	(23)
<b>2016</b>	<b>Full Year</b>	<b>7.28</b>	<b>(41)</b>	<b>9.77</b>	<b>(42)</b>	<b>48.91</b>	<b>(41)</b>	<b>2,349.4</b>	<b>(57)</b>

### Gas Utilities--Summary Table

	Period	ROR %	(# Cases)	ROE %	(# Cases)	Cap. Struc.	(# Cases)	\$ Mil.	(# Cases)
2002	Full Year	8.80	(20)	11.03	(21)	48.29	(18)	303.6	(26)
2003	Full Year	8.75	(22)	10.99	(25)	49.93	(22)	260.1	(30)
2004	Full Year	8.34	(21)	10.59	(20)	45.90	(20)	303.5	(31)
2005	Full Year	8.25	(29)	10.46	(26)	48.66	(24)	458.4	(34)
2006	Full Year	8.44	(17)	10.40	(15)	47.24	(16)	392.5	(23)
2007	Full Year	8.11	(31)	10.22	(35)	48.47	(28)	645.3	(43)
2008	Full Year	8.49	(33)	10.39	(32)	50.35	(32)	700.0	(40)
2009	Full Year	8.15	(29)	10.22	(30)	48.49	(29)	438.6	(36)
2010	Full Year	7.99	(40)	10.15	(39)	48.70	(40)	776.5	(50)
2011	Full Year	8.09	(18)	9.92	(16)	52.49	(14)	367.0	(31)
2012	Full Year	7.98	(30)	9.94	(35)	51.13	(32)	264.0	(41)
2013	Full Year	7.39	(20)	9.68	(21)	50.60	(20)	494.9	(38)
2014	Full Year	7.65	(27)	9.78	(26)	51.11	(28)	529.2	(48)
	1st Quarter	6.41	(2)	9.47	(3)	50.41	(2)	168.9	(9)
	2nd Quarter	7.29	(3)	9.43	(3)	50.71	(3)	34.9	(8)
	3rd Quarter	7.35	(1)	9.75	(1)	42.01	(1)	103.9	(8)
	4th Quarter	7.54	(10)	9.68	(9)	50.40	(10)	186.5	(15)
<b>2015</b>	<b>Full Year</b>	<b>7.34</b>	<b>(16)</b>	<b>9.60</b>	<b>(16)</b>	<b>49.93</b>	<b>(16)</b>	<b>494.1</b>	<b>(40)</b>
	1st Quarter	7.12	(6)	9.48	(6)	50.83	(6)	120.2	(11)
	2nd Quarter	7.38	(6)	9.42	(6)	50.01	(6)	276.3	(16)
	3rd Quarter	6.59	(5)	9.47	(4)	48.44	(4)	106.3	(8)
	4th Quarter	6.71	(7)	9.60	(8)	48.74	(7)	733.1	(19)
<b>2016</b>	<b>Full Year</b>	<b>6.95</b>	<b>(24)</b>	<b>9.50</b>	<b>(24)</b>	<b>49.56</b>	<b>(23)</b>	<b>1,235.9</b>	<b>(54)</b>

Source: Regulatory Research Associates, an offering of S&P Global Market Intelligence

## Electric Average Authorized ROEs: 2006 — 2016

### Settled versus Fully Litigated Cases

Year	All Cases		Settled Cases		Fully Litigated Cases	
	ROE %	(# Cases)	ROE %	(# Cases)	ROE %	(# Cases)
2006	10.32	(26)	10.26	(11)	10.37	(15)
2007	10.30	(38)	10.42	(14)	10.23	(24)
2008	10.41	(37)	10.43	(17)	10.39	(20)
2009	10.52	(40)	10.64	(16)	10.45	(24)
2010	10.37	(61)	10.39	(34)	10.35	(27)
2011	10.29	(42)	10.12	(16)	10.39	(26)
2012	10.17	(58)	10.06	(29)	10.28	(29)
2013	10.03	(49)	10.12	(32)	9.85	(17)
2014	9.91	(38)	9.73	(17)	10.05	(21)
2015	9.85	(30)	10.07	(14)	9.66	(16)
2016	9.77	(42)	9.80	(17)	9.74	(25)

### General Rate Cases versus Limited Issue Riders

Year	All Cases		General Rate Cases		Limited Issue Riders	
	ROE %	(# Cases)	ROE %	(# Cases)	ROE %	(# Cases)
2006	10.32	(26)	10.34	(25)	9.80	(1)
2007	10.30	(38)	10.31	(37)	9.90	(1)
2008	10.41	(37)	10.37	(35)	11.11	(2)
2009	10.52	(40)	10.52	(38)	10.55	(2)
2010	10.37	(61)	10.29	(58)	11.87	(3)
2011	10.29	(42)	10.19	(40)	12.30	(2)
2012	10.17	(58)	10.01	(52)	11.57	(6)
2013	10.03	(49)	9.81	(42)	11.34	(7)
2014	9.91	(38)	9.75	(33)	10.96	(5)
2015	9.85	(30)	9.60	(24)	10.87	(6)
2016	9.77	(42)	9.60	(32)	10.31	(10)

### Vertically Integrated Cases versus Delivery Only Cases

Year	All Cases		Vertically Integrated Cases		Delivery Only Cases	
	ROE %	(# Cases)	ROE %	(# Cases)	ROE %	(# Cases)
2006	10.32	(26)	10.63	(15)	9.91	(10)
2007	10.30	(38)	10.50	(26)	9.86	(11)
2008	10.41	(37)	10.48	(26)	10.04	(9)
2009	10.52	(40)	10.66	(28)	10.15	(10)
2010	10.37	(61)	10.42	(41)	9.98	(17)
2011	10.29	(42)	10.33	(28)	9.85	(12)
2012	10.17	(58)	10.10	(39)	9.73	(13)
2013	10.03	(49)	9.95	(31)	9.41	(11)
2014	9.91	(38)	9.94	(19)	9.50	(14)
2015	9.85	(30)	9.75	(17)	9.23	(7)
2016	9.77	(42)	9.77	(20)	9.31	(12)

Source: Regulatory Research Associates, an offering of S&P Global Market Intelligence

## Gas Average Authorized ROEs: 2006 — 2016

### Settled versus Fully Litigated Cases

Year	All Cases		Settled Cases		Fully Litigated Cases	
	ROE %	(# Cases)	ROE %	(# Cases)	ROE %	(# Cases)
2006	10.40	(15)	10.26	(7)	10.53	(8)
2007	10.22	(35)	10.24	(22)	10.20	(13)
2008	10.39	(32)	10.34	(20)	10.47	(12)
2009	10.22	(30)	10.43	(13)	10.05	(17)
2010	10.15	(39)	10.30	(12)	10.08	(27)
2011	9.92	(16)	10.08	(8)	9.76	(8)
2012	9.94	(35)	9.99	(14)	9.92	(21)
2013	9.68	(21)	9.80	(9)	9.59	(12)
2014	9.78	(26)	9.51	(11)	9.98	(15)
2015	9.60	(16)	9.60	(11)	9.58	(5)
2016	9.50	(24)	9.43	(14)	9.61	(10)

### General Rate Cases versus Limited Issue Riders

Year	All Cases		General Rate Cases		Limited Issue Riders	
	ROE %	(# Cases)	ROE %	(# Cases)	ROE %	(# Cases)
2006	10.40	(15)	10.40	(15)	—	(0)
2007	10.22	(35)	10.22	(35)	—	(0)
2008	10.39	(32)	10.39	(32)	—	(0)
2009	10.22	(30)	10.22	(30)	—	(0)
2010	10.15	(39)	10.15	(39)	—	(0)
2011	9.92	(16)	9.91	(15)	10.00	(1)
2012	9.94	(35)	9.93	(34)	10.40	(1)
2013	9.68	(21)	9.68	(21)	—	(0)
2014	9.78	(26)	9.78	(26)	—	(0)
2015	9.60	(16)	9.60	(16)	—	(0)
2016	9.50	(24)	9.49	(23)	9.70	(1)

Source: Regulatory Research Associates, an offering of S&P Global Market Intelligence

## Electric Utility Decisions

Date	Company	State	ROR		Common	Test	Rate Base	Amt.	Footnotes
			%	ROE %	Equity as % of Capital				
1/5/16	MDU Resources Group	ND	7.95	10.50	50.27	12/16	—	15.1	(B,LIR,1)
1/6/16	Avista Corporation	WA	7.29	9.50	48.50	9/14	—	-8.1	(B)
1/28/16	Northern Indiana-- Public Service Co.	IN	—	—	—	—	—	0.0	(LIR,2)
2/2/16	Kentucky Utilities Company	VA	—	—	—	12/14	—	5.5	(B)
2/23/16	Entergy Arkansas	AR	4.52	9.75	28.46	3/15	—	219.7	(B,*)
2/29/16	Virginia Electric and Power Company	VA	7.90	11.60	49.99	3/17	Average	21.0	(LIR,3)
2/29/16	Virginia Electric and Power Company	VA	7.40	10.60	49.99	3/17	Average	-9.3	(LIR,4)
2/29/16	Virginia Electric and Power Company	VA	7.40	10.60	49.99	3/17	Average	6.6	(LIR,5)
2/29/16	Virginia Electric and Power Company	VA	7.40	10.60	49.99	3/17	Average	-16.8	(LIR,6)
3/16/16	Indianapolis Power & Light Company	IN	6.51	9.85	37.33	6/14	Year-end	29.6	(*)
3/25/16	MDU Resources Group	MT	—	—	—	12/14	—	7.4	(B,Z)
3/29/16	Virginia Electric and Power Company	VA	6.90	9.60	49.99	3/17	Average	40.4	(LIR,7)
<b>2016</b>	<b>1ST QUARTER: AVERAGES/TOTAL</b>		<b>7.03</b>	<b>10.29</b>	<b>46.06</b>			<b>311.2</b>	
	<b>OBSERVATIONS</b>		<b>9</b>	<b>9</b>	<b>9</b>			<b>12</b>	
4/29/16	Fitchburg Gas and Electric Light Co.	MA	8.46	9.80	52.17	12/14	Year-end	2.1	(D)
6/3/16	Baltimore Gas and Electric Company	MD	7.28	9.75	51.90	11/15	Average	44.1	(D,R)
6/8/16	El Paso Electric Company	NM	7.67	9.48	49.29	12/14	Year-end	1.1	
6/15/16	New York State Electric & Gas Corp.	NY	6.68	9.00	48.00	4/17	Average	29.6	(B,D,Z,8)
6/15/16	Rochester Gas and Electric Corp.	NY	7.55	9.00	48.00	4/17	Average	3.0	(B,D,Z,8)
6/23/16	San Diego Gas & Electric Co.	CA	—	—	—	12/16	Average	3.0	(B,Z,9)
6/30/16	Appalachian Power Company	WV	—	—	—	—	—	55.1	(B,LIR,10)
6/30/16	Virginia Electric and Power Company	VA	7.40	10.60	49.99	8/17	Average	-25.7	(LIR,11)
6/30/16	Virginia Electric and Power Company	VA	6.90	9.60	49.99	8/17	Average	5.4	(LIR,12)
<b>2016</b>	<b>2ND QUARTER: AVERAGES/TOTAL</b>		<b>7.42</b>	<b>9.60</b>	<b>49.91</b>			<b>117.7</b>	
	<b>OBSERVATIONS</b>		<b>7</b>	<b>7</b>	<b>7</b>			<b>9</b>	
7/18/16	Northern Indiana Public Service Co.	IN	6.74	9.98	47.42	3/15	Year-end	72.5	(B,*)
8/9/16	Kingsport Power Company	TN	6.18	9.85	40.25	12/17	Average	8.6	(B)
8/10/16	Southwestern Public Service Co.	NM	—	—	—	—	—	23.5	(B)
8/10/16	Empire District Electric Company	MO	—	—	—	6/15	—	20.4	(B)
8/18/16	El Paso Electric Company	TX	—	—	—	3/15	—	40.7	(I,B)
8/18/16	UNS Electric, Inc.	AZ	7.22	9.50	52.83	12/14	Year-end	15.1	
8/22/16	Virginia Electric and Power Company	VA	—	—	—	8/17	—	21.3	(LIR, B,13)
8/24/16	Atlantic City Electric Company	NJ	7.64	9.75	49.48	12/15	Year-end	45.0	(D,B)

## Electric Utility Decisions (continued)

Date	Company	State	ROR		Common Equity as % of Capital	Test Year	Rate Base	Amt. \$ Mil. Footnotes
			%	ROE %				
9/1/16	PacifiCorp	WA	7.30	9.50	49.10	6/15	Year-end	13.7 (Z)
9/8/16	Upper Peninsula Power Company	MI	7.47	10.00	53.49	12/16	Average	4.6 (I,*)
9/28/16	Public Service Co. of New Mexico	NM	7.71	9.58	49.61	9/16	Average	61.2
9/28/16	KCP&L Greater Missouri Operations	MO	—	—	—	—	—	3.0 (B)
9/30/16	Massachusetts Electric Company	MA	7.58	9.90	50.70	6/15	Year-end	169.7 (D)
<b>2016</b>	<b>3RD QUARTER: AVERAGES/TOTAL OBSERVATIONS</b>		<b>7.23</b> <b>8</b>	<b>9.76</b> <b>8</b>	<b>49.11</b> <b>8</b>			<b>499.3</b> <b>13</b>
10/6/16	Appalachian Power Company	VA	—	9.40	—	—	—	— (LIR)
10/19/16	South Carolina Electric & Gas Co.	SC	8.24	—	51.35	6/16	Year-end	64.4 (LIR, 14)
10/26/16	Northern States Power Company - WI	WI	—	—	—	12/17	—	24.5 (15)
11/9/16	Madison Gas and Electric Company	WI	7.89	9.80	57.16	12/17	Average	-3.3
11/10/16	Public Service Company of Oklahoma	OK	6.94	9.50	44.00	1/15	Year-end	14.5
11/15/16	Potomac Electric Power Company	MD	7.49	9.55	49.55	12/15	Average	52.5 (D)
11/18/16	Wisconsin Power and Light Company	WI	7.91	10.00	52.20	12/18	Average	9.4 (B,Z)
11/29/16	Florida Power & Light Company	FL	—	10.55	—	12/18	—	811.0 (B,Z)
12/1/16	Liberty Utilities (CalPeco Electric) LLC	CA	7.51	10.00	52.50	12/16	Average	8.3 (B)
12/6/16	Commonwealth Edison Company	IL	6.71	8.64	45.62	12/15	Year-end	130.9 (D)
12/6/16	Ameren Illinois Company	IL	7.28	8.64	50.00	12/15	Year-end	-8.8 (D)
12/6/16	Entergy Arkansas, Inc.	AR	—	—	—	12/17	—	54.4 (B)
12/7/16	Duke Energy Progress, LLC	SC	7.21	10.10	53.00	12/15	Year-end	56.2 (B,Z)
12/9/16	Monongahela Power Company	WV	—	—	—	6/16	—	25.0 (B,LIR,16)
12/12/16	Jersey Central Power & Light Co.	NJ	7.47	9.60	45.00	6/16	Year-end	80.0 (B,D)
12/14/16	United Illuminating Company	CT	7.08	9.10	50.00	12/15	Average	57.4 (D,Z)
12/15/16	Avista Corporation	WA	—	—	—	—	—	0.0 (17)
12/19/16	Black Hills Colorado Electric Utility Co.	CO	7.43	9.37	52.39	12/15	Average	0.6
12/19/16	Emera Maine	ME	7.45	9.00	49.00	12/14	Average	3.0 (D,Hy)
12/20/16	Georgia Power Company	GA	—	—	—	12/17	—	— (LIR,W,18)
12/22/16	Sierra Pacific Power Company	NV	6.65	9.60	48.03	12/15	—	-2.9 (B)
12/22/16	Virginia Electric and Power Company	NC	7.37	9.90	51.75	12/15	Year-end	34.7 (B,I)
12/23/16	Hawaiian Electric Company, Inc.	HI	—	—	—	—	—	0.0 (19)
12/28/16	Avista Corporation	ID	7.58	9.50	50.00	12/15	Average	6.3 (B)
12/30/16	Appalachian Power Company	VA	7.30	10.00	47.22	12/17	Average	3.3 (B,LIR,20)
<b>2016</b>	<b>4TH QUARTER: AVERAGES/TOTAL OBSERVATIONS</b>		<b>7.38</b> <b>17</b>	<b>9.57</b> <b>18</b>	<b>49.93</b> <b>17</b>			<b>1,421.4</b> <b>23</b>
<b>2016</b>	<b>FULL YEAR: AVERAGES/TOTAL OBSERVATIONS</b>		<b>7.28</b> <b>41</b>	<b>9.77</b> <b>42</b>	<b>48.91</b> <b>41</b>			<b>2,349.6</b> <b>57</b>

Source: Regulatory Research Associates, an offering of S&amp;P Global Market Intelligence

## Gas Utility Decisions

Date	Company	State	ROR		Common Equity as % of Capital	Test Year	Rate Base	Amt. \$ Mil. Footnotes
			%	ROE %				
1/6/16	Oklahoma Natural Gas Company	OK	7.31	9.50	60.50	3/15	Year-end	30.0 (B)
1/6/16	Avista Corporation	WA	7.29	9.50	48.50	09/14	—	10.8 (B)
1/28/16	SourceGas Arkansas	AR	5.33	9.40	39.46	3/15	Year-end	8.0 (B,*)
2/10/16	Liberty Utilities (New England Nat. Gas)	MA	7.99	9.60	50.00	12/14	Year-end	7.8 (B)
2/16/16	Public Service Company of Colorado	CO	7.33	9.50	56.51	12/14	Average	39.2 (I,Z,R)
2/25/16	Black Hills Kansas Gas Utility Company	KS	—	—	—	10/15	Year-end	0.8 (LIR,21)
2/29/16	Avista Corporation	OR	7.46	9.40	50.00	12/16	Average	4.5
3/17/16	Atmos Energy Corporation	KS	—	—	—	3/15	—	2.2 (B)
3/30/16	Indiana Gas Company, Inc.	IN	—	—	—	6/15	Year-end	7.0 (LIR,22)
3/30/16	Northern Indiana Public Service Co.	IN	—	—	—	6/15	Year-end	7.6 (LIR,23)
3/30/16	Southern Indiana Gas and Electric Co.	IN	—	—	—	6/15	Year-end	2.3 (LIR,22)
<b>2016</b>	<b>1ST QUARTER: AVERAGES/TOTAL OBSERVATIONS</b>		<b>7.12</b>	<b>9.48</b>	<b>50.83</b>			<b>120.2</b>
			<b>6</b>	<b>6</b>	<b>6</b>			<b>11</b>
4/21/16	Consumers Energy Company	MI	—	—	—	12/16	—	40.0 (I,B)
4/29/16	Fitchburg Gas and Electric Light Company	MA	8.46	9.80	52.17	12/14	Year-end	1.6
5/5/16	CenterPoint Energy Resources Corp.	MN	7.07	9.49	50.00	9/16	Average	27.5 (I)
5/11/16	Liberty Utilities (Midstates Nat. Gas)	MO	—	—	—	1/16	—	0.2 (LIR,24)
5/19/16	Delta Natural Gas Company	KY	—	—	—	12/15	Year-end	1.4 (LIR)
5/19/16	Laclede Gas Company	MO	—	—	—	2/16	Year-end	5.4 (LIR,25)
5/19/16	Missouri Gas Energy	MO	—	—	—	2/16	Year-end	3.6 (LIR,25)
6/1/16	Maine Natural Gas	ME	7.28	9.55	50.00	9/14	Average	2.5 (B,Z)
6/3/16	Baltimore Gas and Electric Company	MD	7.23	9.65	51.90	11/15	Average	47.9 (R)
6/15/16	New York State Electric & Gas Corporation	NY	6.68	9.00	48.00	4/17	Average	13.1 (B,Z,7)
6/15/16	Rochester Gas and Electric Corp.	NY	7.55	9.00	48.00	4/17	Average	8.8 (B,Z,7)
6/22/16	Northern Indiana Public Service Co.	IN	—	—	—	12/15	Year-end	6.7 (LIR,E,26)
6/23/16	San Diego Gas & Electric Co.	CA	—	—	—	12/16	Average	-1.6 (B,Z,27)
6/23/16	Southern California Gas Company	CA	—	—	—	12/16	Average	106.9 (B,Z,9)
6/29/16	Indiana Gas Company, Inc.	IN	—	—	—	12/15	Year-end	10.2 (LIR,28)
6/29/16	Southern Indiana Gas and Electric Co.	IN	—	—	—	12/15	Year-end	2.1 (LIR,28)
<b>2016</b>	<b>2ND QUARTER: AVERAGES/TOTAL OBSERVATIONS</b>		<b>7.38</b>	<b>9.42</b>	<b>50.01</b>			<b>276.3</b>
			<b>6</b>	<b>6</b>	<b>6</b>			<b>16</b>

## Gas Utility Decisions (continued)

Date	Company	State	Common			Test Year	Rate Base	Amt. \$ Mil. Footnotes
			ROR %	ROE %	Equity as % of Capital			
7/7/16	Cascade Natural Gas Corporation	WA	7.35	—	—	—	—	4.0 (B)
7/19/16	CenterPoint Energy Resources Corp.	OK	—	—	—	12/15	—	0.0 (B,29)
8/4/16	Atmos Energy Corporation	KY	—	—	—	5/17	—	0.5 (B)
8/22/16	Questar Gas Company	UT	—	—	—	—	—	— (30)
9/1/16	UGI Utilities, Inc.	PA	—	—	—	9/17	—	27.0 (B)
9/2/16	CenterPoint Energy Resources Corp.	AR	4.53	9.50	30.85	9/15	Year-end	14.2 (B,*)
9/23/16	New Jersey Natural Gas Company	NJ	6.90	9.75	52.50	6/16	Year-end	45.0 (B)
9/27/16	Texas Gas Service Company	TX	7.28	9.50	60.10	9/15	Year-end	8.8
9/29/16	Minnesota Energy Resources Corp.	MN	6.88	9.11	50.32	12/16	Average	6.8 (I,E)
<b>2016</b>	<b>3RD QUARTER: AVERAGES/TOTAL OBSERVATIONS</b>		<b>6.59</b> 5	<b>9.47</b> 4	<b>48.44</b> 4			<b>106.3</b> 8
10/26/16	Northern States Power Company - WI	WI	—	—	—	12/17	—	4.8 (15)
10/27/16	Columbia Gas of Maryland, Inc.	MD	—	—	—	4/16	—	3.7 (B)
10/27/16	Columbia Gas of Pennsylvania, Inc.	PA	—	—	—	12/17	—	35.0 (B)
10/28/16	Public Service Co. of North Carolina	NC	7.53	9.70	52.00	12/15	Year-end	19.1 (B)
11/9/16	Madison Gas and Electric Company	WI	—	9.80	—	12/17	—	3.1
11/14/16	Atmos Energy Corporation	KY	—	—	—	9/17	Year-end	5.0 (LIR,31)
11/15/16	Texas Gas Service Company	TX	—	—	—	12/15	—	6.8 (B)
11/18/16	Wisconsin Power and Light Company	WI	7.84	10.00	52.20	12/18	Average	9.4 (B,Z)
11/23/16	Baltimore Gas and Electric Company	MD	—	—	—	12/18	Average	6.1 (B,Z,LIR,32)
11/29/16	Kansas Gas Service Company	KS	—	—	—	—	—	15.5 (B)
12/1/16	Pacific Gas and Electric Company	CA	—	—	—	12/15	Average	100.0 (Tr,I, 33)
12/9/16	DTE Gas Company	MI	5.76	10.10	38.65	10/17	Average	122.3 (I,*)
12/14/16	Columbia Gas of Maryland, Inc.	MD	7.53	9.70	54.29	12/17	Average	1.2 (LIR,32)
12/15/16	KeySpan Gas East Corporation	NY	6.42	9.00	48.00	12/17	Average	112.0 (B,34)
12/15/16	Brooklyn Union Gas Company	NY	6.15	9.00	48.00	12/17	Average	272.1 (B,35)
12/15/16	Avista Corporation	WA	—	—	—	—	—	0.0 (17)
12/20/16	Columbia Gas of Virginia, Inc.	VA	—	—	—	12/17	Average	1.3 (LIR,36)
12/22/16	Columbia Gas of Kentucky, Inc.	KY	—	—	—	—	—	18.1 (B)
12/22/16	Sierra Pacific Power Company	NV	5.75	9.50	48.03	12/15	—	-2.4 (B)
<b>2016</b>	<b>4TH QUARTER: AVERAGES/TOTAL OBSERVATIONS</b>		<b>6.71</b> 7	<b>9.60</b> 8	<b>48.74</b> 7			<b>733.1</b> 19
<b>2016</b>	<b>FULL YEAR: AVERAGES/TOTAL OBSERVATIONS</b>		<b>6.95</b> 24	<b>9.50</b> 24	<b>49.56</b> 23			<b>1,235.9</b> 54

Source: Regulatory Research Associates, an offering of S&amp;P Global Market Intelligence

## FOOTNOTES

- A- Average
- B- Order followed stipulation or settlement by the parties. Decision particulars not necessarily precedent-setting or specifically adopted by the regulatory body.
- CWIP- Construction work in progress
- D- Applies to electric delivery only
- DCt Date certain rate base valuation
- E- Estimated
- F- Return on fair value rate base
- Hy- Hypothetical capital structure utilized
- I- Interim rates implemented prior to the issuance of final order, normally under bond and subject to refund.
- LIR Limited-issue rider proceeding
- M- "Make-whole" rate change based on return on equity or overall return authorized in previous case.
- R- Revised
- Te- Temporary rates implemented prior to the issuance of final order.
- Tr- Applies to transmission service
- U- Double leverage capital structure utilized.
- W- Case withdrawn
- YE- Year-end
- Z- Rate change implemented in multiple steps.
- \* Capital structure includes cost-free items or tax credit balances at the overall rate of return.
- (1) Rate increase approved in renewable resource cost recovery rider.
- (2) Case represents the company's transmission, distribution, and storage system improvement charge, or TDSIC rate adjustment mechanism. The case was dismissed by the Commission, with no rate change authorized.
- (3) Proceeding determines the revenue requirement for Rider B, which is the mechanism through which the company recovers costs associated with its plan to convert the Altavista, Hopewell, and Southampton Power Stations to burn biomass fuels.
- (4) Represents rate decrease associated with the company's Rider R proceeding, which is the mechanism through which the company recovers the investment in the Bear Garden generating facility.
- (5) This proceeding determines the revenue requirement for Rider S, which recognizes in rates the company's investment in the Virginia City Hybrid Energy Center.
- (6) Decrease authorized through a surcharge, Rider W, which reflects in rates investment in the Warren County Power Station.
- (7) Proceeding involves a new gas-fired generation facility, the Greenville County project, and creation of a new rider mechanism, Rider GV, to reflect the related revenue requirement in rates.
- (8) Rate increase effective 5/1/16; additional increases to be effective 5/1/17 and 5/1/18.
- (9) Settlement adopted with modifications. Rate increase effective retroactive to 1/1/16; additional increases to be effective 1/1/17 and 1/1/18.
- (10) Represents the company's joint expanded net energy cost, or ENEC, proceeding.
- (11) Represents rate decrease associated with the company's Rider BW proceeding, which is the mechanism through which the company recovers the investment in its Brunswick County Power Station.
- (12) Represents the rate increase associated with the company's Rider US-2, which is the mechanism through which the company recovers the revenue requirement associated with three new solar generation facilities.
- (13) Case involves the company's request to establish Rider U for recovery of investment and costs associated with a project to underground certain distribution lines.
- (14) The present case involves South Carolina Electric & Gas' request for a cash return on incremental V.C. Summer Units 2 and 3 construction work in progress (CWIP) and incorporates the 10.5% return on equity that was authorized in September 2015 for use in the Summer CWIP-related proceedings beginning in 2016.
- (15) The rate case is for the limited purpose of recovering anticipated increases in: generation and transmission fixed charges and fuel and purchased power expenses related to the interchange agreement with affiliate NSP-Minnesota; and, rate base investment.

## FOOTNOTES (continued)

- (16) Case is a consolidated expanded net energy cost proceeding for Monongahela Power and affiliate Potomac Edison.
- (17) Rate increase rejected by commission.
- (18) As a result of the commission's adoption of a settlement in another proceeding, the company withdrew its rate increase request in this proceeding, and no rate change was implemented.
- (19) No change in base rates was sought by the company, and on 12/23/16, the commission issued an order closing this docket.
- (20) Case involves the company's G-RAC rider mechanism that addresses its investment in the Dresden Generating Plant, and establishes the revenue requirement for the rider to become effective 1/1/17.
- (21) Case involves the company's gas system reliability surcharge, or GSRS, rider and reflects investments made from July 1, 2014 through Oct. 31, 2015.
- (22) Case involves company's "compliance and system improvement adjustment" mechanism, and includes compliance-related investments made between Jan. 1 and June 30, 2015, and certain other investments made between July 1, 2014 and June 30, 2015.
- (23) Case establishes the rates to be charged to customers under the company's transmission, distribution and storage system improvement charge rate adjustment mechanism, and reflects investments made between July 1, 2014 and June 30, 2015.
- (24) Case involves the company's infrastructure system replacement surcharge rider and reflects incremental investments made from 6/1/15 through 1/31/16.
- (25) Case involves the company's infrastructure system replacement surcharge rider and reflects incremental investments made from 9/1/15 through 2/29/16.
- (26) Case establishes the rates to be charged to customers under the company's transmission, distribution and storage system improvement charge rate adjustment mechanism, and reflects investments made between 7/1/15 and 12/31/15.
- (27) Settlement adopted with modifications. Rate decrease effective retroactive to 1/1/16; rate increases to be effective 1/1/17 and 1/1/18.
- (28) Case involves company's "compliance and system improvement adjustment" mechanism, and includes compliance-related investments made between 7/1/15 and 12/31/15.
- (29) Case involves the company's performance based ratemaking plan.
- (30) On 8/22/16, the PSC approved the company's petition to withdraw the rate increase request, effectively closing the case. The request to withdraw the filing comported with provisions of a settlement filed in the Questar/Dominion Resources merger proceeding.
- (31) Case is an annual update to the company's pipe replacement program rider.
- (32) Case involves the company's strategic infrastructure development and enhancement, or STRIDE, rider.
- (33) Case involves the company's gas transmission and storage operations. The decision also authorized attrition rate increases of \$246 million for 2016, \$64 million for 2017 and \$105 million for 2018.
- (34) Adopted joint proposal provides for the company to implement a \$112 million rate increase effective 1/1/17, a \$19.6 million rate increase effective 1/1/18, and a \$27 million rate increase effective 1/1/19.
- (35) Adopted joint proposal provides for the company to implement a \$272.1 million rate increase effective 1/1/17, a \$41 million rate increase effective 1/1/18, and a \$48.9 million rate increase effective 1/1/19.
- (36) Case involves the company's investments under the Steps to Advance Virginia's Energy Plan.

Dennis Spurduto

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	\$63.35	3.28%	3.36%	5.50%	5.00%	4.00%	4.83%	7.35%	8.20%	8.87%
Alliant Energy Corp.	LNT	\$1.18	\$36.86	3.19%	3.28%	5.50%	6.00%	6.00%	5.83%	8.78%	9.11%	9.28%
American Electric Power	AEP	\$2.36	\$61.03	3.87%	3.95%	5.40%	1.90%	5.00%	4.10%	5.80%	8.05%	9.37%
Avista Corp.	AVA	\$1.37	\$40.77	3.36%	3.45%	NA	5.65%	5.00%	5.33%	8.44%	8.78%	9.11%
Black Hills Corp.	BKH	\$1.68	\$60.32	2.79%	2.88%	6.20%	7.40%	7.50%	7.03%	9.07%	9.92%	10.39%
CMS Energy Corp.	CMS	\$1.24	\$40.91	3.03%	3.13%	6.00%	7.27%	6.00%	6.42%	9.12%	9.55%	10.41%
DTE Energy Co.	DTE	\$3.30	\$96.18	3.43%	3.53%	5.80%	5.63%	6.00%	5.81%	9.16%	9.34%	9.53%
IDACORP, Inc.	IDA	\$2.20	\$78.76	2.79%	2.85%	4.30%	4.10%	3.00%	3.80%	5.84%	6.65%	7.15%
NorthWestern Corporation	NWE	\$2.00	\$56.58	3.53%	3.63%	5.00%	4.50%	6.50%	5.33%	8.11%	8.96%	10.15%
OGE Energy Corp.	OGE	\$1.21	\$32.69	3.70%	3.78%	5.30%	4.00%	3.00%	4.10%	6.76%	7.88%	9.10%
Otter Tail Corporation	OTTR	\$1.25	\$39.79	3.14%	3.24%	NA	6.00%	6.00%	6.00%	9.24%	9.24%	9.24%
Pinnacle West Capital	PNW	\$2.62	\$75.85	3.45%	3.53%	4.90%	4.73%	4.00%	4.54%	7.52%	8.08%	8.44%
PNM Resources, Inc.	PNM	\$0.97	\$32.93	2.95%	3.05%	5.30%	6.85%	9.00%	7.05%	8.32%	10.10%	12.08%
Portland General Electric Co.	POR	\$1.28	\$42.59	3.01%	3.10%	6.20%	6.67%	5.50%	6.12%	8.59%	9.22%	9.78%
SCANA Corp.	SCG	\$2.30	\$72.41	3.18%	3.26%	5.70%	6.03%	4.50%	5.41%	7.75%	8.67%	9.30%
WEC Energy Group Inc.	WEC	\$1.98	\$57.16	3.46%	3.57%	6.00%	6.92%	6.00%	6.31%	9.57%	9.88%	10.50%
Xcel Energy, Inc.	XEL	\$1.36	\$39.89	3.41%	3.50%	5.40%	5.65%	5.50%	5.52%	8.90%	9.02%	9.16%
Proxy Group Mean				3.27%	3.36%	5.50%	5.55%	5.44%	5.50%	8.14%	8.86%	9.52%
Proxy Group Median				3.28%	3.36%	5.50%	5.65%	5.50%	5.52%	8.44%	9.02%	9.30%

Notes:

[1] Source: Bloomberg Professional

[2] Source: Bloomberg Professional, equals indicated number of trading day average as of December 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	\$60.87	3.42%	3.50%	5.50%	5.00%	4.00%	4.83%	7.49%	8.33%	9.01%
Alliant Energy Corp.	LNT	\$1.18	\$37.42	3.14%	3.23%	5.50%	6.00%	6.00%	5.83%	8.73%	9.07%	9.23%
American Electric Power	AEP	\$2.36	\$62.73	3.76%	3.84%	5.40%	1.90%	5.00%	4.10%	5.70%	7.94%	9.26%
Avista Corp.	AVA	\$1.37	\$40.83	3.36%	3.44%	NA	5.65%	5.00%	5.33%	8.44%	8.77%	9.10%
Black Hills Corp.	BKH	\$1.68	\$59.83	2.81%	2.91%	6.20%	7.40%	7.50%	7.03%	9.10%	9.94%	10.41%
CMS Energy Corp.	CMS	\$1.24	\$41.38	3.00%	3.09%	6.00%	7.27%	6.00%	6.42%	9.09%	9.52%	10.38%
DTE Energy Co.	DTE	\$3.30	\$94.27	3.50%	3.60%	5.80%	5.63%	6.00%	5.81%	9.23%	9.41%	9.61%
IDACORP, Inc.	IDA	\$2.20	\$77.28	2.85%	2.90%	4.30%	4.10%	3.00%	3.80%	5.89%	6.70%	7.21%
NorthWestern Corporation	NWE	\$2.00	\$56.88	3.52%	3.61%	5.00%	4.50%	6.50%	5.33%	8.10%	8.94%	10.13%
OGE Energy Corp.	OGE	\$1.21	\$31.60	3.83%	3.91%	5.30%	4.00%	3.00%	4.10%	6.89%	8.01%	9.23%
Otter Tail Corporation	OTTR	\$1.25	\$36.51	3.42%	3.53%	NA	6.00%	6.00%	6.00%	9.53%	9.53%	9.53%
Pinnacle West Capital	PNW	\$2.62	\$75.42	3.47%	3.55%	4.90%	4.73%	4.00%	4.54%	7.54%	8.10%	8.46%
PNM Resources, Inc.	PNM	\$0.97	\$32.53	2.98%	3.09%	5.30%	6.85%	9.00%	7.05%	8.36%	10.14%	12.12%
Portland General Electric Co.	POR	\$1.28	\$42.39	3.02%	3.11%	6.20%	6.67%	5.50%	6.12%	8.60%	9.24%	9.79%
SCANA Corp.	SCG	\$2.30	\$71.58	3.21%	3.30%	5.70%	6.03%	4.50%	5.41%	7.79%	8.71%	9.34%
WEC Energy Group Inc.	WEC	\$1.98	\$58.41	3.39%	3.50%	6.00%	6.92%	6.00%	6.31%	9.49%	9.80%	10.43%
Xcel Energy, Inc.	XEL	\$1.36	\$40.53	3.36%	3.45%	5.40%	5.65%	5.50%	5.52%	8.85%	8.97%	9.10%
Proxy Group Mean				3.30%	3.39%	5.50%	5.55%	5.44%	5.50%	8.16%	8.89%	9.55%
Proxy Group Median				3.36%	3.45%	5.50%	5.65%	5.50%	5.52%	8.44%	8.97%	9.34%

Notes:

- [1] Source: Bloomberg Professional
- [2] Source: Bloomberg Professional, equals indicated number of trading day average as of December 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] Annualized Dividend	[2] Average Stock Price	[3] Dividend Yield	[4] Expected Dividend Yield	[5] Zacks Earnings Growth	[6] First Call Earnings Growth	[7] Value Line Earnings Growth	[8] Average Earnings Growth	[9] Low ROE	[10] Mean ROE	[11] High ROE
ALLETE, Inc.	ALE	\$2.08	\$60.48	3.44%	3.52%	5.50%	5.00%	4.00%	4.83%	7.51%	8.36%	9.03%
Alliant Energy Corp.	LNT	\$1.18	\$37.81	3.11%	3.20%	5.50%	6.00%	6.00%	5.83%	8.69%	9.03%	9.20%
American Electric Power	AEP	\$2.36	\$64.74	3.65%	3.72%	5.40%	1.90%	5.00%	4.10%	5.58%	7.82%	9.14%
Avista Corp.	AVA	\$1.37	\$41.38	3.31%	3.40%	NA	5.65%	5.00%	5.33%	8.39%	8.72%	9.05%
Black Hills Corp.	BKH	\$1.68	\$60.39	2.78%	2.88%	6.20%	7.40%	7.50%	7.03%	9.07%	9.91%	10.39%
CMS Energy Corp.	CMS	\$1.24	\$42.22	2.94%	3.03%	6.00%	7.27%	6.00%	6.42%	9.03%	9.45%	10.31%
DTE Energy Co.	DTE	\$3.30	\$93.96	3.51%	3.61%	5.80%	5.63%	6.00%	5.81%	9.24%	9.42%	9.62%
IDACORP, Inc.	IDA	\$2.20	\$76.76	2.87%	2.92%	4.30%	4.10%	3.00%	3.80%	5.91%	6.72%	7.23%
NorthWestern Corporation	NWE	\$2.00	\$58.22	3.44%	3.53%	5.00%	4.50%	6.50%	5.33%	8.01%	8.86%	10.05%
OGE Energy Corp.	OGE	\$1.21	\$31.23	3.87%	3.95%	5.30%	4.00%	3.00%	4.10%	6.93%	8.05%	9.28%
Otter Tail Corporation	OTTR	\$1.25	\$34.23	3.65%	3.76%	NA	6.00%	6.00%	6.00%	9.76%	9.76%	9.76%
Pinnacle West Capital	PNW	\$2.62	\$75.89	3.45%	3.53%	4.90%	4.73%	4.00%	4.54%	7.52%	8.07%	8.44%
PNM Resources, Inc.	PNM	\$0.97	\$32.93	2.95%	3.05%	5.30%	6.85%	9.00%	7.05%	8.32%	10.10%	12.08%
Portland General Electric Co.	POR	\$1.28	\$42.27	3.03%	3.12%	6.20%	6.67%	5.50%	6.12%	8.61%	9.24%	9.80%
SCANA Corp.	SCG	\$2.30	\$71.60	3.21%	3.30%	5.70%	6.03%	4.50%	5.41%	7.78%	8.71%	9.34%
WEC Energy Group Inc.	WEC	\$1.98	\$60.05	3.30%	3.40%	6.00%	6.92%	6.00%	6.31%	9.40%	9.71%	10.33%
Xcel Energy, Inc.	XEL	\$1.36	\$41.41	3.28%	3.38%	5.40%	5.65%	5.50%	5.52%	8.77%	8.89%	9.03%
Proxy Group Mean				3.28%	3.37%	5.50%	5.55%	5.44%	5.50%	8.15%	8.87%	9.53%
Proxy Group Median				3.30%	3.40%	5.50%	5.65%	5.50%	5.52%	8.39%	8.89%	9.34%

Notes:

- [1] Source: Bloomberg Professional  
[2] Source: Bloomberg Professional, equals indicated number of trading day average as of December 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])

Multi-Stage Growth Discounted Cash Flow Model  
30 Day Average Stock Price  
Average EPS Growth Rate Estimate in First Stage

Inputs	Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
			Stock	EPS Growth Rate Estimates				Long-Term	Payout Ratio			Iterative Solution	Terminal	Terminal	
			Price	Zacks	First Call	Line	Average	Growth	2016	2020	2026	Proof	IRR	P/E Ratio	PEG Ratio
	ALLETE, Inc.	ALE	\$63.35	5.50%	5.00%	4.00%	4.83%	5.38%	72.00%	62.00%	66.88%	\$0.00	9.35%	17.75	3.30
	Alliant Energy Corp.	LNT	\$36.86	5.50%	6.00%	6.00%	5.83%	5.38%	72.00%	61.00%	66.88%	\$0.00	9.01%	19.42	3.61
	American Electric Power	AEP	\$61.03	5.40%	1.90%	5.00%	4.10%	5.38%	59.00%	64.00%	66.88%	(\$0.00)	9.52%	17.02	3.16
	Avista Corp.	AVA	\$40.77	NA	5.65%	5.00%	5.33%	5.38%	67.00%	64.00%	66.88%	(\$0.00)	8.93%	19.82	3.68
	Black Hills Corp.	BKH	\$60.32	6.20%	7.40%	7.50%	7.03%	5.38%	68.00%	53.00%	66.88%	(\$0.00)	9.31%	17.93	3.33
	CMS Energy Corp.	CMS	\$40.91	6.00%	7.27%	6.00%	6.42%	5.38%	63.00%	61.00%	66.88%	\$0.00	9.15%	18.69	3.47
	DTE Energy Co.	DTE	\$96.18	5.80%	5.63%	6.00%	5.81%	5.38%	63.00%	64.00%	66.88%	\$0.00	9.03%	19.30	3.59
	IDACORP, Inc.	IDA	\$78.76	4.30%	4.10%	3.00%	3.80%	5.38%	53.00%	60.00%	66.88%	\$0.00	8.72%	21.12	3.93
	NorthWestern Corporation	NWE	\$56.58	5.00%	4.50%	6.50%	5.33%	5.38%	59.00%	58.00%	66.88%	(\$0.00)	9.24%	18.27	3.40
	OGE Energy Corp.	OGE	\$32.69	5.30%	4.00%	3.00%	4.10%	5.38%	66.00%	74.00%	66.88%	\$0.00	9.12%	18.85	3.50
	Otter Tail Corporation	OTTR	\$39.79	NA	6.00%	6.00%	6.00%	5.38%	82.00%	64.00%	66.88%	\$0.00	8.55%	22.20	4.13
	Pinnacle West Capital	PNW	\$75.85	4.90%	4.73%	4.00%	4.54%	5.38%	64.00%	64.00%	66.88%	\$0.00	9.14%	18.75	3.49
	PNM Resources, Inc.	PNM	\$32.93	5.30%	6.85%	9.00%	7.05%	5.38%	51.00%	55.00%	66.88%	\$0.00	9.51%	17.07	3.17
	Portland General Electric Co.	POR	\$42.59	6.20%	6.67%	5.50%	6.12%	5.38%	58.00%	59.00%	66.88%	(\$0.00)	9.18%	18.54	3.45
	SCANA Corp.	SCG	\$72.41	5.70%	6.03%	4.50%	5.41%	5.38%	57.00%	57.00%	66.88%	\$0.00	9.34%	17.79	3.31
	WEC Energy Group Inc.	WEC	\$57.16	6.00%	6.92%	6.00%	6.31%	5.38%	67.00%	67.00%	66.88%	(\$0.00)	8.75%	20.94	3.89
	Xcel Energy, Inc.	XEL	\$39.89	5.40%	5.65%	5.50%	5.52%	5.38%	62.00%	62.00%	66.88%	(\$0.00)	9.44%	17.37	3.23

DCF Result			
Mean	9.13%	18.87	3.51
Max	9.52%	22.20	4.13
Min	8.55%	17.02	3.16

Projected Annual Earnings per Share	Company	Ticker	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]
			2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
	ALLETE, Inc.	ALE	\$3.38	\$3.54	\$3.71	\$3.89	\$4.08	\$4.28	\$4.49	\$4.72	\$4.96	\$5.21	\$5.49	\$5.78	\$6.10	\$6.42	\$6.77	\$7.13	\$7.52
	Alliant Energy Corp.	LNT	\$1.69	\$1.79	\$1.89	\$2.00	\$2.12	\$2.24	\$2.37	\$2.51	\$2.65	\$2.79	\$2.95	\$3.11	\$3.27	\$3.45	\$3.63	\$3.83	\$4.04
	American Electric Power	AEP	\$3.59	\$3.74	\$3.89	\$4.05	\$4.22	\$4.39	\$4.58	\$4.79	\$5.01	\$5.26	\$5.53	\$5.83	\$6.14	\$6.47	\$6.82	\$7.19	\$7.58
	Avista Corp.	AVA	\$1.89	\$1.99	\$2.10	\$2.21	\$2.33	\$2.45	\$2.58	\$2.72	\$2.86	\$3.02	\$3.18	\$3.35	\$3.53	\$3.72	\$3.92	\$4.13	\$4.35
	Black Hills Corp.	BKH	\$2.83	\$3.03	\$3.24	\$3.47	\$3.71	\$3.98	\$4.24	\$4.52	\$4.80	\$5.08	\$5.37	\$5.66	\$5.97	\$6.29	\$6.62	\$6.98	\$7.36
	CMS Energy Corp.	CMS	\$1.89	\$2.01	\$2.14	\$2.28	\$2.42	\$2.58	\$2.74	\$2.91	\$3.08	\$3.26	\$3.44	\$3.62	\$3.82	\$4.02	\$4.24	\$4.47	\$4.71
	DTE Energy Co.	DTE	\$4.45	\$4.71	\$4.98	\$5.27	\$5.58	\$5.90	\$6.24	\$6.59	\$6.96	\$7.35	\$7.75	\$8.16	\$8.60	\$9.07	\$9.55	\$10.07	\$10.61
	IDACORP, Inc.	IDA	\$3.87	\$4.02	\$4.17	\$4.33	\$4.49	\$4.66	\$4.85	\$5.06	\$5.30	\$5.55	\$5.84	\$6.15	\$6.48	\$6.83	\$7.20	\$7.58	\$7.99
	NorthWestern Corporation	NWE	\$2.90	\$3.05	\$3.22	\$3.39	\$3.57	\$3.76	\$3.96	\$4.17	\$4.40	\$4.63	\$4.88	\$5.14	\$5.42	\$5.71	\$6.02	\$6.34	\$6.68
	OGE Energy Corp.	OGE	\$1.69	\$1.76	\$1.83	\$1.91	\$1.98	\$2.07	\$2.16	\$2.25	\$2.36	\$2.48	\$2.60	\$2.74	\$2.89	\$3.05	\$3.21	\$3.38	\$3.57
	Otter Tail Corporation	OTTR	\$1.56	\$1.65	\$1.75	\$1.86	\$1.97	\$2.09	\$2.21	\$2.34	\$2.47	\$2.61	\$2.75	\$2.90	\$3.06	\$3.22	\$3.39	\$3.58	\$3.77
	Pinnacle West Capital	PNW	\$3.92	\$4.10	\$4.28	\$4.48	\$4.68	\$4.90	\$5.12	\$5.37	\$5.64	\$5.93	\$6.24	\$6.57	\$6.92	\$7.29	\$7.69	\$8.10	\$8.54
	PNM Resources, Inc.	PNM	\$1.64	\$1.76	\$1.88	\$2.01	\$2.15	\$2.31	\$2.46	\$2.62	\$2.78	\$2.95	\$3.12	\$3.28	\$3.46	\$3.65	\$3.84	\$4.05	\$4.27
	Portland General Electric Co.	POR	\$2.04	\$2.16	\$2.30	\$2.44	\$2.59	\$2.75	\$2.91	\$3.08	\$3.26	\$3.44	\$3.63	\$3.83	\$4.03	\$4.25	\$4.48	\$4.72	\$4.97
	SCANA Corp.	SCG	\$3.81	\$4.02	\$4.23	\$4.46	\$4.70	\$4.96	\$5.23	\$5.51	\$5.81	\$6.12	\$6.45	\$6.79	\$7.16	\$7.55	\$7.95	\$8.38	\$8.83
	WEC Energy Group Inc.	WEC	\$2.34	\$2.49	\$2.64	\$2.81	\$2.99	\$3.18	\$3.37	\$3.57	\$3.78	\$4.00	\$4.22	\$4.45	\$4.69	\$4.94	\$5.20	\$5.48	\$5.78
	Xcel Energy, Inc.	XEL	\$2.10	\$2.22	\$2.34	\$2.47	\$2.60	\$2.75	\$2.90	\$3.06	\$3.22	\$3.40	\$3.58	\$3.77	\$3.98	\$4.19	\$4.42	\$4.65	\$4.90

Projected Annual Dividend Payout Ratio	Company	Ticker	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]	[46]
			2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
	ALLETE, Inc.	ALE	72.00%	69.50%	67.00%	64.50%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
	Alliant Energy Corp.	LNT	72.00%	69.25%	66.50%	63.75%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
	American Electric Power	AEP	59.00%	60.25%	61.50%	62.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
	Avista Corp.	AVA	67.00%	66.25%	65.50%	64.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
	Black Hills Corp.	BKH	68.00%	64.25%	60.50%	56.75%	53.00%	55.31%	57.63%	59.94%	62.26%	64.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
	CMS Energy Corp.	CMS	63.00%	62.50%	62.00%	61.50%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
	DTE Energy Co.	DTE	63.00%	63.25%	63.50%	63.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
	IDACORP, Inc.	IDA	53.00%	54.75%	56.50%	58.25%	60.00%	61.15%	62.29%	63.44%	64.59%	65.74%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
	NorthWestern Corporation	NWE	59.00%	58.25%	58.50%	58.25%	58.00%	59.48%	60.96%	62.44%	63.92%	65.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
	OGE Energy Corp.	OGE	66.00%	68.00%	70.00%	72.00%	74.00%	72.81%	71.63%	70.44%	69.26%	68.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
	Otter Tail Corporation	OTTR	82.00%	77.50%	73.00%	68.50%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
	Pinnacle West Capital	PNW	64.00%	64.00%	64.00%	64.00%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
	PNM Resources, Inc.	PNM	51.00%	52.00%	53.00%	54.00%	55.00%	56.98%	58.96%	60.94%	62.92%	64.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
	Portland General Electric Co.	POR	58.00%	58.25%	58.50%	58.75%	59.00%	60.31%	61.63%	62.94%	64.26%	65.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
	SCANA Corp.	SCG	57.00%	57.00%	57.00%	57.00%	57.00%	58.65%	60.29%	61.94%	63.59%	65.24%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
	WEC Energy Group Inc.	WEC	67.00%	67.00%	67.00%	67.00%	67.00%	66.98%	66.96%	66.94%	66.92%	66.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
	Xcel Energy, Inc.	XEL	62.00%	62.00%	62.00%	62.00%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%

Projected Annual Cash Flows	Company	Ticker	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]	[62]	[63]
			2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Terminal Value
	ALLETE, Inc.	ALE	\$2.55	\$2.58	\$2.61	\$2.63	\$2.65	\$2.82	\$3.00	\$3.19	\$3.40	\$3.63	\$3.87	\$4.08	\$4.30	\$4.53	\$4.77	\$5.03	\$133.47
	Alliant Energy Corp.	LNT	\$1.29	\$1.31	\$1.33	\$1.35	\$1.37	\$1.47	\$1.58	\$1.69	\$1.81	\$1.94	\$2.08	\$2.19	\$2.31	\$2.43	\$2.56	\$2.70	\$78.38
	American Electric Power	AEP	\$2.20	\$2.34	\$2.49	\$2.65	\$2.81	\$2.95	\$3.11	\$3.28	\$3.47	\$3.67	\$3.90	\$4.11	\$4.33	\$4.56	\$4.81	\$5.07	\$128.93
	Avista Corp.	AVA	\$1.33	\$1.39	\$1.45	\$1.51	\$1.57	\$1.66	\$1.77	\$1.87	\$1.99	\$2.11	\$2.24	\$2.36	\$2.49	\$2.62	\$2.76	\$2.91	\$86.28
	Black Hills Corp.	BKH	\$2.06	\$2.08	\$2.10	\$2.11	\$2.11	\$2.35	\$2.60										

Multi-Stage Growth Discounted Cash Flow Model  
30 Day Average Stock Price  
High EPS Growth Rate Estimate in First Stage

Inputs	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	
	Stock	EPS Growth Rate Estimates			Long-Term		Payout Ratio			Iterative Solution		Terminal	Terminal	
Company	Ticker	Price	Zacks	First Call	Value Line	High Growth	Growth	2016	2020	2026	Proof	IRR	P/E Ratio	PEG Ratio
ALLETE, Inc.	ALE	\$63.35	5.50%	5.00%	4.00%	5.50%	5.38%	72.00%	62.00%	66.88%	\$0.00	9.53%	16.99	3.16
Alliant Energy Corp.	LNT	\$36.86	5.50%	6.00%	6.00%	6.00%	5.38%	72.00%	61.00%	66.88%	(\$0.00)	9.05%	19.21	3.57
American Electric Power	AEP	\$61.03	5.40%	1.90%	5.00%	5.40%	5.38%	59.00%	64.00%	66.88%	(\$0.00)	9.89%	15.63	2.91
Avista Corp.	AVA	\$40.77	NA	5.65%	5.00%	5.65%	5.38%	67.00%	64.00%	66.88%	(\$0.00)	9.01%	19.40	3.61
Black Hills Corp.	BKH	\$60.32	6.20%	7.40%	7.50%	7.50%	5.38%	68.00%	53.00%	66.88%	\$0.00	9.43%	17.41	3.24
CMS Energy Corp.	CMS	\$40.91	6.00%	7.27%	6.00%	7.27%	5.38%	63.00%	61.00%	66.88%	(\$0.00)	9.36%	17.69	3.29
DTE Energy Co.	DTE	\$96.18	5.80%	5.63%	6.00%	6.00%	5.38%	63.00%	64.00%	66.88%	\$0.00	9.08%	19.06	3.54
IDACORP, Inc.	IDA	\$78.76	4.30%	4.10%	3.00%	4.30%	5.38%	53.00%	60.00%	66.88%	\$0.00	8.83%	20.42	3.80
NorthWestern Corporation	NWE	\$56.58	5.00%	4.50%	6.50%	6.50%	5.38%	59.00%	58.00%	66.88%	(\$0.00)	9.54%	16.95	3.15
OGE Energy Corp.	OGE	\$32.69	5.30%	4.00%	3.00%	5.30%	5.38%	66.00%	74.00%	66.88%	\$0.00	9.43%	17.39	3.23
Otter Tail Corporation	OTTR	\$39.79	NA	6.00%	6.00%	6.00%	5.38%	82.00%	64.00%	66.88%	\$0.00	8.55%	22.20	4.13
Pinnacle West Capital	PNW	\$75.85	4.90%	4.73%	4.00%	4.90%	5.38%	64.00%	64.00%	66.88%	\$0.00	9.23%	18.31	3.40
PNM Resources, Inc.	PNM	\$32.93	5.30%	6.85%	9.00%	9.00%	5.38%	51.00%	55.00%	66.88%	\$0.00	10.04%	15.12	2.81
Portland General Electric Co.	POR	\$42.59	6.20%	6.67%	5.50%	6.67%	5.38%	58.00%	59.00%	66.88%	(\$0.00)	9.32%	17.90	3.33
SCANA Corp.	SCG	\$72.41	5.70%	6.03%	4.50%	6.03%	5.38%	57.00%	57.00%	66.88%	\$0.00	9.50%	17.09	3.18
WEC Energy Group Inc.	WEC	\$57.16	6.00%	6.92%	6.00%	6.92%	5.38%	67.00%	67.00%	66.88%	(\$0.00)	8.88%	20.11	3.74
Xcel Energy, Inc.	XEL	\$39.89	5.40%	5.65%	5.50%	5.65%	5.38%	62.00%	62.00%	66.88%	(\$0.00)	9.47%	17.22	3.20

DCF Result			
Mean	9.30%	18.12	3.37
Max	10.04%	22.20	4.13
Min	8.55%	15.12	2.81

Projected Annual Earnings per Share	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	
ALLETE, Inc.	ALE	\$3.38	\$3.57	\$3.76	\$3.97	\$4.19	\$4.42	\$4.66	\$4.91	\$5.18	\$5.46	\$5.76	\$6.07	\$6.39	\$6.74	\$7.10	\$7.48	\$7.88
Alliant Energy Corp.	LNT	\$1.69	\$1.79	\$1.90	\$2.01	\$2.13	\$2.26	\$2.39	\$2.53	\$2.68	\$2.83	\$2.98	\$3.14	\$3.31	\$3.49	\$3.68	\$3.88	\$4.08
American Electric Power	AEP	\$3.59	\$3.78	\$3.99	\$4.20	\$4.43	\$4.67	\$4.92	\$5.19	\$5.47	\$5.76	\$6.07	\$6.40	\$6.74	\$7.10	\$7.49	\$7.89	\$8.31
Avista Corp.	AVA	\$1.89	\$2.00	\$2.11	\$2.23	\$2.35	\$2.49	\$2.63	\$2.77	\$2.93	\$3.09	\$3.25	\$3.43	\$3.61	\$3.81	\$4.01	\$4.23	\$4.46
Black Hills Corp.	BKH	\$2.83	\$3.04	\$3.27	\$3.52	\$3.78	\$4.06	\$4.35	\$4.65	\$4.95	\$5.25	\$5.55	\$5.85	\$6.16	\$6.49	\$6.84	\$7.21	\$7.60
CMS Energy Corp.	CMS	\$1.89	\$2.03	\$2.17	\$2.33	\$2.50	\$2.68	\$2.87	\$3.06	\$3.26	\$3.45	\$3.65	\$3.84	\$4.05	\$4.27	\$4.50	\$4.74	\$4.99
DTE Energy Co.	DTE	\$4.45	\$4.72	\$5.00	\$5.30	\$5.62	\$5.96	\$6.31	\$6.67	\$7.05	\$7.44	\$7.85	\$8.28	\$8.72	\$9.19	\$9.68	\$10.20	\$10.75
IDACORP, Inc.	IDA	\$3.87	\$4.04	\$4.21	\$4.39	\$4.58	\$4.78	\$4.99	\$5.22	\$5.48	\$5.75	\$6.05	\$6.38	\$6.72	\$7.08	\$7.46	\$7.86	\$8.28
NorthWestern Corporation	NWE	\$2.90	\$3.09	\$3.29	\$3.50	\$3.73	\$3.97	\$4.22	\$4.48	\$4.75	\$5.02	\$5.30	\$5.59	\$5.89	\$6.20	\$6.54	\$6.89	\$7.26
OGE Energy Corp.	OGE	\$1.69	\$1.78	\$1.87	\$1.97	\$2.08	\$2.19	\$2.30	\$2.43	\$2.56	\$2.69	\$2.84	\$2.99	\$3.15	\$3.32	\$3.50	\$3.69	\$3.89
Otter Tail Corporation	OTTR	\$1.56	\$1.65	\$1.75	\$1.86	\$1.97	\$2.09	\$2.21	\$2.34	\$2.47	\$2.61	\$2.75	\$2.90	\$3.06	\$3.22	\$3.39	\$3.58	\$3.77
Pinnacle West Capital	PNW	\$3.92	\$4.11	\$4.31	\$4.52	\$4.75	\$4.98	\$5.23	\$5.49	\$5.77	\$6.08	\$6.40	\$6.74	\$7.10	\$7.49	\$7.89	\$8.31	\$8.76
PNM Resources, Inc.	PNM	\$1.64	\$1.79	\$1.95	\$2.12	\$2.31	\$2.52	\$2.74	\$2.95	\$3.16	\$3.37	\$3.57	\$3.76	\$3.96	\$4.18	\$4.40	\$4.64	\$4.89
Portland General Electric Co.	POR	\$2.04	\$2.18	\$2.32	\$2.48	\$2.64	\$2.82	\$3.00	\$3.19	\$3.38	\$3.57	\$3.77	\$3.98	\$4.19	\$4.42	\$4.65	\$4.90	\$5.17
SCANA Corp.	SCG	\$3.81	\$4.04	\$4.28	\$4.54	\$4.82	\$5.11	\$5.41	\$5.72	\$6.05	\$6.39	\$6.74	\$7.10	\$7.48	\$7.88	\$8.31	\$8.76	\$9.23
WEC Energy Group Inc.	WEC	\$2.34	\$2.50	\$2.68	\$2.86	\$3.06	\$3.27	\$3.49	\$3.71	\$3.94	\$4.17	\$4.41	\$4.64	\$4.89	\$5.16	\$5.43	\$5.73	\$6.03
Xcel Energy, Inc.	XEL	\$2.10	\$2.22	\$2.34	\$2.48	\$2.62	\$2.76	\$2.92	\$3.08	\$3.25	\$3.43	\$3.62	\$3.81	\$4.01	\$4.23	\$4.46	\$4.70	\$4.95

Projected Annual Dividend Payout Ratio	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]	[46]
ALLETE, Inc.	ALE	72.00%	69.50%	67.00%	64.50%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%
Alliant Energy Corp.	LNT	72.00%	69.25%	66.50%	63.75%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%
American Electric Power	AEP	59.00%	60.25%	61.50%	62.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%
Avista Corp.	AVA	67.00%	66.25%	65.50%	64.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%
Black Hills Corp.	BKH	68.00%	64.25%	60.50%	56.75%	53.00%	55.31%	57.63%	59.94%	62.26%	64.57%	66.88%	66.88%	66.88%	66.88%	66.88%
CMS Energy Corp.	CMS	63.00%	62.50%	62.00%	61.50%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%
DTE Energy Co.	DTE	63.00%	63.25%	63.50%	63.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%
IDACORP, Inc.	IDA	53.00%	54.75%	56.50%	58.25%	60.00%	61.15%	62.29%	63.44%	64.59%	65.74%	66.88%	66.88%	66.88%	66.88%	66.88%
NorthWestern Corporation	NWE	59.00%	58.25%	58.50%	58.75%	59.00%	59.48%	59.96%	60.44%	60.92%	61.40%	61.88%	62.36%	62.84%	63.32%	63.80%
OGE Energy Corp.	OGE	66.00%	68.00%	70.00%	72.00%	74.00%	72.81%	71.63%	70.44%	69.26%	68.07%	66.88%	66.88%	66.88%	66.88%	66.88%
Otter Tail Corporation	OTTR	82.00%	77.50%	73.00%	68.50%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%
Pinnacle West Capital	PNW	64.00%	64.00%	64.00%	64.00%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%
PNM Resources, Inc.	PNM	51.00%	52.00%	53.00%	54.00%	55.00%	56.98%	58.96%	60.94%	62.92%	64.90%	66.88%	66.88%	66.88%	66.88%	66.88%
Portland General Electric Co.	POR	58.00%	58.25%	58.50%	58.75%	59.00%	60.31%	61.63%	62.94%	64.26%	65.57%	66.88%	66.88%	66.88%	66.88%	66.88%
SCANA Corp.	SCG	57.00%	57.00%	57.00%	57.00%	57.00%	58.65%	60.29%	61.94%	63.59%	65.24%	66.88%	66.88%	66.88%	66.88%	66.88%
WEC Energy Group Inc.	WEC	67.00%	67.00%	67.00%	67.00%	67.00%	66.98%	66.96%	66.94%	66.92%	66.90%	66.88%	66.88%	66.88%	66.88%	66.88%
Xcel Energy, Inc.	XEL	62.00%	62.00%	62.00%	62.00%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%

Projected Annual Cash Flows	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]	[62]	[63]	Terminal Value
ALLETE, Inc.	ALE	\$2.57	\$2.61	\$2.66	\$2.70	\$2.74	\$2.93	\$3.13	\$3.34	\$3.56	\$3.80	\$4.06	\$4.28	\$4.51	\$4.75	\$5.00	\$5.27	\$133.97
Alliant Energy Corp.	LNT	\$1.29	\$1.31	\$1.34	\$1.36	\$1.38	\$1.48	\$1.60	\$1.71	\$1.84	\$1.97	\$2.10	\$2.22	\$2.33	\$2.46	\$2.59	\$2.73	\$78.45
American Electric Power	AEP	\$2.23	\$2.40	\$2.59	\$2.78	\$2.99	\$3.17	\$3.37	\$3.58	\$3.80	\$4.03	\$4.28	\$4.51	\$4.75	\$5.01	\$5.28	\$5.56	\$129.94
Avista Corp.	AVA	\$1.34	\$1.40	\$1.46	\$1.52	\$1.59	\$1.69	\$1.80	\$1.91	\$2.03	\$2.16	\$2.29	\$2.42	\$2.55	\$2.68	\$2.83	\$2.98	\$86.43
Black Hills Corp.	BKH	\$2.07	\$2.10	\$2.13	\$2.14	\$2.15	\$2.41	\$2.68	\$2.97	\$3.27	\$3.58	\$3.91	\$4.12	\$4.34	\$4.58	\$4.82	\$5.08	\$132.32
CMS Energy Corp.	CMS	\$1.28	\$1.36	\$1.45	\$1.54	\$1.64	\$1.78	\$1.93	\$2.08	\$2.24	\$2.40	\$2.57	\$2.71	\$2.85	\$3.01	\$3.17	\$3.34	\$88.38
DTE Energy Co.	DTE	\$2.97	\$3.16	\$3.37	\$3.58	\$3.81	\$4.07	\$4.33	\$4.61	\$4.91	\$5.21	\$5.53	\$5.83	\$6.15	\$6.48	\$6.83	\$7.19	\$204.97
IDACORP, Inc.	IDA	\$2.14	\$2.30	\$2.48	\$2.67	\$2.87	\$3.05	\$3.25	\$3.47	\$3.71	\$3.98	\$4.26	\$4.49	\$4.74	\$4.99	\$5.26	\$5.54	\$169.18
NorthWestern Corporation	NWE	\$1.82	\$1.93	\$2.05	\$2.17	\$2.30	\$2.51	\$2.73	\$2.97	\$3.21	\$3.47	\$3.74	\$3.94	\$4.15	\$4.37	\$4.61	\$4.86	\$123.04
OGE Energy Corp.	OGE	\$1.17	\$1.27	\$1.38	\$1.50	\$1.62	\$1.68	\$1.74	\$1.80	\$1.87	\$1.93	\$2.00	\$2.11	\$2.22	\$2.34	\$2.47	\$2.60	\$67.58
Otter Tail Corporation	OTTR	\$1.36	\$1.36	\$1.36	\$1.35	\$1.34	\$1.43	\$1.52	\$1.62	\$1.72	\$1.83	\$1.94	\$2.04	\$2.15	\$2.27	\$2.39	\$2.52	\$83.68
Pinnacle West Capital	PNW	\$2.63	\$2.76	\$2.90	\$3.04	\$3.19	\$3.37	\$3.57	\$3.78	\$4.00	\$4.25	\$4.51	\$4.75	\$5.01	\$5.28	\$5.56	\$5.86	\$160.42
PNM Resources, Inc.	PNM	\$0.91	\$1.01	\$1.13	\$1.25	\$1.39	\$1.56	\$1.74	\$1.93	\$2.12	\$2.32	\$2.52	\$2.79	\$2.94	\$3.10	\$3.27	\$3.43	\$73.93
Portland General Electric Co.	POR	\$1.26	\$1.35	\$1.45	\$1.55	\$1.66	\$1.81	\$1.96	\$2.13	\$2.30	\$2.47	\$2.66	\$2.80	\$2.95	\$3.11	\$3.28	\$3.46	\$92.53
SCANA Corp.	SCG	\$2.30	\$2.44	\$2.59	\$2.74	\$2.91	\$3.17	\$3.45	\$3.75	\$4.06	\$4.40	\$4.75	\$5.00	\$5.27	\$5.56	\$5.86	\$6.17	\$157.70
WEC Energy Group Inc.	WEC	\$1.68	\$1.79	\$1.92	\$2.05	\$2.19	\$2.34	\$2.48	\$2.64	\$2.79	\$2.95	\$3.11	\$3.27	\$3.45	\$3.63	\$3.83	\$4.04	\$121.34
Xcel Energy, Inc.	XEL	\$1.38	\$1.45	\$1.54	\$1.62	\$1.71	\$1.83	\$1.96	\$2.10									

Multi-Stage Growth Discounted Cash Flow Model  
30 Day Average Stock Price  
Low EPS Growth Rate Estimate in First Stage

Inputs	[1] Stock	[2] [3] [4] [5] EPS Growth Rate Estimates				[6] [7] Long-Term		[8] [9] Payout Ratio			[10] [11] Iterative Solution		[12]	[13]	
		Price	Zacks	First Call	Value		Growth	Growth	2016	2020	2026	Proof	IRR	P/E Ratio	PEG Ratio
					Line	Low Growth									
ALLETE, Inc.	ALE	\$63.35	5.50%	5.00%	4.00%	4.00%	5.38%	72.00%	62.00%	66.88%	\$0.00	9.13%	18.76	3.49	
Alliant Energy Corp.	LNT	\$36.86	5.50%	6.00%	6.00%	5.50%	5.38%	72.00%	61.00%	66.88%	\$0.00	8.93%	19.85	3.69	
American Electric Power	AEP	\$61.03	5.40%	1.90%	5.00%	1.90%	5.38%	59.00%	64.00%	66.88%	(\$0.00)	8.95%	19.74	3.67	
Avista Corp.	AVA	\$40.77	NA	5.65%	5.00%	5.00%	5.38%	67.00%	64.00%	66.88%	(\$0.00)	8.86%	20.25	3.77	
Black Hills Corp.	BKH	\$60.32	6.20%	7.40%	7.50%	6.20%	5.38%	68.00%	53.00%	66.88%	(\$0.00)	9.10%	18.91	3.52	
CMS Energy Corp.	CMS	\$40.91	6.00%	7.27%	6.00%	6.00%	5.38%	63.00%	61.00%	66.88%	(\$0.00)	9.05%	19.21	3.57	
DTE Energy Co.	DTE	\$96.18	5.80%	5.63%	6.00%	5.63%	5.38%	63.00%	64.00%	66.88%	\$0.00	8.99%	19.53	3.63	
IDACORP, Inc.	IDA	\$78.76	4.30%	4.10%	3.00%	3.00%	5.38%	53.00%	60.00%	66.88%	\$0.00	8.54%	22.29	4.14	
NorthWestern Corporation	NWE	\$56.58	5.00%	4.50%	6.50%	4.50%	5.38%	59.00%	58.00%	66.88%	(\$0.00)	9.03%	19.30	3.59	
OGE Energy Corp.	OGE	\$32.69	5.30%	4.00%	3.00%	3.00%	5.38%	66.00%	74.00%	66.88%	\$0.00	8.85%	20.32	3.78	
Otter Tail Corporation	OTTR	\$39.79	NA	6.00%	6.00%	6.00%	5.38%	82.00%	64.00%	66.88%	\$0.00	8.55%	22.20	4.13	
Pinnacle West Capital	PNW	\$75.85	4.90%	4.73%	4.00%	4.00%	5.38%	64.00%	64.00%	66.88%	\$0.00	9.00%	19.44	3.62	
PNM Resources, Inc.	PNM	\$32.93	5.30%	6.85%	9.00%	5.30%	5.38%	51.00%	55.00%	66.88%	\$0.00	9.07%	19.10	3.55	
Portland General Electric Co.	POR	\$42.59	6.20%	6.67%	5.50%	5.50%	5.38%	58.00%	59.00%	66.88%	(\$0.00)	9.03%	19.31	3.59	
SCANA Corp.	SCG	\$72.41	5.70%	6.03%	4.50%	4.50%	5.38%	57.00%	57.00%	66.88%	\$0.00	9.11%	18.88	3.51	
WEC Energy Group Inc.	WEC	\$57.16	6.00%	6.92%	6.00%	6.00%	5.38%	67.00%	67.00%	66.88%	(\$0.00)	8.68%	21.37	3.97	
Xcel Energy, Inc.	XEL	\$39.89	5.40%	5.65%	5.50%	5.40%	5.38%	62.00%	62.00%	66.88%	(\$0.00)	9.40%	17.51	3.25	

