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MISSOURI PUBLIC SERVICE COMMISSION

CASE NOS.: ER-2018-0145 and ER-2018-0145

REBUTTAL TESTIMONY

OF

ROBERT B. HEVERT

ON BEHALF OF

**KANSAS CITY POWER & LIGHT COMPANY and
KCP&L GREATER MISSOURI OPERATIONS COMPANY**

**Kansas City, Missouri
July 2018**

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GLOSSARY OF FREQUENTLY USED TERMS

TERM	DESCRIPTION
Beta Coefficient	A component of the CAPM that measures the risk of a given stock relative to the risk of the overall market.
Capital Asset Pricing Model (“CAPM”)	A risk premium-based model used to estimate the Cost of Equity, assuming the stock is added to a well-diversified portfolio. The CAPM assumes that investors are compensated for the time value of money (represented by the Risk-Free Rate), and risk (represented by the combination of the Beta Coefficient and the Market Risk Premium).
Constant Growth DCF Model	A form of the DCF model that assumes cash flows will grow at a constant rate, in perpetuity. The model simplifies to a form that expresses the Cost of Equity as the sum of the expected dividend yield and the expected growth rate.
Cost of Equity	The return required by investors to invest in equity securities. The terms “Return on Equity” and “Cost of Equity” are used interchangeably.
Discounted Cash Flow (“DCF”) Model	A model used to estimate the Cost of Equity based on expected cash flows. The Cost of Equity equals the discount rate that sets the current market price equal to the present value of expected cash flows.
Dividend Yield	For a given stock, the current dividend divided by the current market price.
Gross Domestic Product (“GDP”)	The value of all finished goods and services produced within a country during a given period of time (usually measured annually). GDP includes public and private consumption, government expenditures, investments, and exports less imports.
Market Return	The expected return on the equity market, taken as a portfolio.
Market Risk Premium	The additional compensation required by investing in the equity market as a portfolio over the Risk-Free rate. The Market Risk Premium is a component of the CAPM.
Multi-Stage DCF Model	A form of the DCF model in which the rate of growth may change over different stages.
Proxy Group	A group of publicly traded companies used as the “proxy” for the subject company (in this case, KCP&L). Proxy companies are sometimes referred to as “Comparable Companies.”

TERM	DESCRIPTION
Return on Equity (“ROE”)	The return required by investors to invest in equity securities. The terms “Return on Equity” and “Cost of Equity” are used interchangeably.
Risk-Free Rate	The rate of return on an asset with no risk of default.
Risk Premium	The additional compensation required by investors for taking on additional increments of risk. Risk Premium-based approaches are used in addition to the DCF and CAPM to estimate the Cost of Equity.
Terminal Growth	The expected rate of growth in the final, or terminal, stage of the Multi-Stage DCF model.
Treasury Inflation Protected Securities (“TIPS”)	Treasury securities that are indexed to inflation. The principal value of TIPS increase with inflation and decrease with deflation, as measured by the Consumer Price Index.
Treasury Yield	The return on Treasury securities; the yield on long-term Treasury bonds is considered to be a measure of the Risk-Free Rate.

REBUTTAL TESTIMONY

OF

ROBERT B. HEVERT

Case Nos. ER-2018-0145 and ER-2018-0146

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

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

3 A: My name is Robert B. Hevert and my business address is ScottMadden, Inc., 1900 West
4 Park Drive, Suite 250, Westborough, MA 01581.

5 **Q: On whose behalf are you submitting this testimony?**

6 A: I am submitting this rebuttal testimony (“Rebuttal Testimony”) before the Missouri Public
7 Service Commission (“Commission”) on behalf of Kansas City Power & Light Company
8 (“KCP&L”) and KCP&L Greater Missouri Operations Company (“GMO”) (collectively,
9 the “Company”).

10 **Q: Are you the same Robert B. Hevert who filed Direct Testimony in in both ER-2018-**
11 **0145 and ER-2018-0146?**

12 A: Yes, I am.

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

14 A: My Rebuttal Testimony responds to the Revenue Requirement Cost of Service Report (the
15 “Staff Report”) submitted in this proceeding by the Missouri Public Service Commission
16 Utility Services Division (“Staff”) as it relates to the recommended Return on Equity
17 (“ROE” or “Cost of Equity”) and capital structure for the Company. Mr. Jeffrey Smith
18 presents Staff’s ROE recommendation. I also respond to the direct testimony of Mr.

1 Michael P. Gorman on behalf of Midwest Energy Consumers Group (“MECG”) as his
2 testimony relates to the Company’s ROE and capital structure. My Rebuttal Testimony
3 updates certain analyses contained in my Direct Testimony, and includes several additional
4 analyses developed in response to issues raised by both Staff and Mr. Gorman. My
5 analyses and conclusions are supported by the data presented in Schedules RBH-R-13
6 through RBH-R-25, which have been prepared by my or under my direction.

7 **Q: Please summarize the key issues and recommendations addressed in your Rebuttal**
8 **Testimony.**

9 A: In my Direct Testimony, I found the Company’s Cost of Equity to be within a range of
10 9.75 percent to 10.50 percent. As my Direct Testimony discussed, my ROE
11 recommendation considers a variety of factors, including capital market conditions in
12 general and certain risks faced by the Company. Because the application of financial
13 models and the interpretation of their results are often sources of disagreement among
14 analysts in regulatory proceedings, it is important to review and consider a variety of data
15 points; doing so enables us to put in context both quantitative analyses and the associated
16 recommendations. As such, I have updated many of the analyses contained in my Direct
17 Testimony, and have provided additional analyses in response to issues raised by Mr.
18 Gorman. As discussed throughout the balance of my Rebuttal Testimony, those analyses
19 continue to support my ROE range and recommendation.

20 Lastly, I find that the Company’s updated proposed capital structures, consisting of
21 49.09 percent common equity and 50.91 percent long-term debt for KCP&L and 51.75
22 percent common equity and 48.25 percent long-term debt for GMO, continue to be

1 consistent with industry practice and reasonable relative to its peers.¹ As described in my
2 response to Mr. Gorman, the updated capital structure for GMO includes an adjustment to
3 the common equity balance to reflect goodwill.

4 **Q: Have you updated the analyses contained in your Direct Testimony?**

5 A: Yes, I have updated the Constant Growth and Multi-Stage forms of the DCF model,
6 CAPM, and Bond Yield Risk Premium analyses based on data through June 15, 2018, and
7 applied those analyses to my updated proxy group, which now excludes Dominion
8 Resources, Inc. (“Dominion”). On January 3, 2018, Dominion Resources announced its
9 proposed acquisition of SCANA Corporation (“SCANA”).² Because Dominion no longer
10 meets my screening criteria,³ I have removed it from the proxy group used in my updated
11 analyses.

12 In addition, my updated proxy group includes Avangrid, Inc. (“Avangrid”) and
13 NextEra Energy, Inc. (“NextEra”). As of February 16, 2018, *Value Line* provides Beta
14 coefficients for Avangrid and, as such, that company now meets my criteria for inclusion
15 in the proxy group. Regarding NextEra, the proposed purchase of Gulf Power Company
16 and Florida City Gas from Southern Company (“Southern”) is not transformational to
17 either the buyer or seller, either in terms of relative market capitalization or operations.
18 Consequently, I have included both NextEra and Southern in my updated proxy group.

19 The updated proxy group is similar to the group used by Mr. Gorman, with three
20 exceptions.⁴ Like my updated proxy group, Mr. Gorman removes Dominion based on the
21 proposed acquisition of SCANA. However, Mr. Gorman excludes Southern due to its

¹ See Schedule RBH-19.

² Dominion Energy, Inc., SEC Form 8-K, January 2, 2018.

³ Direct Testimony of Robert B. Hevert at 13-14.

⁴ Direct Testimony of Michael P. Gorman at 33-34.

1 planned divestitures of Gulf Power Company and Florida City Gas. In addition, Mr.
2 Gorman does not include either Avangrid or NextEra.⁵

3 **Q: Please provide an overview of your response to Mr. Smith.**

4 A: Although, I disagree with certain of Mr. Smith’s analyses and conclusions, the high end of
5 his recommended range of 9.00 percent to 10.00 percent overlaps with the low end of my
6 recommended range of 9.75 percent to 10.50 percent.⁶ In addition, his recommended ROE
7 of 9.85 percent is consistent with the Company’s proposed ROE of 9.85 percent.⁷
8 Regarding GMO’s capital structure, I disagree with Mr. Smith’s proposed removal of
9 approximately \$356 million from the equity balance. As explained in greater detail by
10 Company witness Darrin Ives, the \$351.6 million balance cited by Staff did not accurately
11 reflect the resultant goodwill recorded from Great Plains Energy Incorporated’s (“GPE”)
12 acquisition of Aquila, Inc. Consequently, the \$351.6 million balance should not be used
13 as the basis of the proposed adjustment.

14 **Q: Please provide an overview of your response to Mr. Gorman.**

15 A: Mr. Gorman recommends an ROE of 9.30 percent, which falls at the midpoint of his
16 estimated range of 9.10 percent to 9.50 percent.⁸ Mr. Gorman suggests his
17 recommendation is supported by “observable market evidence,” Federal monetary policy,
18 “an assessment of the current risk premium built into current market securities, and a
19 general assessment of the current investment risk characteristics of the electric utility
20 industry and the market’s demand for utility securities.”⁹ As discussed throughout my

⁵ *Ibid.*

⁶ Staff Revenue Requirement Cost of Service Report at 4; and Direct Testimony of Robert B. Hevert at 3.

⁷ Staff Revenue Requirement Cost of Service Report at 4; and Direct Testimony of Robert B. Hevert at 68.

⁸ Direct Testimony of Michael P. Gorman at 2-3 and 62.

⁹ *Ibid.* at 62.

1 Rebuttal Testimony, I disagree with several of Mr. Gorman’s assessments, and his
2 conclusion that 9.30 percent is a reasonable estimate of the Company’s Cost of Equity.

3 With regard to the Company’s capital structure, I agree with Mr. Gorman’s
4 proposed adjustment to remove approximately \$169 million from GMO’s equity balance,
5 although for different reasons.

6 **Q: Do you agree with Mr. Gorman’s assessment of recent trends of authorized returns?**

7 A: No, I do not. At pages 10-11 of his testimony (Figure 1), Mr. Gorman refers to annual
8 average authorized returns since 2006. As discussed more fully in Section III (below),
9 twelve-year trends in annual authorized returns are not particularly meaningful, given the
10 financial crisis of 2008-09. Rather, recent trends in individual cases provide more relevant
11 information. On that basis, there is no discernible downward trend, contrary to Mr.
12 Gorman’s suggestion. In short, neither recently authorized returns nor changes in capital
13 market conditions support Mr. Gorman’s view that the Cost of Equity has fallen since May
14 3, 2017.

15 **Q: How has Federal Reserve monetary policy changed since the Commission’s May 3,
16 2017 Order in Case No. ER-2016-0285?**

17 A: The Federal Reserve has continued to move forward on its path of policy
18 “normalization,”¹⁰ raising the Federal Funds rate four times since the Commission issued
19 its order in that docket,¹¹ such that the top end of the Federal Funds target rate is 100 basis

¹⁰ Normalization refers to the removal of the extraordinary monetary policy initiatives adopted in response to the 2008-2009 financial crisis. The Federal Reserve has stated that the two main components of its policy normalization will be “gradually raising its target range for the federal funds rate to more normal levels and gradually reducing the Federal Reserve’s securities holdings.” See <https://www.federalreserve.gov/monetarypolicy/policy-normalization.htm>.

¹¹ The Federal Reserve increased the target Federal Funds rate 100 basis points over the past twelve months, with increases of 25 basis points on June 14, 2017, December 13, 2017, March 21, 2018, and June 13, 2018, respectively.

1 points higher than it had been (1.00 percent to 2.00 percent). In October 2017, the Federal
2 Reserve initiated its balance sheet normalization program that includes gradual reductions
3 to its security holdings by decreasing its reinvestment activities.¹² In a press conference
4 following the June 2018 Federal Open Market Committee meeting, Chairman Powell
5 discussed the recent increases in the Federal Funds rate and expectations for continued rate
6 increases, noting a strong labor market and increases in household spending and business
7 fixed investment.¹³

8 **Q: Are there other capital market developments that call into question Mr. Gorman's**
9 **position that the Cost of Equity has fallen since the Commission issued its Order in**
10 **the Company's last case?**

11 A: Yes, there are. As discussed in my Direct Testimony, on December 22, 2017, the President
12 signed into law the "Tax Cuts and Jobs Act" ("TCJA"). Leading up to and subsequent to
13 the signing of the TCJA, utilities underperformed the market, which resulted in higher
14 dividend yields, as rating agencies and investors re-evaluated utilities relative to other
15 market sectors. To the extent investors now view utilities as less attractive relative to other
16 sectors, investors will require a higher return to remain invested in the proxy companies.
17 As that occurs, the proxy companies' prices will fall, and their dividend yields will
18 increase. Because rating agencies have begun to discuss the consequences of the TCJA for
19 utilities' cash flow, we reasonably can assume equity investors also have begun to
20 recognize those concerns.¹⁴

¹² *Ibid.*, and Federal Open Market Committee ("FOMC") Press Release, June 14, 2017.

¹³ Transcript of Chairman Powell's Press Conference, June 13, 2018.

¹⁴ Direct Testimony of Robert B. Hevert at 62-67.

1 **Q: Has Moody's recently updated its review of the utility sector?**

2 A: Yes. On June 18, 2018 Moody's changed its outlook on the U.S. regulated utility sector to
3 "negative" from "stable". Moody's explained that its change in outlook "...primarily
4 reflects a degradation in key financial credit ratios, specifically the ratio of cash flow from
5 operations to debt, funds from operations (FFO) to debt and retained cash flow to debt, as
6 well as certain book leverage ratios."¹⁵ The sector's outlook could remain "negative" if
7 cash flow-based metrics continue to decline, or if there emerge signs of a more
8 "contentious" regulatory environment (which, Moody's notes, is not fully reflected in
9 lower authorized returns). Moody's also noted that "[m]anagement teams' defensive
10 efforts and a few initial signs of supportive regulatory responses to tax reform are important
11 first steps in addressing the sector's increased financial risk," and explained that in its view,
12 "it will take longer than 12-18 months for the sector to exhibit a material financial
13 improvement from these actions."¹⁶

14 **Q: What conclusions do you draw from the data and information discussed above?**

15 A: As discussed in my Direct Testimony, there is little question the TCJA has increased cash
16 flow-related risks and the potentially dilutive effects of additional equity issuances for
17 utilities. Those risks are reflected in the sector's recent underperformance relative to the
18 broad market and in the comments of financial participants such as Moody's, Standard &
19 Poor's, and FitchRatings.¹⁷ Further, because non-regulated companies may benefit from
20 the TCJA in ways utilities cannot, it is reasonable to conclude investors have begun to see
21 utilities as less attractive relative to other industry sectors. In addition, to the extent the

¹⁵ Moody's Investors Service, *Announcement: Moody's changes the US regulated utility sector outlook to negative from stable*, June 18, 2018.

¹⁶ *Ibid.*

¹⁷ Direct Testimony of Robert B. Hevert at 67.

1 TCJA accelerates economic growth and inflation, and increases the potential for widening
2 federal budget deficits, investors may see further reason to expect increasing interest
3 rates.¹⁸ Because all three effects weigh against utilities, we should focus on the upper end
4 of the range of analytical results. We cannot conclude that the TCJA, together with other
5 changes in the capital market discussed throughout my Rebuttal Testimony, has caused the
6 Company's Cost of Equity to fall below its currently authorized ROE of 9.50 percent, as
7 Mr. Gorman's recommendation suggests.

II. RESPONSE TO TESTIMONY OF STAFF WITNESS SMITH

8 **Q: Please briefly summarize Staff's recommendation regarding the Company's Cost of**
9 **Equity.**

10 A: Staff, through its witness Mr. Smith, recommends an ROE of 9.85 percent, within a range
11 of 9.00 percent to 10.00 percent.¹⁹ Mr. Smith estimates the ROE using the Constant
12 Growth and Multi-Stage forms Discount Cash Flow ("DCF") model, the Capital Asset
13 Pricing Model ("CAPM"), a "Rule of Thumb" method, and recently authorized returns for
14 electric utilities.²⁰ Mr. Smith also considers recently authorized returns for the Company
15 and other utilities in Missouri and current market conditions, including the effect of the
16 TCJA.²¹ Mr. Smith also performs a relative analysis, comparing the results of certain of
17 his analyses over two time periods: (1) as of a period "coinciding with KCPL's 2016
18 electric rate case"; and (2) current data.²²

¹⁸ *Blue Chip Financial Forecasts*, July 1, 2018 at 1.