DCF Result			
Mean	8.96%	19.76	3.67
Max	9.40%	22.29	4.14
Min	8.54%	17.51	3.25

Projected Annual Earnings per Share	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	
ALLETE, Inc.	ALE	\$3.38	\$3.52	\$3.66	\$3.80	\$3.95	\$4.11	\$4.29	\$4.48	\$4.69	\$4.92	\$5.17	\$5.45	\$5.74	\$6.05	\$6.38	\$6.72	\$7.08
Alliant Energy Corp.	LNT	\$1.69	\$1.78	\$1.88	\$1.98	\$2.09	\$2.21	\$2.33	\$2.46	\$2.59	\$2.73	\$2.88	\$3.03	\$3.20	\$3.37	\$3.55	\$3.74	\$3.94
American Electric Power	AEP	\$3.59	\$3.66	\$3.73	\$3.80	\$3.87	\$3.94	\$4.04	\$4.17	\$4.32	\$4.50	\$4.72	\$4.97	\$5.24	\$5.52	\$5.81	\$6.13	\$6.46
Avista Corp.	AVA	\$1.89	\$1.98	\$2.08	\$2.19	\$2.30	\$2.41	\$2.53	\$2.66	\$2.80	\$2.95	\$3.11	\$3.27	\$3.45	\$3.64	\$3.83	\$4.04	\$4.25
Black Hills Corp.	BKH	\$2.83	\$3.01	\$3.19	\$3.39	\$3.60	\$3.82	\$4.05	\$4.30	\$4.54	\$4.80	\$5.07	\$5.34	\$5.62	\$5.93	\$6.25	\$6.58	\$6.94
CMS Energy Corp.	CMS	\$1.89	\$2.00	\$2.12	\$2.25	\$2.39	\$2.53	\$2.68	\$2.83	\$2.99	\$3.16	\$3.34	\$3.51	\$3.70	\$3.90	\$4.11	\$4.33	\$4.57
DTE Energy Co.	DTE	\$4.45	\$4.70	\$4.97	\$5.24	\$5.54	\$5.85	\$6.18	\$6.52	\$6.88	\$7.26	\$7.65	\$8.06	\$8.49	\$8.95	\$9.43	\$9.94	\$10.48
IDACORP, Inc.	IDA	\$3.87	\$3.99	\$4.11	\$4.23	\$4.36	\$4.49	\$4.64	\$4.81	\$5.02	\$5.25	\$5.51	\$5.80	\$6.12	\$6.45	\$6.79	\$7.16	\$7.54
NorthWestern Corporation	NWE	\$2.90	\$3.03	\$3.17	\$3.31	\$3.46	\$3.61	\$3.78	\$3.96	\$4.16	\$4.37	\$4.60	\$4.85	\$5.11	\$5.38	\$5.67	\$5.98	\$6.30
OGE Energy Corp.	OGE	\$1.69	\$1.74	\$1.79	\$1.85	\$1.90	\$1.96	\$2.03	\$2.10	\$2.19	\$2.29	\$2.41	\$2.53	\$2.67	\$2.81	\$2.97	\$3.13	\$3.29
Otter Tail Corporation	OTTR	\$1.56	\$1.65	\$1.75	\$1.86	\$1.97	\$2.09	\$2.21	\$2.34	\$2.47	\$2.61	\$2.75	\$2.90	\$3.06	\$3.22	\$3.39	\$3.58	\$3.77
Pinnacle West Capital	PNW	\$3.92	\$4.08	\$4.24	\$4.41	\$4.59	\$4.77	\$4.97	\$5.19	\$5.44	\$5.70	\$6.00	\$6.32	\$6.66	\$7.02	\$7.40	\$7.79	\$8.21
PNM Resources, Inc.	PNM	\$1.64	\$1.73	\$1.82	\$1.91	\$2.02	\$2.12	\$2.24	\$2.36	\$2.48	\$2.61	\$2.75	\$2.90	\$3.06	\$3.22	\$3.40	\$3.58	\$3.77
Portland General Electric Co.	POR	\$2.04	\$2.15	\$2.27	\$2.40	\$2.53	\$2.67	\$2.81	\$2.97	\$3.13	\$3.30	\$3.47	\$3.66	\$3.86	\$4.07	\$4.28	\$4.52	\$4.76
SCANA Corp.	SCG	\$3.81	\$3.98	\$4.16	\$4.35	\$4.54	\$4.75	\$4.97	\$5.21	\$5.46	\$5.74	\$6.04	\$6.37	\$6.71	\$7.07	\$7.45	\$7.85	\$8.27
WEC Energy Group Inc.	WEC	\$2.34	\$2.48	\$2.63	\$2.79	\$2.95	\$3.13	\$3.32	\$3.51	\$3.71	\$3.91	\$4.13	\$4.35	\$4.59	\$4.83	\$5.09	\$5.37	\$5.65
Xcel Energy, Inc.	XEL	\$2.10	\$2.21	\$2.33	\$2.46	\$2.59	\$2.73	\$2.88	\$3.03	\$3.20	\$3.37	\$3.55	\$3.74	\$3.94	\$4.16	\$4.38	\$4.61	\$4.86

Projected Annual Dividend Payout Ratio	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]	[46]	
ALLETE, Inc.	ALE	72.00%	69.50%	67.00%	64.50%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Alliant Energy Corp.	LNT	72.00%	69.25%	66.50%	63.75%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
American Electric Power	AEP	59.00%	60.25%	61.50%	62.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Avista Corp.	AVA	67.00%	66.25%	65.50%	64.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Black Hills Corp.	BKH	68.00%	64.25%	60.50%	56.75%	53.00%	55.31%	57.63%	59.94%	62.26%	64.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
CMS Energy Corp.	CMS	63.00%	62.50%	62.00%	61.50%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
DTE Energy Co.	DTE	63.00%	63.25%	63.50%	63.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
IDACORP, Inc.	IDA	53.00%	54.75%	56.50%	58.25%	60.00%	61.15%	62.29%	63.44%	64.59%	65.74%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
NorthWestern Corporation	NWE	59.00%	58.25%	58.50%	58.75%	59.00%	59.48%	59.96%	60.44%	60.92%	61.40%	61.88%	62.36%	62.84%	63.32%	63.80%	64.28%
OGE Energy Corp.	OGE	66.00%	68.00%	70.00%	72.00%	74.00%	72.81%	71.63%	70.44%	69.26%	68.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Otter Tail Corporation	OTTR	82.00%	77.50%	73.00%	68.50%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Pinnacle West Capital	PNW	64.00%	64.00%	64.00%	64.00%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
PNM Resources, Inc.	PNM	51.00%	52.00%	53.00%	54.00%	55.00%	56.98%	58.96%	60.94%	62.92%	64.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Portland General Electric Co.	POR	58.00%	58.25%	58.50%	58.75%	59.00%	60.31%	61.63%	62.94%	64.26%	65.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
SCANA Corp.	SCG	57.00%	57.00%	57.00%	57.00%	57.00%	58.65%	60.29%	61.94%	63.59%	65.24%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
WEC Energy Group Inc.	WEC	67.00%	67.00%	67.00%	67.00%	67.00%	66.98%	66.96%	66.94%	66.92%	66.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Xcel Energy, Inc.	XEL	62.00%	62.00%	62.00%	62.00%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%

Projected Annual Cash Flows	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]	[62]	[63]	Terminal Value
ALLETE, Inc.	ALE	\$2.53	\$2.54	\$2.55	\$2.55	\$2.55	\$2.69	\$2.85	\$3.02	\$3.21	\$3.42	\$3.64	\$3.84	\$4.05	\$4.26	\$4.49	\$4.74	\$132.87
Alliant Energy Corp.	LNT	\$1.28	\$1.30	\$1.32	\$1.33	\$1.35	\$1.44	\$1.55	\$1.66	\$1.77	\$1.90	\$2.03	\$2.14	\$2.25	\$2.37	\$2.50	\$2.64	\$78.24
American Electric Power	AEP	\$2.16	\$2.25	\$2.34	\$2.43	\$2.52	\$2.61	\$2.71	\$2.83	\$2.97	\$3.13	\$3.32	\$3.50	\$3.69	\$3.89	\$4.10	\$4.32	\$127.47
Avista Corp.	AVA	\$1.33	\$1.38	\$1.43	\$1.49	\$1.54	\$1.63	\$1.73	\$1.83	\$1.94	\$2.06	\$2.19	\$2.31	\$2.43	\$2.56	\$2.70	\$2.85	\$86.15
Black Hills Corp.	BKH	\$2.04	\$2.05	\$2.05	\$2.04	\$2.03	\$2.24	\$2.48	\$2.72	\$2.99	\$3.27	\$3.57	\$3.76	\$3.96	\$4.18	\$4.40	\$4.64	\$131.20
CMS Energy Corp.	CMS	\$1.26	\$1.33	\$1.40	\$1.47	\$1.54	\$1.66	\$1.78	\$1.91	\$2.05	\$2.20	\$2.35	\$2.48	\$2.61	\$2.75	\$2.90	\$3.05	\$87.73
DTE Energy Co.	DTE	\$2.96	\$3.14	\$3.33	\$3.53	\$3.75	\$3.98	\$4.24	\$4.50	\$4.78	\$5.08	\$5.39	\$5.68	\$5.99	\$6.31	\$6.65	\$7.01	\$204.57
IDACORP, Inc.	IDA	\$2.11	\$2.25	\$2.39	\$2.54	\$2.69	\$2.84	\$3.00	\$3.18	\$3.39	\$3.62	\$3.88	\$4.09	\$4.31	\$4.54	\$4.79	\$5.04	\$168.08
NorthWestern Corporation	NWE	\$1.79	\$1.86	\$1.94	\$2.01	\$2.10	\$2.25	\$2.42	\$2.60	\$2.79	\$3.01	\$3.24	\$3.42	\$3.60	\$3.79	\$4.00	\$4.21	\$121.55
OGE Energy Corp.	OGE	\$1.15	\$1.22	\$1.29	\$1.37	\$1.45	\$1.48	\$1.51	\$1.54	\$1.59	\$1.64	\$1.70	\$1.79	\$1.88	\$1.98	\$2.09	\$2.20	\$66.94
Otter Tail Corporation	OTTR	\$1.36	\$1.36	\$1.36	\$1.35	\$1.34	\$1.43	\$1.52	\$1.62	\$1.72	\$1.83	\$1.94	\$2.04	\$2.15	\$2.27	\$2.39	\$2.52	\$83.68
Pinnacle West Capital	PNW	\$2.61	\$2.71	\$2.82	\$2.93	\$3.05	\$3.21	\$3.37	\$3.56	\$3.76	\$3.98	\$4.23	\$4.45	\$4.69	\$4.95	\$5.21	\$5.49	\$159.68
PNM Resources, Inc.	PNM	\$0.88	\$0.95	\$1.01	\$1.09	\$1.17	\$1.27	\$1.39	\$1.51	\$1.64	\$1.79	\$1.94	\$2.05	\$2.16	\$2.27	\$2.39	\$2.52	\$72.02
Portland General Electric Co.	POR	\$1.25	\$1.32	\$1.40	\$1.48	\$1.57	\$1.70	\$1.83	\$1.97	\$2.12	\$2.28	\$2.45	\$2.58	\$2.72	\$2.87	\$3.02	\$3.18	\$91.88
SCANA Corp.	SCG	\$2.27	\$2.37	\$2.48	\$2.59	\$2.71	\$2.91	\$3.14	\$3.38	\$3.65	\$3.94	\$4.26	\$4.49	\$4.73	\$4.98	\$5.25	\$5.53	\$156.20
WEC Energy Group Inc.	WEC	\$1.66	\$1.76	\$1.87	\$1.98	\$2.10	\$2.22	\$2.35	\$2.48	\$2.62	\$2.76	\$2.91						

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

Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]									
		Stock	EPS Growth Rate Estimates			Long-Term		Payout Ratio			Iterative Solution		Terminal	Terminal									
			Value																				
Company	Ticker	Price	Zacks	First Call	Line	Average	Growth	2016	2020	2026	Proof	IRR	P/E Ratio	PEG Ratio									
ALLETE, Inc.	ALE	\$60.87	5.50%	5.00%	4.00%	4.83%	5.38%	72.00%	62.00%	66.88%	\$0.00	9.51%	17.05	3.17									
Alliant Energy Corp.	LNT	\$37.42	5.50%	6.00%	6.00%	5.83%	5.38%	72.00%	61.00%	66.88%	(\$0.00)	8.95%	19.72	3.67									
American Electric Power	AEP	\$62.73	5.40%	1.90%	5.00%	4.10%	5.38%	59.00%	64.00%	66.88%	(\$0.00)	9.41%	17.50	3.25									
Avista Corp.	AVA	\$40.83	NA	5.65%	5.00%	5.33%	5.38%	67.00%	64.00%	66.88%	(\$0.00)	8.93%	19.85	3.69									
Black Hills Corp.	BKH	\$59.83	6.20%	7.40%	7.50%	7.03%	5.38%	68.00%	53.00%	66.88%	(\$0.00)	9.34%	17.79	3.31									
CMS Energy Corp.	CMS	\$41.38	6.00%	7.27%	6.00%	6.42%	5.38%	63.00%	61.00%	66.88%	(\$0.00)	9.11%	18.90	3.51									
DTE Energy Co.	DTE	\$94.27	5.80%	5.63%	6.00%	5.81%	5.38%	63.00%	64.00%	66.88%	(\$0.00)	9.10%	18.91	3.52									
IDACORP, Inc.	IDA	\$77.28	4.30%	4.10%	3.00%	3.80%	5.38%	53.00%	60.00%	66.88%	(\$0.00)	8.78%	20.72	3.85									
NorthWestern Corporation	NWE	\$56.88	5.00%	4.50%	6.50%	5.33%	5.38%	59.00%	58.00%	66.88%	(\$0.00)	9.22%	18.37	3.42									
OGE Energy Corp.	OGE	\$31.60	5.30%	4.00%	3.00%	4.10%	5.38%	66.00%	74.00%	66.88%	\$0.00	9.25%	18.20	3.38									
Otter Tail Corporation	OTTR	\$36.51	NA	6.00%	6.00%	6.00%	5.38%	82.00%	64.00%	66.88%	\$0.00	8.84%	20.34	3.78									
Pinnacle West Capital	PNW	\$75.42	4.90%	4.73%	4.00%	4.54%	5.38%	64.00%	64.00%	66.88%	(\$0.00)	9.16%	18.64	3.47									
PNM Resources, Inc.	PNM	\$32.53	5.30%	6.85%	9.00%	7.05%	5.38%	51.00%	55.00%	66.88%	\$0.00	9.56%	16.87	3.14									
Portland General Electric Co.	POR	\$42.39	6.20%	6.67%	5.50%	6.12%	5.38%	58.00%	59.00%	66.88%	(\$0.00)	9.20%	18.46	3.43									
SCANA Corp.	SCG	\$71.58	5.70%	6.03%	4.50%	5.41%	5.38%	57.00%	57.00%	66.88%	(\$0.00)	9.39%	17.59	3.27									
WEC Energy Group Inc.	WEC	\$58.41	6.00%	6.92%	6.00%	6.31%	5.38%	67.00%	67.00%	66.88%	(\$0.00)	8.67%	21.40	3.98									
Xcel Energy, Inc.	XEL	\$40.53	5.40%	5.65%	5.50%	5.52%	5.38%	62.00%	62.00%	66.88%	(\$0.00)	9.37%	17.65	3.28									
															DCF Result								
															Mean	9.16%	18.70	3.48					
															Max	9.56%	21.40	3.98					
															Min	8.67%	16.87	3.14					
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]					
Company	Ticker	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031					
ALLETE, Inc.	ALE	\$3.38	\$3.54	\$3.71	\$3.89	\$4.08	\$4.28	\$4.49	\$4.72	\$4.96	\$5.21	\$5.49	\$5.78	\$6.10	\$6.42	\$6.77	\$7.13	\$7.52					
Alliant Energy Corp.	LNT	\$1.69	\$1.79	\$1.89	\$2.00	\$2.12	\$2.24	\$2.37	\$2.51	\$2.65	\$2.79	\$2.95	\$3.11	\$3.27	\$3.45	\$3.63	\$3.83	\$4.04					
American Electric Power	AEP	\$3.59	\$3.74	\$3.89	\$4.05	\$4.22	\$4.39	\$4.58	\$4.79	\$5.01	\$5.26	\$5.53	\$5.83	\$6.14	\$6.47	\$6.82	\$7.19	\$7.58					
Avista Corp.	AVA	\$1.89	\$1.99	\$2.10	\$2.21	\$2.33	\$2.45	\$2.58	\$2.72	\$2.86	\$3.02	\$3.18	\$3.35	\$3.53	\$3.72	\$3.92	\$4.13	\$4.35					
Black Hills Corp.	BKH	\$2.83	\$3.03	\$3.24	\$3.47	\$3.71	\$3.98	\$4.24	\$4.52	\$4.80	\$5.08	\$5.37	\$5.66	\$5.97	\$6.29	\$6.62	\$6.98	\$7.36					
CMS Energy Corp.	CMS	\$1.89	\$2.01	\$2.14	\$2.28	\$2.42	\$2.58	\$2.74	\$2.91	\$3.08	\$3.26	\$3.44	\$3.62	\$3.82	\$4.02	\$4.24	\$4.47	\$4.71					
DTE Energy Co.	DTE	\$4.45	\$4.71	\$4.98	\$5.27	\$5.58	\$5.90	\$6.24	\$6.59	\$6.96	\$7.35	\$7.75	\$8.16	\$8.60	\$9.07	\$9.55	\$10.07	\$10.61					
IDACORP, Inc.	IDA	\$3.87	\$4.02	\$4.17	\$4.33	\$4.49	\$4.66	\$4.85	\$5.06	\$5.30	\$5.55	\$5.84	\$6.15	\$6.48	\$6.83	\$7.20	\$7.58	\$7.99					
NorthWestern Corporation	NWE	\$2.90	\$3.05	\$3.22	\$3.39	\$3.57	\$3.76	\$3.96	\$4.17	\$4.40	\$4.63	\$4.88	\$5.14	\$5.42	\$5.71	\$6.02	\$6.34	\$6.68					
OGE Energy Corp.	OGE	\$1.69	\$1.76	\$1.83	\$1.91	\$1.98	\$2.07	\$2.16	\$2.25	\$2.36	\$2.48	\$2.60	\$2.74	\$2.89	\$3.05	\$3.21	\$3.38	\$3.57					
Otter Tail Corporation	OTTR	\$1.56	\$1.65	\$1.75	\$1.86	\$1.97	\$2.09	\$2.21	\$2.34	\$2.47	\$2.61	\$2.75	\$2.90	\$3.06	\$3.22	\$3.39	\$3.58	\$3.77					
Pinnacle West Capital	PNW	\$3.92	\$4.10	\$4.28	\$4.48	\$4.68	\$4.90	\$5.12	\$5.37	\$5.64	\$5.93	\$6.24	\$6.57	\$6.92	\$7.29	\$7.69	\$8.10	\$8.54					
PNM Resources, Inc.	PNM	\$1.64	\$1.76	\$1.88	\$2.01	\$2.15	\$2.31	\$2.46	\$2.62	\$2.78	\$2.95	\$3.12	\$3.28	\$3.46	\$3.65	\$3.84	\$4.05	\$4.27					
Portland General Electric Co.	POR	\$2.04	\$2.16	\$2.30	\$2.44	\$2.59	\$2.75	\$2.91	\$3.08	\$3.26	\$3.44	\$3.63	\$3.83	\$4.03	\$4.25	\$4.48	\$4.72	\$4.97					
SCANA Corp.	SCG	\$3.81	\$4.02	\$4.23	\$4.46	\$4.70	\$4.96	\$5.23	\$5.51	\$5.81	\$6.12	\$6.45	\$6.79	\$7.16	\$7.55	\$7.95	\$8.38	\$8.83					
WEC Energy Group Inc.	WEC	\$2.34	\$2.49	\$2.64	\$2.81	\$2.99	\$3.18	\$3.37	\$3.57	\$3.78	\$4.00	\$4.22	\$4.45	\$4.69	\$4.94	\$5.20	\$5.48	\$5.78					
Xcel Energy, Inc.	XEL	\$2.10	\$2.22	\$2.34	\$2.47	\$2.60	\$2.75	\$2.90	\$3.06	\$3.22	\$3.40	\$3.58	\$3.77	\$3.98	\$4.19	\$4.42	\$4.65	\$4.90					
Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]	[46]						
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031						
ALLETE, Inc.	ALE	72.00%	69.50%	67.00%	64.50%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
Alliant Energy Corp.	LNT	72.00%	69.25%	66.50%	63.75%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
American Electric Power	AEP	59.00%	60.25%	61.50%	62.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
Avista Corp.	AVA	67.00%	66.25%	65.50%	64.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
Black Hills Corp.	BKH	68.00%	64.25%	60.50%	56.75%	53.00%	55.31%	57.63%	59.94%	62.26%	64.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
CMS Energy Corp.	CMS	63.00%	62.50%	62.00%	61.50%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
DTE Energy Co.	DTE	63.00%	63.25%	63.50%	63.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
IDACORP, Inc.	IDA	53.00%	54.75%	56.50%	58.25%	60.00%	61.15%	62.29%	63.44%	64.59%	65.74%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
NorthWestern Corporation	NWE	59.00%	58.25%	58.50%	58.25%	58.00%	59.48%	60.96%	62.44%	63.92%	65.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
OGE Energy Corp.	OGE	66.00%	68.00%	70.00%	72.00%	74.00%	72.81%	71.63%	70.44%	69.26%	68.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
Otter Tail Corporation	OTTR	82.00%	77.50%	73.00%	68.50%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
Pinnacle West Capital	PNW	64.00%	64.00%	64.00%	64.00%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
PNM Resources, Inc.	PNM	51.00%	52.00%	53.00%	54.00%	55.00%	56.98%	58.96%	60.94%	62.92%	64.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
Portland General Electric Co.	POR	58.00%	58.25%	58.50%	58.75%	59.00%	60.31%	61.63%	62.94%	64.26%	65.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
SCANA Corp.	SCG	57.00%	57.00%	57.00%	57.00%	57.00%	58.65%	60.29%	61.94%	63.59%	65.24%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
WEC Energy Group Inc.	WEC	67.00%	67.00%	67.00%	67.00%	67.00%	66.98%	66.96%	66.94%	66.92%	66.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
Xcel Energy, Inc.	XEL	62.00%	62.00%	62.00%	62.00%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
Projected Annual Cash Flows		[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]	[62]	[63]	Terminal Value				
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Value					
ALLETE, Inc.	ALE	\$2.55	\$2.58	\$2.61	\$2.63	\$2.65	\$2.82	\$3.00	\$3.19	\$3.40	\$3.63	\$3.87	\$4.08	\$4.30	\$4.53	\$4.77	\$5.03	\$128.15					
Alliant Energy Corp.	LNT	\$1.29	\$1.31	\$1.33	\$1.35	\$1.37	\$1.47	\$1.58	\$1.69	\$1.81	\$1.94	\$2.08	\$2.19	\$2.31	\$2.43	\$2.56	\$2.70	\$79.58					
American Electric Power	AEP	\$2.20	\$2.34	\$2.49	\$2.65	\$2.81	\$2.95	\$3.11	\$3.28	\$3.47	\$3.67	\$3.90	\$4.11	\$4.33	\$4.56	\$4.81	\$5.07	\$132.57					
Avista Corp.	AVA	\$1.33	\$1.39	\$1.45	\$1.51	\$1.57	\$1.66	\$1.77	\$1.87	\$1.99	\$2.11	\$2.24	\$2.36	\$2.49	\$2.62	\$2.76	\$2.91	\$86.43					
Black Hills Corp.	BKH	\$2.06	\$2.08	\$2.10	\$2.11	\$2.11	\$2.35	\$2.60	\$2.88	\$3.17	\$3.47	\$3.79	\$3.99	\$4.20	\$4.43	\$4.67	\$4.92	\$130.84					
CMS Energy Corp.	CMS	\$1.27	\$1.34	\$1.41	\$1.49	\$1.57	\$1.70	\$1.83	\$1.97	\$2.11	\$2.26	\$2.42	\$2.55	\$2.69	\$2.83	\$2.99	\$3.15	\$88.95					
DTE Energy Co.	DTE	\$2.97	\$3.15	\$3.35	\$3.56	\$3.78	\$4.02	\$4.28	\$4.56	\$4.84	\$5.14	\$5.46	\$5.75	\$6.06	\$6.39	\$6.73	\$7.10	\$200.68					
IDACORP, Inc.	IDA	\$2.13	\$2.28	\$2.45	\$2.62	\$2.80	\$2.97	\$3.15	\$3.36	\$3.59	\$3.84	\$4.11	\$4.33	\$4.57	\$4.81	\$5.07	\$5.35	\$165.57					
NorthWestern Corporation	NWE	\$1.80	\$1.89	\$1.98	\$2.08	\$2.18	\$2.36	\$2.54	\$2.75	\$2.96	\$3.19	\$3.44	\$3.63	\$3.82	\$4.03	\$4.24	\$4.47	\$122.79					
OGE Energy Corp.	OGE	\$1.16	\$1.25	\$1.33	\$1.43	\$1.53	\$1.57	\$1.61	\$1.66	\$1.71	\$1.77	\$1.84	\$1.93	\$2.04	\$2.15	\$2.26	\$2.39	\$64.91					
Otter Tail Corporation	OTTR	\$1.36	\$1.36	\$1.36	\$1.35	\$1.34	\$1.43	\$1.52	\$1.62	\$1.72	\$1.83	\$1.94	\$2.04	\$2.15	\$2.27	\$2.39	\$2.52	\$76.68					
Pinnacle West Capital	PNW	\$2.62	\$2.74	\$2.87	\$3.00	\$3.13	\$3.30	\$3.49	\$3.69	\$3.91	\$4.14	\$4.40	\$4.63	\$4.88	\$5.14	\$5.42	\$5.71	\$159.19					
PNM Resources, Inc.	PNM	\$0.90	\$0.98	\$1.07	\$1.16	\$1.27	\$1.40	\$1.55	\$1.70	\$1.86	\$2.02	\$2.20	\$2.31	\$2.44	\$2								

Multi-Stage Growth Discounted Cash Flow Model  
90 Day Average Stock Price  
High EPS Growth Rate Estimate in First Stage

Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]									
		Stock	EPS Growth Rate Estimates			Long-Term		Payout Ratio			Iterative Solution		Terminal	Terminal									
				Value	High																		
Company	Ticker	Price	Zacks	First Call	Line	Growth	Growth	2016	2020	2026	Proof	IRR	P/E Ratio	PEG Ratio									
ALLETE, Inc.	ALE	\$60.87	5.50%	5.00%	4.00%	5.50%	5.38%	72.00%	62.00%	66.88%	\$0.00	9.70%	16.32	3.03									
Alliant Energy Corp.	LNT	\$37.42	5.50%	6.00%	6.00%	6.00%	5.38%	72.00%	61.00%	66.88%	\$0.00	8.99%	19.50	3.63									
American Electric Power	AEP	\$62.73	5.40%	1.90%	5.00%	5.40%	5.38%	59.00%	64.00%	66.88%	\$0.00	9.77%	16.07	2.99									
Avista Corp.	AVA	\$40.83	NA	5.65%	5.00%	5.65%	5.38%	67.00%	64.00%	66.88%	(\$0.00)	9.01%	19.43	3.61									
Black Hills Corp.	BKH	\$59.83	6.20%	7.40%	7.50%	7.50%	5.38%	68.00%	53.00%	66.88%	(\$0.00)	9.46%	17.27	3.21									
CMS Energy Corp.	CMS	\$41.38	6.00%	7.27%	6.00%	7.27%	5.38%	63.00%	61.00%	66.88%	(\$0.00)	9.32%	17.90	3.33									
DTE Energy Co.	DTE	\$94.27	5.80%	5.63%	6.00%	6.00%	5.38%	63.00%	64.00%	66.88%	(\$0.00)	9.15%	18.68	3.47									
IDACORP, Inc.	IDA	\$77.28	4.30%	4.10%	3.00%	4.30%	5.38%	53.00%	60.00%	66.88%	(\$0.00)	8.90%	20.04	3.73									
NorthWestern Corporation	NWE	\$56.88	5.00%	4.50%	6.50%	6.50%	5.38%	59.00%	58.00%	66.88%	(\$0.00)	9.52%	17.04	3.17									
OGE Energy Corp.	OGE	\$31.60	5.30%	4.00%	3.00%	5.30%	5.38%	66.00%	74.00%	66.88%	\$0.00	9.58%	16.79	3.12									
Otter Tail Corporation	OTTR	\$36.51	NA	6.00%	6.00%	6.00%	5.38%	82.00%	64.00%	66.88%	\$0.00	8.84%	20.34	3.78									
Pinnacle West Capital	PNW	\$75.42	4.90%	4.73%	4.00%	4.90%	5.38%	64.00%	64.00%	66.88%	(\$0.00)	9.25%	18.21	3.38									
PNM Resources, Inc.	PNM	\$32.53	5.30%	6.85%	9.00%	9.00%	5.38%	51.00%	55.00%	66.88%	(\$0.00)	10.09%	14.95	2.78									
Portland General Electric Co.	POR	\$42.39	6.20%	6.67%	5.50%	6.67%	5.38%	58.00%	59.00%	66.88%	\$0.00	9.33%	17.82	3.31									
SCANA Corp.	SCG	\$71.58	5.70%	6.03%	4.50%	6.03%	5.38%	57.00%	57.00%	66.88%	\$0.00	9.55%	16.90	3.14									
WEC Energy Group Inc.	WEC	\$58.41	6.00%	6.92%	6.00%	6.92%	5.38%	67.00%	67.00%	66.88%	\$0.00	8.81%	20.55	3.82									
Xcel Energy, Inc.	XEL	\$40.53	5.40%	5.65%	5.50%	5.65%	5.38%	62.00%	62.00%	66.88%	(\$0.00)	9.41%	17.50	3.25									
															DCF Result								
															Mean	9.33%	17.96	3.34					
															Max	10.09%	20.55	3.82					
															Min	8.81%	14.95	2.78					
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]					
Company	Ticker	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031					
ALLETE, Inc.	ALE	\$3.38	\$3.57	\$3.76	\$3.97	\$4.19	\$4.42	\$4.66	\$4.91	\$5.18	\$5.46	\$5.76	\$6.07	\$6.39	\$6.74	\$7.10	\$7.48	\$7.88					
Alliant Energy Corp.	LNT	\$1.69	\$1.79	\$1.90	\$2.01	\$2.13	\$2.26	\$2.39	\$2.53	\$2.68	\$2.83	\$2.98	\$3.14	\$3.31	\$3.49	\$3.68	\$3.88	\$4.08					
American Electric Power	AEP	\$3.59	\$3.78	\$3.99	\$4.20	\$4.43	\$4.67	\$4.92	\$5.19	\$5.47	\$5.76	\$6.07	\$6.40	\$6.74	\$7.10	\$7.49	\$7.89	\$8.31					
Avista Corp.	AVA	\$1.89	\$2.00	\$2.11	\$2.23	\$2.35	\$2.49	\$2.63	\$2.77	\$2.93	\$3.09	\$3.25	\$3.43	\$3.61	\$3.81	\$4.01	\$4.23	\$4.46					
Black Hills Corp.	BKH	\$2.83	\$3.04	\$3.27	\$3.52	\$3.78	\$4.06	\$4.35	\$4.65	\$4.95	\$5.25	\$5.55	\$5.85	\$6.16	\$6.49	\$6.84	\$7.21	\$7.60					
CMS Energy Corp.	CMS	\$1.89	\$2.03	\$2.17	\$2.33	\$2.50	\$2.68	\$2.87	\$3.06	\$3.26	\$3.45	\$3.65	\$3.84	\$4.05	\$4.27	\$4.50	\$4.74	\$4.99					
DTE Energy Co.	DTE	\$4.45	\$4.72	\$5.00	\$5.30	\$5.62	\$5.96	\$6.31	\$6.67	\$7.05	\$7.44	\$7.85	\$8.28	\$8.72	\$9.19	\$9.68	\$10.20	\$10.75					
IDACORP, Inc.	IDA	\$3.87	\$4.04	\$4.21	\$4.39	\$4.58	\$4.78	\$4.99	\$5.22	\$5.48	\$5.75	\$6.05	\$6.38	\$6.72	\$7.08	\$7.46	\$7.86	\$8.28					
NorthWestern Corporation	NWE	\$2.90	\$3.09	\$3.29	\$3.50	\$3.73	\$3.97	\$4.22	\$4.48	\$4.75	\$5.02	\$5.30	\$5.59	\$5.89	\$6.20	\$6.54	\$6.89	\$7.26					
OGE Energy Corp.	OGE	\$1.69	\$1.78	\$1.87	\$1.97	\$2.08	\$2.19	\$2.30	\$2.43	\$2.56	\$2.69	\$2.84	\$2.99	\$3.15	\$3.32	\$3.50	\$3.69	\$3.89					
Otter Tail Corporation	OTTR	\$1.56	\$1.65	\$1.75	\$1.86	\$1.97	\$2.09	\$2.21	\$2.34	\$2.47	\$2.61	\$2.75	\$2.90	\$3.06	\$3.22	\$3.39	\$3.58	\$3.77					
Pinnacle West Capital	PNW	\$3.92	\$4.11	\$4.31	\$4.52	\$4.75	\$4.98	\$5.23	\$5.49	\$5.77	\$6.08	\$6.40	\$6.74	\$7.10	\$7.49	\$7.89	\$8.31	\$8.76					
PNM Resources, Inc.	PNM	\$1.64	\$1.79	\$1.95	\$2.12	\$2.31	\$2.52	\$2.74	\$2.95	\$3.16	\$3.37	\$3.57	\$3.76	\$3.96	\$4.18	\$4.40	\$4.64	\$4.89					
Portland General Electric Co.	POR	\$2.04	\$2.18	\$2.32	\$2.48	\$2.64	\$2.82	\$3.00	\$3.19	\$3.38	\$3.57	\$3.77	\$3.98	\$4.19	\$4.42	\$4.65	\$4.90	\$5.17					
SCANA Corp.	SCG	\$3.81	\$4.04	\$4.28	\$4.54	\$4.82	\$5.11	\$5.41	\$5.72	\$6.05	\$6.39	\$6.74	\$7.10	\$7.48	\$7.88	\$8.31	\$8.76	\$9.23					
WEC Energy Group Inc.	WEC	\$2.34	\$2.50	\$2.68	\$2.86	\$3.06	\$3.27	\$3.49	\$3.71	\$3.94	\$4.17	\$4.41	\$4.64	\$4.89	\$5.16	\$5.43	\$5.73	\$6.03					
Xcel Energy, Inc.	XEL	\$2.10	\$2.22	\$2.34	\$2.48	\$2.62	\$2.76	\$2.92	\$3.08	\$3.25	\$3.43	\$3.62	\$3.81	\$4.01	\$4.23	\$4.46	\$4.70	\$4.95					
Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]	[46]						
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031						
ALLETE, Inc.	ALE	72.00%	69.50%	67.00%	64.50%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
Alliant Energy Corp.	LNT	72.00%	69.25%	66.50%	63.75%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
American Electric Power	AEP	59.00%	60.25%	61.50%	62.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
Avista Corp.	AVA	67.00%	66.25%	65.50%	64.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
Black Hills Corp.	BKH	68.00%	64.25%	60.50%	56.75%	53.00%	55.31%	57.63%	59.94%	62.26%	64.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
CMS Energy Corp.	CMS	63.00%	62.50%	62.00%	61.50%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
DTE Energy Co.	DTE	63.00%	63.25%	63.50%	63.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
IDACORP, Inc.	IDA	53.00%	54.75%	56.50%	58.25%	60.00%	61.15%	62.29%	63.44%	64.59%	65.74%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
NorthWestern Corporation	NWE	59.00%	58.25%	58.50%	58.25%	58.00%	59.48%	60.96%	62.44%	63.92%	65.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
OGE Energy Corp.	OGE	66.00%	68.00%	70.00%	72.00%	74.00%	72.81%	71.63%	70.44%	69.26%	68.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
Otter Tail Corporation	OTTR	82.00%	77.50%	73.00%	68.50%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
Pinnacle West Capital	PNW	64.00%	64.00%	64.00%	64.00%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
PNM Resources, Inc.	PNM	51.00%	52.00%	53.00%	54.00%	55.00%	56.98%	58.96%	60.94%	62.92%	64.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
Portland General Electric Co.	POR	58.00%	58.25%	58.50%	58.75%	59.00%	60.31%	61.63%	62.94%	64.26%	65.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
SCANA Corp.	SCG	57.00%	57.00%	57.00%	57.00%	57.00%	58.65%	60.29%	61.94%	63.59%	65.24%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
WEC Energy Group Inc.	WEC	67.00%	67.00%	67.00%	67.00%	67.00%	66.98%	66.96%	66.94%	66.92%	66.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
Xcel Energy, Inc.	XEL	62.00%	62.00%	62.00%	62.00%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%						
Projected Annual Cash Flows		[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]	[62]	[63]	Terminal				
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Value					
ALLETE, Inc.	ALE	\$2.57	\$2.61	\$2.66	\$2.70	\$2.74	\$2.93	\$3.13	\$3.34	\$3.56	\$3.80	\$4.06	\$4.28	\$4.51	\$4.75	\$5.00	\$5.27	\$128.66					
Alliant Energy Corp.	LNT	\$1.29	\$1.31	\$1.34	\$1.36	\$1.38	\$1.48	\$1.60	\$1.71	\$1.84	\$1.97	\$2.10	\$2.22	\$2.33	\$2.46	\$2.59	\$2.73	\$79.65					
American Electric Power	AEP	\$2.23	\$2.40	\$2.59	\$2.78	\$2.99	\$3.17	\$3.37	\$3.58	\$3.80	\$4.03	\$4.28	\$4.51	\$4.75	\$5.01	\$5.28	\$5.56	\$133.58					
Avista Corp.	AVA	\$1.34	\$1.40	\$1.46	\$1.52	\$1.59	\$1.69	\$1.80	\$1.91	\$2.03	\$2.16	\$2.29	\$2.42	\$2.55	\$2.68	\$2.83	\$2.98	\$86.57					
Black Hills Corp.	BKH	\$2.07	\$2.10	\$2.13	\$2.14	\$2.15	\$2.41	\$2.68	\$2.97	\$3.27	\$3.58	\$3.91	\$4.12	\$4.34	\$4.58	\$4.82	\$5.08	\$131.25					
CMS Energy Corp.	CMS	\$1.28	\$1.36	\$1.45	\$1.54	\$1.64	\$1.78	\$1.93	\$2.08	\$2.24	\$2.40	\$2.57	\$2.71	\$2.85	\$3.01	\$3.17	\$3.34	\$89.39					
DTE Energy Co.	DTE	\$2.97	\$3.16	\$3.37	\$3.58	\$3.81	\$4.07	\$4.33	\$4.61	\$4.91	\$5.21	\$5.53	\$5.83	\$6.15	\$6.48	\$6.83	\$7.19	\$200.89					
IDACORP, Inc.	IDA	\$2.14	\$2.30	\$2.48	\$2.67	\$2.87	\$3.05	\$3.25	\$3.47	\$3.71	\$3.98	\$4.26	\$4.49	\$4.74	\$4.99	\$5.26	\$5.54	\$166.01					
NorthWestern Corporation	NWE	\$1.82	\$1.93	\$2.05	\$2.17	\$2.30	\$2.51	\$2.73	\$2.97	\$3.21	\$3.47	\$3.74	\$3.94	\$4.15	\$4.37	\$4.61	\$4.86	\$123.69					
OGE Energy Corp.	OGE	\$1.17	\$1.27	\$1.38	\$1.50	\$1.62	\$1.68	\$1.74	\$1.80	\$1.87	\$1.93	\$2.00	\$2.11	\$2.22	\$2.34	\$2.47	\$2.60	\$65.26					
Otter Tail Corporation	OTTR	\$1.36	\$1.36	\$1.36	\$1.35	\$1.34	\$1.43	\$1.52	\$1.62	\$1.72	\$1.83	\$1.94	\$2.04	\$2.15	\$2.27	\$2.39	\$2.52	\$76.68					

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

Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
		Stock	EPS Growth Rate Estimates			Long-Term		Payout Ratio			Iterative Solution		Terminal	Terminal
Company	Ticker	Price	Zacks	First Call	Line	Value Growth	Low Growth	2016	2020	2026	Proof	IRR	P/E Ratio	PEG Ratio
ALLETE, Inc.	ALE	\$60.87	5.50%	5.00%	4.00%	4.00%	5.38%	72.00%	62.00%	66.88%	\$0.00	9.29%	18.01	3.35
Alliant Energy Corp.	LNT	\$37.42	5.50%	6.00%	6.00%	5.50%	5.38%	72.00%	61.00%	66.88%	\$0.00	8.88%	20.15	3.75
American Electric Power	AEP	\$62.73	5.40%	1.90%	5.00%	1.90%	5.38%	59.00%	64.00%	66.88%	(\$0.00)	8.85%	20.31	3.78
Avista Corp.	AVA	\$40.83	NA	5.65%	5.00%	5.00%	5.38%	67.00%	64.00%	66.88%	(\$0.00)	8.85%	20.28	3.77
Black Hills Corp.	BKH	\$59.83	6.20%	7.40%	7.50%	6.20%	5.38%	68.00%	53.00%	66.88%	(\$0.00)	9.14%	18.76	3.49
CMS Energy Corp.	CMS	\$41.38	6.00%	7.27%	6.00%	6.00%	5.38%	63.00%	61.00%	66.88%	(\$0.00)	9.01%	19.43	3.61
DTE Energy Co.	DTE	\$94.27	5.80%	5.63%	6.00%	5.63%	5.38%	63.00%	64.00%	66.88%	(\$0.00)	9.06%	19.14	3.56
IDACORP, Inc.	IDA	\$77.28	4.30%	4.10%	3.00%	3.00%	5.38%	53.00%	60.00%	66.88%	(\$0.00)	8.60%	21.86	4.07
NorthWestern Corporation	NWE	\$56.88	5.00%	4.50%	6.50%	4.50%	5.38%	59.00%	58.00%	66.88%	(\$0.00)	9.01%	19.40	3.61
OGE Energy Corp.	OGE	\$31.60	5.30%	4.00%	3.00%	3.00%	5.38%	66.00%	74.00%	66.88%	\$0.00	8.97%	19.62	3.65
Otter Tail Corporation	OTTR	\$36.51	NA	6.00%	6.00%	6.00%	5.38%	82.00%	64.00%	66.88%	\$0.00	8.84%	20.34	3.78
Pinnacle West Capital	PNW	\$75.42	4.90%	4.73%	4.00%	4.00%	5.38%	64.00%	64.00%	66.88%	(\$0.00)	9.02%	19.33	3.59
PNM Resources, Inc.	PNM	\$32.53	5.30%	6.85%	9.00%	5.30%	5.38%	51.00%	55.00%	66.88%	\$0.00	9.11%	18.87	3.51
Portland General Electric Co.	POR	\$42.39	6.20%	6.67%	5.50%	5.50%	5.38%	58.00%	59.00%	66.88%	(\$0.00)	9.05%	19.22	3.57
SCANA Corp.	SCG	\$71.58	5.70%	6.03%	4.50%	4.50%	5.38%	57.00%	57.00%	66.88%	(\$0.00)	9.16%	18.66	3.47
WEC Energy Group Inc.	WEC	\$58.41	6.00%	6.92%	6.00%	6.00%	5.38%	67.00%	67.00%	66.88%	(\$0.00)	8.61%	21.84	4.06
Xcel Energy, Inc.	XEL	\$40.53	5.40%	5.65%	5.50%	5.40%	5.38%	62.00%	62.00%	66.88%	(\$0.00)	9.34%	17.79	3.31

		DCF Result		
		Mean	Max	Min
		8.99%	9.34%	8.60%
		19.59	21.86	17.79
		3.64	4.07	3.31

Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]
Company	Ticker	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
ALLETE, Inc.	ALE	\$3.38	\$3.52	\$3.66	\$3.80	\$3.95	\$4.11	\$4.29	\$4.48	\$4.69	\$4.92	\$5.17	\$5.45	\$5.74	\$6.05	\$6.38	\$6.72	\$7.08
Alliant Energy Corp.	LNT	\$1.69	\$1.78	\$1.88	\$1.98	\$2.09	\$2.21	\$2.33	\$2.46	\$2.59	\$2.73	\$2.88	\$3.03	\$3.20	\$3.37	\$3.55	\$3.74	\$3.94
American Electric Power	AEP	\$3.59	\$3.66	\$3.73	\$3.80	\$3.87	\$3.94	\$4.04	\$4.17	\$4.32	\$4.50	\$4.72	\$4.97	\$5.24	\$5.52	\$5.81	\$6.13	\$6.46
Avista Corp.	AVA	\$1.89	\$1.98	\$2.08	\$2.19	\$2.30	\$2.41	\$2.53	\$2.66	\$2.80	\$2.95	\$3.11	\$3.27	\$3.45	\$3.64	\$3.83	\$4.04	\$4.25
Black Hills Corp.	BKH	\$2.83	\$3.01	\$3.19	\$3.39	\$3.60	\$3.82	\$4.05	\$4.30	\$4.54	\$4.80	\$5.07	\$5.34	\$5.62	\$5.93	\$6.25	\$6.58	\$6.94
CMS Energy Corp.	CMS	\$1.89	\$2.00	\$2.12	\$2.25	\$2.39	\$2.53	\$2.68	\$2.83	\$2.99	\$3.16	\$3.34	\$3.51	\$3.70	\$3.90	\$4.11	\$4.33	\$4.57
DTE Energy Co.	DTE	\$4.45	\$4.70	\$4.97	\$5.24	\$5.54	\$5.85	\$6.18	\$6.52	\$6.88	\$7.26	\$7.65	\$8.06	\$8.49	\$8.95	\$9.43	\$9.94	\$10.48
IDACORP, Inc.	IDA	\$3.87	\$3.99	\$4.11	\$4.23	\$4.36	\$4.49	\$4.64	\$4.81	\$5.02	\$5.25	\$5.51	\$5.80	\$6.12	\$6.45	\$6.79	\$7.16	\$7.54
NorthWestern Corporation	NWE	\$2.90	\$3.03	\$3.17	\$3.31	\$3.46	\$3.61	\$3.78	\$3.96	\$4.16	\$4.37	\$4.60	\$4.85	\$5.11	\$5.38	\$5.67	\$5.98	\$6.30
OGE Energy Corp.	OGE	\$1.69	\$1.74	\$1.79	\$1.85	\$1.90	\$1.96	\$2.03	\$2.10	\$2.19	\$2.29	\$2.41	\$2.53	\$2.67	\$2.81	\$2.97	\$3.13	\$3.29
Otter Tail Corporation	OTTR	\$1.56	\$1.65	\$1.75	\$1.86	\$1.97	\$2.09	\$2.21	\$2.34	\$2.47	\$2.61	\$2.75	\$2.90	\$3.06	\$3.22	\$3.39	\$3.58	\$3.77
Pinnacle West Capital	PNW	\$3.92	\$4.08	\$4.24	\$4.41	\$4.59	\$4.77	\$4.97	\$5.19	\$5.44	\$5.70	\$6.00	\$6.32	\$6.66	\$7.02	\$7.40	\$7.79	\$8.21
PNM Resources, Inc.	PNM	\$1.64	\$1.73	\$1.82	\$1.91	\$2.02	\$2.12	\$2.24	\$2.36	\$2.48	\$2.61	\$2.75	\$2.90	\$3.06	\$3.22	\$3.40	\$3.58	\$3.77
Portland General Electric Co.	POR	\$2.04	\$2.15	\$2.27	\$2.40	\$2.53	\$2.67	\$2.81	\$2.97	\$3.13	\$3.30	\$3.47	\$3.66	\$3.86	\$4.07	\$4.28	\$4.52	\$4.76
SCANA Corp.	SCG	\$3.81	\$3.98	\$4.16	\$4.35	\$4.54	\$4.75	\$4.97	\$5.21	\$5.46	\$5.74	\$6.04	\$6.37	\$6.71	\$7.07	\$7.45	\$7.85	\$8.27
WEC Energy Group Inc.	WEC	\$2.34	\$2.48	\$2.63	\$2.79	\$2.95	\$3.13	\$3.32	\$3.51	\$3.71	\$3.91	\$4.13	\$4.35	\$4.59	\$4.83	\$5.09	\$5.37	\$5.65
Xcel Energy, Inc.	XEL	\$2.10	\$2.21	\$2.33	\$2.46	\$2.59	\$2.73	\$2.88	\$3.03	\$3.20	\$3.37	\$3.55	\$3.74	\$3.94	\$4.16	\$4.38	\$4.61	\$4.86

Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]	[46]
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
ALLETE, Inc.	ALE	72.00%	69.50%	67.00%	64.50%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Alliant Energy Corp.	LNT	72.00%	69.25%	66.50%	63.75%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
American Electric Power	AEP	59.00%	60.25%	61.50%	62.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Avista Corp.	AVA	67.00%	66.25%	65.50%	64.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Black Hills Corp.	BKH	68.00%	64.25%	60.50%	56.75%	53.00%	55.31%	57.63%	59.94%	62.26%	64.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
CMS Energy Corp.	CMS	63.00%	62.50%	62.00%	61.50%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
DTE Energy Co.	DTE	63.00%	63.25%	63.50%	63.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
IDACORP, Inc.	IDA	53.00%	54.75%	56.50%	58.25%	60.00%	61.15%	62.29%	63.44%	64.59%	65.74%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
NorthWestern Corporation	NWE	59.00%	58.25%	58.50%	58.25%	58.00%	59.48%	60.96%	62.44%	63.92%	65.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
OGE Energy Corp.	OGE	66.00%	68.00%	70.00%	72.00%	74.00%	72.81%	71.63%	70.44%	69.26%	68.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Otter Tail Corporation	OTTR	82.00%	77.50%	73.00%	68.50%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Pinnacle West Capital	PNW	64.00%	64.00%	64.00%	64.00%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
PNM Resources, Inc.	PNM	51.00%	52.00%	53.00%	54.00%	55.00%	56.98%	58.96%	60.94%	62.92%	64.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Portland General Electric Co.	POR	58.00%	58.25%	58.50%	58.75%	59.00%	60.31%	61.63%	62.94%	64.26%	65.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
SCANA Corp.	SCG	57.00%	57.00%	57.00%	57.00%	57.00%	58.65%	60.29%	61.94%	63.59%	65.24%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
WEC Energy Group Inc.	WEC	67.00%	67.00%	67.00%	67.00%	67.00%	66.98%	66.96%	66.94%	66.92%	66.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Xcel Energy, Inc.	XEL	62.00%	62.00%	62.00%	62.00%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%

Projected Annual Cash Flows		[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]	[62]	[63]
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Terminal Value
ALLETE, Inc.	ALE	\$2.53	\$2.54	\$2.55	\$2.55	\$2.55	\$2.69	\$2.85	\$3.02	\$3.21	\$3.42	\$3.64	\$3.84	\$4.05	\$4.26	\$4.49	\$4.74	\$127.56
Alliant Energy Corp.	LNT	\$1.28	\$1.30	\$1.32	\$1.33	\$1.35	\$1.44	\$1.55	\$1.66	\$1.77	\$1.90	\$2.03	\$2.14	\$2.25	\$2.37	\$2.50	\$2.64	\$79.44
American Electric Power	AEP	\$2.16	\$2.25	\$2.34	\$2.43	\$2.52	\$2.61	\$2.71	\$2.83	\$2.97	\$3.13	\$3.32	\$3.50	\$3.69	\$3.89	\$4.10	\$4.32	\$131.11
Avista Corp.	AVA	\$1.33	\$1.38	\$1.43	\$1.49	\$1.54	\$1.63	\$1.73	\$1.83	\$1.94	\$2.06	\$2.19	\$2.31	\$2.43	\$2.56	\$2.70	\$2.85	\$86.29
Black Hills Corp.	BKH	\$2.04	\$2.05	\$2.05	\$2.04	\$2.03	\$2.24	\$2.48	\$2.72	\$2.99	\$3.27	\$3.57	\$3.76	\$3.96	\$4.18	\$4.40	\$4.64	\$130.13
CMS Energy Corp.	CMS	\$1.26	\$1.33	\$1.40	\$1.47	\$1.54	\$1.66	\$1.78	\$1.91	\$2.05	\$2.20	\$2.35	\$2.48	\$2.61	\$2.75	\$2.90	\$3.05	\$88.74
DTE Energy Co.	DTE	\$2.96	\$3.14	\$3.33	\$3.53	\$3.75	\$3.98	\$4.24	\$4.50	\$4.78	\$5.08	\$5.39	\$5.68	\$5.99	\$6.31	\$6.65	\$7.01	\$200.49
IDACORP, Inc.	IDA	\$2.11	\$2.25	\$2.39	\$2.54	\$2.69	\$2.84	\$3.00	\$3.18	\$3.39	\$3.62	\$3.88	\$4.09	\$4.31	\$4.54	\$4.79	\$5.04	\$164.91
NorthWestern Corporation	NWE	\$1.79	\$1.86	\$1.94	\$2.01	\$2.10	\$2.25	\$2.42	\$2.60	\$2.79	\$3.01	\$3.24	\$3.42	\$3.60	\$3.79	\$4.00	\$4.21	\$122.19
OGE Energy Corp.	OGE	\$1.15	\$1.22	\$1.29	\$1.37	\$1.45	\$1.48	\$1.51	\$1.54	\$1.59	\$1.64	\$1.70	\$1.79	\$1.88	\$1.98	\$2.09	\$2.20	\$64.62
Otter Tail Corporation	OTTR	\$1.36	\$1.36	\$1.36	\$1.35	\$1.34	\$1.43	\$1.52	\$1.62	\$1.72	\$1.83	\$1.94	\$2.04	\$2.15	\$2.27	\$2.39	\$2.52	\$76.68
Pinnacle West Capital	PNW	\$2.61	\$2.71	\$2.82	\$2.93	\$3.05	\$3.21	\$3.37	\$3.56	\$3.76	\$3.98	\$4.23	\$4.45	\$4.69	\$4.95	\$5.21	\$5.49	\$158.75
PNM Resources, Inc.	PNM	\$0.88	\$0.95	\$1.01	\$1.09	\$1.17	\$1.27	\$1.39	\$1.51	\$1.64	\$1.79							

Multi-Stage Growth Discounted Cash Flow Model  
 180 Day Average Stock Price  
 Average EPS Growth Rate Estimate in First Stage

Inputs	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	
	Stock	EPS Growth Rate Estimates			Long-Term		Payout Ratio			Iterative Solution		Terminal	Terminal	
Company	Ticker	Price	Zacks	First Call	Line	Average	Growth	2016	2020	2026	Proof	IRR	P/E Ratio	PEG Ratio
ALLETE, Inc.	ALE	\$60.48	5.50%	5.00%	4.00%	4.83%	5.38%	72.00%	62.00%	66.88%	\$0.00	9.54%	16.94	3.15
Alliant Energy Corp.	LNT	\$37.81	5.50%	6.00%	6.00%	5.83%	5.38%	72.00%	61.00%	66.88%	\$0.00	8.92%	19.93	3.70
American Electric Power	AEP	\$64.74	5.40%	1.90%	5.00%	4.10%	5.38%	59.00%	64.00%	66.88%	(\$0.00)	9.28%	18.07	3.36
Avista Corp.	AVA	\$41.38	NA	5.65%	5.00%	5.33%	5.38%	67.00%	64.00%	66.88%	(\$0.00)	8.88%	20.12	3.74
Black Hills Corp.	BKH	\$60.39	6.20%	7.40%	7.50%	7.03%	5.38%	68.00%	53.00%	66.88%	(\$0.00)	9.30%	17.95	3.34
CMS Energy Corp.	CMS	\$42.22	6.00%	7.27%	6.00%	6.42%	5.38%	63.00%	61.00%	66.88%	\$0.00	9.03%	19.28	3.59
DTE Energy Co.	DTE	\$93.96	5.80%	5.63%	6.00%	5.81%	5.38%	63.00%	64.00%	66.88%	(\$0.00)	9.12%	18.85	3.50
IDACORP, Inc.	IDA	\$76.76	4.30%	4.10%	3.00%	3.80%	5.38%	53.00%	60.00%	66.88%	(\$0.00)	8.80%	20.58	3.83
NorthWestern Corporation	NWE	\$58.22	5.00%	4.50%	6.50%	5.33%	5.38%	59.00%	58.00%	66.88%	(\$0.00)	9.13%	18.80	3.50
OGE Energy Corp.	OGE	\$31.23	5.30%	4.00%	3.00%	4.10%	5.38%	66.00%	74.00%	66.88%	\$0.00	9.30%	17.98	3.34
Otter Tail Corporation	OTTR	\$34.23	NA	6.00%	6.00%	6.00%	5.38%	82.00%	64.00%	66.88%	\$0.00	9.08%	19.04	3.54
Pinnacle West Capital	PNW	\$75.89	4.90%	4.73%	4.00%	4.54%	5.38%	64.00%	64.00%	66.88%	(\$0.00)	9.14%	18.76	3.49
PNM Resources, Inc.	PNM	\$32.93	5.30%	6.85%	9.00%	7.05%	5.38%	51.00%	55.00%	66.88%	\$0.00	9.51%	17.08	3.17
Portland General Electric Co.	POR	\$42.27	6.20%	6.67%	5.50%	6.12%	5.38%	58.00%	59.00%	66.88%	(\$0.00)	9.21%	18.40	3.42
SCANA Corp.	SCG	\$71.60	5.70%	6.03%	4.50%	5.41%	5.38%	57.00%	57.00%	66.88%	(\$0.00)	9.38%	17.59	3.27
WEC Energy Group Inc.	WEC	\$60.05	6.00%	6.92%	6.00%	6.31%	5.38%	67.00%	67.00%	66.88%	(\$0.00)	8.58%	22.01	4.09
Xcel Energy, Inc.	XEL	\$41.41	5.40%	5.65%	5.50%	5.52%	5.38%	62.00%	62.00%	66.88%	(\$0.00)	9.29%	18.04	3.35

DCF Result			
Mean	9.15%	18.79	3.49
Max	9.54%	22.01	4.09
Min	8.58%	16.94	3.15

Projected Annual Earnings per Share	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	
Company	Ticker	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
ALLETE, Inc.	ALE	\$3.38	\$3.54	\$3.71	\$3.89	\$4.08	\$4.28	\$4.49	\$4.72	\$4.96	\$5.21	\$5.49	\$5.78	\$6.10	\$6.42	\$6.77	\$7.13	\$7.52
Alliant Energy Corp.	LNT	\$1.69	\$1.79	\$1.89	\$2.00	\$2.12	\$2.24	\$2.37	\$2.51	\$2.65	\$2.79	\$2.95	\$3.11	\$3.27	\$3.45	\$3.63	\$3.83	\$4.04
American Electric Power	AEP	\$3.59	\$3.74	\$3.89	\$4.05	\$4.22	\$4.39	\$4.58	\$4.79	\$5.01	\$5.26	\$5.53	\$5.83	\$6.14	\$6.47	\$6.82	\$7.19	\$7.58
Avista Corp.	AVA	\$1.89	\$1.99	\$2.10	\$2.21	\$2.33	\$2.45	\$2.58	\$2.72	\$2.86	\$3.02	\$3.18	\$3.35	\$3.53	\$3.72	\$3.92	\$4.13	\$4.35
Black Hills Corp.	BKH	\$2.83	\$3.03	\$3.24	\$3.47	\$3.71	\$3.98	\$4.24	\$4.52	\$4.80	\$5.08	\$5.37	\$5.66	\$5.97	\$6.29	\$6.62	\$6.98	\$7.36
CMS Energy Corp.	CMS	\$1.89	\$2.01	\$2.14	\$2.28	\$2.42	\$2.58	\$2.74	\$2.91	\$3.08	\$3.26	\$3.44	\$3.62	\$3.82	\$4.02	\$4.24	\$4.47	\$4.71
DTE Energy Co.	DTE	\$4.45	\$4.71	\$4.98	\$5.27	\$5.58	\$5.90	\$6.24	\$6.59	\$6.96	\$7.35	\$7.75	\$8.16	\$8.60	\$9.07	\$9.55	\$10.07	\$10.61
IDACORP, Inc.	IDA	\$3.87	\$4.02	\$4.17	\$4.33	\$4.49	\$4.66	\$4.85	\$5.06	\$5.30	\$5.55	\$5.84	\$6.15	\$6.48	\$6.83	\$7.20	\$7.58	\$7.99
NorthWestern Corporation	NWE	\$2.90	\$3.05	\$3.22	\$3.39	\$3.57	\$3.76	\$3.96	\$4.17	\$4.40	\$4.63	\$4.88	\$5.14	\$5.42	\$5.71	\$6.02	\$6.34	\$6.68
OGE Energy Corp.	OGE	\$1.69	\$1.76	\$1.83	\$1.91	\$1.98	\$2.07	\$2.16	\$2.25	\$2.36	\$2.48	\$2.60	\$2.74	\$2.89	\$3.05	\$3.21	\$3.38	\$3.57
Otter Tail Corporation	OTTR	\$1.56	\$1.65	\$1.75	\$1.86	\$1.97	\$2.09	\$2.21	\$2.34	\$2.47	\$2.61	\$2.75	\$2.90	\$3.06	\$3.22	\$3.39	\$3.58	\$3.77
Pinnacle West Capital	PNW	\$3.92	\$4.10	\$4.28	\$4.48	\$4.68	\$4.90	\$5.12	\$5.37	\$5.64	\$5.93	\$6.24	\$6.57	\$6.92	\$7.30	\$7.69	\$8.10	\$8.54
PNM Resources, Inc.	PNM	\$1.64	\$1.76	\$1.88	\$2.01	\$2.15	\$2.31	\$2.46	\$2.62	\$2.78	\$2.95	\$3.12	\$3.28	\$3.46	\$3.65	\$3.84	\$4.05	\$4.27
Portland General Electric Co.	POR	\$2.04	\$2.16	\$2.30	\$2.44	\$2.59	\$2.75	\$2.91	\$3.08	\$3.26	\$3.44	\$3.63	\$3.83	\$4.03	\$4.25	\$4.48	\$4.72	\$4.97
SCANA Corp.	SCG	\$3.81	\$4.02	\$4.23	\$4.46	\$4.70	\$4.96	\$5.23	\$5.51	\$5.81	\$6.12	\$6.45	\$6.79	\$7.16	\$7.55	\$7.95	\$8.38	\$8.83
WEC Energy Group Inc.	WEC	\$2.34	\$2.49	\$2.64	\$2.81	\$2.99	\$3.18	\$3.37	\$3.57	\$3.78	\$4.00	\$4.22	\$4.45	\$4.69	\$4.94	\$5.20	\$5.48	\$5.78
Xcel Energy, Inc.	XEL	\$2.10	\$2.22	\$2.34	\$2.47	\$2.60	\$2.75	\$2.90	\$3.06	\$3.22	\$3.40	\$3.58	\$3.77	\$3.98	\$4.19	\$4.42	\$4.65	\$4.90

Projected Annual Dividend Payout Ratio	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]	[46]	
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
ALLETE, Inc.	ALE	72.00%	69.50%	67.00%	64.50%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Alliant Energy Corp.	LNT	72.00%	69.25%	66.50%	63.75%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
American Electric Power	AEP	59.00%	60.25%	61.50%	62.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Avista Corp.	AVA	67.00%	66.25%	65.50%	64.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Black Hills Corp.	BKH	68.00%	64.25%	60.50%	56.75%	53.00%	55.31%	57.63%	59.94%	62.26%	64.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
CMS Energy Corp.	CMS	63.00%	62.50%	62.00%	61.50%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
DTE Energy Co.	DTE	63.00%	63.25%	63.50%	63.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
IDACORP, Inc.	IDA	53.00%	54.75%	56.50%	58.25%	60.00%	61.15%	62.29%	63.44%	64.59%	65.74%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
NorthWestern Corporation	NWE	59.00%	58.25%	58.50%	58.25%	58.00%	59.48%	60.96%	62.44%	63.92%	65.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
OGE Energy Corp.	OGE	66.00%	68.00%	70.00%	72.00%	74.00%	72.81%	71.63%	70.44%	69.26%	68.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Otter Tail Corporation	OTTR	82.00%	77.50%	73.00%	68.50%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Pinnacle West Capital	PNW	64.00%	64.00%	64.00%	64.00%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
PNM Resources, Inc.	PNM	51.00%	52.00%	53.00%	54.00%	55.00%	56.98%	58.96%	60.94%	62.92%	64.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Portland General Electric Co.	POR	58.00%	58.25%	58.50%	58.75%	59.00%	60.31%	61.63%	62.94%	64.26%	65.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
SCANA Corp.	SCG	57.00%	57.00%	57.00%	57.00%	57.00%	58.65%	60.29%	61.94%	63.59%	65.24%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
WEC Energy Group Inc.	WEC	67.00%	67.00%	67.00%	67.00%	67.00%	66.98%	66.96%	66.94%	66.92%	66.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Xcel Energy, Inc.	XEL	62.00%	62.00%	62.00%	62.00%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%

Projected Annual Cash Flows	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]	[62]	[63]	Terminal Value
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Value
ALLETE, Inc.	ALE	\$2.55	\$2.58	\$2.61	\$2.63	\$2.65	\$2.82	\$3.00	\$3.19	\$3.40	\$3.63	\$3.87	\$4.08	\$4.30	\$4.53	\$4.77	\$5.03	\$127.33
Alliant Energy Corp.	LNT	\$1.29	\$1.31	\$1.33	\$1.35	\$1.37	\$1.47	\$1.58	\$1.69	\$1.81	\$1.94	\$2.08	\$2.19	\$2.31	\$2.43	\$2.56	\$2.70	\$80.42
American Electric Power	AEP	\$2.20	\$2.34	\$2.49	\$2.65	\$2.81	\$2.95	\$3.11	\$3.28	\$3.47	\$3.67	\$3.90	\$4.11	\$4.33	\$4.56	\$4.81	\$5.07	\$136.86
Avista Corp.	AVA	\$1.33	\$1.39	\$1.45	\$1.51	\$1.57	\$1.66	\$1.77	\$1.87	\$1.99	\$2.11	\$2.24	\$2.36	\$2.49	\$2.62	\$2.76	\$2.91	\$87.59
Black Hills Corp.	BKH	\$2.06	\$2.08	\$2.10	\$2.11	\$2.11	\$2.35	\$2.60	\$2.88	\$3.17	\$3.47	\$3.79	\$3.99	\$4.20	\$4.43	\$4.67	\$4.92	\$132.06
CMS Energy Corp.	CMS	\$1.27	\$1.34	\$1.41	\$1.49	\$1.57	\$1.70	\$1.83	\$1.97	\$2.11	\$2.26	\$2.42	\$2.55	\$2.69	\$2.83	\$2.99	\$3.15	\$90.75
DTE Energy Co.	DTE	\$2.97	\$3.15	\$3.35	\$3.56	\$3.78	\$4.02	\$4.28	\$4.56	\$4.84	\$5.14	\$5.46	\$5.75	\$6.06	\$6.39	\$6.73	\$7.10	\$200.01
IDACORP, Inc.	IDA	\$2.13	\$2.28	\$2.45	\$2.62	\$2.80	\$2.97	\$3.15	\$3.36	\$3.59	\$3.84	\$4.11	\$4.33	\$4.57	\$4.81	\$5.07	\$5.35	\$164.46
NorthWestern Corporation	NWE	\$1.80	\$1.89	\$1.98	\$2.08	\$2.18	\$2.36	\$2.54	\$2.75	\$2.96	\$3.19	\$3.44	\$3.63	\$3.82	\$4.03	\$4.24	\$4.47	\$125.65
OGE Energy Corp.	OGE	\$1.16	\$1.25	\$1.33	\$1.43	\$1.53	\$1.57	\$1.61	\$1.66	\$1.71	\$1.77	\$1.84	\$1.93	\$2.04	\$2.15	\$2.26	\$2.39	\$64.11
Otter Tail Corporation	OTTR	\$1.36	\$1.36	\$1.36	\$1.35	\$1.34	\$1.43	\$1.52	\$1.62	\$1.72	\$1.83	\$1.94	\$2.04	\$2.15	\$2.27	\$2.39	\$2.52	\$71.79
Pinnacle West Capital	PNW	\$2.62	\$2.74	\$2.87	\$3.00	\$3.13	\$3.30	\$3.49	\$3.69	\$3.91	\$4.14	\$4.40	\$4.63	\$4.88	\$5.14	\$5.42	\$5.71	\$160.19
PNM Resources, Inc.	PNM	\$0.90	\$0.98	\$1.07	\$1.16</													

Multi-Stage Growth Discounted Cash Flow Model  
180 Day Average Stock Price  
High EPS Growth Rate Estimate in First Stage

Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]						
		Stock	EPS Growth Rate Estimates			Long-Term		Payout Ratio			Iterative Solution		Terminal	Terminal						
				Value	High															
Company	Ticker	Price	Zacks	First Call	Line	Growth	Growth	2016	2020	2026	Proof	IRR	P/E Ratio	PEG Ratio						
ALLETE, Inc.	ALE	\$60.48	5.50%	5.00%	4.00%	5.50%	5.38%	72.00%	62.00%	66.88%	\$0.00	9.73%	16.22	3.01						
Alliant Energy Corp.	LNT	\$37.81	5.50%	6.00%	6.00%	6.00%	5.38%	72.00%	61.00%	66.88%	\$0.00	8.95%	19.71	3.66						
American Electric Power	AEP	\$64.74	5.40%	1.90%	5.00%	5.40%	5.38%	59.00%	64.00%	66.88%	(\$0.00)	9.63%	16.58	3.08						
Avista Corp.	AVA	\$41.38	NA	5.65%	5.00%	5.65%	5.38%	67.00%	64.00%	66.88%	(\$0.00)	8.96%	19.69	3.66						
Black Hills Corp.	BKH	\$60.39	6.20%	7.40%	7.50%	7.50%	5.38%	68.00%	53.00%	66.88%	(\$0.00)	9.42%	17.43	3.24						
CMS Energy Corp.	CMS	\$42.22	6.00%	7.27%	6.00%	7.27%	5.38%	63.00%	61.00%	66.88%	(\$0.00)	9.24%	18.26	3.39						
DTE Energy Co.	DTE	\$93.96	5.80%	5.63%	6.00%	6.00%	5.38%	63.00%	64.00%	66.88%	(\$0.00)	9.16%	18.62	3.46						
IDACORP, Inc.	IDA	\$76.76	4.30%	4.10%	3.00%	4.30%	5.38%	53.00%	60.00%	66.88%	(\$0.00)	8.92%	19.90	3.70						
NorthWestern Corporation	NWE	\$58.22	5.00%	4.50%	6.50%	6.50%	5.38%	59.00%	58.00%	66.88%	(\$0.00)	9.42%	17.43	3.24						
OGE Energy Corp.	OGE	\$31.23	5.30%	4.00%	3.00%	5.30%	5.38%	66.00%	74.00%	66.88%	\$0.00	9.63%	16.59	3.08						
Otter Tail Corporation	OTTR	\$34.23	NA	6.00%	6.00%	6.00%	5.38%	82.00%	64.00%	66.88%	\$0.00	9.08%	19.04	3.54						
Pinnacle West Capital	PNW	\$75.89	4.90%	4.73%	4.00%	4.90%	5.38%	64.00%	64.00%	66.88%	(\$0.00)	9.23%	18.32	3.41						
PNM Resources, Inc.	PNM	\$32.93	5.30%	6.85%	9.00%	9.00%	5.38%	51.00%	55.00%	66.88%	(\$0.00)	10.04%	15.13	2.81						
Portland General Electric Co.	POR	\$42.27	6.20%	6.67%	5.50%	6.67%	5.38%	58.00%	59.00%	66.88%	(\$0.00)	9.35%	17.77	3.30						
SCANA Corp.	SCG	\$71.60	5.70%	6.03%	4.50%	6.03%	5.38%	57.00%	57.00%	66.88%	\$0.00	9.55%	16.90	3.14						
WEC Energy Group Inc.	WEC	\$60.05	6.00%	6.92%	6.00%	6.92%	5.38%	67.00%	67.00%	66.88%	(\$0.00)	8.71%	21.13	3.93						
Xcel Energy, Inc.	XEL	\$41.41	5.40%	5.65%	5.50%	5.65%	5.38%	62.00%	62.00%	66.88%	(\$0.00)	9.32%	17.88	3.32						
DCF Result																				
Mean															9.31%	18.04	3.35			
Max															10.04%	21.13	3.93			
Min															8.71%	15.13	2.81			
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]		
Company	Ticker	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031		
ALLETE, Inc.	ALE	\$3.38	\$3.57	\$3.76	\$3.97	\$4.19	\$4.42	\$4.66	\$4.91	\$5.18	\$5.46	\$5.76	\$6.07	\$6.39	\$6.74	\$7.10	\$7.48	\$7.88		
Alliant Energy Corp.	LNT	\$1.69	\$1.79	\$1.90	\$2.01	\$2.13	\$2.26	\$2.39	\$2.53	\$2.68	\$2.83	\$2.98	\$3.14	\$3.31	\$3.49	\$3.68	\$3.88	\$4.08		
American Electric Power	AEP	\$3.59	\$3.78	\$3.99	\$4.20	\$4.43	\$4.67	\$4.92	\$5.19	\$5.47	\$5.76	\$6.07	\$6.40	\$6.74	\$7.10	\$7.49	\$7.89	\$8.31		
Avista Corp.	AVA	\$1.89	\$2.00	\$2.11	\$2.23	\$2.35	\$2.49	\$2.63	\$2.77	\$2.93	\$3.09	\$3.25	\$3.43	\$3.61	\$3.81	\$4.01	\$4.23	\$4.46		
Black Hills Corp.	BKH	\$2.83	\$3.04	\$3.27	\$3.52	\$3.78	\$4.06	\$4.35	\$4.65	\$4.95	\$5.25	\$5.55	\$5.85	\$6.16	\$6.49	\$6.84	\$7.21	\$7.60		
CMS Energy Corp.	CMS	\$1.89	\$2.03	\$2.17	\$2.33	\$2.50	\$2.68	\$2.87	\$3.06	\$3.26	\$3.45	\$3.65	\$3.84	\$4.05	\$4.27	\$4.50	\$4.74	\$4.99		
DTE Energy Co.	DTE	\$4.45	\$4.72	\$5.00	\$5.30	\$5.62	\$5.96	\$6.31	\$6.67	\$7.05	\$7.44	\$7.85	\$8.28	\$8.72	\$9.19	\$9.68	\$10.20	\$10.75		
IDACORP, Inc.	IDA	\$3.87	\$4.04	\$4.21	\$4.39	\$4.58	\$4.78	\$4.99	\$5.22	\$5.48	\$5.75	\$6.05	\$6.38	\$6.72	\$7.08	\$7.46	\$7.86	\$8.28		
NorthWestern Corporation	NWE	\$2.90	\$3.09	\$3.29	\$3.50	\$3.73	\$3.97	\$4.22	\$4.48	\$4.75	\$5.02	\$5.30	\$5.59	\$5.89	\$6.20	\$6.54	\$6.89	\$7.26		
OGE Energy Corp.	OGE	\$1.69	\$1.78	\$1.87	\$1.97	\$2.08	\$2.19	\$2.30	\$2.43	\$2.56	\$2.69	\$2.84	\$2.99	\$3.15	\$3.32	\$3.50	\$3.69	\$3.89		
Otter Tail Corporation	OTTR	\$1.56	\$1.65	\$1.75	\$1.86	\$1.97	\$2.09	\$2.21	\$2.34	\$2.47	\$2.61	\$2.75	\$2.90	\$3.06	\$3.22	\$3.39	\$3.58	\$3.77		
Pinnacle West Capital	PNW	\$3.92	\$4.11	\$4.31	\$4.52	\$4.75	\$4.98	\$5.23	\$5.49	\$5.77	\$6.08	\$6.40	\$6.74	\$7.10	\$7.49	\$7.89	\$8.31	\$8.76		
PNM Resources, Inc.	PNM	\$1.64	\$1.79	\$1.95	\$2.12	\$2.31	\$2.52	\$2.74	\$2.95	\$3.16	\$3.37	\$3.57	\$3.76	\$3.96	\$4.18	\$4.40	\$4.64	\$4.89		
Portland General Electric Co.	POR	\$2.04	\$2.18	\$2.32	\$2.48	\$2.64	\$2.82	\$3.00	\$3.19	\$3.38	\$3.57	\$3.77	\$3.98	\$4.19	\$4.42	\$4.65	\$4.90	\$5.17		
SCANA Corp.	SCG	\$3.81	\$4.04	\$4.28	\$4.54	\$4.82	\$5.11	\$5.41	\$5.72	\$6.05	\$6.39	\$6.74	\$7.10	\$7.48	\$7.88	\$8.31	\$8.76	\$9.23		
WEC Energy Group Inc.	WEC	\$2.34	\$2.50	\$2.68	\$2.86	\$3.06	\$3.27	\$3.49	\$3.71	\$3.94	\$4.17	\$4.41	\$4.64	\$4.89	\$5.16	\$5.43	\$5.73	\$6.03		
Xcel Energy, Inc.	XEL	\$2.10	\$2.22	\$2.34	\$2.48	\$2.62	\$2.76	\$2.92	\$3.08	\$3.25	\$3.43	\$3.62	\$3.81	\$4.01	\$4.23	\$4.46	\$4.70	\$4.95		
Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]	[46]			
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031			
ALLETE, Inc.	ALE	72.00%	69.50%	67.00%	64.50%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%		
Alliant Energy Corp.	LNT	72.00%	69.25%	66.50%	63.75%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%		
American Electric Power	AEP	59.00%	60.25%	61.50%	62.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%		
Avista Corp.	AVA	67.00%	66.25%	65.50%	64.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%		
Black Hills Corp.	BKH	68.00%	64.25%	60.50%	56.75%	53.00%	55.31%	57.63%	59.94%	62.26%	64.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%		
CMS Energy Corp.	CMS	63.00%	62.50%	62.00%	61.50%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%		
DTE Energy Co.	DTE	63.00%	63.25%	63.50%	63.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%		
IDACORP, Inc.	IDA	53.00%	54.75%	56.50%	58.25%	60.00%	61.15%	62.29%	63.44%	64.59%	65.74%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%		
NorthWestern Corporation	NWE	59.00%	58.25%	58.50%	58.25%	58.00%	59.48%	60.96%	62.44%	63.92%	65.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%		
OGE Energy Corp.	OGE	66.00%	68.00%	70.00%	72.00%	74.00%	72.81%	71.63%	70.44%	69.26%	68.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%		
Otter Tail Corporation	OTTR	82.00%	77.50%	73.00%	68.50%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%		
Pinnacle West Capital	PNW	64.00%	64.00%	64.00%	64.00%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%		
PNM Resources, Inc.	PNM	51.00%	52.00%	53.00%	54.00%	55.00%	56.98%	58.96%	60.94%	62.92%	64.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%		
Portland General Electric Co.	POR	58.00%	58.25%	58.50%	58.75%	59.00%	60.31%	61.63%	62.94%	64.26%	65.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%		
SCANA Corp.	SCG	57.00%	57.00%	57.00%	57.00%	57.00%	58.65%	60.29%	61.94%	63.59%	65.24%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%		
WEC Energy Group Inc.	WEC	67.00%	67.00%	67.00%	67.00%	67.00%	66.98%	66.96%	66.94%	66.92%	66.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%		
Xcel Energy, Inc.	XEL	62.00%	62.00%	62.00%	62.00%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%		
Projected Annual Cash Flows		[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]	[62]	[63]	Terminal	
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Value		
ALLETE, Inc.	ALE	\$2.57	\$2.61	\$2.66	\$2.70	\$2.74	\$2.93	\$3.13	\$3.34	\$3.56	\$3.80	\$4.06	\$4.28	\$4.51	\$4.75	\$5.00	\$5.27	\$127.83		
Alliant Energy Corp.	LNT	\$1.29	\$1.31	\$1.34	\$1.36	\$1.38	\$1.48	\$1.60	\$1.71	\$1.84	\$1.97	\$2.10	\$2.22	\$2.33	\$2.46	\$2.59	\$2.73	\$80.49		
American Electric Power	AEP	\$2.23	\$2.40	\$2.59	\$2.78	\$2.99	\$3.17	\$3.37	\$3.58	\$3.80	\$4.03	\$4.28	\$4.51	\$4.75	\$5.01	\$5.28	\$5.56	\$137.87		
Avista Corp.	AVA	\$1.34	\$1.40	\$1.46	\$1.52	\$1.59	\$1.69	\$1.80	\$1.91	\$2.03	\$2.16	\$2.29	\$2.42	\$2.55	\$2.68	\$2.83	\$2.98	\$87.73		
Black Hills Corp.	BKH	\$2.07	\$2.10	\$2.13	\$2.14	\$2.15	\$2.41	\$2.68	\$2.97	\$3.27	\$3.58	\$3.91	\$4.12	\$4.34	\$4.58	\$4.82	\$5.08	\$132.48		
CMS Energy Corp.	CMS	\$1.28	\$1.36	\$1.45	\$1.54	\$1.64	\$1.78	\$1.93	\$2.08	\$2.24	\$2.40	\$2.57	\$2.71	\$2.85	\$3.01	\$3.17	\$3.34	\$91.19		
DTE Energy Co.	DTE	\$2.97	\$3.16	\$3.37	\$3.58	\$3.81	\$4.07	\$4.33	\$4.61	\$4.91	\$5.21	\$5.53	\$5.83	\$6.15	\$6.48	\$6.83	\$7.19	\$200.22		
IDACORP, Inc.	IDA	\$2.14	\$2.30	\$2.48	\$2.67	\$2.87	\$3.05	\$3.25	\$3.47	\$3.71	\$3.98	\$4.26	\$4.49	\$4.74	\$4.99	\$5.26	\$5.54	\$164.89		
NorthWestern Corporation	NWE	\$1.82	\$1.93	\$2.05	\$2.17	\$2.30	\$2.51	\$2.73	\$2.97	\$3.21	\$3.47	\$3.74	\$3.94	\$4.15	\$4.37	\$4.61	\$4.86	\$126.56		
OGE Energy Corp.	OGE	\$1.17	\$1.27	\$1.38	\$1.50	\$1.62	\$1.68	\$1.74	\$1.80	\$1.87	\$1.93	\$2.00	\$2.11	\$2.22	\$2.34	\$2.47	\$2.60	\$64.47		

Multi-Stage Growth Discounted Cash Flow Model  
180 Day Average Stock Price  
Low EPS Growth Rate Estimate in First Stage

Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
		Stock	EPS Growth Rate Estimates			Long-Term		Payout Ratio			Iterative Solution		Terminal	Terminal
Company	Ticker	Price	Zacks	First Call	Value Line	Low Growth	Growth	2016	2020	2026	Proof	IRR	P/E Ratio	PEG Ratio
ALLETE, Inc.	ALE	\$60.48	5.50%	5.00%	4.00%	4.00%	5.38%	72.00%	62.00%	66.88%	\$0.00	9.32%	17.90	3.33
Alliant Energy Corp.	LNT	\$37.81	5.50%	6.00%	6.00%	5.50%	5.38%	72.00%	61.00%	66.88%	\$0.00	8.84%	20.37	3.79
American Electric Power	AEP	\$64.74	5.40%	1.90%	5.00%	1.90%	5.38%	59.00%	64.00%	66.88%	(\$0.00)	8.74%	20.97	3.90
Avista Corp.	AVA	\$41.38	NA	5.65%	5.00%	5.00%	5.38%	67.00%	64.00%	66.88%	(\$0.00)	8.81%	20.56	3.82
Black Hills Corp.	BKH	\$60.39	6.20%	7.40%	7.50%	6.20%	5.38%	68.00%	53.00%	66.88%	(\$0.00)	9.10%	18.94	3.52
CMS Energy Corp.	CMS	\$42.22	6.00%	7.27%	6.00%	6.00%	5.38%	63.00%	61.00%	66.88%	(\$0.00)	8.93%	19.82	3.69
DTE Energy Co.	DTE	\$93.96	5.80%	5.63%	6.00%	5.63%	5.38%	63.00%	64.00%	66.88%	(\$0.00)	9.07%	19.08	3.55
IDACORP, Inc.	IDA	\$76.76	4.30%	4.10%	3.00%	3.00%	5.38%	53.00%	60.00%	66.88%	(\$0.00)	8.62%	21.72	4.04
NorthWestern Corporation	NWE	\$58.22	5.00%	4.50%	6.50%	4.50%	5.38%	59.00%	58.00%	66.88%	(\$0.00)	8.93%	19.86	3.69
OGE Energy Corp.	OGE	\$31.23	5.30%	4.00%	3.00%	3.00%	5.38%	66.00%	74.00%	66.88%	\$0.00	9.02%	19.38	3.60
Otter Tail Corporation	OTTR	\$34.23	NA	6.00%	6.00%	6.00%	5.38%	82.00%	64.00%	66.88%	\$0.00	9.08%	19.04	3.54
Pinnacle West Capital	PNW	\$75.89	4.90%	4.73%	4.00%	4.00%	5.38%	64.00%	64.00%	66.88%	(\$0.00)	9.00%	19.45	3.62
PNM Resources, Inc.	PNM	\$32.93	5.30%	6.85%	9.00%	5.30%	5.38%	51.00%	55.00%	66.88%	\$0.00	9.07%	19.10	3.55
Portland General Electric Co.	POR	\$42.27	6.20%	6.67%	5.50%	5.50%	5.38%	58.00%	59.00%	66.88%	\$0.00	9.06%	19.16	3.56
SCANA Corp.	SCG	\$71.60	5.70%	6.03%	4.50%	4.50%	5.38%	57.00%	57.00%	66.88%	(\$0.00)	9.15%	18.67	3.47
WEC Energy Group Inc.	WEC	\$60.05	6.00%	6.92%	6.00%	6.00%	5.38%	67.00%	67.00%	66.88%	(\$0.00)	8.52%	22.46	4.18
Xcel Energy, Inc.	XEL	\$41.41	5.40%	5.65%	5.50%	5.40%	5.38%	62.00%	62.00%	66.88%	(\$0.00)	9.26%	18.17	3.38

DCF Result		
Mean	8.97%	19.68
Max	9.32%	22.46
Min	8.52%	17.90

Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]
Company	Ticker	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
ALLETE, Inc.	ALE	\$3.38	\$3.52	\$3.66	\$3.80	\$3.95	\$4.11	\$4.29	\$4.48	\$4.69	\$4.92	\$5.17	\$5.45	\$5.74	\$6.05	\$6.38	\$6.72	\$7.08
Alliant Energy Corp.	LNT	\$1.69	\$1.78	\$1.88	\$1.98	\$2.09	\$2.21	\$2.33	\$2.46	\$2.59	\$2.73	\$2.88	\$3.03	\$3.20	\$3.37	\$3.55	\$3.74	\$3.94
American Electric Power	AEP	\$3.59	\$3.66	\$3.73	\$3.80	\$3.87	\$3.94	\$4.04	\$4.17	\$4.32	\$4.50	\$4.72	\$4.97	\$5.24	\$5.52	\$5.81	\$6.13	\$6.46
Avista Corp.	AVA	\$1.89	\$1.98	\$2.08	\$2.19	\$2.30	\$2.41	\$2.53	\$2.66	\$2.80	\$2.95	\$3.11	\$3.27	\$3.45	\$3.64	\$3.83	\$4.04	\$4.25
Black Hills Corp.	BKH	\$2.83	\$3.01	\$3.19	\$3.39	\$3.60	\$3.82	\$4.05	\$4.30	\$4.54	\$4.80	\$5.07	\$5.34	\$5.62	\$5.93	\$6.25	\$6.58	\$6.94
CMS Energy Corp.	CMS	\$1.89	\$2.00	\$2.12	\$2.25	\$2.39	\$2.53	\$2.68	\$2.83	\$2.99	\$3.16	\$3.34	\$3.51	\$3.70	\$3.90	\$4.11	\$4.33	\$4.57
DTE Energy Co.	DTE	\$4.45	\$4.70	\$4.97	\$5.24	\$5.54	\$5.85	\$6.18	\$6.52	\$6.88	\$7.26	\$7.65	\$8.06	\$8.49	\$8.95	\$9.43	\$9.94	\$10.48
IDACORP, Inc.	IDA	\$3.87	\$3.99	\$4.11	\$4.23	\$4.36	\$4.49	\$4.64	\$4.81	\$5.02	\$5.25	\$5.51	\$5.80	\$6.12	\$6.45	\$6.79	\$7.16	\$7.54
NorthWestern Corporation	NWE	\$2.90	\$3.03	\$3.17	\$3.31	\$3.46	\$3.61	\$3.78	\$3.96	\$4.16	\$4.37	\$4.60	\$4.85	\$5.11	\$5.38	\$5.67	\$5.98	\$6.30
OGE Energy Corp.	OGE	\$1.69	\$1.74	\$1.79	\$1.85	\$1.90	\$1.96	\$2.03	\$2.10	\$2.19	\$2.29	\$2.41	\$2.53	\$2.67	\$2.81	\$2.97	\$3.13	\$3.29
Otter Tail Corporation	OTTR	\$1.56	\$1.65	\$1.75	\$1.86	\$1.97	\$2.09	\$2.21	\$2.34	\$2.47	\$2.61	\$2.75	\$2.90	\$3.06	\$3.22	\$3.39	\$3.58	\$3.77
Pinnacle West Capital	PNW	\$3.92	\$4.08	\$4.24	\$4.41	\$4.59	\$4.77	\$4.97	\$5.19	\$5.44	\$5.70	\$6.00	\$6.32	\$6.66	\$7.02	\$7.40	\$7.79	\$8.21
PNM Resources, Inc.	PNM	\$1.64	\$1.73	\$1.82	\$1.91	\$2.02	\$2.12	\$2.24	\$2.36	\$2.48	\$2.61	\$2.75	\$2.90	\$3.06	\$3.22	\$3.40	\$3.58	\$3.77
Portland General Electric Co.	POR	\$2.04	\$2.15	\$2.27	\$2.40	\$2.53	\$2.67	\$2.81	\$2.97	\$3.13	\$3.30	\$3.47	\$3.66	\$3.86	\$4.07	\$4.28	\$4.52	\$4.76
SCANA Corp.	SCG	\$3.81	\$3.98	\$4.16	\$4.35	\$4.54	\$4.75	\$4.97	\$5.21	\$5.46	\$5.74	\$6.04	\$6.37	\$6.71	\$7.07	\$7.45	\$7.85	\$8.27
WEC Energy Group Inc.	WEC	\$2.34	\$2.48	\$2.63	\$2.79	\$2.95	\$3.13	\$3.32	\$3.51	\$3.71	\$3.91	\$4.13	\$4.35	\$4.59	\$4.83	\$5.09	\$5.37	\$5.65
Xcel Energy, Inc.	XEL	\$2.10	\$2.21	\$2.33	\$2.46	\$2.59	\$2.73	\$2.88	\$3.03	\$3.20	\$3.37	\$3.55	\$3.74	\$3.94	\$4.16	\$4.38	\$4.61	\$4.86

Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]	[46]
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
ALLETE, Inc.	ALE	72.00%	69.50%	67.00%	64.50%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Alliant Energy Corp.	LNT	72.00%	69.25%	66.50%	63.75%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
American Electric Power	AEP	59.00%	60.25%	61.50%	62.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Avista Corp.	AVA	67.00%	66.25%	65.50%	64.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Black Hills Corp.	BKH	68.00%	64.25%	60.50%	56.75%	53.00%	55.31%	57.63%	59.94%	62.26%	64.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
CMS Energy Corp.	CMS	63.00%	62.50%	62.00%	61.50%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
DTE Energy Co.	DTE	63.00%	63.25%	63.50%	63.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
IDACORP, Inc.	IDA	53.00%	54.75%	56.50%	58.25%	60.00%	61.15%	62.29%	63.44%	64.59%	65.74%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
NorthWestern Corporation	NWE	59.00%	58.25%	58.50%	58.25%	58.00%	59.48%	60.96%	62.44%	63.92%	65.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
OGE Energy Corp.	OGE	66.00%	68.00%	70.00%	72.00%	74.00%	72.81%	71.63%	70.44%	69.26%	68.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Otter Tail Corporation	OTTR	82.00%	77.50%	73.00%	68.50%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Pinnacle West Capital	PNW	64.00%	64.00%	64.00%	64.00%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
PNM Resources, Inc.	PNM	51.00%	52.00%	53.00%	54.00%	55.00%	56.98%	58.96%	60.94%	62.92%	64.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Portland General Electric Co.	POR	58.00%	58.25%	58.50%	58.75%	59.00%	60.31%	61.63%	62.94%	64.26%	65.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
SCANA Corp.	SCG	57.00%	57.00%	57.00%	57.00%	57.00%	58.65%	60.29%	61.94%	63.59%	65.24%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
WEC Energy Group Inc.	WEC	67.00%	67.00%	67.00%	67.00%	67.00%	66.98%	66.96%	66.94%	66.92%	66.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Xcel Energy, Inc.	XEL	62.00%	62.00%	62.00%	62.00%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%

Projected Annual Cash Flows		[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]	[62]	[63]
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Terminal Value
ALLETE, Inc.	ALE	\$2.53	\$2.54	\$2.55	\$2.55	\$2.55	\$2.69	\$2.85	\$3.02	\$3.21	\$3.42	\$3.64	\$3.84	\$4.05	\$4.26	\$4.49	\$4.74	\$126.74
Alliant Energy Corp.	LNT	\$1.28	\$1.30	\$1.32	\$1.33	\$1.35	\$1.44	\$1.55	\$1.66	\$1.77	\$1.90	\$2.03	\$2.14	\$2.25	\$2.37	\$2.50	\$2.64	\$80.28
American Electric Power	AEP	\$2.16	\$2.25	\$2.34	\$2.43	\$2.52	\$2.61	\$2.71	\$2.83	\$2.97	\$3.13	\$3.32	\$3.50	\$3.69	\$3.89	\$4.10	\$4.32	\$135.39
Avista Corp.	AVA	\$1.33	\$1.38	\$1.43	\$1.49	\$1.54	\$1.63	\$1.73	\$1.83	\$1.94	\$2.06	\$2.19	\$2.31	\$2.43	\$2.56	\$2.70	\$2.85	\$87.45
Black Hills Corp.	BKH	\$2.04	\$2.05	\$2.05	\$2.04	\$2.03	\$2.24	\$2.48	\$2.72	\$2.99	\$3.27	\$3.57	\$3.76	\$3.96	\$4.18	\$4.40	\$4.64	\$131.35
CMS Energy Corp.	CMS	\$1.26	\$1.33	\$1.40	\$1.47	\$1.54	\$1.66	\$1.78	\$1.91	\$2.05	\$2.20	\$2.35	\$2.48	\$2.61	\$2.75	\$2.90	\$3.05	\$90.54
DTE Energy Co.	DTE	\$2.96	\$3.14	\$3.33	\$3.53	\$3.75	\$3.98	\$4.24	\$4.50	\$4.78	\$5.08	\$5.39	\$5.68	\$5.99	\$6.31	\$6.65	\$7.01	\$199.82
IDACORP, Inc.	IDA	\$2.11	\$2.25	\$2.39	\$2.54	\$2.69	\$2.84	\$3.00	\$3.18	\$3.39	\$3.62	\$3.88	\$4.09	\$4.31	\$4.54	\$4.79	\$5.04	\$163.79
NorthWestern Corporation	NWE	\$1.79	\$1.86	\$1.94	\$2.01	\$2.10	\$2.25	\$2.42	\$2.60	\$2.79	\$3.01	\$3.24	\$3.42	\$3.60	\$3.79	\$4.00	\$4.21	\$125.06
OGE Energy Corp.	OGE	\$1.15	\$1.22	\$1.29	\$1.37	\$1.45	\$1.48	\$1.51	\$1.54	\$1.59	\$1.64	\$1.70	\$1.79	\$1.88	\$1.98	\$2.09	\$2.20	\$63.83
Otter Tail Corporation	OTTR	\$1.36	\$1.36	\$1.36	\$1.35	\$1.34	\$1.43	\$1.52	\$1.62	\$1.72	\$1.83	\$1.94	\$2.04	\$2.15	\$2.27	\$2.39	\$2.52	\$71.79
Pinnacle West Capital	PNW	\$2.61	\$2.71	\$2.82	\$2.93	\$3.05	\$3.21	\$3.37	\$3.56	\$3.76	\$3.98	\$4.23	\$4.45	\$4.69	\$4.95	\$5.21	\$5.49	\$159.75
PNM Resources, Inc.	PNM	\$0.88	\$0.95	\$1.01	\$1.09	\$1.17	\$1.27	\$1.39	\$1.51	\$1.64								

Multi-Stage DCF Notes:

- [1] Source: Bloomberg; based on 30-, 90-, and 180-day historical average as of December 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 [63] / 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 [5] + (((Column [6] - Column [5]) / (2026 - 2021 + 1)) x (2021 - 2020)))) x Column [19]
- [21] Equals (1 + (Column [5] + (((Column [6] - Column [5]) / (2026 - 2021 + 1)) x (2022 - 2020)))) x Column [20]
- [22] Equals (1 + (Column [5] + (((Column [6] - Column [5]) / (2026 - 2021 + 1)) x (2023 - 2020)))) x Column [21]
- [23] Equals (1 + (Column [5] + (((Column [6] - Column [5]) / (2026 - 2021 + 1)) x (2024 - 2020)))) x Column [22]
- [24] Equals (1 + (Column [5] + (((Column [6] - Column [5]) / (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 - 12/30/2016) / 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 Growth Discounted Cash Flow Model  
30 Day Average Stock Price  
Average EPS Growth Rate Estimate in First Stage

Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
		Stock	EPS Growth Rate Estimates			Long-Term		Payout Ratio			Iterative Solution		Terminal	Terminal
Company	Ticker	Price	Zacks	First Call	Line	Average	Growth	2016	2020	2026	Proof	IRR	P/E Ratio	PEG Ratio
ALLETE, Inc.	ALE	\$63.35	5.50%	5.00%	4.00%	4.83%	5.38%	72.00%	62.00%	66.88%	(\$0.00)	11.27%	24.68	4.59
Alliant Energy Corp.	LNT	\$36.86	5.50%	6.00%	6.00%	5.83%	5.38%	72.00%	61.00%	66.88%	(\$0.00)	10.42%	24.68	4.59
American Electric Power	AEP	\$61.03	5.40%	1.90%	5.00%	4.10%	5.38%	59.00%	64.00%	66.88%	(\$0.00)	11.67%	24.68	4.59
Avista Corp.	AVA	\$40.77	NA	5.65%	5.00%	5.33%	5.38%	67.00%	64.00%	66.88%	(\$0.00)	10.23%	24.68	4.59
Black Hills Corp.	BKH	\$60.32	6.20%	7.40%	7.50%	7.03%	5.38%	68.00%	53.00%	66.88%	(\$0.00)	11.19%	24.68	4.59
CMS Energy Corp.	CMS	\$40.91	6.00%	7.27%	6.00%	6.42%	5.38%	63.00%	61.00%	66.88%	(\$0.00)	10.79%	24.68	4.59
DTE Energy Co.	DTE	\$96.18	5.80%	5.63%	6.00%	5.81%	5.38%	63.00%	64.00%	66.88%	(\$0.00)	10.48%	24.68	4.59
IDACORP, Inc.	IDA	\$78.76	4.30%	4.10%	3.00%	3.80%	5.38%	53.00%	60.00%	66.88%	(\$0.00)	9.64%	24.68	4.59
NorthWestern Corporation	NWE	\$56.58	5.00%	4.50%	6.50%	5.33%	5.38%	59.00%	58.00%	66.88%	(\$0.00)	11.00%	24.68	4.59
OGE Energy Corp.	OGE	\$32.69	5.30%	4.00%	3.00%	4.10%	5.38%	66.00%	74.00%	66.88%	\$0.00	10.68%	24.68	4.59
Otter Tail Corporation	OTTR	\$39.79	NA	6.00%	6.00%	6.00%	5.38%	82.00%	64.00%	66.88%	\$0.00	9.19%	24.68	4.59
Pinnacle West Capital	PNW	\$75.85	4.90%	4.73%	4.00%	4.54%	5.38%	64.00%	64.00%	66.88%	(\$0.00)	10.75%	24.68	4.59
PNM Resources, Inc.	PNM	\$32.93	5.30%	6.85%	9.00%	7.05%	5.38%	51.00%	55.00%	66.88%	(\$0.00)	11.66%	24.68	4.59
Portland General Electric Co.	POR	\$42.59	6.20%	6.67%	5.50%	6.12%	5.38%	58.00%	59.00%	66.88%	(\$0.00)	10.86%	24.68	4.59
SCANA Corp.	SCG	\$72.41	5.70%	6.03%	4.50%	5.41%	5.38%	57.00%	57.00%	66.88%	(\$0.00)	11.26%	24.68	4.59
WEC Energy Group Inc.	WEC	\$57.16	6.00%	6.92%	6.00%	6.31%	5.38%	67.00%	67.00%	66.88%	(\$0.00)	9.72%	24.68	4.59
Xcel Energy, Inc.	XEL	\$39.89	5.40%	5.65%	5.50%	5.52%	5.38%	62.00%	62.00%	66.88%	(\$0.00)	11.48%	24.68	4.59

DCF Result			
Mean	10.72%	24.68	4.59
Max	11.67%	24.68	4.59
Min	9.19%	24.68	4.59

Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]
Company	Ticker	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
ALLETE, Inc.	ALE	\$3.38	\$3.54	\$3.71	\$3.89	\$4.08	\$4.28	\$4.49	\$4.72	\$4.96	\$5.21	\$5.49	\$5.78	\$6.10	\$6.42	\$6.77	\$7.13	\$7.52
Alliant Energy Corp.	LNT	\$1.69	\$1.79	\$1.89	\$2.00	\$2.12	\$2.24	\$2.37	\$2.51	\$2.65	\$2.79	\$2.95	\$3.11	\$3.27	\$3.45	\$3.63	\$3.83	\$4.04
American Electric Power	AEP	\$3.59	\$3.74	\$3.89	\$4.05	\$4.22	\$4.39	\$4.58	\$4.79	\$5.01	\$5.26	\$5.53	\$5.83	\$6.14	\$6.47	\$6.82	\$7.19	\$7.58
Avista Corp.	AVA	\$1.89	\$1.99	\$2.10	\$2.21	\$2.33	\$2.45	\$2.58	\$2.72	\$2.86	\$3.02	\$3.18	\$3.35	\$3.53	\$3.72	\$3.92	\$4.13	\$4.35
Black Hills Corp.	BKH	\$2.83	\$3.03	\$3.24	\$3.47	\$3.71	\$3.98	\$4.24	\$4.52	\$4.80	\$5.08	\$5.37	\$5.66	\$5.97	\$6.29	\$6.62	\$6.98	\$7.36
CMS Energy Corp.	CMS	\$1.89	\$2.01	\$2.14	\$2.28	\$2.42	\$2.58	\$2.74	\$2.91	\$3.08	\$3.26	\$3.44	\$3.62	\$3.82	\$4.02	\$4.24	\$4.47	\$4.71
DTE Energy Co.	DTE	\$4.45	\$4.71	\$4.98	\$5.27	\$5.58	\$5.90	\$6.24	\$6.59	\$6.96	\$7.35	\$7.75	\$8.16	\$8.60	\$9.07	\$9.55	\$10.07	\$10.61
IDACORP, Inc.	IDA	\$3.87	\$4.02	\$4.17	\$4.33	\$4.49	\$4.66	\$4.85	\$5.06	\$5.30	\$5.55	\$5.84	\$6.15	\$6.48	\$6.83	\$7.20	\$7.58	\$7.99
NorthWestern Corporation	NWE	\$2.90	\$3.05	\$3.22	\$3.39	\$3.57	\$3.76	\$3.96	\$4.17	\$4.40	\$4.63	\$4.88	\$5.14	\$5.42	\$5.71	\$6.02	\$6.34	\$6.68
OGE Energy Corp.	OGE	\$1.69	\$1.76	\$1.83	\$1.91	\$1.98	\$2.07	\$2.16	\$2.25	\$2.36	\$2.48	\$2.60	\$2.74	\$2.89	\$3.05	\$3.21	\$3.38	\$3.57
Otter Tail Corporation	OTTR	\$1.56	\$1.65	\$1.75	\$1.86	\$1.97	\$2.09	\$2.21	\$2.34	\$2.47	\$2.61	\$2.75	\$2.90	\$3.06	\$3.22	\$3.39	\$3.58	\$3.77
Pinnacle West Capital	PNW	\$3.92	\$4.10	\$4.28	\$4.48	\$4.68	\$4.90	\$5.12	\$5.37	\$5.64	\$5.93	\$6.24	\$6.57	\$6.92	\$7.30	\$7.69	\$8.10	\$8.54
PNM Resources, Inc.	PNM	\$1.64	\$1.76	\$1.88	\$2.01	\$2.15	\$2.31	\$2.46	\$2.62	\$2.78	\$2.95	\$3.12	\$3.28	\$3.46	\$3.65	\$3.84	\$4.05	\$4.27
Portland General Electric Co.	POR	\$2.04	\$2.16	\$2.30	\$2.44	\$2.59	\$2.75	\$2.91	\$3.08	\$3.26	\$3.44	\$3.63	\$3.83	\$4.03	\$4.25	\$4.48	\$4.72	\$4.97
SCANA Corp.	SCG	\$3.81	\$4.02	\$4.23	\$4.46	\$4.70	\$4.96	\$5.23	\$5.51	\$5.81	\$6.12	\$6.45	\$6.79	\$7.16	\$7.55	\$7.95	\$8.38	\$8.83
WEC Energy Group Inc.	WEC	\$2.34	\$2.49	\$2.64	\$2.81	\$2.99	\$3.18	\$3.37	\$3.57	\$3.78	\$4.00	\$4.22	\$4.45	\$4.69	\$4.94	\$5.20	\$5.48	\$5.78
Xcel Energy, Inc.	XEL	\$2.10	\$2.22	\$2.34	\$2.47	\$2.60	\$2.75	\$2.90	\$3.06	\$3.22	\$3.40	\$3.58	\$3.77	\$3.98	\$4.19	\$4.42	\$4.65	\$4.90

Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]	[46]
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
ALLETE, Inc.	ALE	72.00%	69.50%	67.00%	64.50%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Alliant Energy Corp.	LNT	72.00%	69.25%	66.50%	63.75%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
American Electric Power	AEP	59.00%	60.25%	61.50%	62.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Avista Corp.	AVA	67.00%	66.25%	65.50%	64.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Black Hills Corp.	BKH	68.00%	64.25%	60.50%	56.75%	53.00%	55.31%	57.63%	59.94%	62.26%	64.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
CMS Energy Corp.	CMS	63.00%	62.50%	62.00%	61.50%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
DTE Energy Co.	DTE	63.00%	63.25%	63.50%	63.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
IDACORP, Inc.	IDA	53.00%	54.75%	56.50%	58.25%	60.00%	61.15%	62.29%	63.44%	64.59%	65.74%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
NorthWestern Corporation	NWE	59.00%	58.25%	58.50%	58.25%	58.00%	59.48%	60.96%	62.44%	63.92%	65.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
OGE Energy Corp.	OGE	66.00%	68.00%	70.00%	72.00%	74.00%	72.81%	71.63%	70.44%	69.26%	68.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Otter Tail Corporation	OTTR	82.00%	77.50%	73.00%	68.50%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Pinnacle West Capital	PNW	64.00%	64.00%	64.00%	64.00%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
PNM Resources, Inc.	PNM	51.00%	52.00%	53.00%	54.00%	55.00%	56.98%	58.96%	60.94%	62.92%	64.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Portland General Electric Co.	POR	58.00%	58.25%	58.50%	58.75%	59.00%	60.31%	61.63%	62.94%	64.26%	65.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
SCANA Corp.	SCG	57.00%	57.00%	57.00%	57.00%	57.00%	58.65%	60.29%	61.94%	63.59%	65.24%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
WEC Energy Group Inc.	WEC	67.00%	67.00%	67.00%	67.00%	67.00%	66.98%	66.96%	66.94%	66.92%	66.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Xcel Energy, Inc.	XEL	62.00%	62.00%	62.00%	62.00%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%

Projected Annual Cash Flows		[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]	[62]	[63]	Terminal Value
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Value	
ALLETE, Inc.	ALE	\$2.55	\$2.58	\$2.61	\$2.63	\$2.65	\$2.82	\$3.00	\$3.19	\$3.40	\$3.63	\$3.87	\$4.08	\$4.30	\$4.53	\$4.77	\$5.03	\$185.50	
Alliant Energy Corp.	LNT	\$1.29	\$1.31	\$1.33	\$1.35	\$1.37	\$1.47	\$1.58	\$1.69	\$1.81	\$1.94	\$2.08	\$2.19	\$2.31	\$2.43	\$2.56	\$2.70	\$99.60	
American Electric Power	AEP	\$2.20	\$2.34	\$2.49	\$2.65	\$2.81	\$2.95	\$3.11	\$3.28	\$3.47	\$3.67	\$3.90	\$4.11	\$4.33	\$4.56	\$4.81	\$5.07	\$186.93	
Avista Corp.	AVA	\$1.33	\$1.39	\$1.45	\$1.51	\$1.57	\$1.66	\$1.77	\$1.87	\$1.99	\$2.11	\$2.24	\$2.36	\$2.49	\$2.62	\$2.76	\$2.91	\$107.43	
Black Hills Corp.	BKH	\$2.06	\$2.08	\$2.10	\$2.11	\$2.11	\$2.35	\$2.60	\$2.88	\$3.17	\$3.47	\$3.79	\$3.99	\$4.20	\$4.43	\$4.67	\$4.92	\$181.52	
CMS Energy Corp.	CMS	\$1.27	\$1.34	\$1.41	\$1.49	\$1.57	\$1.70	\$1.83	\$1.97	\$2.11	\$2.26	\$2.42	\$2.55	\$2.69	\$2.83	\$2.99	\$3.15	\$116.13	
DTE Energy Co.	DTE	\$2.97	\$3.15	\$3.35	\$3.56	\$3.78	\$4.02	\$4.28	\$4.56	\$4.84	\$5.14	\$5.46	\$5.75	\$6.06	\$6.39	\$6.73	\$7.10	\$261.82	
IDACORP, Inc.	IDA	\$2.13	\$2.28	\$2.45	\$2.62	\$2.80	\$2.97	\$3.15	\$3.36	\$3.59	\$3.84	\$4.11	\$4.33	\$4.57	\$4.81	\$5.07	\$5.35	\$197.21	
NorthWestern Corporation	NWE	\$1.80	\$1.89	\$1.98	\$2.08	\$2.18	\$2.36	\$2.54	\$2.75	\$2.96	\$3.19	\$3.44	\$3.63	\$3.82	\$4.03	\$4.24	\$4.47	\$164.94	
OGE Energy Corp.	OGE	\$1.16	\$1.25	\$1.33	\$1.43	\$1.53	\$1.57	\$1.61	\$1.66	\$1.71	\$1.77	\$1.84	\$1.93	\$2.04	\$2.15	\$2.26	\$2.39	\$88.00	
Otter Tail Corporation	OTTR	\$1.36	\$1.36	\$1.36	\$1.35	\$1.34	\$1.43	\$1.52	\$1.62	\$1.72	\$1.83	\$1.94	\$2.04	\$2.15	\$2.27	\$2.39	\$2.52	\$93.03	
Pinnacle West Capital	PNW	\$2.62	\$2.74	\$2.87	\$3.00	\$3.13	\$3.30	\$3.49	\$3.69	\$3.91	\$4.14	\$4.40	\$4.63	\$4.88	\$5.14	\$5.42	\$5.71	\$210.72	
PNM Resources, Inc.	PNM	\$0																	

Multi-Stage Growth Discounted Cash Flow Model  
30 Day Average Stock Price  
High EPS Growth Rate Estimate in First Stage

Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]							
		Stock	EPS Growth Rate Estimates			Long-Term		Payout Ratio			Iterative Solution		Terminal	Terminal							
				Value	High																
Company	Ticker	Price	Zacks	First Call	Line	Growth	Growth	2016	2020	2026	Proof	IRR	P/E Ratio	PEG Ratio							
ALLETE, Inc.	ALE	\$63.35	5.50%	5.00%	4.00%	5.50%	5.38%	72.00%	62.00%	66.88%	(\$0.00)	11.69%	24.68	4.59							
Alliant Energy Corp.	LNT	\$36.86	5.50%	6.00%	6.00%	6.00%	5.38%	72.00%	61.00%	66.88%	(\$0.00)	10.52%	24.68	4.59							
American Electric Power	AEP	\$61.03	5.40%	1.90%	5.00%	5.40%	5.38%	59.00%	64.00%	66.88%	(\$0.00)	12.50%	24.68	4.59							
Avista Corp.	AVA	\$40.77	NA	5.65%	5.00%	5.65%	5.38%	67.00%	64.00%	66.88%	(\$0.00)	10.43%	24.68	4.59							
Black Hills Corp.	BKH	\$60.32	6.20%	7.40%	7.50%	7.50%	5.38%	68.00%	53.00%	66.88%	(\$0.00)	11.48%	24.68	4.59							
CMS Energy Corp.	CMS	\$40.91	6.00%	7.27%	6.00%	7.27%	5.38%	63.00%	61.00%	66.88%	(\$0.00)	11.31%	24.68	4.59							
DTE Energy Co.	DTE	\$96.18	5.80%	5.63%	6.00%	6.00%	5.38%	63.00%	64.00%	66.88%	(\$0.00)	10.59%	24.68	4.59							
IDACORP, Inc.	IDA	\$78.76	4.30%	4.10%	3.00%	4.30%	5.38%	53.00%	60.00%	66.88%	(\$0.00)	9.95%	24.68	4.59							
NorthWestern Corporation	NWE	\$56.58	5.00%	4.50%	6.50%	6.50%	5.38%	59.00%	58.00%	66.88%	(\$0.00)	11.73%	24.68	4.59							
OGE Energy Corp.	OGE	\$32.69	5.30%	4.00%	3.00%	5.30%	5.38%	66.00%	74.00%	66.88%	\$0.00	11.45%	24.68	4.59							
Otter Tail Corporation	OTTR	\$39.79	NA	6.00%	6.00%	6.00%	5.38%	82.00%	64.00%	66.88%	\$0.00	9.19%	24.68	4.59							
Pinnacle West Capital	PNW	\$75.85	4.90%	4.73%	4.00%	4.90%	5.38%	64.00%	64.00%	66.88%	(\$0.00)	10.97%	24.68	4.59							
PNM Resources, Inc.	PNM	\$32.93	5.30%	6.85%	9.00%	9.00%	5.38%	51.00%	55.00%	66.88%	(\$0.00)	12.86%	24.68	4.59							
Portland General Electric Co.	POR	\$42.59	6.20%	6.67%	5.50%	6.67%	5.38%	58.00%	59.00%	66.88%	(\$0.00)	11.20%	24.68	4.59							
SCANA Corp.	SCG	\$72.41	5.70%	6.03%	4.50%	6.03%	5.38%	57.00%	57.00%	66.88%	(\$0.00)	11.65%	24.68	4.59							
WEC Energy Group Inc.	WEC	\$57.16	6.00%	6.92%	6.00%	6.92%	5.38%	67.00%	67.00%	66.88%	(\$0.00)	10.09%	24.68	4.59							
Xcel Energy, Inc.	XEL	\$39.89	5.40%	5.65%	5.50%	5.65%	5.38%	62.00%	62.00%	66.88%	(\$0.00)	11.56%	24.68	4.59							
DCF Result																					
Mean														11.13%	24.68	4.59					
Max														12.86%	24.68	4.59					
Min														9.19%	24.68	4.59					
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]			
Company	Ticker	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031			
ALLETE, Inc.	ALE	\$3.38	\$3.57	\$3.76	\$3.97	\$4.19	\$4.42	\$4.66	\$4.91	\$5.18	\$5.46	\$5.76	\$6.07	\$6.39	\$6.74	\$7.10	\$7.48	\$7.88			
Alliant Energy Corp.	LNT	\$1.69	\$1.79	\$1.90	\$2.01	\$2.13	\$2.26	\$2.39	\$2.53	\$2.68	\$2.83	\$2.98	\$3.14	\$3.31	\$3.49	\$3.68	\$3.88	\$4.08			
American Electric Power	AEP	\$3.59	\$3.78	\$3.99	\$4.20	\$4.43	\$4.67	\$4.92	\$5.19	\$5.47	\$5.76	\$6.07	\$6.40	\$6.74	\$7.10	\$7.49	\$7.89	\$8.31			
Avista Corp.	AVA	\$1.89	\$2.00	\$2.11	\$2.23	\$2.35	\$2.49	\$2.63	\$2.77	\$2.93	\$3.09	\$3.25	\$3.43	\$3.61	\$3.81	\$4.01	\$4.23	\$4.46			
Black Hills Corp.	BKH	\$2.83	\$3.04	\$3.27	\$3.52	\$3.78	\$4.06	\$4.35	\$4.65	\$4.95	\$5.25	\$5.55	\$5.85	\$6.16	\$6.49	\$6.84	\$7.21	\$7.60			
CMS Energy Corp.	CMS	\$1.89	\$2.03	\$2.17	\$2.33	\$2.50	\$2.68	\$2.87	\$3.06	\$3.26	\$3.45	\$3.65	\$3.84	\$4.05	\$4.27	\$4.50	\$4.74	\$4.99			
DTE Energy Co.	DTE	\$4.45	\$4.72	\$5.00	\$5.30	\$5.62	\$5.96	\$6.31	\$6.67	\$7.05	\$7.44	\$7.85	\$8.28	\$8.72	\$9.19	\$9.68	\$10.20	\$10.75			
IDACORP, Inc.	IDA	\$3.87	\$4.04	\$4.21	\$4.39	\$4.58	\$4.78	\$4.99	\$5.22	\$5.48	\$5.75	\$6.05	\$6.38	\$6.72	\$7.08	\$7.46	\$7.86	\$8.28			
NorthWestern Corporation	NWE	\$2.90	\$3.09	\$3.29	\$3.50	\$3.73	\$3.97	\$4.22	\$4.48	\$4.75	\$5.02	\$5.30	\$5.59	\$5.89	\$6.20	\$6.54	\$6.89	\$7.26			
OGE Energy Corp.	OGE	\$1.69	\$1.78	\$1.87	\$1.97	\$2.08	\$2.19	\$2.30	\$2.43	\$2.56	\$2.69	\$2.84	\$2.99	\$3.15	\$3.32	\$3.50	\$3.69	\$3.89			
Otter Tail Corporation	OTTR	\$1.56	\$1.65	\$1.75	\$1.86	\$1.97	\$2.09	\$2.21	\$2.34	\$2.47	\$2.61	\$2.75	\$2.90	\$3.06	\$3.22	\$3.39	\$3.58	\$3.77			
Pinnacle West Capital	PNW	\$3.92	\$4.11	\$4.31	\$4.52	\$4.75	\$4.98	\$5.23	\$5.49	\$5.77	\$6.08	\$6.40	\$6.74	\$7.10	\$7.49	\$7.89	\$8.31	\$8.76			
PNM Resources, Inc.	PNM	\$1.64	\$1.79	\$1.95	\$2.12	\$2.31	\$2.52	\$2.74	\$2.95	\$3.16	\$3.37	\$3.57	\$3.76	\$3.96	\$4.18	\$4.40	\$4.64	\$4.89			
Portland General Electric Co.	POR	\$2.04	\$2.18	\$2.32	\$2.48	\$2.64	\$2.82	\$3.00	\$3.19	\$3.38	\$3.57	\$3.77	\$3.98	\$4.19	\$4.42	\$4.65	\$4.90	\$5.17			
SCANA Corp.	SCG	\$3.81	\$4.04	\$4.28	\$4.54	\$4.82	\$5.11	\$5.41	\$5.72	\$6.05	\$6.39	\$6.74	\$7.10	\$7.48	\$7.88	\$8.31	\$8.76	\$9.23			
WEC Energy Group Inc.	WEC	\$2.34	\$2.50	\$2.68	\$2.86	\$3.06	\$3.27	\$3.49	\$3.71	\$3.94	\$4.17	\$4.41	\$4.64	\$4.89	\$5.16	\$5.43	\$5.73	\$6.03			
Xcel Energy, Inc.	XEL	\$2.10	\$2.22	\$2.34	\$2.48	\$2.62	\$2.76	\$2.92	\$3.08	\$3.25	\$3.43	\$3.62	\$3.81	\$4.01	\$4.23	\$4.46	\$4.70	\$4.95			
Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]	[46]				
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031				
ALLETE, Inc.	ALE	72.00%	69.50%	67.00%	64.50%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
Alliant Energy Corp.	LNT	72.00%	69.25%	66.50%	63.75%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
American Electric Power	AEP	59.00%	60.25%	61.50%	62.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
Avista Corp.	AVA	67.00%	66.25%	65.50%	64.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
Black Hills Corp.	BKH	68.00%	64.25%	60.50%	56.75%	53.00%	55.31%	57.63%	59.94%	62.26%	64.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
CMS Energy Corp.	CMS	63.00%	62.50%	62.00%	61.50%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
DTE Energy Co.	DTE	63.00%	63.25%	63.50%	63.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
IDACORP, Inc.	IDA	53.00%	54.75%	56.50%	58.25%	60.00%	61.15%	62.29%	63.44%	64.59%	65.74%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
NorthWestern Corporation	NWE	59.00%	58.25%	58.50%	58.25%	58.00%	59.48%	60.96%	62.44%	63.92%	65.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
OGE Energy Corp.	OGE	66.00%	68.00%	70.00%	72.00%	74.00%	72.81%	71.63%	70.44%	69.26%	68.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
Otter Tail Corporation	OTTR	82.00%	77.50%	73.00%	68.50%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
Pinnacle West Capital	PNW	64.00%	64.00%	64.00%	64.00%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
PNM Resources, Inc.	PNM	51.00%	52.00%	53.00%	54.00%	55.00%	56.98%	58.96%	60.94%	62.92%	64.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
Portland General Electric Co.	POR	58.00%	58.25%	58.50%	58.75%	59.00%	60.31%	61.63%	62.94%	64.26%	65.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
SCANA Corp.	SCG	57.00%	57.00%	57.00%	57.00%	57.00%	58.65%	60.29%	61.94%	63.59%	65.24%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
WEC Energy Group Inc.	WEC	67.00%	67.00%	67.00%	67.00%	67.00%	66.98%	66.96%	66.94%	66.92%	66.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
Xcel Energy, Inc.	XEL	62.00%	62.00%	62.00%	62.00%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
Projected Annual Cash Flows		[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]	[62]	[63]	Terminal		
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Value			
ALLETE, Inc.	ALE	\$2.57	\$2.61	\$2.66	\$2.70	\$2.74	\$2.93	\$3.13	\$3.34	\$3.56	\$3.80	\$4.06	\$4.28	\$4.51	\$4.75	\$5.00	\$5.27	\$194.53			
Alliant Energy Corp.	LNT	\$1.29	\$1.31	\$1.34	\$1.36	\$1.38	\$1.48	\$1.60	\$1.71	\$1.84	\$1.97	\$2.10	\$2.22	\$2.33	\$2.46	\$2.59	\$2.73	\$100.78			
American Electric Power	AEP	\$2.23	\$2.40	\$2.59	\$2.78	\$2.99	\$3.17	\$3.37	\$3.58	\$3.80	\$4.03	\$4.28	\$4.51	\$4.75	\$5.01	\$5.28	\$5.56	\$205.15			
Avista Corp.	AVA	\$1.34	\$1.40	\$1.46	\$1.52	\$1.59	\$1.69	\$1.80	\$1.91	\$2.03	\$2.16	\$2.29	\$2.42	\$2.55	\$2.68	\$2.83	\$2.98	\$109.94			
Black Hills Corp.	BKH	\$2.07	\$2.10	\$2.13	\$2.14	\$2.15	\$2.41	\$2.68	\$2.97	\$3.27	\$3.58	\$3.91	\$4.12	\$4.34	\$4.58	\$4.82	\$5.08	\$187.55			
CMS Energy Corp.	CMS	\$1.28	\$1.36	\$1.45	\$1.54	\$1.64	\$1.78	\$1.93	\$2.08	\$2.24	\$2.40	\$2.57	\$2.71	\$2.85	\$3.01	\$3.17	\$3.34	\$123.25			
DTE Energy Co.	DTE	\$2.97	\$3.16	\$3.37	\$3.58	\$3.81	\$4.07	\$4.33	\$4.61	\$4.91	\$5.21	\$5.53	\$5.83	\$6.15	\$6.48	\$6.83	\$7.19	\$265.37			
IDACORP, Inc.	IDA	\$2.14	\$2.30	\$2.48	\$2.67	\$2.87	\$3.05	\$3.25	\$3.47	\$3.71	\$3.98	\$4.26	\$4.49	\$4.74	\$4.99	\$5.26	\$5.54	\$204.43			
NorthWestern Corporation	NWE	\$1.82	\$1.93	\$2.05	\$2.17	\$2.30	\$2.51	\$2.73	\$2.97	\$3.21	\$3.47	\$3.74	\$3.94	\$4.15	\$4.37	\$4.61	\$4.86	\$179.15			
OGE Energy Corp.	OGE	\$1.17	\$1.27	\$1.38	\$1.50	\$1.62	\$1.68	\$1.74	\$1.80	\$1.87	\$1.93	\$2.00	\$2.11	\$2.22	\$2.34	\$2.47</					

Multi-Stage Growth Discounted Cash Flow Model  
30 Day Average Stock Price  
Low EPS Growth Rate Estimate in First Stage

Inputs	[1] Stock	[2] [3] [4] [5] EPS Growth Rate Estimates				[6] [7] [8] Long-Term Payout Ratio			[9] [10] Iterative Solution		[11] [12] Terminal	[13] Terminal		
		Price	Zacks	First Call	Line	Value		2016	2020	2026	Proof	IRR	P/E Ratio	PEG Ratio
						Low	Growth							
ALLETE, Inc.	ALE	\$63.35	5.50%	5.00%	4.00%	4.00%	5.38%	72.00%	62.00%	66.88%	(\$0.00)	10.74%	24.68	4.59
Alliant Energy Corp.	LNT	\$36.86	5.50%	6.00%	6.00%	5.50%	5.38%	72.00%	61.00%	66.88%	(\$0.00)	10.22%	24.68	4.59
American Electric Power	AEP	\$61.03	5.40%	1.90%	5.00%	1.90%	5.38%	59.00%	64.00%	66.88%	(\$0.00)	10.26%	24.68	4.59
Avista Corp.	AVA	\$40.77	NA	5.65%	5.00%	5.00%	5.38%	67.00%	64.00%	66.88%	(\$0.00)	10.03%	24.68	4.59
Black Hills Corp.	BKH	\$60.32	6.20%	7.40%	7.50%	6.20%	5.38%	68.00%	53.00%	66.88%	(\$0.00)	10.68%	24.68	4.59
CMS Energy Corp.	CMS	\$40.91	6.00%	7.27%	6.00%	6.00%	5.38%	63.00%	61.00%	66.88%	(\$0.00)	10.53%	24.68	4.59
DTE Energy Co.	DTE	\$96.18	5.80%	5.63%	6.00%	5.63%	5.38%	63.00%	64.00%	66.88%	(\$0.00)	10.37%	24.68	4.59
IDACORP, Inc.	IDA	\$78.76	4.30%	4.10%	3.00%	3.00%	5.38%	53.00%	60.00%	66.88%	(\$0.00)	9.15%	24.68	4.59
NorthWestern Corporation	NWE	\$56.58	5.00%	4.50%	6.50%	4.50%	5.38%	59.00%	58.00%	66.88%	(\$0.00)	10.48%	24.68	4.59
OGE Energy Corp.	OGE	\$32.69	5.30%	4.00%	3.00%	3.00%	5.38%	66.00%	74.00%	66.88%	\$0.00	9.98%	24.68	4.59
Otter Tail Corporation	OTTR	\$39.79	NA	6.00%	6.00%	6.00%	5.38%	82.00%	64.00%	66.88%	\$0.00	9.19%	24.68	4.59
Pinnacle West Capital	PNW	\$75.85	4.90%	4.73%	4.00%	4.00%	5.38%	64.00%	64.00%	66.88%	(\$0.00)	10.40%	24.68	4.59
PNM Resources, Inc.	PNM	\$32.93	5.30%	6.85%	9.00%	5.30%	5.38%	51.00%	55.00%	66.88%	\$0.00	10.59%	24.68	4.59
Portland General Electric Co.	POR	\$42.59	6.20%	6.67%	5.50%	5.50%	5.38%	58.00%	59.00%	66.88%	(\$0.00)	10.48%	24.68	4.59
SCANA Corp.	SCG	\$72.41	5.70%	6.03%	4.50%	4.50%	5.38%	57.00%	57.00%	66.88%	(\$0.00)	10.69%	24.68	4.59
WEC Energy Group Inc.	WEC	\$57.16	6.00%	6.92%	6.00%	6.00%	5.38%	67.00%	67.00%	66.88%	(\$0.00)	9.53%	24.68	4.59
Xcel Energy, Inc.	XEL	\$39.89	5.40%	5.65%	5.50%	5.40%	5.38%	62.00%	62.00%	66.88%	(\$0.00)	11.40%	24.68	4.59

DCF Result			
Mean	10.28%	24.68	4.59
Max	11.40%	24.68	4.59
Min	9.15%	24.68	4.59

Projected Annual Earnings per Share	Company	Ticker	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]
			2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
ALLETE, Inc.	ALE	\$3.38	\$3.52	\$3.66	\$3.80	\$3.95	\$4.11	\$4.29	\$4.48	\$4.69	\$4.92	\$5.17	\$5.45	\$5.74	\$6.05	\$6.38	\$6.72	\$7.08	
Alliant Energy Corp.	LNT	\$1.69	\$1.78	\$1.88	\$1.98	\$2.09	\$2.21	\$2.33	\$2.46	\$2.59	\$2.73	\$2.88	\$3.03	\$3.20	\$3.37	\$3.55	\$3.74	\$3.94	
American Electric Power	AEP	\$3.59	\$3.66	\$3.73	\$3.80	\$3.87	\$3.94	\$4.04	\$4.17	\$4.32	\$4.50	\$4.72	\$4.97	\$5.24	\$5.52	\$5.81	\$6.13	\$6.46	
Avista Corp.	AVA	\$1.89	\$1.98	\$2.08	\$2.19	\$2.30	\$2.41	\$2.53	\$2.66	\$2.80	\$2.95	\$3.11	\$3.27	\$3.45	\$3.64	\$3.83	\$4.04	\$4.25	
Black Hills Corp.	BKH	\$2.83	\$3.01	\$3.19	\$3.39	\$3.60	\$3.82	\$4.05	\$4.30	\$4.54	\$4.80	\$5.07	\$5.34	\$5.62	\$5.93	\$6.25	\$6.58	\$6.94	
CMS Energy Corp.	CMS	\$1.89	\$2.00	\$2.12	\$2.25	\$2.39	\$2.53	\$2.68	\$2.83	\$2.99	\$3.16	\$3.34	\$3.51	\$3.70	\$3.90	\$4.11	\$4.33	\$4.57	
DTE Energy Co.	DTE	\$4.45	\$4.70	\$4.97	\$5.24	\$5.54	\$5.85	\$6.18	\$6.52	\$6.88	\$7.26	\$7.65	\$8.06	\$8.49	\$8.95	\$9.43	\$9.94	\$10.48	
IDACORP, Inc.	IDA	\$3.87	\$3.99	\$4.11	\$4.23	\$4.36	\$4.49	\$4.64	\$4.81	\$5.02	\$5.25	\$5.51	\$5.80	\$6.12	\$6.45	\$6.79	\$7.16	\$7.54	
NorthWestern Corporation	NWE	\$2.90	\$3.03	\$3.17	\$3.31	\$3.46	\$3.61	\$3.78	\$3.96	\$4.16	\$4.37	\$4.60	\$4.85	\$5.11	\$5.38	\$5.67	\$5.98	\$6.30	
OGE Energy Corp.	OGE	\$1.69	\$1.74	\$1.79	\$1.85	\$1.90	\$1.96	\$2.03	\$2.10	\$2.19	\$2.29	\$2.41	\$2.53	\$2.67	\$2.81	\$2.97	\$3.13	\$3.29	
Otter Tail Corporation	OTTR	\$1.56	\$1.65	\$1.75	\$1.86	\$1.97	\$2.09	\$2.21	\$2.34	\$2.47	\$2.61	\$2.75	\$2.90	\$3.06	\$3.22	\$3.39	\$3.58	\$3.77	
Pinnacle West Capital	PNW	\$3.92	\$4.08	\$4.24	\$4.41	\$4.59	\$4.77	\$4.97	\$5.19	\$5.44	\$5.70	\$6.00	\$6.32	\$6.66	\$7.02	\$7.40	\$7.79	\$8.21	
PNM Resources, Inc.	PNM	\$1.64	\$1.73	\$1.82	\$1.91	\$2.02	\$2.12	\$2.24	\$2.36	\$2.48	\$2.61	\$2.75	\$2.90	\$3.06	\$3.22	\$3.40	\$3.58	\$3.77	
Portland General Electric Co.	POR	\$2.04	\$2.15	\$2.27	\$2.40	\$2.53	\$2.67	\$2.81	\$2.97	\$3.13	\$3.30	\$3.47	\$3.66	\$3.86	\$4.07	\$4.28	\$4.52	\$4.76	
SCANA Corp.	SCG	\$3.81	\$3.98	\$4.16	\$4.35	\$4.54	\$4.75	\$4.97	\$5.21	\$5.46	\$5.74	\$6.04	\$6.37	\$6.71	\$7.07	\$7.45	\$7.85	\$8.27	
WEC Energy Group Inc.	WEC	\$2.34	\$2.48	\$2.63	\$2.79	\$2.95	\$3.13	\$3.32	\$3.51	\$3.71	\$3.91	\$4.13	\$4.35	\$4.59	\$4.83	\$5.09	\$5.37	\$5.65	
Xcel Energy, Inc.	XEL	\$2.10	\$2.21	\$2.33	\$2.46	\$2.59	\$2.73	\$2.88	\$3.03	\$3.20	\$3.37	\$3.55	\$3.74	\$3.94	\$4.16	\$4.38	\$4.61	\$4.86	

Projected Annual Dividend Payout Ratio	Company	Ticker	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]	[46]
			2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
ALLETE, Inc.	ALE	72.00%	69.50%	67.00%	64.50%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Alliant Energy Corp.	LNT	72.00%	69.25%	66.50%	63.75%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
American Electric Power	AEP	59.00%	60.25%	61.50%	62.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Avista Corp.	AVA	67.00%	66.25%	65.50%	64.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Black Hills Corp.	BKH	68.00%	64.25%	60.50%	56.75%	53.00%	55.31%	57.63%	59.94%	62.26%	64.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
CMS Energy Corp.	CMS	63.00%	62.50%	62.00%	61.50%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
DTE Energy Co.	DTE	63.00%	63.50%	63.50%	63.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
IDACORP, Inc.	IDA	53.00%	54.75%	56.50%	58.25%	60.00%	61.15%	62.29%	63.44%	64.59%	65.74%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
NorthWestern Corporation	NWE	59.00%	58.25%	58.50%	58.25%	58.00%	59.48%	60.96%	62.44%	63.92%	65.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
OGE Energy Corp.	OGE	66.00%	68.00%	70.00%	72.00%	74.00%	72.81%	71.63%	70.44%	69.26%	68.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Otter Tail Corporation	OTTR	82.00%	77.50%	73.00%	68.50%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Pinnacle West Capital	PNW	64.00%	64.00%	64.00%	64.00%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
PNM Resources, Inc.	PNM	51.00%	52.00%	53.00%	54.00%	55.00%	56.98%	58.96%	60.94%	62.92%	64.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Portland General Electric Co.	POR	58.00%	58.25%	58.50%	58.75%	59.00%	60.31%	61.63%	62.94%	64.26%	65.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
SCANA Corp.	SCG	57.00%	57.00%	57.00%	57.00%	57.00%	58.65%	60.29%	61.94%	63.59%	65.24%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
WEC Energy Group Inc.	WEC	67.00%	67.00%	67.00%	67.00%	67.00%	66.98%	66.96%	66.94%	66.92%	66.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%
Xcel Energy, Inc.	XEL	62.00%	62.00%	62.00%	62.00%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%

Projected Annual Cash Flows	Company	Ticker	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]	[62]	[63]
			2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Terminal Value
ALLETE, Inc.	ALE	\$2.53	\$2.54	\$2.55	\$2.55	\$2.55	\$2.69	\$2.85	\$3.02	\$3.21	\$3.42	\$3.64	\$3.84	\$4.05	\$4.26	\$4.49	\$4.74	\$174.74	
Alliant Energy Corp.	LNT	\$1.28	\$1.30	\$1.32	\$1.33	\$1.35	\$1.44	\$1.55	\$1.66	\$1.77	\$1.90	\$2.03	\$2.14	\$2.25	\$2.37	\$2.50	\$2.64	\$97.27	
American Electric Power	AEP	\$2.16	\$2.25	\$2.34	\$2.43	\$2.52	\$2.61	\$2.71	\$2.83	\$2.97	\$3.13	\$3.32	\$3.50	\$3.69	\$3.89	\$4.10	\$4.32	\$159.34	
Avista Corp.	AVA	\$1.33	\$1.38	\$1.43	\$1.49	\$1.54	\$1.63	\$1.73	\$1.83	\$1.94	\$2.06	\$2.19	\$2.31	\$2.43	\$2.56	\$2.70	\$2.85	\$104.97	
Black Hills Corp.	BKH	\$2.04	\$2.05	\$2.05	\$2.04	\$2.03	\$2.24	\$2.48	\$2.72	\$2.99	\$3.27	\$3.57	\$3.76	\$3.96	\$4.18	\$4.40	\$4.64	\$171.17	
CMS Energy Corp.	CMS	\$1.26	\$1.33	\$1.40	\$1.47	\$1.54	\$1.66	\$1.78	\$1.91	\$2.05	\$2.20	\$2.35	\$2.48	\$2.61	\$2.75	\$2.90	\$3.05	\$112.71	
DTE Energy Co.	DTE	\$2.96	\$3.14	\$3.33	\$3.53	\$3.75	\$3.98	\$4.24	\$4.50	\$4.78	\$5.08	\$5.39	\$5.68	\$5.99	\$6.31	\$6.65	\$7.01	\$258.49	
IDACORP, Inc.	IDA	\$2.11	\$2.25	\$2.39	\$2.54	\$2.69	\$2.84	\$3.00	\$3.18	\$3.39	\$3.62	\$3.88	\$4.09	\$4.31	\$4.54	\$4.79	\$5.04	\$186.12	
NorthWestern Corporation	NWE	\$1.79	\$1.86	\$1.94	\$2.01	\$2.10	\$2.25	\$2.42	\$2.60	\$2.79	\$3.01	\$3.24	\$3.42	\$3.60	\$3.79	\$4.00	\$4.21	\$155.41	
OGE Energy Corp.	OGE	\$1.15	\$1.22	\$1.29	\$1.37	\$1.45	\$1.48	\$1.51	\$1.54	\$1.59	\$1.64	\$1.70	\$1.79	\$1.88	\$1.98	\$2.09	\$2.20	\$81.28	
Otter Tail Corporation	OTTR	\$1.36	\$1.36	\$1.36	\$1.35	\$1.34	\$1.43	\$1.52	\$1.62	\$1.72	\$1.83	\$1.94	\$2.04	\$2.15	\$2.27	\$2.39	\$2.52	\$93.03	
Pinnacle West Capital	PNW	\$2.61	\$2.71	\$2.82	\$2.93	\$3.05	\$3.21	\$3.37	\$3.56	\$3.76	\$3.98	\$4.23	\$4.45	\$4.69	\$4.95	\$5.21	\$5.49</		