¹⁹ Staff Revenue Requirement Cost of Service Report, at 4.

²⁰ Staff Revenue Requirement Cost of Service Report, Appendix 2, Detailed Direct Testimony of Jeffrey Smith at 24-33.

²¹ *Ibid.* at 5-13.

²² *Ibid.* at 27.

1 **Q: Do you have any observations regarding Mr. Smith's recommendation?**

2 A: Although I do not believe the low end of Mr. Smith's recommended range is a reasonable
3 estimate of the Company's ROE, I recognize that our ranges overlap (I continue to
4 recommend a range of 9.75 percent to 10.50 percent). I also note that Mr. Smith's point
5 estimate of 9.85 percent is equal to the Company's proposed ROE. Although I do not
6 entirely agree with Mr. Smith's application of certain models, our recommended ranges do
7 overlap.

8 **Q: What are the specific areas in which you disagree with Mr. Smith's analyses?**

9 A: The areas in which I disagree with Mr. Smith's analyses include:

- 10 1. The range of growth rates Mr. Smith relies on for his Constant Growth DCF
11 analyses;
- 12 2. The application and structure of Mr. Smith's Multi-Stage DCF model;
- 13 3. Mr. Smith's application of the CAPM and the relevance of those results in
14 estimating the Cost of Equity;
- 15 4. Mr. Smith's "rule of thumb" analysis; and
- 16 5. An adjustment to GMO's capital structure due to goodwill.

17 I discuss each of those in turn, below.

18 **A. *Application of the Constant Growth DCF Model***

19 **Q: Please summarize your concern with the growth rates used in Staff's DCF analysis.**

20 A: Whereas my DCF analysis relies on analysts' consensus earnings growth projections, Mr.
21 Smith's analysis reflects historical and projected growth in dividends per share ("DPS"),
22 book value per share ("BVPS"), and earnings per share ("EPS"). Mr. Smith observes the
23 consensus EPS growth estimates (provided by SNL Financial) average 4.91 percent for his

1 proxy group,²³ and argues they are not reliable relative to Staff's "high-end" estimate of
2 long-term GDP growth (approximately 4.60 percent).²⁴

3 **Q: Before discussing Mr. Smith's analysis, what is the relevance of expected growth rates**
4 **in the DCF model?**

5 A: As discussed in my Direct Testimony at page 17, the Constant Growth DCF model assumes
6 the current price of a share of stock represents the present value of the expected cash flows
7 associated with owning that stock. The expected cash flows include the dividends received
8 during the period in which the stock is held, and the price at which the stock eventually is
9 sold. The Cost of Equity is the discount rate that sets the current price equal to the present
10 value of the expected cash flows.

11 Because both dividends and stock prices are determined by earnings, analysts'
12 consensus growth rates are the proper measure of growth for the Constant Growth DCF
13 model. As discussed in more detail below, there is long-standing academic support for the
14 use of earnings growth projections because they have a statistically meaningful relationship
15 to utility stock prices. In summary, growth rates are important inputs to DCF analyses, and
16 analysts' earnings growth rate projections are the appropriate measure of expected growth.
17 Other measures, such as those proposed by Mr. Smith, often have the effect of
18 unreasonably reducing ROE estimates.

²³ Staff Revenue Requirement Cost of Service Report, Appendix 2, Detailed Direct Testimony of Jeffrey Smith at 26.

²⁴ *Ibid.*

1 **Q: Why does Mr. Smith express concern with the use of analysts' forecasts of EPS**
2 **growth in his Constant Growth DCF model?**

3 A: Mr. Smith asserts that because they are higher than his 4.60 percent high-end GDP growth
4 estimate, analysts' growth rate projections are "suspect."²⁵ In particular, Mr. Smith
5 observes that companies in the S&P 500 recently have retained approximately 58.00
6 percent of their earnings, whereas electric utilities recently have retained less than half of
7 that proportion.²⁶

8 **Q: Do you agree with Mr. Smith's assessment of alternative growth rates for his**
9 **Constant Growth DCF model?**

10 A: No, I do not. It is important to realize that earnings growth enables both dividend and book
11 value growth.²⁷ Corporate decisions to manage the dividend payout ratio for the purpose
12 of minimizing future dividend reductions or to signal future earnings prospects can
13 influence dividend growth rates in near-term periods in a manner that is disproportionate
14 to earnings growth. Similarly, book value can increase over time only through the addition
15 of retained earnings or with the issuance of new equity, both of which are determined by
16 earnings.

17 Mr. Smith's reference to dividend and book value growth rates also is misplaced
18 because the only scenario in which dividend growth rates and book value growth rates are
19 relevant is when the fundamental assumptions underlying the Constant Growth DCF model
20 precisely hold. Because investors tend to value common equity on the basis of P/E ratios,

²⁵ *Ibid.*

²⁶ *Ibid.*

²⁷ Direct Testimony of Robert B. Hevert at 19.

1 the investor-required ROE is a function of expected growth in earnings, not dividends or
2 book value.

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

5 A: Yes, it is. The relationship between various growth rates and stock valuation metrics has
6 been the subject of much academic research.²⁸ As noted over 40 years ago by Charles
7 Phillips in The Economics of Regulation:

8 For many years, it was thought that investors bought utility stocks largely
9 on the basis of dividends. More recently, however, studies indicate that the
10 market is valuing utility stocks with reference to total per share earnings, so
11 that the earnings-price ratio has assumed increased emphasis in rate cases.²⁹

12 Subsequent academic research has clearly and consistently indicated that measures of
13 earnings and cash flow are strongly related to returns, and that analysts' forecasts of growth
14 are superior to other measures of growth in predicting stock prices.³⁰ For example, Vander
15 Weide and Carleton state that, "[our] results ... are consistent with the hypothesis that
16 investors use analysts' forecasts, rather than historically oriented growth calculations, in
17 making stock buy-and-sell decisions."³¹ Other research specifically notes the importance
18 of analysts' growth estimates in determining the Cost of Equity, and in the valuation of
19 equity securities. Dr. Robert Harris noted that "a growing body of knowledge shows that

²⁸ See Harris, Robert, *Using Analysts' Growth Forecasts to Estimate Shareholder Required Rate of Return*, Financial Management (Spring 1986).

²⁹ Charles F. Phillips, Jr., The Economics of Regulation at 285 (Rev. ed. 1969).

³⁰ See Christofi, Christofi, Lori and Moliver, *Evaluating Common Stocks Using Value Line's Projected Cash Flows and Implied Growth Rate*, Journal of Investing (Spring 1999); Harris and Marston, *Estimating Shareholder Risk Premia Using Analysts' Growth Forecasts*, Financial Management, 21 (Summer 1992); and Vander Weide and Carleton, *Investor Growth Expectations: Analysts vs. History*, The Journal of Portfolio Management (Spring 1988).

³¹ *Ibid.*

1 analysts' earnings forecast are indeed reflected in stock prices.”³² Citing Cragg and
2 Malkiel, Dr. Harris notes that those authors “found that the evaluations of companies that
3 analysts make are the sorts of ones on which market valuation is based.”³³ Similarly,
4 Brigham, Shome, and Vinson noted that “evidence in the current literature indicates that
5 (i) analysts' forecasts are superior to forecasts based solely on time series data; and (ii)
6 investors do rely on analysts' forecasts.”³⁴

7 In addition to the studies presented above, there have been other peer reviewed,
8 published articles that specifically support the use of analysts' earnings growth projections
9 in the DCF model.³⁵

10 ***B. Application of the Multi-Stage DCF Model***

11 **Q: Please describe Mr. Smith's Multi-Stage DCF model.**

12 A: Mr. Smith notes that the results of the Multi-Stage DCF model are used “as a relative
13 measure, instead of an absolute measure.”³⁶ That is, Mr. Smith compares the current results
14 of his Multi-Stage DCF model to those “using data from KCPL's last rate case,” which
15 implies that the ROE has increased approximately 25 basis points since the Company's
16 most recent rate case.³⁷

³² Robert S. Harris, *Using Analysts' Growth Forecasts to Estimate Shareholder Required Rate of Return*, Financial Management (Spring 1986).

³³ *Ibid.*

³⁴ Eugene F. Brigham, Dilip K. Shome, and Steve R. Vinson, *The Risk Premium Approach to Measuring a Utility's Cost of Equity*, Financial Management (Spring 1985).

³⁵ Robert S. Harris, *Using Analysts' Growth Forecasts to Estimate Shareholder Required Rates of Return*, Financial Management, 1986; Robert S. Harris, Felicia C. Marston, *Estimating Shareholder Risk Premia Using Analysts' Growth Forecasts*, Financial Management, Summer 1992 at 63; and Advanced Research Center, *Investor Growth Expectations*, Summer, 2004.

³⁶ Staff Revenue Requirement Cost of Service Report, Appendix 2, Detailed Direct Testimony of Jeffrey Smith at 28.

³⁷ *Ibid.* at 29.

1 **Q: What are your observations regarding Mr. Smith’s Multi-Stage DCF model?**

2 A: Although I do not agree with certain inputs and assumptions in Mr. Smith’s Multi-Stage
3 DCF model I understand he did not rely on its results, other than to assess changes in them
4 since KCP&L’s last rate case. From that perspective, I agree that the analysis suggests the
5 ROE has increased since the Company’s last rate case. As such, to limit the scope of
6 contested issues, I will not discuss my specific concerns with Mr. Smith’s Multi-Stage DCF
7 model.

8 **C. Capital Asset Pricing Model**

9 **Q: Please briefly describe Mr. Smith’s CAPM analyses.**

10 A: His CAPM analyses assume a risk-free rate of 3.10 percent, an average calculated Beta
11 coefficient of 0.64 for his proxy group, and historical Market Risk Premium (“MRP”)
12 estimates of 6.10 percent (using the long-term arithmetic mean) and 4.70 percent (using
13 the long-term geometric mean).³⁸ Based on those inputs, Mr. Smith’s CAPM calculations
14 produce Cost of Equity estimates of 6.11 to 7.01 percent.³⁹

15 **Q: Do you agree with Mr. Smith’s CAPM analysis?**

16 A: No, I do not. The principal difference in our approaches is that Mr. Smith performs an
17 historical, or *ex-post* analysis, whereas I perform a forward-looking, or *ex-ante* analysis.
18 Because the purpose of this proceeding is to establish the Company’s Cost of Equity on a
19 forward-looking basis, it is important to develop a CAPM analysis that reflects investors’
20 expectations.

³⁸ *Ibid.* at 31.

³⁹ *Ibid.*

1 **Q: Before turning to the MRP, do you agree with Mr. Smith’s use of the average 30-year**
2 **Treasury yield as the risk-free rate?**

3 A: Although I agree with Mr. Smith that it is appropriate to use the current average 30-year
4 Treasury yield, I relied on both the current 30-day average 30-year Treasury yield and the
5 (near-term) projected 30-year Treasury yield as reported in the *Blue Chip Financial*
6 *Forecast*.⁴⁰

7 **Q: How did Mr. Smith calculate his MRP estimates?**

8 A: Mr. Smith cites Duff & Phelps’ 2018 SBBI Yearbook, and states he calculated his MRP
9 estimates by taking the difference between the long-term average earned return on stocks
10 and bonds from 1926 – 2017.⁴¹

11 **Q: Is it appropriate to rely exclusively on historical data in estimating the MRP, as Mr.**
12 **Smith has done?**

13 A: No, it is not. The Market Risk Premium represents the additional return required by equity
14 investors to assume the risks of owning the “market portfolio” of equity relative to long-
15 term Treasury securities. As with other elements of Cost of Equity analyses, the MRP is
16 meant to be a forward-looking parameter. Simply relying on the historical MRP may
17 produce results that are inconsistent with investor sentiment and current conditions in
18 capital markets. For example, Morningstar observes:

19 It is important to note that the expected equity risk premium, as it is used in
20 discount rates and cost of capital analysis, is a forward-looking concept.
21 That is, the equity risk premium that is used in the discount rate should be
22 reflective of what investors think the risk premium will be going forward.⁴²

⁴⁰ Direct Testimony of Robert B. Hevert, Schedule RBH-5.

⁴¹ Staff Revenue Requirement Cost of Service Report, Appendix 2, Detailed Direct Testimony of Jeffrey Smith at 31.

⁴² Morningstar, Inc., Ibbotson Stocks, Bonds, Bills and Inflation 2013 Valuation Yearbook at 53.

1 The historical MRP, on the other hand, may not necessarily reflect investors'
2 expectations or, for that matter, the relationship between market risk and returns. The
3 relevant analytical issue in applying the CAPM is to ensure that all three components of
4 the model (*i.e.*, the risk-free rate, Beta, and the MRP) are consistent with market conditions
5 and investor expectations. Therefore, the *ex-ante* CAPM analyses are the more appropriate
6 method to estimate the Company's Cost of Equity.

7 **Q: What is the difference between the geometric and the arithmetic mean risk premium?**

8 A: The arithmetic mean is the simple average of single period rates of return, whereas the
9 geometric mean is the compound rate that equates a beginning value to its ending value.
10 The important distinction between the two methods is that the arithmetic mean assumes
11 that each periodic return is an independent observation and, therefore, incorporates
12 uncertainty in the calculation of the long-term average. The geometric mean, by contrast,
13 is a backward-looking calculation that equates a beginning value to an ending value over a
14 specific period of time. Geometric averages, therefore, provide a standardized basis of
15 review of historical performance across investments or investment managers; they do not,
16 however, reflect forward-looking uncertainty.

17 Because there is no uncertainty regarding past returns, the use of geometric
18 averages is appropriate when comparing investment performance on a retrospective basis.
19 On a prospective basis, however, uncertainty exists and should be taken into consideration
20 when developing return expectations and requirements. That is why investors and
21 researchers commonly use the arithmetic mean when estimating the risk premium over
22 historical periods for the purpose of estimating equity cost rates.

1 Lastly, investment risk or volatility is typically measured on the basis of the
2 standard deviation. The standard deviation, in turn, is a function of the arithmetic, as
3 opposed to the geometric mean. In that regard, the Beta coefficients applied in CAPM
4 analyses are derived from the standard deviation of returns.⁴³ In any case, Morningstar
5 notes that:

6 The arithmetic average equity risk premium can be demonstrated to be the
7 most appropriate when discounting future cash flows. For use as the
8 expected equity risk premium in either the CAPM or the building block
9 approach, the arithmetic mean or the simple difference of the arithmetic
10 means of the stock market returns and the riskless rates is the relevant
11 number.⁴⁴

12 Similarly, an article reviewing literature on the topic noted the following rationale
13 for using the arithmetic mean:

14 Note that the arithmetic mean, not the geometric mean is the relevant value
15 for this purpose. The quantity desired is the rate of return that investors
16 expect over the next year for the random annual rate of return on the market.
17 The arithmetic mean, or simple average, is the unbiased measure of the
18 expected value of repeated observations of a random variable, not the
19 geometric mean. ... [The] geometric mean underestimates the expected
20 annual rate of return.⁴⁵

21 **Q: Putting aside the issue of whether it is more appropriate to use the geometric or**
22 **arithmetic mean, do you have any concerns with the manner in which Mr. Smith**
23 **calculated his assumed Market Risk Premium?**

24 **A: Yes, I do. Mr. Smith's estimates are derived using the historical difference in the total**
25 **returns on stocks and bonds. According to Morningstar, however, the historical MRP is**

⁴³ Direct Testimony of Robert B. Hevert at 32.

⁴⁴ Morningstar, Inc., Ibbotson Stocks, Bonds, Bills, and Inflation 2013 Valuation Yearbook at 56.

⁴⁵ Ian Cooper, Arithmetic versus geometric mean estimators: Setting discount rates for capital budgeting, European Financial Management 2.2 at 158 (1996).

1 appropriately calculated by subtracting the *income only* portion of the government bond
2 return from the total return on large company stocks:

3 Another point to keep in mind when calculating the equity risk premium is
4 that the income return on the appropriate-horizon Treasury security, rather
5 than the total return, is used in the calculation. The total return is comprised
6 of three return components: the income return, the capital appreciation
7 return, and the reinvestment return.... The income return is thus used in the
8 estimation of the equity risk premium because it represents the truly riskless
9 portion of the return.⁴⁶

10 By subtracting the total return on government bonds from the total return on stocks,
11 Mr. Smith has understated the historical MRP by approximately 100 basis points (using
12 the arithmetic mean).⁴⁷ Based on Mr. Smith's average Beta coefficient of 0.64, the effect
13 on his mean CAPM estimate would be approximately 64 basis points. Even that correction,
14 however, produces results that are far too low to be reasonable estimates of the Company's
15 Cost of Equity.

16 **Q: What are your conclusions regarding Mr. Smith's CAPM analysis?**

17 A: As a practical matter, estimates as low as 6.11 percent have little, if any, practical meaning
18 for the purpose of determining the Company's ROE, even if only to rationalize the DCF
19 model estimates. Financial models must be applied giving due consideration to the
20 reasonableness of the inputs, assumptions, and results.

21 ***D. "Rule of Thumb" Calculation***

22 **Q: Please briefly summarize Mr. Smith's "rule of thumb" calculation.**

23 A: Mr. Smith's calculation adds a premium of 3.00 percent to 5.00 percent to the corporate
24 bond yield, as measured by KCP&L's average long-term bond yield of 4.45 percent. Based

⁴⁶ Morningstar, Inc., Ibbotson Stocks, Bonds, Bills, and Inflation 2013 Valuation Yearbook at 55.

⁴⁷ Duff & Phelps, 2018 Valuation Handbook at 3-4.

1 on that approach, Mr. Smith presents an ROE range of 7.45 to 9.45 percent.⁴⁸ Mr. Smith
2 reasons that the Cost of Equity for utilities is toward the lower end of that range, since
3 “utilities are on the low end of the risk spectrum of the general U.S. market.”⁴⁹

4 **Q: Are Mr. Smith’s conclusions reasonable?**

5 A: No, his “Rule of Thumb” approach ignores the Commission’s finding that the Equity Risk
6 Premium is inversely related to interest rates.⁵⁰ That relationship, which was demonstrated
7 with respect to long-term Treasury yields in my Direct Testimony,⁵¹ and is consistent with
8 published research,⁵² also applies to utility bond yields. As Chart 1 (below), demonstrates
9 (*see also* Schedule RBH-R-21), there is a significant, negative relationship between the
10 Moody’s Baa Utility Bond Index yield and the equity risk premium (defined by reference
11 to authorized ROEs).

⁴⁸ Staff Revenue Requirement Cost of Service Report, Appendix 2, Detailed Direct Testimony of Jeffrey Smith at 32.

⁴⁹ *Ibid.*

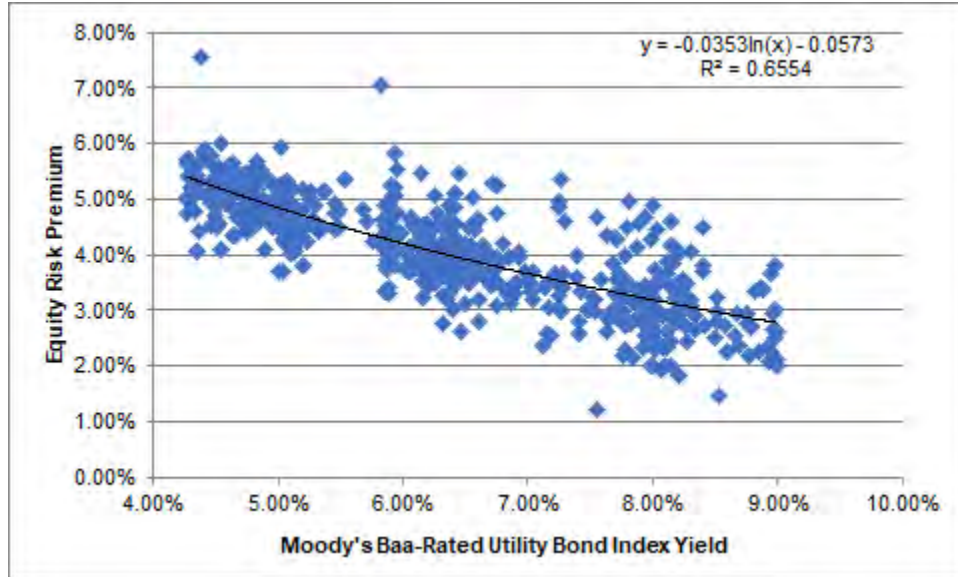
⁵⁰ Report and Order at 22, *In re Kansas City Power & Light Co.*, No. ER-2012-0174 (Jan. 9, 2013).

⁵¹ Direct Testimony of Robert B. Hevert at 39-40.

⁵² Robert S. Harris and Felicia C. Marston, *Estimating Shareholder Risk Premia Using Analysts’ Growth Forecasts*, Financial Management at 63-70 (Summer 1992); Eugene F. Brigham, Dilip K. Shome, and Steve R. Vinson, *The Risk Premium Approach to Measuring a Utility’s Cost of Equity*, Financial Management at 33-45 (Spring 1985); and 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 at 89-95 (Autumn 1995).

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Chart 1: Equity Risk Premium vs. Moody's Baa Yield



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3 Applying the 4.45 percent bond yield, noted on page 16 of the Mr. Smith's direct
 4 testimony, to the regression equation provided in Chart 1 produces a Risk Premium
 5 estimate of approximately 5.26 percent, and an ROE of 9.71 percent, well above Mr.
 6 Smith's "Rule of Thumb" estimate.⁵³

7 ***E. Capital Structure***

8 **Q: Please briefly summarize Staff's recommendation regarding the Company's capital**
 9 **structure.**

10 A: Staff recommends the Commission authorize KCP&L's proposed capital structure
 11 consisting of 49.45 percent common equity and 50.55 percent long-term debt, which
 12 reflects KCP&L's actual capital structure.⁵⁴ Staff recommends GMO adjust its common
 13 equity balance to remove a portion associated with goodwill, which would result in a

⁵³ In my response to Mr. Gorman, I provide more detail regarding the strongly supported inverse relationship between the equity risk premium and interest rates.

⁵⁴ Staff Revenue Requirement Cost of Service Report at 8-9, 12.

1 capital structure consisting of 48.15 percent common equity and 51.85 percent long-term
2 debt.⁵⁵

3 **Q: Do you agree with Staff’s proposed adjustment to GMO’s capital structure to remove**
4 **\$351.6 million associated with goodwill from the Company’s equity balance?**

5 A: No, I do not. As described more fully in the Rebuttal Testimony of Company witness
6 Darrin Ives, only a portion of the approximately \$351 million claimed by Staff reflects the
7 goodwill recorded that is related to GPE’s acquisition of Aquila, Inc. Staff appears to be
8 including a portion of goodwill contained on the balance sheet of GMO’s parent entity.
9 That entry concerns the parent entity’s ability to utilize its net operating losses (“NOLs”)
10 only in a stand-alone scenario and does not reflect the actual utilization of NOLs by the
11 Company or relate to GMO’s equity balance with regard to either the GPE/Aquila
12 transaction or Aquila’s prior purchase of St. Joseph Light & Power Company. As such, I
13 disagree with the proposed adjustment.

III. RESPONSE TO MECG WITNESS GORMAN

14 **Q: Please briefly summarize Mr. Gorman’s recommendation regarding the Company’s**
15 **Cost of Equity.**

16 A: Mr. Gorman recommends an ROE of 9.30 percent, within a range of 9.10 percent to 9.50
17 percent.⁵⁶ Mr. Gorman establishes his recommended ROE by reference to: (1) his Constant
18 Growth DCF model using consensus analyst growth rates;⁵⁷ (2) his Risk Premium estimate
19 (9.50 percent);⁵⁸ and (3) his CAPM analyses (ranging from 8.07 percent to 9.19 percent).⁵⁹

⁵⁵ *Ibid.*

⁵⁶ Direct Testimony of Michael P. Gorman at 2.

⁵⁷ *Ibid.* at 50.

⁵⁸ *Ibid.* at 55.

⁵⁹ *Ibid.* at 61.

1 In particular, Mr. Gorman's 9.30 percent recommendation represents the midpoint
2 between: (1) the low end established by his Constant Growth DCF (8.90 percent) and
3 CAPM (9.20 percent) analyses; and (2) the high end established by his Risk Premium (9.50
4 percent) analyses.⁶⁰

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

6 A: The principal analytical areas in which I disagree with Mr. Gorman include: (1) the
7 application of the Constant Growth DCF model and his interpretation of its results; (2) the
8 Market Risk Premium ("MRP") component of his CAPM analysis, in particular the
9 expected market return from which the MRP is calculated; (3) the assumptions and
10 methods underlying Mr. Gorman's Risk Premium analyses; (4) Mr. Gorman's assessment
11 of the Company's relative risk; (5) Mr. Gorman's *pro forma* analysis of the Company's
12 financial integrity; and (6) Mr. Gorman's proposed adjustment to GMO's Cost of Debt; (7)
13 Mr. Gorman's analysis of GMO's proposed capital structure.

14 **A. Constant Growth DCF Model**

15 **Q: As a preliminary matter, does Mr. Gorman give his Constant Growth DCF results**
16 **any weight in arriving at his 9.30 percent ROE recommendation?**

17 A: Yes, as noted earlier, Mr. Gorman's 9.30 percent recommendation represents the midpoint
18 of his 9.10 percent to 9.50 percent recommended range. The low end of that range (9.10
19 percent) is based on Mr. Gorman's Constant Growth DCF model result of 8.90 percent⁶¹

⁶⁰ *Ibid.* at 62.

⁶¹ *Ibid.* at 50, Table 9. Mr. Gorman relies on the results of his Analysts' Growth Constant Growth DCF results to establish an 8.90 percent DCF estimate.

1 and his CAPM result of 9.20 percent.⁶² The upper bound of that range (9.50 percent) is set
2 by reference to his Risk Premium results.⁶³

3 To arrive at his DCF-based recommendation, Mr. Gorman discards his Multi-Stage
4 DCF results (8.01 percent to 8.10 percent) and his Constant Growth DCF model results
5 based on the “Sustainable Growth” method (8.02 percent) in favor of his average Constant
6 Growth DCF results based on analysts’ growth rate projections (8.90 percent).⁶⁴ Because
7 Mr. Gorman does not rely on his Multi-Stage or Sustainable Growth DCF methods, I will
8 not comment on his application of those approaches.

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

11 A: Yes, I do. The Constant Growth DCF model is based on several underlying assumptions,
12 which together establish an offsetting relationship between expected growth and the
13 dividend yield; higher growth produces higher prices and lower dividend yields.
14 Conversely, lower growth produces lower prices and higher dividend yields. Contrary to
15 those fundamental assumptions, Mr. Gorman’s Constant Growth DCF analysis applies
16 historically high valuations (*see* Chart 2, below), but comparatively low growth rates.

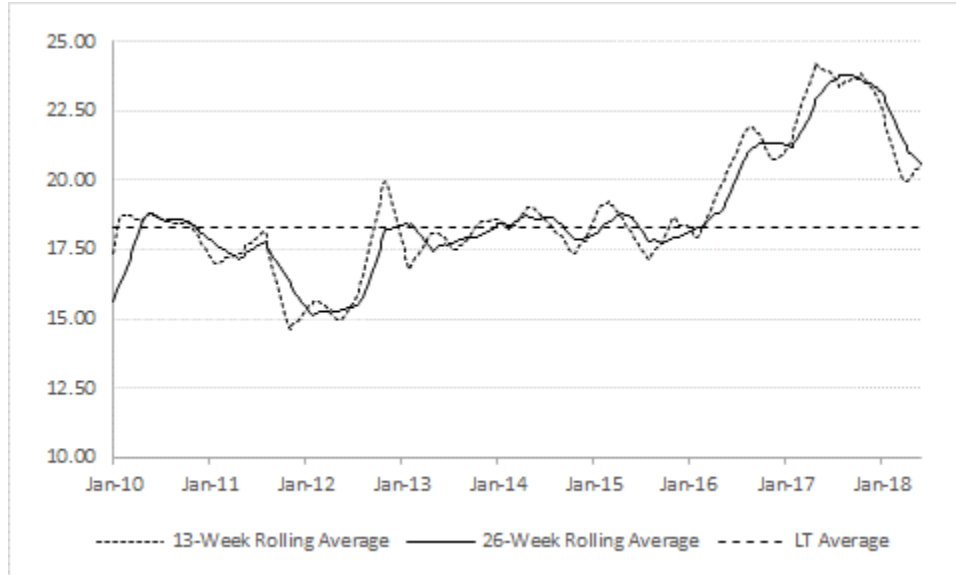
⁶² *Ibid.* at 61.

⁶³ *Ibid.* at 55.

⁶⁴ *Ibid.* at 50.

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Chart 2: Proxy Group Rolling Average P/E Ratio⁶⁵



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As Mr. Gorman acknowledges, unsustainable expansions in P/E ratios create analytical concerns. For example, at page 60 of his Direct Testimony, Mr. Gorman discusses the MRP component of his CAPM and explains Ibbotson & Chen’s finding regarding an “abnormal expansion” of P/E ratios relative to earnings and dividend growth. Because higher P/E ratios were not explained by higher growth in earnings or dividends, Ibbotson & Chen’s analyses required adjustments.⁶⁶ Duff & Phelps, the source referenced by Mr. Gorman, provides that adjustment using three-year average P/E ratios, rather than relying on the current year because “the three-year average allows the adjustment to smooth out the volatility of extraordinary events and allows earnings to better reflect a normalized trend.”⁶⁷ Duff & Phelps recognized that the long-term trend of the level of P/E ratios is important, and that abnormally high P/E ratios will produce questionable analytical results.

The same conditions hold here. As shown in Chart 2, the utility sector has

⁶⁵ Source: S&P Global Market Intelligence.

⁶⁶ See Morningstar, Inc., Ibbotson SBBI 2014 Classic Yearbook at 155-158.

⁶⁷ Duff & Phelps, 2018 Valuation Handbook: Guide to Cost of Capital at 3-44.

1 undergone an “abnormal expansion” in P/E ratios. Consequently, Constant Growth DCF
2 results reflecting abnormal capital market conditions should be viewed with caution and
3 given less weight. Whereas Duff & Phelps recognized and adjusted its analyses to reflect
4 the abnormal expansion in P/E ratios, Mr. Gorman’s DCF analyses and his interpretation
5 of their results do not. In short, I disagree with Mr. Gorman’s conclusions and continue to
6 believe less weight should be given to the Constant Growth DCF model under current
7 market circumstances.

8 ***B. Application of CAPM***

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

10 A: Mr. Gorman’s two CAPM estimates (8.07 percent and 9.19 percent) are based on two
11 measures of principally historical MRP estimates: *Blue Chip Financial Forecasts’*
12 projected 30-year Treasury yield of 3.80 percent as the risk-free rate, and an average Beta
13 coefficient of 0.70, as reported by Value Line.⁶⁸ Mr. Gorman’s analyses assume MRP
14 estimates of 7.70 percent (based on the long-term historical arithmetic average real market
15 return from 1926 through 2017 as reported by Duff & Phelps, adjusted for current inflation
16 forecasts), and 6.10 percent (based on the historical difference between the average total
17 return on the S&P 500 and the average total return on long-term government bonds).⁶⁹
18 Combining those MRP estimates with his projected long-term risk-free rate, Mr. Gorman’s
19 analysis implies expected market returns in the range of 9.90 percent to 11.50 percent.⁷⁰

⁶⁸ *Ibid.* at 58; Schedule MPG-20.

⁶⁹ *Ibid.* at 58-61.

⁷⁰ Mr. Gorman’s low Market Risk Premium of 6.10 percent plus his projected risk-free rate of 3.80 percent equals an estimated market return of 9.90 percent. Direct Testimony of Michael P. Gorman at 58-59.