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

Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]				
		Stock	EPS Growth Rate Estimates			Long-Term	Payout Ratio			Iterative Solution	Terminal	Terminal						
Company	Ticker	Price	Zacks	First Call	Line	Average	Growth	2016	2020	2026	Proof	IRR	P/E Ratio	PEG Ratio				
ALLETE, Inc.	ALE	\$60.87	5.50%	5.00%	4.00%	4.83%	5.38%	72.00%	62.00%	66.88%	(\$0.00)	11.66%	24.68	4.59				
Alliant Energy Corp.	LNT	\$37.42	5.50%	6.00%	6.00%	5.83%	5.38%	72.00%	61.00%	66.88%	(\$0.00)	10.28%	24.68	4.59				
American Electric Power	AEP	\$62.73	5.40%	1.90%	5.00%	4.10%	5.38%	59.00%	64.00%	66.88%	(\$0.00)	11.40%	24.68	4.59				
Avista Corp.	AVA	\$40.83	NA	5.65%	5.00%	5.33%	5.38%	67.00%	64.00%	66.88%	(\$0.00)	10.21%	24.68	4.59				
Black Hills Corp.	BKH	\$59.83	6.20%	7.40%	7.50%	7.03%	5.38%	68.00%	53.00%	66.88%	(\$0.00)	11.27%	24.68	4.59				
CMS Energy Corp.	CMS	\$41.38	6.00%	7.27%	6.00%	6.42%	5.38%	63.00%	61.00%	66.88%	(\$0.00)	10.68%	24.68	4.59				
DTE Energy Co.	DTE	\$94.27	5.80%	5.63%	6.00%	5.81%	5.38%	63.00%	64.00%	66.88%	(\$0.00)	10.67%	24.68	4.59				
IDACORP, Inc.	IDA	\$77.28	4.30%	4.10%	3.00%	3.80%	5.38%	53.00%	60.00%	66.88%	(\$0.00)	9.82%	24.68	4.59				
NorthWestern Corporation	NWE	\$56.88	5.00%	4.50%	6.50%	5.33%	5.38%	59.00%	58.00%	66.88%	(\$0.00)	10.95%	24.68	4.59				
OGE Energy Corp.	OGE	\$31.60	5.30%	4.00%	3.00%	4.10%	5.38%	66.00%	74.00%	66.88%	(\$0.00)	11.01%	24.68	4.59				
Otter Tail Corporation	OTTR	\$36.51	NA	6.00%	6.00%	6.00%	5.38%	82.00%	64.00%	66.88%	(\$0.00)	9.99%	24.68	4.59				
Pinnacle West Capital	PNW	\$75.42	4.90%	4.73%	4.00%	4.54%	5.38%	64.00%	64.00%	66.88%	(\$0.00)	10.80%	24.68	4.59				
PNM Resources, Inc.	PNM	\$32.53	5.30%	6.85%	9.00%	7.05%	5.38%	51.00%	55.00%	66.88%	(\$0.00)	11.78%	24.68	4.59				
Portland General Electric Co.	POR	\$42.39	6.20%	6.67%	5.50%	6.12%	5.38%	58.00%	59.00%	66.88%	(\$0.00)	10.91%	24.68	4.59				
SCANA Corp.	SCG	\$71.58	5.70%	6.03%	4.50%	5.41%	5.38%	57.00%	57.00%	66.88%	(\$0.00)	11.37%	24.68	4.59				
WEC Energy Group Inc.	WEC	\$58.41	6.00%	6.92%	6.00%	6.31%	5.38%	67.00%	67.00%	66.88%	(\$0.00)	9.52%	24.68	4.59				
Xcel Energy, Inc.	XEL	\$40.53	5.40%	5.65%	5.50%	5.52%	5.38%	62.00%	62.00%	66.88%	(\$0.00)	11.33%	24.68	4.59				
DCF Result																		
Mean														10.80%	24.68	4.59		
Max														11.78%	24.68	4.59		
Min														9.52%	24.68	4.59		
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]
Company	Ticker	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
ALLETE, Inc.	ALE	\$3.38	\$3.54	\$3.71	\$3.89	\$4.08	\$4.28	\$4.49	\$4.72	\$4.96	\$5.21	\$5.49	\$5.78	\$6.10	\$6.42	\$6.77	\$7.13	\$7.52
Alliant Energy Corp.	LNT	\$1.69	\$1.79	\$1.89	\$2.00	\$2.12	\$2.24	\$2.37	\$2.51	\$2.65	\$2.79	\$2.95	\$3.11	\$3.27	\$3.45	\$3.63	\$3.83	\$4.04
American Electric Power	AEP	\$3.59	\$3.74	\$3.89	\$4.05	\$4.22	\$4.39	\$4.58	\$4.79	\$5.01	\$5.26	\$5.53	\$5.83	\$6.14	\$6.47	\$6.82	\$7.19	\$7.58
Avista Corp.	AVA	\$1.89	\$1.99	\$2.10	\$2.21	\$2.33	\$2.45	\$2.58	\$2.72	\$2.86	\$3.02	\$3.18	\$3.35	\$3.53	\$3.72	\$3.92	\$4.13	\$4.35
Black Hills Corp.	BKH	\$2.83	\$3.03	\$3.24	\$3.47	\$3.71	\$3.98	\$4.24	\$4.52	\$4.80	\$5.08	\$5.37	\$5.66	\$5.97	\$6.29	\$6.62	\$6.98	\$7.36
CMS Energy Corp.	CMS	\$1.89	\$2.01	\$2.14	\$2.28	\$2.42	\$2.58	\$2.74	\$2.91	\$3.08	\$3.26	\$3.44	\$3.62	\$3.82	\$4.02	\$4.24	\$4.47	\$4.71
DTE Energy Co.	DTE	\$4.45	\$4.71	\$4.98	\$5.27	\$5.58	\$5.90	\$6.24	\$6.59	\$6.96	\$7.35	\$7.75	\$8.16	\$8.60	\$9.07	\$9.55	\$10.07	\$10.61
IDACORP, Inc.	IDA	\$3.87	\$4.02	\$4.17	\$4.33	\$4.49	\$4.66	\$4.85	\$5.06	\$5.30	\$5.55	\$5.84	\$6.15	\$6.48	\$6.83	\$7.20	\$7.58	\$7.99
NorthWestern Corporation	NWE	\$2.90	\$3.05	\$3.22	\$3.39	\$3.57	\$3.76	\$3.96	\$4.17	\$4.40	\$4.63	\$4.88	\$5.14	\$5.42	\$5.71	\$6.02	\$6.34	\$6.68
OGE Energy Corp.	OGE	\$1.69	\$1.76	\$1.83	\$1.91	\$1.98	\$2.07	\$2.16	\$2.25	\$2.36	\$2.48	\$2.60	\$2.74	\$2.89	\$3.05	\$3.21	\$3.38	\$3.57
Otter Tail Corporation	OTTR	\$1.56	\$1.65	\$1.75	\$1.86	\$1.97	\$2.09	\$2.21	\$2.34	\$2.47	\$2.61	\$2.75	\$2.90	\$3.06	\$3.22	\$3.39	\$3.58	\$3.77
Pinnacle West Capital	PNW	\$3.92	\$4.10	\$4.28	\$4.48	\$4.68	\$4.90	\$5.12	\$5.37	\$5.64	\$5.93	\$6.24	\$6.57	\$6.92	\$7.30	\$7.69	\$8.10	\$8.54
PNM Resources, Inc.	PNM	\$1.64	\$1.76	\$1.88	\$2.01	\$2.15	\$2.31	\$2.46	\$2.62	\$2.78	\$2.95	\$3.12	\$3.28	\$3.46	\$3.65	\$3.84	\$4.05	\$4.27
Portland General Electric Co.	POR	\$2.04	\$2.16	\$2.30	\$2.44	\$2.59	\$2.75	\$2.91	\$3.08	\$3.26	\$3.44	\$3.63	\$3.83	\$4.03	\$4.25	\$4.48	\$4.72	\$4.97
SCANA Corp.	SCG	\$3.81	\$4.02	\$4.23	\$4.46	\$4.70	\$4.96	\$5.23	\$5.51	\$5.81	\$6.12	\$6.45	\$6.79	\$7.16	\$7.55	\$7.95	\$8.38	\$8.83
WEC Energy Group Inc.	WEC	\$2.34	\$2.49	\$2.64	\$2.81	\$2.99	\$3.18	\$3.37	\$3.57	\$3.78	\$4.00	\$4.22	\$4.45	\$4.69	\$4.94	\$5.20	\$5.48	\$5.78
Xcel Energy, Inc.	XEL	\$2.10	\$2.22	\$2.34	\$2.47	\$2.60	\$2.75	\$2.90	\$3.06	\$3.22	\$3.40	\$3.58	\$3.77	\$3.98	\$4.19	\$4.42	\$4.65	\$4.90
Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]	[46]	
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
ALLETE, Inc.	ALE	72.00%	69.50%	67.00%	64.50%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Alliant Energy Corp.	LNT	72.00%	69.25%	66.50%	63.75%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
American Electric Power	AEP	59.00%	60.25%	61.50%	62.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Avista Corp.	AVA	67.00%	66.25%	65.50%	64.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Black Hills Corp.	BKH	68.00%	64.25%	60.50%	56.75%	53.00%	55.31%	57.63%	59.94%	62.26%	64.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
CMS Energy Corp.	CMS	63.00%	62.50%	62.00%	61.50%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
DTE Energy Co.	DTE	63.00%	63.25%	63.50%	63.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
IDACORP, Inc.	IDA	53.00%	54.75%	56.50%	58.25%	60.00%	61.15%	62.29%	63.44%	64.59%	65.74%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
NorthWestern Corporation	NWE	59.00%	58.25%	58.50%	58.75%	59.00%	59.48%	59.96%	60.44%	60.92%	61.40%	61.88%	62.36%	62.84%	63.32%	63.80%	64.28%	
OGE Energy Corp.	OGE	66.00%	68.00%	70.00%	72.00%	74.00%	72.81%	71.63%	70.44%	69.26%	68.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Otter Tail Corporation	OTTR	82.00%	77.50%	73.00%	68.50%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Pinnacle West Capital	PNW	64.00%	64.00%	64.00%	64.00%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
PNM Resources, Inc.	PNM	51.00%	52.00%	53.00%	54.00%	55.00%	56.98%	58.96%	60.94%	62.92%	64.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Portland General Electric Co.	POR	58.00%	58.25%	58.50%	58.75%	59.00%	60.31%	61.63%	62.94%	64.26%	65.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
SCANA Corp.	SCG	57.00%	57.00%	57.00%	57.00%	57.00%	58.65%	60.29%	61.94%	63.59%	65.24%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
WEC Energy Group Inc.	WEC	67.00%	67.00%	67.00%	67.00%	67.00%	66.98%	66.96%	66.94%	66.92%	66.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Xcel Energy, Inc.	XEL	62.00%	62.00%	62.00%	62.00%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Projected Annual Cash Flows		[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]	[62]	[63]
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Terminal Value
ALLETE, Inc.	ALE	\$2.55	\$2.58	\$2.61	\$2.63	\$2.65	\$2.82	\$3.00	\$3.19	\$3.40	\$3.63	\$3.87	\$4.08	\$4.30	\$4.53	\$4.77	\$5.03	\$185.50
Alliant Energy Corp.	LNT	\$1.29	\$1.31	\$1.33	\$1.35	\$1.37	\$1.47	\$1.58	\$1.69	\$1.81	\$1.94	\$2.08	\$2.19	\$2.31	\$2.43	\$2.56	\$2.70	\$99.60
American Electric Power	AEP	\$2.20	\$2.34	\$2.49	\$2.65	\$2.81	\$2.95	\$3.11	\$3.28	\$3.47	\$3.67	\$3.90	\$4.11	\$4.33	\$4.56	\$4.81	\$5.07	\$186.93
Avista Corp.	AVA	\$1.33	\$1.39	\$1.45	\$1.51	\$1.57	\$1.66	\$1.77	\$1.87	\$1.99	\$2.11	\$2.24	\$2.36	\$2.49	\$2.62	\$2.76	\$2.91	\$107.43
Black Hills Corp.	BKH	\$2.06	\$2.08	\$2.10	\$2.11	\$2.11	\$2.35	\$2.60	\$2.88	\$3.17	\$3.47	\$3.79	\$3.99	\$4.20	\$4.43	\$4.67	\$4.92	\$181.52
CMS Energy Corp.	CMS	\$1.27	\$1.34	\$1.41	\$1.49	\$1.57	\$1.70	\$1.83	\$1.97	\$2.11	\$2.26	\$2.42	\$2.55	\$2.69	\$2.83	\$2.99	\$3.15	\$116.13
DTE Energy Co.	DTE	\$2.97	\$3.15	\$3.35	\$3.56	\$3.78	\$4.02	\$4.28	\$4.56	\$4.84	\$5.14	\$5.46	\$5.75	\$6.06	\$6.39	\$6.73	\$7.10	\$261.82
IDACORP, Inc.	IDA	\$2.13	\$2.28	\$2.45	\$2.62	\$2.80	\$2.97	\$3.15	\$3.36	\$3.59	\$3.84	\$4.11	\$4.33	\$4.57	\$4.81	\$5.07	\$5.35	\$197.21
NorthWestern Corporation	NWE	\$1.80	\$1.89	\$1.98	\$2.08	\$2.18	\$2.36	\$2.54	\$2.75	\$2.96	\$3.19	\$3.44	\$3.63	\$3.82	\$4.03	\$4.24	\$4.47	\$164.94
OGE Energy Corp.	OGE	\$1.16	\$1.25	\$1.33	\$1.43	\$1.53	\$1.57	\$1.61	\$1.66	\$1.71	\$1.77	\$1.84	\$1.93	\$2.04	\$2.15	\$2.26	\$2.39	\$88.00
Otter Tail Corporation	OTTR	\$1.36	\$1.36	\$1.36	\$1.35	\$1.34	\$1.43	\$1.52	\$1.62	\$1.72	\$1.83	\$1.94	\$2.04	\$2.15	\$2.27	\$2.39	\$2.52	\$93.03
Pinnacle West Capital	PNW	\$2.62	\$2.74	\$2.87	\$3.00	\$3.13	\$3.30	\$3.49	\$3.69	\$3.91	\$4.14	\$4.40	\$4.63	\$4.88	\$5.14	\$5.42	\$5.71	\$210.72
PNM Resources, Inc.	PNM	\$0.90	\$0.98	\$1.07	\$1.16	\$1.27	\$1.40	\$1.55	\$1.70	\$1.86	\$2.02	\$2.20	\$2.31	\$2.44	\$2.57	\$2.71	\$2.85	\$105.31
Portland General Electric Co.	POR	\$1.26	\$1.34	\$1.43	\$1.52	\$1.62	\$1.76	\$1.90	\$2.05	\$2.21	\$2.38	\$2.56	\$2.70	\$2.84	\$3.00	\$3.16	\$3.33	\$12

Multi-Stage Growth Discounted Cash Flow Model  
90 Day Average Stock Price  
High EPS Growth Rate Estimate in First Stage

Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]							
		Stock	EPS Growth Rate Estimates			Long-Term		Payout Ratio			Iterative Solution		Terminal	Terminal							
				Value	High																
Company	Ticker	Price	Zacks	First Call	Line	Growth	Growth	2016	2020	2026	Proof	IRR	P/E Ratio	PEG Ratio							
ALLETE, Inc.	ALE	\$60.87	5.50%	5.00%	4.00%	5.50%	5.38%	72.00%	62.00%	66.88%	(\$0.00)	12.08%	24.68	4.59							
Alliant Energy Corp.	LNT	\$37.42	5.50%	6.00%	6.00%	6.00%	5.38%	72.00%	61.00%	66.88%	(\$0.00)	10.38%	24.68	4.59							
American Electric Power	AEP	\$62.73	5.40%	1.90%	5.00%	5.40%	5.38%	59.00%	64.00%	66.88%	(\$0.00)	12.23%	24.68	4.59							
Avista Corp.	AVA	\$40.83	NA	5.65%	5.00%	5.65%	5.38%	67.00%	64.00%	66.88%	(\$0.00)	10.41%	24.68	4.59							
Black Hills Corp.	BKH	\$59.83	6.20%	7.40%	7.50%	7.50%	5.38%	68.00%	53.00%	66.88%	(\$0.00)	11.55%	24.68	4.59							
CMS Energy Corp.	CMS	\$41.38	6.00%	7.27%	6.00%	7.27%	5.38%	63.00%	61.00%	66.88%	(\$0.00)	11.20%	24.68	4.59							
DTE Energy Co.	DTE	\$94.27	5.80%	5.63%	6.00%	6.00%	5.38%	63.00%	64.00%	66.88%	(\$0.00)	10.78%	24.68	4.59							
IDACORP, Inc.	IDA	\$77.28	4.30%	4.10%	3.00%	4.30%	5.38%	53.00%	60.00%	66.88%	(\$0.00)	10.13%	24.68	4.59							
NorthWestern Corporation	NWE	\$56.88	5.00%	4.50%	6.50%	6.50%	5.38%	59.00%	58.00%	66.88%	(\$0.00)	11.68%	24.68	4.59							
OGE Energy Corp.	OGE	\$31.60	5.30%	4.00%	3.00%	5.30%	5.38%	66.00%	74.00%	66.88%	(\$0.00)	11.78%	24.68	4.59							
Otter Tail Corporation	OTTR	\$36.51	NA	6.00%	6.00%	6.00%	5.38%	82.00%	64.00%	66.88%	(\$0.00)	9.99%	24.68	4.59							
Pinnacle West Capital	PNW	\$75.42	4.90%	4.73%	4.00%	4.90%	5.38%	64.00%	64.00%	66.88%	(\$0.00)	11.03%	24.68	4.59							
PNM Resources, Inc.	PNM	\$32.53	5.30%	6.85%	9.00%	9.00%	5.38%	51.00%	55.00%	66.88%	(\$0.00)	12.98%	24.68	4.59							
Portland General Electric Co.	POR	\$42.39	6.20%	6.67%	5.50%	6.67%	5.38%	58.00%	59.00%	66.88%	(\$0.00)	11.24%	24.68	4.59							
SCANA Corp.	SCG	\$71.58	5.70%	6.03%	4.50%	6.03%	5.38%	57.00%	57.00%	66.88%	(\$0.00)	11.76%	24.68	4.59							
WEC Energy Group Inc.	WEC	\$58.41	6.00%	6.92%	6.00%	6.92%	5.38%	67.00%	67.00%	66.88%	(\$0.00)	9.89%	24.68	4.59							
Xcel Energy, Inc.	XEL	\$40.53	5.40%	5.65%	5.50%	5.65%	5.38%	62.00%	62.00%	66.88%	(\$0.00)	11.41%	24.68	4.59							
DCF Result																					
Mean														11.21%	24.68	4.59					
Max														12.98%	24.68	4.59					
Min														9.89%	24.68	4.59					
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]			
Company	Ticker	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031			
ALLETE, Inc.	ALE	\$3.38	\$3.57	\$3.76	\$3.97	\$4.19	\$4.42	\$4.66	\$4.91	\$5.18	\$5.46	\$5.76	\$6.07	\$6.39	\$6.74	\$7.10	\$7.48	\$7.88			
Alliant Energy Corp.	LNT	\$1.69	\$1.79	\$1.90	\$2.01	\$2.13	\$2.26	\$2.39	\$2.53	\$2.68	\$2.83	\$2.98	\$3.14	\$3.31	\$3.49	\$3.68	\$3.88	\$4.08			
American Electric Power	AEP	\$3.59	\$3.78	\$3.99	\$4.20	\$4.43	\$4.67	\$4.92	\$5.19	\$5.47	\$5.76	\$6.07	\$6.40	\$6.74	\$7.10	\$7.49	\$7.89	\$8.31			
Avista Corp.	AVA	\$1.89	\$2.00	\$2.11	\$2.23	\$2.35	\$2.49	\$2.63	\$2.77	\$2.93	\$3.09	\$3.25	\$3.43	\$3.61	\$3.81	\$4.01	\$4.23	\$4.46			
Black Hills Corp.	BKH	\$2.83	\$3.04	\$3.27	\$3.52	\$3.78	\$4.06	\$4.35	\$4.65	\$4.95	\$5.25	\$5.55	\$5.85	\$6.16	\$6.49	\$6.84	\$7.21	\$7.60			
CMS Energy Corp.	CMS	\$1.89	\$2.03	\$2.17	\$2.33	\$2.50	\$2.68	\$2.87	\$3.06	\$3.26	\$3.45	\$3.65	\$3.84	\$4.05	\$4.27	\$4.50	\$4.74	\$4.99			
DTE Energy Co.	DTE	\$4.45	\$4.72	\$5.00	\$5.30	\$5.62	\$5.96	\$6.31	\$6.67	\$7.05	\$7.44	\$7.85	\$8.28	\$8.72	\$9.19	\$9.68	\$10.20	\$10.75			
IDACORP, Inc.	IDA	\$3.87	\$4.04	\$4.21	\$4.39	\$4.58	\$4.78	\$4.99	\$5.22	\$5.48	\$5.75	\$6.05	\$6.38	\$6.72	\$7.08	\$7.46	\$7.86	\$8.28			
NorthWestern Corporation	NWE	\$2.90	\$3.09	\$3.29	\$3.50	\$3.73	\$3.97	\$4.22	\$4.48	\$4.75	\$5.02	\$5.30	\$5.59	\$5.89	\$6.20	\$6.54	\$6.89	\$7.26			
OGE Energy Corp.	OGE	\$1.69	\$1.78	\$1.87	\$1.97	\$2.08	\$2.19	\$2.30	\$2.43	\$2.56	\$2.69	\$2.84	\$2.99	\$3.15	\$3.32	\$3.50	\$3.69	\$3.89			
Otter Tail Corporation	OTTR	\$1.56	\$1.65	\$1.75	\$1.86	\$1.97	\$2.09	\$2.21	\$2.34	\$2.47	\$2.61	\$2.75	\$2.90	\$3.06	\$3.22	\$3.39	\$3.58	\$3.77			
Pinnacle West Capital	PNW	\$3.92	\$4.11	\$4.31	\$4.52	\$4.75	\$4.98	\$5.23	\$5.49	\$5.77	\$6.08	\$6.40	\$6.74	\$7.10	\$7.49	\$7.89	\$8.31	\$8.76			
PNM Resources, Inc.	PNM	\$1.64	\$1.79	\$1.95	\$2.12	\$2.31	\$2.52	\$2.74	\$2.95	\$3.16	\$3.37	\$3.57	\$3.76	\$3.96	\$4.18	\$4.40	\$4.64	\$4.89			
Portland General Electric Co.	POR	\$2.04	\$2.18	\$2.32	\$2.48	\$2.64	\$2.82	\$3.00	\$3.19	\$3.38	\$3.57	\$3.77	\$3.98	\$4.19	\$4.42	\$4.65	\$4.90	\$5.17			
SCANA Corp.	SCG	\$3.81	\$4.04	\$4.28	\$4.54	\$4.82	\$5.11	\$5.41	\$5.72	\$6.05	\$6.39	\$6.74	\$7.10	\$7.48	\$7.88	\$8.31	\$8.76	\$9.23			
WEC Energy Group Inc.	WEC	\$2.34	\$2.50	\$2.68	\$2.86	\$3.06	\$3.27	\$3.49	\$3.71	\$3.94	\$4.17	\$4.41	\$4.64	\$4.89	\$5.16	\$5.43	\$5.73	\$6.03			
Xcel Energy, Inc.	XEL	\$2.10	\$2.22	\$2.34	\$2.48	\$2.62	\$2.76	\$2.92	\$3.08	\$3.25	\$3.43	\$3.62	\$3.81	\$4.01	\$4.23	\$4.46	\$4.70	\$4.95			
Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]	[46]				
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031				
ALLETE, Inc.	ALE	72.00%	69.50%	67.00%	64.50%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
Alliant Energy Corp.	LNT	72.00%	69.25%	66.50%	63.75%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
American Electric Power	AEP	59.00%	60.25%	61.50%	62.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
Avista Corp.	AVA	67.00%	66.25%	65.50%	64.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
Black Hills Corp.	BKH	68.00%	64.25%	60.50%	56.75%	53.00%	55.31%	57.63%	59.94%	62.26%	64.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
CMS Energy Corp.	CMS	63.00%	62.50%	62.00%	61.50%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
DTE Energy Co.	DTE	63.00%	63.25%	63.50%	63.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
IDACORP, Inc.	IDA	53.00%	54.75%	56.50%	58.25%	60.00%	61.15%	62.29%	63.44%	64.59%	65.74%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
NorthWestern Corporation	NWE	59.00%	58.25%	58.50%	58.25%	58.00%	59.48%	60.96%	62.44%	63.92%	65.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
OGE Energy Corp.	OGE	66.00%	68.00%	70.00%	72.00%	74.00%	72.81%	71.63%	70.44%	69.26%	68.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
Otter Tail Corporation	OTTR	82.00%	77.50%	73.00%	68.50%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
Pinnacle West Capital	PNW	64.00%	64.00%	64.00%	64.00%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
PNM Resources, Inc.	PNM	51.00%	52.00%	53.00%	54.00%	55.00%	56.98%	58.96%	60.94%	62.92%	64.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
Portland General Electric Co.	POR	58.00%	58.25%	58.50%	58.75%	59.00%	60.31%	61.63%	62.94%	64.26%	65.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
SCANA Corp.	SCG	57.00%	57.00%	57.00%	57.00%	57.00%	58.65%	60.29%	61.94%	63.59%	65.24%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
WEC Energy Group Inc.	WEC	67.00%	67.00%	67.00%	67.00%	67.00%	66.98%	66.96%	66.94%	66.92%	66.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
Xcel Energy, Inc.	XEL	62.00%	62.00%	62.00%	62.00%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
Projected Annual Cash Flows		[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]	[62]	[63]	Terminal		
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Value			
ALLETE, Inc.	ALE	\$2.57	\$2.61	\$2.66	\$2.70	\$2.74	\$2.93	\$3.13	\$3.34	\$3.56	\$3.80	\$4.06	\$4.28	\$4.51	\$4.75	\$5.00	\$5.27	\$194.53			
Alliant Energy Corp.	LNT	\$1.29	\$1.31	\$1.34	\$1.36	\$1.38	\$1.48	\$1.60	\$1.71	\$1.84	\$1.97	\$2.10	\$2.22	\$2.33	\$2.46	\$2.59	\$2.73	\$100.78			
American Electric Power	AEP	\$2.23	\$2.40	\$2.59	\$2.78	\$2.99	\$3.17	\$3.37	\$3.58	\$3.80	\$4.03	\$4.28	\$4.51	\$4.75	\$5.01	\$5.28	\$5.56	\$205.15			
Avista Corp.	AVA	\$1.34	\$1.40	\$1.46	\$1.52	\$1.59	\$1.69	\$1.80	\$1.91	\$2.03	\$2.16	\$2.29	\$2.42	\$2.55	\$2.68	\$2.83	\$2.98	\$109.94			
Black Hills Corp.	BKH	\$2.07	\$2.10	\$2.13	\$2.14	\$2.15	\$2.41	\$2.68	\$2.97	\$3.27	\$3.58	\$3.91	\$4.12	\$4.34	\$4.58	\$4.82	\$5.08	\$187.55			
CMS Energy Corp.	CMS	\$1.28	\$1.36	\$1.45	\$1.54	\$1.64	\$1.78	\$1.93	\$2.08	\$2.24	\$2.40	\$2.57	\$2.71	\$2.85	\$3.01	\$3.17	\$3.34	\$123.25			
DTE Energy Co.	DTE	\$2.97	\$3.16	\$3.37	\$3.58	\$3.81	\$4.07	\$4.33	\$4.61	\$4.91	\$5.21	\$5.53	\$5.83	\$6.15	\$6.48	\$6.83	\$7.19	\$265.37			
IDACORP, Inc.	IDA	\$2.14	\$2.30	\$2.48	\$2.67	\$2.87	\$3.05	\$3.25	\$3.47	\$3.71	\$3.98	\$4.26	\$4.49	\$4.74	\$4.99	\$5.26	\$5.54	\$204.43			
NorthWestern Corporation	NWE	\$1.82	\$1.93	\$2.05	\$2.17	\$2.30	\$2.51	\$2.73	\$2.97	\$3.21	\$3.47	\$3.74	\$3.94	\$4.15	\$4.37	\$4.61	\$4.86	\$179.15			
OGE Energy Corp.	OGE	\$1.17	\$1.27	\$1.38	\$1.50	\$1.62	\$1.68	\$1.74	\$1.80	\$1.87	\$1.93	\$2.00	\$2.11	\$2.22	\$2.34	\$2.4					

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

Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]				
		Stock	EPS Growth Rate Estimates			Long-Term		Payout Ratio			Iterative Solution		Terminal	Terminal				
Company	Ticker	Price	Zacks	First Call	Line	Low Growth	Growth	2016	2020	2026	Proof	IRR	P/E Ratio	PEG Ratio				
ALLETE, Inc.	ALE	\$60.87	5.50%	5.00%	4.00%	4.00%	5.38%	72.00%	62.00%	66.88%	(\$0.00)	11.13%	24.68	4.59				
Alliant Energy Corp.	LNT	\$37.42	5.50%	6.00%	6.00%	5.50%	5.38%	72.00%	61.00%	66.88%	(\$0.00)	10.07%	24.68	4.59				
American Electric Power	AEP	\$62.73	5.40%	1.90%	5.00%	1.90%	5.38%	59.00%	64.00%	66.88%	(\$0.00)	10.00%	24.68	4.59				
Avista Corp.	AVA	\$40.83	NA	5.65%	5.00%	5.00%	5.38%	67.00%	64.00%	66.88%	(\$0.00)	10.01%	24.68	4.59				
Black Hills Corp.	BKH	\$59.83	6.20%	7.40%	7.50%	6.20%	5.38%	68.00%	53.00%	66.88%	(\$0.00)	10.76%	24.68	4.59				
CMS Energy Corp.	CMS	\$41.38	6.00%	7.27%	6.00%	6.00%	5.38%	63.00%	61.00%	66.88%	(\$0.00)	10.42%	24.68	4.59				
DTE Energy Co.	DTE	\$94.27	5.80%	5.63%	6.00%	5.63%	5.38%	63.00%	64.00%	66.88%	(\$0.00)	10.56%	24.68	4.59				
IDACORP, Inc.	IDA	\$77.28	4.30%	4.10%	3.00%	3.00%	5.38%	53.00%	60.00%	66.88%	(\$0.00)	9.32%	24.68	4.59				
NorthWestern Corporation	NWE	\$56.88	5.00%	4.50%	6.50%	4.50%	5.38%	59.00%	58.00%	66.88%	(\$0.00)	10.43%	24.68	4.59				
OGE Energy Corp.	OGE	\$31.60	5.30%	4.00%	3.00%	3.00%	5.38%	66.00%	74.00%	66.88%	(\$0.00)	10.31%	24.68	4.59				
Otter Tail Corporation	OTTR	\$36.51	NA	6.00%	6.00%	6.00%	5.38%	82.00%	64.00%	66.88%	(\$0.00)	9.99%	24.68	4.59				
Pinnacle West Capital	PNW	\$75.42	4.90%	4.73%	4.00%	4.00%	5.38%	64.00%	64.00%	66.88%	(\$0.00)	10.46%	24.68	4.59				
PNM Resources, Inc.	PNM	\$32.53	5.30%	6.85%	9.00%	5.30%	5.38%	51.00%	55.00%	66.88%	\$0.00	10.70%	24.68	4.59				
Portland General Electric Co.	POR	\$42.39	6.20%	6.67%	5.50%	5.50%	5.38%	58.00%	59.00%	66.88%	(\$0.00)	10.52%	24.68	4.59				
SCANA Corp.	SCG	\$71.58	5.70%	6.03%	4.50%	4.50%	5.38%	57.00%	57.00%	66.88%	(\$0.00)	10.80%	24.68	4.59				
WEC Energy Group Inc.	WEC	\$58.41	6.00%	6.92%	6.00%	6.00%	5.38%	67.00%	67.00%	66.88%	(\$0.00)	9.33%	24.68	4.59				
Xcel Energy, Inc.	XEL	\$40.53	5.40%	5.65%	5.50%	5.40%	5.38%	62.00%	62.00%	66.88%	(\$0.00)	11.25%	24.68	4.59				
DCF Result																		
Mean														10.36%	24.68	4.59		
Max														11.25%	24.68	4.59		
Min														9.32%	24.68	4.59		
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]
Company	Ticker	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
ALLETE, Inc.	ALE	\$3.38	\$3.52	\$3.66	\$3.80	\$3.95	\$4.11	\$4.29	\$4.48	\$4.69	\$4.92	\$5.17	\$5.45	\$5.74	\$6.05	\$6.38	\$6.72	\$7.08
Alliant Energy Corp.	LNT	\$1.69	\$1.78	\$1.88	\$1.98	\$2.09	\$2.21	\$2.33	\$2.46	\$2.59	\$2.73	\$2.88	\$3.03	\$3.20	\$3.37	\$3.55	\$3.74	\$3.94
American Electric Power	AEP	\$3.59	\$3.66	\$3.73	\$3.80	\$3.87	\$3.94	\$4.04	\$4.17	\$4.32	\$4.50	\$4.72	\$4.97	\$5.24	\$5.52	\$5.81	\$6.13	\$6.46
Avista Corp.	AVA	\$1.89	\$1.98	\$2.08	\$2.19	\$2.30	\$2.41	\$2.53	\$2.66	\$2.80	\$2.95	\$3.11	\$3.27	\$3.45	\$3.64	\$3.83	\$4.04	\$4.25
Black Hills Corp.	BKH	\$2.83	\$3.01	\$3.19	\$3.39	\$3.60	\$3.82	\$4.05	\$4.30	\$4.54	\$4.80	\$5.07	\$5.34	\$5.62	\$5.93	\$6.25	\$6.58	\$6.94
CMS Energy Corp.	CMS	\$1.89	\$2.00	\$2.12	\$2.25	\$2.39	\$2.53	\$2.68	\$2.83	\$2.99	\$3.16	\$3.34	\$3.51	\$3.70	\$3.90	\$4.11	\$4.33	\$4.57
DTE Energy Co.	DTE	\$4.45	\$4.70	\$4.97	\$5.24	\$5.54	\$5.85	\$6.18	\$6.52	\$6.88	\$7.26	\$7.65	\$8.06	\$8.49	\$8.95	\$9.43	\$9.94	\$10.48
IDACORP, Inc.	IDA	\$3.87	\$3.99	\$4.11	\$4.23	\$4.36	\$4.49	\$4.64	\$4.81	\$5.02	\$5.25	\$5.51	\$5.80	\$6.12	\$6.45	\$6.79	\$7.16	\$7.54
NorthWestern Corporation	NWE	\$2.90	\$3.03	\$3.17	\$3.31	\$3.46	\$3.61	\$3.78	\$3.96	\$4.16	\$4.37	\$4.60	\$4.85	\$5.11	\$5.38	\$5.67	\$5.98	\$6.30
OGE Energy Corp.	OGE	\$1.69	\$1.74	\$1.79	\$1.85	\$1.90	\$1.96	\$2.03	\$2.10	\$2.19	\$2.29	\$2.41	\$2.53	\$2.67	\$2.81	\$2.97	\$3.13	\$3.29
Otter Tail Corporation	OTTR	\$1.56	\$1.65	\$1.75	\$1.86	\$1.97	\$2.09	\$2.21	\$2.34	\$2.47	\$2.61	\$2.75	\$2.90	\$3.06	\$3.22	\$3.39	\$3.58	\$3.77
Pinnacle West Capital	PNW	\$3.92	\$4.08	\$4.24	\$4.41	\$4.59	\$4.77	\$4.97	\$5.19	\$5.44	\$5.70	\$6.00	\$6.32	\$6.66	\$7.02	\$7.40	\$7.79	\$8.21
PNM Resources, Inc.	PNM	\$1.64	\$1.73	\$1.82	\$1.91	\$2.02	\$2.12	\$2.24	\$2.36	\$2.48	\$2.61	\$2.75	\$2.90	\$3.06	\$3.22	\$3.40	\$3.58	\$3.77
Portland General Electric Co.	POR	\$2.04	\$2.15	\$2.27	\$2.40	\$2.53	\$2.67	\$2.81	\$2.97	\$3.13	\$3.30	\$3.47	\$3.66	\$3.86	\$4.07	\$4.28	\$4.52	\$4.76
SCANA Corp.	SCG	\$3.81	\$3.98	\$4.16	\$4.35	\$4.54	\$4.75	\$4.97	\$5.21	\$5.46	\$5.74	\$6.04	\$6.37	\$6.71	\$7.07	\$7.45	\$7.85	\$8.27
WEC Energy Group Inc.	WEC	\$2.34	\$2.48	\$2.63	\$2.79	\$2.95	\$3.13	\$3.32	\$3.51	\$3.71	\$3.91	\$4.13	\$4.35	\$4.59	\$4.83	\$5.09	\$5.37	\$5.65
Xcel Energy, Inc.	XEL	\$2.10	\$2.21	\$2.33	\$2.46	\$2.59	\$2.73	\$2.88	\$3.03	\$3.20	\$3.37	\$3.55	\$3.74	\$3.94	\$4.16	\$4.38	\$4.61	\$4.86
Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]	[46]	
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
ALLETE, Inc.	ALE	72.00%	69.50%	67.00%	64.50%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Alliant Energy Corp.	LNT	72.00%	69.25%	66.50%	63.75%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
American Electric Power	AEP	59.00%	60.25%	61.50%	62.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Avista Corp.	AVA	67.00%	66.25%	65.50%	64.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Black Hills Corp.	BKH	68.00%	64.25%	60.50%	56.75%	53.00%	55.31%	57.63%	59.94%	62.26%	64.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
CMS Energy Corp.	CMS	63.00%	62.50%	62.00%	61.50%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
DTE Energy Co.	DTE	63.00%	63.25%	63.50%	63.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
IDACORP, Inc.	IDA	53.00%	54.75%	56.50%	58.25%	60.00%	61.15%	62.29%	63.44%	64.59%	65.74%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
NorthWestern Corporation	NWE	59.00%	58.75%	58.50%	58.25%	58.00%	59.48%	60.96%	62.44%	63.92%	65.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
OGE Energy Corp.	OGE	66.00%	68.00%	70.00%	72.00%	74.00%	72.81%	71.63%	70.44%	69.26%	68.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Otter Tail Corporation	OTTR	82.00%	77.50%	73.00%	68.50%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Pinnacle West Capital	PNW	64.00%	64.00%	64.00%	64.00%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
PNM Resources, Inc.	PNM	51.00%	52.00%	53.00%	54.00%	55.00%	56.98%	58.96%	60.94%	62.92%	64.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Portland General Electric Co.	POR	58.00%	58.25%	58.50%	58.75%	59.00%	60.31%	61.63%	62.94%	64.26%	65.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
SCANA Corp.	SCG	57.00%	57.00%	57.00%	57.00%	57.00%	58.65%	60.29%	61.94%	63.59%	65.24%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
WEC Energy Group Inc.	WEC	67.00%	67.00%	67.00%	67.00%	67.00%	66.98%	66.96%	66.94%	66.92%	66.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Xcel Energy, Inc.	XEL	62.00%	62.00%	62.00%	62.00%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Projected Annual Cash Flows		[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]	[62]	[63]
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Terminal Value
ALLETE, Inc.	ALE	\$2.53	\$2.54	\$2.55	\$2.55	\$2.55	\$2.69	\$2.85	\$3.02	\$3.21	\$3.42	\$3.64	\$3.84	\$4.05	\$4.26	\$4.49	\$4.74	\$174.74
Alliant Energy Corp.	LNT	\$1.28	\$1.30	\$1.32	\$1.33	\$1.35	\$1.44	\$1.55	\$1.66	\$1.77	\$1.90	\$2.03	\$2.14	\$2.25	\$2.37	\$2.50	\$2.64	\$97.27
American Electric Power	AEP	\$2.16	\$2.25	\$2.34	\$2.43	\$2.52	\$2.61	\$2.71	\$2.83	\$2.97	\$3.13	\$3.32	\$3.50	\$3.69	\$3.89	\$4.10	\$4.32	\$159.34
Avista Corp.	AVA	\$1.33	\$1.38	\$1.43	\$1.49	\$1.54	\$1.63	\$1.73	\$1.83	\$1.94	\$2.06	\$2.19	\$2.31	\$2.43	\$2.56	\$2.70	\$2.85	\$104.97
Black Hills Corp.	BKH	\$2.04	\$2.05	\$2.05	\$2.04	\$2.03	\$2.24	\$2.48	\$2.72	\$2.99	\$3.27	\$3.57	\$3.76	\$3.96	\$4.18	\$4.40	\$4.64	\$171.17
CMS Energy Corp.	CMS	\$1.26	\$1.33	\$1.40	\$1.47	\$1.54	\$1.66	\$1.78	\$1.91	\$2.05	\$2.20	\$2.35	\$2.48	\$2.61	\$2.75	\$2.90	\$3.05	\$112.71
DTE Energy Co.	DTE	\$2.96	\$3.14	\$3.33	\$3.53	\$3.75	\$3.98	\$4.24	\$4.50	\$4.78	\$5.08	\$5.39	\$5.68	\$5.99	\$6.31	\$6.65	\$7.01	\$258.49
IDACORP, Inc.	IDA	\$2.11	\$2.25	\$2.39	\$2.54	\$2.69	\$2.84	\$3.00	\$3.18	\$3.39	\$3.62	\$3.88	\$4.09	\$4.31	\$4.54	\$4.79	\$5.04	\$186.12
NorthWestern Corporation	NWE	\$1.79	\$1.86	\$1.94	\$2.01	\$2.10	\$2.25	\$2.42	\$2.60	\$2.79	\$3.01	\$3.24	\$3.42	\$3.60	\$3.79	\$4.00	\$4.21	\$155.41
OGE Energy Corp.	OGE	\$1.15	\$1.22	\$1.29	\$1.37	\$1.45	\$1.48	\$1.51	\$1.54	\$1.59	\$1.64	\$1.70	\$1.79	\$1.88	\$1.98	\$2.09	\$2.20	\$81.28
Otter Tail Corporation	OTTR	\$1.36	\$1.36	\$1.36	\$1.35	\$1.34	\$1.43	\$1.52	\$1.62	\$1.72	\$1.83	\$1.94	\$2.04	\$2.15	\$2.27	\$2.39	\$2.52	\$93.03
Pinnacle West Capital	PNW	\$2.61	\$2.71	\$2.82	\$2.93	\$3.05	\$3.21	\$3.37	\$3.56	\$3.76	\$3.98	\$4.23	\$4.45	\$4.69	\$4.95	\$5.21	\$5.49	\$202.65
PNM Resources, Inc.	PNM	\$0.88	\$0.95	\$1.01	\$1.09	\$1.17	\$1.27	\$1.39	\$1.51	\$1.64	\$1.79	\$1.94	\$2.05	\$2.16	\$2.27	\$2.39	\$2.52	\$93.05
Portland General Electric Co.	POR	\$1.25	\$1.32	\$1.40	\$1.48	\$1.57	\$1.70	\$1.83	\$1.97	\$2.12	\$2.28	\$2.45	\$2.58	\$2.72	\$2.87	\$3.02	\$3.18	\$117.41

Multi-Stage Growth Discounted Cash Flow Model  
180 Day Average Stock Price  
Average EPS Growth Rate Estimate in First Stage

Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]							
		Stock	EPS Growth Rate Estimates			Long-Term		Payout Ratio			Iterative Solution		Terminal	Terminal							
		Price	Zacks	First Call	Line	Average	Growth	2016	2020	2026	Proof	IRR	P/E Ratio	PEG Ratio							
Company	Ticker				Value																
ALLETE, Inc.	ALE	\$60.48	5.50%	5.00%	4.00%	4.83%	5.38%	72.00%	62.00%	66.88%	(\$0.00)	11.72%	24.68	4.59							
Alliant Energy Corp.	LNT	\$37.81	5.50%	6.00%	6.00%	5.83%	5.38%	72.00%	61.00%	66.88%	(\$0.00)	10.18%	24.68	4.59							
American Electric Power	AEP	\$64.74	5.40%	1.90%	5.00%	4.10%	5.38%	59.00%	64.00%	66.88%	(\$0.00)	11.10%	24.68	4.59							
Avista Corp.	AVA	\$41.38	NA	5.65%	5.00%	5.33%	5.38%	67.00%	64.00%	66.88%	(\$0.00)	10.09%	24.68	4.59							
Black Hills Corp.	BKH	\$60.39	6.20%	7.40%	7.50%	7.03%	5.38%	68.00%	53.00%	66.88%	(\$0.00)	11.18%	24.68	4.59							
CMS Energy Corp.	CMS	\$42.22	6.00%	7.27%	6.00%	6.42%	5.38%	63.00%	61.00%	66.88%	(\$0.00)	10.49%	24.68	4.59							
DTE Energy Co.	DTE	\$93.96	5.80%	5.63%	6.00%	5.81%	5.38%	63.00%	64.00%	66.88%	(\$0.00)	10.70%	24.68	4.59							
IDACORP, Inc.	IDA	\$76.76	4.30%	4.10%	3.00%	3.80%	5.38%	53.00%	60.00%	66.88%	(\$0.00)	9.88%	24.68	4.59							
NorthWestern Corporation	NWE	\$58.22	5.00%	4.50%	6.50%	5.33%	5.38%	59.00%	58.00%	66.88%	(\$0.00)	10.73%	24.68	4.59							
OGE Energy Corp.	OGE	\$31.23	5.30%	4.00%	3.00%	4.10%	5.38%	66.00%	74.00%	66.88%	(\$0.00)	11.13%	24.68	4.59							
Otter Tail Corporation	OTTR	\$34.23	NA	6.00%	6.00%	6.00%	5.38%	82.00%	64.00%	66.88%	(\$0.00)	10.60%	24.68	4.59							
Pinnacle West Capital	PNW	\$75.89	4.90%	4.73%	4.00%	4.54%	5.38%	64.00%	64.00%	66.88%	(\$0.00)	10.74%	24.68	4.59							
PNM Resources, Inc.	PNM	\$32.93	5.30%	6.85%	9.00%	7.05%	5.38%	51.00%	55.00%	66.88%	(\$0.00)	11.66%	24.68	4.59							
Portland General Electric Co.	POR	\$42.27	6.20%	6.67%	5.50%	6.12%	5.38%	58.00%	59.00%	66.88%	(\$0.00)	10.93%	24.68	4.59							
SCANA Corp.	SCG	\$71.60	5.70%	6.03%	4.50%	5.41%	5.38%	57.00%	57.00%	66.88%	(\$0.00)	11.37%	24.68	4.59							
WEC Energy Group Inc.	WEC	\$60.05	6.00%	6.92%	6.00%	6.31%	5.38%	67.00%	67.00%	66.88%	(\$0.00)	9.26%	24.68	4.59							
Xcel Energy, Inc.	XEL	\$41.41	5.40%	5.65%	5.50%	5.52%	5.38%	62.00%	62.00%	66.88%	(\$0.00)	11.12%	24.68	4.59							
DCF Result																					
Mean														10.76%	24.68	4.59					
Max														11.72%	24.68	4.59					
Min														9.26%	24.68	4.59					
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]			
Company	Ticker	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031			
ALLETE, Inc.	ALE	\$3.38	\$3.54	\$3.71	\$3.89	\$4.08	\$4.28	\$4.49	\$4.72	\$4.96	\$5.21	\$5.49	\$5.78	\$6.10	\$6.42	\$6.77	\$7.13	\$7.52			
Alliant Energy Corp.	LNT	\$1.69	\$1.79	\$1.89	\$2.00	\$2.12	\$2.24	\$2.37	\$2.51	\$2.65	\$2.79	\$2.95	\$3.11	\$3.27	\$3.45	\$3.63	\$3.83	\$4.04			
American Electric Power	AEP	\$3.59	\$3.74	\$3.89	\$4.05	\$4.22	\$4.39	\$4.58	\$4.79	\$5.01	\$5.26	\$5.53	\$5.83	\$6.14	\$6.47	\$6.82	\$7.19	\$7.58			
Avista Corp.	AVA	\$1.89	\$1.99	\$2.10	\$2.21	\$2.33	\$2.45	\$2.58	\$2.72	\$2.86	\$3.02	\$3.18	\$3.35	\$3.53	\$3.72	\$3.92	\$4.13	\$4.35			
Black Hills Corp.	BKH	\$2.83	\$3.03	\$3.24	\$3.47	\$3.71	\$3.98	\$4.24	\$4.52	\$4.80	\$5.08	\$5.37	\$5.66	\$5.97	\$6.29	\$6.62	\$6.98	\$7.36			
CMS Energy Corp.	CMS	\$1.89	\$2.01	\$2.14	\$2.28	\$2.42	\$2.58	\$2.74	\$2.91	\$3.08	\$3.26	\$3.44	\$3.62	\$3.82	\$4.02	\$4.24	\$4.47	\$4.71			
DTE Energy Co.	DTE	\$4.45	\$4.71	\$4.98	\$5.27	\$5.58	\$5.90	\$6.24	\$6.59	\$6.96	\$7.35	\$7.75	\$8.16	\$8.60	\$9.07	\$9.55	\$10.07	\$10.61			
IDACORP, Inc.	IDA	\$3.87	\$4.02	\$4.17	\$4.33	\$4.49	\$4.66	\$4.85	\$5.06	\$5.30	\$5.55	\$5.84	\$6.15	\$6.48	\$6.83	\$7.20	\$7.58	\$7.99			
NorthWestern Corporation	NWE	\$2.90	\$3.05	\$3.22	\$3.39	\$3.57	\$3.76	\$3.96	\$4.17	\$4.40	\$4.63	\$4.88	\$5.14	\$5.42	\$5.71	\$6.02	\$6.34	\$6.68			
OGE Energy Corp.	OGE	\$1.69	\$1.76	\$1.83	\$1.91	\$1.98	\$2.07	\$2.16	\$2.25	\$2.36	\$2.48	\$2.60	\$2.74	\$2.89	\$3.05	\$3.21	\$3.38	\$3.57			
Otter Tail Corporation	OTTR	\$1.56	\$1.65	\$1.75	\$1.86	\$1.97	\$2.09	\$2.21	\$2.34	\$2.47	\$2.61	\$2.75	\$2.90	\$3.06	\$3.22	\$3.39	\$3.58	\$3.77			
Pinnacle West Capital	PNW	\$3.92	\$4.10	\$4.28	\$4.48	\$4.68	\$4.90	\$5.12	\$5.37	\$5.64	\$5.93	\$6.24	\$6.57	\$6.92	\$7.27	\$7.69	\$8.10	\$8.54			
PNM Resources, Inc.	PNM	\$1.64	\$1.76	\$1.88	\$2.01	\$2.15	\$2.31	\$2.46	\$2.62	\$2.78	\$2.95	\$3.12	\$3.28	\$3.46	\$3.65	\$3.84	\$4.05	\$4.27			
Portland General Electric Co.	POR	\$2.04	\$2.16	\$2.30	\$2.44	\$2.59	\$2.75	\$2.91	\$3.08	\$3.26	\$3.44	\$3.63	\$3.83	\$4.03	\$4.25	\$4.48	\$4.72	\$4.97			
SCANA Corp.	SCG	\$3.81	\$4.02	\$4.23	\$4.46	\$4.70	\$4.96	\$5.23	\$5.51	\$5.81	\$6.12	\$6.45	\$6.79	\$7.16	\$7.55	\$7.95	\$8.38	\$8.83			
WEC Energy Group Inc.	WEC	\$2.34	\$2.49	\$2.64	\$2.81	\$2.99	\$3.18	\$3.37	\$3.57	\$3.78	\$4.00	\$4.22	\$4.45	\$4.69	\$4.94	\$5.20	\$5.48	\$5.78			
Xcel Energy, Inc.	XEL	\$2.10	\$2.22	\$2.34	\$2.47	\$2.60	\$2.75	\$2.90	\$3.06	\$3.22	\$3.40	\$3.58	\$3.77	\$3.98	\$4.19	\$4.42	\$4.65	\$4.90			
Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]	[46]				
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031				
ALLETE, Inc.	ALE	72.00%	69.50%	67.00%	64.50%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
Alliant Energy Corp.	LNT	72.00%	69.25%	66.50%	63.75%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
American Electric Power	AEP	59.00%	60.25%	61.50%	62.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
Avista Corp.	AVA	67.00%	66.25%	65.50%	64.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
Black Hills Corp.	BKH	68.00%	64.25%	60.50%	56.75%	53.00%	55.31%	57.63%	59.94%	62.26%	64.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
CMS Energy Corp.	CMS	63.00%	62.50%	62.00%	61.50%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
DTE Energy Co.	DTE	63.00%	63.25%	63.50%	63.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
IDACORP, Inc.	IDA	53.00%	54.75%	56.50%	58.25%	60.00%	61.15%	62.29%	63.44%	64.59%	65.74%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
NorthWestern Corporation	NWE	59.00%	58.25%	58.50%	58.25%	58.00%	59.48%	60.96%	62.44%	63.92%	65.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
OGE Energy Corp.	OGE	66.00%	68.00%	70.00%	72.00%	74.00%	72.81%	71.63%	70.44%	69.26%	68.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
Otter Tail Corporation	OTTR	82.00%	77.50%	73.00%	68.50%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
Pinnacle West Capital	PNW	64.00%	64.00%	64.00%	64.00%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
PNM Resources, Inc.	PNM	51.00%	52.00%	53.00%	54.00%	55.00%	56.98%	58.96%	60.94%	62.92%	64.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
Portland General Electric Co.	POR	58.00%	58.25%	58.50%	58.75%	59.00%	60.31%	61.63%	62.94%	64.26%	65.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
SCANA Corp.	SCG	57.00%	57.00%	57.00%	57.00%	57.00%	58.65%	60.29%	61.94%	63.59%	65.24%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
WEC Energy Group Inc.	WEC	67.00%	67.00%	67.00%	67.00%	67.00%	66.98%	66.96%	66.94%	66.92%	66.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
Xcel Energy, Inc.	XEL	62.00%	62.00%	62.00%	62.00%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%			
Projected Annual Cash Flows		[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]	[62]	[63]	Terminal		
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Value			
ALLETE, Inc.	ALE	\$2.55	\$2.58	\$2.61	\$2.63	\$2.65	\$2.82	\$3.00	\$3.19	\$3.40	\$3.63	\$3.87	\$4.08	\$4.30	\$4.53	\$4.77	\$5.03	\$185.50			
Alliant Energy Corp.	LNT	\$1.29	\$1.31	\$1.33	\$1.35	\$1.37	\$1.47	\$1.58	\$1.69	\$1.81	\$1.94	\$2.08	\$2.19	\$2.31	\$2.43	\$2.56	\$2.70	\$99.60			
American Electric Power	AEP	\$2.20	\$2.34	\$2.49	\$2.65	\$2.81	\$2.95	\$3.11	\$3.28	\$3.47	\$3.67	\$3.90	\$4.11	\$4.33	\$4.56	\$4.81	\$5.07	\$186.93			
Avista Corp.	AVA	\$1.33	\$1.39	\$1.45	\$1.51	\$1.57	\$1.66	\$1.77	\$1.87	\$1.99	\$2.11	\$2.24	\$2.36	\$2.49	\$2.62	\$2.76	\$2.91	\$107.43			
Black Hills Corp.	BKH	\$2.06	\$2.08	\$2.10	\$2.11	\$2.11	\$2.35	\$2.60	\$2.88	\$3.17	\$3.47	\$3.79	\$3.99	\$4.20	\$4.43	\$4.67	\$4.92	\$181.52			
CMS Energy Corp.	CMS	\$1.27	\$1.34	\$1.41	\$1.49	\$1.57	\$1.70	\$1.83	\$1.97	\$2.11	\$2.26	\$2.42	\$2.55	\$2.69	\$2.83	\$2.99	\$3.15	\$116.13			
DTE Energy Co.	DTE	\$2.97	\$3.15	\$3.35	\$3.56	\$3.78	\$4.02	\$4.28	\$4.56	\$4.84	\$5.14	\$5.46	\$5.75	\$6.06	\$6.39	\$6.73	\$7.10	\$261.82			
IDACORP, Inc.	IDA	\$2.13	\$2.28	\$2.45	\$2.62	\$2.80	\$2.97	\$3.15	\$3.36	\$3.59	\$3.84	\$4.11	\$4.33	\$4.57	\$4.81	\$5.07	\$5.35	\$197.21			
NorthWestern Corporation	NWE	\$1.80	\$1.89	\$1.98	\$2.08	\$2.18	\$2.36	\$2.54	\$2.75	\$2.96	\$3.1										

Multi-Stage Growth Discounted Cash Flow Model  
180 Day Average Stock Price  
High EPS Growth Rate Estimate in First Stage

Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]				
		Stock	EPS Growth Rate Estimates			Long-Term		Payout Ratio			Iterative Solution		Terminal	Terminal				
Company	Ticker	Price	Zacks	First Call	Value Line	High Growth	Growth	2016	2020	2026	Proof	IRR	P/E Ratio	PEG Ratio				
ALLETE, Inc.	ALE	\$60.48	5.50%	5.00%	4.00%	5.50%	5.38%	72.00%	62.00%	66.88%	(\$0.00)	12.14%	24.68	4.59				
Alliant Energy Corp.	LNT	\$37.81	5.50%	6.00%	6.00%	6.00%	5.38%	72.00%	61.00%	66.88%	(\$0.00)	10.28%	24.68	4.59				
American Electric Power	AEP	\$64.74	5.40%	1.90%	5.00%	5.40%	5.38%	59.00%	64.00%	66.88%	(\$0.00)	11.92%	24.68	4.59				
Avista Corp.	AVA	\$41.38	NA	5.65%	5.00%	5.65%	5.38%	67.00%	64.00%	66.88%	(\$0.00)	10.29%	24.68	4.59				
Black Hills Corp.	BKH	\$60.39	6.20%	7.40%	7.50%	7.50%	5.38%	68.00%	53.00%	66.88%	(\$0.00)	11.46%	24.68	4.59				
CMS Energy Corp.	CMS	\$42.22	6.00%	7.27%	6.00%	7.27%	5.38%	63.00%	61.00%	66.88%	(\$0.00)	11.01%	24.68	4.59				
DTE Energy Co.	DTE	\$93.96	5.80%	5.63%	6.00%	6.00%	5.38%	63.00%	64.00%	66.88%	(\$0.00)	10.82%	24.68	4.59				
IDACORP, Inc.	IDA	\$76.76	4.30%	4.10%	3.00%	4.30%	5.38%	53.00%	60.00%	66.88%	(\$0.00)	10.19%	24.68	4.59				
NorthWestern Corporation	NWE	\$58.22	5.00%	4.50%	6.50%	6.50%	5.38%	59.00%	58.00%	66.88%	(\$0.00)	11.45%	24.68	4.59				
OGE Energy Corp.	OGE	\$31.23	5.30%	4.00%	3.00%	5.30%	5.38%	66.00%	74.00%	66.88%	(\$0.00)	11.90%	24.68	4.59				
Otter Tail Corporation	OTTR	\$34.23	NA	6.00%	6.00%	6.00%	5.38%	82.00%	64.00%	66.88%	(\$0.00)	10.60%	24.68	4.59				
Pinnacle West Capital	PNW	\$75.89	4.90%	4.73%	4.00%	4.90%	5.38%	64.00%	64.00%	66.88%	(\$0.00)	10.97%	24.68	4.59				
PNM Resources, Inc.	PNM	\$32.93	5.30%	6.85%	9.00%	9.00%	5.38%	51.00%	55.00%	66.88%	(\$0.00)	12.86%	24.68	4.59				
Portland General Electric Co.	POR	\$42.27	6.20%	6.67%	5.50%	6.67%	5.38%	58.00%	59.00%	66.88%	(\$0.00)	11.27%	24.68	4.59				
SCANA Corp.	SCG	\$71.60	5.70%	6.03%	4.50%	6.03%	5.38%	57.00%	57.00%	66.88%	(\$0.00)	11.75%	24.68	4.59				
WEC Energy Group Inc.	WEC	\$60.05	6.00%	6.92%	6.00%	6.92%	5.38%	67.00%	67.00%	66.88%	(\$0.00)	9.63%	24.68	4.59				
Xcel Energy, Inc.	XEL	\$41.41	5.40%	5.65%	5.50%	5.65%	5.38%	62.00%	62.00%	66.88%	(\$0.00)	11.20%	24.68	4.59				
DCF Result																		
Mean														11.16%	24.68	4.59		
Max														12.86%	24.68	4.59		
Min														9.63%	24.68	4.59		
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]
Company	Ticker	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
ALLETE, Inc.	ALE	\$3.38	\$3.57	\$3.76	\$3.97	\$4.19	\$4.42	\$4.66	\$4.91	\$5.18	\$5.46	\$5.76	\$6.07	\$6.39	\$6.74	\$7.10	\$7.48	\$7.88
Alliant Energy Corp.	LNT	\$1.69	\$1.79	\$1.90	\$2.01	\$2.13	\$2.26	\$2.39	\$2.53	\$2.68	\$2.83	\$2.98	\$3.14	\$3.31	\$3.49	\$3.68	\$3.88	\$4.08
American Electric Power	AEP	\$3.59	\$3.78	\$3.99	\$4.20	\$4.43	\$4.67	\$4.92	\$5.19	\$5.47	\$5.76	\$6.07	\$6.40	\$6.74	\$7.10	\$7.49	\$7.89	\$8.31
Avista Corp.	AVA	\$1.89	\$2.00	\$2.11	\$2.23	\$2.35	\$2.49	\$2.63	\$2.77	\$2.93	\$3.09	\$3.25	\$3.43	\$3.61	\$3.81	\$4.01	\$4.23	\$4.46
Black Hills Corp.	BKH	\$2.83	\$3.04	\$3.27	\$3.52	\$3.78	\$4.06	\$4.35	\$4.65	\$4.95	\$5.25	\$5.55	\$5.85	\$6.16	\$6.49	\$6.84	\$7.21	\$7.60
CMS Energy Corp.	CMS	\$1.89	\$2.03	\$2.17	\$2.33	\$2.50	\$2.68	\$2.87	\$3.06	\$3.26	\$3.45	\$3.65	\$3.84	\$4.05	\$4.27	\$4.50	\$4.74	\$4.99
DTE Energy Co.	DTE	\$4.45	\$4.72	\$5.00	\$5.30	\$5.62	\$5.96	\$6.31	\$6.67	\$7.05	\$7.44	\$7.85	\$8.28	\$8.72	\$9.19	\$9.68	\$10.20	\$10.75
IDACORP, Inc.	IDA	\$3.87	\$4.04	\$4.21	\$4.39	\$4.58	\$4.78	\$4.99	\$5.22	\$5.48	\$5.75	\$6.05	\$6.38	\$6.72	\$7.08	\$7.46	\$7.86	\$8.28
NorthWestern Corporation	NWE	\$2.90	\$3.09	\$3.29	\$3.50	\$3.73	\$3.97	\$4.22	\$4.48	\$4.75	\$5.02	\$5.30	\$5.59	\$5.89	\$6.20	\$6.54	\$6.89	\$7.26
OGE Energy Corp.	OGE	\$1.69	\$1.78	\$1.87	\$1.97	\$2.08	\$2.19	\$2.30	\$2.43	\$2.56	\$2.69	\$2.84	\$2.99	\$3.15	\$3.32	\$3.50	\$3.69	\$3.89
Otter Tail Corporation	OTTR	\$1.56	\$1.65	\$1.75	\$1.86	\$1.97	\$2.09	\$2.21	\$2.34	\$2.47	\$2.61	\$2.75	\$2.90	\$3.06	\$3.22	\$3.39	\$3.58	\$3.77
Pinnacle West Capital	PNW	\$3.92	\$4.11	\$4.31	\$4.52	\$4.75	\$4.98	\$5.23	\$5.49	\$5.77	\$6.08	\$6.40	\$6.74	\$7.10	\$7.49	\$7.89	\$8.31	\$8.76
PNM Resources, Inc.	PNM	\$1.64	\$1.79	\$1.95	\$2.12	\$2.31	\$2.52	\$2.74	\$2.95	\$3.16	\$3.37	\$3.57	\$3.76	\$3.96	\$4.18	\$4.40	\$4.64	\$4.89
Portland General Electric Co.	POR	\$2.04	\$2.18	\$2.32	\$2.48	\$2.64	\$2.82	\$3.00	\$3.19	\$3.38	\$3.57	\$3.77	\$3.98	\$4.19	\$4.42	\$4.65	\$4.90	\$5.17
SCANA Corp.	SCG	\$3.81	\$4.04	\$4.28	\$4.54	\$4.82	\$5.11	\$5.41	\$5.72	\$6.05	\$6.39	\$6.74	\$7.10	\$7.48	\$7.88	\$8.31	\$8.76	\$9.23
WEC Energy Group Inc.	WEC	\$2.34	\$2.50	\$2.68	\$2.86	\$3.06	\$3.27	\$3.49	\$3.71	\$3.94	\$4.17	\$4.41	\$4.64	\$4.89	\$5.16	\$5.43	\$5.73	\$6.03
Xcel Energy, Inc.	XEL	\$2.10	\$2.22	\$2.34	\$2.48	\$2.62	\$2.76	\$2.92	\$3.08	\$3.25	\$3.43	\$3.62	\$3.81	\$4.01	\$4.23	\$4.46	\$4.70	\$4.95
Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]	[46]	
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
ALLETE, Inc.	ALE	72.00%	69.50%	67.00%	64.50%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Alliant Energy Corp.	LNT	72.00%	69.25%	66.50%	63.75%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
American Electric Power	AEP	59.00%	60.25%	61.50%	62.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Avista Corp.	AVA	67.00%	66.25%	65.50%	64.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Black Hills Corp.	BKH	68.00%	64.25%	60.50%	56.75%	53.00%	55.31%	57.63%	59.94%	62.26%	64.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
CMS Energy Corp.	CMS	63.00%	62.50%	62.00%	61.50%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
DTE Energy Co.	DTE	63.00%	63.25%	63.50%	63.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
IDACORP, Inc.	IDA	53.00%	54.75%	56.50%	58.25%	60.00%	61.15%	62.29%	63.44%	64.59%	65.74%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
NorthWestern Corporation	NWE	59.00%	58.25%	58.50%	58.25%	58.00%	59.48%	60.96%	62.44%	63.92%	65.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
OGE Energy Corp.	OGE	66.00%	68.00%	70.00%	72.00%	74.00%	72.81%	71.63%	70.44%	69.26%	68.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Otter Tail Corporation	OTTR	82.00%	77.50%	73.00%	68.50%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Pinnacle West Capital	PNW	64.00%	64.00%	64.00%	64.00%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
PNM Resources, Inc.	PNM	51.00%	52.00%	53.00%	54.00%	55.00%	56.98%	58.96%	60.94%	62.92%	64.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Portland General Electric Co.	POR	58.00%	58.25%	58.50%	58.75%	59.00%	60.31%	61.63%	62.94%	64.26%	65.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
SCANA Corp.	SCG	57.00%	57.00%	57.00%	57.00%	57.00%	58.65%	60.29%	61.94%	63.59%	65.24%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
WEC Energy Group Inc.	WEC	67.00%	67.00%	67.00%	67.00%	67.00%	66.98%	66.96%	66.94%	66.92%	66.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Xcel Energy, Inc.	XEL	62.00%	62.00%	62.00%	62.00%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Projected Annual Cash Flows		[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]	[62]	[63]
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Terminal Value
ALLETE, Inc.	ALE	\$2.57	\$2.61	\$2.66	\$2.70	\$2.74	\$2.93	\$3.13	\$3.34	\$3.56	\$3.80	\$4.06	\$4.28	\$4.51	\$4.75	\$5.00	\$5.27	\$194.53
Alliant Energy Corp.	LNT	\$1.29	\$1.31	\$1.34	\$1.36	\$1.38	\$1.48	\$1.60	\$1.71	\$1.84	\$1.97	\$2.10	\$2.22	\$2.33	\$2.46	\$2.59	\$2.73	\$100.78
American Electric Power	AEP	\$2.23	\$2.40	\$2.59	\$2.78	\$2.99	\$3.17	\$3.37	\$3.58	\$3.80	\$4.03	\$4.28	\$4.51	\$4.75	\$5.01	\$5.28	\$5.56	\$205.15
Avista Corp.	AVA	\$1.34	\$1.40	\$1.46	\$1.52	\$1.59	\$1.69	\$1.80	\$1.91	\$2.03	\$2.16	\$2.29	\$2.42	\$2.55	\$2.68	\$2.83	\$2.98	\$109.94
Black Hills Corp.	BKH	\$2.07	\$2.10	\$2.13	\$2.14	\$2.15	\$2.41	\$2.68	\$2.97	\$3.27	\$3.58	\$3.91	\$4.12	\$4.34	\$4.58	\$4.82	\$5.08	\$187.55
CMS Energy Corp.	CMS	\$1.28	\$1.36	\$1.45	\$1.54	\$1.64	\$1.78	\$1.93	\$2.08	\$2.24	\$2.40	\$2.57	\$2.71	\$2.85	\$3.01	\$3.17	\$3.34	\$123.25
DTE Energy Co.	DTE	\$2.97	\$3.16	\$3.37	\$3.58	\$3.81	\$4.07	\$4.33	\$4.61	\$4.91	\$5.21	\$5.53	\$5.83	\$6.15	\$6.48	\$6.83	\$7.19	\$265.37
IDACORP, Inc.	IDA	\$2.14	\$2.30	\$2.48	\$2.67	\$2.87	\$3.05	\$3.25	\$3.47	\$3.71	\$3.98	\$4.26	\$4.49	\$4.74	\$4.99	\$5.26	\$5.54	\$204.43
NorthWestern Corporation	NWE	\$1.82	\$1.93	\$2.05	\$2.17	\$2.30	\$2.51	\$2.73	\$2.97	\$3.21	\$3.47	\$3.74	\$3.94	\$4.15	\$4.37	\$4.61	\$4.86	\$179.15
OGE Energy Corp.	OGE	\$1.17	\$1.27	\$1.38	\$1.50	\$1.62	\$1.68	\$1.74	\$1.80	\$1.87	\$1.93	\$2.00	\$2.11	\$2.22	\$2.34	\$2.47	\$2.60	\$95.89
Otter Tail Corporation	OTTR	\$1.36	\$1.36	\$1.36	\$1.35	\$1.34	\$1.43	\$1.52	\$1.62	\$1.72	\$1.83	\$1.94	\$2.04	\$2.15	\$2.27	\$2.39	\$2.52	\$93.03
Pinnacle West Capital	PNW	\$2.63	\$2.76	\$2.90	\$3.04	\$3.19	\$3.37	\$3.57	\$3.78	\$4.00	\$4.25	\$4.51	\$4.75	\$5.01	\$5.28	\$5.56	\$5.86	\$126.17
PNM Resources, Inc.	PNM	\$0.91	\$1.01	\$1.13	\$1.25	\$1.39	\$1.56	\$1.74	\$1.93	\$2.12	\$2.32	\$2.52	\$2.65	\$2.79	\$2.94	\$3.10	\$3.27	\$120.63
Portland General Electric Co.	POR	\$1.26	\$1.35	\$1.45	\$1.55	\$1.66	\$1.81	\$1.96	\$2.13	\$2.30	\$2.47	\$2.66	\$2.80	\$2.95	\$3.11	\$3.28	\$3.46	

Multi-Stage Growth Discounted Cash Flow Model  
180 Day Average Stock Price  
Low EPS Growth Rate Estimate in First Stage

Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]				
		Stock	EPS Growth Rate Estimates			Long-Term		Payout Ratio			Iterative Solution		Terminal	Terminal				
Company	Ticker	Price	Zacks	First Call	Line	Low Growth	Growth	2016	2020	2026	Proof	IRR	P/E Ratio	PEG Ratio				
ALLETE, Inc.	ALE	\$60.48	5.50%	5.00%	4.00%	4.00%	5.38%	72.00%	62.00%	66.88%	(\$0.00)	11.19%	24.68	4.59				
Alliant Energy Corp.	LNT	\$37.81	5.50%	6.00%	6.00%	5.50%	5.38%	72.00%	61.00%	66.88%	(\$0.00)	9.98%	24.68	4.59				
American Electric Power	AEP	\$64.74	5.40%	1.90%	5.00%	1.90%	5.38%	59.00%	64.00%	66.88%	(\$0.00)	9.70%	24.68	4.59				
Avista Corp.	AVA	\$41.38	NA	5.65%	5.00%	5.00%	5.38%	67.00%	64.00%	66.88%	(\$0.00)	9.89%	24.68	4.59				
Black Hills Corp.	BKH	\$60.39	6.20%	7.40%	7.50%	6.20%	5.38%	68.00%	53.00%	66.88%	(\$0.00)	10.67%	24.68	4.59				
CMS Energy Corp.	CMS	\$42.22	6.00%	7.27%	6.00%	6.00%	5.38%	63.00%	61.00%	66.88%	(\$0.00)	10.23%	24.68	4.59				
DTE Energy Co.	DTE	\$93.96	5.80%	5.63%	6.00%	5.63%	5.38%	63.00%	64.00%	66.88%	(\$0.00)	10.59%	24.68	4.59				
IDACORP, Inc.	IDA	\$76.76	4.30%	4.10%	3.00%	3.00%	5.38%	53.00%	60.00%	66.88%	(\$0.00)	9.39%	24.68	4.59				
NorthWestern Corporation	NWE	\$58.22	5.00%	4.50%	6.50%	4.50%	5.38%	59.00%	58.00%	66.88%	(\$0.00)	10.22%	24.68	4.59				
OGE Energy Corp.	OGE	\$31.23	5.30%	4.00%	3.00%	3.00%	5.38%	66.00%	74.00%	66.88%	(\$0.00)	10.42%	24.68	4.59				
Otter Tail Corporation	OTTR	\$34.23	NA	6.00%	6.00%	6.00%	5.38%	82.00%	64.00%	66.88%	(\$0.00)	10.60%	24.68	4.59				
Pinnacle West Capital	PNW	\$75.89	4.90%	4.73%	4.00%	4.00%	5.38%	64.00%	64.00%	66.88%	(\$0.00)	10.40%	24.68	4.59				
PNM Resources, Inc.	PNM	\$32.93	5.30%	6.85%	9.00%	5.30%	5.38%	51.00%	55.00%	66.88%	\$0.00	10.58%	24.68	4.59				
Portland General Electric Co.	POR	\$42.27	6.20%	6.67%	5.50%	5.50%	5.38%	58.00%	59.00%	66.88%	(\$0.00)	10.55%	24.68	4.59				
SCANA Corp.	SCG	\$71.60	5.70%	6.03%	4.50%	4.50%	5.38%	57.00%	57.00%	66.88%	(\$0.00)	10.80%	24.68	4.59				
WEC Energy Group Inc.	WEC	\$60.05	6.00%	6.92%	6.00%	6.00%	5.38%	67.00%	67.00%	66.88%	(\$0.00)	9.08%	24.68	4.59				
Xcel Energy, Inc.	XEL	\$41.41	5.40%	5.65%	5.50%	5.40%	5.38%	62.00%	62.00%	66.88%	(\$0.00)	11.05%	24.68	4.59				
DCF Result																		
Mean														10.31%	24.68	4.59		
Max														11.19%	24.68	4.59		
Min														9.08%	24.68	4.59		
Projected Annual Earnings per Share																		
Company	Ticker	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
ALLETE, Inc.	ALE	\$3.38	\$3.52	\$3.66	\$3.80	\$3.95	\$4.11	\$4.29	\$4.48	\$4.69	\$4.92	\$5.17	\$5.45	\$5.74	\$6.05	\$6.38	\$6.72	\$7.08
Alliant Energy Corp.	LNT	\$1.69	\$1.78	\$1.88	\$1.98	\$2.09	\$2.21	\$2.33	\$2.46	\$2.59	\$2.73	\$2.88	\$3.03	\$3.20	\$3.37	\$3.55	\$3.74	\$3.94
American Electric Power	AEP	\$3.59	\$3.66	\$3.73	\$3.80	\$3.87	\$3.94	\$4.04	\$4.17	\$4.32	\$4.50	\$4.72	\$4.97	\$5.24	\$5.52	\$5.81	\$6.13	\$6.46
Avista Corp.	AVA	\$1.89	\$1.98	\$2.08	\$2.19	\$2.30	\$2.41	\$2.53	\$2.66	\$2.80	\$2.95	\$3.11	\$3.27	\$3.45	\$3.64	\$3.83	\$4.04	\$4.25
Black Hills Corp.	BKH	\$2.83	\$3.01	\$3.19	\$3.39	\$3.60	\$3.82	\$4.05	\$4.30	\$4.54	\$4.80	\$5.07	\$5.34	\$5.62	\$5.93	\$6.25	\$6.58	\$6.94
CMS Energy Corp.	CMS	\$1.89	\$2.00	\$2.12	\$2.25	\$2.39	\$2.53	\$2.68	\$2.83	\$2.99	\$3.16	\$3.34	\$3.51	\$3.70	\$3.90	\$4.11	\$4.33	\$4.57
DTE Energy Co.	DTE	\$4.45	\$4.70	\$4.97	\$5.24	\$5.54	\$5.85	\$6.18	\$6.52	\$6.88	\$7.26	\$7.65	\$8.06	\$8.49	\$8.95	\$9.43	\$9.94	\$10.48
IDACORP, Inc.	IDA	\$3.87	\$3.99	\$4.11	\$4.23	\$4.36	\$4.49	\$4.64	\$4.81	\$5.02	\$5.25	\$5.51	\$5.80	\$6.12	\$6.45	\$6.79	\$7.16	\$7.54
NorthWestern Corporation	NWE	\$2.90	\$3.03	\$3.17	\$3.31	\$3.46	\$3.61	\$3.78	\$3.96	\$4.16	\$4.37	\$4.60	\$4.85	\$5.11	\$5.38	\$5.67	\$5.98	\$6.30
OGE Energy Corp.	OGE	\$1.69	\$1.74	\$1.79	\$1.85	\$1.90	\$1.96	\$2.03	\$2.10	\$2.19	\$2.29	\$2.41	\$2.53	\$2.67	\$2.81	\$2.97	\$3.13	\$3.29
Otter Tail Corporation	OTTR	\$1.56	\$1.65	\$1.75	\$1.86	\$1.97	\$2.09	\$2.21	\$2.34	\$2.47	\$2.61	\$2.75	\$2.90	\$3.06	\$3.22	\$3.39	\$3.58	\$3.77
Pinnacle West Capital	PNW	\$3.92	\$4.08	\$4.24	\$4.41	\$4.59	\$4.77	\$4.97	\$5.19	\$5.44	\$5.70	\$6.00	\$6.32	\$6.66	\$7.02	\$7.40	\$7.79	\$8.21
PNM Resources, Inc.	PNM	\$1.64	\$1.73	\$1.82	\$1.91	\$2.02	\$2.12	\$2.24	\$2.36	\$2.48	\$2.61	\$2.75	\$2.90	\$3.06	\$3.22	\$3.40	\$3.58	\$3.77
Portland General Electric Co.	POR	\$2.04	\$2.15	\$2.27	\$2.40	\$2.53	\$2.67	\$2.81	\$2.97	\$3.13	\$3.30	\$3.47	\$3.66	\$3.86	\$4.07	\$4.28	\$4.52	\$4.76
SCANA Corp.	SCG	\$3.81	\$3.98	\$4.16	\$4.35	\$4.54	\$4.75	\$4.97	\$5.21	\$5.46	\$5.74	\$6.04	\$6.37	\$6.71	\$7.07	\$7.45	\$7.85	\$8.27
WEC Energy Group Inc.	WEC	\$2.34	\$2.48	\$2.63	\$2.79	\$2.95	\$3.13	\$3.32	\$3.51	\$3.71	\$3.91	\$4.13	\$4.35	\$4.59	\$4.83	\$5.09	\$5.37	\$5.65
Xcel Energy, Inc.	XEL	\$2.10	\$2.21	\$2.33	\$2.46	\$2.59	\$2.73	\$2.88	\$3.03	\$3.20	\$3.37	\$3.55	\$3.74	\$3.94	\$4.16	\$4.38	\$4.61	\$4.86
Projected Annual Dividend Payout Ratio																		
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
ALLETE, Inc.	ALE	72.00%	69.50%	67.00%	64.50%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Alliant Energy Corp.	LNT	72.00%	69.25%	66.50%	63.75%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
American Electric Power	AEP	59.00%	60.25%	61.50%	62.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Avista Corp.	AVA	67.00%	66.25%	65.50%	64.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Black Hills Corp.	BKH	68.00%	64.25%	60.50%	56.75%	53.00%	55.31%	57.63%	59.94%	62.26%	64.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
CMS Energy Corp.	CMS	63.00%	62.50%	62.00%	61.50%	61.00%	61.98%	62.96%	63.94%	64.92%	65.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
DTE Energy Co.	DTE	63.00%	63.25%	63.50%	63.75%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
IDACORP, Inc.	IDA	53.00%	54.75%	56.50%	58.25%	60.00%	61.15%	62.29%	63.44%	64.59%	65.74%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
NorthWestern Corporation	NWE	59.00%	58.75%	58.50%	58.25%	58.00%	59.48%	60.96%	62.44%	63.92%	65.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
OGE Energy Corp.	OGE	66.00%	68.00%	70.00%	72.00%	74.00%	72.81%	71.63%	70.44%	69.26%	68.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Otter Tail Corporation	OTTR	82.00%	77.50%	73.00%	68.50%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Pinnacle West Capital	PNW	64.00%	64.00%	64.00%	64.00%	64.00%	64.48%	64.96%	65.44%	65.92%	66.40%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
PNM Resources, Inc.	PNM	51.00%	52.00%	53.00%	54.00%	55.00%	56.98%	58.96%	60.94%	62.92%	64.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Portland General Electric Co.	POR	58.00%	58.25%	58.50%	58.75%	59.00%	60.31%	61.63%	62.94%	64.26%	65.57%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
SCANA Corp.	SCG	57.00%	57.00%	57.00%	57.00%	57.00%	58.65%	60.29%	61.94%	63.59%	65.24%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
WEC Energy Group Inc.	WEC	67.00%	67.00%	67.00%	67.00%	67.00%	66.98%	66.96%	66.94%	66.92%	66.90%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Xcel Energy, Inc.	XEL	62.00%	62.00%	62.00%	62.00%	62.00%	62.81%	63.63%	64.44%	65.26%	66.07%	66.88%	66.88%	66.88%	66.88%	66.88%	66.88%	
Projected Annual Cash Flows																		
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Terminal Value
ALLETE, Inc.	ALE	\$2.53	\$2.54	\$2.55	\$2.55	\$2.55	\$2.69	\$2.85	\$3.02	\$3.21	\$3.42	\$3.64	\$3.84	\$4.05	\$4.26	\$4.49	\$4.74	\$174.74
Alliant Energy Corp.	LNT	\$1.28	\$1.30	\$1.32	\$1.33	\$1.35	\$1.44	\$1.55	\$1.66	\$1.77	\$1.90	\$2.03	\$2.14	\$2.25	\$2.37	\$2.50	\$2.64	\$97.27
American Electric Power	AEP	\$2.16	\$2.25	\$2.34	\$2.43	\$2.52	\$2.61	\$2.71	\$2.83	\$2.97	\$3.13	\$3.32	\$3.50	\$3.69	\$3.89	\$4.10	\$4.32	\$159.34
Avista Corp.	AVA	\$1.33	\$1.38	\$1.43	\$1.49	\$1.54	\$1.63	\$1.73	\$1.83	\$1.94	\$2.06	\$2.19	\$2.31	\$2.43	\$2.56	\$2.70	\$2.85	\$104.97
Black Hills Corp.	BKH	\$2.04	\$2.05	\$2.05	\$2.04	\$2.03	\$2.24	\$2.48	\$2.72	\$2.99	\$3.27	\$3.57	\$3.76	\$3.96	\$4.18	\$4.40	\$4.64	\$171.17
CMS Energy Corp.	CMS	\$1.26	\$1.33	\$1.40	\$1.47	\$1.54	\$1.66	\$1.78	\$1.91	\$2.05	\$2.20	\$2.35	\$2.48	\$2.61	\$2.75	\$2.90	\$3.05	\$112.71
DTE Energy Co.	DTE	\$2.96	\$3.14	\$3.33	\$3.53	\$3.75	\$3.98	\$4.24	\$4.50	\$4.78	\$5.08	\$5.39	\$5.68	\$5.99	\$6.31	\$6.65	\$7.01	\$258.49
IDACORP, Inc.	IDA	\$2.11	\$2.25	\$2.39	\$2.54	\$2.69	\$2.84	\$3.00	\$3.18	\$3.39	\$3.62	\$3.88	\$4.09	\$4.31	\$4.54	\$4.79	\$5.04	\$186.12
NorthWestern Corporation	NWE	\$1.79	\$1.86	\$1.94	\$2.01	\$2.10	\$2.25	\$2.42	\$2.60	\$2.79	\$3.01	\$3.24	\$3.42	\$3.60	\$3.79	\$4.00	\$4.21	\$155.41
OGE Energy Corp.	OGE	\$1.15	\$1.22	\$1.29	\$1.37	\$1.45	\$1.48	\$1.51	\$1.54	\$1.59	\$1.64	\$1.70	\$1.79	\$1.88	\$1.98	\$2.09	\$2.20	\$81.28
Otter Tail Corporation	OTTR	\$1.36	\$1.36	\$1.36	\$1.35	\$1.34	\$1.43	\$1.52	\$1.62	\$1.72	\$1.83	\$1.94	\$2.04	\$2.15	\$2.27	\$2.39	\$2.52	\$93.03
Pinnacle West Capital	PNW	\$2.61	\$2.71	\$2.82	\$2.93	\$3.05	\$3.21	\$3.37	\$3.56	\$3.76	\$3.98	\$4.23	\$4.45	\$4.69	\$4.95	\$5.21	\$5.49	\$202.65
PNM Resources, Inc.	PNM	\$0.88	\$0.95	\$1.01	\$1.09	\$1.17	\$1.27	\$1.39	\$1.51	\$1.64	\$1.79	\$1.94	\$2.05	\$2.16	\$2.27	\$2.39	\$2.52	\$93.05
Portland General Electric Co.	POR	\$1.25	\$1.32	\$1.40	\$1.48	\$1.57	\$1.70	\$1.83	\$1.97	\$2.12	\$2.28	\$2.45	\$2.58	\$2.72	\$2.87	\$3.02	\$3.18	\$117.41
SCANA Corp.	SCG	\$2.27	\$2.37	\$2.48	\$2.59	\$2.71	\$2.91	\$3.14	\$3.38	\$3.65	\$3.94	\$4.26	\$4.49	\$4.73	\$4.98	\$5.25	\$5.53	\$204.17
WEC Energy Group Inc.	WEC	\$1.66	\$1.76	\$1.87	\$1.98	\$2.10	\$2.22	\$2.35	\$2.48	\$2.62	\$2.7							

Multi-Stage DCF Notes:

- [1] Source: Bloomberg; based on 30-, 90-, and 180-day historical average as of December 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 [64]  
 [11] Equals result of Excel Solver function; goal: Column [10] equals \$0.00  
 [12] Source: SNL Financial  
 [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 [5] + (((Column [6] - Column [5]) / (2026 - 2021 + 1)) x (2021 - 2020)))) x Column [19]  
 [21] Equals (1 + (Column [5] + (((Column [6] - Column [5]) / (2026 - 2021 + 1)) x (2022 - 2020)))) x Column [20]  
 [22] Equals (1 + (Column [5] + (((Column [6] - Column [5]) / (2026 - 2021 + 1)) x (2023 - 2020)))) x Column [21]  
 [23] Equals (1 + (Column [5] + (((Column [6] - Column [5]) / (2026 - 2021 + 1)) x (2024 - 2020)))) x Column [22]  
 [24] Equals (1 + (Column [5] + (((Column [6] - Column [5]) / (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 - 12/30/2016) / 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
12.60%	3.08%	9.52%

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	14,993.45	0.07%	1.08%	8.70%	9.82%	0.0072%
AMERICAN AIRLINES GROUP INC	AAL	24,170.54	0.12%	0.88%	-9.37%	-8.53%	-0.0101%
ADVANCE AUTO PARTS INC	AAP	12,552.79	0.06%	0.15%	11.33%	11.49%	0.0070%
APPLE INC	AAPL	616,308.74	3.00%	1.98%	9.66%	11.74%	0.3525%
ABBVIE INC	ABBV	101,519.94	0.49%	3.64%	10.14%	13.97%	0.0691%
AMERISOURCEBERGEN CORP	ABC	17,748.90	0.09%	1.78%	11.13%	13.01%	0.0113%
ABBOTT LABORATORIES	ABT	57,007.82	0.28%	2.69%	11.05%	13.89%	0.0386%
ACCENTURE PLC-CL A	ACN	76,132.37	0.37%	2.07%	8.20%	10.36%	0.0384%
ADOBE SYSTEMS INC	ADBE	51,328.75	0.25%	0.00%	16.56%	16.56%	0.0414%
ANALOG DEVICES INC	ADI	22,672.11	0.11%	2.32%	11.18%	13.63%	0.0151%
ARCHER-DANIELS-MIDLAND CO	ADM	26,531.68	0.13%	2.61%	4.30%	6.96%	0.0090%
AUTOMATIC DATA PROCESSING	ADP	46,515.96	0.23%	2.17%	10.99%	13.27%	0.0301%
ALLIANCE DATA SYSTEMS CORP	ADS	13,351.62	0.07%	0.22%	14.50%	14.74%	0.0096%
AUTODESK INC	ADSK	16,894.25	0.08%	0.00%	9.59%	9.59%	0.0079%
AMEREN CORPORATION	AEE	12,663.11	0.06%	3.31%	5.50%	8.91%	0.0055%
AMERICAN ELECTRIC POWER	AEP	30,766.39	0.15%	3.63%	4.38%	8.08%	0.0121%
AES CORP	AES	7,649.74	0.04%	3.81%	7.68%	11.63%	0.0043%
AETNA INC	AET	42,764.18	0.21%	0.82%	10.54%	11.40%	0.0238%
AFLAC INC	AFL	28,432.47	0.14%	2.38%	5.00%	7.44%	0.0103%
ALLERGAN PLC	AGN	71,874.51	0.35%	0.22%	12.75%	12.98%	0.0455%
AMERICAN INTERNATIONAL GROUP	AIG	67,246.54	0.33%	1.96%	9.50%	11.55%	0.0378%
APARTMENT INVT & MGMT CO -A	AIV	7,088.20	0.03%	2.91%	7.13%	10.13%	0.0035%
ASSURANT INC	AIZ	5,314.72	0.03%	2.18%	8.83%	11.10%	0.0029%
ARTHUR J GALLAGHER & CO	AJG	9,258.27	0.05%	2.92%	8.99%	12.04%	0.0054%
AKAMAI TECHNOLOGIES INC	AKAM	11,758.40	0.06%	0.00%	14.80%	14.80%	0.0085%
ALBEMARLE CORP	ALB	9,810.15	0.05%	1.35%	14.60%	16.05%	0.0077%
ALASKA AIR GROUP INC	ALK	11,101.82	0.05%	1.22%	-0.72%	0.49%	0.0003%
ALLSTATE CORP	ALL	27,176.62	0.13%	1.92%	9.23%	11.23%	0.0149%
ALLEGION PLC	ALLE	6,186.27	0.03%	0.74%	12.75%	13.54%	0.0041%
ALEXION PHARMACEUTICALS INC	ALXN	27,768.63	0.14%	0.00%	22.00%	22.00%	0.0298%
APPLIED MATERIALS INC	AMAT	34,913.17	0.17%	1.27%	12.35%	13.70%	0.0233%
AMETEK INC	AME	11,314.71	0.06%	0.75%	9.95%	10.73%	0.0059%
AFFILIATED MANAGERS GROUP	AMG	7,997.32	0.04%	0.00%	12.37%	12.37%	0.0048%
AMGEN INC	AMGN	111,521.42	0.54%	2.67%	7.34%	10.11%	0.0549%
AMERIPRISE FINANCIAL INC	AMP	17,712.41	0.09%	2.60%	4.40%	7.06%	0.0061%
AMERICAN TOWER CORP	AMT	45,132.97	0.22%	2.03%	18.36%	20.57%	0.0453%
AMAZON.COM INC	AMZN	358,223.29	1.75%	0.00%	46.03%	46.03%	0.8036%
AUTONATION INC	AN	4,945.10	0.02%	0.00%	8.28%	8.28%	0.0020%
ANTHEM INC	ANTM	37,223.42	0.18%	1.84%	8.75%	10.67%	0.0194%
AON PLC	AON	29,453.38	0.14%	1.15%	10.35%	11.56%	0.0166%
APACHE CORP	APA	24,325.21	0.12%	1.56%	-2.95%	-1.41%	-0.0017%
ANADARKO PETROLEUM CORP	APC	39,821.69	0.19%	0.28%	2.20%	2.49%	0.0048%
AIR PRODUCTS & CHEMICALS INC	APD	31,362.62	0.15%	2.36%	6.44%	8.87%	0.0136%
AMPHENOL CORP-CL A	APH	20,877.82	0.10%	0.84%	10.44%	11.32%	0.0115%
ARCONIC INC	ARNC	8,234.62	0.04%	1.25%	4.80%	6.08%	0.0024%
ACTIVISION BLIZZARD INC	ATVI	27,134.72	0.13%	0.71%	18.21%	18.98%	0.0251%
AVALONBAY COMMUNITIES INC	AVB	24,317.67	0.12%	3.04%	6.96%	10.11%	0.0120%
BROADCOM LTD	AVGO	71,417.49	0.35%	2.26%	15.29%	17.72%	0.0617%
AVERY DENNISON CORP	AVY	6,202.71	0.03%	2.31%	6.55%	8.94%	0.0027%
AMERICAN WATER WORKS CO INC	AWK	12,771.74	0.06%	2.02%	7.53%	9.62%	0.0060%
AMERICAN EXPRESS CO	AXP	68,808.90	0.34%	1.63%	8.99%	10.69%	0.0358%
ACUITY BRANDS INC	AYI	10,370.24	0.05%	0.22%	22.40%	22.65%	0.0114%
AUTOZONE INC	AZO	22,674.69	0.11%	0.00%	13.81%	13.81%	0.0153%
BOEING CO/THE	BA	95,963.13	0.47%	2.82%	12.95%	15.96%	0.0746%
BANK OF AMERICA CORP	BAC	227,060.40	1.11%	1.11%	9.67%	10.83%	0.1199%
BAXTER INTERNATIONAL INC	BAX	24,139.17	0.12%	1.12%	12.36%	13.54%	0.0159%
BED BATH & BEYOND INC	BBBY	6,211.12	0.03%	0.73%	5.78%	6.53%	0.0020%
BB&T CORP	BBT	38,177.51	0.19%	2.44%	9.04%	11.59%	0.0216%
BEST BUY CO INC	BBY	13,381.55	0.07%	3.22%	12.31%	15.73%	0.0103%
CR BARD INC	BCR	16,621.36	0.08%	0.45%	10.30%	10.77%	0.0087%
BECTON DICKINSON AND CO	BDX	34,690.72	0.17%	1.79%	10.08%	11.96%	0.0202%
FRANKLIN RESOURCES INC	BEN	22,865.98	0.11%	1.93%	10.00%	12.02%	0.0134%
BROWN-FORMAN CORP-CLASS B	BF/B	17,629.12	0.09%	1.56%	9.33%	10.96%	0.0094%
BAKER HUGHES INC	BHI	27,570.40	0.13%	1.04%	34.67%	35.89%	0.0482%
BIOGEN INC	BIIB	62,557.01	0.30%	0.00%	8.64%	8.64%	0.0263%
BANK OF NEW YORK MELLON CORP	BK	51,079.93	0.25%	1.50%	14.87%	16.48%	0.0410%
BLACKROCK INC	BLK	63,073.10	0.31%	2.38%	11.85%	14.36%	0.0441%
BALL CORP	BLL	13,234.60	0.06%	0.61%	6.23%	6.86%	0.0044%
BRISTOL-MYERS SQUIBB CO	BMY	99,271.06	0.48%	2.57%	16.08%	18.86%	0.0912%
BERKSHIRE HATHAWAY INC-CL B	BRK/B	402,557.76	1.96%	0.00%	2.00%	2.00%	0.0392%
BOSTON SCIENTIFIC CORP	BSX	29,657.33	0.14%	0.00%	12.71%	12.71%	0.0184%
BORGWARNER INC	BWA	8,515.17	0.04%	1.37%	10.05%	11.48%	0.0048%
BOSTON PROPERTIES INC	BXP	19,496.94	0.10%	2.27%	6.47%	8.81%	0.0084%
CITIGROUP INC	C	172,579.66	0.84%	0.70%	6.59%	7.31%	0.0614%
CA INC	CA	13,458.53	0.07%	3.20%	7.60%	10.93%	0.0072%
CONAGRA BRANDS INC	CAG	17,379.46	0.08%	1.99%	8.55%	10.63%	0.0090%
CARDINAL HEALTH INC	CAH	23,582.26	0.11%	2.45%	11.00%	13.59%	0.0156%
CATERPILLAR INC	CAT	55,219.15	0.27%	3.26%	7.64%	11.03%	0.0297%
CHUBB LTD	CB	61,303.78	0.30%	2.08%	9.10%	11.27%	0.0337%
CBRE GROUP INC - A	CBG	10,708.62	0.05%	0.00%	8.63%	8.63%	0.0045%
CBS CORP-CLASS B NON VOTING	CBS	27,614.54	0.13%	1.01%	16.15%	17.25%	0.0232%
CROWN CASTLE INTL CORP	CCI	31,455.56	0.15%	4.11%	10.23%	14.55%	0.0223%
CARNIVAL CORP	CCL	37,524.26	0.18%	2.83%	13.90%	16.93%	0.0310%
CELGENE CORP	CELG	91,264.71	0.44%	0.00%	20.83%	20.83%	0.0927%
CERNER CORP	CERN	16,594.58	0.08%	0.00%	12.75%	12.75%	0.0103%
CF INDUSTRIES HOLDINGS INC	CF	7,534.25	0.04%	3.71%	-0.05%	3.66%	0.0013%
CITIZENS FINANCIAL GROUP	CFG	18,519.74	0.09%	1.27%	19.57%	20.96%	0.0189%
CHURCH & DWIGHT CO INC	CHD	11,463.90	0.06%	1.60%	9.11%	10.79%	0.0060%

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
12.60%	3.08%	9.52%

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	6,371.46	0.03%	0.00%	-0.49%	-0.49%	-0.0002%
C.H. ROBINSON WORLDWIDE INC	CHRW	10,361.57	0.05%	2.38%	9.52%	12.01%	0.0061%
CHARTER COMMUNICATIONS INC-A	CHTR	89,184.63	0.43%	0.00%	27.89%	27.89%	0.1212%
CIGNA CORP	CI	34,646.88	0.17%	0.02%	10.99%	11.01%	0.0186%
CINCINNATI FINANCIAL CORP	CINF	12,397.33	N/A	2.55%	N/A	N/A	N/A
COLGATE-PALMOLIVE CO	CL	58,272.52	0.28%	2.38%	9.61%	12.11%	0.0344%
CLOROX COMPANY	CLX	15,543.23	0.08%	2.67%	7.46%	10.23%	0.0078%
COMERICA INC	CMA	11,874.09	0.06%	1.29%	-3.70%	-2.43%	-0.0014%
COMCAST CORP-CLASS A	CMCSA	165,344.72	0.81%	1.60%	11.75%	13.44%	0.1083%
CME GROUP INC	CME	38,733.44	0.19%	4.69%	10.77%	15.71%	0.0297%
CHIPOTLE MEXICAN GRILL INC	CMG	10,971.73	0.05%	0.00%	14.48%	14.48%	0.0077%
CUMMINS INC	CMI	23,344.81	0.11%	2.88%	4.73%	7.67%	0.0087%
CMS ENERGY CORP	CMS	11,568.59	0.06%	2.97%	6.28%	9.34%	0.0053%
CENTENE CORP	CNC	9,749.39	0.05%	0.00%	15.16%	15.16%	0.0072%
CONDUENT INC	CNDT	#VALUE!	#VALUE!	0.00%	N/A	N/A	N/A
CENTERPOINT ENERGY INC	CNP	10,577.56	0.05%	4.20%	5.25%	9.56%	0.0049%
CAPITAL ONE FINANCIAL CORP	COF	42,852.48	0.21%	1.80%	4.31%	6.15%	0.0128%
CABOT OIL & GAS CORP	COG	10,410.05	0.05%	0.36%	37.99%	38.41%	0.0195%
COACH INC	COH	10,028.66	0.05%	3.79%	9.73%	13.70%	0.0067%
ROCKWELL COLLINS INC	COL	12,166.41	0.06%	1.49%	9.03%	10.59%	0.0063%
COOPER COS INC/THE	COO	8,548.39	0.04%	0.05%	12.35%	12.40%	0.0052%
CONOCOPHILLIPS	COP	63,140.84	0.31%	1.96%	6.67%	8.70%	0.0268%
COSTCO WHOLESALE CORP	COST	69,931.46	0.34%	1.15%	10.27%	11.47%	0.0391%
COTY INC-CL A	COTY	14,001.02	0.07%	2.68%	0.41%	3.09%	0.0021%
CAMPBELL SOUP CO	CPB	18,702.53	0.09%	2.32%	5.33%	7.71%	0.0070%
SALESFORCE.COM INC	CRM	49,068.58	0.24%	0.00%	26.36%	26.36%	0.0630%
CISCO SYSTEMS INC	CSCO	152,274.39	0.74%	3.56%	8.01%	11.72%	0.0870%
CSRA INC	CSRA	5,241.08	0.03%	0.00%	10.00%	10.00%	0.0026%
CSX CORP	CSX	33,822.83	0.16%	2.00%	7.36%	9.43%	0.0155%
CINTAS CORP	CTAS	12,236.55	0.06%	1.14%	11.44%	12.65%	0.0075%
CENTURYLINK INC	CTL	13,672.72	0.07%	8.64%	-4.24%	4.22%	0.0028%
COGNIZANT TECH SOLUTIONS-A	CTSH	34,121.07	0.17%	0.00%	12.13%	12.13%	0.0202%
CITRIX SYSTEMS INC	CTXS	14,047.86	0.07%	0.00%	16.18%	16.18%	0.0111%
CVS HEALTH CORP	CVS	85,464.44	0.42%	2.05%	11.90%	14.07%	0.0586%
CHEVRON CORP	CVX	224,267.00	1.09%	3.61%	-1.10%	2.50%	0.0273%
CONCHO RESOURCES INC	CXO	19,762.14	0.10%	0.00%	22.50%	22.50%	0.0217%
DOMINION RESOURCES INC/VA	D	47,827.33	0.23%	3.67%	6.14%	9.92%	0.0231%
DELTA AIR LINES INC	DAL	36,539.41	0.18%	1.35%	12.19%	13.63%	0.0243%
DU PONT (E.I.) DE NEMOURS	DD	63,966.18	0.31%	2.07%	7.53%	9.67%	0.0301%
DEERE & CO	DE	32,980.10	0.16%	2.49%	8.68%	11.28%	0.0181%
DISCOVER FINANCIAL SERVICES	DFS	28,574.18	0.14%	1.61%	6.25%	7.91%	0.0110%
DOLLAR GENERAL CORP	DG	20,402.12	0.10%	1.35%	11.06%	12.48%	0.0124%
QUEST DIAGNOSTICS INC	DGX	12,879.65	0.06%	1.73%	8.63%	10.43%	0.0065%
DR HORTON INC	DHI	10,286.10	0.05%	1.38%	10.33%	11.78%	0.0059%
DANAHER CORP	DHR	54,167.19	0.26%	0.77%	8.78%	9.58%	0.0253%
WALT DISNEY CO/THE	DIS	169,331.45	0.83%	1.47%	8.46%	10.00%	0.0825%
DISCOVERY COMMUNICATIONS-A	DISCA	16,804.70	0.08%	0.00%	17.53%	17.53%	0.0144%
DELPHI AUTOMOTIVE PLC	DLPH	18,457.72	0.09%	1.71%	13.63%	15.45%	0.0139%
DIGITAL REALTY TRUST INC	DLR	16,030.98	0.08%	3.55%	5.20%	8.84%	0.0069%
DOLLAR TREE INC	DLTR	18,201.11	0.09%	0.00%	16.50%	16.50%	0.0146%
DUN & BRADSTREET CORP	DNB	4,489.45	0.02%	1.58%	8.00%	9.64%	0.0021%
DOVER CORP	DOV	11,874.71	0.06%	2.27%	10.68%	13.06%	0.0076%
DOW CHEMICAL CO/THE	DOW	70,277.08	0.34%	3.29%	3.53%	6.87%	0.0235%
DR PEPPER SNAPPLE GROUP INC	DPS	16,723.59	0.08%	2.31%	9.03%	11.45%	0.0093%
DARDEN RESTAURANTS INC	DRI	8,824.89	0.04%	3.13%	10.88%	14.17%	0.0061%
DTE ENERGY COMPANY	DTE	17,631.32	0.09%	3.10%	4.95%	8.12%	0.0070%
DUKE ENERGY CORP	DUK	53,364.79	0.26%	4.34%	4.05%	8.49%	0.0221%
DAVITA INC	DVA	12,791.52	0.06%	0.00%	8.95%	8.95%	0.0056%
DEVON ENERGY CORP	DVN	24,509.72	0.12%	0.90%	8.60%	9.54%	0.0114%
ELECTRONIC ARTS INC	EA	23,775.32	0.12%	0.00%	15.00%	15.00%	0.0174%
EBAY INC	EBAY	33,448.36	0.16%	0.00%	9.67%	9.67%	0.0158%
ECOLAB INC	ECL	34,356.49	0.17%	1.21%	12.88%	14.17%	0.0237%
CONSOLIDATED EDISON INC	ED	22,284.42	0.11%	3.66%	3.34%	7.07%	0.0077%
EQUIFAX INC	EFX	14,255.19	0.07%	1.11%	11.33%	12.50%	0.0087%
EDISON INTERNATIONAL	EIX	23,324.82	0.11%	2.73%	5.90%	8.71%	0.0099%
ESTEE LAUDER COMPANIES-CL A	EL	28,410.12	0.14%	1.70%	11.94%	13.74%	0.0190%
EASTMAN CHEMICAL CO	EMN	11,104.64	0.05%	2.45%	5.63%	8.15%	0.0044%
EMERSON ELECTRIC CO	EMR	36,540.32	0.18%	3.43%	8.68%	12.26%	0.0218%
ENDO INTERNATIONAL PLC	ENDP	3,842.40	0.02%	0.00%	1.92%	1.92%	0.0004%
EOG RESOURCES INC	EOG	59,628.78	0.29%	0.65%	-9.76%	-9.14%	-0.0266%
EQUINIX INC	EQIX	25,655.15	0.13%	1.95%	19.78%	21.92%	0.0274%
EQUITY RESIDENTIAL	EQR	23,512.12	0.11%	14.82%	5.52%	20.75%	0.0238%
EQT CORP	EQT	10,999.50	0.05%	0.19%	17.50%	17.70%	0.0095%
EVERSOURCE ENERGY	ES	17,403.37	0.08%	3.25%	6.50%	9.86%	0.0084%
EXPRESS SCRIPTS HOLDING CO	ESRX	42,836.66	0.21%	0.00%	12.02%	12.02%	0.0251%
ESSEX PROPERTY TRUST INC	ESS	15,190.87	0.07%	2.74%	6.57%	9.40%	0.0070%
E*TRADE FINANCIAL CORP	ETFC	9,657.36	0.05%	0.00%	20.82%	20.82%	0.0098%
EATON CORP PLC	ETN	30,543.95	0.15%	3.36%	8.30%	11.80%	0.0176%
ENTERGY CORP	ETR	13,024.39	0.06%	4.74%	-4.67%	-0.04%	0.0000%
ENVISION HEALTHCARE CORP	EVHC	7,524.46	0.04%	0.00%	12.36%	12.36%	0.0045%
EDWARDS LIFESCIENCES CORP	EW	20,344.40	0.10%	0.00%	17.75%	17.75%	0.0176%
EXELON CORP	EXC	32,323.83	0.16%	3.60%	3.86%	7.53%	0.0119%
EXPEDITORS INTL WASH INC	EXPD	9,509.35	0.05%	1.49%	8.30%	9.85%	0.0046%
EXPEDIA INC	EXPE	17,079.40	0.08%	0.87%	17.34%	18.29%	0.0152%
EXTRA SPACE STORAGE INC	EXR	9,712.23	0.05%	3.82%	8.63%	12.62%	0.0060%
FORD MOTOR CO	F	49,353.54	0.24%	5.68%	0.65%	6.35%	0.0153%
FASTENAL CO	FAST	13,630.75	0.07%	2.54%	15.50%	18.24%	0.0121%
FACEBOOK INC-A	FB	339,364.74	1.65%	0.00%	32.93%	32.93%	0.5446%

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
12.60%	3.08%	9.52%

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
FORTUNE BRANDS HOME & SECURI	FBHS	8,334.12	0.04%	1.17%	15.20%	16.46%	0.0067%
FREEMPORT-MCMORAN INC	FCX	18,532.58	0.09%	0.00%	15.75%	15.75%	0.0142%
FEDEX CORP	FDX	50,146.39	0.24%	0.85%	12.72%	13.63%	0.0333%
FIRSTENERGY CORP	FE	13,057.55	0.06%	4.70%	0.34%	5.04%	0.0032%
F5 NETWORKS INC	FFIV	9,489.11	0.05%	0.00%	12.22%	12.22%	0.0056%
FIDELITY NATIONAL INFO SERV	FIS	25,148.82	0.12%	1.34%	12.00%	13.42%	0.0165%
FISERV INC	FISV	23,199.09	0.11%	0.00%	12.54%	12.54%	0.0142%
FIFTH THIRD BANCORP	FITB	20,496.02	0.10%	1.95%	2.40%	4.38%	0.0044%
FOOT LOCKER INC	FL	9,524.98	0.05%	1.50%	10.03%	11.61%	0.0054%
FLIR SYSTEMS INC	FLIR	4,936.07	0.02%	1.30%	15.00%	16.39%	0.0039%
FLUOR CORP	FLR	7,420.64	0.04%	1.58%	5.59%	7.21%	0.0026%
FLOWSERVE CORP	FLS	6,385.63	0.03%	1.51%	7.94%	9.51%	0.0030%
FMC CORP	FMC	7,612.75	0.04%	1.16%	11.03%	12.26%	0.0045%
TWENTY-FIRST CENTURY FOX - B	FOX	52,860.96	0.26%	1.39%	12.15%	13.63%	0.0351%
FEDERAL REALTY INVS TRUST	FRT	10,223.12	0.05%	2.70%	5.24%	8.01%	0.0040%
FIRST SOLAR INC	FSLR	3,470.70	0.02%	0.00%	-28.37%	-28.37%	-0.0048%
FMC TECHNOLOGIES INC	FTI	8,206.53	0.04%	0.00%	-13.00%	-13.00%	-0.0052%
FRONTIER COMMUNICATIONS CORP	FTR	4,058.67	0.02%	12.14%	1.00%	13.20%	0.0026%
FORTIVE CORP	FTV	18,476.27	0.09%	0.25%	7.44%	7.70%	0.0069%
GENERAL DYNAMICS CORP	GD	53,205.66	0.26%	1.73%	8.11%	9.91%	0.0257%
GENERAL ELECTRIC CO	GE	278,749.75	1.36%	2.95%	10.24%	13.34%	0.1812%
GENERAL GROWTH PROPERTIES	GGP	22,082.21	0.11%	3.55%	6.74%	10.41%	0.0112%
GILEAD SCIENCES INC	GILD	96,543.18	0.47%	2.51%	0.87%	3.39%	0.0160%
GENERAL MILLS INC	GIS	35,972.30	0.18%	3.07%	8.22%	11.41%	0.0200%
CORNING INC	GLW	23,190.87	0.11%	2.23%	11.63%	13.99%	0.0158%
GENERAL MOTORS CO	GM	53,809.34	0.26%	4.31%	4.80%	9.21%	0.0241%
ALPHABET INC-CL C	GOOG	548,632.91	2.67%	0.00%	16.40%	16.40%	0.4386%
GENUINE PARTS CO	GPC	14,106.24	0.07%	2.78%	8.24%	11.13%	0.0077%
GLOBAL PAYMENTS INC	GPN	10,804.93	0.05%	0.06%	13.00%	13.06%	0.0069%
GAP INC/THE	GPS	9,134.38	0.04%	4.02%	6.39%	10.53%	0.0047%
GARMIN LTD	GRMN	9,271.54	0.05%	4.17%	5.47%	9.75%	0.0044%
GOLDMAN SACHS GROUP INC	GS	101,408.79	0.49%	1.07%	11.03%	12.16%	0.0601%
GOODYEAR TIRE & RUBBER CO	GT	8,202.27	N/A	0.95%	N/A	N/A	N/A
WW GRAINGER INC	GWW	13,970.85	0.07%	2.06%	11.95%	14.13%	0.0096%
HALLIBURTON CO	HAL	48,366.10	0.24%	1.29%	17.56%	18.96%	0.0447%
HARMAN INTERNATIONAL	HAR	7,735.18	0.04%	1.30%	16.00%	17.40%	0.0066%
HASBRO INC	HAS	9,817.04	0.05%	2.59%	10.35%	13.08%	0.0063%
HUNTINGTON BANCSHARES INC	HBAN	14,460.15	0.07%	2.16%	8.24%	10.49%	0.0074%
HANESBRANDS INC	HBI	8,286.45	0.04%	2.00%	16.40%	18.57%	0.0075%
HCA HOLDINGS INC	HCA	27,839.15	0.14%	0.00%	11.50%	11.50%	0.0156%
WELLTOWER INC	HCN	24,032.22	0.12%	5.19%	5.45%	10.78%	0.0126%
HCP INC	HCP	13,894.06	0.07%	6.97%	0.20%	7.18%	0.0049%
HOME DEPOT INC	HD	164,037.56	0.80%	2.06%	13.34%	15.53%	0.1242%
HESS CORP	HES	20,200.42	0.10%	1.59%	-11.69%	-10.19%	-0.0100%
HARTFORD FINANCIAL SVCS GRP	HIG	18,123.69	0.09%	1.84%	9.67%	11.60%	0.0102%
HARLEY-DAVIDSON INC	HOG	10,450.85	0.05%	2.40%	11.00%	13.53%	0.0069%
HOLOGIC INC	HOLX	11,150.89	0.05%	0.00%	9.90%	9.90%	0.0054%
HONEYWELL INTERNATIONAL INC	HON	88,315.01	0.43%	2.11%	9.07%	11.28%	0.0485%
HELMERICH & PAYNE	HP	8,562.23	0.04%	3.53%	-11.57%	-8.25%	-0.0034%
HEWLETT PACKARD ENTERPRIS	HPE	38,906.78	0.19%	1.05%	4.86%	5.94%	0.0113%
HP INC	HPQ	25,522.07	0.12%	3.54%	2.50%	6.09%	0.0076%
H&R BLOCK INC	HRB	4,753.33	0.02%	3.81%	11.00%	15.02%	0.0035%
HORMEL FOODS CORP	HRL	18,777.75	0.09%	1.85%	4.17%	6.06%	0.0055%
HARRIS CORP	HRS	12,776.89	N/A	2.06%	N/A	N/A	N/A
HENRY SCHEIN INC	HSIC	12,510.71	0.06%	0.00%	11.67%	11.67%	0.0071%
HOST HOTELS & RESORTS INC	HST	13,953.86	0.07%	4.43%	6.00%	10.57%	0.0072%
HERSHEY CO/THE	HSY	22,112.18	0.11%	2.28%	8.74%	11.12%	0.0120%
HUMANA INC	HUM	29,493.70	0.14%	0.59%	12.95%	13.57%	0.0195%
INTL BUSINESS MACHINES CORP	IBM	158,773.69	0.77%	3.26%	5.02%	8.36%	0.0647%
INTERCONTINENTAL EXCHANGE IN	ICE	33,512.74	0.16%	1.11%	8.21%	9.37%	0.0153%
INTL FLAVORS & FRAGRANCES	IFF	9,390.28	0.05%	1.96%	9.25%	11.30%	0.0052%
ILLUMINA INC	ILMN	19,257.12	0.09%	0.00%	12.74%	12.74%	0.0120%
INTEL CORP	INTC	173,873.91	0.85%	2.68%	9.38%	12.19%	0.1033%
INTUIT INC	INTU	29,539.99	0.14%	1.07%	16.45%	17.61%	0.0254%
INTERNATIONAL PAPER CO	IP	21,954.68	0.11%	3.34%	6.38%	9.82%	0.0105%
INTERPUBLIC GROUP OF COS INC	IPG	9,361.50	0.05%	2.53%	6.00%	8.60%	0.0039%
INGERSOLL-RAND PLC	IR	19,604.73	0.10%	1.74%	10.82%	12.65%	0.0121%
IRON MOUNTAIN INC	IRM	8,567.32	0.04%	5.94%	10.70%	16.96%	0.0071%
INTUITIVE SURGICAL INC	ISRG	24,749.27	0.12%	0.00%	14.09%	14.09%	0.0170%
ILLINOIS TOOL WORKS	ITW	43,036.69	0.21%	1.87%	7.97%	9.91%	0.0208%
INVESCO LTD	IVZ	12,574.72	0.06%	3.64%	9.75%	13.57%	0.0083%
HUNT (JB) TRANSPRT SVCS INC	JBHT	10,884.20	0.05%	0.91%	15.07%	16.04%	0.0085%
JOHNSON CONTROLS INTERNATIONAL	JCI	39,389.00	0.19%	2.43%	8.50%	11.04%	0.0212%
JACOBS ENGINEERING GROUP INC	JEC	7,110.85	0.03%	0.30%	8.34%	8.65%	0.0030%
JOHNSON & JOHNSON	JNJ	314,656.70	1.53%	2.70%	6.60%	9.39%	0.1439%
JUNIPER NETWORKS INC	JNPR	11,006.55	0.05%	1.40%	9.49%	10.96%	0.0059%
JPMORGAN CHASE & CO	JPM	310,951.17	1.52%	2.16%	6.56%	8.79%	0.1332%
NORDSTROM INC	JWN	8,291.82	0.04%	3.19%	9.55%	12.89%	0.0052%
KELLOGG CO	K	25,773.98	0.13%	2.79%	5.62%	8.49%	0.0107%
KEYCORP	KEY	19,874.29	0.10%	1.79%	5.08%	6.92%	0.0067%
KRAFT HEINZ CO/THE	KHC	105,525.16	0.51%	2.71%	21.47%	24.47%	0.1259%
KIMCO REALTY CORP	KIM	10,765.91	0.05%	4.09%	5.69%	9.90%	0.0052%
KLA-TENCOR CORP	KLAC	12,460.17	0.06%	2.68%	4.50%	7.24%	0.0044%
KIMBERLY-CLARK CORP	KMB	41,073.26	0.20%	3.19%	7.08%	10.39%	0.0208%
KINDER MORGAN INC	KMI	47,895.38	0.23%	2.33%	10.55%	13.00%	0.0304%
CARMAX INC	KMX	12,358.09	0.06%	0.00%	12.59%	12.59%	0.0076%
COCA-COLA CO/THE	KO	179,893.54	0.88%	3.36%	4.67%	8.11%	0.0711%
MICHAEL KORS HOLDINGS LTD	KORS	7,041.28	0.03%	0.00%	7.61%	7.61%	0.0026%

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
12.60%	3.08%	9.52%

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
KROGER CO	KR	31,530.37	0.15%	1.37%	9.15%	10.59%	0.0163%
KOHL'S CORP	KSS	8,687.76	0.04%	4.10%	4.90%	9.10%	0.0039%
KANSAS CITY SOUTHERN	KSU	9,068.91	0.04%	1.58%	11.98%	13.65%	0.0060%
LOEWS CORP	L	15,904.48	N/A	0.53%	N/A	N/A	N/A
L BRANDS INC	LB	18,950.30	0.09%	5.75%	10.08%	16.11%	0.0149%
LEGETT & PLATT INC	LEG	6,613.16	N/A	2.65%	N/A	N/A	N/A
LENNAR CORP-A	LEN	9,486.10	0.05%	0.37%	10.71%	11.10%	0.0051%
LABORATORY CRP OF AMER HLDGS	LH	13,379.70	0.07%	0.00%	11.17%	11.17%	0.0073%
LKQ CORP	LKQ	9,551.28	0.05%	0.00%	15.43%	15.43%	0.0072%
L3 TECHNOLOGIES INC	LLL	11,796.56	N/A	1.42%	N/A	N/A	N/A
LINEAR TECHNOLOGY CORP	LLTC	15,024.77	0.07%	2.05%	8.27%	10.40%	0.0076%
ELI LILLY & CO	LLY	81,868.80	0.40%	2.76%	12.16%	15.09%	0.0602%
LOCKHEED MARTIN CORP	LMT	73,847.87	0.36%	2.70%	7.65%	10.45%	0.0376%
LINCOLN NATIONAL CORP	LNC	15,256.40	0.07%	1.53%	8.00%	9.59%	0.0071%
ALLIANT ENERGY CORP	LNT	8,601.79	0.04%	3.11%	6.98%	10.20%	0.0043%
LOWE'S COS INC	LOW	62,220.17	0.30%	1.82%	15.35%	17.31%	0.0525%
LAM RESEARCH CORP	LRCX	17,505.85	0.09%	1.25%	9.94%	11.25%	0.0096%
LEUCADIA NATIONAL CORP	LUK	8,366.91	0.04%	1.08%	18.00%	19.17%	0.0078%
SOUTHWEST AIRLINES CO	LUV	30,786.04	0.15%	0.73%	8.12%	8.88%	0.0133%
LEVEL 3 COMMUNICATIONS INC	LVL	21,005.25	0.10%	0.00%	7.50%	7.50%	0.0077%
LYONDELLBASELL INDU-CL A	LYB	35,711.31	0.17%	3.80%	4.15%	8.03%	0.0140%
MACY'S INC	M	10,793.21	0.05%	4.27%	7.33%	11.75%	0.0062%
MASTERCARD INC - A	MA	114,703.71	0.56%	0.72%	15.40%	16.18%	0.0904%
MID-AMERICA APARTMENT COMM	MAA	11,032.02	0.05%	3.39%	7.00%	10.51%	0.0056%
MACERICH CO/THE	MAC	10,141.24	0.05%	6.09%	6.81%	13.11%	0.0065%
MARRIOTT INTERNATIONAL -CL A	MAR	32,261.44	0.16%	1.39%	11.36%	12.83%	0.0202%
MASCO CORP	MAS	10,482.85	0.05%	1.24%	15.57%	16.91%	0.0086%
MATTEL INC	MAT	9,608.05	0.05%	5.40%	10.50%	16.19%	0.0076%
MCDONALD'S CORP	MCD	99,536.97	0.49%	3.01%	10.19%	13.34%	0.0647%
MICROCHIP TECHNOLOGY INC	MCHP	13,773.19	0.07%	2.21%	14.36%	16.73%	0.0112%
MCKESSON CORP	MCK	32,798.44	0.16%	0.78%	10.23%	11.05%	0.0177%
MOODY'S CORP	MCO	18,339.01	0.09%	1.51%	10.00%	11.58%	0.0104%
MONDELEZ INTERNATIONAL INC-A	MDLZ	69,127.87	0.34%	1.53%	11.58%	13.20%	0.0445%
MEDTRONIC PLC	MDT	96,538.96	0.47%	2.45%	7.24%	9.78%	0.0460%
METLIFE INC	MET	59,924.86	0.29%	2.90%	8.22%	11.24%	0.0328%
MOHAWK INDUSTRIES INC	MHK	15,031.83	0.07%	0.00%	9.33%	9.33%	0.0068%
MEAD JOHNSON NUTRITION CO	MJN	13,202.18	0.06%	2.40%	6.73%	9.20%	0.0059%
MCCORMICK & CO-NON VTG SHRS	MKC	11,783.75	0.06%	1.78%	8.11%	9.97%	0.0057%
MARTIN MARIETTA MATERIALS	MLM	14,088.22	0.07%	0.74%	23.82%	24.65%	0.0169%
MARSH & MCLENNAN COS	MMC	34,807.74	0.17%	1.93%	11.76%	13.80%	0.0234%
3M CO	MMM	107,109.14	0.52%	2.49%	9.08%	11.68%	0.0610%
MALLINCKRODT PLC	MNK	5,325.73	0.03%	0.00%	6.00%	6.00%	0.0016%
MONSTER BEVERAGE CORP	MNST	25,865.15	0.13%	0.00%	19.80%	19.80%	0.0250%
ALTRIA GROUP INC	MO	132,169.85	0.64%	3.48%	7.77%	11.38%	0.0733%
MONSANTO CO	MON	46,163.64	0.22%	2.15%	10.78%	13.05%	0.0293%
MOSAIC CO/THE	MOS	10,388.08	0.05%	3.71%	2.60%	6.36%	0.0032%
MARATHON PETROLEUM CORP	MPC	28,359.51	0.14%	2.50%	2.43%	4.96%	0.0069%
MERCK & CO. INC.	MRK	165,290.39	0.81%	3.08%	6.16%	9.33%	0.0752%
MARATHON OIL CORP	MRO	15,097.31	0.07%	1.12%	6.50%	7.66%	0.0056%
MORGAN STANLEY	MS	80,943.34	0.39%	1.62%	9.15%	10.84%	0.0428%
MICROSOFT CORP	MSFT	485,726.15	2.37%	2.47%	8.20%	10.77%	0.2550%
MOTOROLA SOLUTIONS INC	MSI	13,887.82	0.07%	1.99%	5.87%	7.91%	0.0054%
M & T BANK CORP	MTB	24,317.83	0.12%	1.79%	3.00%	4.82%	0.0057%
METTLER-TOLEDO INTERNATIONAL	MTD	11,117.58	0.05%	0.00%	12.14%	12.14%	0.0066%
MICRON TECHNOLOGY INC	MU	23,481.73	0.11%	0.00%	10.00%	10.00%	0.0114%
MURPHY OIL CORP	MUR	5,587.89	N/A	3.76%	N/A	N/A	N/A
MYLAN NV	MYL	20,879.81	0.10%	0.00%	11.47%	11.47%	0.0117%
NAVIENT CORP	NAVI	5,049.62	N/A	3.88%	N/A	N/A	N/A
NOBLE ENERGY INC	NBL	16,565.00	0.08%	1.04%	3.75%	4.81%	0.0039%
NASDAQ INC	NDAQ	11,066.94	0.05%	1.83%	15.90%	17.87%	0.0096%
NEXTERA ENERGY INC	NEE	56,687.82	0.28%	2.94%	6.34%	9.38%	0.0259%
NEWMONT MINING CORP	NEM	18,252.50	0.09%	0.39%	4.87%	5.26%	0.0047%
NETFLIX INC	NFLX	54,750.32	0.27%	0.00%	38.29%	38.29%	0.1022%
NEWFIELD EXPLORATION CO	NFX	8,289.51	0.04%	0.00%	19.62%	19.62%	0.0079%
NISOURCE INC	NI	7,158.32	0.03%	2.91%	7.52%	10.55%	0.0037%
NIKE INC -CL B	NKE	86,902.36	0.42%	1.33%	11.93%	13.34%	0.0565%
NIELSEN HOLDINGS PLC	NLSN	15,119.29	0.07%	2.86%	10.67%	13.68%	0.0101%
NORTHROP GRUMMAN CORP	NOC	41,121.91	0.20%	1.50%	8.16%	9.71%	0.0195%
NATIONAL OILWELL VARCO INC	NOV	14,438.84	0.07%	1.60%	-14.54%	-13.06%	-0.0092%
NRG ENERGY INC	NRG	3,898.88	0.02%	1.75%	-6.00%	-4.30%	-0.0008%
NORFOLK SOUTHERN CORP	NSC	31,331.24	0.15%	2.20%	10.28%	12.59%	0.0192%
NETAPP INC	NTAP	9,803.44	0.05%	2.14%	10.64%	12.90%	0.0062%
NORTHERN TRUST CORP	NTRS	20,333.51	0.10%	1.65%	12.90%	14.66%	0.0145%
NUCOR CORP	NUE	19,083.63	0.09%	2.50%	10.73%	13.36%	0.0124%
NVIDIA CORP	NVDA	56,136.85	0.27%	0.46%	11.43%	11.92%	0.0326%
NEWELL BRANDS INC	NWL	21,896.14	0.11%	1.67%	13.47%	15.24%	0.0163%
NEWS CORP - CLASS B	NWS	6,906.84	0.03%	1.65%	10.49%	12.23%	0.0041%
REALTY INCOME CORP	O	14,828.08	0.07%	4.19%	5.20%	9.49%	0.0069%
ONEOK INC	OKE	12,313.43	0.06%	4.21%	12.25%	16.71%	0.0100%
OMNICOM GROUP	OMC	20,061.67	0.10%	2.52%	4.00%	6.57%	0.0064%
ORACLE CORP	ORCL	157,489.33	0.77%	1.53%	9.54%	11.14%	0.0855%
O'REILLY AUTOMOTIVE INC	ORLY	26,407.57	0.13%	0.00%	15.54%	15.54%	0.0200%
OCCIDENTAL PETROLEUM CORP	OXY	55,625.28	0.27%	4.15%	10.13%	14.49%	0.0393%
PAYCHEX INC	PAYX	21,869.70	0.11%	3.01%	8.71%	11.86%	0.0126%
PEOPLE'S UNITED FINANCIAL	PBCT	6,056.55	N/A	3.50%	N/A	N/A	N/A
PITNEY BOWES INC	PBI	2,908.98	0.01%	4.79%	10.00%	15.03%	0.0021%
PACCAR INC	PCAR	22,848.02	0.11%	2.52%	5.70%	8.29%	0.0092%
P G & E CORP	PCG	30,501.81	0.15%	3.20%	4.87%	8.14%	0.0121%

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
12.60%	3.08%	9.52%

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
PRICELINE GROUP INC/THE	PCLN	72,983.24	0.36%	0.00%	17.30%	17.30%	0.0615%
PATTERSON COS INC	PDCO	4,160.15	0.02%	2.38%	4.01%	6.44%	0.0013%
PUBLIC SERVICE ENTERPRISE GP	PEG	21,976.13	0.11%	3.77%	2.39%	6.21%	0.0067%
PEPSICO INC	PEP	150,460.15	0.73%	2.82%	6.77%	9.68%	0.0710%
PFIZER INC	PFE	199,466.83	0.97%	3.65%	4.99%	8.73%	0.0848%
PRINCIPAL FINANCIAL GROUP	PFG	16,846.59	0.08%	2.75%	8.44%	11.30%	0.0093%
PROCTER & GAMBLE CO/THE	PG	225,746.73	1.10%	3.23%	8.02%	11.38%	0.1252%
PROGRESSIVE CORP	PGR	20,536.42	0.10%	1.79%	9.16%	11.04%	0.0110%
PARKER HANNIFIN CORP	PH	19,073.31	0.09%	1.80%	8.57%	10.45%	0.0097%
PULTEGROUP INC	PHM	6,121.99	0.03%	1.94%	23.92%	26.09%	0.0078%
PERKINELMER INC	PKI	5,767.56	0.03%	0.53%	6.67%	7.21%	0.0020%
PROLOGIS INC	PLD	27,916.11	0.14%	3.18%	4.86%	8.11%	0.0110%
PHILIP MORRIS INTERNATIONAL	PM	141,855.43	0.69%	4.51%	9.40%	14.12%	0.0976%
PNC FINANCIAL SERVICES GROUP	PNC	57,480.16	0.28%	1.80%	4.23%	6.06%	0.0170%
PENTAIR PLC	PNR	10,426.41	0.05%	2.34%	6.44%	8.85%	0.0045%
PINNACLE WEST CAPITAL	PNW	8,618.43	0.04%	3.28%	5.13%	8.50%	0.0036%
PPG INDUSTRIES INC	PPG	25,153.47	0.12%	1.64%	7.81%	9.52%	0.0117%
PPL CORP	PPL	23,068.76	0.11%	4.47%	0.75%	5.24%	0.0059%
PERRIGO CO PLC	PRGO	12,291.49	0.06%	0.68%	4.51%	5.20%	0.0031%
PRUDENTIAL FINANCIAL INC	PRU	45,175.80	0.22%	2.69%	6.88%	9.65%	0.0213%
PUBLIC STORAGE	PSA	39,058.75	0.19%	3.24%	5.38%	8.70%	0.0166%
PHILLIPS 66	PSX	45,647.31	0.22%	2.78%	4.56%	7.40%	0.0165%
PVH CORP	PVH	7,192.57	0.04%	0.17%	6.72%	6.90%	0.0024%
QUANTA SERVICES INC	PWR	5,330.06	0.03%	0.00%	2.60%	2.60%	0.0007%
PRAXAIR INC	PX	33,561.75	0.16%	2.55%	6.00%	8.63%	0.0141%
PIONEER NATURAL RESOURCES CO	PXD	31,688.55	0.15%	0.04%	20.00%	20.05%	0.0310%
PAYPAL HOLDINGS INC	PYPL	49,074.29	0.24%	0.00%	14.83%	14.83%	0.0355%
QUALCOMM INC	QCOM	96,942.84	0.47%	3.30%	9.20%	12.65%	0.0598%
QORVO INC	QRVO	6,733.80	0.03%	0.00%	14.93%	14.93%	0.0049%
RYDER SYSTEM INC	R	3,980.72	0.02%	2.26%	15.00%	17.43%	0.0034%
REYNOLDS AMERICAN INC	RAI	80,385.95	0.39%	3.14%	8.79%	12.07%	0.0473%
ROYAL CARIBBEAN CRUISES LTD	RCL	18,067.81	0.09%	2.03%	18.55%	20.77%	0.0183%
REGENERON PHARMACEUTICALS	REGN	39,686.36	0.19%	0.00%	21.85%	21.85%	0.0423%
REGIONS FINANCIAL CORP	RF	17,750.66	0.09%	1.80%	6.74%	8.60%	0.0074%
ROBERT HALF INTL INC	RHI	6,361.83	0.03%	1.79%	10.85%	12.73%	0.0039%
RED HAT INC	RHT	12,616.62	0.06%	0.00%	17.45%	17.45%	0.0107%
TRANSOCEAN LTD	RIG	6,126.03	N/A	0.00%	N/A	N/A	N/A
RALPH LAUREN CORP	RL	7,536.57	0.04%	2.24%	8.06%	10.40%	0.0038%
ROCKWELL AUTOMATION INC	ROK	17,625.10	0.09%	2.21%	5.26%	7.53%	0.0065%
ROPER TECHNOLOGIES INC	ROP	18,746.05	0.09%	0.63%	11.40%	12.06%	0.0110%
ROSS STORES INC	ROST	25,901.60	0.13%	0.82%	12.79%	13.66%	0.0172%
RANGE RESOURCES CORP	RRC	8,165.68	0.04%	0.24%	-14.59%	-14.37%	-0.0057%
REPUBLIC SERVICES INC	RSG	19,248.64	0.09%	2.16%	8.55%	10.79%	0.0101%
RAYTHEON COMPANY	RTN	42,279.30	0.21%	2.01%	8.08%	10.17%	0.0210%
STARBUCKS CORP	SBUX	80,439.96	0.39%	1.81%	17.77%	19.74%	0.0774%
SCANA CORP	SCG	10,454.37	0.05%	3.13%	6.33%	9.57%	0.0049%
SCHWAB (CHARLES) CORP	SCHW	53,384.82	0.26%	0.67%	18.95%	19.68%	0.0512%
SPECTRA ENERGY CORP	SE	29,344.58	N/A	3.90%	N/A	N/A	N/A
SEALED AIR CORP	SEE	8,851.55	0.04%	1.33%	4.43%	5.80%	0.0025%
SHERWIN-WILLIAMS CO/THE	SHW	25,230.03	0.12%	1.24%	13.86%	15.18%	0.0187%
SIGNET JEWELERS LTD	SIG	6,592.77	0.03%	1.10%	10.00%	11.15%	0.0036%
JM SMUCKER CO/THE	SJM	15,080.57	0.07%	2.27%	6.67%	9.02%	0.0066%
SCHLUMBERGER LTD	SLB	117,732.52	0.57%	2.36%	7.35%	9.80%	0.0562%
SL GREEN REALTY CORP	SLG	11,131.28	0.05%	2.68%	4.54%	7.27%	0.0039%
SNAP-ON INC	SNA	9,922.29	0.05%	1.50%	4.40%	5.93%	0.0029%
SCRIPPS NETWORKS INTER-CL A	SNI	9,338.37	0.05%	1.39%	9.89%	11.35%	0.0052%
SOUTHERN CO/THE	SO	48,019.97	0.23%	4.54%	4.40%	9.04%	0.0211%
SIMON PROPERTY GROUP INC	SPG	55,990.84	0.27%	3.66%	8.29%	12.10%	0.0330%
S&P GLOBAL INC	SPGI	28,081.26	0.14%	1.33%	10.67%	12.07%	0.0165%
STAPLES INC	SPLS	5,828.89	0.03%	5.36%	0.52%	5.89%	0.0017%
STERICYCLE INC	SRCL	6,506.33	0.03%	0.22%	9.45%	9.68%	0.0031%
SEMPRA ENERGY	SRE	25,251.16	0.12%	2.98%	6.98%	10.06%	0.0124%
SUNTRUST BANKS INC	STI	27,146.02	0.13%	1.81%	7.51%	9.38%	0.0124%
ST JUDE MEDICAL INC	STJ	22,983.03	0.11%	1.54%	12.08%	13.72%	0.0154%
STATE STREET CORP	STT	30,492.32	0.15%	1.82%	7.45%	9.33%	0.0139%
SEAGATE TECHNOLOGY	STX	11,645.43	0.06%	5.73%	8.79%	14.77%	0.0084%
CONSTELLATION BRANDS INC-A	STZ	31,092.40	0.15%	1.04%	15.56%	16.68%	0.0253%
STANLEY BLACK & DECKER INC	SWK	17,454.27	0.09%	1.94%	10.17%	12.20%	0.0104%
SKYWORKS SOLUTIONS INC	SWKS	14,053.11	0.07%	1.50%	15.56%	17.18%	0.0118%
SOUTHWESTERN ENERGY CO	SWN	4,981.78	0.02%	0.00%	-12.48%	-12.48%	-0.0030%
SYNCHRONY FINANCIAL	SYF	30,467.94	0.15%	0.68%	5.02%	5.72%	0.0085%
STRYKER CORP	SYK	44,256.45	0.22%	1.30%	9.31%	10.68%	0.0230%
SYMANTEC CORP	SYMC	14,881.02	0.07%	1.33%	10.95%	12.35%	0.0090%
SYSCO CORP	SYO	29,917.14	0.15%	2.35%	9.75%	12.21%	0.0178%
AT&T INC	T	262,282.11	1.28%	4.52%	4.85%	9.48%	0.1212%
MOLSON COORS BREWING CO -B	TAP	21,155.87	0.10%	1.66%	12.70%	14.47%	0.0149%
TERADATA CORP	TDC	3,603.43	0.02%	0.00%	7.22%	7.22%	0.0013%
TRANSNIGM GROUP INC	TDG	13,358.27	0.07%	0.00%	10.63%	10.63%	0.0069%
TE CONNECTIVITY LTD	TEL	24,493.79	0.12%	2.19%	6.00%	8.26%	0.0099%
TEGNA INC	TGNA	4,601.38	0.02%	2.61%	2.00%	4.64%	0.0010%
TARGET CORP	TGT	40,599.35	0.20%	3.20%	7.21%	10.53%	0.0208%
TIFFANY & CO	TIF	9,683.84	0.05%	2.20%	9.46%	11.76%	0.0055%
TJX COMPANIES INC	TJX	49,225.02	0.24%	1.35%	11.43%	12.86%	0.0308%
TORCHMARK CORP	TMK	8,762.73	0.04%	0.75%	7.47%	8.24%	0.0035%
THERMO FISHER SCIENTIFIC INC	TMO	56,437.25	0.28%	0.42%	12.50%	12.95%	0.0356%
TRIPADVISOR INC	TRIP	6,872.73	0.03%	0.00%	10.31%	10.31%	0.0035%
T ROWE PRICE GROUP INC	TROW	18,535.00	0.09%	2.84%	10.45%	13.43%	0.0121%
TRAVELERS COS INC/THE	TRV	34,280.21	0.17%	2.16%	6.60%	8.83%	0.0148%

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
12.60%	3.08%	9.52%

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
TRACTOR SUPPLY COMPANY	TSCO	9,976.29	0.05%	1.17%	13.91%	15.16%	0.0074%
TYSON FOODS INC-CL A	TSN	24,619.83	0.12%	1.30%	10.80%	12.17%	0.0146%
TESORO CORP	TSO	10,560.98	0.05%	2.33%	0.35%	2.68%	0.0014%
TOTAL SYSTEM SERVICES INC	TSS	9,389.36	0.05%	0.78%	12.50%	13.33%	0.0061%
TIME WARNER INC	TWX	74,660.76	0.36%	1.66%	11.95%	13.71%	0.0499%
TEXAS INSTRUMENTS INC	TXN	73,921.96	0.36%	2.19%	10.00%	12.30%	0.0443%
TEXTRON INC	TXT	13,299.64	0.06%	0.24%	8.44%	8.69%	0.0056%
UNDER ARMOUR INC-CLASS A	UAA	11,998.86	0.06%	0.00%	21.84%	21.84%	0.0128%
UNITED CONTINENTAL HOLDINGS	UAL	23,063.49	0.11%	0.00%	-7.50%	-7.50%	-0.0084%
UDR INC	UDR	9,663.70	0.05%	3.25%	6.65%	10.01%	0.0047%
UNIVERSAL HEALTH SERVICES-B	UHS	10,326.85	0.05%	0.38%	9.01%	9.41%	0.0047%
ULTA SALON COSMETICS & FRAGR	ULTA	16,034.28	0.08%	0.00%	19.63%	19.63%	0.0153%
UNITEDHEALTH GROUP INC	UNH	152,281.08	0.74%	1.48%	13.92%	15.50%	0.1150%
UNUM GROUP	UNM	10,289.84	0.05%	1.74%	7.00%	8.80%	0.0044%
UNION PACIFIC CORP	UNP	85,715.93	0.42%	2.12%	9.72%	11.95%	0.0499%
UNITED PARCEL SERVICE-CL B	UPS	100,695.71	0.49%	2.70%	9.20%	12.03%	0.0590%
URBAN OUTFITTERS INC	URBN	3,311.50	0.02%	0.00%	12.65%	12.65%	0.0020%
UNITED RENTALS INC	URI	9,166.15	0.04%	0.00%	12.60%	12.60%	0.0056%
US BANCORP	USB	87,618.32	0.43%	2.08%	5.48%	7.61%	0.0325%
UNITED TECHNOLOGIES CORP	UTX	90,764.01	0.44%	2.41%	8.01%	10.52%	0.0465%
VISA INC-CLASS A SHARES	V	184,686.11	0.90%	0.91%	16.93%	17.92%	0.1613%
VARIAN MEDICAL SYSTEMS INC	VAR	8,397.45	0.04%	0.00%	12.50%	12.50%	0.0051%
VF CORP	VFC	22,249.39	0.11%	2.83%	9.51%	12.48%	0.0135%
VIACOM INC-CLASS B	VIAB	14,379.43	0.07%	2.53%	3.70%	6.27%	0.0044%
VALERO ENERGY CORP	VLO	31,980.77	0.16%	3.40%	2.25%	5.68%	0.0089%
VULCAN MATERIALS CO	VMC	16,492.35	0.08%	0.64%	24.93%	25.65%	0.0206%
VORNADO REALTY TRUST	VNO	19,780.14	0.10%	2.46%	5.00%	7.51%	0.0072%
VERISK ANALYTICS INC	VRSK	13,662.32	0.07%	0.00%	11.48%	11.48%	0.0076%
VERISIGN INC	VRSN	8,099.29	0.04%	0.00%	10.25%	10.25%	0.0040%
VERTEX PHARMACEUTICALS INC	VRTX	18,426.40	0.09%	0.00%	60.78%	60.78%	0.0546%
VENTAS INC	VTR	21,926.47	0.11%	4.76%	6.37%	11.29%	0.0121%
VERIZON COMMUNICATIONS INC	VZ	221,728.12	1.08%	4.20%	4.51%	8.80%	0.0951%
WATERS CORP	WAT	10,944.08	0.05%	0.00%	8.41%	8.41%	0.0045%
WALGREENS BOOTS ALLIANCE INC	WBA	89,844.94	0.44%	1.81%	12.80%	14.73%	0.0645%
WESTERN DIGITAL CORP	WDC	19,897.53	0.10%	2.87%	6.15%	9.11%	0.0088%
WEC ENERGY GROUP INC	WEC	18,394.18	0.09%	3.40%	6.30%	9.80%	0.0088%
WELLS FARGO & CO	WFC	280,796.96	1.37%	2.72%	8.46%	11.29%	0.1546%
WHOLE FOODS MARKET INC	WFM	9,861.02	0.05%	1.83%	7.73%	9.64%	0.0046%
WHIRLPOOL CORP	WHR	13,752.31	0.07%	2.14%	16.05%	18.36%	0.0123%
WILLIS TOWERS WATSON PLC	WLTW	16,877.24	0.08%	1.56%	10.00%	11.63%	0.0096%
WASTE MANAGEMENT INC	WM	31,152.38	0.15%	2.32%	8.86%	11.28%	0.0171%
WILLIAMS COS INC	WMB	23,636.36	0.12%	5.34%	10.00%	15.60%	0.0180%
WAL-MART STORES INC	WMT	210,759.39	1.03%	2.92%	2.86%	5.83%	0.0598%
WESTROCK CO	WRK	12,869.27	0.06%	3.12%	5.22%	8.42%	0.0053%
WESTERN UNION CO	WU	10,637.72	0.05%	2.92%	7.49%	10.52%	0.0055%
WEYERHAEUSER CO	WY	22,703.57	0.11%	4.11%	12.93%	17.31%	0.0191%
WYNDHAM WORLDWIDE CORP	WYN	8,194.25	0.04%	2.63%	8.70%	11.44%	0.0046%
WYNN RESORTS LTD	WYNN	8,883.00	0.04%	2.29%	28.30%	30.91%	0.0134%
CIMAREX ENERGY CO	XEC	13,136.39	0.06%	0.30%	75.27%	75.68%	0.0484%
XCEL ENERGY INC	XEL	20,627.96	0.10%	3.35%	5.23%	8.66%	0.0087%
XL GROUP LTD	XL	10,109.92	0.05%	2.15%	13.25%	15.54%	0.0077%
XILINX INC	XLNX	15,064.83	0.07%	2.33%	7.94%	10.37%	0.0076%
EXXON MOBIL CORP	XOM	377,100.29	1.84%	3.29%	11.28%	14.75%	0.2711%
DENTSPLY SIRONA INC	XRAY	13,361.05	0.07%	0.51%	7.85%	8.37%	0.0055%
XEROX CORP	XRX	6,630.10	0.03%	4.63%	11.60%	16.50%	0.0053%
XYLEM INC	XYL	8,906.95	0.04%	1.21%	11.00%	12.28%	0.0053%
YAHOO! INC	YHOO	37,115.44	0.18%	0.00%	5.74%	5.74%	0.0104%
YUM! BRANDS INC	YUM	23,099.33	0.11%	2.90%	13.33%	16.42%	0.0185%
ZIMMER BIOMET HOLDINGS INC	ZBH	20,646.88	0.10%	0.93%	11.17%	12.15%	0.0122%
ZIONS BANCORPORATION	ZION	8,849.51	0.04%	0.64%	9.00%	9.67%	0.0042%
ZOETIS INC	ZTS	26,726.22	0.13%	0.71%	13.94%	14.70%	0.0191%
Total Market Capitalization:		20,519,190.34					12.60%