1 **Q: Turning first to the expected total market return, do you agree with Mr. Gorman's**
2 **implied 9.90 percent and 11.50 percent estimates?**

3 A: No, I do not. A helpful perspective on the historical market return is the rolling 50-year
4 average annual market return. As a practical matter, Mr. Gorman's 9.90 percent estimate,
5 which is 216 basis points below the long-term average market return of 12.06 percent, falls
6 outside the range of 50-year annual average returns during the 1976-2017 period; his higher
7 11.50 percent estimate falls in the bottom 27th percentile.⁷¹ As Mr. Gorman points out,
8 from 1926 through 2017 the arithmetic average market return was 9.00 percent.⁷² Over
9 time, the fifty-year average return has been quite consistent, in the range of approximately
10 12.38 percent.⁷³ Taken from that perspective, Mr. Gorman's 9.90 percent expected market
11 return is well below the long-term market experience, and, therefore, is not reasonable.

12 **Q: Have you also considered the historical relationship between interest rates and the**
13 **Market Risk Premium?**

14 A: Yes, I have. As discussed below, there has been a long-standing, widely recognized inverse
15 relationship between interest rates and the Equity Risk Premium. I therefore considered
16 whether there is a similar inverse relationship between interest rates and the MRP. To do
17 so, I gathered the monthly market return and long-term (income only) return on
18 government bonds as reported by Ibbotson. For each month, I subtracted the interest rate
19 from the market return to arrive at the annualized Market Risk Premium.⁷⁴

⁷¹ On a rolling average basis.

⁷² Direct Testimony of Michael P. Gorman at 58.

⁷³ Source: Duff and Phelps, 2018 SBBI, Appendix A-1.

⁷⁴ Source: Duff and Phelps, 2018 SBBI, Appendix A-1, Appendix A-7. I calculated returns on a monthly basis because annual returns likely mask the variation in data and may not provide as reliable results as the more granular monthly calculations.

1 With that data, I performed two regression analyses. The first was a simple linear
2 regression in which the dependent variable was the Market Risk Premium, and the
3 independent variable was the income-only return on long-term Government bonds. That
4 analysis showed that the Market Risk Premium has been negatively related to interest rates,
5 with a high level of statistical significance. To determine whether a portion of that
6 relationship was a matter of time (that is, whether it simply was a trend), I performed a
7 second analysis that included time (as measured by the monthly date) as an additional
8 explanatory variable. In that case, interest rates again were negative and significant, but
9 the trend variable was insignificant. The results of both analyses are provided in Schedule
10 RBH-22.⁷⁵

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

12 A: The Market Risk Premium is not static and varies with the level of interest rates. If Mr.
13 Gorman had considered that relationship, his CAPM result would have been about 9.75
14 percent, 56 basis points above the top end of his range of CAPM results and only 10 basis
15 points below my recommendation.⁷⁶

16 **C. *Application of the Risk Premium Model***

17 **Q: Please briefly describe Mr. Gorman's Risk Premium analyses.**

18 A: Mr. Gorman defines the "Risk Premium" as the difference between average annual
19 authorized equity returns for electric utilities, and a measure of long-term interest rates
20 each year from 1986 through March 2018.⁷⁷ His first approach calculates the annual risk

⁷⁵ I recognize that the R-squared for the regression analyses are low, even though the regression equation, and the regression coefficients are highly statistically significant. I discuss this relationship in greater detail below, in response to Mr. Gorman's criticisms of my Bond Yield Plus Risk Premium analysis.

⁷⁶ See Schedule RBH-22 and Schedule MPG-20.

⁷⁷ Direct Testimony of Michael P. Gorman at 51.

1 premium by reference to the 30-year Treasury yield; the second considers the average A-
2 rated utility bond yield.⁷⁸ In each case, Mr. Gorman calculates the risk premium estimate
3 by reference to five-year and ten-year year rolling averages. The lower and upper bounds
4 of Mr. Gorman's Risk Premium range are defined by the lowest and highest average,
5 respectively, regardless of the year in which those averages occurred.⁷⁹

6 Regarding the vintage of his data, Mr. Gorman suggests his 32-year horizon is "long
7 enough to smooth abnormal market movement that might distort equity risk premiums."⁸⁰

8 Mr. Gorman further states "it is reasonable to assume that averages of annual achieved
9 returns over long time periods will generally converge on the investors' expected returns,"
10 and concludes that his "risk premium study is based on data that inherently relied on
11 investor expectations, not actual investment returns, and, thus, need not encompass a very
12 long historical time period."⁸¹ With those assumptions, Mr. Gorman calculates a range of
13 risk premium estimates of 4.25 percent to 6.72 percent using his Treasury bond analysis,
14 and 2.88 percent to 5.57 percent using his A-rated utility bond analysis.⁸²

15 Combined with a 3.80 percent projected Treasury yield and a 4.18 percent A-rated
16 utility bond yield estimate, Mr. Gorman's Risk Premium analysis produces results ranging
17 from 7.06 percent to 10.52 percent.⁸³ To calculate his Risk Premium-based ROE estimate,
18 Mr. Gorman gives 75.00 percent weight to the high end of his risk premium estimates, and

⁷⁸ Schedules MPG-15 and MPG-16.

⁷⁹ Direct Testimony of Michael P. Gorman at 52; Schedules MPG-15 and MPG-16.

⁸⁰ *Ibid.* at 53.

⁸¹ *Ibid.*

⁸² *Ibid.* at 54-55; Schedules MPG-17 and MPG-18.

⁸³ $4.18\% + 2.88\% = 7.06\%$; $4.18\% + 5.57\% = 9.75\%$; $3.80\% + 4.25\% = 8.05\%$; $3.80\% + 6.72\% = 10.52\%$.

1 25.00 percent to the low end, producing a range of 9.10 percent to 9.90 percent, with a
2 midpoint of approximately 9.50 percent.⁸⁴

3 **Q: Do you have any general observations regarding Mr. Gorman's Risk Premium**
4 **estimates and how they weigh in his overall ROE recommendation?**

5 A: Yes, I do. In assessing his DCF analyses, Mr. Gorman relied on his highest result,
6 discarding estimates that ranged from 8.01 percent to 8.10 percent.⁸⁵ As to his CAPM
7 analysis, Mr. Gorman retained his high-end result, discarding a 8.07 percent estimate.⁸⁶ In
8 his Risk Premium analysis, however, Mr. Gorman retained results that produced ROE
9 estimates of 7.06 percent and 8.05 percent, below the DCF and CAPM estimates he
10 disregarded. Despite their low levels, Mr. Gorman gave those risk premium-based
11 estimates 25.00 percent weight (in aggregate). Mr. Gorman offers no explanation as to
12 why he would discard DCF results of 8.10 percent and lower, but retain the lower Risk
13 Premium-based results of 7.06 percent and 8.05 percent. The obvious effect of including
14 those low Risk Premium results is to reduce his ROE range.

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

16 A: I have three concerns with his analysis: (1) Mr. Gorman's method understates the required
17 risk premium in the current market because it ignores an important relationship confirmed
18 by his own data, *i.e.*, that the risk premium is inversely related to the level of interest rates
19 (whether measured by Treasury or utility bond yields); (2) the low end of Mr. Gorman's
20 Risk Premium results is far lower than any ROE authorized since at least 1986 and, as such,

⁸⁴ Direct Testimony of Michael P. Gorman at 55. $9.50\% = (0.125 \times 7.06\%) + (0.125 \times 8.05\%) + (0.375 \times 9.75\%) + (0.375 \times 10.52\%)$, rounded up.

⁸⁵ *Ibid.* at 50.

⁸⁶ *Ibid.* at 61.

1 has no relevance in estimating KCP&L's Cost of Equity; and (3) Mr. Gorman suggests that
2 a Market/Book of 1.00 is a relevant benchmark for assessing authorized ROEs.⁸⁷

3 **Q: Turning first to the issue of Market/Book ratios, do you agree with Mr. Gorman that**
4 **such ratios should be used to assess the reasonableness of ROE recommendations?**

5 A: No. Although Mr. Gorman frames his discussions in the context of authorized returns
6 "sufficient to support market prices that at least exceeded book value,"⁸⁸ he does not
7 explain the extent to which (in his view) market prices should exceed book value, nor does
8 he describe the fundamental relationship between the two, or how that relationship can be
9 used to assess the adequacy of authorized returns.

10 Regarding their fundamental relationship, book value per share is an accounting
11 construct that reflects historical costs, whereas market value per share (*i.e.*, the stock price)
12 is forward-looking, and a function of many variables, including (but not limited to):
13 expected earnings and cash flow growth, expected payout ratios, measures of "earnings
14 quality," regulatory climate, equity ratio, expected capital expenditures, and earned return
15 on common equity. It therefore follows that the Market/Book ratio likewise is a function
16 of factors beyond the historical or expected earned Return on Average Common Equity.

17 Further, any inferences drawn regarding the relationship between market and book
18 values rely on the explicit acceptance of the Constant Growth DCF model, including its
19 underlying assumptions.⁸⁹ Investors, however, use multiple methods in establishing their
20 return requirements (as does Mr. Gorman). That is one reason the Market/Book ratio

⁸⁷ *Ibid.* at 51.

⁸⁸ *Ibid.*

⁸⁹ Under its strict assumptions, the Constant Growth DCF model can be rewritten as:
 $(M/B) = (ROACE - g)/(k - g)$, where ROACE = Return on Average Common Equity, g = growth, and k = the Cost
of Equity. Under that structure, when ROACE = k , $M/B = 1.00$.

1 typically is used as a measure or relative valuation (when comparing one stock to another)
2 rather than a measure of absolute valuation. Investors do this because there is no single,
3 universally accepted method. Consequently, I do not believe Market/Book ratios should
4 be used to assess the adequacy of authorized returns.

5 **Q: What would be the result if regulatory commissions used Market/Book ratios to set**
6 **a utility's ROE ?**

7 A: Looking to Mr. Gorman's comparison group, the average capital loss for equity investors
8 would be almost 47.00 percent.⁹⁰ That loss would not just affect investors, but would also
9 substantially diminish the ability of utilities to attract external capital. Quite simply, if
10 regulatory commissions were to set rates based on Market/Book ratios, that practice might
11 well impede the ability of a utility to attract the capital required to support its operations,
12 especially in markets during which the Market/Book ratio for the overall market is
13 significantly greater than 100.00 percent.

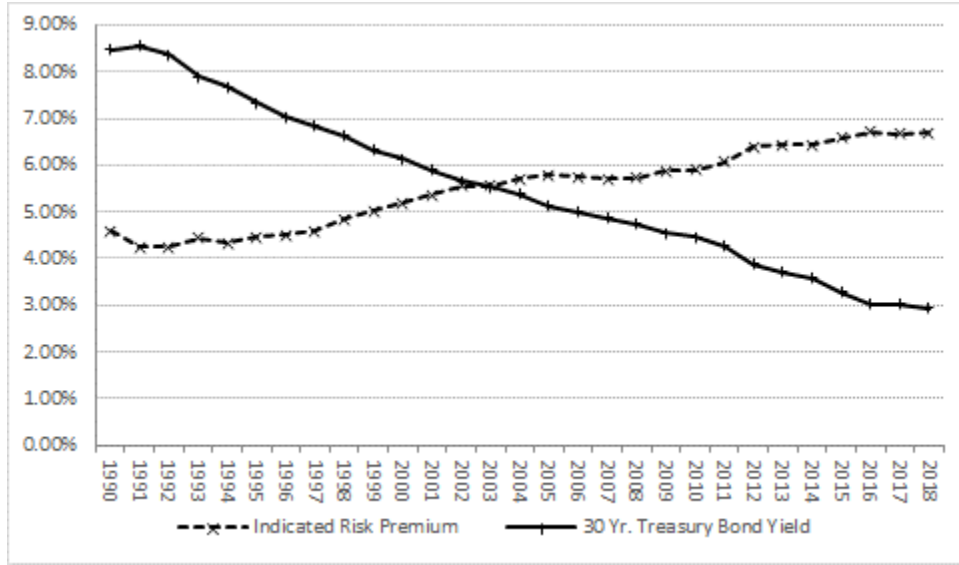
14 **Q: What did your review of Mr. Gorman's Risk Premium analyses indicate?**

15 A: Because Mr. Gorman's analysis does not account for the inverse relationship between
16 interest rates and the Equity Risk Premium, his Risk Premium ROE estimates are biased
17 downward. Considering first the Treasury yield-based analysis, I plotted the yields and
18 Risk Premia over the 1986 to March 2018 period included in Mr. Gorman's analysis. That
19 graph, which is presented in Chart 3 (below), clearly indicates the inverse relationship
20 between interest rates and the Equity Risk Premium.

⁹⁰ Based on Mr. Gorman's proxy group 2017 average M/B ratio of 1.88. $(1.88 - 1.0)/1.88 = 46.8\%$. M/B ratios from Schedule MPG-10 at 2.

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Chart 3: Mr. Gorman’s Treasury Yield-Based Risk Premium Data⁹¹



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There are several other points made clear in Chart 3. First, the low end of Mr. Gorman’s Risk Premium range, 4.25 percent, was observed in the five-year period ending 1991. If it is Mr. Gorman’s position that a Risk Premium estimate from capital markets 27 years ago is a reasonable measure of the current market environment, I disagree. Mr. Gorman’s data demonstrates why that conclusion is unreasonable: In 1991 Treasury yields exceeded the Risk Premium (on a five-year average basis), a relationship that has not occurred since 2002. It therefore is clear that the low end of Mr. Gorman’s range has little, if any, relevance to the current market.

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The high end of Mr. Gorman’s Risk Premium range, 6.72 percent, occurred more recently (*i.e.*, the five-year period ending 2016). In fact, Schedule MPG-15 indicates that his Equity Risk Premium averaged approximately 6.78 percent over the more recent period from 2015 through March 2018.⁹² Adding that 6.78 percent Equity Risk Premium to Mr. Gorman’s projected Treasury yield of 3.80 percent produces an ROE estimate of 10.58

⁹¹ Source: Schedules MPG-15; based on five-year rolling average.

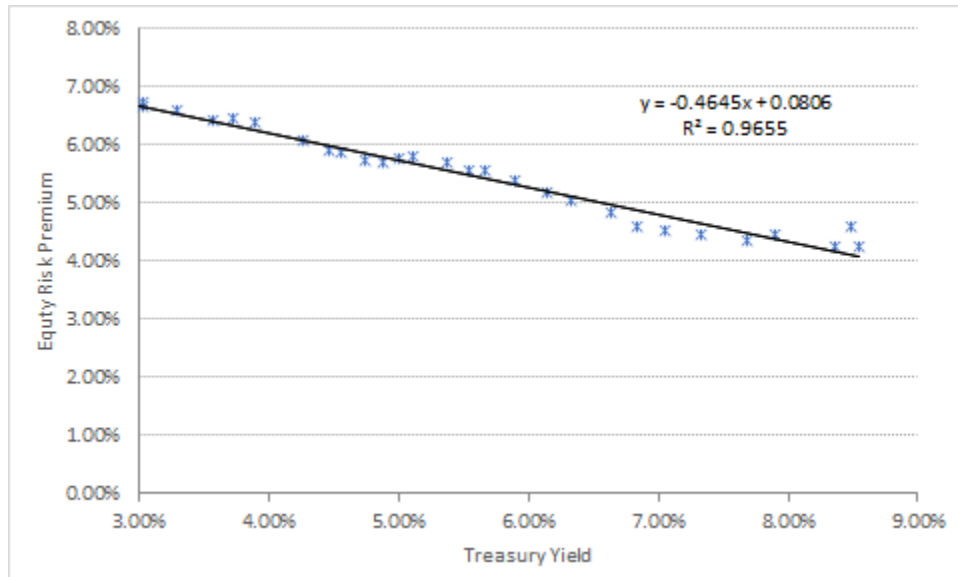
⁹² Based on Indicated Risk Premium.

1 percent, 73 basis points above my recommended ROE of 9.85 percent, and 8 basis points
2 above the top end of my 9.75 percent - 10.50 percent recommendation.

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 Treasury
5 yields is very clear. A simple linear regression demonstrates that the two are highly related,
6 with a Coefficient of Determination (R-Square) of approximately 97.00 percent (*see* Chart
7 4, below).⁹³

8 **Chart 4: Treasury Yield vs. Equity Risk Premium (Five-Year Rolling Average)**⁹⁴



9
10 Turning back to Mr. Gorman’s data, a linear regression analysis using annual
11 (rather than the rolling average data) demonstrates that for every 100-basis point decrease
12 in Treasury yields, the Equity Risk Premium increases by approximately 44 basis points

⁹³ 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.

⁹⁴ Schedule RBH-23. Source: Schedule MPG-15.

1 (see Schedule RBH-24).⁹⁵ Similarly, the Equity Risk Premium increases approximately
2 46 basis points for every 100 basis point decrease in utility bond yields. Those results are
3 consistent with those reported by Maddox, Pippert, and Sullivan, who determined that the
4 Risk Premium would increase by 37 basis points for every 100 basis point change in the
5 30-year Treasury yield.⁹⁶

6 Contrary to Mr. Gorman's position, accounting for additional factors, such as credit
7 spreads (taken from Mr. Gorman's Schedules), does not change the sign, statistical
8 significance, or the magnitude of the slope coefficient.⁹⁷

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

10 A: First, the market data on which Mr. Gorman's estimate relies are largely disconnected in
11 time and substance from the current environment. More recent data from Mr. Gorman's
12 analyses produces an ROE estimate of 10.58 percent, consistent with the high end of my
13 recommended range.⁹⁸

14 Second, although he argues other variables should be considered, Mr. Gorman's
15 data support the finding that the Equity Risk Premium is strongly and inversely related to
16 interest rates because interest rates explain approximately 97.00 percent of the variation
17 in the Equity Risk Premium. Mr. Gorman has not suggested what additional variables
18 should be considered, or how they would contribute to the remaining 3.00 percent of
19 explanatory value needed to develop a perfect statistical relationship. Despite his concern
20 with the simplicity of the analysis, when Mr. Gorman's data is properly applied, the

⁹⁵ As shown in Schedule RBH-24, serial correlation is not present or is inconclusive.

⁹⁶ 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.

⁹⁷ Schedule RBH-24.

⁹⁸ *Ibid.* As noted above, calculated by adding Mr. Gorman's 3.80 percent 30-year Treasury yield estimate to the average Equity Risk Premium of 6.78 percent from 2015-2018.

1 statistical relationship produces ROE estimates well in excess of his 9.30 percent ROE
2 recommendation (*see* Schedule RBH-23).⁹⁹

3 **D. Risk Factors and Market Sentiment**

4 **Q: What is your Response to Mr. Gorman’s observation that utilities represent a**
5 **“moderate- to-low risk”¹⁰⁰ investment?**

6 A: If Mr. Gorman’s point is that utilities are less risky than the broad market, there is no
7 dispute on that. The fact that utilities tend to have Beta coefficients less than 1.00 shows
8 this to be the case. That said, the average Beta coefficient for Mr. Gorman’s proxy group
9 is 0.70,¹⁰¹ suggesting a meaningful degree of risk. For example, in 2008, when the broad
10 market lost about 40.00 percent of its value, the S&P Global Market Intelligence (“MI”)
11 Electric Utility index (which Mr. Gorman provides in Figure 4, page 20 of his testimony)
12 lost about 32.00 percent of its value. In fact, from September through December 2008,
13 when the overall market lost about 28.00 percent of its value, the correlation between the
14 MI Electric Utility index and the S&P 500 averaged approximately 80.00 percent.¹⁰² That
15 is, when the capital markets became increasingly distressed, electric utility valuations
16 decreased, much like the overall market.

⁹⁹ For example, combining the coefficients provided in Schedule RBH-23 with Mr. Gorman’s 3.80 percent 30-year Treasury yield, the implied Equity Risk Premium would be 6.30 percent (8.06% - 0.4645 x 3.80%). Combining Mr. Gorman’s 3.80 percent Treasury yield estimate with an 6.30 percent Equity Risk Premium estimate produces an ROE estimate of 10.10 percent.

¹⁰⁰ Direct Testimony of Michael P. Gorman at 20.

¹⁰¹ Source: Schedule MPG-19, *Ibid.* at 58.

¹⁰² Source: S&P Global Market Intelligence. Based on daily returns. Correlations calculated over rolling three-month periods.

1 **Q: Mr. Gorman refers to several recent reports by S&P, Moody’s, and Fitch, concluding**
2 **that the current rating outlook for regulated utilities is Stable.¹⁰³ Do you have a**
3 **response to Mr. Gorman on that point?**

4 A: Yes. I recognize that Mr. Gorman referred to certain of the rating agency reports discussed
5 earlier in my Rebuttal Testimony. He notes those reports discuss the uncertainties
6 surrounding the implications of tax reform.

7 **Q: What are some of the potential implications of rating agency comments regarding**
8 **utility capital expenditures?**

9 A: Mr. Gorman’s Figure 3 demonstrates that utility capital expenditure is expected to be
10 “significantly higher” in the 2017-2019 forecast period relative to the prior ten-year
11 historical period.¹⁰⁴ He also references an S&P Global Market Intelligence report stating
12 that the expected capital investment will exceed “internal sources of funds for the regulated
13 utilities, requiring them to seek external capital to fund capital investments.”¹⁰⁵ As stated
14 above, all three rating agencies have observed the negative effects of the TCJA on utilities’
15 cash flow and the potential consequences for their credit profiles. Moody’s did so as
16 recently as June 2018. It therefore is clear that continued access to external capital at
17 reasonable rates will be important to fund capital expenditures, as Mr. Gorman observes.
18 It also is clear that the markets in which that capital will be raised reflect higher expected
19 interest rates and greater volatility than those experienced even over the past two years.¹⁰⁶

¹⁰³ Direct Testimony of Michael P. Gorman at 17-20.

¹⁰⁴ *Ibid.* at 16.

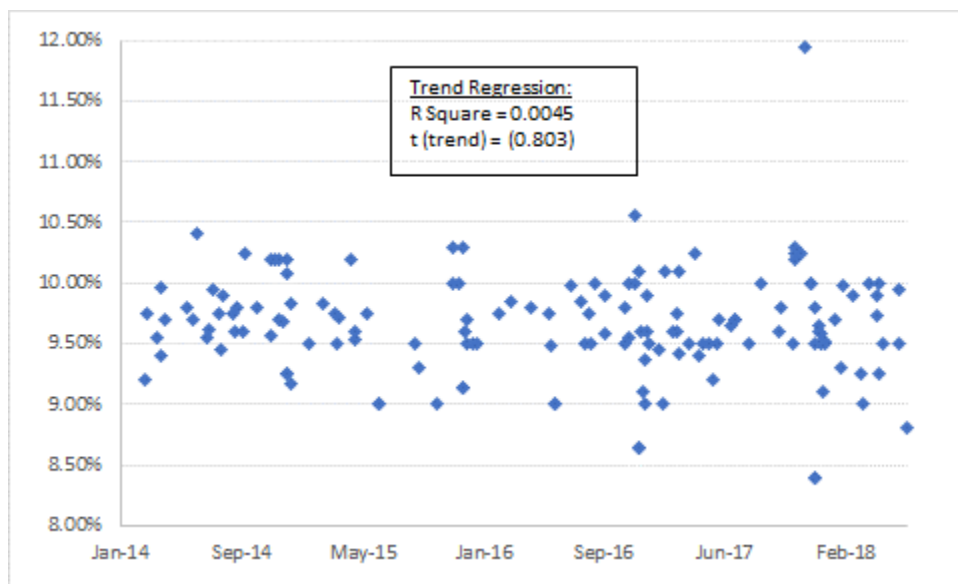
¹⁰⁵ *Ibid.* at 15.

¹⁰⁶ The median value of the VIX, which measures expected market volatility over the coming 30 days, was 10.85 in 2017, and 15.80 so far in 2018, indicating a material increase in volatility. By December 2019, the VIX is expected to increase to 18.88. Source: cboe.com, accessed June 26, 2018.

1 **Q: Do you have any observations regarding the annual average authorized returns**
2 **discussed in pages 10-11 of Mr. Gorman’s Direct Testimony?**

3 A: Yes, I do. Average annual data obscures variation in returns and does not address the
4 number of cases or the jurisdictions issuing orders within a given year. For example, one
5 year may have fewer cases decided, and a relatively large portion of those cases decided
6 by a single jurisdiction. As shown in Chart 5, if all authorized ROEs are charted, rather
7 than the simple average, there is no meaningful trend since 2014. Time explains less than
8 1.00 percent of the change in ROEs, and the trend is statistically insignificant.

9 **Chart 5: Electric Authorized Returns (2014-2018)¹⁰⁷**



10
11 From a slightly different perspective, the recent fluctuations around the annual
12 average authorized return data are well within the standard deviation of authorized ROEs,
13 as shown in Table 1, below.

¹⁰⁷ Source: Regulatory Research Associates as of June 15, 2018. Excludes limited issue rate riders and Illinois formula rate proceedings.

1 **Table 1: Mean and Standard Deviation of Authorized Returns (2014-2018)**¹⁰⁸

Year	Average	Standard Deviation
2014	9.75%	0.32%
2015	9.60%	0.39%
2016	9.60%	0.42%
2017	9.68%	0.55%
2018	9.58%	0.39%

2
3 From that perspective as well, there is no reason to conclude authorized returns have fallen
4 since 2014.

5 **Q: At pages 22 through 26 of his testimony, Mr. Gorman argues that although short-**
6 **term interest rates have increased, long-term rates are not expected to rise to the same**
7 **extent. What is your response to Mr. Gorman on that point?**

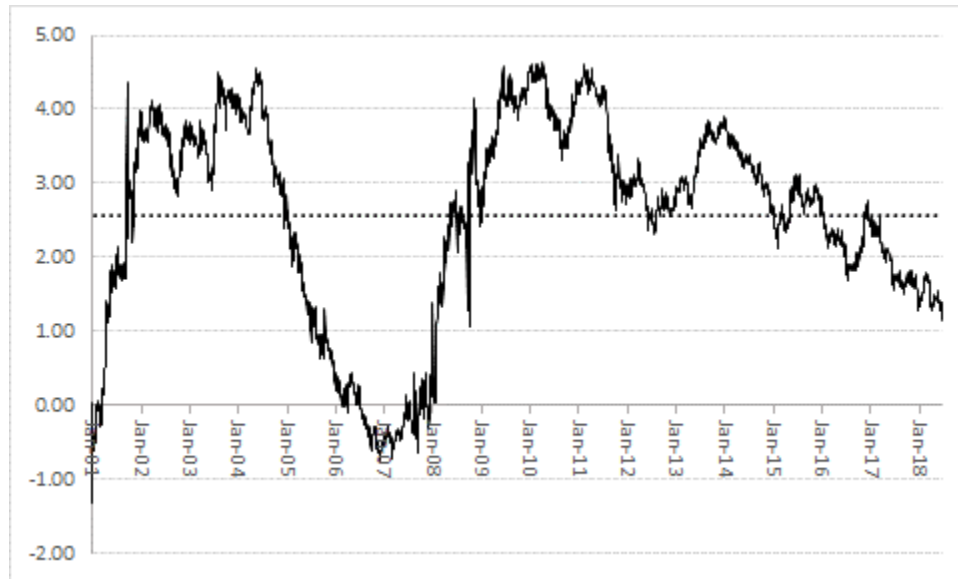
8 A: Mr. Gorman argues future increases in the Federal Funds rate are not expected to affect
9 long-term rates, which are more closely related to the Cost of Equity than are short-term
10 rates. Although it is true the Federal Funds rate is short-term, the Federal Reserve's
11 "normalization" policy discussed earlier speaks to both increasing the short-term (Federal
12 Funds) rate, and unwinding the \$4 trillion of assets placed on its balance sheet during its
13 Quantitative Easing initiative.

14 Even if we put aside the effect of the Federal Reserve's balance sheet restructuring,
15 over time the term spread (that is, the difference in yields between the 30-year Treasury
16 and the Federal Funds rate) has averaged approximately 256 basis points, with a standard
17 deviation of about 138 basis points (*see* Chart 6, below). Regardless of the relationship

¹⁰⁸ Source: Regulatory Research Associates as of June 15, 2018. Excludes limited issue rate riders and Illinois formula rate proceedings.

1 between the Federal Funds rate and the 30-year Treasury yield, it is difficult to assume the
2 projected term spread is meaningfully different than its longer-term average.

3 **Chart 6: Term Spread Over Time**¹⁰⁹



4
5 Chart 6 provides other interesting observations. First, periods during which the
6 yield curve was “inverted” (that is, longer-term yields were less than short-term yields)
7 only occurred during the economic and credit contractions in 2001 and 2007. Second, the
8 decline in the term spread beginning in 2011 coincided with the Federal Reserve’s
9 Quantitative Easing initiative, under which it purchased approximately \$4 trillion of U.S.
10 agency debt and mortgage-backed securities with the specific intent of putting “downward
11 pressure” on long-term interest rates.¹¹⁰

12 **Q: At pages 24 to 25 of his direct testimony, Mr. Gorman discussed the effects of the**
13 **Federal Reserve’s unwinding of its balance sheet. Does his observation affect your**

¹⁰⁹ Source: Bloomberg Professional data from January 1, 2001 through June 15, 2018. Term spread based on effective Federal Funds rate.

¹¹⁰ Direct Testimony of Robert B. Hevert at 53.

1 **conclusion regarding the implications of the term spread for the company’s Cost of**
2 **Equity?**

3 A: No, it does not. Mr. Gorman suggests “the Federal Reserve’s proposed plan for unwinding
4 its balance sheet position is not expected to have a significant impact on long-term interest
5 rates.”¹¹¹ However, nowhere in the Federal Reserve’s June 14, 2017 press release outlining
6 its plans to begin implementing a balance sheet normalization program, nor in its
7 *Addendum to the Policy Normalization Principles and Plans* released the same day, does
8 the Federal Reserve state its actions will not have a “significant impact”¹¹² on long-term
9 interest rates. In fact, the Federal Reserve states it expects to “learn more” during the
10 process of balance sheet normalization, and to adjust its policy as warranted.¹¹³

11 Simply put, the Federal Reserve understands it has never before considered how to
12 unwind a \$4 trillion position. Considerable uncertainty remains as to how the process will
13 unfold, and how the markets will react during that process.¹¹⁴ That uncertainty puts
14 additional upward pressure on required returns. Consequently, I do not agree that current
15 and near-term “term spreads” support Mr. Gorman’s unduly low ROE recommendation.

¹¹¹ Direct Testimony of Michael P. Gorman at 24.

¹¹² *Ibid.*

¹¹³ Federal Reserve Press Release, “Addendum to the Policy Normalization Principles and Plans,” June 14, 2017, at 2.

¹¹⁴ The Chairman of JPMorgan Chase has expressed similar sentiments. *See for example* Cindy Roberts, “Dimon Says QE Unwind May Be More Disruptive Than You Think,” Bloomberg, <https://www.bloomberg.com/news/articles/2017-07-11/dimon-says-unwinding-qe-may-be-more-disruptive-than-you-think>

1 ***E. Financial Integrity***

2 **Q: Please briefly summarize Mr. Gorman’s assessment of his recommendation as it**
3 **affects measures of KCP&L’s financial integrity.**

4 A: Mr. Gorman evaluates the reasonableness of his ROE recommendation by calculating two
5 *pro forma* ratios - Debt to EBITDA, and Funds From Operations (FFO) to Total Debt – to
6 determine whether they would fall within S&P’s guideline ranges for an investment grade
7 rating.¹¹⁵ An important point is that Mr. Gorman’s analysis assumes that KCP&L and
8 GMO actually will earn the entirety of their authorized ROEs on a going-forward basis. In
9 his Schedule MPG-21, Mr. Gorman develops those ratios, based on KCP&L’s retail cost
10 of service, his recommended ROE of 9.30 percent, and KCP&L’s proposed capital
11 structure. Based on his *pro forma* analysis, Mr. Gorman argues his recommended ROE
12 and capital structure support KCP&L and GMO’s investment grade bond rating.¹¹⁶

13 **Q: Do you have any general observations regarding Mr. Gorman’s approach to assessing**
14 **his recommendation by reference to *pro forma* credit metrics?**

15 A: Yes, I do. Before discussing Mr. Gorman’s *pro forma* credit metrics, it is helpful to review
16 rating agencies’ perspectives (in particular, S&P) regarding their use of credit metrics in
17 ratings determinations. On November 30, 2007, S&P released a statement announcing that
18 electric, gas, and water utility ratings would be “categorized under the business/financial
19 risk matrix used by the Corporate Ratings group.”¹¹⁷ S&P also provided matrices of

¹¹⁵ Direct Testimony of Michael P. Gorman at 63.

¹¹⁶ *Ibid.* at 65-67.

¹¹⁷ Standard & Poor’s Ratings Services, *U.S. Utilities Ratings Analysis Now Portrayed In The S&P Corporate Ratings Matrix*, Nov. 30, 2007 at 2-3.