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)	Implied Market Risk Premium
13.83%	3.08%	10.75%

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	14,894.28	0.08%	1.15%	4.50%	5.68%	0.0044%
AMERICAN AIRLINES GROUP INC	AAL	25,277.95	N/A	0.82%	N/A	N/A	N/A
ADVANCE AUTO PARTS INC	AAP	12,812.48	0.07%	0.14%	11.50%	11.65%	0.0078%
APPLE INC	AAPL	620,542.70	3.24%	2.09%	11.50%	13.71%	0.4445%
ABBVIE INC	ABBV	100,191.80	0.52%	4.15%	13.00%	17.42%	0.0912%
AMERISOURCEBERGEN CORP	ABC	16,701.68	0.09%	1.88%	11.00%	12.98%	0.0113%
ABBOTT LABORATORIES	ABT	56,374.75	0.29%	2.77%	7.50%	10.37%	0.0306%
ACCENTURE PLC-CL A	ACN	75,640.61	0.40%	2.12%	7.50%	9.70%	0.0383%
ADOBE SYSTEMS INC	ADBE	52,048.46	0.27%	0.00%	36.50%	36.50%	0.0993%
ANALOG DEVICES INC	ADI	22,635.16	0.12%	2.29%	10.50%	12.91%	0.0153%
ARCHER-DANIELS-MIDLAND CO	ADM	26,114.04	0.14%	2.66%	5.00%	7.73%	0.0105%
AUTOMATIC DATA PROCESSING	ADP	46,488.06	0.24%	2.22%	10.00%	12.33%	0.0300%
ALLIANCE DATA SYSTEMS CORP	ADS	13,389.95	0.07%	0.90%	11.00%	11.95%	0.0084%
AUTODESK INC	ADSK	16,598.23	N/A	0.00%	N/A	N/A	N/A
AMEREN CORPORATION	AEE	12,714.67	0.07%	3.40%	6.00%	9.50%	0.0063%
AMERICAN ELECTRIC POWER	AEP	31,095.68	0.16%	3.78%	5.00%	8.87%	0.0144%
AES CORP	AES	7,765.09	0.04%	4.08%	8.50%	12.75%	0.0052%
AETNA INC	AET	43,753.72	0.23%	0.80%	9.50%	10.34%	0.0236%
AFLAC INC	AFL	28,722.22	0.15%	2.44%	4.50%	6.99%	0.0105%
ALLERGAN PLC	AGN	74,336.96	0.39%	0.14%	13.50%	13.65%	0.0530%
AMERICAN INTERNATIONAL GROUP	AIG	69,070.53	0.36%	1.93%	10.00%	12.03%	0.0434%
APARTMENT INVT & MGMT CO -A	AIV	-	N/A	2.96%	N/A	N/A	N/A
ASSURANT INC	AIZ	5,406.05	0.03%	2.28%	7.00%	9.36%	0.0026%
ARTHUR J GALLAGHER & CO	AJG	9,247.24	0.05%	2.92%	13.50%	16.62%	0.0080%
AKAMAI TECHNOLOGIES INC	AKAM	11,700.21	0.06%	0.00%	13.00%	13.00%	0.0079%
ALBEMARLE CORP	ALB	9,944.24	0.05%	1.38%	7.50%	8.93%	0.0046%
ALASKA AIR GROUP INC	ALK	10,983.00	0.06%	1.24%	10.00%	11.30%	0.0065%
ALLSTATE CORP	ALL	27,408.64	0.14%	1.77%	6.50%	8.33%	0.0119%
ALLEGION PLC	ALLE	6,264.98	0.03%	0.74%	10.50%	11.28%	0.0037%
ALEXION PHARMACEUTICALS INC	ALXN	28,218.59	0.15%	0.00%	27.50%	27.50%	0.0405%
APPLIED MATERIALS INC	AMAT	35,683.81	0.19%	1.21%	23.00%	24.35%	0.0454%
AMETEK INC	AME	11,437.37	0.06%	0.73%	6.00%	6.75%	0.0040%
AFFILIATED MANAGERS GROUP	AMG	8,271.40	0.04%	0.00%	8.50%	8.50%	0.0037%
AMGEN INC	AMGN	109,008.90	0.57%	3.14%	9.00%	12.28%	0.0699%
AMERIPRISE FINANCIAL INC	AMP	17,713.51	0.09%	2.68%	10.50%	13.32%	0.0123%
AMERICAN TOWER CORP	AMT	45,371.31	0.24%	2.33%	15.50%	18.01%	0.0427%
AMAZON.COM INC	AMZN	364,011.50	1.90%	0.00%	91.00%	91.00%	1.7307%
AUTONATION INC	AN	4,952.56	0.03%	0.00%	9.00%	9.00%	0.0023%
ANTHEM INC	ANTM	38,081.79	0.20%	1.80%	8.00%	9.87%	0.0196%
AON PLC	AON	29,638.48	0.15%	1.17%	12.00%	13.24%	0.0205%
APACHE CORP	APA	25,323.09	0.13%	1.50%	6.00%	7.55%	0.0100%
ANADARKO PETROLEUM CORP	APC	38,994.27	N/A	0.28%	N/A	N/A	N/A
AIR PRODUCTS & CHEMICALS INC	APD	31,635.79	0.17%	2.36%	11.00%	13.49%	0.0223%
AMPHENOL CORP-CL A	APH	21,078.04	0.11%	0.94%	8.00%	8.98%	0.0099%
ARCONIC INC	ARNC	N/A	N/A	0.00%	N/A	N/A	N/A
ACTIVISION BLIZZARD INC	ATVI	27,079.22	0.14%	0.77%	8.00%	8.80%	0.0125%
AVALONBAY COMMUNITIES INC	AVB	-	N/A	3.30%	N/A	N/A	N/A
BROADCOM LTD	AVGO	71,597.25	0.37%	2.26%	23.00%	25.52%	0.0955%
AVERY DENNISON CORP	AVY	6,365.85	0.03%	2.38%	8.50%	10.98%	0.0037%
AMERICAN WATER WORKS CO INC	AWK	12,894.18	0.07%	2.17%	8.00%	10.26%	0.0069%
AMERICAN EXPRESS CO	AXP	68,389.86	0.36%	1.80%	4.50%	6.34%	0.0227%
ACUITY BRANDS INC	AYI	10,194.95	0.05%	0.22%	19.50%	19.74%	0.0105%
AUTOZONE INC	AZO	22,918.42	0.12%	0.00%	11.50%	11.50%	0.0138%
BOEING CO/THE	BA	97,461.44	0.51%	3.61%	10.50%	14.30%	0.0728%
BANK OF AMERICA CORP	BAC	228,191.50	1.19%	1.38%	15.50%	16.99%	0.2025%
BAXTER INTERNATIONAL INC	BAX	24,019.20	0.13%	1.18%	-4.50%	-3.35%	-0.0042%
BED BATH & BEYOND INC	BBBY	6,293.24	0.03%	1.21%	2.50%	3.73%	0.0012%
BB&T CORP	BBT	38,388.47	0.20%	2.58%	7.50%	10.18%	0.0204%
BEST BUY CO INC	BBY	14,116.30	0.07%	2.66%	8.00%	10.77%	0.0079%
CR BARD INC	BCR	16,225.72	0.08%	0.49%	10.00%	10.51%	0.0089%
BECTON DICKINSON AND CO	BDX	35,326.55	0.18%	1.76%	10.00%	11.85%	0.0219%
FRANKLIN RESOURCES INC	BEN	23,232.70	0.12%	2.09%	4.50%	6.64%	0.0081%
BROWN-FORMAN CORP-CLASS B	BF/B	17,295.50	0.09%	1.62%	9.00%	10.69%	0.0097%
BAKER HUGHES INC	BHI	27,739.52	0.14%	1.04%	29.00%	30.19%	0.0438%
BIOGEN INC	BIIB	61,588.68	0.32%	0.00%	11.50%	11.50%	0.0370%
BANK OF NEW YORK MELLON CORP	BK	50,339.82	0.26%	1.60%	10.50%	12.18%	0.0320%
BLACKROCK INC	BLK	62,818.35	0.33%	2.37%	8.00%	10.46%	0.0343%
BALL CORP	BLL	13,359.56	0.07%	0.68%	10.50%	11.22%	0.0078%
BRISTOL-MYERS SQUIBB CO	BMY	98,201.48	0.51%	2.66%	19.50%	22.42%	0.1150%
BERKSHIRE HATHAWAY INC-CL B	BRK/B	-	N/A	0.00%	N/A	N/A	N/A
BOSTON SCIENTIFIC CORP	BSX	29,488.88	0.15%	0.00%	20.00%	20.00%	0.0308%
BORGWARNER INC	BWA	8,440.64	0.04%	1.41%	8.50%	9.97%	0.0044%
BOSTON PROPERTIES INC	BXP	-	N/A	2.41%	N/A	N/A	N/A
CITIGROUP INC	C	172,380.20	0.90%	1.06%	11.50%	12.62%	0.1137%
CA INC	CA	13,286.91	0.07%	3.17%	6.50%	9.77%	0.0068%
CONAGRA BRANDS INC	CAG	17,199.98	0.09%	2.04%	6.00%	8.10%	0.0073%
CARDINAL HEALTH INC	CAH	23,075.20	0.12%	2.62%	14.50%	17.31%	0.0209%
CATERPILLAR INC	CAT	55,067.07	0.29%	3.27%	3.00%	6.32%	0.0182%
CHUBB LTD	CB	62,027.28	0.32%	2.07%	8.00%	10.15%	0.0329%
CBRE GROUP INC - A	CBG	10,705.24	0.06%	0.00%	10.00%	10.00%	0.0056%
CBS CORP-CLASS B NON VOTING	CBS	28,186.50	0.15%	1.12%	13.00%	14.19%	0.0209%
CROWN CASTLE INTL CORP	CCI	29,412.48	0.15%	4.44%	8.50%	13.13%	0.0202%
CARNIVAL CORP	CCL	38,259.30	0.20%	2.67%	15.50%	18.38%	0.0367%
CELGENE CORP	CELG	91,396.39	0.48%	0.00%	27.50%	27.50%	0.1313%
CERNER CORP	CERN	16,230.16	0.08%	0.00%	13.50%	13.50%	0.0114%
CF INDUSTRIES HOLDINGS INC	CF	7,019.03	0.04%	4.48%	-1.50%	2.95%	0.0011%
CITIZENS FINANCIAL GROUP	CFG	18,653.33	N/A	1.50%	N/A	N/A	N/A
CHURCH & DWIGHT CO INC	CHD	11,499.56	0.06%	1.60%	7.00%	8.66%	0.0052%

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
13.83%	3.08%	10.75%

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	5,693.87	N/A	0.00%	N/A	N/A	N/A
C.H. ROBINSON WORLDWIDE INC	CHRW	10,567.14	0.06%	2.42%	7.50%	10.01%	0.0055%
CHARTER COMMUNICATIONS INC-A	CHTR	78,768.94	N/A	0.00%	N/A	N/A	N/A
CIGNA CORP	CI	35,165.40	0.18%	0.03%	12.50%	12.53%	0.0230%
CINCINNATI FINANCIAL CORP	CINF	12,564.96	0.07%	2.52%	6.50%	9.10%	0.0060%
COLGATE-PALMOLIVE CO	CL	58,992.51	0.31%	2.44%	14.00%	16.61%	0.0512%
CLOROX COMPANY	CLX	15,510.60	0.08%	2.71%	9.50%	12.34%	0.0100%
COMERICA INC	CMA	11,876.13	0.06%	1.33%	9.00%	10.39%	0.0064%
COMCAST CORP-CLASS A	CMCSA	169,938.90	0.89%	1.55%	10.00%	11.63%	0.1032%
CME GROUP INC	CME	40,790.93	0.21%	1.99%	9.50%	11.58%	0.0247%
CHIPOTLE MEXICAN GRILL INC	CMG	11,336.60	0.06%	0.00%	11.00%	11.00%	0.0065%
CUMMINS INC	CMI	23,264.11	0.12%	2.97%	5.00%	8.04%	0.0098%
CMS ENERGY CORP	CMS	11,607.77	0.06%	3.17%	6.00%	9.27%	0.0056%
CENTENE CORP	CNC	9,920.19	0.05%	0.00%	24.50%	24.50%	0.0127%
CONDUENT INC	CNDT	N/A	N/A	0.00%	N/A	N/A	N/A
CENTERPOINT ENERGY INC	CNP	10,698.14	0.06%	4.31%	2.00%	6.35%	0.0036%
CAPITAL ONE FINANCIAL CORP	COF	43,633.53	0.23%	1.79%	2.50%	4.31%	0.0098%
CABOT OIL & GAS CORP	COG	10,372.82	0.05%	0.36%	39.00%	39.43%	0.0214%
COACH INC	COH	9,597.47	0.05%	3.94%	4.00%	8.02%	0.0040%
ROCKWELL COLLINS INC	COL	12,232.29	0.06%	1.41%	8.00%	9.47%	0.0061%
COOPER COS INC/THE	COO	8,437.24	0.04%	0.04%	14.50%	14.54%	0.0064%
CONOCOPHILLIPS	COP	63,859.45	0.33%	1.94%	7.00%	9.01%	0.0301%
COSTCO WHOLESALE CORP	COST	71,204.32	0.37%	1.11%	9.00%	10.16%	0.0378%
COTY INC-CL A	COTY	6,300.77	0.03%	2.67%	8.50%	11.28%	0.0037%
CAMPBELL SOUP CO	CPB	18,484.47	0.10%	2.33%	5.50%	7.89%	0.0076%
SALESFORCE.COM INC	CRM	47,881.50	N/A	0.00%	N/A	N/A	N/A
CISCO SYSTEMS INC	CSCO	153,183.30	0.80%	3.68%	6.50%	10.30%	0.0824%
CSRA INC	CSRA	5,213.55	N/A	1.26%	N/A	N/A	N/A
CSX CORP	CSX	34,366.09	0.18%	1.96%	7.00%	9.03%	0.0162%
CINTAS CORP	CTAS	12,514.94	0.07%	1.11%	10.00%	11.17%	0.0073%
CENTURYLINK INC	CTL	13,049.49	0.07%	9.05%	12.00%	21.59%	0.0147%
COGNIZANT TECH SOLUTIONS-A	CTSH	34,242.57	0.18%	0.00%	12.50%	12.50%	0.0224%
CITRIX SYSTEMS INC	CTXS	14,081.89	0.07%	0.00%	11.00%	11.00%	0.0081%
CVS HEALTH CORP	CVS	83,990.13	0.44%	2.16%	9.50%	11.76%	0.0516%
CHEVRON CORP	CVX	224,210.30	1.17%	3.64%	3.50%	7.20%	0.0844%
CONCHO RESOURCES INC	CXO	19,399.73	0.10%	0.00%	16.50%	16.50%	0.0167%
DOMINION RESOURCES INC/VA	D	48,047.01	0.25%	3.94%	10.00%	14.14%	0.0355%
DELTA AIR LINES INC	DAL	36,671.98	0.19%	1.63%	12.00%	13.73%	0.0263%
DU PONT (E.I.) DE NEMOURS	DD	65,259.48	0.34%	2.16%	6.50%	8.73%	0.0298%
DEERE & CO	DE	32,413.87	0.17%	2.33%	-2.00%	0.31%	0.0005%
DISCOVER FINANCIAL SERVICES	DFS	28,709.97	0.15%	1.66%	5.00%	6.70%	0.0101%
DOLLAR GENERAL CORP	DG	20,542.99	0.11%	1.55%	12.00%	13.64%	0.0146%
QUEST DIAGNOSTICS INC	DGX	12,761.59	0.07%	1.96%	10.00%	12.06%	0.0080%
DR HORTON INC	DHI	10,352.34	0.05%	1.44%	11.50%	13.02%	0.0070%
DANAHER CORP	DHR	54,173.03	0.28%	0.64%	8.00%	8.67%	0.0245%
WALT DISNEY CO/THE	DIS	179,214.00	0.94%	1.48%	10.00%	11.55%	0.1082%
DISCOVERY COMMUNICATIONS-A	DISCA	10,974.22	0.06%	0.00%	15.50%	15.50%	0.0089%
DELPHI AUTOMOTIVE PLC	DLPH	18,243.45	0.10%	1.84%	14.50%	16.47%	0.0157%
DIGITAL REALTY TRUST INC	DLR	-	N/A	3.96%	N/A	N/A	N/A
DOLLAR TREE INC	DLTR	18,717.16	0.10%	0.00%	21.00%	21.00%	0.0205%
DUN & BRADSTREET CORP	DNB	4,363.63	0.02%	1.62%	4.50%	6.16%	0.0014%
DOVER CORP	DOV	11,744.23	0.06%	2.33%	3.50%	5.87%	0.0036%
DOW CHEMICAL CO/THE	DOW	65,881.13	0.34%	3.34%	10.00%	13.51%	0.0465%
DR PEPPER SNAPPLE GROUP INC	DPS	16,634.74	0.09%	2.41%	9.00%	11.52%	0.0100%
DARDEN RESTAURANTS INC	DRI	9,178.15	0.05%	3.06%	15.00%	18.29%	0.0088%
DTE ENERGY COMPANY	DTE	17,676.14	0.09%	3.41%	6.00%	9.51%	0.0088%
DUKE ENERGY CORP	DUK	53,583.53	0.28%	4.48%	4.50%	9.08%	0.0254%
DAVITA INC	DVA	13,020.46	0.07%	0.00%	10.50%	10.50%	0.0071%
DEVON ENERGY CORP	DVN	24,575.60	0.13%	0.51%	1.00%	1.51%	0.0019%
ELECTRONIC ARTS INC	EA	23,937.00	0.13%	0.00%	14.00%	14.00%	0.0175%
EBAY INC	EBAY	32,996.18	0.17%	0.00%	4.00%	4.00%	0.0069%
ECOLAB INC	ECL	34,575.15	0.18%	1.25%	8.50%	9.80%	0.0177%
CONSOLIDATED EDISON INC	ED	20,727.00	0.11%	3.76%	2.50%	6.31%	0.0068%
EQUIFAX INC	EFX	14,221.64	0.07%	1.11%	11.00%	12.17%	0.0090%
EDISON INTERNATIONAL	EIX	23,500.75	0.12%	3.01%	3.50%	6.56%	0.0081%
ESTEE LAUDER COMPANIES-CL A	EL	28,858.93	0.15%	1.73%	8.50%	10.30%	0.0155%
EASTMAN CHEMICAL CO	EMN	11,138.93	0.06%	2.69%	8.00%	10.80%	0.0063%
EMERSON ELECTRIC CO	EMR	36,440.11	0.19%	3.40%	5.00%	8.49%	0.0162%
ENDO INTERNATIONAL PLC	ENDP	3,514.49	0.02%	0.00%	32.00%	32.00%	0.0059%
EOG RESOURCES INC	EOG	56,848.25	0.30%	0.69%	4.00%	4.70%	0.0140%
EQUINIX INC	EQIX	25,056.88	0.13%	1.99%	19.50%	21.68%	0.0284%
EQUITY RESIDENTIAL	EQR	-	N/A	3.37%	N/A	N/A	N/A
EQT CORP	EQT	11,509.14	0.06%	0.18%	11.00%	11.19%	0.0067%
EVERSOURCE ENERGY	ES	17,568.16	0.09%	3.43%	6.00%	9.53%	0.0088%
EXPRESS SCRIPTS HOLDING CO	ESRX	42,193.93	0.22%	0.00%	15.50%	15.50%	0.0342%
ESSEX PROPERTY TRUST INC	ESS	-	N/A	2.96%	N/A	N/A	N/A
E*TRADE FINANCIAL CORP	ETFC	9,556.04	0.05%	0.00%	17.50%	17.50%	0.0087%
EATON CORP PLC	ETN	30,747.22	0.16%	3.35%	4.50%	7.93%	0.0127%
ENTERGY CORP	ETR	13,108.59	0.07%	4.78%	0.50%	5.29%	0.0036%
ENVISION HEALTHCARE CORP	EVHC	N/A	N/A	0.00%	N/A	N/A	N/A
EDWARDS LIFESCIENCES CORP	EW	19,617.66	0.10%	0.00%	19.50%	19.50%	0.0200%
EXELON CORP	EXC	32,600.66	0.17%	3.65%	6.00%	9.76%	0.0166%
EXPEDITORS INTL WASH INC	EXPD	9,695.35	0.05%	1.49%	10.00%	11.56%	0.0059%
EXPEDIA INC	EXPE	17,150.28	0.09%	0.91%	21.50%	22.51%	0.0202%
EXTRA SPACE STORAGE INC	EXR	-	N/A	4.28%	N/A	N/A	N/A
FORD MOTOR CO	F	48,395.50	0.25%	4.84%	5.00%	9.96%	0.0252%
FASTENAL CO	FAST	13,882.21	0.07%	2.50%	5.50%	8.07%	0.0059%
FACEBOOK INC-A	FB	338,346.80	1.77%	0.00%	37.50%	37.50%	0.6629%

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
13.83%	3.08%	10.75%

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
FORTUNE BRANDS HOME & SECURI	FBHS	8,483.80	0.04%	1.31%	15.50%	16.91%	0.0075%
FREEMPORT-MCMORAN INC	FCX	18,795.60	0.10%	0.00%	36.50%	36.50%	0.0358%
FEDEX CORP	FDX	50,730.74	0.27%	0.84%	12.00%	12.89%	0.0342%
FIRSTENERGY CORP	FE	13,291.70	0.07%	4.61%	6.00%	10.75%	0.0075%
F5 NETWORKS INC	FFIV	9,421.04	0.05%	0.00%	8.50%	8.50%	0.0042%
FIDELITY NATIONAL INFO SERV	FIS	24,862.40	0.13%	1.37%	14.50%	15.97%	0.0207%
FISERV INC	FISV	23,437.46	0.12%	0.00%	9.50%	9.50%	0.0116%
FIFTH THIRD BANCORP	FITB	20,869.17	0.11%	2.03%	3.50%	5.57%	0.0061%
FOOT LOCKER INC	FL	9,547.20	0.05%	1.53%	9.00%	10.60%	0.0053%
FLIR SYSTEMS INC	FLIR	4,910.10	0.03%	1.44%	8.00%	9.50%	0.0024%
FLUOR CORP	FLR	7,466.59	0.04%	1.57%	1.50%	3.08%	0.0012%
FLOWSERVE CORP	FLS	6,381.76	0.03%	1.55%	2.50%	4.07%	0.0014%
FMC CORP	FMC	7,626.15	0.04%	1.21%	4.00%	5.23%	0.0021%
TWENTY-FIRST CENTURY FOX - B	FOX	N/A	N/A	0.00%	N/A	N/A	N/A
FEDERAL REALTY INVS TRUST	FRT	-	N/A	2.83%	N/A	N/A	N/A
FIRST SOLAR INC	FSLR	3,395.84	0.02%	0.00%	8.50%	8.50%	0.0015%
FMC TECHNOLOGIES INC	FTI	7,955.93	0.04%	0.00%	-1.00%	-1.00%	-0.0004%
FRONTIER COMMUNICATIONS CORP	FTR	3,918.18	0.02%	12.58%	16.00%	29.59%	0.0061%
FORTIVE CORP	FTV	-	N/A	0.52%	N/A	N/A	N/A
GENERAL DYNAMICS CORP	GD	53,147.88	0.28%	1.74%	7.00%	8.80%	0.0244%
GENERAL ELECTRIC CO	GE	281,492.10	1.47%	3.02%	12.00%	15.20%	0.2236%
GENERAL GROWTH PROPERTIES	GGP	-	N/A	3.59%	N/A	N/A	N/A
GILEAD SCIENCES INC	GILD	96,902.60	0.51%	2.57%	10.00%	12.70%	0.0643%
GENERAL MILLS INC	GIS	36,239.29	0.19%	3.11%	7.00%	10.22%	0.0193%
CORNING INC	GLW	23,537.25	0.12%	2.18%	7.00%	9.26%	0.0114%
GENERAL MOTORS CO	GM	53,535.00	0.28%	4.26%	9.50%	13.96%	0.0391%
ALPHABET INC-CL C	GOOG	542,992.70	2.84%	0.00%	15.00%	15.00%	0.4256%
GENUINE PARTS CO	GPC	14,363.53	0.08%	2.72%	7.00%	9.82%	0.0074%
GLOBAL PAYMENTS INC	GPN	10,762.49	0.06%	0.06%	14.50%	14.56%	0.0082%
GAP INC/THE	GPS	8,969.52	0.05%	4.09%	-0.50%	3.58%	0.0017%
GARMIN LTD	GRMN	9,505.22	0.05%	4.12%	4.00%	8.20%	0.0041%
GOLDMAN SACHS GROUP INC	GS	95,858.55	0.50%	1.08%	7.00%	8.12%	0.0407%
GOODYEAR TIRE & RUBBER CO	GT	8,221.50	0.04%	1.27%	8.50%	9.82%	0.0042%
WW GRAINGER INC	GWW	14,188.98	0.07%	2.05%	6.00%	8.11%	0.0060%
HALLIBURTON CO	HAL	47,580.48	0.25%	1.31%	8.00%	9.36%	0.0233%
HARMAN INTERNATIONAL	HAR	7,726.14	0.04%	1.26%	16.50%	17.86%	0.0072%
HASBRO INC	HAS	9,835.51	0.05%	2.59%	12.00%	14.75%	0.0076%
HUNTINGTON BANCSHARES INC	HBAN	14,460.16	0.08%	2.48%	9.50%	12.10%	0.0091%
HANESBRANDS INC	HBI	8,208.60	0.04%	2.03%	13.00%	15.16%	0.0065%
HCA HOLDINGS INC	HCA	27,819.39	0.15%	0.00%	11.50%	11.50%	0.0167%
WELLTOWER INC	HCN	-	N/A	5.49%	N/A	N/A	N/A
HCP INC	HCP	-	N/A	5.07%	N/A	N/A	N/A
HOME DEPOT INC	HD	165,224.60	0.86%	2.33%	12.50%	14.98%	0.1293%
HESS CORP	HES	20,171.92	0.11%	1.57%	-1.00%	0.56%	0.0006%
HARTFORD FINANCIAL SVCS GRP	HIG	18,283.85	0.10%	1.91%	11.50%	13.52%	0.0129%
HARLEY-DAVIDSON INC	HOG	10,224.55	0.05%	2.42%	9.00%	11.53%	0.0062%
HOLOGIC INC	HOLX	11,102.28	0.06%	0.00%	21.00%	21.00%	0.0122%
HONEYWELL INTERNATIONAL INC	HON	89,107.66	0.47%	2.28%	9.00%	11.38%	0.0530%
HELMERICH & PAYNE	HP	8,499.23	0.04%	3.56%	-6.00%	-2.55%	-0.0011%
HEWLETT PACKARD ENTERPRIS	HPE	39,536.64	0.21%	1.09%	5.50%	6.62%	0.0137%
HP INC	HPQ	25,902.66	N/A	3.50%	N/A	N/A	N/A
H&R BLOCK INC	HRB	4,927.79	0.03%	3.78%	10.00%	13.97%	0.0036%
HORMEL FOODS CORP	HRL	18,599.03	0.10%	1.94%	14.00%	16.08%	0.0156%
HARRIS CORP	HRS	12,867.61	0.07%	2.08%	7.50%	9.66%	0.0065%
HENRY SCHEIN INC	HSIC	12,288.53	0.06%	0.00%	9.00%	9.00%	0.0058%
HOST HOTELS & RESORTS INC	HST	-	N/A	4.36%	N/A	N/A	N/A
HERSHEY CO/THE	HSY	22,308.07	0.12%	2.37%	5.50%	7.94%	0.0092%
HUMANA INC	HUM	30,257.06	0.16%	0.57%	9.50%	10.10%	0.0160%
INTL BUSINESS MACHINES CORP	IBM	158,849.80	0.83%	3.44%	-0.50%	2.93%	0.0243%
INTERCONTINENTAL EXCHANGE IN	ICE	34,120.32	0.18%	1.19%	14.00%	15.27%	0.0272%
INTL FLAVORS & FRAGRANCES	IFF	9,485.58	0.05%	2.15%	7.00%	9.23%	0.0046%
ILLUMINA INC	ILMN	18,622.51	0.10%	0.00%	21.50%	21.50%	0.0209%
INTEL CORP	INTC	175,011.30	0.91%	2.82%	9.50%	12.45%	0.1139%
INTUIT INC	INTU	30,145.60	0.16%	1.16%	13.50%	14.74%	0.0232%
INTERNATIONAL PAPER CO	IP	22,117.59	0.12%	3.44%	15.00%	18.70%	0.0216%
INTERPUBLIC GROUP OF COS INC	IPG	9,674.88	0.05%	2.93%	13.00%	16.12%	0.0081%
INGERSOLL-RAND PLC	IR	19,739.07	0.10%	2.09%	10.00%	12.19%	0.0126%
IRON MOUNTAIN INC	IRM	8,537.61	0.04%	6.79%	11.50%	18.68%	0.0083%
INTUITIVE SURGICAL INC	ISRG	24,674.34	0.13%	0.00%	11.50%	11.50%	0.0148%
ILLINOIS TOOL WORKS	ITW	43,752.77	0.23%	2.09%	10.50%	12.70%	0.0290%
INVESCO LTD	IVZ	12,685.01	0.07%	3.61%	7.00%	10.74%	0.0071%
HUNT (JB) TRANSPRT SVCS INC	JBHT	10,899.89	0.06%	0.91%	10.50%	11.46%	0.0065%
JOHNSON CONTROLS INTERNATION	JCI	27,174.36	0.14%	2.35%	0.50%	2.86%	0.0041%
JACOBS ENGINEERING GROUP INC	JEC	7,101.43	0.04%	0.00%	4.00%	4.00%	0.0015%
JOHNSON & JOHNSON	JNJ	314,295.10	1.64%	2.86%	8.50%	11.48%	0.1885%
JUNIPER NETWORKS INC	JNPR	10,741.63	0.06%	1.49%	10.00%	11.56%	0.0065%
JPMORGAN CHASE & CO	JPM	310,915.30	1.62%	2.28%	6.00%	8.35%	0.1356%
NORDSTROM INC	JWN	8,359.99	0.04%	3.13%	0.50%	3.64%	0.0016%
KELLOGG CO	K	25,854.66	0.14%	2.84%	5.00%	7.91%	0.0107%
KEYCORP	KEY	16,539.35	0.09%	1.96%	8.00%	10.04%	0.0087%
KRAFT HEINZ CO/THE	KHC	106,270.40	N/A	2.78%	N/A	N/A	N/A
KIMCO REALTY CORP	KIM	-	N/A	4.29%	N/A	N/A	N/A
KLA-TENCOR CORP	KLAC	12,372.65	0.06%	2.73%	12.00%	14.89%	0.0096%
KIMBERLY-CLARK CORP	KMB	41,194.99	0.22%	3.20%	10.00%	13.36%	0.0288%
KINDER MORGAN INC	KMI	46,809.49	0.24%	2.38%	13.00%	15.53%	0.0380%
CARMAX INC	KMX	12,240.52	0.06%	0.00%	10.50%	10.50%	0.0067%
COCA-COLA CO/THE	KO	179,205.20	0.94%	3.51%	4.00%	7.58%	0.0710%
MICHAEL KORS HOLDINGS LTD	KORS	7,021.00	0.04%	0.00%	6.00%	6.00%	0.0022%

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
13.83%	3.08%	10.75%

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
KROGER CO	KR	32,671.32	0.17%	1.46%	10.00%	11.53%	0.0197%
KOHL'S CORP	KSS	8,789.44	0.05%	4.25%	8.00%	12.42%	0.0057%
KANSAS CITY SOUTHERN	KSU	9,175.41	0.05%	1.55%	9.00%	10.62%	0.0051%
LOEWS CORP	L	16,066.21	0.08%	0.52%	13.00%	13.55%	0.0114%
L BRANDS INC	LB	19,050.46	0.10%	3.60%	6.00%	9.71%	0.0097%
LEGGETT & PLATT INC	LEG	6,617.16	0.03%	2.75%	11.00%	13.90%	0.0048%
LENNAR CORP-A	LEN	9,777.30	0.05%	0.37%	12.50%	12.89%	0.0066%
LABORATORY CRP OF AMER HLDGS	LH	13,037.10	0.07%	0.00%	10.00%	10.00%	0.0068%
LKQ CORP	LKQ	9,513.65	0.05%	0.00%	14.50%	14.50%	0.0072%
L3 TECHNOLOGIES INC	LLL	11,897.35	0.06%	1.82%	6.50%	8.38%	0.0052%
LINEAR TECHNOLOGY CORP	LLTC	14,985.97	0.08%	2.05%	5.50%	7.61%	0.0060%
ELI LILLY & CO	LLY	80,875.23	0.42%	2.84%	9.50%	12.47%	0.0527%
LOCKHEED MARTIN CORP	LMT	74,064.58	0.39%	2.88%	8.00%	11.00%	0.0425%
LINCOLN NATIONAL CORP	LNC	15,409.71	0.08%	1.72%	7.00%	8.78%	0.0071%
ALLIANT ENERGY CORP	LNT	8,601.77	0.04%	3.12%	6.50%	9.72%	0.0044%
LOWE'S COS INC	LOW	63,737.73	0.33%	2.06%	15.00%	17.21%	0.0573%
LAM RESEARCH CORP	LRCX	17,414.12	0.09%	1.67%	20.00%	21.84%	0.0199%
LEUCADIA NATIONAL CORP	LUK	8,452.27	0.04%	1.06%	16.50%	17.65%	0.0078%
SOUTHWEST AIRLINES CO	LUV	30,933.80	0.16%	0.80%	14.50%	15.36%	0.0248%
LEVEL 3 COMMUNICATIONS INC	LVLV	20,290.00	0.11%	0.00%	36.00%	36.00%	0.0382%
LYONDELLBASELL INDU-CL A	LYB	35,814.30	0.19%	3.88%	3.50%	7.45%	0.0139%
MACY'S INC	M	11,056.08	N/A	4.23%	N/A	N/A	N/A
MASTERCARD INC - A	MA	113,906.50	0.60%	0.84%	12.00%	12.89%	0.0767%
MID-AMERICA APARTMENT COMM	MAA	N/A	N/A	0.00%	N/A	N/A	N/A
MACERICH CO/THE	MAC	-	N/A	4.16%	N/A	N/A	N/A
MARRIOTT INTERNATIONAL -CL A	MAR	32,694.89	0.17%	1.43%	13.00%	14.52%	0.0248%
MASCO CORP	MAS	10,393.74	0.05%	1.25%	15.00%	16.34%	0.0089%
MATTEL INC	MAT	9,695.11	0.05%	5.36%	6.50%	12.03%	0.0061%
MCDONALD'S CORP	MCD	102,737.10	0.54%	3.04%	6.00%	9.13%	0.0490%
MICROCHIP TECHNOLOGY INC	MCHP	14,119.07	0.07%	2.20%	11.50%	13.83%	0.0102%
MCKESSON CORP	MCK	31,729.05	0.17%	0.80%	12.00%	12.85%	0.0213%
MOODY'S CORP	MCO	18,325.65	0.10%	1.59%	7.00%	8.65%	0.0083%
MONDELEZ INTERNATIONAL INC-A	MDLZ	69,520.91	0.36%	1.73%	11.50%	13.33%	0.0484%
MEDTRONIC PLC	MDT	99,140.09	0.52%	2.43%	6.50%	9.01%	0.0467%
METLIFE INC	MET	59,817.81	0.31%	3.07%	6.50%	9.67%	0.0302%
MOHAWK INDUSTRIES INC	MHK	15,053.13	0.08%	0.00%	10.50%	10.50%	0.0083%
MEAD JOHNSON NUTRITION CO	MJN	13,489.57	0.07%	2.32%	6.00%	8.39%	0.0059%
MCCORMICK & CO-NON VGT SHRS	MKC	11,707.14	0.06%	2.03%	7.50%	9.61%	0.0059%
MARTIN MARIETTA MATERIALS	MLM	14,225.90	0.07%	0.75%	24.50%	25.34%	0.0188%
MARSH & MCLENNAN COS	MMC	35,335.34	0.18%	1.99%	9.00%	11.08%	0.0205%
3M CO	MMM	107,782.70	0.56%	2.48%	8.50%	11.09%	0.0624%
MALLINCKRODT PLC	MNK	5,575.90	N/A	0.00%	N/A	N/A	N/A
MONSTER BEVERAGE CORP	MNST	25,878.89	0.14%	0.00%	14.50%	14.50%	0.0196%
ALTRIA GROUP INC	MO	132,070.90	0.69%	3.61%	9.50%	13.28%	0.0916%
MONSANTO CO	MON	46,112.95	0.24%	2.05%	9.50%	11.65%	0.0281%
MOSAIC CO/THE	MOS	10,279.04	0.05%	4.19%	0.50%	4.70%	0.0025%
MARATHON PETROLEUM CORP	MPC	26,478.84	0.14%	3.02%	4.00%	7.08%	0.0098%
MERCK & CO. INC.	MRK	164,539.80	0.86%	3.16%	6.00%	9.25%	0.0796%
MARATHON OIL CORP	MRO	15,279.88	0.08%	1.11%	14.50%	15.69%	0.0125%
MORGAN STANLEY	MS	80,293.98	0.42%	1.87%	14.50%	16.51%	0.0692%
MICROSOFT CORP	MSFT	494,673.20	2.58%	2.46%	8.00%	10.56%	0.2729%
MOTOROLA SOLUTIONS INC	MSI	13,897.52	0.07%	2.25%	9.00%	11.35%	0.0082%
M & T BANK CORP	MTB	24,177.32	0.13%	1.80%	6.50%	8.36%	0.0106%
METTLER-TOLEDO INTERNATIONAL	MTD	11,099.67	0.06%	0.00%	9.50%	9.50%	0.0055%
MICRON TECHNOLOGY INC	MU	25,369.86	0.13%	0.00%	6.00%	6.00%	0.0080%
MURPHY OIL CORP	MUR	5,562.06	N/A	3.10%	N/A	N/A	N/A
MYLAN NV	MYL	19,963.57	0.10%	0.00%	20.50%	20.50%	0.0214%
NAVIENT CORP	NAVI	5,038.89	N/A	3.85%	N/A	N/A	N/A
NOBLE ENERGY INC	NBL	17,116.49	N/A	1.01%	N/A	N/A	N/A
NASDAQ INC	NDAQ	11,103.03	0.06%	1.90%	10.00%	12.00%	0.0070%
NEXTERA ENERGY INC	NEE	55,526.30	0.29%	3.20%	4.50%	7.77%	0.0225%
NEWMONT MINING CORP	NEM	16,686.78	0.09%	0.64%	9.00%	9.67%	0.0084%
NETFLIX INC	NFLX	53,892.03	0.28%	0.00%	36.50%	36.50%	0.1028%
NEWFIELD EXPLORATION CO	NFX	8,452.23	0.04%	0.00%	12.00%	12.00%	0.0053%
NISOURCE INC	NI	7,235.11	0.04%	2.94%	1.50%	4.46%	0.0017%
NIKE INC -CL B	NKE	86,969.52	0.45%	1.38%	14.50%	15.98%	0.0726%
NIELSEN HOLDINGS PLC	NLSN	15,287.28	0.08%	2.90%	8.00%	11.02%	0.0088%
NORTHROP GRUMMAN CORP	NOC	41,317.96	0.22%	1.54%	7.50%	9.10%	0.0196%
NATIONAL OILWELL VARCO INC	NOV	14,691.52	0.08%	0.51%	-9.50%	-9.01%	-0.0069%
NRG ENERGY INC	NRG	3,826.32	N/A	0.99%	N/A	N/A	N/A
NORFOLK SOUTHERN CORP	NSC	31,757.45	0.17%	2.17%	6.50%	8.74%	0.0145%
NETAPP INC	NTAP	9,996.72	0.05%	2.10%	7.00%	9.17%	0.0048%
NORTHERN TRUST CORP	NTRS	20,310.86	0.11%	1.70%	7.50%	9.26%	0.0098%
NUCOR CORP	NUE	19,628.23	0.10%	2.45%	24.50%	27.25%	0.0279%
NVIDIA CORP	NVDA	57,303.85	0.30%	0.52%	21.50%	22.08%	0.0661%
NEWELL BRANDS INC	NWL	21,968.50	0.11%	1.67%	16.00%	17.80%	0.0204%
NEWS CORP - CLASS B	NWS	N/A	N/A	0.00%	N/A	N/A	N/A
REALTY INCOME CORP	O	-	N/A	4.31%	N/A	N/A	N/A
ONEOK INC	OKE	12,191.10	0.06%	4.44%	12.50%	17.22%	0.0110%
OMNICOM GROUP	OMC	20,321.15	0.11%	2.67%	9.00%	11.79%	0.0125%
ORACLE CORP	ORCL	159,852.90	0.84%	1.54%	6.00%	7.59%	0.0634%
O'REILLY AUTOMOTIVE INC	ORLY	26,807.08	0.14%	0.00%	13.00%	13.00%	0.0182%
OCCIDENTAL PETROLEUM CORP	OXY	55,296.64	0.29%	4.20%	4.00%	8.28%	0.0239%
PAYCHEX INC	PAYX	22,244.55	0.12%	3.09%	9.00%	12.23%	0.0142%
PEOPLE'S UNITED FINANCIAL	PBCT	6,039.62	0.03%	3.50%	10.50%	14.18%	0.0045%
PITNEY BOWES INC	PBI	2,903.36	0.02%	4.80%	4.50%	9.41%	0.0014%
PACCAR INC	PCAR	22,838.08	0.12%	3.84%	4.50%	8.43%	0.0101%
P G & E CORP	PCG	30,957.68	0.16%	3.33%	12.00%	15.53%	0.0251%

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
13.83%	3.08%	10.75%

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
PRICELINE GROUP INC/THE	PCLN	73,108.58	0.38%	0.00%	15.50%	15.50%	0.0592%
PATTERSON COS INC	PDCO	3,997.63	0.02%	2.57%	11.50%	14.22%	0.0030%
PUBLIC SERVICE ENTERPRISE GP	PEG	22,058.40	0.12%	3.94%	2.00%	5.98%	0.0069%
PEPSICO INC	PEP	151,282.60	0.79%	2.89%	7.00%	9.99%	0.0790%
PFIZER INC	PFE	196,250.60	1.03%	3.96%	12.00%	16.20%	0.1661%
PRINCIPAL FINANCIAL GROUP	PFG	16,807.43	0.09%	3.00%	5.00%	8.08%	0.0071%
PROCTER & GAMBLE CO/THE	PG	226,041.10	1.18%	3.17%	9.00%	12.31%	0.1454%
PROGRESSIVE CORP	PGR	20,688.10	0.11%	2.50%	8.50%	11.11%	0.0120%
PARKER HANFIFIN CORP	PH	19,049.23	0.10%	1.77%	6.50%	8.33%	0.0083%
PULTEGROUP INC	PHM	6,476.49	0.03%	2.16%	14.00%	16.31%	0.0055%
PERKINELMER INC	PKI	5,731.81	0.03%	0.54%	8.00%	8.56%	0.0026%
PROLOGIS INC	PLD	-	N/A	3.24%	N/A	N/A	N/A
PHILIP MORRIS INTERNATIONAL	PM	142,118.90	0.74%	4.54%	5.00%	9.65%	0.0717%
PNC FINANCIAL SERVICES GROUP	PNC	57,305.84	0.30%	1.87%	3.00%	4.90%	0.0147%
PENTAIR PLC	PNR	10,326.41	0.05%	2.43%	10.00%	12.55%	0.0068%
PINNACLE WEST CAPITAL	PNW	8,630.52	0.05%	3.38%	4.00%	7.45%	0.0034%
PPG INDUSTRIES INC	PPG	25,079.53	0.13%	1.68%	9.50%	11.26%	0.0148%
PPL CORP	PPL	23,407.57	0.12%	4.59%	1.00%	5.61%	0.0069%
PERRIGO CO PLC	PRGO	12,077.49	0.06%	0.72%	8.50%	9.25%	0.0058%
PRUDENTIAL FINANCIAL INC	PRU	45,609.52	0.24%	2.65%	1.50%	4.17%	0.0099%
PUBLIC STORAGE	PSA	-	N/A	3.68%	N/A	N/A	N/A
PHILLIPS 66	PSX	45,605.63	0.24%	3.05%	2.50%	5.59%	0.0133%
PVH CORP	PVH	7,181.18	0.04%	0.17%	6.00%	6.18%	0.0023%
QUANTA SERVICES INC	PWR	5,015.99	0.03%	0.00%	8.50%	8.50%	0.0022%
PRAXAIR INC	PX	33,444.74	0.17%	2.73%	6.50%	9.32%	0.0163%
PIONEER NATURAL RESOURCES CO	PXD	31,726.90	0.17%	0.04%	20.00%	20.04%	0.0332%
PAYPAL HOLDINGS INC	PYPL	47,854.08	N/A	0.00%	N/A	N/A	N/A
QUALCOMM INC	QCOM	98,337.47	0.51%	3.33%	4.50%	7.90%	0.0406%
QORVO INC	QRVO	6,997.42	N/A	0.00%	N/A	N/A	N/A
RYDER SYSTEM INC	R	4,061.43	0.02%	2.32%	9.00%	11.42%	0.0024%
REYNOLDS AMERICAN INC	RAI	79,772.84	0.42%	3.29%	14.00%	17.52%	0.0730%
ROYAL CARIBBEAN CRUISES LTD	RCL	18,075.38	0.09%	2.28%	16.50%	18.97%	0.0179%
REGENERON PHARMACEUTICALS	REGN	39,960.84	0.21%	0.00%	24.00%	24.00%	0.0501%
REGIONS FINANCIAL CORP	RF	17,988.76	0.09%	1.92%	7.00%	8.99%	0.0084%
ROBERT HALF INTL INC	RHI	6,301.24	0.03%	1.86%	9.00%	10.94%	0.0036%
RED HAT INC	RHT	12,338.46	0.06%	0.00%	17.00%	17.00%	0.0110%
TRANSOCEAN LTD	RIG	5,386.91	0.03%	0.00%	-19.00%	-19.00%	-0.0053%
RALPH LAUREN CORP	RL	7,458.01	0.04%	2.26%	3.50%	5.80%	0.0023%
ROCKWELL AUTOMATION INC	ROK	17,542.76	0.09%	2.24%	3.50%	5.78%	0.0053%
ROPER TECHNOLOGIES INC	ROP	18,867.74	0.10%	0.75%	7.00%	7.78%	0.0077%
ROSS STORES INC	ROST	26,449.39	0.14%	0.88%	9.00%	9.92%	0.0137%
RANGE RESOURCES CORP	RRC	8,455.76	0.04%	0.23%	13.50%	13.75%	0.0061%
REPUBLIC SERVICES INC	RSG	19,534.66	0.10%	2.27%	8.50%	10.87%	0.0111%
RAYTHEON COMPANY	RTN	42,133.14	0.22%	2.05%	9.00%	11.14%	0.0245%
STARBUCKS CORP	SBUX	83,746.10	0.44%	1.75%	16.50%	18.39%	0.0805%
SCANA CORP	SCG	10,646.05	0.06%	3.25%	4.50%	7.82%	0.0044%
SCHWAB (CHARLES) CORP	SCHW	52,656.55	0.28%	0.70%	12.00%	12.74%	0.0351%
SPECTRA ENERGY CORP	SE	29,210.67	0.15%	3.89%	12.00%	16.12%	0.0246%
SEALED AIR CORP	SEE	8,938.56	0.05%	1.38%	16.00%	17.49%	0.0082%
SHERWIN-WILLIAMS CO/THE	SHW	25,104.67	0.13%	1.36%	11.00%	12.43%	0.0163%
SIGNET JEWELERS LTD	SIG	6,500.64	0.03%	1.20%	13.00%	14.28%	0.0048%
JM SMUCKER CO/THE	SJM	15,045.86	0.08%	2.32%	7.50%	9.91%	0.0078%
SCHLUMBERGER LTD	SLB	120,181.20	0.63%	2.32%	10.00%	12.44%	0.0781%
SL GREEN REALTY CORP	SLG	-	N/A	2.90%	N/A	N/A	N/A
SNAP-ON INC	SNA	10,029.04	0.05%	1.64%	10.00%	11.72%	0.0061%
SCRIPPS NETWORKS INTER-CL A	SNI	9,373.24	0.05%	1.38%	9.00%	10.44%	0.0051%
SOUTHERN CO/THE	SO	48,372.75	0.25%	4.66%	4.00%	8.75%	0.0221%
SIMON PROPERTY GROUP INC	SPG	-	N/A	3.88%	N/A	N/A	N/A
S&P GLOBAL INC	SPGI	28,423.27	0.15%	1.42%	11.50%	13.00%	0.0193%
STAPLES INC	SPLS	6,024.04	N/A	5.18%	N/A	N/A	N/A
STERICYCLE INC	SRCL	6,573.51	0.03%	0.00%	8.00%	8.00%	0.0027%
SEMPRA ENERGY	SRE	25,532.50	0.13%	3.15%	8.00%	11.28%	0.0150%
SUNTRUST BANKS INC	STI	27,846.81	0.15%	1.92%	7.00%	8.99%	0.0131%
ST JUDE MEDICAL INC	STJ	22,762.40	0.12%	1.63%	5.00%	6.67%	0.0079%
STATE STREET CORP	STT	30,460.03	0.16%	2.03%	5.50%	7.59%	0.0121%
SEAGATE TECHNOLOGY	STX	11,651.64	0.06%	6.46%	2.50%	9.04%	0.0055%
CONSTELLATION BRANDS INC-A	STZ	31,409.87	0.16%	1.10%	15.50%	16.69%	0.0274%
STANLEY BLACK & DECKER INC	SWK	17,451.29	0.09%	2.00%	9.00%	11.09%	0.0101%
SKYWORKS SOLUTIONS INC	SWKS	14,449.93	0.08%	1.43%	12.00%	13.52%	0.0102%
SOUTHWESTERN ENERGY CO	SWN	5,467.04	0.03%	0.00%	-6.50%	-6.50%	-0.0019%
SYNCHRONY FINANCIAL	SYF	30,443.11	N/A	1.41%	N/A	N/A	N/A
STRYKER CORP	SYK	45,059.52	0.24%	1.41%	18.50%	20.04%	0.0472%
SYMANTEC CORP	SYMC	15,028.92	0.08%	1.24%	5.00%	6.27%	0.0049%
SYSCO CORP	SYO	30,880.80	0.16%	2.35%	11.50%	13.99%	0.0226%
AT&T INC	T	262,333.40	1.37%	4.59%	6.50%	11.24%	0.1541%
MOLSON COORS BREWING CO -B	TAP	20,810.91	0.11%	1.69%	17.00%	18.83%	0.0205%
TERADATA CORP	TDC	3,465.66	0.02%	0.00%	3.50%	3.50%	0.0006%
TRANSNIGM GROUP INC	TDG	13,277.75	0.07%	0.00%	14.50%	14.50%	0.0101%
TE CONNECTIVITY LTD	TEL	25,162.05	0.13%	2.10%	8.00%	10.18%	0.0134%
TEGNA INC	TGNA	4,762.20	0.02%	2.52%	1.00%	3.53%	0.0009%
TARGET CORP	TGT	41,565.55	0.22%	3.26%	9.00%	12.41%	0.0269%
TIFFANY & CO	TIF	9,682.37	0.05%	2.37%	7.50%	9.96%	0.0050%
TJX COMPANIES INC	TJX	49,831.31	0.26%	1.36%	10.50%	11.93%	0.0311%
TORCHMARK CORP	TMK	8,871.94	0.05%	0.75%	7.50%	8.28%	0.0038%
THERMO FISHER SCIENTIFIC INC	TMO	55,508.91	0.29%	0.43%	10.50%	10.95%	0.0318%
TRIPADVISOR INC	TRIP	6,755.40	0.04%	0.00%	14.50%	14.50%	0.0051%
T ROWE PRICE GROUP INC	TROW	18,746.56	0.10%	2.94%	7.50%	10.55%	0.0103%
TRAVELERS COS INC/THE	TRV	34,694.29	0.18%	2.20%	1.50%	3.72%	0.0067%

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
13.83%	3.08%	10.75%

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
TRACTOR SUPPLY COMPANY	TSCO	10,092.34	0.05%	1.38%	12.00%	13.46%	0.0071%
TYSON FOODS INC-CL A	TSN	22,686.79	0.12%	1.10%	12.50%	13.67%	0.0162%
TESORO CORP	TSO	10,563.29	0.06%	2.44%	8.50%	11.04%	0.0061%
TOTAL SYSTEM SERVICES INC	TSS	9,200.09	0.05%	0.80%	11.50%	12.35%	0.0059%
TIME WARNER INC	TWX	74,563.59	0.39%	1.67%	11.00%	12.76%	0.0497%
TEXAS INSTRUMENTS INC	TXN	74,283.25	0.39%	2.70%	8.50%	11.31%	0.0439%
TEXTRON INC	TXT	13,129.41	0.07%	0.17%	15.50%	15.68%	0.0108%
UNDER ARMOUR INC-CLASS A	UAA	12,877.32	0.07%	0.00%	22.00%	22.00%	0.0148%
UNITED CONTINENTAL HOLDINGS	UAL	23,585.45	0.12%	0.00%	5.50%	5.50%	0.0068%
UDR INC	UDR	-	N/A	3.76%	N/A	N/A	N/A
UNIVERSAL HEALTH SERVICES-B	UHS	10,356.31	0.05%	0.37%	11.50%	11.89%	0.0064%
ULTA SALON COSMETICS & FRAGR	ULTA	16,034.53	0.08%	0.00%	22.50%	22.50%	0.0189%
UNITEDHEALTH GROUP INC	UNH	153,824.10	0.80%	1.55%	14.50%	16.16%	0.1299%
UNUM GROUP	UNM	10,335.19	0.05%	1.80%	10.50%	12.39%	0.0067%
UNION PACIFIC CORP	UNP	86,802.69	0.45%	2.30%	7.00%	9.38%	0.0425%
UNITED PARCEL SERVICE-CL B	UPS	101,529.90	0.53%	2.86%	9.50%	12.50%	0.0663%
URBAN OUTFITTERS INC	URBN	3,321.97	0.02%	0.00%	13.50%	13.50%	0.0023%
UNITED RENTALS INC	URI	9,049.65	0.05%	0.00%	12.50%	12.50%	0.0059%
US BANCORP	USB	88,906.84	0.46%	2.15%	4.50%	6.70%	0.0311%
UNITED TECHNOLOGIES CORP	UTX	90,953.32	0.48%	2.39%	7.00%	9.47%	0.0450%
VISA INC-CLASS A SHARES	V	167,718.70	0.88%	0.85%	13.50%	14.41%	0.1263%
VARIAN MEDICAL SYSTEMS INC	VAR	8,513.00	0.04%	0.00%	7.50%	7.50%	0.0033%
VF CORP	VFC	22,148.54	0.12%	3.14%	10.00%	13.30%	0.0154%
VIACOM INC-CLASS B	VIAB	13,947.52	0.07%	2.28%	2.50%	4.81%	0.0035%
VALERO ENERGY CORP	VLO	31,136.00	0.16%	3.49%	5.50%	9.09%	0.0148%
VULCAN MATERIALS CO	VMC	16,579.64	0.09%	0.64%	33.50%	34.25%	0.0297%
VORNADO REALTY TRUST	VNO	19,475.83	0.10%	2.55%	22.50%	25.34%	0.0258%
VERISK ANALYTICS INC	VRSK	13,815.75	0.07%	0.00%	11.00%	11.00%	0.0079%
VERISIGN INC	VRSN	8,046.07	0.04%	0.00%	12.00%	12.00%	0.0050%
VERTEX PHARMACEUTICALS INC	VRTX	17,863.05	N/A	0.00%	N/A	N/A	N/A
VENTAS INC	VTR	-	N/A	5.07%	N/A	N/A	N/A
VERIZON COMMUNICATIONS INC	VZ	218,711.40	1.14%	4.32%	3.00%	7.38%	0.0844%
WATERS CORP	WAT	10,933.74	0.06%	0.00%	7.00%	7.00%	0.0040%
WALGREENS BOOTS ALLIANCE INC	WBA	91,163.46	0.48%	1.78%	13.00%	14.90%	0.0710%
WESTERN DIGITAL CORP	WDC	20,004.15	0.10%	2.85%	6.50%	9.44%	0.0099%
WEC ENERGY GROUP INC	WEC	18,529.87	0.10%	3.54%	6.00%	9.65%	0.0093%
WELLS FARGO & CO	WFC	280,081.80	1.46%	2.76%	4.50%	7.32%	0.1072%
WHOLE FOODS MARKET INC	WFM	10,156.97	0.05%	1.82%	6.50%	8.38%	0.0044%
WHIRLPOOL CORP	WHR	13,575.75	0.07%	2.21%	10.50%	12.83%	0.0091%
WILLIS TOWERS WATSON PLC	WLTW	16,853.67	N/A	1.66%	N/A	N/A	N/A
WASTE MANAGEMENT INC	WM	31,288.96	0.16%	2.39%	8.50%	10.99%	0.0180%
WILLIAMS COS INC	WMB	22,694.70	0.12%	2.64%	16.50%	19.36%	0.0230%
WAL-MART STORES INC	WMT	214,267.60	1.12%	2.92%	2.00%	4.95%	0.0554%
WESTROCK CO	WRK	12,934.03	N/A	3.11%	N/A	N/A	N/A
WESTERN UNION CO	WU	10,577.36	0.06%	2.94%	8.00%	11.06%	0.0061%
WEYERHAEUSER CO	WY	22,901.71	0.12%	4.05%	8.50%	12.72%	0.0152%
WYNDHAM WORLDWIDE CORP	WYN	8,316.36	0.04%	2.59%	5.50%	8.16%	0.0035%
WYNN RESORTS LTD	WYNN	8,978.64	0.05%	2.27%	6.50%	8.84%	0.0041%
CIMAREX ENERGY CO	XEC	12,988.22	0.07%	0.23%	16.50%	16.75%	0.0114%
XCEL ENERGY INC	XEL	20,658.45	0.11%	3.49%	5.50%	9.09%	0.0098%
XL GROUP LTD	XL	11,103.04	0.06%	2.12%	9.00%	11.22%	0.0065%
XILINX INC	XLNX	15,198.64	0.08%	2.19%	6.00%	8.26%	0.0066%
EXXON MOBIL CORP	XOM	376,837.90	1.97%	3.35%	5.00%	8.43%	0.1661%
DENTSPLY SIRONA INC	XRAY	13,651.93	0.07%	0.52%	8.00%	8.54%	0.0061%
XEROX CORP	XRX	9,134.13	0.05%	2.78%	4.50%	7.34%	0.0035%
XYLEM INC	XYL	9,172.72	0.05%	1.21%	9.50%	10.77%	0.0052%
YAHOO! INC	YHOO	36,708.48	N/A	0.00%	N/A	N/A	N/A
YUM! BRANDS INC	YUM	24,082.80	0.13%	1.87%	3.50%	5.40%	0.0068%
ZIMMER BIOMET HOLDINGS INC	ZBH	20,334.31	0.11%	1.02%	15.00%	16.10%	0.0171%
ZIONS BANCORPORATION	ZION	8,916.40		0.78%	11.00%		
ZOETIS INC	ZTS	26,323.28	0.14%	0.79%	11.00%	11.83%	0.0163%
Total Market Capitalization:		19,139,250.00					13.83%

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. [5] x Col. [8]

Bloomberg and Value Line Beta Coefficients

Company	Ticker	[1]	[2]
		Bloomberg	Value Line
ALLETE, Inc.	ALE	0.654	0.750
Alliant Energy Corp.	LNT	0.553	0.700
American Electric Power	AEP	0.555	0.650
Avista Corp.	AVA	0.627	0.700
Black Hills Corp.	BKH	0.543	0.900
CMS Energy Corp.	CMS	0.498	0.650
DTE Energy Co.	DTE	0.552	0.650
IDACORP, Inc.	IDA	0.691	0.750
NorthWestern Corporation	NWE	0.603	0.700
OGE Energy Corp.	OGE	0.658	0.900
Otter Tail Corporation	OTTR	0.825	0.850
Pinnacle West Capital	PNW	0.588	0.700
PNM Resources, Inc.	PNM	0.612	0.750
Portland General Electric Co.	POR	0.588	0.700
SCANA Corp.	SCG	0.541	0.700
WEC Energy Group Inc.	WEC	0.488	0.600
Xcel Energy, Inc.	XEL	0.455	0.600
Mean		0.590	0.721

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
<b>PROXY GROUP AVERAGE BLOOMBERG BETA COEFFICIENT</b>						
Current 30-Year Treasury [7]	3.08%	0.590	9.52%	10.75%	8.70%	9.42%
Near-Term Projected 30-Year Treasury [8]	3.40%	0.590	9.52%	10.75%	9.02%	9.74%
Mean					8.86%	9.58%
	Risk-Free Rate	Average Beta Coefficient	Bloomberg Market DCF Derived	Value Line Market DCF Derived	Bloomberg MRP	Value Line MRP
<b>PROXY GROUP AVERAGE VALUE LINE AVERAGE BETA COEFFICIENT</b>						
Current 30-Year Treasury [7]	3.08%	0.721	9.52%	10.75%	9.94%	10.82%
Near-Term Projected 30-Year Treasury [8]	3.40%	0.721	9.52%	10.75%	10.26%	11.14%
Mean					10.10%	10.98%

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])

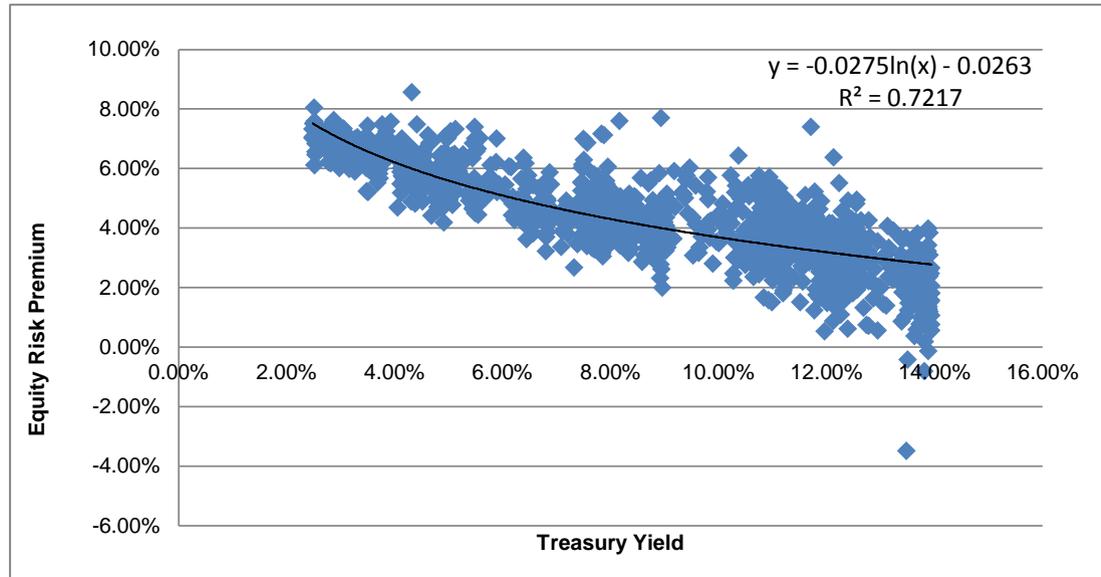
[6] Equals Col. [1] + (Col. [2] x Col. [4])

[7] Source: Bloomberg Professional

[8] Source: Blue Chip Financial Forecasts, Vol. 36, No. 1, January 1, 2017, at 2.

Bond Yield Plus Risk Premium

[1]	[2]	[3]	[4]	[5]	
Constant	Slope	30-Year Treasury Yield	Risk Premium	Return on Equity	
-2.63%	-2.75%				
		Current 30-Year Treasury	3.08%	6.93%	10.01%
		Near-Term Projected 30-Year Treasury	3.40%	6.66%	10.06%
		Long-Term Projected 30-Year Treasury	4.35%	5.98%	10.33%



Notes:

[1] Constant of regression equation

[2] Slope of regression equation

[3] Source: Current = Bloomberg Professional,

Near Term Projected = Blue Chip Financial Forecasts, Vol. 36, No. 1, January 1, 2017, 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 200-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
01/01/1980	14.50%	9.36%	5.14%
01/07/1980	14.39%	9.38%	5.01%
01/09/1980	15.00%	9.40%	5.60%
01/14/1980	15.17%	9.42%	5.75%
01/17/1980	13.93%	9.44%	4.49%
01/23/1980	15.50%	9.47%	6.03%
01/30/1980	13.86%	9.52%	4.34%
01/31/1980	12.61%	9.53%	3.08%
02/06/1980	13.71%	9.58%	4.13%
02/13/1980	12.80%	9.63%	3.17%
02/14/1980	13.00%	9.65%	3.35%
02/19/1980	13.50%	9.68%	3.82%
02/27/1980	13.75%	9.78%	3.97%
02/29/1980	13.75%	9.81%	3.94%
02/29/1980	14.00%	9.81%	4.19%
02/29/1980	14.77%	9.81%	4.96%
03/07/1980	12.70%	9.89%	2.81%
03/14/1980	13.50%	9.97%	3.53%
03/26/1980	14.16%	10.10%	4.06%
03/27/1980	14.24%	10.12%	4.12%
03/28/1980	14.50%	10.13%	4.37%
04/11/1980	12.75%	10.27%	2.48%
04/14/1980	13.85%	10.29%	3.56%
04/16/1980	15.50%	10.31%	5.19%
04/22/1980	13.25%	10.35%	2.90%
04/22/1980	13.90%	10.35%	3.55%
04/24/1980	16.80%	10.38%	6.43%
04/29/1980	15.50%	10.41%	5.09%
05/06/1980	13.70%	10.45%	3.25%
05/07/1980	15.00%	10.45%	4.55%
05/08/1980	13.75%	10.46%	3.29%
05/09/1980	14.35%	10.47%	3.88%
05/13/1980	13.60%	10.48%	3.12%
05/15/1980	13.25%	10.49%	2.76%
05/19/1980	13.75%	10.51%	3.24%
05/27/1980	13.62%	10.54%	3.08%
05/27/1980	14.60%	10.54%	4.06%
05/29/1980	16.00%	10.56%	5.44%
05/30/1980	13.80%	10.56%	3.24%
06/02/1980	15.63%	10.57%	5.06%
06/09/1980	15.90%	10.60%	5.30%
06/10/1980	13.78%	10.60%	3.18%
06/12/1980	14.25%	10.61%	3.64%
06/19/1980	13.40%	10.62%	2.78%
06/30/1980	13.00%	10.65%	2.35%
06/30/1980	13.40%	10.65%	2.75%
07/09/1980	14.75%	10.67%	4.08%
07/10/1980	15.00%	10.68%	4.32%
07/15/1980	15.80%	10.70%	5.10%
07/18/1980	13.80%	10.71%	3.09%
07/22/1980	14.10%	10.72%	3.38%
07/24/1980	15.00%	10.73%	4.27%
07/25/1980	13.48%	10.73%	2.75%
07/31/1980	14.58%	10.75%	3.83%
08/08/1980	13.50%	10.78%	2.72%
08/08/1980	14.00%	10.78%	3.22%
08/08/1980	15.45%	10.78%	4.67%
08/11/1980	14.85%	10.78%	4.07%
08/14/1980	14.00%	10.79%	3.21%
08/14/1980	16.25%	10.79%	5.46%
08/25/1980	13.75%	10.82%	2.93%
08/27/1980	13.80%	10.83%	2.97%
08/29/1980	12.50%	10.84%	1.66%
09/15/1980	13.50%	10.88%	2.62%
09/15/1980	13.93%	10.88%	3.05%
09/15/1980	15.80%	10.88%	4.92%
09/24/1980	12.50%	10.93%	1.57%
09/24/1980	15.00%	10.93%	4.07%

Bond Yield Plus Risk Premium			
[6]	[7]	[8]	[9]
Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
09/26/1980	13.75%	10.94%	2.81%
09/30/1980	14.10%	10.96%	3.14%
09/30/1980	14.20%	10.96%	3.24%
10/01/1980	13.90%	10.97%	2.93%
10/03/1980	15.50%	10.98%	4.52%
10/07/1980	12.50%	10.99%	1.51%
10/09/1980	13.25%	11.00%	2.25%
10/09/1980	14.50%	11.00%	3.50%
10/09/1980	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%
11/04/1980	15.00%	11.12%	3.88%
11/05/1980	13.75%	11.12%	2.63%
11/05/1980	14.00%	11.12%	2.88%
11/08/1980	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%
12/08/1980	14.15%	11.22%	2.93%
12/08/1980	15.10%	11.22%	3.88%
12/09/1980	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%
01/02/1981	15.25%	11.22%	4.03%
01/07/1981	14.30%	11.21%	3.09%
01/19/1981	15.25%	11.20%	4.05%
01/23/1981	13.10%	11.20%	1.90%
01/23/1981	14.40%	11.20%	3.20%
01/26/1981	15.25%	11.20%	4.05%
01/27/1981	15.00%	11.21%	3.79%
01/31/1981	13.47%	11.22%	2.25%
02/03/1981	15.25%	11.23%	4.02%
02/05/1981	15.75%	11.25%	4.50%
02/11/1981	15.60%	11.28%	4.32%
02/20/1981	15.25%	11.33%	3.92%
03/11/1981	15.40%	11.49%	3.91%
03/12/1981	14.51%	11.50%	3.01%
03/12/1981	16.00%	11.50%	4.50%
03/13/1981	13.02%	11.52%	1.50%
03/18/1981	16.19%	11.55%	4.64%
03/19/1981	13.75%	11.56%	2.19%
03/23/1981	14.30%	11.58%	2.72%
03/25/1981	15.30%	11.60%	3.70%
04/01/1981	14.53%	11.68%	2.85%
04/03/1981	19.10%	11.71%	7.39%
04/09/1981	15.00%	11.78%	3.22%
04/09/1981	15.30%	11.78%	3.52%
04/09/1981	16.50%	11.78%	4.72%
04/09/1981	17.00%	11.78%	5.22%
04/10/1981	13.75%	11.80%	1.95%
04/13/1981	13.57%	11.82%	1.75%
04/15/1981	15.30%	11.85%	3.45%
04/16/1981	13.50%	11.87%	1.63%
04/17/1981	14.10%	11.87%	2.23%
04/21/1981	14.00%	11.90%	2.10%

Bond Yield Plus Risk Premium			
[6]	[7]	[8]	[9]
Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
04/21/1981	16.80%	11.90%	4.90%
04/24/1981	16.00%	11.95%	4.05%
04/27/1981	12.50%	11.97%	0.53%
04/27/1981	13.61%	11.97%	1.64%
04/29/1981	13.65%	12.00%	1.65%
04/30/1981	13.50%	12.02%	1.48%
05/04/1981	16.22%	12.05%	4.17%
05/05/1981	14.40%	12.07%	2.33%
05/07/1981	16.25%	12.11%	4.14%
05/07/1981	16.27%	12.11%	4.16%
05/08/1981	13.00%	12.13%	0.87%
05/08/1981	16.00%	12.13%	3.87%
05/12/1981	13.50%	12.16%	1.34%
05/15/1981	15.75%	12.22%	3.53%
05/18/1981	14.88%	12.23%	2.65%
05/20/1981	16.00%	12.26%	3.74%
05/21/1981	14.00%	12.27%	1.73%
05/26/1981	14.90%	12.30%	2.60%
05/27/1981	15.00%	12.31%	2.69%
05/29/1981	15.50%	12.34%	3.16%
06/01/1981	16.50%	12.35%	4.15%
06/03/1981	14.67%	12.37%	2.30%
06/05/1981	13.00%	12.39%	0.61%
06/10/1981	16.75%	12.42%	4.33%
06/17/1981	14.40%	12.46%	1.94%
06/18/1981	16.33%	12.47%	3.86%
06/25/1981	14.75%	12.51%	2.24%
06/26/1981	16.00%	12.52%	3.48%
06/30/1981	15.25%	12.54%	2.71%
07/01/1981	15.50%	12.56%	2.94%
07/01/1981	17.50%	12.56%	4.94%
07/10/1981	16.00%	12.62%	3.38%
07/14/1981	16.90%	12.64%	4.26%
07/15/1981	16.00%	12.65%	3.35%
07/17/1981	15.00%	12.67%	2.33%
07/20/1981	15.00%	12.68%	2.32%
07/21/1981	14.00%	12.69%	1.31%
07/28/1981	13.48%	12.74%	0.74%
07/31/1981	13.50%	12.78%	0.72%
07/31/1981	15.00%	12.78%	2.22%
07/31/1981	16.00%	12.78%	3.22%
08/05/1981	15.71%	12.83%	2.88%
08/10/1981	14.50%	12.87%	1.63%
08/11/1981	15.00%	12.88%	2.12%
08/20/1981	13.50%	12.95%	0.55%
08/20/1981	16.50%	12.95%	3.55%
08/24/1981	15.00%	12.97%	2.03%
08/28/1981	15.00%	13.01%	1.99%
09/03/1981	14.50%	13.05%	1.45%
09/10/1981	14.50%	13.11%	1.39%
09/11/1981	16.00%	13.12%	2.88%
09/16/1981	16.00%	13.15%	2.85%
09/17/1981	16.50%	13.16%	3.34%
09/23/1981	15.85%	13.20%	2.65%
09/28/1981	15.50%	13.23%	2.27%
10/09/1981	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%
11/03/1981	15.17%	13.53%	1.64%
11/05/1981	16.60%	13.55%	3.05%

Bond Yield Plus Risk Premium			
[6]	[7]	[8]	[9]
Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
11/06/1981	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%
12/01/1981	15.70%	13.61%	2.09%
12/01/1981	16.00%	13.61%	2.39%
12/01/1981	16.49%	13.61%	2.88%
12/01/1981	16.50%	13.61%	2.89%
12/04/1981	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%
01/04/1982	15.50%	13.67%	1.83%
01/11/1982	14.50%	13.72%	0.78%
01/11/1982	17.00%	13.72%	3.28%
01/13/1982	14.75%	13.74%	1.01%
01/14/1982	15.75%	13.75%	2.00%
01/15/1982	15.00%	13.76%	1.24%
01/15/1982	16.50%	13.76%	2.74%
01/22/1982	16.25%	13.79%	2.46%
01/27/1982	16.84%	13.81%	3.03%
01/28/1982	13.00%	13.81%	-0.81%
01/29/1982	15.50%	13.82%	1.68%
02/01/1982	15.85%	13.82%	2.03%
02/03/1982	16.44%	13.84%	2.60%
02/08/1982	15.50%	13.86%	1.64%
02/11/1982	16.00%	13.88%	2.12%
02/11/1982	16.20%	13.88%	2.32%
02/17/1982	15.00%	13.89%	1.11%
02/19/1982	15.17%	13.89%	1.28%
02/26/1982	15.25%	13.89%	1.36%
03/01/1982	15.03%	13.89%	1.14%
03/01/1982	16.00%	13.89%	2.11%
03/03/1982	15.00%	13.88%	1.12%
03/08/1982	17.10%	13.88%	3.22%
03/12/1982	16.25%	13.88%	2.37%
03/17/1982	17.30%	13.88%	3.42%
03/22/1982	15.10%	13.89%	1.21%
03/27/1982	15.40%	13.89%	1.51%
03/30/1982	15.50%	13.90%	1.60%
03/31/1982	17.00%	13.91%	3.09%
04/01/1982	14.70%	13.91%	0.79%
04/01/1982	16.50%	13.91%	2.59%
04/02/1982	15.50%	13.91%	1.59%
04/05/1982	15.50%	13.92%	1.58%
04/08/1982	16.40%	13.93%	2.47%
04/13/1982	14.50%	13.94%	0.56%
04/23/1982	15.75%	13.94%	1.81%
04/27/1982	15.00%	13.94%	1.06%
04/28/1982	15.75%	13.94%	1.81%
04/30/1982	14.70%	13.94%	0.76%
04/30/1982	15.50%	13.94%	1.56%
05/03/1982	16.60%	13.94%	2.66%
05/04/1982	16.00%	13.94%	2.06%
05/14/1982	15.50%	13.92%	1.58%
05/18/1982	15.42%	13.92%	1.50%
05/19/1982	14.69%	13.92%	0.77%
05/20/1982	15.00%	13.91%	1.09%

Bond Yield Plus Risk Premium			
[6]	[7]	[8]	[9]
Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
05/20/1982	15.10%	13.91%	1.19%
05/20/1982	15.50%	13.91%	1.59%
05/20/1982	16.30%	13.91%	2.39%
05/21/1982	17.75%	13.91%	3.84%
05/27/1982	15.00%	13.89%	1.11%
05/28/1982	15.50%	13.89%	1.61%
05/28/1982	17.00%	13.89%	3.11%
06/01/1982	13.75%	13.89%	-0.14%
06/01/1982	16.60%	13.89%	2.71%
06/09/1982	17.86%	13.88%	3.98%
06/14/1982	15.75%	13.88%	1.87%
06/15/1982	14.85%	13.88%	0.97%
06/18/1982	15.50%	13.87%	1.63%
06/21/1982	14.90%	13.87%	1.03%
06/23/1982	16.00%	13.86%	2.14%
06/23/1982	16.17%	13.86%	2.31%
06/24/1982	14.85%	13.86%	0.99%
06/25/1982	14.70%	13.86%	0.84%
07/01/1982	16.00%	13.84%	2.16%
07/02/1982	15.62%	13.84%	1.78%
07/02/1982	17.00%	13.84%	3.16%
07/13/1982	14.00%	13.82%	0.18%
07/13/1982	16.80%	13.82%	2.98%
07/14/1982	15.76%	13.82%	1.94%
07/14/1982	16.02%	13.82%	2.20%
07/19/1982	16.50%	13.80%	2.70%
07/22/1982	14.50%	13.77%	0.73%
07/22/1982	17.00%	13.77%	3.23%
07/27/1982	16.75%	13.75%	3.00%
07/29/1982	16.50%	13.74%	2.76%
08/11/1982	17.50%	13.68%	3.82%
08/18/1982	17.07%	13.63%	3.44%
08/20/1982	15.73%	13.60%	2.13%
08/25/1982	16.00%	13.57%	2.43%
08/26/1982	15.50%	13.56%	1.94%
08/30/1982	15.00%	13.55%	1.45%
09/03/1982	16.20%	13.53%	2.67%
09/08/1982	15.00%	13.52%	1.48%
09/15/1982	13.08%	13.50%	-0.42%
09/15/1982	16.25%	13.50%	2.75%
09/16/1982	16.00%	13.50%	2.50%
09/17/1982	15.25%	13.50%	1.75%
09/23/1982	17.17%	13.47%	3.70%
09/24/1982	14.50%	13.46%	1.04%
09/27/1982	15.25%	13.46%	1.79%
10/01/1982	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%
11/01/1982	15.50%	13.15%	2.35%
11/03/1982	17.20%	13.13%	4.07%
11/04/1982	16.25%	13.11%	3.14%
11/05/1982	16.20%	13.09%	3.11%
11/09/1982	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%
12/01/1982	17.04%	12.79%	4.25%
12/06/1982	15.00%	12.73%	2.27%
12/06/1982	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]	[7]	[8]	[9]
Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	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%
01/05/1983	17.33%	12.40%	4.93%
01/11/1983	15.90%	12.34%	3.56%
01/12/1983	14.63%	12.33%	2.30%
01/12/1983	15.50%	12.33%	3.17%
01/20/1983	17.75%	12.24%	5.51%
01/21/1983	15.00%	12.22%	2.78%
01/24/1983	14.50%	12.21%	2.29%
01/24/1983	15.50%	12.21%	3.29%
01/25/1983	15.85%	12.19%	3.66%
01/27/1983	16.14%	12.17%	3.97%
02/01/1983	18.50%	12.13%	6.37%
02/04/1983	14.00%	12.10%	1.90%
02/10/1983	15.00%	12.06%	2.94%
02/21/1983	15.50%	11.98%	3.52%
02/22/1983	15.50%	11.97%	3.53%
02/23/1983	15.10%	11.96%	3.14%
02/23/1983	16.00%	11.96%	4.04%
03/02/1983	15.25%	11.89%	3.36%
03/09/1983	15.20%	11.82%	3.38%
03/15/1983	13.00%	11.77%	1.23%
03/18/1983	15.25%	11.73%	3.52%
03/23/1983	15.40%	11.69%	3.71%
03/24/1983	15.00%	11.67%	3.33%
03/29/1983	15.50%	11.63%	3.87%
03/30/1983	16.71%	11.61%	5.10%
03/31/1983	15.00%	11.59%	3.41%
04/04/1983	15.20%	11.58%	3.62%
04/08/1983	15.50%	11.51%	3.99%
04/11/1983	14.81%	11.49%	3.32%
04/19/1983	14.50%	11.38%	3.12%
04/20/1983	16.00%	11.36%	4.64%
04/29/1983	16.00%	11.24%	4.76%
05/01/1983	14.50%	11.24%	3.26%
05/09/1983	15.50%	11.15%	4.35%
05/11/1983	16.46%	11.12%	5.34%
05/12/1983	14.14%	11.11%	3.03%
05/18/1983	15.00%	11.05%	3.95%
05/23/1983	14.90%	11.01%	3.89%
05/23/1983	15.50%	11.01%	4.49%
05/25/1983	15.50%	10.98%	4.52%
05/27/1983	15.00%	10.96%	4.04%
05/31/1983	14.00%	10.95%	3.05%
05/31/1983	15.50%	10.95%	4.55%
06/02/1983	14.50%	10.93%	3.57%
06/17/1983	15.03%	10.84%	4.19%
07/01/1983	14.80%	10.78%	4.02%
07/01/1983	14.90%	10.78%	4.12%
07/08/1983	16.25%	10.76%	5.49%
07/13/1983	13.20%	10.75%	2.45%
07/19/1983	15.00%	10.74%	4.26%
07/19/1983	15.10%	10.74%	4.36%
07/25/1983	16.25%	10.73%	5.52%
07/28/1983	15.90%	10.74%	5.16%
08/03/1983	16.34%	10.75%	5.59%
08/03/1983	16.50%	10.75%	5.75%
08/19/1983	15.00%	10.80%	4.20%
08/22/1983	15.50%	10.80%	4.70%
08/22/1983	16.40%	10.80%	5.60%
08/31/1983	14.75%	10.84%	3.91%
09/07/1983	15.00%	10.86%	4.14%

Bond Yield Plus Risk Premium			
[6]	[7]	[8]	[9]
Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
09/14/1983	15.78%	10.89%	4.89%
09/16/1983	15.00%	10.90%	4.10%
09/19/1983	14.50%	10.91%	3.59%
09/20/1983	16.50%	10.91%	5.59%
09/28/1983	14.50%	10.94%	3.56%
09/29/1983	15.50%	10.95%	4.55%
09/30/1983	15.25%	10.95%	4.30%
09/30/1983	16.15%	10.95%	5.20%
10/04/1983	14.80%	10.96%	3.84%
10/07/1983	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%
11/01/1983	16.00%	11.06%	4.94%
11/09/1983	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%
12/05/1983	15.25%	11.15%	4.10%
12/06/1983	15.07%	11.15%	3.92%
12/08/1983	15.90%	11.16%	4.74%
12/09/1983	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%
01/03/1984	14.75%	11.27%	3.48%
01/10/1984	15.90%	11.30%	4.60%
01/12/1984	15.60%	11.31%	4.29%
01/18/1984	13.75%	11.33%	2.42%
01/19/1984	15.90%	11.33%	4.57%
01/30/1984	16.10%	11.37%	4.73%
01/31/1984	15.25%	11.37%	3.88%
02/01/1984	14.80%	11.38%	3.42%
02/06/1984	13.75%	11.40%	2.35%
02/06/1984	14.75%	11.40%	3.35%
02/09/1984	15.25%	11.42%	3.83%
02/15/1984	15.70%	11.44%	4.26%
02/20/1984	15.00%	11.46%	3.54%
02/20/1984	15.00%	11.46%	3.54%
02/22/1984	14.75%	11.47%	3.28%
02/28/1984	14.50%	11.51%	2.99%
03/02/1984	14.25%	11.54%	2.71%
03/20/1984	16.00%	11.64%	4.36%
03/23/1984	15.50%	11.67%	3.83%
03/26/1984	14.71%	11.68%	3.03%
04/02/1984	15.50%	11.71%	3.79%
04/06/1984	14.74%	11.75%	2.99%
04/11/1984	15.72%	11.78%	3.94%
04/17/1984	15.00%	11.81%	3.19%
04/18/1984	16.20%	11.82%	4.38%
04/25/1984	14.64%	11.85%	2.79%
04/30/1984	14.40%	11.87%	2.53%
05/16/1984	14.69%	11.98%	2.71%
05/16/1984	15.00%	11.98%	3.02%
05/22/1984	14.40%	12.02%	2.38%
05/29/1984	15.10%	12.06%	3.04%
06/13/1984	15.25%	12.15%	3.10%
06/15/1984	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
06/22/1984	16.25%	12.21%	4.04%
06/29/1984	15.25%	12.26%	2.99%
07/02/1984	13.35%	12.27%	1.08%
07/10/1984	16.00%	12.31%	3.69%
07/12/1984	16.50%	12.32%	4.18%
07/13/1984	16.25%	12.33%	3.92%
07/17/1984	14.14%	12.35%	1.79%
07/18/1984	15.30%	12.36%	2.94%
07/18/1984	15.50%	12.36%	3.14%
07/19/1984	14.30%	12.37%	1.93%
07/24/1984	16.79%	12.39%	4.40%
07/31/1984	16.00%	12.43%	3.57%
08/03/1984	14.25%	12.44%	1.81%
08/17/1984	14.30%	12.49%	1.81%
08/20/1984	15.00%	12.49%	2.51%
08/27/1984	16.30%	12.51%	3.79%
08/31/1984	15.55%	12.52%	3.03%
09/06/1984	16.00%	12.53%	3.47%
09/10/1984	14.75%	12.54%	2.21%
09/13/1984	15.00%	12.55%	2.45%
09/17/1984	17.38%	12.56%	4.82%
09/26/1984	14.50%	12.57%	1.93%
09/28/1984	15.00%	12.57%	2.43%
09/28/1984	16.25%	12.57%	3.68%
10/09/1984	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%
11/07/1984	15.60%	12.58%	3.02%
11/09/1984	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%
12/03/1984	15.80%	12.56%	3.24%
12/04/1984	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%
01/03/1985	14.75%	12.49%	2.26%
01/10/1985	15.75%	12.47%	3.28%
01/11/1985	16.30%	12.46%	3.84%
01/23/1985	15.80%	12.43%	3.37%
01/24/1985	15.82%	12.43%	3.39%
01/25/1985	16.75%	12.42%	4.33%
01/30/1985	14.90%	12.40%	2.50%
01/31/1985	14.75%	12.39%	2.36%
02/08/1985	14.47%	12.35%	2.12%
03/01/1985	13.84%	12.31%	1.53%
03/08/1985	16.85%	12.28%	4.57%
03/14/1985	15.50%	12.25%	3.25%
03/15/1985	15.62%	12.25%	3.37%
03/29/1985	15.62%	12.17%	3.45%
04/03/1985	14.60%	12.14%	2.46%
04/09/1985	15.50%	12.11%	3.39%
04/16/1985	15.70%	12.06%	3.64%
04/22/1985	14.00%	12.02%	1.98%
04/26/1985	15.50%	11.98%	3.52%
04/29/1985	15.00%	11.97%	3.03%
05/02/1985	14.68%	11.94%	2.74%
05/08/1985	15.62%	11.89%	3.73%
05/10/1985	16.50%	11.87%	4.63%
05/29/1985	14.61%	11.73%	2.88%
05/31/1985	16.00%	11.71%	4.29%

Bond Yield Plus Risk Premium			
[6]	[7]	[8]	[9]
Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
06/14/1985	15.50%	11.61%	3.89%
07/09/1985	15.00%	11.45%	3.55%
07/16/1985	14.50%	11.39%	3.11%
07/26/1985	14.50%	11.33%	3.17%
08/02/1985	14.80%	11.29%	3.51%
08/07/1985	15.00%	11.27%	3.73%
08/28/1985	14.25%	11.15%	3.10%
08/28/1985	15.50%	11.15%	4.35%
08/29/1985	14.50%	11.15%	3.35%
09/09/1985	14.60%	11.11%	3.49%
09/09/1985	14.90%	11.11%	3.79%
09/17/1985	14.90%	11.08%	3.82%
09/23/1985	15.00%	11.06%	3.94%
09/27/1985	15.50%	11.05%	4.45%
09/27/1985	15.80%	11.05%	4.75%
10/02/1985	14.00%	11.03%	2.97%
10/02/1985	14.75%	11.03%	3.72%
10/03/1985	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%
11/04/1985	14.50%	10.92%	3.58%
11/07/1985	15.50%	10.90%	4.60%
11/08/1985	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%
01/24/1986	15.40%	10.41%	4.99%
01/31/1986	15.00%	10.35%	4.65%
02/05/1986	15.00%	10.32%	4.68%
02/05/1986	15.75%	10.32%	5.43%
02/10/1986	13.30%	10.29%	3.01%
02/11/1986	12.50%	10.28%	2.22%
02/14/1986	14.40%	10.24%	4.16%
02/18/1986	16.00%	10.23%	5.77%
02/24/1986	14.50%	10.18%	4.32%
02/26/1986	14.00%	10.15%	3.85%
03/05/1986	14.90%	10.08%	4.82%
03/11/1986	14.50%	10.02%	4.48%
03/12/1986	13.50%	10.00%	3.50%
03/27/1986	14.10%	9.86%	4.24%
03/31/1986	13.50%	9.84%	3.66%
04/01/1986	14.00%	9.83%	4.17%
04/02/1986	15.50%	9.81%	5.69%
04/04/1986	15.00%	9.78%	5.22%
04/14/1986	13.40%	9.69%	3.71%
04/23/1986	15.00%	9.57%	5.43%
05/16/1986	14.50%	9.32%	5.18%
05/16/1986	14.50%	9.32%	5.18%
05/29/1986	13.90%	9.19%	4.71%
05/30/1986	15.10%	9.18%	5.92%
06/02/1986	12.81%	9.17%	3.64%
06/11/1986	14.00%	9.07%	4.93%
06/24/1986	16.63%	8.94%	7.69%
06/26/1986	12.00%	8.91%	3.09%
06/26/1986	14.75%	8.91%	5.84%
06/30/1986	13.00%	8.87%	4.13%
07/10/1986	14.34%	8.75%	5.59%
07/11/1986	12.75%	8.73%	4.02%
07/14/1986	12.60%	8.71%	3.89%
07/17/1986	12.40%	8.66%	3.74%
07/25/1986	14.25%	8.57%	5.68%
08/06/1986	13.50%	8.44%	5.06%

Bond Yield Plus Risk Premium			
[6]	[7]	[8]	[9]
Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
08/14/1986	13.50%	8.35%	5.15%
09/16/1986	12.75%	8.06%	4.69%
09/19/1986	13.25%	8.03%	5.22%
10/01/1986	14.00%	7.95%	6.05%
10/03/1986	13.40%	7.93%	5.47%
10/31/1986	13.50%	7.77%	5.73%
11/05/1986	13.00%	7.75%	5.25%
12/03/1986	12.90%	7.58%	5.32%
12/04/1986	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%
01/02/1987	13.00%	7.49%	5.51%
01/12/1987	12.40%	7.47%	4.93%
01/27/1987	12.71%	7.46%	5.25%
03/02/1987	12.47%	7.47%	5.00%
03/03/1987	13.60%	7.47%	6.13%
03/04/1987	12.38%	7.47%	4.91%
03/10/1987	13.50%	7.47%	6.03%
03/13/1987	13.00%	7.47%	5.53%
03/31/1987	13.00%	7.46%	5.54%
04/06/1987	13.00%	7.47%	5.53%
04/14/1987	12.50%	7.49%	5.01%
04/16/1987	14.50%	7.50%	7.00%
04/27/1987	12.00%	7.54%	4.46%
05/05/1987	12.85%	7.58%	5.27%
05/12/1987	12.65%	7.62%	5.03%
05/28/1987	13.50%	7.70%	5.80%
06/15/1987	13.20%	7.78%	5.42%
06/29/1987	15.00%	7.83%	7.17%
06/30/1987	12.50%	7.84%	4.66%
07/08/1987	12.00%	7.86%	4.14%
07/10/1987	12.90%	7.86%	5.04%
07/15/1987	13.50%	7.88%	5.62%
07/16/1987	13.50%	7.88%	5.62%
07/16/1987	15.00%	7.88%	7.12%
07/27/1987	13.00%	7.92%	5.08%
07/27/1987	13.40%	7.92%	5.48%
07/27/1987	13.50%	7.92%	5.58%
07/31/1987	12.98%	7.95%	5.03%
08/26/1987	12.63%	8.06%	4.57%
08/26/1987	12.75%	8.06%	4.69%
08/27/1987	13.25%	8.06%	5.19%
09/09/1987	13.00%	8.14%	4.86%
09/30/1987	12.75%	8.31%	4.44%
09/30/1987	13.00%	8.31%	4.69%
10/02/1987	11.50%	8.33%	3.17%
10/15/1987	13.00%	8.43%	4.57%
11/02/1987	13.00%	8.55%	4.45%
11/19/1987	13.00%	8.64%	4.36%
11/30/1987	12.00%	8.68%	3.32%
12/03/1987	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%
01/20/1988	13.80%	8.94%	4.86%
01/26/1988	13.90%	8.95%	4.95%
01/29/1988	13.20%	8.96%	4.24%
02/04/1988	12.60%	8.96%	3.64%
03/01/1988	11.56%	8.94%	2.62%
03/23/1988	12.87%	8.92%	3.95%

Bond Yield Plus Risk Premium			
[6]	[7]	[8]	[9]
Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
03/24/1988	11.24%	8.92%	2.32%
03/30/1988	12.72%	8.92%	3.80%
04/01/1988	12.50%	8.92%	3.58%
04/07/1988	13.25%	8.93%	4.32%
04/25/1988	10.96%	8.96%	2.00%
05/03/1988	12.91%	8.97%	3.94%
05/11/1988	13.50%	8.99%	4.51%
05/16/1988	13.00%	8.99%	4.01%
06/30/1988	12.75%	9.00%	3.75%
07/01/1988	12.75%	8.99%	3.76%
07/20/1988	13.40%	8.96%	4.44%
08/05/1988	12.75%	8.92%	3.83%
08/23/1988	11.70%	8.93%	2.77%
08/29/1988	12.75%	8.94%	3.81%
08/30/1988	13.50%	8.94%	4.56%
09/08/1988	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%
01/27/1989	13.00%	9.05%	3.95%
01/31/1989	13.00%	9.05%	3.95%
02/17/1989	13.00%	9.05%	3.95%
02/20/1989	12.40%	9.05%	3.35%
03/01/1989	12.76%	9.05%	3.71%
03/08/1989	13.00%	9.05%	3.95%
03/30/1989	14.00%	9.05%	4.95%
04/05/1989	14.20%	9.05%	5.15%
04/18/1989	13.00%	9.05%	3.95%
05/05/1989	12.40%	9.05%	3.35%
06/02/1989	13.20%	9.00%	4.20%
06/08/1989	13.50%	8.98%	4.52%
06/27/1989	13.25%	8.91%	4.34%
06/30/1989	13.00%	8.90%	4.10%
08/14/1989	12.50%	8.77%	3.73%
09/28/1989	12.25%	8.63%	3.62%
10/24/1989	12.50%	8.54%	3.96%
11/09/1989	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%
01/10/1990	12.80%	8.24%	4.56%
01/11/1990	12.90%	8.24%	4.66%
01/17/1990	12.80%	8.22%	4.58%
01/26/1990	12.00%	8.20%	3.80%
02/09/1990	12.10%	8.17%	3.93%
02/24/1990	12.86%	8.15%	4.71%
03/30/1990	12.90%	8.16%	4.74%
04/04/1990	15.76%	8.17%	7.59%
04/12/1990	12.52%	8.18%	4.34%
04/19/1990	12.75%	8.20%	4.55%
05/21/1990	12.10%	8.28%	3.82%
05/29/1990	12.40%	8.30%	4.10%
05/31/1990	12.00%	8.30%	3.70%
06/04/1990	12.90%	8.30%	4.60%
06/06/1990	12.25%	8.31%	3.94%
06/15/1990	13.20%	8.32%	4.88%
06/20/1990	12.92%	8.32%	4.60%
06/27/1990	12.90%	8.33%	4.57%
06/29/1990	12.50%	8.33%	4.17%
07/06/1990	12.10%	8.34%	3.76%
07/06/1990	12.35%	8.34%	4.01%

Bond Yield Plus Risk Premium			
[6]	[7]	[8]	[9]
Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
08/10/1990	12.55%	8.41%	4.14%
08/16/1990	13.21%	8.43%	4.78%
08/22/1990	13.10%	8.45%	4.65%
08/24/1990	13.00%	8.46%	4.54%
09/26/1990	11.45%	8.59%	2.86%
10/02/1990	13.00%	8.61%	4.39%
10/05/1990	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%
01/02/1991	13.10%	8.65%	4.45%
01/04/1991	12.50%	8.65%	3.85%
01/15/1991	12.75%	8.64%	4.11%
01/25/1991	11.70%	8.63%	3.07%
02/04/1991	12.50%	8.60%	3.90%
02/07/1991	12.50%	8.59%	3.91%
02/12/1991	13.00%	8.58%	4.43%
02/14/1991	12.72%	8.57%	4.15%
02/22/1991	12.80%	8.55%	4.25%
03/06/1991	13.10%	8.53%	4.57%
03/08/1991	12.30%	8.52%	3.78%
03/08/1991	13.00%	8.52%	4.48%
04/22/1991	13.00%	8.49%	4.51%
05/07/1991	13.50%	8.47%	5.03%
05/13/1991	13.25%	8.47%	4.78%
05/30/1991	12.75%	8.44%	4.31%
06/12/1991	12.00%	8.41%	3.59%
06/25/1991	11.70%	8.39%	3.31%
06/28/1991	12.50%	8.38%	4.12%
07/01/1991	12.00%	8.38%	3.62%
07/03/1991	12.50%	8.37%	4.13%
07/19/1991	12.10%	8.34%	3.76%
08/01/1991	12.90%	8.32%	4.58%
08/16/1991	13.20%	8.29%	4.91%
09/27/1991	12.50%	8.23%	4.27%
09/30/1991	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%
11/01/1991	12.00%	8.19%	3.81%
11/05/1991	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%
01/09/1992	12.80%	8.09%	4.71%
01/16/1992	12.75%	8.07%	4.68%
01/21/1992	12.00%	8.06%	3.94%
01/22/1992	13.00%	8.06%	4.94%
01/27/1992	12.65%	8.05%	4.60%
01/31/1992	12.00%	8.04%	3.96%
02/11/1992	12.40%	8.03%	4.37%
02/25/1992	12.50%	8.01%	4.49%
03/16/1992	11.43%	7.98%	3.45%

Bond Yield Plus Risk Premium			
[6]	[7]	[8]	[9]
Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
03/18/1992	12.28%	7.98%	4.30%
04/02/1992	12.10%	7.95%	4.15%
04/09/1992	11.45%	7.94%	3.51%
04/10/1992	11.50%	7.93%	3.57%
04/14/1992	11.50%	7.93%	3.57%
05/05/1992	11.50%	7.89%	3.61%
05/12/1992	11.87%	7.88%	3.99%
05/12/1992	12.46%	7.88%	4.58%
06/01/1992	12.30%	7.87%	4.43%
06/12/1992	10.90%	7.86%	3.04%
06/26/1992	12.35%	7.85%	4.50%
06/29/1992	11.00%	7.85%	3.15%
06/30/1992	13.00%	7.85%	5.15%
07/13/1992	11.90%	7.84%	4.06%
07/13/1992	13.50%	7.84%	5.66%
07/22/1992	11.20%	7.83%	3.37%
08/03/1992	12.00%	7.81%	4.19%
08/06/1992	12.50%	7.80%	4.70%
09/22/1992	12.00%	7.71%	4.29%
09/28/1992	11.40%	7.71%	3.69%
09/30/1992	11.75%	7.70%	4.05%
10/02/1992	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%
11/03/1992	12.00%	7.71%	4.29%
12/03/1992	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%
01/12/1993	12.00%	7.61%	4.39%
01/21/1993	11.25%	7.59%	3.66%
02/02/1993	11.40%	7.56%	3.84%
02/15/1993	12.30%	7.52%	4.78%
02/24/1993	11.90%	7.49%	4.41%
02/26/1993	11.80%	7.48%	4.32%
02/26/1993	12.20%	7.48%	4.72%
04/23/1993	11.75%	7.29%	4.46%
05/11/1993	11.75%	7.25%	4.50%
05/14/1993	11.50%	7.24%	4.26%
05/25/1993	11.50%	7.23%	4.27%
05/28/1993	11.00%	7.22%	3.78%
06/03/1993	12.00%	7.21%	4.79%
06/16/1993	11.50%	7.19%	4.31%
06/18/1993	12.10%	7.18%	4.92%
06/25/1993	11.67%	7.17%	4.50%
07/21/1993	11.38%	7.10%	4.28%
07/23/1993	10.46%	7.09%	3.37%
08/24/1993	11.50%	6.96%	4.54%
09/21/1993	10.50%	6.81%	3.69%
09/29/1993	11.47%	6.77%	4.70%
09/30/1993	11.60%	6.76%	4.84%
11/02/1993	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%
01/04/1994	10.07%	6.44%	3.63%
01/13/1994	11.00%	6.42%	4.58%
01/21/1994	11.00%	6.40%	4.60%
01/28/1994	11.35%	6.39%	4.96%

Bond Yield Plus Risk Premium			
[6]	[7]	[8]	[9]
Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
02/03/1994	11.40%	6.38%	5.02%
02/17/1994	10.60%	6.36%	4.24%
02/25/1994	11.25%	6.35%	4.90%
02/25/1994	12.00%	6.35%	5.65%
03/01/1994	11.00%	6.35%	4.65%
03/04/1994	11.00%	6.35%	4.65%
04/25/1994	11.00%	6.41%	4.59%
05/10/1994	11.75%	6.45%	5.30%
05/13/1994	10.50%	6.46%	4.04%
06/03/1994	11.00%	6.54%	4.46%
06/27/1994	11.40%	6.65%	4.75%
08/05/1994	12.75%	6.88%	5.87%
10/31/1994	10.00%	7.33%	2.67%
11/09/1994	10.85%	7.39%	3.46%
11/09/1994	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%
12/08/1994	11.50%	7.54%	3.96%
12/08/1994	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%
01/09/1995	12.28%	7.64%	4.64%
01/31/1995	11.00%	7.69%	3.31%
02/10/1995	12.60%	7.70%	4.90%
02/17/1995	11.90%	7.70%	4.20%
03/09/1995	11.50%	7.71%	3.79%
03/20/1995	12.00%	7.72%	4.28%
03/23/1995	12.81%	7.72%	5.09%
03/29/1995	11.60%	7.72%	3.88%
04/06/1995	11.10%	7.71%	3.39%
04/07/1995	11.00%	7.71%	3.29%
04/19/1995	11.00%	7.70%	3.30%
05/12/1995	11.63%	7.68%	3.95%
05/25/1995	11.20%	7.65%	3.55%
06/09/1995	11.25%	7.60%	3.65%
06/21/1995	12.25%	7.56%	4.69%
06/30/1995	11.10%	7.52%	3.58%
09/11/1995	11.30%	7.20%	4.10%
09/27/1995	11.30%	7.12%	4.18%
09/27/1995	11.50%	7.12%	4.38%
09/27/1995	11.75%	7.12%	4.63%
09/29/1995	11.00%	7.11%	3.89%
11/09/1995	11.38%	6.90%	4.48%
11/09/1995	12.36%	6.90%	5.46%
11/17/1995	11.00%	6.86%	4.14%
12/04/1995	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%
02/05/1996	12.25%	6.48%	5.77%
03/29/1996	10.67%	6.42%	4.25%
04/08/1996	11.00%	6.42%	4.58%
04/11/1996	12.59%	6.43%	6.16%
04/11/1996	12.59%	6.43%	6.16%
04/24/1996	11.25%	6.43%	4.82%
04/30/1996	11.00%	6.43%	4.57%
05/13/1996	11.00%	6.44%	4.56%
05/23/1996	11.25%	6.43%	4.82%
06/25/1996	11.25%	6.48%	4.77%
06/27/1996	11.20%	6.48%	4.72%
08/12/1996	10.40%	6.57%	3.83%
09/27/1996	11.00%	6.71%	4.29%
10/16/1996	12.25%	6.76%	5.49%
11/05/1996	11.00%	6.81%	4.19%
11/26/1996	11.30%	6.83%	4.47%

Bond Yield Plus Risk Premium			
[6]	[7]	[8]	[9]
Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
12/18/1996	11.75%	6.83%	4.92%
12/31/1996	11.50%	6.83%	4.67%
01/03/1997	10.70%	6.83%	3.87%
02/13/1997	11.80%	6.82%	4.98%
02/20/1997	11.80%	6.82%	4.98%
03/31/1997	10.02%	6.80%	3.22%
04/02/1997	11.65%	6.80%	4.85%
04/28/1997	11.50%	6.81%	4.69%
04/29/1997	11.70%	6.81%	4.89%
07/17/1997	12.00%	6.77%	5.23%
12/12/1997	11.00%	6.60%	4.40%
12/23/1997	11.12%	6.57%	4.55%
02/02/1998	12.75%	6.39%	6.36%
03/02/1998	11.25%	6.29%	4.96%
03/06/1998	10.75%	6.27%	4.48%
03/20/1998	10.50%	6.22%	4.28%
04/30/1998	12.20%	6.12%	6.08%
07/10/1998	11.40%	5.94%	5.46%
09/15/1998	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%
02/05/1999	10.30%	5.38%	4.92%
03/04/1999	10.50%	5.34%	5.16%
04/06/1999	10.94%	5.32%	5.62%
07/29/1999	10.75%	5.52%	5.23%
09/23/1999	10.75%	5.70%	5.05%
11/17/1999	11.10%	5.90%	5.20%
01/07/2000	11.50%	6.05%	5.45%
01/07/2000	11.50%	6.05%	5.45%
02/17/2000	10.60%	6.17%	4.43%
03/28/2000	11.25%	6.20%	5.05%
05/24/2000	11.00%	6.18%	4.82%
07/18/2000	12.20%	6.16%	6.04%
09/29/2000	11.16%	6.03%	5.13%
11/28/2000	12.90%	5.89%	7.01%
11/30/2000	12.10%	5.88%	6.22%
01/23/2001	11.25%	5.79%	5.46%
02/08/2001	11.50%	5.77%	5.73%
05/08/2001	10.75%	5.62%	5.13%
06/26/2001	11.00%	5.62%	5.38%
07/25/2001	11.02%	5.60%	5.42%
07/25/2001	11.02%	5.60%	5.42%
07/31/2001	11.00%	5.59%	5.41%
08/31/2001	10.50%	5.56%	4.94%
09/07/2001	10.75%	5.55%	5.20%
09/10/2001	11.00%	5.55%	5.45%
09/20/2001	10.00%	5.55%	4.45%
10/24/2001	10.30%	5.54%	4.76%
11/28/2001	10.60%	5.49%	5.11%
12/03/2001	12.88%	5.49%	7.39%
12/20/2001	12.50%	5.50%	7.00%
01/22/2002	10.00%	5.50%	4.50%
03/27/2002	10.10%	5.45%	4.65%
04/22/2002	11.80%	5.45%	6.35%
05/28/2002	10.17%	5.46%	4.71%
06/10/2002	12.00%	5.47%	6.53%
06/18/2002	11.16%	5.48%	5.68%
06/20/2002	11.00%	5.48%	5.52%
06/20/2002	12.30%	5.48%	6.82%
07/15/2002	11.00%	5.48%	5.52%
09/12/2002	12.30%	5.45%	6.85%
09/26/2002	10.45%	5.41%	5.04%
12/04/2002	11.55%	5.29%	6.26%
12/13/2002	11.75%	5.27%	6.48%
12/20/2002	11.40%	5.25%	6.15%
01/08/2003	11.10%	5.19%	5.91%
01/31/2003	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
02/28/2003	12.30%	5.05%	7.25%
03/06/2003	10.75%	5.03%	5.72%
03/07/2003	9.96%	5.02%	4.94%
03/20/2003	12.00%	4.98%	7.02%
04/03/2003	12.00%	4.96%	7.04%
04/15/2003	11.15%	4.94%	6.21%
06/25/2003	10.75%	4.79%	5.96%
06/26/2003	10.75%	4.79%	5.96%
07/09/2003	9.75%	4.79%	4.96%
07/16/2003	9.75%	4.79%	4.96%
07/25/2003	9.50%	4.80%	4.70%
08/26/2003	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%
01/13/2004	12.00%	4.95%	7.05%
03/02/2004	10.75%	4.99%	5.76%
03/26/2004	10.25%	5.02%	5.23%
04/05/2004	11.25%	5.03%	6.22%
05/18/2004	10.50%	5.07%	5.43%
05/25/2004	10.25%	5.08%	5.17%
05/27/2004	10.25%	5.08%	5.17%
06/02/2004	11.22%	5.08%	6.14%
06/30/2004	10.50%	5.10%	5.40%
06/30/2004	10.50%	5.10%	5.40%
07/16/2004	11.60%	5.11%	6.49%
08/25/2004	10.25%	5.10%	5.15%
09/09/2004	10.40%	5.10%	5.30%
11/09/2004	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%
01/06/2005	10.70%	5.08%	5.62%
02/18/2005	10.30%	4.98%	5.32%
02/25/2005	10.50%	4.96%	5.54%
03/10/2005	11.00%	4.93%	6.07%
03/24/2005	10.30%	4.90%	5.40%
04/04/2005	10.00%	4.88%	5.12%
04/07/2005	10.25%	4.87%	5.38%
05/18/2005	10.25%	4.78%	5.47%
05/25/2005	10.75%	4.76%	5.99%
05/26/2005	9.75%	4.76%	4.99%
06/01/2005	9.75%	4.75%	5.00%
07/19/2005	11.50%	4.64%	6.86%
08/05/2005	11.75%	4.62%	7.13%
08/15/2005	10.13%	4.61%	5.52%
09/28/2005	10.00%	4.54%	5.46%
10/04/2005	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%
01/05/2006	11.00%	4.53%	6.47%
01/27/2006	9.75%	4.52%	5.23%
03/03/2006	10.39%	4.53%	5.86%
04/17/2006	10.20%	4.61%	5.59%
04/26/2006	10.60%	4.64%	5.96%

Bond Yield Plus Risk Premium			
[6]	[7]	[8]	[9]
Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
05/17/2006	11.60%	4.69%	6.91%
06/06/2006	10.00%	4.74%	5.26%
06/27/2006	10.75%	4.80%	5.95%
07/06/2006	10.20%	4.83%	5.37%
07/24/2006	9.60%	4.86%	4.74%
07/26/2006	10.50%	4.86%	5.64%
07/28/2006	10.05%	4.86%	5.19%
08/23/2006	9.55%	4.89%	4.66%
09/01/2006	10.54%	4.90%	5.64%
09/14/2006	10.00%	4.91%	5.09%
10/06/2006	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%
12/01/2006	10.25%	4.95%	5.30%
12/01/2006	10.50%	4.95%	5.55%
12/07/2006	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%
01/05/2007	10.00%	4.95%	5.05%
01/11/2007	10.10%	4.95%	5.15%
01/11/2007	10.10%	4.95%	5.15%
01/11/2007	10.90%	4.95%	5.95%
01/12/2007	10.10%	4.95%	5.15%
01/13/2007	10.40%	4.95%	5.45%
01/19/2007	10.80%	4.94%	5.86%
03/21/2007	11.35%	4.87%	6.48%
03/22/2007	9.75%	4.86%	4.89%
05/15/2007	10.00%	4.81%	5.19%
05/17/2007	10.25%	4.81%	5.44%
05/17/2007	10.25%	4.81%	5.44%
05/22/2007	10.20%	4.80%	5.40%
05/22/2007	10.50%	4.80%	5.70%
05/23/2007	10.70%	4.80%	5.90%
05/25/2007	9.67%	4.80%	4.87%
06/15/2007	9.90%	4.82%	5.08%
06/21/2007	10.20%	4.83%	5.37%
06/22/2007	10.50%	4.83%	5.67%
06/28/2007	10.75%	4.84%	5.91%
07/12/2007	9.67%	4.86%	4.81%
07/19/2007	10.00%	4.87%	5.13%
07/19/2007	10.00%	4.87%	5.13%
08/15/2007	10.40%	4.88%	5.52%
10/09/2007	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%
12/06/2007	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%
01/08/2008	10.75%	4.83%	5.92%
01/17/2008	10.75%	4.81%	5.94%
01/28/2008	9.40%	4.80%	4.60%
01/30/2008	10.00%	4.79%	5.21%
01/31/2008	10.71%	4.79%	5.92%
02/29/2008	10.25%	4.75%	5.50%
03/12/2008	10.25%	4.73%	5.52%
03/25/2008	9.10%	4.68%	4.42%
04/22/2008	10.25%	4.60%	5.65%
04/24/2008	10.10%	4.60%	5.50%
05/01/2008	10.70%	4.59%	6.11%

Bond Yield Plus Risk Premium			
[6]	[7]	[8]	[9]
Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
05/19/2008	11.00%	4.56%	6.44%
05/27/2008	10.00%	4.55%	5.45%
06/10/2008	10.70%	4.54%	6.16%
06/27/2008	10.50%	4.54%	5.96%
06/27/2008	11.04%	4.54%	6.50%
07/10/2008	10.43%	4.52%	5.91%
07/16/2008	9.40%	4.52%	4.88%
07/30/2008	10.80%	4.51%	6.29%
07/31/2008	10.70%	4.51%	6.19%
08/11/2008	10.25%	4.51%	5.74%
08/26/2008	10.18%	4.50%	5.68%
09/10/2008	10.30%	4.50%	5.80%
09/24/2008	10.65%	4.48%	6.17%
09/24/2008	10.65%	4.48%	6.17%
09/24/2008	10.65%	4.48%	6.17%
09/30/2008	10.20%	4.48%	5.72%
10/08/2008	10.15%	4.46%	5.69%
11/13/2008	10.55%	4.45%	6.10%
11/17/2008	10.20%	4.44%	5.76%
12/01/2008	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%
01/14/2009	10.50%	4.15%	6.35%
01/21/2009	10.50%	4.12%	6.38%
01/21/2009	10.50%	4.12%	6.38%
01/21/2009	10.50%	4.12%	6.38%
01/27/2009	10.76%	4.09%	6.67%
01/30/2009	10.50%	4.08%	6.42%
02/04/2009	8.75%	4.06%	4.69%
03/04/2009	10.50%	3.96%	6.54%
03/12/2009	11.50%	3.93%	7.57%
04/02/2009	11.10%	3.85%	7.25%
04/21/2009	10.61%	3.80%	6.81%
04/24/2009	10.00%	3.79%	6.21%
04/30/2009	11.25%	3.78%	7.47%
05/04/2009	10.74%	3.77%	6.97%
05/20/2009	10.25%	3.74%	6.51%
05/28/2009	10.50%	3.74%	6.76%
06/22/2009	10.00%	3.76%	6.24%
06/24/2009	10.80%	3.77%	7.03%
07/08/2009	10.63%	3.77%	6.86%
07/17/2009	10.50%	3.78%	6.72%
08/31/2009	10.25%	3.82%	6.43%
10/14/2009	10.70%	4.01%	6.69%
10/23/2009	10.88%	4.06%	6.82%
11/02/2009	10.70%	4.09%	6.61%
11/03/2009	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%
12/03/2009	10.50%	4.18%	6.32%
12/07/2009	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%
01/04/2010	10.80%	4.28%	6.52%
01/11/2010	11.00%	4.30%	6.70%
01/26/2010	10.13%	4.35%	5.78%
01/27/2010	10.40%	4.35%	6.05%
01/27/2010	10.40%	4.35%	6.05%
01/27/2010	10.70%	4.35%	6.35%

Bond Yield Plus Risk Premium			
[6]	[7]	[8]	[9]
Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
02/09/2010	9.80%	4.38%	5.42%
02/18/2010	10.60%	4.40%	6.20%
02/24/2010	10.18%	4.41%	5.77%
03/02/2010	9.63%	4.41%	5.22%
03/04/2010	10.50%	4.41%	6.09%
03/05/2010	10.50%	4.41%	6.09%
03/11/2010	11.90%	4.42%	7.48%
03/17/2010	10.00%	4.41%	5.59%
03/25/2010	10.15%	4.42%	5.73%
04/02/2010	10.10%	4.43%	5.67%
04/27/2010	10.00%	4.46%	5.54%
04/29/2010	9.90%	4.46%	5.44%
04/29/2010	10.06%	4.46%	5.60%
04/29/2010	10.26%	4.46%	5.80%
05/12/2010	10.30%	4.45%	5.85%
05/12/2010	10.30%	4.45%	5.85%
05/28/2010	10.10%	4.44%	5.66%
05/28/2010	10.20%	4.44%	5.76%
06/07/2010	10.30%	4.44%	5.86%
06/16/2010	10.00%	4.44%	5.56%
06/28/2010	9.67%	4.43%	5.24%
06/28/2010	10.50%	4.43%	6.07%
06/30/2010	9.40%	4.43%	4.97%
07/01/2010	10.25%	4.43%	5.82%
07/15/2010	10.53%	4.43%	6.10%
07/15/2010	10.70%	4.43%	6.27%
07/30/2010	10.70%	4.41%	6.29%
08/04/2010	10.50%	4.41%	6.09%
08/06/2010	9.83%	4.41%	5.42%
08/25/2010	9.90%	4.37%	5.53%
09/03/2010	10.60%	4.35%	6.25%
09/14/2010	10.70%	4.33%	6.37%
09/16/2010	10.00%	4.33%	5.67%
09/16/2010	10.00%	4.33%	5.67%
09/30/2010	9.75%	4.29%	5.46%
10/14/2010	10.35%	4.24%	6.11%
10/28/2010	10.70%	4.21%	6.49%
11/02/2010	10.38%	4.20%	6.18%
11/04/2010	10.70%	4.20%	6.50%
11/19/2010	10.20%	4.18%	6.02%
11/22/2010	10.00%	4.18%	5.82%
12/01/2010	10.13%	4.16%	5.97%
12/06/2010	9.86%	4.15%	5.71%
12/09/2010	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%
01/05/2011	10.15%	4.13%	6.02%
01/12/2011	10.30%	4.12%	6.18%
01/13/2011	10.30%	4.12%	6.18%
01/18/2011	10.00%	4.12%	5.88%
01/20/2011	9.30%	4.12%	5.18%
01/20/2011	10.13%	4.12%	6.01%
01/31/2011	9.60%	4.12%	5.48%
02/03/2011	10.00%	4.12%	5.88%
02/25/2011	10.00%	4.14%	5.86%
03/25/2011	9.80%	4.18%	5.62%
03/30/2011	10.00%	4.18%	5.82%
04/12/2011	10.00%	4.21%	5.79%
04/25/2011	10.74%	4.23%	6.51%
04/26/2011	9.67%	4.23%	5.44%
04/27/2011	10.40%	4.24%	6.16%
05/04/2011	10.00%	4.24%	5.76%

Bond Yield Plus Risk Premium			
[6]	[7]	[8]	[9]
Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
05/04/2011	10.00%	4.24%	5.76%
05/24/2011	10.50%	4.27%	6.23%
06/08/2011	10.75%	4.30%	6.45%
06/16/2011	9.20%	4.32%	4.88%
06/17/2011	9.95%	4.32%	5.63%
07/13/2011	10.20%	4.36%	5.84%
08/01/2011	9.20%	4.39%	4.81%
08/08/2011	10.00%	4.38%	5.62%
08/11/2011	10.00%	4.38%	5.62%
08/12/2011	10.35%	4.37%	5.98%
08/19/2011	10.25%	4.36%	5.89%
09/02/2011	12.88%	4.32%	8.56%
09/22/2011	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%
01/25/2012	10.50%	3.57%	6.93%
01/27/2012	10.50%	3.56%	6.94%
02/15/2012	10.20%	3.47%	6.73%
02/23/2012	9.90%	3.44%	6.46%
02/27/2012	10.25%	3.43%	6.82%
02/29/2012	10.40%	3.41%	6.99%
03/29/2012	10.37%	3.32%	7.05%
04/04/2012	10.00%	3.30%	6.70%
04/26/2012	10.00%	3.21%	6.79%
05/02/2012	10.00%	3.18%	6.82%
05/07/2012	9.80%	3.17%	6.63%
05/15/2012	10.00%	3.14%	6.86%
05/29/2012	10.05%	3.11%	6.94%
06/07/2012	10.30%	3.08%	7.22%
06/14/2012	9.40%	3.06%	6.34%
06/15/2012	10.40%	3.06%	7.34%
06/18/2012	9.60%	3.06%	6.54%
06/19/2012	9.25%	3.05%	6.20%
06/26/2012	10.10%	3.04%	7.06%
06/29/2012	10.00%	3.04%	6.96%
07/09/2012	10.20%	3.03%	7.17%
07/16/2012	9.80%	3.02%	6.78%
07/20/2012	9.31%	3.01%	6.30%
07/20/2012	9.81%	3.01%	6.80%
09/13/2012	9.80%	2.94%	6.86%
09/19/2012	9.80%	2.94%	6.86%
09/19/2012	10.05%	2.94%	7.11%
09/26/2012	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%
11/09/2012	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%
12/05/2012	9.71%	2.89%	6.82%
12/05/2012	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]	[7]	[8]	[9]
Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	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%
01/09/2013	9.70%	2.85%	6.85%
01/09/2013	9.70%	2.85%	6.85%
01/09/2013	9.70%	2.85%	6.85%
01/16/2013	9.60%	2.84%	6.76%
01/16/2013	9.60%	2.84%	6.76%
02/13/2013	10.20%	2.84%	7.36%
02/22/2013	9.75%	2.85%	6.90%
02/27/2013	10.00%	2.86%	7.14%
03/14/2013	9.30%	2.88%	6.42%
03/27/2013	9.80%	2.90%	6.90%
05/01/2013	9.84%	2.94%	6.90%
05/15/2013	10.30%	2.96%	7.34%
05/30/2013	10.20%	2.98%	7.22%
05/31/2013	9.00%	2.98%	6.02%
06/11/2013	10.00%	3.00%	7.00%
06/21/2013	9.75%	3.02%	6.73%
06/25/2013	9.80%	3.03%	6.77%
07/12/2013	9.36%	3.07%	6.29%
08/08/2013	9.83%	3.14%	6.69%
08/14/2013	9.15%	3.16%	5.99%
09/11/2013	10.20%	3.26%	6.94%
09/11/2013	10.25%	3.26%	6.99%
09/24/2013	10.20%	3.31%	6.89%
10/03/2013	9.65%	3.33%	6.32%
11/06/2013	10.20%	3.41%	6.79%
11/21/2013	10.00%	3.44%	6.56%
11/26/2013	10.00%	3.45%	6.55%
12/03/2013	10.25%	3.47%	6.78%
12/04/2013	9.50%	3.47%	6.03%
12/05/2013	10.20%	3.48%	6.72%
12/09/2013	8.72%	3.48%	5.24%
12/09/2013	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%
02/20/2014	9.20%	3.68%	5.52%
02/26/2014	9.75%	3.69%	6.06%
03/17/2014	9.55%	3.72%	5.83%
03/26/2014	9.40%	3.73%	5.67%
03/26/2014	9.96%	3.73%	6.23%
04/02/2014	9.70%	3.73%	5.97%
05/16/2014	9.80%	3.70%	6.10%
05/30/2014	9.70%	3.68%	6.02%
06/06/2014	10.40%	3.67%	6.73%
06/30/2014	9.55%	3.64%	5.91%
07/02/2014	9.62%	3.64%	5.98%
07/10/2014	9.95%	3.63%	6.32%
07/23/2014	9.75%	3.61%	6.14%
07/29/2014	9.45%	3.60%	5.85%
07/31/2014	9.90%	3.60%	6.30%
08/20/2014	9.75%	3.57%	6.18%
08/25/2014	9.60%	3.56%	6.04%
08/29/2014	9.80%	3.54%	6.26%

Bond Yield Plus Risk Premium			
[6]	[7]	[8]	[9]
Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
09/11/2014	9.60%	3.51%	6.09%
09/15/2014	10.25%	3.51%	6.74%
10/09/2014	9.80%	3.45%	6.35%
11/06/2014	9.56%	3.37%	6.19%
11/06/2014	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%
12/04/2014	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%
01/23/2015	9.50%	3.14%	6.36%
02/24/2015	9.83%	3.04%	6.79%
03/18/2015	9.75%	2.98%	6.77%
03/25/2015	9.50%	2.96%	6.54%
03/26/2015	9.72%	2.95%	6.77%
04/23/2015	10.20%	2.87%	7.33%
04/29/2015	9.53%	2.86%	6.67%
05/01/2015	9.60%	2.85%	6.75%
05/26/2015	9.75%	2.83%	6.92%
06/17/2015	9.00%	2.82%	6.18%
06/17/2015	9.00%	2.82%	6.18%
09/02/2015	9.50%	2.79%	6.71%
09/10/2015	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%
12/03/2015	10.00%	2.90%	7.10%
12/09/2015	9.14%	2.90%	6.24%
12/09/2015	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%
01/06/2016	9.50%	2.94%	6.56%
02/23/2016	9.75%	2.94%	6.81%
03/16/2016	9.85%	2.91%	6.94%
04/29/2016	9.80%	2.83%	6.97%
06/03/2016	9.75%	2.80%	6.95%
06/08/2016	9.48%	2.80%	6.68%
06/15/2016	9.00%	2.78%	6.22%
06/15/2016	9.00%	2.78%	6.22%
07/18/2016	9.98%	2.71%	7.27%
08/09/2016	9.85%	2.66%	7.19%
08/18/2016	9.50%	2.63%	6.87%
08/24/2016	9.75%	2.62%	7.13%
09/01/2016	9.50%	2.59%	6.91%
09/08/2016	10.00%	2.58%	7.42%
09/28/2016	9.58%	2.54%	7.04%
09/30/2016	9.90%	2.53%	7.37%
11/09/2016	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%
12/01/2016	10.00%	2.51%	7.49%
12/06/2016	8.64%	2.52%	6.12%
12/06/2016	8.64%	2.52%	6.12%
12/07/2016	10.10%	2.52%	7.58%
12/12/2016	9.60%	2.53%	7.07%
12/14/2016	9.10%	2.53%	6.57%
12/19/2016	9.37%	2.54%	6.83%
12/19/2016	9.00%	2.54%	6.46%

Bond Yield Plus Risk Premium			
[6]	[7]	[8]	[9]
Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
12/22/2016	9.90%	2.55%	7.35%
12/22/2016	9.60%	2.55%	7.05%
12/28/2016	9.50%	2.55%	6.95%
		# of Cases:	1,499
		Average:	4.55%

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	9.00%	62.00%	38.00%	3.42%	3.00%	0.42%
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	10.50%	64.00%	36.00%	3.78%	4.00%	-0.22%
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%	61.00%	39.00%	5.27%	5.50%	-0.24%
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	10.50%	64.00%	36.00%	3.78%	3.50%	0.28%
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	9.50%	67.00%	33.00%	3.14%	3.00%	0.14%
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:	10.60%	62.00%	38.00%	4.02%	3.97%	0.06%
MEDIAN:	10.00%	62.00%	38.00%	3.74%	3.50%	0.09%

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

Note: Retention Ratio equals 1 - Payout Ratio

DuPont Formula

Year	Profit Margin	Asset Turnover	Equity Multiplier	Return on Equity	Increase in Net Plant
2007	6.96%	65.98%	231.21%	9.27%	
2008	5.69%	63.32%	238.14%	8.08%	10.79%
2009	6.90%	52.97%	240.81%	8.23%	7.77%
2010	7.50%	52.45%	243.43%	8.86%	6.34%
2011	8.09%	50.49%	244.77%	9.18%	5.68%
2012	9.07%	44.56%	248.52%	9.44%	6.74%
2013	9.59%	44.30%	243.24%	9.81%	4.50%
2014	10.09%	42.53%	244.82%	9.93%	9.87%
2015	10.60%	37.14%	247.91%	9.32%	13.30%
2019-2021	12.50%	35.61%	244.67%	10.39%	23.23%
2013-2015	10.10%	41.33%	245.32%	9.69%	
2019-2021	12.50%	35.61%	244.67%	10.39%	
Difference	2.41%	-5.72%	-0.65%	0.71%	

	Net Profit	Revenue	Net Plant	Total Capital	Common Equity Ratio	Book Value per Share	Shares Outstanding	Reported Return on Com Equity	Profit Margin	Asset Turnover	Equity Multiplier	Calculated Return on Equity	Common Equity Check	ROE Check	Annual Increase in Net Plant	
ALE	2007	\$ 87.60	\$ 841.70	\$ 1,104.50	\$ 1,153.50	64.40%	\$ 24.11	30.80	11.80%	10.41%	76.21%	148.68%	11.79%	99.96%	99.94%	
	2008	82.50	801.00	1,387.30	1,415.40	58.40%	25.37	32.60	10.00%	10.30%	57.74%	167.83%	9.98%	100.06%	99.81%	25.6%
	2009	61.00	759.10	1,622.70	1,625.30	57.20%	26.41	35.20	6.60%	8.04%	46.78%	174.55%	6.56%	100.00%	99.42%	17.0%
	2010	75.30	907.00	1,805.60	1,747.60	55.80%	27.26	35.80	7.70%	8.30%	50.23%	185.16%	7.72%	100.08%	100.28%	11.3%
	2011	93.80	928.20	1,982.70	1,937.20	55.70%	28.78	37.50	8.70%	10.11%	46.81%	183.75%	8.69%	100.02%	99.92%	9.8%
	2012	97.10	961.20	2,347.60	2,134.60	56.30%	30.48	39.40	8.10%	10.10%	40.94%	195.34%	8.08%	99.93%	99.75%	18.4%
	2013	104.70	1,018.40	2,576.50	2,425.90	55.40%	32.44	41.40	7.80%	10.28%	39.53%	191.71%	7.79%	99.93%	99.88%	9.8%
	2014	124.80	1,136.80	3,286.40	2,882.20	55.80%	35.06	45.90	7.80%	10.98%	34.59%	204.34%	7.76%	100.06%	99.49%	27.6%
	2015	163.40	1,486.40	3,669.10	3,388.90	53.70%	37.07	49.10	9.00%	10.99%	40.51%	201.62%	8.98%	100.02%	99.76%	11.6%
	2019-2021	195.00	1,535.00	3,825.00	3,850.00	57.00%	43.00	51.10	9.00%	12.70%	40.13%	174.30%	8.89%	100.13%	98.73%	4.2%
LNT	2007	\$ 320.80	\$ 3,437.60	\$ 4,679.90	\$ 4,329.50	61.90%	\$ 12.15	220.72	11.30%	9.33%	73.45%	174.63%	11.97%	100.07%	105.93%	
	2008	280.00	3,681.70	5,353.50	4,815.60	58.60%	12.78	220.90	9.30%	7.61%	68.77%	189.71%	9.92%	100.04%	106.69%	14.4%
	2009	208.60	3,432.80	6,203.00	5,423.00	51.20%	12.54	221.31	6.80%	6.08%	55.34%	223.40%	7.51%	99.95%	110.48%	15.9%
	2010	303.90	3,416.10	6,730.60	5,840.80	49.50%	13.05	221.79	9.90%	8.90%	50.75%	232.80%	10.51%	100.11%	106.17%	8.5%
	2011	304.40	3,665.30	7,037.10	5,921.20	50.90%	13.57	222.04	9.50%	8.30%	52.09%	233.49%	10.10%	99.97%	106.31%	4.6%
	2012	337.80	3,094.50	7,838.00	6,476.60	48.40%	14.12	221.97	10.30%	10.92%	39.48%	250.04%	10.78%	99.99%	104.62%	11.4%
	2013	382.10	3,276.80	7,147.30	6,461.00	50.80%	14.79	221.89	11.30%	11.66%	45.85%	217.76%	11.64%	99.99%	103.02%	-8.8%
	2014	385.50	3,350.30	6,442.00	7,257.20	47.50%	15.54	221.87	10.90%	11.51%	52.01%	186.88%	11.18%	100.02%	102.60%	-9.9%
	2015	380.70	3,253.60	8,970.20	7,246.30	51.40%	16.41	226.92	10.00%	11.70%	36.27%	240.84%	10.22%	99.98%	102.21%	39.2%
	2019-2021	565.00	4,000.00	8,800.00	8,200.00	49.50%	20.00	230.00	12.50%	14.13%	45.45%	216.80%	13.92%	113.33%	111.36%	-1.9%
AEP	2007	\$ 1,147.00	\$ 13,380.00	\$ 29,870.00	\$ 24,342.00	41.40%	\$ 25.17	400.43	11.40%	8.57%	44.79%	296.40%	11.38%	100.01%	99.84%	
	2008	1,208.00	14,440.00	32,987.00	26,290.00	40.70%	26.33	406.07	11.30%	8.37%	43.77%	308.29%	11.29%	99.92%	99.91%	10.4%
	2009	1,365.00	13,489.00	34,344.00	28,958.00	45.40%	27.49	478.05	10.40%	10.12%	39.28%	261.23%	10.38%	99.96%	99.83%	4.1%
	2010	1,248.00	14,427.00	35,674.00	29,184.00	46.70%	28.33	480.81	9.10%	8.65%	40.44%	261.75%	9.16%	99.94%	100.63%	3.9%
	2011	1,513.00	15,116.00	36,971.00	29,747.00	49.30%	30.33	483.42	10.30%	10.01%	40.89%	252.10%	10.32%	99.98%	100.16%	3.6%
	2012	1,443.00	14,945.00	38,763.00	30,823.00	49.40%	31.37	485.67	9.50%	9.66%	38.55%	254.57%	9.48%	100.06%	99.76%	4.8%
	2013	1,549.00	15,357.00	40,997.00	32,913.00	48.90%	32.98	487.78	9.60%	10.09%	37.46%	254.73%	9.62%	99.95%	100.25%	5.8%
	2014	1,634.00	17,020.00	44,117.00	33,001.00	51.00%	34.37	489.40	9.70%	9.60%	38.58%	262.13%	9.71%	99.94%	100.09%	7.6%
	2015	1,763.40	16,453.00	46,133.00	35,633.00	50.20%	36.44	491.05	9.90%	10.72%	35.66%	257.90%	9.86%	100.03%	99.58%	4.6%
	2019-2021	2,105.00	17,500.00	64,000.00	43,100.00	47.50%	41.75	492.00	10.50%	12.03%	27.34%	312.61%	10.28%	100.33%	97.92%	38.7%
AVA	2007	\$ 38.50	\$ 1,417.80	\$ 2,351.30	\$ 1,548.90	59.00%	\$ 17.27	52.91	4.20%	2.72%	60.30%	257.30%	4.21%	99.99%	100.31%	
	2008	73.60	1,676.80	2,492.20	1,919.50	51.90%	18.20	54.49	4.30%	4.39%	67.28%	250.17%	7.39%	100.10%	99.84%	6.0%
	2009	87.10	1,512.60	2,607.00	2,139.00	49.10%	19.17	54.84	8.30%	5.76%	58.02%	248.23%	8.29%	100.10%	99.92%	4.6%
	2010	92.40	1,558.70	2,714.20	2,325.30	48.40%	19.71	57.12	8.20%	5.93%	57.43%	241.17%	8.21%	100.03%	100.12%	4.1%
	2011	100.20	1,619.80	2,860.80	2,439.90	48.60%	20.30	58.42	8.50%	6.19%	56.62%	241.26%	8.45%	100.01%	99.41%	5.4%
	2012	78.20	1,547.00	3,023.70	2,561.20	49.20%	21.06	59.81	6.20%	5.05%	51.16%	239.96%	6.21%	99.96%	100.09%	5.7%
	2013	111.10	1,618.50	3,202.40	2,669.70	48.60%	21.61	60.08	8.60%	6.86%	50.54%	246.82%	8.56%	100.07%	99.57%	5.9%
	2014	114.20	1,472.60	3,620.00	3,027.30	49.00%	23.84	62.24	7.70%	7.75%	40.68%	244.04%	7.70%	100.03%	99.98%	13.0%
	2015	118.10	1,484.80	3,898.60	3,060.30	50.00%	24.53	62.31	7.70%	7.95%	38.09%	254.79%	7.72%	99.89%	100.24%	7.7%
	2019-2021	165.00	1,650.00	5,000.00	3,825.00	50.00%	28.50	66.50	8.50%	10.00%	33.00%	261.44%	8.63%	99.10%	101.50%	28.3%
BKH	2007	\$ 100.10	\$ 695.90	\$ 1,823.50	\$ 1,534.20	63.20%	\$ 25.66	37.80	10.30%	14.38%	38.16%	188.06%	10.32%	100.03%	100.23%	
	2008	6.80	1,005.80	2,022.20	1,551.80	67.70%	27.19	38.64	0.70%	0.68%	49.74%	192.49%	0.65%	100.01%	92.47%	
	2009	89.70	1,269.60	2,160.70	2,100.70	51.60%	27.84	38.97	8.30%	7.07%	58.76%	199.33%	8.28%	100.09%	99.70%	
	2010	64.60	1,307.30	2,495.40	2,286.30	48.10%	28.02	39.27	5.90%	4.94%	52.39%	226.91%	5.87%	100.06%	99.56%	
	2011	40.40	1,272.20	2,789.60	2,489.70	48.60%	27.53	43.92	3.30%	3.18%	45.61%	230.55%	3.34%	99.93%	101.18%	
	2012	86.90	1,173.90	2,742.70	2,171.40	56.80%	27.88	44.21	7.10%	7.40%	42.80%	222.38%	7.05%	99.94%	99.24%	
	2013	115.80	1,275.90	2,990.30	2,704.70	48.40%	29.39	44.50	8.90%	9.08%	42.67%	228.43%	8.85%	99.91%	99.39%	
	2014	128.80	1,393.60	3,239.40	2,643.60	52.10%	30.80	44.67	9.40%	9.24%	43.02%	235.20%	9.35%	99.89%	99.48%	
	2015	128.30	1,304.60	3,259.10	3,332.70	44.00%	28.63	51.19	8.80%	9.83%	40.03%	222.25%	8.75%	99.94%	99.42%	
	2019-2021	255.00	2,050.00	5,075.00	4,600.00	51.50%	39.00	61.00	10.50%	12.44%	40.39%	214.23%	10.76%	100.42%	102.51%	
CMS	2007	\$ 168.00	\$ 6,519.00	\$ 8,728.00	\$ 8,212.00	25.90%	\$ 9.46	225.15	7.20%	2.58%	74.69%	410.36%	7.90%	100.14%	109.71%	
	2008	300.00	6,821.00	9,190.00	8,993.00	27.40%	10.88	226.41	11.70%	4.40%	74.22%	372.96%	12.17%	99.97%	104.06%	5.3%
	2009	231.00	6,205.00	9,682.00	8,977.00	29.00%	11.42	227.89	8.50%	3.72%	64.09%	371.91%	8.87%	99.97%	104.39%	5.4%
	2010	356.00	6,432.00	10,069.00	9,473.00	29.50%	11.19	249.60	12.50%	5.53%	63.88%	360.31%	12.74%	99.95%	101.91%	4.0%
	2011	384.00	6,503.00	10,633.00	9,279.00	32.60%	11.92	254.10	12.60%	5.90%	61.16%	351.51%	12.69%	100.13%	100.75%	5.6%
	2012	413.00	6,312.00	11,551.00	10,101.00	31.60%	12.09	264.10	12.90%	6.54%	54.64%	361.88%	12.94%	100.03%	100.30%	8.6%
	2013	454.00	6,566.00	12,246.00	10,730.00	32.20%	12.98	266.10	13.10%	6.91%	53.62%	354.44%	13.14%	99.97%	100.31%	6.0%
	2014	479.00	7,179.00	13,412.00	11,846.00	31.00%	13.34	275.20	13.00%	6.67%	53.53%	365.22%	13.04%	99.97%	100.34%	9.5%
	2015	525.00	6,456.00	14,705.00	12,534.00	31.40%	14.21	277.16	13.30%	8.13%	43.90%	373.63%	13.34%	100.07%	100.30%	9.6%
	2019-2021	760.00	7,150.00	18,600.00	16,200.00	34.50%	19.50	288.00	13.50%	10.63%	38.44%	332.80%	13.60%	100.48%	100.73%	26.5%
DTE	2007	\$ 453.00	\$ 8,861.00	\$ 11,408.00	\$ 12,824.00	45.60%	\$ 35.86	163.23	7.70%	5.11%	77.67%	195.08%	7.75%	100.10%	100.60%	
	2008	445.00	9,329.00	12,231.00	13,736.00	43.60%	36.77	163.02	7.40%	4.77%	76.27%	204.23%	7.43%	100.09%	100.41%	7.2%
	2009	532.00	8,014.00	12,431.00	13,648.00	46.00%	37.96	165.40	8.50%	6.64%	64.47%	198.01%	8.47%	100.01%	99.69%	1.6%
	2010	630.00	8,													