1 business and financial risk, based on “Financial Risk Indicative Ratios”: FFO/Debt;
2 FFO/Interest; and Total Debt/Capital. In that announcement S&P noted:

3 ... even after we assign a company business risk and financial risk, the
4 committee does not arrive by rote at a rating based on the matrix. The
5 matrix is a guide - - it is not intended to convey precision in the ratings
6 process or reduce the decision to plotting intersections on a graph.
7 Many small positives and negatives that affect credit quality can lead a
8 committee to a different conclusion than what is indicated in the matrix.

9 On May 27, 2009 S&P expanded its matrix, and noted the relative significance of
10 credit metrics to the rating process:

11 The rating matrix indicative outcomes are what we typically observe - -
12 but are not meant to be precise indications or guarantees of future rating
13 opinions. Positive and negative nuances in our analysis may lead to a
14 notch higher or lower than the outcomes indicated in the various cells
15 of the matrix Still, it is essential to realize that the financial
16 benchmarks are guidelines, neither gospel nor guarantees.

17 Moreover, our assessment of financial risk is not as simplistic as looking
18 at a few ratios.¹¹⁸

19 Later, on September 18, 2012, S&P further expanded its matrix, confirming “[s]till,
20 it is essential to realize that the financial benchmarks are guidelines, neither gospel nor
21 guarantees.”¹¹⁹ It is clear, therefore, that credit agencies review a broad assessment of
22 business and financial risk, including factors that are based on both qualitative and
23 quantitative measures, including discussions with management.

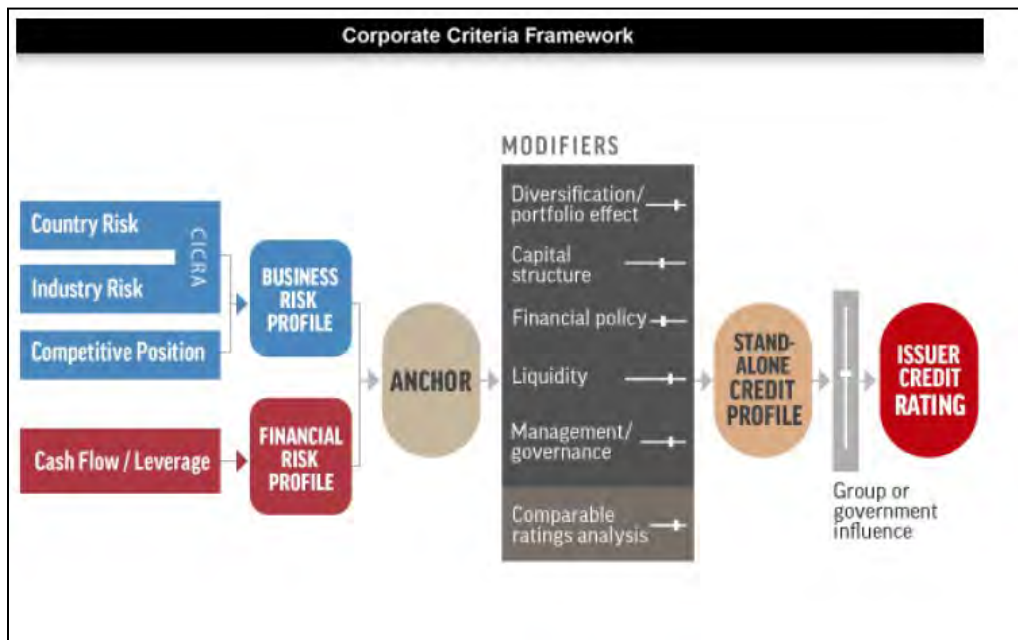
¹¹⁸ Standard & Poor’s Ratings Services, *Criteria Methodology: Business Risk/Financial Risk Matrix Expanded*, May 27, 2009.

¹¹⁹ Standard & Poor’s Ratings Services, *Methodology: Business Risk/Financial Risk Matrix Expanded*, September 18, 2012.

1 **Q: Are credit ratings determined principally by the types of *pro forma* metrics Mr.**
2 **Gorman calculates in Schedule MPG-21?**

3 **A:** No, S&P’s ratings process considers a range of both quantitative and qualitative data. As
4 Chart 7 (below) demonstrates, Cash Flow/Leverage considerations are one element of a
5 broad set of criteria.

6 **Chart 7: Standard & Poor’s Corporate Criteria Framework¹²⁰**



7
8 Further, S&P’s assessment does not look to a single period or assume static
9 relationships among variables, as does Mr. Gorman’s *pro forma* analysis. Rather, S&P
10 reviews credit ratios “on a time series basis with a clear forward-looking bias.”¹²¹ S&P
11 explains that the length of the period depends on a number of qualitative factors, but
12 generally includes two years of historical data, and three years of projections. Further, the

¹²⁰ Standard & Poor’s Ratings Services, *Corporate Methodology*, November 19, 2013 at 5.

¹²¹ *Ibid.* at 33.

1 ratios depend on “base case” projections considering “current and near-term economic
2 conditions, industry assumptions, and financial policies.”¹²²

3 S&P also makes clear that the regulatory regime is one of the most important factors
4 in its rating analyses:

5 For a regulated utility company, the regulatory regime in which it
6 operates will influence its performance in profound ways. As such,
7 Standard & Poor’s Ratings Services’ regulatory advantage assessment -
8 - which informs both our business and financial risk scores - - is one of
9 the most important factors in our credit analysis of regulated utilities.¹²³

10 Consequently, even if we assume credit determinations are distilled to two *pro*
11 *forma* metrics, the actual assessment of those metrics is far more complex than Mr.
12 Gorman’s analysis suggests.

13 **Q: Do you agree with the premise of Mr. Gorman’s analysis and conclusions he draws**
14 **from it?**

15 A: No, I do not. Simply maintaining an “investment grade” rating is an inappropriate standard.
16 According to S&P, only two of 252 utilities currently have below investment grade long-
17 term issuer ratings.¹²⁴ Because the Company must compete for capital within the utility
18 sector in the first instance, and with companies beyond utilities in the second, the Company
19 must have a strong financial profile. Such a profile enables the Company to acquire capital
20 even during constrained markets.

21 Second, relying on *pro forma* credit metrics to assess the credit implications of any
22 specific ROE or equity ratio is a partial and potentially misleading analysis. In large

¹²² *Ibid.*

¹²³ Standard & Poor’s Ratings Services, *How Regulatory Advantage Scores Can Affect Ratings On Regulated Utilities*, April 23, 2015 at 2.

¹²⁴ S&P Global Ratings RatingsDirect, Issuer Ranking: North American Electric, Gas, And Water Regulated Utilities – Strongest to Weakest, January 29, 2018.

1 measure, that concern arises simply because a wide range of assumed ROEs and equity
 2 ratios produce *pro forma* metrics that fall within the benchmark ranges for a given credit
 3 rating. As shown in Table 2 (below, and Schedule RBH-25), for example, Mr. Gorman’s
 4 *pro forma* analysis suggests an ROE as low as 4.20 percent would produce *pro forma* Debt
 5 to EBITDA and FFO to Total Debt ratios in the “Significant” financial risk range identified
 6 in his analysis. That is, even if we assume an unreasonably low ROE in Mr. Gorman’s
 7 analysis, the ratios remain in the “Significant” financial risk range. Clearly, a return as low
 8 as 4.20 percent, which is 548 basis points below the average 2017 authorized return value
 9 cited by Mr. Gorman, is an unrealistic estimate of the Company’s Cost of Equity.¹²⁵ At
 10 the same time, Table 2 demonstrates that my 9.75 percent - 10.50 percent recommended
 11 ROE produces *pro forma* ratios that also generally fall within the “Significant” range.
 12 Those results are a clear example of why S&P’s assessment goes far beyond the review of
 13 two *pro forma* metrics.

14 **Table 2: Mr. Gorman’s Financial Integrity Test**
 15 **Using Alternate Assumptions¹²⁶**

	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 Financial Risk Rating
Mr. Gorman as Filed (9.30% ROE)	3.46	20.46%	Significant
9.85% ROE	3.37	21.00%	Significant
4.20% ROE	4.50	15.48%	Significant

16

¹²⁵ Direct Testimony of Michael P. Gorman at 10.

¹²⁶ Analysis based on Mr. Gorman’s workpaper supporting Schedule MPG-21, page 1 of 7 and 5 of 7. Schedule RBH-25. A 4.20 percent ROE produces an FFO/Debt ratio that is on the low end of the range associated with a

1 As noted above, Mr. Gorman’s analysis assumes KCP&L will earn its authorized
2 return, and its FFO will not be diluted by regulatory lag, additional capital spending, or any
3 of the other factors that would put downward pressure on earnings and cash flow. Equally
4 important, Mr. Gorman’s recommendation falls well below the returns available to other
5 electric utilities, which may weigh in the rating agencies’ assessment of the Company’s
6 regulatory environment.

7 ***F. Cost of Debt Adjustment***

8 **Q: Please describe Mr. Gorman’s proposed Cost of Debt adjustment.**

9 A: Mr. Gorman claims that two intercompany notes related to debt financed by GPE on
10 GMO’s behalf do not reflect prevailing market rates.¹²⁷ He proposes to reduce the
11 calculated cost of both notes from their actual interest rate of 4.97 percent and 5.15 percent
12 to 4.60 percent each, which he claims would represent a prevailing market rate of 4.20
13 percent plus 40 basis points required by the terms of the notes.¹²⁸

14 **Q: Do you agree with Mr. Gorman’s proposal to adjust GMO’s Cost of Debt to reflect**
15 **GMO’s current credit ratings?**

16 A: No, I do not. GMO’s proposed Cost of Debt is based on its actual weighted average cost
17 of long-term debt. In the 2012 KCP&L and GMO rate cases Staff purported to align
18 GMO’s Cost of Debt with KCP&L’s Cost of Debt, and argued that the Commission should
19 reduce the calculated cost of debt associated with certain GPE intercompany notes.¹²⁹ This
20 proposal was rejected by the Commission, which declared:

“Significant” rating (13-23%). I note that the TCJA will reduce *pro forma* EBITDA, but have no effect on *pro forma* FFO.

¹²⁷ Direct Testimony of Michael P. Gorman at 31-32.

¹²⁸ *Ibid.* at 32.

¹²⁹ *In re Kansas City Power & Light Co.’s Request for Authority to Implement a General Rate Increase for Electric Service*, Report and Order at 26-28, No. ER-2012-0174 (Jan. 9, 2013).

1 Staff's arguments are unpersuasive. Their basis—what GMO would
2 look like if the past were different—is speculation. By contrast, no party
3 disputes that GMO's ratings have improved under current management.
4 And using GPE's consolidated cost of debt is more consistent with the
5 capital structure that the Commission has ordered, which is based on
6 GPE's actual capital structure.¹³⁰

7 In the present case Mr. Gorman speculates as to what GMO's Cost of Debt would be if it
8 had sought to refinance the intercompany notes in question after GMO's bond rating had
9 improved. A recommendation based on the rates that a witness thinks GMO would have
10 been able to refinance its notes is pure conjecture. As noted in my response to Mr.
11 Gorman's Financial Integrity test above, utilizing an output variable (e.g., GMO's bond
12 rating) as a proxy for an input variable (e.g., the Company's ability to borrow funds on the
13 open market) assumes precision where none exists.

14 For example, Mr. Gorman's Schedule MPG-18 illustrates the variation in the
15 prevailing yields. Between March 29, 2018 and May 18, 2018, a period of approximately
16 six weeks, the "A" Rated Utility Bond Yield rose by approximately 30 points.¹³¹ Depending
17 on when Mr. Gorman's hypothetical refinancing of GMO's intercompany notes would have
18 taken place, the prevailing Cost of Debt would have changed significantly. Mr. Gorman
19 has failed to justify why GMO's actual Cost of Debt should not be relied on.

20 ***G. Capital Structure***

21 **Q: Please summarize Mr. Gorman's proposed goodwill adjustment.**

22 A: In his Schedule MPG-1, Mr. Gorman reduces GMO's equity balance by \$169 million,
23 which is the approximate amount of the goodwill balance reported on GMO's 2017 FERC
24 Form 1.¹³² Mr. Gorman argues it is reasonable to eliminate \$169 million of equity because

¹³⁰ *Ibid.* at 27.

¹³¹ Schedule MPG-18 at 1.

¹³² Schedule MPG-1 at 2, footnote 2.

1 it “reflects acquisition activity related to when Great Plains Energy initially acquired GMO
2 from Aquila.”¹³³ As noted above, Mr. Gorman argues his proposed adjustment produces
3 an equity ratio of 50.89 percent.¹³⁴

4 **Q: Do you agree with Mr. Gorman’s proposed goodwill adjustment to GMO’s capital
5 structure?**

6 A: Yes, I do. As detailed more fully by Company witness Darrin Ives, the Company would
7 have removed the \$169 million from GMO’s balance sheet had the merger been registered
8 today due to present SEC reporting requirements.

9 **Q: Please describe the Commission’s decision regarding goodwill in Laclede Gas
10 Company recent rate cases.** ¹³⁵

11 A: In that case, the Commission rejected Mr. Gorman’s proposed adjustment to Laclede Gas
12 Company’s (“Laclede”) capital structure related to the removal of a goodwill balance on
13 Laclede’s balance sheet. As stated by the Commission:

14 Mr. Gorman’s proposed adjustment is rejected. The Commission was
15 not persuaded by Mr. Gorman’s testimony regarding a reduction for
16 goodwill. No portion of the \$210 million goodwill asset is included in
17 the company’s rate base. Because cash is fungible, goodwill cannot be
18 singled out to be considered financed only through equity. ... Mr.
19 Gorman’s proposal is inconsistent with the actual method by which the
20 MGE acquisition was financed, it ignores the basic financial principle
21 of capital fungibility, and it is inconsistent with how other assets are
22 treated.¹³⁶

¹³³ Direct Testimony of Michael P. Gorman at 30.

¹³⁴ *Ibid.* at 30, Table 7.

¹³⁵ Amended Report and Order at 43-44, *In the Matter of the Laclede Gas Company’s Request to Increase Its Revenues for Gas Service*, No. GR-2017-0215 (Mar. 7, 2018).

¹³⁶ *Ibid.*

1 **Q: Please describe the principle of cash fungibility.**

2 A: The principle of cash fungibility simply recognizes that cash is fungible – a given dollar
3 cannot be traced from its source to its use.

4 **Q: Why was the principle of cash fungibility applicable in File No. GR-2017-0215/GR-**
5 **2017-0216?**

6 A: In that proceeding, Laclede financed its acquisition with a mix of both debt and equity,
7 including both tangible utility assets and goodwill.¹³⁷ Consequently, as the Commission
8 observed, goodwill could not be “singled out” as financed entirely with equity.

9 **Q: Does the principle of cash fungibility apply to GMO’s goodwill balance in the present**
10 **proceeding?**

11 A: Not entirely. Great Plains Energy explicitly financed its acquisition of Aquila, Inc. with a
12 specific issuance of equity. For instance, Great Plains Energy described its “issuance of
13 shares of Great Plains Energy common stock pursuant to the merger agreement [with
14 Aquila, Inc.]”¹³⁸ Great Plains Energy also noted that the merger itself was conducted with
15 a mix of cash and stock.¹³⁹ In addition, Aquila explained that “substantially all of the cash
16 portion of the merger consideration payable to its shareholders by Great Plains Energy”
17 came from the sale of its non-Missouri operations prior to the merger with Great Plains
18 Energy.¹⁴⁰ Because these equity items were explicitly noted as relating to the merger
19 between Great Plains Energy and Aquila, Inc., there is no ambiguity regarding the use of

¹³⁷ *Ibid.* at 39.

¹³⁸ *Great Plains Energy Incorporated*, United States Securities and Exchange Commission Registration Form S-4 at 38, May 8, 2007.

¹³⁹ Great Plains Energy Investor Presentation at Bank of America Utilities Mini-Conference, Los Angeles, California, June 26, 2007 at 25.

¹⁴⁰ Joint press release issued by Great Plains Energy Incorporated and Aquila, Inc. on April 4, 2007 at 2. Available at: <https://www.sec.gov/Archives/edgar/data/66960/000114306807000118/release040407.htm>.

1 equity for this transaction. As such, I believe Mr. Gorman's proposed goodwill adjustment
2 is reasonable in this proceeding.

IV. CONCLUSIONS AND RECOMMENDATION

3 **Q: What are your overall conclusions and recommendations?**

4 A: Based on the analyses discussed throughout my Rebuttal Testimony, I continue to conclude
5 that the reasonable range of ROE estimates is from 9.75 percent to 10.50 percent. I also
6 conclude that the Company's updated proposed capital structures, consisting of 49.09
7 percent common equity and 50.91 percent long-term debt for KCP&L and 51.75 percent
8 common equity and 48.25 percent long-term debt for GMO, are reasonable and
9 appropriate.

10 **Q: What are the updated requested overall rates of return?**

11 A: The overall rate of return for KCP&L based on actual information through June 30, 2018
12 is provided in Table 3, below (*see also*, page 1 of Schedule RBH-19).

13 **Table 3: Summary of Overall Rate of Return (KCP&L)¹⁴¹**

Capital Components	Ratio	Cost	After-Tax Weighted Return
Long-Term Debt	50.91%	4.93%	1.98%
Common Equity	49.09%	9.85%	4.84%
Total	100.00%		6.82%

14 The overall rate of return for GMO based on actual information through June 30, 2018,
15 including an adjustment for goodwill, is provided in Table 4, below (*see also*, page 3 of
16 Schedule RBH-19).

¹⁴¹ Schedule RBH-19.

1

Table 4: Summary of Overall Rate of Return (GMO)¹⁴²

Capital Components	Ratio	Cost	After-Tax Weighted Return
Long-Term Debt	48.25%	5.06%	1.93%
Common Equity	51.75%	9.85%	5.10%
Total	100.00%		7.03%

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

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

¹⁴² Schedule RBH-19.

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

In the Matter of Kansas City Power & Light)
Company's Request for Authority to Implement) Case No. ER-2018-0145
A General Rate Increase for Electric Service)

In the Matter of KCP&L Greater Missouri)
Operations Company's Request for Authority to) Case No. ER-2018-0146
Implement A General Rate Increase for Electric)
Service)

AFFIDAVIT OF ROBERT B. HEVERT

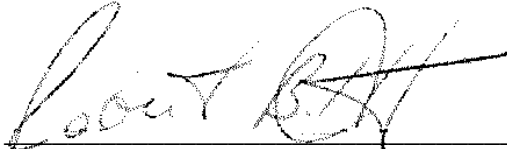
STATE OF MISSOURI)
) ss
COUNTY OF JACKSON)

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

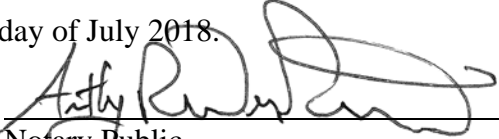
1. My name is Robert B. Hevert and my business address is ScottMadden, Inc., 1900 W. Park Drive, Suite 250, Westborough, MA 01581. I have been retained to serve as an expert witness to provide testimony on behalf of Kansas City Power & Light Company.

2. Attached hereto and made a part hereof for all purposes is my Rebuttal Testimony on behalf of Kansas City Power & Light Company and KCP&L Greater Missouri Operations Company consisting of fifty-one (51) pages, having been prepared in written form for introduction into evidence in the above-captioned docket.

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



Robert B. Hevert

Subscribed and sworn before me this 27th day of July 2018.


Notary Public

My commission expires: 4/26/2021



Constant Growth Discounted Cash Flow Model
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	\$2.24	\$75.23	2.98%	3.06%	6.00%	6.00%	5.00%	5.67%	8.05%	8.73%	9.07%
Alliant Energy Corporation	LNT	\$1.34	\$40.60	3.30%	3.40%	5.60%	5.85%	6.50%	5.98%	8.99%	9.38%	9.91%
Ameren Corporation	AEE	\$1.83	\$57.18	3.20%	3.31%	6.50%	6.30%	7.50%	6.77%	9.60%	10.08%	10.82%
American Electric Power Company, Inc.	AEP	\$2.48	\$66.01	3.76%	3.86%	5.70%	5.79%	4.50%	5.33%	8.34%	9.19%	9.66%
Avangrid, Inc.	AGR	\$1.73	\$51.90	3.33%	3.51%	9.10%	10.40%	13.00%	10.83%	12.58%	14.34%	16.55%
Black Hills Corporation	BKH	\$1.90	\$57.15	3.32%	3.40%	4.10%	3.86%	5.00%	4.32%	7.25%	7.72%	8.41%
CMS Energy Corporation	CMS	\$1.43	\$44.60	3.21%	3.32%	6.40%	7.05%	7.00%	6.82%	9.71%	10.13%	10.37%
DTE Energy Company	DTE	\$3.53	\$100.10	3.53%	3.63%	5.30%	5.59%	7.00%	5.96%	8.92%	9.60%	10.65%
Duke Energy Corporation	DUK	\$3.56	\$75.51	4.71%	4.83%	4.70%	4.22%	5.50%	4.81%	9.03%	9.63%	10.34%
El Paso Electric	EE	\$1.44	\$56.46	2.55%	2.61%	5.10%	5.20%	4.50%	4.93%	7.11%	7.55%	7.82%
Hawaiian Electric Industries, Inc.	HE	\$1.24	\$33.60	3.69%	3.81%	7.10%	9.10%	3.50%	6.57%	7.26%	10.38%	12.96%
IDACORP, Inc.	IDA	\$2.36	\$89.53	2.64%	2.68%	3.90%	3.10%	3.50%	3.50%	5.78%	6.18%	6.59%
NextEra Energy, Inc.	NEE	\$4.44	\$159.84	2.78%	2.90%	8.60%	9.79%	8.50%	8.96%	11.40%	11.87%	12.70%
NorthWestern Corporation	NWE	\$2.20	\$53.53	4.11%	4.18%	3.00%	3.16%	3.50%	3.22%	7.17%	7.40%	7.68%
OGE Energy Corp.	OGE	\$1.33	\$34.04	3.91%	4.01%	6.00%	4.30%	6.00%	5.43%	8.29%	9.45%	10.02%
Otter Tail Corporation	OTTR	\$1.34	\$45.22	2.96%	3.09%	NA	9.00%	7.50%	8.25%	10.57%	11.34%	12.10%
Pinnacle West Capital Corporation	PNW	\$2.78	\$76.97	3.61%	3.69%	4.50%	3.78%	5.00%	4.43%	7.46%	8.12%	8.70%
PNM Resources, Inc.	PNM	\$1.06	\$38.00	2.79%	2.87%	5.10%	4.30%	7.50%	5.63%	7.15%	8.50%	10.39%
Portland General Electric Company	POR	\$1.45	\$41.01	3.54%	3.59%	2.80%	2.65%	4.00%	3.15%	6.23%	6.74%	7.61%
Southern Company	SO	\$2.40	\$44.06	5.45%	5.54%	4.50%	2.72%	3.00%	3.41%	8.24%	8.95%	10.07%
WEC Energy Group, Inc.	WEC	\$2.21	\$61.25	3.61%	3.70%	4.10%	4.43%	7.00%	5.18%	7.78%	8.88%	10.73%
Xcel Energy Inc.	XEL	\$1.52	\$44.19	3.44%	3.54%	5.70%	5.89%	5.50%	5.70%	9.03%	9.23%	9.43%
Proxy Group Mean				3.47%	3.57%	5.42%	5.57%	5.91%	5.67%	8.45%	9.24%	10.12%
Proxy Group Median				3.38%	3.52%	5.30%	5.40%	5.50%	5.53%	8.27%	9.21%	10.05%

Notes:

[1] Source: Bloomberg Professional

[2] Source: Bloomberg Professional, equals indicated number of trading day average as of June 15, 2018

[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
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	\$2.24	\$72.50	3.09%	3.18%	6.00%	6.00%	5.00%	5.67%	8.17%	8.84%	9.18%
Alliant Energy Corporation	LNT	\$1.34	\$40.29	3.33%	3.43%	5.60%	5.85%	6.50%	5.98%	9.02%	9.41%	9.93%
Ameren Corporation	AEE	\$1.83	\$56.21	3.26%	3.37%	6.50%	6.30%	7.50%	6.77%	9.66%	10.13%	10.88%
American Electric Power Company, Inc.	AEP	\$2.48	\$66.84	3.71%	3.81%	5.70%	5.79%	4.50%	5.33%	8.29%	9.14%	9.61%
Avangrid, Inc.	AGR	\$1.73	\$50.61	3.41%	3.60%	9.10%	10.40%	13.00%	10.83%	12.67%	14.43%	16.64%
Black Hills Corporation	BKH	\$1.90	\$54.56	3.48%	3.56%	4.10%	3.86%	5.00%	4.32%	7.41%	7.88%	8.57%
CMS Energy Corporation	CMS	\$1.43	\$44.34	3.23%	3.33%	6.40%	7.05%	7.00%	6.82%	9.73%	10.15%	10.39%
DTE Energy Company	DTE	\$3.53	\$101.87	3.47%	3.57%	5.30%	5.59%	7.00%	5.96%	8.86%	9.53%	10.59%
Duke Energy Corporation	DUK	\$3.56	\$76.57	4.65%	4.76%	4.70%	4.22%	5.50%	4.81%	8.97%	9.57%	10.28%
El Paso Electric	EE	\$1.44	\$52.05	2.77%	2.83%	5.10%	5.20%	4.50%	4.93%	7.33%	7.77%	8.04%
Hawaiian Electric Industries, Inc.	HE	\$1.24	\$33.76	3.67%	3.79%	7.10%	9.10%	3.50%	6.57%	7.24%	10.36%	12.94%
IDACORP, Inc.	IDA	\$2.36	\$87.21	2.71%	2.75%	3.90%	3.10%	3.50%	3.50%	5.85%	6.25%	6.66%
NextEra Energy, Inc.	NEE	\$4.44	\$158.65	2.80%	2.92%	8.60%	9.79%	8.50%	8.96%	11.42%	11.89%	12.73%
NorthWestern Corporation	NWE	\$2.20	\$52.95	4.16%	4.22%	3.00%	3.16%	3.50%	3.22%	7.22%	7.44%	7.73%
OGE Energy Corp.	OGE	\$1.33	\$32.61	4.08%	4.19%	6.00%	4.30%	6.00%	5.43%	8.47%	9.62%	10.20%
Otter Tail Corporation	OTTR	\$1.34	\$43.41	3.09%	3.21%	NA	9.00%	7.50%	8.25%	10.70%	11.46%	12.23%
Pinnacle West Capital Corporation	PNW	\$2.78	\$77.79	3.57%	3.65%	4.50%	3.78%	5.00%	4.43%	7.42%	8.08%	8.66%
PNM Resources, Inc.	PNM	\$1.06	\$37.36	2.84%	2.92%	5.10%	4.30%	7.50%	5.63%	7.20%	8.55%	10.44%
Portland General Electric Company	POR	\$1.45	\$40.54	3.58%	3.63%	2.80%	2.65%	4.00%	3.15%	6.27%	6.78%	7.65%
Southern Company	SO	\$2.40	\$44.31	5.42%	5.51%	4.50%	2.72%	3.00%	3.41%	8.21%	8.92%	10.04%
WEC Energy Group, Inc.	WEC	\$2.21	\$61.59	3.59%	3.68%	4.10%	4.43%	7.00%	5.18%	7.76%	8.86%	10.71%
Xcel Energy Inc.	XEL	\$1.52	\$44.41	3.42%	3.52%	5.70%	5.89%	5.50%	5.70%	9.02%	9.22%	9.41%
Proxy Group Mean				3.51%	3.61%	5.42%	5.57%	5.91%	5.67%	8.49%	9.29%	10.16%
Proxy Group Median				3.44%	3.56%	5.30%	5.40%	5.50%	5.53%	8.25%	9.18%	10.12%

Notes:

[1] Source: Bloomberg Professional

[2] Source: Bloomberg Professional, equals indicated number of trading day average as of June 15, 2018

[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
180 Day Average Stock Price

[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]		
Company	Ticker	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	\$2.24	\$74.39	3.01%	3.10%	6.00%	6.00%	5.00%	5.67%	8.09%	8.76%	9.10%
Alliant Energy Corporation	LNT	\$1.34	\$41.41	3.24%	3.33%	5.60%	5.85%	6.50%	5.98%	8.93%	9.32%	9.84%
Ameren Corporation	AEE	\$1.83	\$58.05	3.15%	3.26%	6.50%	6.30%	7.50%	6.77%	9.55%	10.03%	10.77%
American Electric Power Company, Inc.	AEP	\$2.48	\$69.91	3.55%	3.64%	5.70%	5.79%	4.50%	5.33%	8.13%	8.97%	9.44%
Avangrid, Inc.	AGR	\$1.73	\$50.25	3.44%	3.63%	9.10%	10.40%	13.00%	10.83%	12.70%	14.46%	16.66%
Black Hills Corporation	BKH	\$1.90	\$57.41	3.31%	3.38%	4.10%	3.86%	5.00%	4.32%	7.23%	7.70%	8.39%
CMS Energy Corporation	CMS	\$1.43	\$45.84	3.12%	3.23%	6.40%	7.05%	7.00%	6.82%	9.62%	10.04%	10.28%
DTE Energy Company	DTE	\$3.53	\$105.75	3.34%	3.44%	5.30%	5.59%	7.00%	5.96%	8.73%	9.40%	10.46%
Duke Energy Corporation	DUK	\$3.56	\$80.74	4.41%	4.52%	4.70%	4.22%	5.50%	4.81%	8.72%	9.32%	10.03%
El Paso Electric	EE	\$1.44	\$54.16	2.66%	2.72%	5.10%	5.20%	4.50%	4.93%	7.22%	7.66%	7.93%
Hawaiian Electric Industries, Inc.	HE	\$1.24	\$34.70	3.57%	3.69%	7.10%	9.10%	3.50%	6.57%	7.14%	10.26%	12.84%
IDACORP, Inc.	IDA	\$2.36	\$89.13	2.65%	2.69%	3.90%	3.10%	3.50%	3.50%	5.79%	6.19%	6.60%
NextEra Energy, Inc.	NEE	\$4.44	\$156.22	2.84%	2.97%	8.60%	9.79%	8.50%	8.96%	11.46%	11.93%	12.77%
NorthWestern Corporation	NWE	\$2.20	\$55.80	3.94%	4.01%	3.00%	3.16%	3.50%	3.22%	7.00%	7.23%	7.51%
OGE Energy Corp.	OGE	\$1.33	\$33.47	3.97%	4.08%	6.00%	4.30%	6.00%	5.43%	8.36%	9.51%	10.09%
Otter Tail Corporation	OTTR	\$1.34	\$44.07	3.04%	3.17%	NA	9.00%	7.50%	8.25%	10.65%	11.42%	12.18%
Pinnacle West Capital Corporation	PNW	\$2.78	\$81.85	3.40%	3.47%	4.50%	3.78%	5.00%	4.43%	7.24%	7.90%	8.48%
PNM Resources, Inc.	PNM	\$1.06	\$39.36	2.69%	2.77%	5.10%	4.30%	7.50%	5.63%	7.05%	8.40%	10.29%
Portland General Electric Company	POR	\$1.45	\$43.26	3.35%	3.40%	2.80%	2.65%	4.00%	3.15%	6.05%	6.55%	7.42%
Southern Company	SO	\$2.40	\$46.80	5.13%	5.22%	4.50%	2.72%	3.00%	3.41%	7.92%	8.62%	9.74%
WEC Energy Group, Inc.	WEC	\$2.21	\$63.81	3.46%	3.55%	4.10%	4.43%	7.00%	5.18%	7.63%	8.73%	10.58%
Xcel Energy Inc.	XEL	\$1.52	\$46.44	3.27%	3.37%	5.70%	5.89%	5.50%	5.70%	8.86%	9.06%	9.26%
Proxy Group Mean				3.39%	3.48%	5.42%	5.57%	5.91%	5.67%	8.37%	9.16%	10.03%
Proxy Group Median				3.32%	3.39%	5.30%	5.40%	5.50%	5.53%	8.11%	9.02%	9.94%

Notes:

[1] Source: Bloomberg Professional

[2] Source: Bloomberg Professional, equals indicated number of trading day average as of June 15, 2018