		Net Profit	Revenue	Net Plant	Total Capital	Common Equity Ratio	Book Value per Share	Shares Outstanding	Reported Return on Com Equity	Profit Margin	Asset Turnover	Equity Multiplier	Calculated Return on Equity	Common Equity Check	ROE Check	Annual Increase in Net Plant
	2010	295.30	3,716.90	6,464.40	4,652.50	49.20%	11.73	195.20	12.90%	7.94%	57.50%	282.41%	12.90%	100.03%	100.01%	9.4%
	2011	342.90	3,915.90	7,474.00	5,300.40	48.40%	13.06	196.20	13.40%	8.76%	52.39%	291.34%	13.37%	99.88%	99.75%	15.6%
	2012	355.00	3,671.20	8,344.80	5,615.80	49.30%	14.00	197.60	12.80%	9.67%	43.99%	301.41%	12.82%	99.92%	100.18%	11.7%
	2013	387.60	2,867.70	6,672.80	5,337.20	56.90%	15.30	198.50	12.80%	13.52%	42.98%	219.73%	12.76%	100.01%	99.71%	-20.0%
	2014	395.80	2,453.10	6,979.90	5,999.70	54.10%	16.27	199.40	12.20%	16.13%	35.15%	215.04%	12.19%	99.95%	99.95%	4.6%
	2015	337.60	2,196.90	7,322.40	5,971.60	55.70%	16.66	199.70	10.20%	15.37%	30.00%	220.14%	10.15%	100.02%	99.51%	4.9%
	2019-2021	450.00	2,600.00	8,825.00	8,125.00	49.00%	19.75	201.50	11.50%	17.31%	29.46%	221.66%	11.30%	99.96%	98.29%	20.5%
OTTR	2007	\$ 54.00	\$ 1,238.90	\$ 854.00	\$ 882.10	59.40%	\$ 17.55	29.85	10.20%	4.36%	145.07%	162.99%	10.31%	99.98%	101.04%	
	2008	35.10	1,311.20	1,037.60	1,032.50	65.60%	19.14	35.38	5.10%	2.68%	126.37%	153.19%	5.18%	99.98%	101.61%	21.5%
	2009	26.00	1,039.50	1,098.60	1,124.40	59.80%	18.78	35.81	3.80%	2.50%	94.62%	163.39%	3.87%	100.02%	101.76%	5.9%
	2010	13.60	1,119.10	1,108.70	1,083.30	58.40%	17.57	36.00	2.00%	1.22%	100.94%	175.25%	2.15%	99.98%	107.48%	0.9%
	2011	16.40	1,077.90	1,077.50	1,058.90	54.00%	15.83	36.10	2.70%	1.52%	100.04%	188.44%	2.87%	99.94%	106.23%	-2.8%
	2012	39.00	859.20	1,049.50	959.20	54.40%	14.43	36.17	7.30%	4.54%	81.87%	201.13%	7.47%	100.02%	102.38%	-2.6%
	2013	50.20	893.30	1,167.00	924.40	57.90%	14.75	36.27	9.30%	5.62%	76.55%	218.04%	9.38%	99.95%	100.85%	11.2%
	2014	56.90	799.30	1,268.50	1,071.30	53.50%	15.39	37.22	9.90%	7.12%	63.01%	221.32%	9.93%	99.94%	100.28%	8.7%
	2015	58.60	779.80	1,387.80	1,051.00	57.60%	15.98	37.86	9.70%	7.51%	56.19%	229.25%	9.68%	99.94%	99.79%	9.4%
	2019-2021	90.00	1,050.00	1,900.00	1,650.00	54.50%	20.95	43.00	10.00%	8.57%	55.26%	211.29%	10.01%	100.18%	100.08%	36.9%
PNW	2007	\$ 298.80	\$ 3,523.60	\$ 8,436.40	\$ 6,658.70	53.00%	\$ 35.15	100.49	8.50%	8.48%	41.77%	239.05%	8.47%	100.09%	99.61%	
	2008	213.60	3,367.10	8,916.70	6,477.60	53.20%	34.16	100.89	6.20%	6.34%	37.76%	258.75%	6.20%	100.01%	99.97%	5.7%
	2009	229.20	3,297.10	9,257.80	6,686.60	49.60%	32.69	101.43	6.90%	6.95%	35.61%	279.14%	6.91%	99.98%	100.16%	3.8%
	2010	330.40	3,263.60	9,578.80	6,729.10	54.70%	33.86	108.77	9.00%	10.12%	34.07%	260.24%	8.98%	100.06%	99.74%	3.5%
	2011	328.20	3,241.40	9,962.30	6,840.90	55.90%	34.98	109.25	8.60%	10.13%	32.54%	260.52%	8.58%	99.93%	99.80%	4.0%
	2012	387.40	3,301.80	10,396.00	7,171.90	55.40%	36.20	109.74	9.80%	11.73%	31.76%	261.65%	9.75%	99.98%	99.49%	4.4%
	2013	406.10	3,454.60	10,889.00	6,990.90	60.00%	38.07	110.18	9.70%	11.76%	31.73%	259.60%	9.68%	100.00%	99.81%	4.7%
	2014	397.60	3,491.60	11,194.00	7,398.70	59.00%	39.50	110.57	9.10%	11.39%	31.19%	256.44%	9.11%	100.05%	100.09%	2.8%
	2015	437.30	3,495.40	11,809.00	8,046.30	57.00%	41.30	110.98	9.50%	12.51%	29.60%	257.48%	9.53%	99.94%	100.37%	5.5%
	2019-2021	550.00	4,250.00	14,575.00	10,150.00	55.00%	49.00	113.50	10.00%	12.94%	29.16%	261.08%	9.85%	99.62%	98.52%	23.4%

		Net Profit	Revenue	Net Plant	Total Capital	Common Equity Ratio	Book Value per Share	Shares Outstanding	Reported Return on Com Equity	Profit Margin	Asset Turnover	Equity Multiplier	Calculated Return on Equity	Common Equity Check	ROE Check	Annual Increase in Net Plant
PNM	2007	\$ 59.90	\$ 1,914.00	\$ 2,935.40	\$ 2,935.80	57.60%	\$ 22.03	76.81	3.50%	3.13%	65.20%	173.59%	3.54%	100.07%	101.21%	
	2008	8.10	1,959.50	3,192.00	3,025.40	54.00%	18.89	86.53	0.50%	0.41%	61.39%	195.38%	0.50%	100.05%	99.16%	8.7%
	2009	53.50	1,647.70	3,332.40	3,214.90	51.00%	18.90	86.67	3.20%	3.25%	49.44%	203.24%	3.26%	99.91%	101.97%	4.4%
	2010	80.00	1,673.50	3,444.40	3,100.30	49.20%	17.60	86.67	5.20%	4.78%	48.59%	225.81%	5.24%	100.00%	100.86%	3.4%
	2011	96.60	1,700.60	3,627.10	3,245.60	48.10%	19.62	79.65	6.10%	5.68%	46.89%	232.34%	6.19%	100.10%	101.44%	5.3%
	2012	105.60	1,342.40	3,746.50	3,277.90	48.70%	20.05	79.65	6.60%	7.87%	35.83%	234.69%	6.62%	100.04%	100.23%	3.3%
	2013	113.50	1,387.90	3,933.90	3,344.00	49.70%	20.87	79.65	6.80%	8.18%	35.28%	236.70%	6.83%	100.02%	100.43%	5.0%
	2014	116.30	1,435.90	4,270.00	3,437.10	51.90%	22.39	79.65	6.50%	8.10%	33.63%	239.37%	6.52%	99.97%	100.30%	8.5%
	2015	131.50	1,439.10	4,535.40	3,633.30	45.50%	20.78	79.65	7.90%	9.14%	31.73%	274.35%	7.95%	100.12%	100.69%	6.2%
2019-2021	190.00	1,625.00	5,270.00	4,385.00	46.50%	25.50	80.00	9.50%	11.69%	30.83%	258.46%	9.32%	100.05%	98.09%	16.2%	
POR	2007	\$ 145.00	\$ 1,743.00	\$ 3,066.00	\$ 2,629.00	50.10%	\$ 21.05	62.53	11.00%	8.32%	56.85%	232.78%	11.01%	99.93%	100.08%	
	2008	87.00	1,745.00	3,301.00	2,518.00	53.80%	21.64	62.58	6.40%	4.99%	52.86%	243.67%	6.42%	99.97%	100.35%	7.7%
	2009	95.00	1,804.00	3,858.00	3,100.00	49.70%	20.50	75.21	6.20%	5.27%	46.76%	250.41%	6.17%	100.07%	99.45%	16.9%
	2010	125.00	1,783.00	4,133.00	3,390.00	47.00%	21.14	75.32	7.90%	7.01%	43.14%	259.40%	7.85%	99.94%	99.31%	7.1%
	2011	147.00	1,813.00	4,285.00	3,298.00	50.40%	22.07	75.36	8.80%	8.11%	42.31%	257.79%	8.84%	100.06%	100.50%	3.7%
	2012	141.00	1,805.00	4,392.00	3,264.00	52.90%	22.87	75.56	8.20%	7.81%	41.10%	254.36%	8.17%	100.08%	99.59%	2.5%
	2013	137.00	1,810.00	4,880.00	3,735.00	48.70%	23.30	78.09	7.50%	7.57%	37.09%	268.29%	7.53%	100.03%	100.42%	11.1%
	2014	175.00	1,900.00	5,679.00	4,037.00	47.30%	24.43	78.23	9.20%	9.21%	33.46%	297.41%	9.16%	100.09%	99.62%	16.4%
	2015	172.00	1,898.00	6,012.00	4,329.00	52.20%	25.43	88.79	7.60%	9.06%	31.57%	266.05%	7.61%	99.92%	100.15%	5.9%
2019-2021	245.00	2,200.00	6,200.00	5,200.00	52.00%	30.25	89.80	9.00%	11.14%	35.48%	229.29%	9.06%	100.46%	100.67%	3.1%	
SCG	2007	\$ 327.00	\$ 4,621.00	\$ 7,538.00	\$ 5,952.00	49.70%	\$ 25.37	116.67	10.80%	7.08%	61.30%	254.82%	11.05%	100.06%	102.35%	
	2008	353.00	5,319.00	8,305.00	7,519.00	40.50%	25.85	117.78	11.40%	6.64%	64.05%	272.72%	11.59%	99.98%	101.68%	10.2%
	2009	357.00	4,237.00	9,009.00	7,891.00	43.20%	27.63	123.34	10.20%	8.43%	47.03%	264.28%	10.47%	99.97%	102.67%	8.5%
	2010	376.00	4,601.00	9,662.00	7,854.00	47.10%	29.05	127.45	10.20%	8.17%	47.62%	261.19%	10.16%	100.09%	99.65%	7.2%
	2011	387.00	4,409.00	10,047.00	8,511.00	45.70%	29.94	129.88	10.00%	8.78%	43.88%	258.31%	9.95%	99.98%	99.50%	4.0%
	2012	420.00	4,176.00	10,896.00	9,103.00	45.60%	31.47	132.01	10.10%	10.06%	38.33%	262.49%	10.12%	100.08%	100.18%	8.5%
	2013	471.00	4,495.00	11,643.00	10,059.00	46.40%	33.08	141.00	10.10%	10.48%	38.61%	249.45%	10.09%	99.93%	99.91%	6.9%
	2014	538.00	4,951.00	12,232.00	10,518.00	47.40%	34.95	142.70	10.80%	10.87%	40.48%	245.35%	10.79%	100.04%	99.92%	5.1%
	2015	544.00	4,380.00	13,425.00	11,325.00	48.10%	38.09	142.90	10.00%	12.42%	32.63%	246.45%	9.99%	99.92%	99.87%	9.8%
2019-2021	720.00	4,750.00	19,325.00	15,600.00	45.50%	47.75	148.00	10.00%	15.16%	24.58%	272.26%	10.14%	99.56%	101.44%	43.9%	
WEC	2007	\$ 337.70	\$ 4,237.80	\$ 7,681.20	\$ 6,302.10	49.20%	\$ 13.25	233.89	10.90%	7.97%	55.17%	247.73%	10.89%	99.95%	99.92%	
	2008	359.80	4,431.00	8,517.00	7,442.00	44.80%	14.27	233.84	10.70%	8.12%	52.03%	255.46%	10.79%	100.09%	100.86%	10.9%
	2009	378.40	4,127.90	9,070.50	7,473.10	47.70%	15.26	233.82	10.60%	9.17%	45.51%	254.46%	10.62%	100.10%	100.14%	6.5%
	2010	455.60	4,202.50	9,601.50	7,764.50	49.00%	16.26	233.77	12.00%	10.84%	43.77%	252.37%	11.97%	99.91%	99.79%	5.9%
	2011	514.00	4,486.40	10,160.00	8,608.00	46.00%	17.20	230.49	12.90%	11.46%	44.16%	256.59%	12.98%	100.12%	100.63%	5.8%
	2012	547.50	4,246.40	10,572.00	8,619.30	48.00%	18.05	229.04	13.20%	12.89%	40.17%	255.53%	13.23%	99.93%	100.25%	4.1%
	2013	578.60	4,519.00	10,907.00	8,626.60	49.10%	18.73	225.96	13.60%	12.80%	41.43%	257.50%	13.66%	99.92%	100.44%	3.2%
	2014	589.50	4,997.10	11,258.00	8,636.50	51.20%	19.60	225.52	13.30%	11.80%	44.39%	254.60%	13.33%	99.96%	100.24%	3.2%
	2015	640.30	5,926.10	19,190.00	17,809.00	48.60%	27.42	315.68	7.40%	10.80%	30.88%	221.72%	7.40%	100.01%	99.97%	70.5%
2019-2021	1,135.00	8,550.00	24,350.00	19,775.00	52.00%	32.50	315.65	11.00%	13.27%	35.11%	236.80%	11.04%	99.76%	100.34%	26.9%	
XEL	2007	\$ 575.90	\$ 10,034.00	\$ 16,676.00	\$ 12,748.00	49.40%	\$ 14.70	428.78	9.10%	5.74%	60.17%	264.80%	9.14%	100.09%	100.49%	
	2008	645.70	11,203.00	17,689.00	14,800.00	47.10%	15.35	453.79	9.20%	5.76%	63.33%	253.76%	9.26%	99.93%	100.68%	6.1%
	2009	685.50	9,644.30	18,508.00	15,277.00	47.70%	15.92	457.51	9.40%	7.11%	52.11%	253.98%	9.41%	99.95%	100.07%	4.6%
	2010	727.00	10,311.00	20,663.00	17,452.00	46.30%	16.76	482.33	8.90%	7.05%	49.90%	255.72%	9.00%	100.04%	101.09%	11.6%
	2011	841.40	10,655.00	22,353.00	17,331.00	48.90%	17.44	486.49	9.90%	7.90%	47.67%	263.76%	9.93%	100.11%	100.28%	8.2%
	2012	905.20	10,128.00	23,809.00	19,018.00	46.70%	18.19	487.96	10.20%	8.94%	42.54%	268.08%	10.19%	99.94%	99.92%	6.5%
	2013	948.20	10,915.00	26,122.00	20,477.00	46.70%	19.21	497.97	9.90%	8.69%	41.78%	273.16%	9.92%	100.03%	100.16%	9.7%
	2014	1,021.30	11,686.00	28,757.00	21,714.00	47.00%	20.20	505.73	10.00%	8.74%	40.64%	281.78%	10.01%	100.10%	100.07%	10.1%
	2015	1,063.60	11,024.00	31,206.00	23,092.00	45.90%	20.89	507.54	10.00%	9.65%	35.33%	294.42%	10.03%	100.03%	100.35%	8.5%
2019-2021	1,400.00	11,750.00	38,400.00	27,500.00	47.50%	25.50	508.00	11.00%	11.91%	30.60%	293.97%	10.72%	99.17%	97.43%	23.1%	

Change in Net Plant and Asset Turnover  
Proxy Group - Annual Average

Year	Average Revenue/Net Plant	Change in Net Plant	Cumulative Change in Net Plant
2008	63.32%	10.79%	10.79%
2009	52.97%	7.71%	19.34%
2010	52.45%	6.88%	27.55%
2011	50.49%	6.04%	35.25%
2012	44.56%	6.24%	43.69%
2013	44.30%	4.77%	50.55%
2014	42.53%	9.78%	65.28%
2015	37.14%	12.55%	86.02%
3-5 Year Projection	35.92%	25.28%	133.04%

Change in Net Plant and Asset Turnover  
Proxy Group - Individual Company Results

Ticker	Year	Revenue	Net Plant	Revenue/Net Plant	Change in Net Plant	Change in Revenue/Net Plant
ALE	2007	\$ 841.70	\$ 1,104.50	76.21%		
ALE	2008	\$ 801.00	\$ 1,387.30	57.74%	25.60%	-24.23%
ALE	2009	\$ 759.10	\$ 1,622.70	46.78%	16.97%	-18.98%
ALE	2010	\$ 907.00	\$ 1,805.60	50.23%	11.27%	7.38%
ALE	2011	\$ 928.20	\$ 1,982.70	46.81%	9.81%	-6.80%
ALE	2012	\$ 961.20	\$ 2,347.60	40.94%	18.40%	-12.54%
ALE	2013	\$ 1,018.40	\$ 2,576.50	39.53%	9.75%	-3.46%
ALE	2014	\$ 1,136.80	\$ 3,286.40	34.59%	27.55%	-12.49%
ALE	2015	\$ 1,486.40	\$ 3,669.10	40.51%	11.64%	17.11%
ALE	2019-2021	\$ 1,535.00	\$ 3,825.00	40.13%	4.25%	-0.94%
LNT	2007	\$ 3,437.60	\$ 4,679.90	73.45%		
LNT	2008	\$ 3,681.70	\$ 5,353.50	68.77%	14.39%	-6.38%
LNT	2009	\$ 3,432.80	\$ 6,203.00	55.34%	15.87%	-19.53%
LNT	2010	\$ 3,416.10	\$ 6,730.60	50.75%	8.51%	-8.29%
LNT	2011	\$ 3,665.30	\$ 7,037.10	52.09%	4.55%	2.62%
LNT	2012	\$ 3,094.50	\$ 7,838.00	39.48%	11.38%	-24.20%
LNT	2013	\$ 3,276.80	\$ 7,147.30	45.85%	-8.81%	16.12%
LNT	2014	\$ 3,350.30	\$ 6,442.00	52.01%	-9.87%	13.44%
LNT	2015	\$ 3,253.60	\$ 8,970.20	36.27%	39.25%	-30.26%
LNT	2019-2021	\$ 4,000.00	\$ 8,800.00	45.45%	-1.90%	25.32%
AEP	2007	\$ 13,380.00	\$ 29,870.00	44.79%		
AEP	2008	\$ 14,440.00	\$ 32,987.00	43.77%	10.44%	-2.28%

Ticker	Year	Revenue	Net Plant	Revenue/Net Plant	Change in Net Plant	Change in Revenue/Net Plant
ALE	2007	\$ 841.70	\$ 1,104.50	76.21%		
ALE	2008	\$ 801.00	\$ 1,387.30	57.74%	25.60%	-24.23%
AEP	2009	\$ 13,489.00	\$ 34,344.00	39.28%	4.11%	-10.28%
AEP	2010	\$ 14,427.00	\$ 35,674.00	40.44%	3.87%	2.97%
AEP	2011	\$ 15,116.00	\$ 36,971.00	40.89%	3.64%	1.10%
AEP	2012	\$ 14,945.00	\$ 38,763.00	38.55%	4.85%	-5.70%
AEP	2013	\$ 15,357.00	\$ 40,997.00	37.46%	5.76%	-2.84%
AEP	2014	\$ 17,020.00	\$ 44,117.00	38.58%	7.61%	2.99%
AEP	2015	\$ 16,453.00	\$ 46,133.00	35.66%	4.57%	-7.56%
AEP	2019-2021	\$ 17,500.00	\$ 64,000.00	27.34%	38.73%	-23.33%
AVA	2007	\$ 1,417.80	\$ 2,351.30	60.30%		
AVA	2008	\$ 1,676.80	\$ 2,492.20	67.28%	5.99%	11.58%
AVA	2009	\$ 1,512.60	\$ 2,607.00	58.02%	4.61%	-13.76%
AVA	2010	\$ 1,558.70	\$ 2,714.20	57.43%	4.11%	-1.02%
AVA	2011	\$ 1,619.80	\$ 2,860.80	56.62%	5.40%	-1.41%
AVA	2012	\$ 1,547.00	\$ 3,023.70	51.16%	5.69%	-9.64%
AVA	2013	\$ 1,618.50	\$ 3,202.40	50.54%	5.91%	-1.22%
AVA	2014	\$ 1,472.60	\$ 3,620.00	40.68%	13.04%	-19.51%
AVA	2015	\$ 1,484.80	\$ 3,898.60	38.09%	7.70%	-6.38%
AVA	2019-2021	\$ 1,650.00	\$ 5,000.00	33.00%	28.25%	-13.35%
BKH	2007	\$ 695.90	\$ 1,823.50	38.16%		
BKH	2008	\$ 1,005.80	\$ 2,022.20	49.74%	10.90%	30.33%
BKH	2009	\$ 1,269.60	\$ 2,160.70	58.76%	6.85%	18.14%
BKH	2010	\$ 1,307.30	\$ 2,495.40	52.39%	15.49%	-10.84%
BKH	2011	\$ 1,272.20	\$ 2,789.60	45.61%	11.79%	-12.95%
BKH	2012	\$ 1,173.90	\$ 2,742.70	42.80%	-1.68%	-6.15%
BKH	2013	\$ 1,275.90	\$ 2,990.30	42.67%	9.03%	-0.31%
BKH	2014	\$ 1,393.60	\$ 3,239.40	43.02%	8.33%	0.83%
BKH	2015	\$ 1,304.60	\$ 3,259.10	40.03%	0.61%	-6.95%
BKH	2019-2021	\$ 2,050.00	\$ 5,075.00	40.39%	55.72%	0.91%
CMS	2007	\$ 6,519.00	\$ 8,728.00	74.69%		
CMS	2008	\$ 6,821.00	\$ 9,190.00	74.22%	5.29%	-0.63%
CMS	2009	\$ 6,205.00	\$ 9,682.00	64.09%	5.35%	-13.65%
CMS	2010	\$ 6,432.00	\$ 10,069.00	63.88%	4.00%	-0.33%
CMS	2011	\$ 6,503.00	\$ 10,633.00	61.16%	5.60%	-4.26%
CMS	2012	\$ 6,312.00	\$ 11,551.00	54.64%	8.63%	-10.65%
CMS	2013	\$ 6,566.00	\$ 12,246.00	53.62%	6.02%	-1.88%
CMS	2014	\$ 7,179.00	\$ 13,412.00	53.53%	9.52%	-0.17%
CMS	2015	\$ 6,456.00	\$ 14,705.00	43.90%	9.64%	-17.98%
CMS	2019-2021	\$ 7,150.00	\$ 18,600.00	38.44%	26.49%	-12.44%
DTE	2007	\$ 8,861.00	\$ 11,408.00	77.67%		
DTE	2008	\$ 9,329.00	\$ 12,231.00	76.27%	7.21%	-1.80%
DTE	2009	\$ 8,014.00	\$ 12,431.00	64.47%	1.64%	-15.48%
DTE	2010	\$ 8,557.00	\$ 12,992.00	65.86%	4.51%	2.17%
DTE	2011	\$ 8,897.00	\$ 13,746.00	64.72%	5.80%	-1.73%
DTE	2012	\$ 8,791.00	\$ 14,684.00	59.87%	6.82%	-7.50%
DTE	2013	\$ 9,661.00	\$ 15,800.00	61.15%	7.60%	2.13%

Ticker	Year	Revenue	Net Plant	Revenue/Net Plant	Change in Net Plant	Change in Revenue/Net Plant
ALE	2007	\$ 841.70	\$ 1,104.50	76.21%		
ALE	2008	\$ 801.00	\$ 1,387.30	57.74%	25.60%	-24.23%
DTE	2014	\$ 12,301.00	\$ 16,820.00	73.13%	6.46%	19.61%
DTE	2015	\$ 10,337.00	\$ 18,034.00	57.32%	7.22%	-21.62%
DTE	2019-2021	\$ 13,250.00	\$ 26,200.00	50.57%	45.28%	-11.77%
IDA	2007	\$ 879.40	\$ 2,616.60	33.61%		
IDA	2008	\$ 960.40	\$ 2,758.20	34.82%	5.41%	3.60%
IDA	2009	\$ 1,049.80	\$ 2,917.00	35.99%	5.76%	3.36%
IDA	2010	\$ 1,036.00	\$ 3,161.40	32.77%	8.38%	-8.94%
IDA	2011	\$ 1,026.80	\$ 3,406.60	30.14%	7.76%	-8.02%
IDA	2012	\$ 1,080.70	\$ 3,536.00	30.56%	3.80%	1.40%
IDA	2013	\$ 1,246.20	\$ 3,665.00	34.00%	3.65%	11.26%
IDA	2014	\$ 1,282.50	\$ 3,833.50	33.46%	4.60%	-1.61%
IDA	2015	\$ 1,270.30	\$ 3,992.40	31.82%	4.15%	-4.89%
IDA	2019-2021	\$ 1,350.00	\$ 4,675.00	28.88%	17.10%	-9.24%
NWE	2007	\$ 1,200.10	\$ 1,770.90	67.77%		
NWE	2008	\$ 1,260.80	\$ 1,839.70	68.53%	3.89%	1.13%
NWE	2009	\$ 1,141.90	\$ 1,964.10	58.14%	6.76%	-15.17%
NWE	2010	\$ 1,110.70	\$ 2,118.00	52.44%	7.84%	-9.80%
NWE	2011	\$ 1,117.30	\$ 2,213.30	50.48%	4.50%	-3.74%
NWE	2012	\$ 1,070.30	\$ 2,435.60	43.94%	10.04%	-12.95%
NWE	2013	\$ 1,154.50	\$ 2,690.10	42.92%	10.45%	-2.34%
NWE	2014	\$ 1,204.90	\$ 3,758.00	32.06%	39.70%	-25.29%
NWE	2015	\$ 1,214.30	\$ 4,059.50	29.91%	8.02%	-6.70%
NWE	2019-2021	\$ 1,485.00	\$ 4,850.00	30.62%	19.47%	2.36%
OGE	2007	\$ 3,797.60	\$ 4,246.30	89.43%		
OGE	2008	\$ 4,070.70	\$ 5,249.80	77.54%	23.63%	-13.30%
OGE	2009	\$ 2,869.70	\$ 5,911.60	48.54%	12.61%	-37.40%
OGE	2010	\$ 3,716.90	\$ 6,464.40	57.50%	9.35%	18.45%
OGE	2011	\$ 3,915.90	\$ 7,474.00	52.39%	15.62%	-8.88%
OGE	2012	\$ 3,671.20	\$ 8,344.80	43.99%	11.65%	-16.03%
OGE	2013	\$ 2,867.70	\$ 6,672.80	42.98%	-20.04%	-2.31%
OGE	2014	\$ 2,453.10	\$ 6,979.90	35.15%	4.60%	-18.22%
OGE	2015	\$ 2,196.90	\$ 7,322.40	30.00%	4.91%	-14.63%
OGE	2019-2021	\$ 2,600.00	\$ 8,825.00	29.46%	20.52%	-1.80%
OTTR	2007	\$ 1,238.90	\$ 854.00	145.07%		
OTTR	2008	\$ 1,311.20	\$ 1,037.60	126.37%	21.50%	-12.89%
OTTR	2009	\$ 1,039.50	\$ 1,098.60	94.62%	5.88%	-25.12%
OTTR	2010	\$ 1,119.10	\$ 1,108.70	100.94%	0.92%	6.68%
OTTR	2011	\$ 1,077.90	\$ 1,077.50	100.04%	-2.81%	-0.89%
OTTR	2012	\$ 859.20	\$ 1,049.50	81.87%	-2.60%	-18.16%
OTTR	2013	\$ 893.30	\$ 1,167.00	76.55%	11.20%	-6.50%
OTTR	2014	\$ 799.30	\$ 1,268.50	63.01%	8.70%	-17.68%
OTTR	2015	\$ 779.80	\$ 1,387.80	56.19%	9.40%	-10.83%
OTTR	2019-2021	\$ 1,050.00	\$ 1,900.00	55.26%	36.91%	-1.65%
PNW	2007	\$ 3,523.60	\$ 8,436.40	41.77%		
PNW	2008	\$ 3,367.10	\$ 8,916.70	37.76%	5.69%	-9.59%
PNW	2009	\$ 3,297.10	\$ 9,257.80	35.61%	3.83%	-5.69%
PNW	2010	\$ 3,263.60	\$ 9,578.80	34.07%	3.47%	-4.33%
PNW	2011	\$ 3,241.40	\$ 9,962.30	32.54%	4.00%	-4.50%
PNW	2012	\$ 3,301.80	\$ 10,396.00	31.76%	4.35%	-2.39%
PNW	2013	\$ 3,454.60	\$ 10,889.00	31.73%	4.74%	-0.11%
PNW	2014	\$ 3,491.60	\$ 11,194.00	31.19%	2.80%	-1.68%
PNW	2015	\$ 3,495.40	\$ 11,809.00	29.60%	5.49%	-5.10%
PNW	2019-2021	\$ 4,250.00	\$ 14,575.00	29.16%	23.42%	-1.49%
PNM	2007	\$ 1,914.00	\$ 2,935.40	65.20%		
PNM	2008	\$ 1,959.50	\$ 3,192.00	61.39%	8.74%	-5.85%
PNM	2009	\$ 1,647.70	\$ 3,332.40	49.44%	4.40%	-19.45%
PNM	2010	\$ 1,673.50	\$ 3,444.40	48.59%	3.36%	-1.74%
PNM	2011	\$ 1,700.60	\$ 3,627.10	46.89%	5.30%	-3.50%
PNM	2012	\$ 1,342.40	\$ 3,746.50	35.83%	3.29%	-23.58%
PNM	2013	\$ 1,387.90	\$ 3,933.90	35.28%	5.00%	-1.54%
PNM	2014	\$ 1,435.90	\$ 4,270.00	33.63%	8.54%	-4.68%
PNM	2015	\$ 1,439.10	\$ 4,535.40	31.73%	6.22%	-5.64%
PNM	2019-2021	\$ 1,625.00	\$ 5,270.00	30.83%	16.20%	-2.82%

Ticker	Year	Revenue	Net Plant	Revenue/Net Plant	Change in Net Plant	Change in Revenue/Net Plant
ALE	2007	\$ 841.70	\$ 1,104.50	76.21%		
ALE	2008	\$ 801.00	\$ 1,387.30	57.74%	25.60%	-24.23%
POR	2007	\$ 1,743.00	\$ 3,066.00	56.85%		
POR	2008	\$ 1,745.00	\$ 3,301.00	52.86%	7.66%	-7.01%
POR	2009	\$ 1,804.00	\$ 3,858.00	46.76%	16.87%	-11.54%
POR	2010	\$ 1,783.00	\$ 4,133.00	43.14%	7.13%	-7.74%
POR	2011	\$ 1,813.00	\$ 4,285.00	42.31%	3.68%	-1.92%
POR	2012	\$ 1,805.00	\$ 4,392.00	41.10%	2.50%	-2.87%
POR	2013	\$ 1,810.00	\$ 4,880.00	37.09%	11.11%	-9.75%
POR	2014	\$ 1,900.00	\$ 5,679.00	33.46%	16.37%	-9.80%
POR	2015	\$ 1,898.00	\$ 6,012.00	31.57%	5.86%	-5.64%
POR	2019-2021	\$ 2,200.00	\$ 6,200.00	35.48%	3.13%	12.40%
SCG	2007	\$ 4,621.00	\$ 7,538.00	61.30%		
SCG	2008	\$ 5,319.00	\$ 8,305.00	64.05%	10.18%	4.47%
SCG	2009	\$ 4,237.00	\$ 9,009.00	47.03%	8.48%	-26.57%
SCG	2010	\$ 4,601.00	\$ 9,662.00	47.62%	7.25%	1.25%
SCG	2011	\$ 4,409.00	\$ 10,047.00	43.88%	3.98%	-7.85%
SCG	2012	\$ 4,176.00	\$ 10,896.00	38.33%	8.45%	-12.66%
SCG	2013	\$ 4,495.00	\$ 11,643.00	38.61%	6.86%	0.73%
SCG	2014	\$ 4,951.00	\$ 12,232.00	40.48%	5.06%	4.84%
SCG	2015	\$ 4,380.00	\$ 13,425.00	32.63%	9.75%	-19.39%
SCG	2019-2021	\$ 4,750.00	\$ 19,325.00	24.58%	43.95%	-24.66%
WEC	2007	\$ 4,237.80	\$ 7,681.20	55.17%		
WEC	2008	\$ 4,431.00	\$ 8,517.00	52.03%	10.88%	-5.70%
WEC	2009	\$ 4,127.90	\$ 9,070.50	45.51%	6.50%	-12.53%
WEC	2010	\$ 4,202.50	\$ 9,601.50	43.77%	5.85%	-3.82%
WEC	2011	\$ 4,486.40	\$ 10,160.00	44.16%	5.82%	0.89%
WEC	2012	\$ 4,246.40	\$ 10,572.00	40.17%	4.06%	-9.04%
WEC	2013	\$ 4,519.00	\$ 10,907.00	41.43%	3.17%	3.15%
WEC	2014	\$ 4,997.10	\$ 11,258.00	44.39%	3.22%	7.13%
WEC	2015	\$ 5,926.10	\$ 19,190.00	30.88%	70.46%	-30.43%
WEC	2019-2021	\$ 8,550.00	\$ 24,350.00	35.11%	26.89%	13.70%
XEL	2007	\$ 10,034.00	\$ 16,676.00	60.17%		
XEL	2008	\$ 11,203.00	\$ 17,689.00	63.33%	6.07%	5.26%
XEL	2009	\$ 9,644.30	\$ 18,508.00	52.11%	4.63%	-17.72%
XEL	2010	\$ 10,311.00	\$ 20,663.00	49.90%	11.64%	-4.24%

Ticker	Year	Revenue	Net Plant	Revenue/Net Plant	Change in Net Plant	Change in Revenue/Net Plant
ALE	2007	\$ 841.70	\$ 1,104.50	76.21%		
ALE	2008	\$ 801.00	\$ 1,387.30	57.74%	25.60%	-24.23%
XEL	2011	\$ 10,655.00	\$ 22,353.00	47.67%	8.18%	-4.48%
XEL	2012	\$ 10,128.00	\$ 23,809.00	42.54%	6.51%	-10.76%
XEL	2013	\$ 10,915.00	\$ 26,122.00	41.78%	9.71%	-1.77%
XEL	2014	\$ 11,686.00	\$ 28,757.00	40.64%	10.09%	-2.75%
XEL	2015	\$ 11,024.00	\$ 31,206.00	35.33%	8.52%	-13.07%
XEL	2019-2021	\$ 11,750.00	\$ 38,400.00	30.60%	23.05%	-13.38%

Source: Value Line Investment Reports as of December 16, 2016

Change in Net Plant and Asset Turnover  
Regression Analysis

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.420139014
R Square	0.176516791
Adjusted R Square	0.171370021
Standard Error	0.103002572
Observations	162

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	0.363870959	0.363870959	34.29661502	2.60895E-08
Residual	160	1.697524768	0.01060953		
Total	161	2.061395727			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	-0.01354872	0.010783158	-1.256470494	0.210776805	-0.034844397	0.007746956
Change in Net Plant	-0.422043209	0.072066144	-5.856331191	2.60895E-08	-0.564366749	-0.279719668

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	20.40	21.40	15.00	-26%	-30%
Alliant Energy Corporation	LNT	20.50	22.10	15.00	-27%	-32%
Ameren Corporation	AEE	18.40	17.90	15.00	-18%	-16%
American Electric Power Company, Inc.	AEP	15.30	14.50	14.50	-5%	0%
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	18.80	19.40	15.00	-20%	-23%
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	19.30	18.20	15.00	-22%	-18%
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	8.60	15.70	14.50	69%	-8%
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	29.10	26.20	15.00	-48%	-43%
NorthWestern Corporation	NWE	16.60	15.10	14.00	-16%	-7%
OGE Energy Corp.	OGE	20.70	16.30	18.00	-13%	10%
Otter Tail Corporation	OTTR	24.80	24.60	18.00	-27%	-27%
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	19.00	18.20	16.50	-13%	-9%
Xcel Energy Inc.	XEL	19.20	17.90	15.50	-19%	-13%

Source: Value Line as of December 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	3.28% [1]										
Assumes g = Allowed ROE - Div. Yield	Assumed Growth Rate	5.74%										
Input	Total Return	9.02% [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	\$ 21.15	\$ 22.36	\$ 23.64	\$ 25.00	\$ 26.43	\$ 27.95	\$ 29.55	\$ 31.25	\$ 33.04	\$ 34.94	\$ 22,780,984.85
Demonstrating Constant BV/S growth			5.74%	5.74%	5.74%	5.74%	5.74%	5.74%	5.74%	5.74%	5.74%	5.74%	5.74%
Earnings based on ROE applied to BV/S	Earnings/share	\$ 1.80	\$ 1.91	\$ 2.02	\$ 2.13	\$ 2.26	\$ 2.38	\$ 2.52	\$ 2.67	\$ 2.82	\$ 2.98	\$ 3.15	\$ 2,054,870.73
Demonstrating Constant EPS growth			5.74%	5.74%	5.74%	5.74%	5.74%	5.74%	5.74%	5.74%	5.74%	5.74%	5.74%
Demonstrating Constant Return Earned based on BV/S and EPS	Allowed ROE	9.02%	9.02%	9.02%	9.02%	9.02%	9.02%	9.02%	9.02%	9.02%	9.02%	9.02%	9.02%
Div/S based on EPS and Constant Payout ratio	Dividends/Share	\$ 1.22	\$ 1.29	\$ 1.36	\$ 1.44	\$ 1.52	\$ 1.61	\$ 1.70	\$ 1.80	\$ 1.90	\$ 2.01	\$ 2.13	\$ 1,387,037.74
Demonstrating Constant Div/S growth			5.74%	5.74%	5.74%	5.74%	5.74%	5.74%	5.74%	5.74%	5.74%	5.74%	5.74%
Retained Earnings based on difference between EPS and Div/S	Earnings retained to book value	\$ 0.59	\$ 0.62	\$ 0.66	\$ 0.69	\$ 0.73	\$ 0.77	\$ 0.82	\$ 0.87	\$ 0.92	\$ 0.97	\$ 1.02	\$ 667,832.99
Demonstrating Constant growth in Retained Earnings			5.74%	5.74%	5.74%	5.74%	5.74%	5.74%	5.74%	5.74%	5.74%	5.74%	5.74%
Demonstrating Constant Market/Book ratio	Market/Book Ratio	1.961	1.961	1.961	1.961	1.961	1.961	1.961	1.961	1.961	1.961	1.961	1.961
DCF calculation of market price = [Div/S]*[1+g]/[ROE-g]	Market Price	\$ 39.22	\$ 41.47	\$ 43.84	\$ 46.36	\$ 49.02	\$ 51.83	\$ 54.80	\$ 57.95	\$ 61.27	\$ 64.79	\$ 68.50	\$ 44,668,596.12
Demonstrating Price Appreciation equals Long Term Growth Rate	Price Appreciation	5.74%	OK	<== Price appreciation should equal long term growth rate									
Demonstrating Constant Price/Earnings Ratio	Price/Earnings	21.74	21.74	21.74	21.74	21.74	21.74	21.74	21.74	21.74	21.74	21.74	21.74
Present Value Factor calculated based upon the current period and the Constant ROE	Present Value Factor		0.9173	0.8414	0.7718	0.7079	0.6493	0.5956	0.5463	0.5011	0.4597	0.4216	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	1.1810	1.1455	1.1110	1.0775	1.0451	1.0136	0.9831	0.9535	0.9247	0.8969		0.0006
Total Value of investment sum of all Present Value Dividends in perpetuity (250 instances for demonstration purposes)	Value of Investment	\$ 39.20											

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	\$ 1.15	\$ 1.11	\$ 1.08	\$ 1.05	\$ 1.01	\$ 0.98	\$ 0.95	\$ 0.92	\$ 0.90		
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	--	--	--	--	--	--	--	--	--	--	28.88	
Value of dividends = sum of all Present Value Dividends for periods 1-10	Value of Dividends	\$ 10.33											
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	\$ 28.88											
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	\$ 39.22											

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	\$ 1.15	\$ 1.11	\$ 1.08	\$ 1.05							
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	--	--	--	--	33.66							
Value of dividends = sum of all Present Value Dividends for periods 1-5	Value of Dividends	\$ 5.56											
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	\$ 33.66											
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	\$ 39.22											

[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%	3.50%
Alliant 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%	5.00%	5.00%	4.00%	3.00%
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%	5.50%	6.50%
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%	6.50%	3.50%	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%	0.50%	2.50%	3.00%	2.00%
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 December 30, 2016.

Growth Rate Regression Analysis

**SUMMARY OUTPUT**

<i>Regression Statistics</i>	
Multiple R	0.10197601
R Square	0.010399107
Adjusted R Square	-0.032627019
Standard Error	2.094914039
Observations	25

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	1.060708865	1.060708865	0.24169284	0.627645232
Residual	23	100.9392911	4.388664832		
Total	24	102			

	<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	15.82965807	0.627510272	25.22613377	2.90682E-18	14.53155417	17.12776197	14.53155417	17.12776197
Past 10 YearDividendGrowth Rate	-4.865636997	9.897096686	-0.49162266	0.627645232	-25.33934138	15.60806738	-25.33934138	15.60806738

**SUMMARY OUTPUT**

<i>Regression Statistics</i>	
Multiple R	0.029900761
R Square	0.000894055
Adjusted R Square	-0.037533096
Standard Error	1.986364781
Observations	28

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	0.091800341	0.091800341	0.023266244	0.879944306
Residual	26	102.5867711	3.945645042		
Total	27	102.6785714			

	<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	15.55659201	0.500747771	31.0667224	4.37044E-22	14.52729022	16.58589379	14.52729022	16.58589379
Past 5 YearDividend Growth Rate	1.132339003	7.423578868	0.152532764	0.879944306	-14.1270459	16.39172391	-14.1270459	16.39172391

**SUMMARY OUTPUT**

<i>Regression Statistics</i>	
Multiple R	0.493065167
R Square	0.243113258
Adjusted R Square	0.21400223
Standard Error	1.709847656
Observations	28

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	24.41551724	24.41551724	8.351242495	0.007676625
Residual	26	76.01305419	2.923579007		
Total	27	100.4285714			

	<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	13.38596059	0.845181995	15.83796232	7.17393E-15	11.64866412	15.12325706	11.64866412	15.12325706
Proj.EarningsGrowth Rate	41.03448276	14.19951191	2.889851639	0.007676625	11.84696802	70.2219975	11.84696802	70.2219975

**SUMMARY OUTPUT**

<i>Regression Statistics</i>	
Multiple R	0.222533657
R Square	0.049521229
Adjusted R Square	0.014318311
Standard Error	1.904498462
Observations	29

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	5.102394173	5.102394173	1.406736491	0.245931744
Residual	27	97.93208859	3.627114392		
Total	28	103.0344828			

	<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	16.60024738	0.925224305	17.94186263	1.56766E-16	14.70184392	18.49865084	14.70184392	18.49865084
Proj.Dividend Growth Rate	-18.67122158	15.74223373	-1.186059228	0.245931744	-50.97161715	13.62917399	-50.97161715	13.62917399

Growth Rate Regression Analysis

**SUMMARY OUTPUT**

<i>Regression Statistics</i>	
Multiple R	0.02565887
R Square	0.000658378
Adjusted R Square	-0.036354275
Standard Error	1.952838837
Observations	29

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	0.067835597	0.067835597	0.017787907	0.894888837
Residual	27	102.9666472	3.813579525		
Total	28	103.0344828			

	<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	15.39262727	1.496049071	10.28885186	7.68054E-11	12.32298813	18.4622664	12.32298813	18.4622664
Proj. Retention Growth Rate	4.79812756	35.97570961	0.133371311	0.894888837	-69.01793127	78.61418639	-69.01793127	78.61418639

**SUMMARY OUTPUT**

<i>Regression Statistics</i>	
Multiple R	0.290335704
R Square	0.084294821
Adjusted R Square	0.049075391
Standard Error	1.880701209
Observations	28

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	8.465608466	8.465608466	2.3934181	0.133933865
Residual	26	91.96296296	3.537037037		
Total	27	100.4285714			

	<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	13.84391534	1.215912847	11.38561483	1.33128E-11	11.34457069	16.34326	11.34457069	16.34326
Proj. Book Value Growth Rate	42.32804233	27.36017666	1.547067581	0.133933865	-13.91160625	98.56769091	-13.91160625	98.56769091

**SUMMARY OUTPUT**

<i>Regression Statistics</i>	
Multiple R	0.821828243
R Square	0.67540166
Adjusted R Square	0.560837541
Standard Error	1.37719739
Observations	24

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	6	67.08989827	11.18164971	5.89540304	0.001766572
Residual	17	32.24343506	1.896672651		
Total	23	99.33333333			

	<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	14.68170762	1.324551307	11.0842876	3.3554E-09	11.88714864	17.4762666	11.88714864	17.4762666
Past 10 Year Dividend Growth Rate	-4.920279302	9.525687694	-0.516527463	0.612140048	-25.01772359	15.17716498	-25.01772359	15.17716498
Past 5 Year Dividend Growth Rate	2.832586975	10.89469328	0.259996946	0.797988876	-20.15320662	25.81838057	-20.15320662	25.81838057
Proj. Earnings Growth Rate	76.3642636	16.71219817	4.569372792	0.000272268	41.10460757	111.6239196	41.10460757	111.6239196
Proj. Dividend Growth Rate	-43.0131451	15.38777734	-2.795279926	0.012428216	-75.47851744	-10.54777276	-75.47851744	-10.54777276
Proj. Retention Growth Rate	-74.0722657	33.59466454	-2.204881838	0.041523803	-144.9508123	-3.193719114	-144.9508123	-3.193719114
Proj. Book Value Growth Rate	55.17593309	27.59776794	1.999289696	0.061822038	-3.050267627	113.4021338	-3.050267627	113.4021338

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	5.6%	5.6%	6.1%	5.8%
American Electric Power Company, Inc.	AEP	1.9%	1.9%	5.4%	3.1%
Avista Corporation	AVA	5.7%	NA	5.3%	5.5%
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%	5.9%	5.8%
DTE Energy Company	DTE	5.6%	5.6%	5.8%	5.7%
Duke Energy Corporation	DUK	3.5%	3.5%	4.7%	3.9%
Edison International	EIX	1.9%	1.9%	5.3%	3.0%
El Paso Electric Company	EE	7.0%	NA	4.4%	5.7%
Entergy Corporation	ETR	-8.3%	-8.3%	-4.8%	-7.1%
Eversource Energy	ES	6.3%	6.3%	6.1%	6.2%
FirstEnergy Corp.	FE	-5.3%	-5.3%	-0.4%	-3.7%
IDACORP, Inc.	IDA	4.1%	4.1%	4.4%	4.2%
MGE Energy, Inc.	MGEE	4.0%	NA	NA	4.0%
NorthWestern Corporation	NWE	4.5%	4.5%	5.0%	4.7%
OGE Energy Corp.	OGE	4.0%	4.0%	5.2%	4.4%
Otter Tail Corporation	OTTR	6.0%	NA	NA	6.0%
PG&E Corporation	PCG	5.6%	5.6%	4.3%	5.2%
Pinnacle West Capital Corporation	PNW	4.5%	4.5%	4.5%	4.5%
PNM Resources, Inc.	PNM	6.9%	6.9%	6.8%	6.9%
Portland General Electric Company	POR	6.2%	6.2%	6.2%	6.2%
PPL Corporation	PPL	2.4%	2.4%	3.5%	2.8%
SCANA Corporation	SCG	6.3%	6.5%	5.5%	6.1%
Southern Company	SO	3.3%	3.8%	3.9%	3.7%
WEC Energy Group, Inc.	WEC	7.0%	6.8%	6.2%	6.7%
Xcel Energy Inc.	XEL	5.7%	5.3%	5.4%	5.5%
Average		4.3%	4.1%	4.7%	4.4%
Median		5.6%	5.2%	5.4%	5.3%

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	5.6%	5.6%	6.1%	5.8%
American Electric Power Company, Inc.	AEP	1.9%	1.9%	5.4%	3.1%
Avista Corporation	AVA	5.7%	NA	5.3%	5.5%
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%	5.9%	5.8%
DTE Energy Company	DTE	5.6%	5.6%	5.8%	5.7%
Duke Energy Corporation	DUK	3.5%	3.5%	4.7%	3.9%
Edison International	EIX	1.9%	1.9%	5.3%	3.0%
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	4.1%	4.1%	4.4%	4.2%
MGE Energy, Inc.	MGEE	4.0%	NA	NA	4.0%
NorthWestern Corporation	NWE	4.5%	4.5%	5.0%	4.7%
OGE Energy Corp.	OGE	4.0%	4.0%	5.2%	4.4%
Otter Tail Corporation	OTTR	6.0%	NA	NA	6.0%
PG&E Corporation	PCG	5.6%	5.6%	4.3%	5.2%
Pinnacle West Capital Corporation	PNW	4.5%	4.5%	4.5%	4.5%
PNM Resources, Inc.	PNM	6.9%	6.9%	6.8%	6.9%
Portland General Electric Company	POR	6.2%	6.2%	6.2%	6.2%
PPL Corporation	PPL	2.4%	2.4%	3.5%	2.8%
SCANA Corporation	SCG	6.3%	6.5%	5.5%	6.1%
Southern Company	SO	3.3%	3.8%	3.9%	3.7%
WEC Energy Group, Inc.	WEC	7.0%	6.8%	6.2%	6.7%
Xcel Energy Inc.	XEL	5.7%	5.3%	5.4%	5.5%
Average		5.1%	5.0%	5.3%	5.1%
Median		5.6%	5.5%	5.4%	5.5%

Source: Exhibit JRW-10, Page 5

Difference: 0.70%

Implied Return on Equity with M/B Ratio at Unity

Institution Name	Ticker	ROACE (%) 2015	Price/ Book (%) 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]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	S&P Issuer Credit Rating	Numeric Credit Score
		Dividend Yield	Expected Dividend Yield	Yahoo Earnings Growth	Reuters Earnings Growth	Zacks Earnings Growth	Average Earnings Growth	Mean ROE			
ALLETE, Inc.	ALE	3.50%	3.59%	5.00%	5.00%	5.50%	5.17%	8.76%	BBB+	5	
Alliant Energy Corporation	LNT	3.20%	3.30%	6.60%	6.60%	6.10%	6.43%	9.74%	A-	4	
Ameren Corporation	AEE	3.60%	3.70%	5.60%	5.60%	6.10%	5.77%	9.47%	BBB+	5	
American Electric Power Company, Inc.	AEP	3.80%	3.86%	1.90%	1.90%	5.40%	3.07%	6.92%	BBB	6	
Avista Corporation	AVA	3.40%	3.49%	5.70%	NA	5.30%	5.50%	8.99%	BBB	6	
Black Hills Corporation	BKH	2.80%	2.89%	6.70%	6.70%	5.80%	6.40%	9.29%	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%	2.10%	2.10%	2.80%	2.33%	6.08%	A-	4	
Dominion Resources, Inc.	D	3.80%	3.91%	5.80%	5.80%	5.90%	5.83%	9.74%	BBB+	5	
DTE Energy Company	DTE	3.50%	3.60%	5.60%	5.60%	5.80%	5.67%	9.27%	BBB+	5	
Duke Energy Corporation	DUK	4.50%	4.59%	3.50%	3.50%	4.70%	3.90%	8.49%	A-	4	
Edison International	EIX	2.70%	2.74%	1.90%	1.90%	5.30%	3.03%	5.77%	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	4.90%	4.73%	-8.30%	-8.30%	-4.80%	-7.13%	-2.41%	BBB	6	
Eversource Energy	ES	3.30%	3.40%	6.30%	6.30%	6.10%	6.23%	9.64%	A	3	
FirstEnergy Corp.	FE	4.40%	4.32%	-5.30%	-5.30%	-0.40%	-3.67%	0.65%	BBB-	7	
IDACORP, Inc.	IDA	2.90%	2.96%	4.10%	4.10%	4.40%	4.20%	7.16%	BBB	6	
MGE Energy, Inc.	MGEE	2.20%	2.24%	4.00%	NA	NA	4.00%	6.24%	AA-	1	
NorthWestern Corporation	NWE	3.60%	3.68%	4.50%	4.50%	5.00%	4.67%	8.35%	BBB	6	
OGE Energy Corp.	OGE	4.00%	4.09%	4.00%	4.00%	5.20%	4.40%	8.49%	A-	4	
Otter Tail Corporation	OTTR	3.60%	3.71%	6.00%	NA	NA	6.00%	9.71%	BBB	6	
PG&E Corporation	PCG	3.30%	3.39%	5.60%	5.60%	4.30%	5.17%	8.55%	BBB	6	
Pinnacle West Capital Corporation	PNW	3.50%	3.58%	4.50%	4.50%	4.50%	4.50%	8.08%	A-	4	
PNM Resources, Inc.	PNM	2.80%	2.90%	6.90%	6.90%	6.80%	6.87%	9.76%	BBB+	5	
Portland General Electric Company	POR	3.10%	3.20%	6.20%	6.20%	6.20%	6.20%	9.40%	BBB	6	
PPL Corporation	PPL	4.60%	4.66%	2.40%	2.40%	3.50%	2.77%	7.43%	A-	4	
SCANA Corporation	SCG	3.30%	3.40%	6.30%	6.50%	5.50%	6.10%	9.50%	BBB+	5	
Southern Company	SO	4.50%	4.58%	3.30%	3.80%	3.90%	3.67%	8.25%	A-	4	
WEC Energy Group, Inc.	WEC	3.50%	3.62%	7.00%	6.80%	6.20%	6.67%	10.28%	A-	4	
Xcel Energy Inc.	XEL	3.40%	3.49%	5.70%	5.30%	5.40%	5.47%	8.96%	A-	4	
PROXY GROUP MEAN		3.51%	3.58%	4.26%	4.05%	4.70%	4.40%	7.98%	BBB+	4.9	
PROXY GROUP MEDIAN		3.50%	3.58%	5.60%	5.15%	5.35%	5.32%	8.67%	BBB+	5.0	

REGRESSION OUTPUT

Regression Statistics	
Multiple R	0.211713
R Square	0.044823
Adjusted R Square	0.010709
Standard Error	0.027040
Observations	30

ANOVA

	df	SS	MS	F	Signif. F
Regression	1	0.000961	0.000961	1.313926	0.261387
Residual	28	0.020472	0.000731		
Total	29	0.021433			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	0.103014	0.020868	4.936367	0.000033	0.060267	0.145762
Credit Rating	-0.004743	0.004138	-1.146266	0.261387	-0.013220	0.003733

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]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	S&P Issuer Credit Rating	Numeric Credit Score
		Dividend Yield	Expected Dividend Yield	Yahoo Earnings Growth	Reuters Earnings Growth	Zacks Earnings Growth	Average Earnings Growth	Mean ROE			
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%	6.60%	6.10%	6.43%	9.63%	A-		4
Ameren Corporation	AEE	3.50%	3.60%	5.60%	5.60%	6.10%	5.77%	9.37%	BBB+		5
American Electric Power Company, Inc.	AEP	3.70%	3.76%	1.90%	1.90%	5.40%	3.07%	6.82%	BBB		6
Avista Corporation	AVA	3.30%	3.39%	5.70%	NA	5.30%	5.50%	8.89%	BBB		6
Black Hills Corporation	BKH	2.80%	2.89%	6.70%	6.70%	5.80%	6.40%	9.29%	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	3.60%	3.64%	2.10%	2.10%	2.80%	2.33%	5.98%	A-		4
Dominion Resources, Inc.	D	3.80%	3.91%	5.80%	5.80%	5.90%	5.83%	9.74%	BBB+		5
DTE Energy Company	DTE	3.50%	3.60%	5.60%	5.60%	5.80%	5.67%	9.27%	BBB+		5
Duke Energy Corporation	DUK	4.30%	4.38%	3.50%	3.50%	4.70%	3.90%	8.28%	A-		4
Edison International	EIX	2.60%	2.64%	1.90%	1.90%	5.30%	3.03%	5.67%	BBB+		5
El Paso Electric Company	EE	2.70%	2.78%	7.00%	NA	4.40%	5.70%	8.48%	BBB		6
Entergy Corporation	ETR	4.60%	4.44%	-8.30%	-8.30%	-4.80%	-7.13%	-2.70%	BBB		6
Eversource Energy	ES	3.20%	3.30%	6.30%	6.30%	6.10%	6.23%	9.53%	A		3
FirstEnergy Corp.	FE	4.40%	4.32%	-5.30%	-5.30%	-0.40%	-3.67%	0.65%	BBB-		7
IDACORP, Inc.	IDA	2.90%	2.96%	4.10%	4.10%	4.40%	4.20%	7.16%	BBB		6
MGE Energy, Inc.	MGEE	2.20%	2.24%	4.00%	NA	NA	4.00%	6.24%	AA-		1
NorthWestern Corporation	NWE	3.50%	3.58%	4.50%	4.50%	5.00%	4.67%	8.25%	BBB		6
OGE Energy Corp.	OGE	3.90%	3.99%	4.00%	4.00%	5.20%	4.40%	8.39%	A-		4
Otter Tail Corporation	OTTR	3.60%	3.71%	6.00%	NA	NA	6.00%	9.71%	BBB		6
PG&E Corporation	PCG	3.20%	3.28%	5.60%	5.60%	4.30%	5.17%	8.45%	BBB		6
Pinnacle West Capital Corporation	PNW	3.50%	3.58%	4.50%	4.50%	4.50%	4.50%	8.08%	A-		4
PNM Resources, Inc.	PNM	2.70%	2.79%	6.90%	6.90%	6.80%	6.87%	9.66%	BBB+		5
Portland General Electric Company	POR	3.00%	3.09%	6.20%	6.20%	6.20%	6.20%	9.29%	BBB		6
PPL Corporation	PPL	4.40%	4.46%	2.40%	2.40%	3.50%	2.77%	7.23%	A-		4
SCANA Corporation	SCG	3.20%	3.30%	6.30%	6.50%	5.50%	6.10%	9.40%	BBB+		5
Southern Company	SO	4.40%	4.48%	3.30%	3.80%	3.90%	3.67%	8.15%	A-		4
WEC Energy Group, Inc.	WEC	3.30%	3.41%	7.00%	6.80%	6.20%	6.67%	10.08%	A-		4
Xcel Energy Inc.	XEL	3.30%	3.39%	5.70%	5.30%	5.40%	5.47%	8.86%	A-		4
PROXY GROUP MEAN		3.42%	3.49%	4.26%	4.05%	4.70%	4.40%	7.89%	BBB+		4.9
PROXY GROUP MEDIAN		3.40%	3.49%	5.60%	5.15%	5.35%	5.32%	8.62%	BBB+		5.0

REGRESSION OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.208599
R Square	0.043514
Adjusted R Square	0.009353
Standard Error	0.027243
Observations	30

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Signif. F</i>
Regression	1	0.000945	0.000945	1.273810	0.268631
Residual	28	0.020781	0.000742		
Total	29	0.021727			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	0.101947	0.021025	4.848746	0.000042	0.058878	0.145015
Credit Rating	-0.004705	0.004169	-1.128632	0.268631	-0.013245	0.003835

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]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	S&P Issuer Credit Rating	Numeric Credit Score
		Dividend Yield	Expected Dividend Yield	Yahoo Earnings Growth	Reuters Earnings Growth	Zacks Earnings Growth	Average Earnings Growth	Mean ROE			
ALLETE, Inc.	ALE	3.60%	3.69%	5.00%	5.00%	5.50%	5.17%	8.86%	BBB+	5	
Alliant Energy Corporation	LNT	3.20%	3.30%	6.60%	6.60%	6.10%	6.43%	9.74%	A-	4	
Ameren Corporation	AEE	3.60%	3.70%	5.60%	5.60%	6.10%	5.77%	9.47%	BBB+	5	
American Electric Power Company, Inc.	AEP	3.70%	3.76%	1.90%	1.90%	5.40%	3.07%	6.82%	BBB	6	
Avista Corporation	AVA	3.40%	3.49%	5.70%	NA	5.30%	5.50%	8.99%	BBB	6	
Black Hills Corporation	BKH	2.80%	2.89%	6.70%	6.70%	5.80%	6.40%	9.29%	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	3.60%	3.64%	2.10%	2.10%	2.80%	2.33%	5.98%	A-	4	
Dominion Resources, Inc.	D	3.80%	3.91%	5.80%	5.80%	5.90%	5.83%	9.74%	BBB+	5	
DTE Energy Company	DTE	3.60%	3.70%	5.60%	5.60%	5.80%	5.67%	9.37%	BBB+	5	
Duke Energy Corporation	DUK	4.30%	4.38%	3.50%	3.50%	4.70%	3.90%	8.28%	A-	4	
Edison International	EIX	2.70%	2.74%	1.90%	1.90%	5.30%	3.03%	5.77%	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%	4.44%	-8.30%	-8.30%	-4.80%	-7.13%	-2.70%	BBB	6	
Eversource Energy	ES	3.20%	3.30%	6.30%	6.30%	6.10%	6.23%	9.53%	A	3	
FirstEnergy Corp.	FE	4.30%	4.22%	-5.30%	-5.30%	-0.40%	-3.67%	0.55%	BBB-	7	
IDACORP, Inc.	IDA	2.90%	2.96%	4.10%	4.10%	4.40%	4.20%	7.16%	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%	3.48%	4.50%	4.50%	5.00%	4.67%	8.15%	BBB	6	
OGE Energy Corp.	OGE	4.00%	4.09%	4.00%	4.00%	5.20%	4.40%	8.49%	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%	5.60%	5.60%	4.30%	5.17%	8.45%	BBB	6	
Pinnacle West Capital Corporation	PNW	3.50%	3.58%	4.50%	4.50%	4.50%	4.50%	8.08%	A-	4	
PNM Resources, Inc.	PNM	2.70%	2.79%	6.90%	6.90%	6.80%	6.87%	9.66%	BBB+	5	
Portland General Electric Company	POR	3.10%	3.20%	6.20%	6.20%	6.20%	6.20%	9.40%	BBB	6	
PPL Corporation	PPL	4.20%	4.26%	2.40%	2.40%	3.50%	2.77%	7.02%	A-	4	
SCANA Corporation	SCG	3.30%	3.40%	6.30%	6.50%	5.50%	6.10%	9.50%	BBB+	5	
Southern Company	SO	4.40%	4.48%	3.30%	3.80%	3.90%	3.67%	8.15%	A-	4	
WEC Energy Group, Inc.	WEC	3.30%	3.41%	7.00%	6.80%	6.20%	6.67%	10.08%	A-	4	
Xcel Energy Inc.	XEL	3.30%	3.39%	5.70%	5.30%	5.40%	5.47%	8.86%	A-	4	
PROXY GROUP MEAN		3.46%	3.53%	4.26%	4.05%	4.70%	4.40%	7.93%	BBB+	4.9	
PROXY GROUP MEDIAN		3.40%	3.49%	5.60%	5.15%	5.35%	5.32%	8.72%	BBB+	5.0	

REGRESSION OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.206105
R Square	0.042479
Adjusted R Square	0.008282
Standard Error	0.027557
Observations	30

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Signif. F</i>
Regression	1	0.000943	0.000943	1.242181	0.274527
Residual	28	0.021263	0.000759		
Total	29	0.022207			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	0.102301	0.021268	4.810109	0.000047	0.058735	0.145866
Credit Rating	-0.0047	0.004217	-1.114532	0.274527	-0.013339	0.003938

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

Analysis Using Gorman'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%	7.68%	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%	6.63%	4.84%		7.26%	4.65%	
1999	10.77%	5.87%	4.90%	6.33%	5.03%		7.00%	4.68%	
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: Schedule 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%	4.48%		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: Schedule 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
Treasury Yield	-0.464047	0.019372	-23.955079	0.000000	-0.503944	-0.424151	-0.503944	-0.424151

[1]	[2]	[3]
Risk-Free Rate	Risk Premium	ROE
3.40%	6.48%	9.88%

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
Utility Bond Yield	-0.456325	0.019094	-23.899441	0.000000	-0.495649	-0.417001	-0.495649	-0.417001

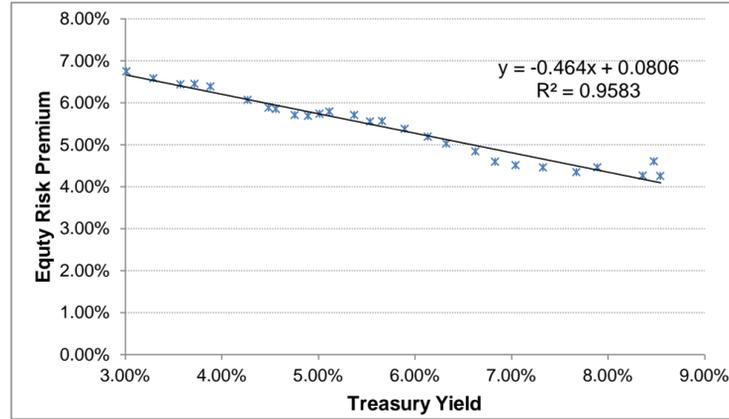
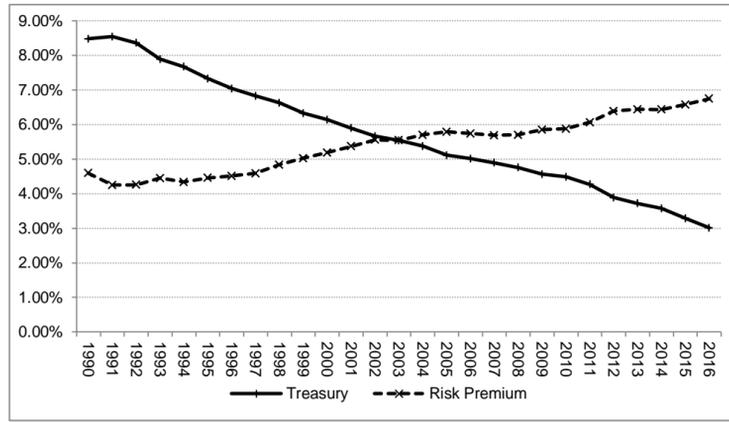
[1]	[2]	[3]
Risk-Free Rate	Risk Premium	ROE
4.38%	5.27%	9.65%

Notes:

[1] Source: Direct Testimony of Michael P. Gorman, at 45-46.

[2] Equals [1] x Yield Coefficient + Intercept

[3] Equals [1] + [2]



Analysis Using Mr. Gorman'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%	3.80%	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%

Source: Schedules 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	$(e_t - e_{(t-1)})^2$	$(e_t)^2$
1	0.045359716	0.015956951		
2	0.041877041	0.002222959	0.00019	0.00000
3	0.040187684	-0.001879351	0.00002	0.00000
4	0.042459962	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	-0.002589586	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	0.065223586	-0.001123586	0.00000	0.00000
30	0.067447597	0.00014407	0.00000	0.00000
31	0.068877053	0.002322947	0.00000	0.00001

		0.00061	0.00024
	Durbin-Watson	2.58575	
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	$(e_t - e_{(t-1)})^2$	$(e_t)^2$
1	0.029601947	0.013898053		
2	0.027250667	0.001649333	0.00015	0.00000
3	0.025487207	-0.002487207	0.00002	0.00001
4	0.028742826	0.003257174	0.00003	0.00001
5	0.028335873	6.41268E-05	0.00001	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	0.045065758	0.000833409	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	0.001363465	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	4-dU
dU		1.274	2.853	2.726
DW>2	TRUE			
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	$(e_t - e_{(t-1)})^2$	$(e_t)^2$
1	0.046915427	0.014401239		
2	0.042439478	0.001660522	0.00016	0.00000
3	0.040795339	-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	-0.003258845	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	0.004480536	0.00001	0.00002
28	0.063369168	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	4-dU
dU		1.345	2.915	2.655
DW>2	TRUE			
DW<4-dU	TRUE	No Autocorrelation		

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

Description	Retail		S&P Benchmark (Medial Volatility)			Reference
	Cost of Service	Amount	Intermediate	Significant	Aggressive	
	(1)	(1)	(2)	(3)	(4)	
Rate Base	\$	7,195,256				Schedule LMM-15.
Weighted Common Return		4.77%				Page 2, Line 3, Col 4.
Pre-Tax Rate of Return		10.30%				Page 2, Line 4, Col 5.
Income to Common	\$	342,897				Line 1 x Line 2.
EBIT	\$	741,160				Line 1 x Line 3.
Depreciation & Amortization	\$	532,300				Schedule LMM-12.
Imputed Amortization	\$	6,887				S&P Capital IQ, downloaded on December 2, 2016.
Deferred Income Taxes & ITC	\$	(5,915)				Schedule LMM-14.
Funds from Operations (FFO)	\$	876,169				Sum of Line 4 and Lines 6 through 8.
Imputed & Capitalized Interest Expense	\$	16,613				S&P Capital IQ, downloaded on December 2, 2016.
EBITDA	\$	1,296,960				Sum of Lines 5 through 7 and Line 10.
Total Debt Ratio		47.6%				Page 3, Line 3, Col. 2
Debt to EBITDA		2.64x	2.5x - 3.5x	3.5x - 4.5x	4.5x - 5.5x	(Line 1 x Line 12) / Line 11.
FFO to Total Debt		25.58%	23% - 35%	13% - 23%	9% - 13%	Line 9 / (Line 1 x Line 12).

Gorman's Financial Integrity Analysis, ROE of 9.90%

Description	Retail		S&P Benchmark (Medial Volatility)			Reference
	Cost of Service	Amount	Intermediate	Significant	Aggressive	
	(1)	(1)	(2)	(3)	(4)	
Rate Base	\$	7,195,256				Schedule LMM-15.
Weighted Common Return		5.13%				Page 2, Line 3, Col 4.
Pre-Tax Rate of Return		10.89%				Page 2, Line 4, Col 5.
Income to Common	\$	368,987				Line 1 x Line 2.
EBIT	\$	783,251				Line 1 x Line 3.
Depreciation & Amortization	\$	532,300				Schedule LMM-12.
Imputed Amortization	\$	6,887				S&P Capital IQ, downloaded on December 2, 2016.
Deferred Income Taxes & ITC	\$	(5,915)				Schedule LMM-14.
Funds from Operations (FFO)	\$	902,259				Sum of Line 4 and Lines 6 through 8.
Imputed Interest Expense	\$	16,613				S&P Capital IQ, downloaded on December 2, 2016.
EBITDA	\$	1,339,051				Sum of Lines 5 through 7 and Line 10.
Total Debt Ratio		47.6%				Page 3, Line 3, Col. 2
Debt to EBITDA		2.56x	2.5x - 3.5x	3.5x - 4.5x	4.5x - 5.5x	(Line 1 x Line 12) / Line 11.
FFO to Total Debt		26.34%	23% - 35%	13% - 23%	9% - 13%	Line 9 / (Line 1 x Line 12).

Gorman's Financial Integrity Analysis, ROE of 6.83%

Description	Retail		S&P Benchmark (Medial Volatility)			Reference
	Cost of Service	Amount	Intermediate	Significant	Aggressive	
	(1)	(1)	(2)	(3)	(4)	
Rate Base	\$	7,195,256				Schedule LMM-15.
Weighted Common Return		3.54%				Page 2, Line 3, Col 4.
Pre-Tax Rate of Return		8.32%				Page 2, Line 4, Col 5.
Income to Common	\$	254,465				Line 1 x Line 2.
EBIT	\$	598,491				Line 1 x Line 3.
Depreciation & Amortization	\$	532,300				Schedule LMM-12.
Imputed Amortization	\$	6,887				S&P Capital IQ, downloaded on December 2, 2016.
Deferred Income Taxes & ITC	\$	(5,915)				Schedule LMM-14.
Funds from Operations (FFO)	\$	787,737				Sum of Line 4 and Lines 6 through 8.
Imputed Interest Expense	\$	16,613				S&P Capital IQ, downloaded on December 2, 2016.
EBITDA	\$	1,154,291				Sum of Lines 5 through 7 and Line 10.
Total Debt Ratio		47.6%				Page 3, Line 3, Col. 2
Debt to EBITDA		2.97x	2.5x - 3.5x	3.5x - 4.5x	4.5x - 5.5x	(Line 1 x Line 12) / Line 11.
FFO to Total Debt		23.00%	23% - 35%	13% - 23%	9% - 13%	Line 9 / (Line 1 x Line 12).

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