[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		[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	2018	2022	2028	Proof	IRR	P/E Ratio	Ratio			
ALLETE, Inc.	ALE	\$75.23	6.00%	6.00%	5.00%	5.67%	5.45%	65.00%	64.00%	65.57%	\$0.00	8.55%	22.31	4.10			
Alliant Energy Corporation	LNT	\$40.60	5.60%	5.85%	6.50%	5.98%	5.45%	64.00%	64.00%	65.57%	\$0.00	9.17%	18.54	3.41			
Ameren Corporation	AEE	\$57.18	6.50%	6.30%	7.50%	6.77%	5.45%	60.00%	59.00%	65.57%	\$0.00	9.26%	18.12	3.33			
American Electric Power Company, Inc.	AEP	\$66.01	5.70%	5.79%	4.50%	5.33%	5.45%	67.00%	63.00%	65.57%	\$0.00	9.46%	17.25	3.17			
Avangrid, Inc.	AGR	\$51.90	9.10%	10.40%	13.00%	10.83%	5.45%	76.00%	66.00%	65.57%	(\$0.00)	8.83%	20.46	3.76			
Black Hills Corporation	BKH	\$57.15	4.10%	3.86%	5.00%	4.32%	5.45%	55.00%	60.00%	65.57%	\$0.00	9.41%	17.45	3.20			
CMS Energy Corporation	CMS	\$44.60	6.40%	7.05%	7.00%	6.82%	5.45%	61.00%	61.00%	65.57%	(\$0.00)	9.31%	17.89	3.28			
DTE Energy Company	DTE	\$100.10	5.30%	5.59%	7.00%	5.96%	5.45%	61.00%	60.00%	65.57%	(\$0.00)	9.74%	16.10	2.96			
Duke Energy Corporation	DUK	\$75.51	4.70%	4.22%	5.50%	4.81%	5.45%	76.00%	80.00%	65.57%	\$0.00	9.61%	16.62	3.05			
El Paso Electric	EE	\$56.46	5.10%	5.20%	4.50%	4.93%	5.45%	57.00%	61.00%	65.57%	(\$0.00)	8.45%	23.03	4.23			
Hawaiian Electric Industries, Inc.	HE	\$33.60	7.10%	9.10%	3.50%	6.57%	5.45%	66.00%	59.00%	65.57%	(\$0.00)	9.27%	18.09	3.32			
IDACORP, Inc.	IDA	\$89.53	3.90%	3.10%	3.50%	3.50%	5.45%	57.00%	63.00%	65.57%	(\$0.00)	8.45%	23.00	4.22			
NextEra Energy, Inc.	NEE	\$159.84	8.60%	9.79%	8.50%	8.96%	5.45%	55.00%	63.00%	65.57%	\$0.00	9.14%	18.69	3.43			
NorthWestern Corporation	NWE	\$53.53	3.00%	3.16%	3.50%	3.22%	5.45%	64.00%	64.00%	65.57%	\$0.00	9.42%	17.38	3.19			
OGE Energy Corp.	OGE	\$34.04	6.00%	4.30%	6.00%	5.43%	5.45%	69.00%	71.00%	65.57%	(\$0.00)	9.69%	16.29	2.99			
Otter Tail Corporation	OTTR	\$45.22	NA	9.00%	7.50%	8.25%	5.45%	66.00%	60.00%	65.57%	(\$0.00)	9.04%	19.24	3.53			
Pinnacle West Capital Corporation	PNW	\$76.97	4.50%	3.78%	5.00%	4.43%	5.45%	63.00%	63.00%	65.57%	(\$0.00)	9.40%	17.50	3.21			
PNM Resources, Inc.	PNM	\$38.00	5.10%	4.30%	7.50%	5.63%	5.45%	53.00%	50.00%	65.57%	(\$0.00)	9.05%	19.19	3.52			
Portland General Electric Company	POR	\$41.01	2.80%	2.65%	4.00%	3.15%	5.45%	64.00%	63.00%	65.57%	\$0.00	8.97%	19.61	3.60			
Southern Company	SO	\$44.06	4.50%	2.72%	3.00%	3.41%	5.45%	80.00%	74.00%	65.57%	(\$0.00)	10.43%	13.86	2.55			
WEC Energy Group, Inc.	WEC	\$61.25	4.10%	4.43%	7.00%	5.18%	5.45%	66.00%	64.00%	65.57%	(\$0.00)	9.16%	18.63	3.42			
Xcel Energy Inc.	XEL	\$44.19	5.70%	5.89%	5.50%	5.70%	5.45%	62.00%	63.00%	65.57%	(\$0.00)	9.32%	17.86	3.28			
											Mean	9.23%	18.51				
											Max	10.43%					
											Min	8.45%					
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	\$3.13	\$3.31	\$3.49	\$3.69	\$3.90	\$4.12	\$4.36	\$4.60	\$4.85	\$5.12	\$5.40	\$5.70	\$6.01	\$6.34	\$6.68	\$7.04
Alliant Energy Corporation	LNT	\$1.99	\$2.11	\$2.24	\$2.37	\$2.51	\$2.66	\$2.82	\$2.98	\$3.15	\$3.33	\$3.51	\$3.70	\$3.91	\$4.12	\$4.34	\$4.58
Ameren Corporation	AEE	\$2.77	\$2.96	\$3.16	\$3.37	\$3.60	\$3.84	\$4.09	\$4.35	\$4.62	\$4.89	\$5.17	\$5.45	\$5.75	\$6.06	\$6.39	\$6.74
American Electric Power Company, Inc.	AEP	\$3.62	\$3.81	\$4.02	\$4.23	\$4.46	\$4.69	\$4.94	\$5.21	\$5.49	\$5.79	\$6.10	\$6.43	\$6.78	\$7.15	\$7.54	\$7.95
Avangrid, Inc.	AGR	\$1.67	\$1.85	\$2.05	\$2.27	\$2.52	\$2.79	\$3.07	\$3.35	\$3.62	\$3.88	\$4.13	\$4.35	\$4.59	\$4.84	\$5.10	\$5.38
Black Hills Corporation	BKH	\$3.38	\$3.53	\$3.68	\$3.84	\$4.00	\$4.18	\$4.36	\$4.57	\$4.79	\$5.04	\$5.30	\$5.59	\$5.89	\$6.21	\$6.55	\$6.91
CMS Energy Corporation	CMS	\$2.17	\$2.32	\$2.48	\$2.64	\$2.82	\$3.02	\$3.22	\$3.42	\$3.63	\$3.84	\$4.06	\$4.28	\$4.52	\$4.76	\$5.02	\$5.30
DTE Energy Company	DTE	\$5.73	\$6.07	\$6.43	\$6.82	\$7.22	\$7.65	\$8.10	\$8.57	\$9.06	\$9.57	\$10.10	\$10.65	\$11.23	\$11.84	\$12.49	\$13.17
Duke Energy Corporation	DUK	\$4.22	\$4.42	\$4.64	\$4.86	\$5.09	\$5.34	\$5.60	\$5.88	\$6.18	\$6.50	\$6.85	\$7.23	\$7.62	\$8.03	\$8.47	\$8.93
El Paso Electric	EE	\$2.42	\$2.54	\$2.66	\$2.80	\$2.93	\$3.08	\$3.23	\$3.40	\$3.57	\$3.76	\$3.97	\$4.18	\$4.41	\$4.65	\$4.90	\$5.17
Hawaiian Electric Industries, Inc.	HE	\$1.64	\$1.75	\$1.86	\$1.98	\$2.12	\$2.25	\$2.40	\$2.55	\$2.70	\$2.86	\$3.02	\$3.18	\$3.35	\$3.54	\$3.73	\$3.93
IDACORP, Inc.	IDA	\$4.21	\$4.36	\$4.51	\$4.67	\$4.83	\$5.00	\$5.19	\$5.41	\$5.65	\$5.92	\$6.22	\$6.56	\$6.92	\$7.30	\$7.69	\$8.11
NextEra Energy, Inc.	NEE	\$6.50	\$7.08	\$7.72	\$8.41	\$9.16	\$9.98	\$10.82	\$11.66	\$12.50	\$13.33	\$14.14	\$14.91	\$15.72	\$16.57	\$17.48	\$18.43
NorthWestern Corporation	NWE	\$3.34	\$3.45	\$3.56	\$3.67	\$3.79	\$3.91	\$4.05	\$4.21	\$4.40	\$4.60	\$4.84	\$5.10	\$5.38	\$5.67	\$5.98	\$6.31
OGE Energy Corp.	OGE	\$1.92	\$2.02	\$2.13	\$2.25	\$2.37	\$2.50	\$2.64	\$2.78	\$2.93	\$3.09	\$3.26	\$3.44	\$3.62	\$3.82	\$4.03	\$4.25
Otter Tail Corporation	OTTR	\$1.86	\$2.01	\$2.18	\$2.36	\$2.55	\$2.76	\$2.98	\$3.20	\$3.42	\$3.63	\$3.85	\$4.06	\$4.28	\$4.51	\$4.76	\$5.02
Pinnacle West Capital Corporation	PNW	\$4.43	\$4.63	\$4.83	\$5.04	\$5.27	\$5.50	\$5.75	\$6.03	\$6.33	\$6.65	\$7.00	\$7.38	\$7.78	\$8.21	\$8.65	\$9.13
PNM Resources, Inc.	PNM	\$1.92	\$2.03	\$2.14	\$2.26	\$2.39	\$2.53	\$2.67	\$2.82	\$2.97	\$3.13	\$3.31	\$3.49	\$3.68	\$3.88	\$4.09	\$4.31
Portland General Electric Company	POR	\$2.29	\$2.36	\$2.44	\$2.51	\$2.59	\$2.67	\$2.77	\$2.88	\$3.00	\$3.14	\$3.30	\$3.48	\$3.67	\$3.87	\$4.08	\$4.30
Southern Company	SO	\$3.21	\$3.32	\$3.43	\$3.55	\$3.67	\$3.80	\$3.94	\$4.10	\$4.28	\$4.48	\$4.71	\$4.97	\$5.24	\$5.53	\$5.83	\$6.14
WEC Energy Group, Inc.	WEC	\$3.14	\$3.30	\$3.47	\$3.65	\$3.84	\$4.04	\$4.25	\$4.48	\$4.71	\$4.97	\$5.23	\$5.52	\$5.82	\$6.14	\$6.47	\$6.82
Xcel Energy Inc.	XEL	\$2.30	\$2.43	\$2.57	\$2.72	\$2.87	\$3.03	\$3.21	\$3.39	\$3.57	\$3.77	\$3.98	\$4.20	\$4.42	\$4.67	\$4.92	\$5.19

Projected Annual Dividend Payout Ratio		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	65.00%	64.75%	64.50%	64.25%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Ameren Corporation	AEE	60.00%	59.75%	59.50%	59.25%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
American Electric Power Company, Inc.	AEP	67.00%	66.00%	65.00%	64.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Avangrid, Inc.	AGR	76.00%	73.50%	71.00%	68.50%	66.00%	65.93%	65.86%	65.79%	65.71%	65.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Black Hills Corporation	BKH	55.00%	56.25%	57.50%	58.75%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
DTE Energy Company	DTE	61.00%	60.75%	60.50%	60.25%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Duke Energy Corporation	DUK	76.00%	77.00%	78.00%	79.00%	80.00%	77.60%	75.19%	72.79%	70.38%	67.98%	65.57%	65.57%	65.57%	65.57%	65.57%
El Paso Electric	EE	57.00%	58.00%	59.00%	60.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
Hawaiian Electric Industries, Inc.	HE	66.00%	64.25%	62.50%	60.75%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
IDACORP, Inc.	IDA	57.00%	58.50%	60.00%	61.50%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NextEra Energy, Inc.	NEE	55.00%	57.00%	59.00%	61.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NorthWestern Corporation	NWE	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
OGE Energy Corp.	OGE	69.00%	69.50%	70.00%	70.50%	71.00%	70.10%	69.19%	68.29%	67.38%	66.48%	65.57%	65.57%	65.57%	65.57%	65.57%
Otter Tail Corporation	OTTR	66.00%	64.50%	63.00%	61.50%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Pinnacle West Capital Corporation	PNW	63.00%	63.00%	63.00%	63.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
PNM Resources, Inc.	PNM	53.00%	52.25%	51.50%	50.75%	50.00%	52.60%	55.19%	57.79%	60.38%	62.98%	65.57%	65.57%	65.57%	65.57%	65.57%
Portland General Electric Company	POR	64.00%	63.75%	63.50%	63.25%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Southern Company	SO	80.00%	78.50%	77.00%	75.50%	74.00%	72.60%	71.19%	69.79%	68.38%	66.98%	65.57%	65.57%	65.57%	65.57%	65.57%
WEC Energy Group, Inc.	WEC	66.00%	65.50%	65.00%	64.50%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Xcel Energy Inc.	XEL	62.00%	62.25%	62.50%	62.75%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%

Projected Annual Cash Flows		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.15	\$2.26	\$2.38	\$2.51	\$2.64	\$2.80	\$2.97	\$3.14	\$3.33	\$3.53	\$3.74	\$3.94	\$4.15	\$4.38	\$4.62	\$157.16
Alliant Energy Corporation	LNT	\$1.35	\$1.43	\$1.52	\$1.61	\$1.70	\$1.81	\$1.92	\$2.04	\$2.17	\$2.29	\$2.43	\$2.56	\$2.70	\$2.85	\$3.00	\$84.94
Ameren Corporation	AEE	\$1.77	\$1.89	\$2.01	\$2.13	\$2.27	\$2.46	\$2.66	\$2.88	\$3.10	\$3.33	\$3.57	\$3.77	\$3.97	\$4.19	\$4.42	\$122.09
American Electric Power Company, Inc.	AEP	\$2.55	\$2.65	\$2.75	\$2.85	\$2.96	\$3.14	\$3.33	\$3.53	\$3.75	\$3.97	\$4.22	\$4.45	\$4.69	\$4.95	\$5.22	\$137.18
Avangrid, Inc.	AGR	\$1.41	\$1.51	\$1.61	\$1.73	\$1.84	\$2.02	\$2.20	\$2.38	\$2.55	\$2.71	\$2.85	\$3.01	\$3.17	\$3.35	\$3.53	\$110.14
Black Hills Corporation	BKH	\$1.94	\$2.07	\$2.21	\$2.35	\$2.51	\$2.66	\$2.83	\$3.01	\$3.21	\$3.43	\$3.66	\$3.86	\$4.07	\$4.30	\$4.53	\$120.53
CMS Energy Corporation	CMS	\$1.41	\$1.51	\$1.61	\$1.72	\$1.84	\$1.99	\$2.14	\$2.30	\$2.46	\$2.63	\$2.81	\$2.96	\$3.12	\$3.29	\$3.47	\$94.74
DTE Energy Company	DTE	\$3.70	\$3.91	\$4.12	\$4.35	\$4.59	\$4.94	\$5.30	\$5.69	\$6.10	\$6.53	\$6.98	\$7.36	\$7.77	\$8.19	\$8.64	\$211.98
Duke Energy Corporation	DUK	\$3.36	\$3.57	\$3.79	\$4.02	\$4.27	\$4.34	\$4.42	\$4.50	\$4.58	\$4.66	\$4.74	\$5.00	\$5.27	\$5.55	\$5.86	\$148.47
El Paso Electric	EE	\$1.45	\$1.55	\$1.65	\$1.76	\$1.88	\$2.00	\$2.12	\$2.26	\$2.41	\$2.57	\$2.74	\$2.89	\$3.05	\$3.21	\$3.39	\$119.03
Hawaiian Electric Industries, Inc.	HE	\$1.15	\$1.20	\$1.24	\$1.28	\$1.33	\$1.44	\$1.56	\$1.68	\$1.81	\$1.95	\$2.09	\$2.20	\$2.32	\$2.45	\$2.58	\$71.17
IDACORP, Inc.	IDA	\$2.48	\$2.64	\$2.80	\$2.97	\$3.15	\$3.29	\$3.45	\$3.63	\$3.83	\$4.05	\$4.30	\$4.54	\$4.78	\$5.04	\$5.32	\$186.56
NextEra Energy, Inc.	NEE	\$3.90	\$4.40	\$4.96	\$5.59	\$6.29	\$6.86	\$7.45	\$8.04	\$8.63	\$9.21	\$9.77	\$10.31	\$10.87	\$11.46	\$12.08	\$344.47
NorthWestern Corporation	NWE	\$2.21	\$2.28	\$2.35	\$2.43	\$2.50	\$2.61	\$2.72	\$2.85	\$2.99	\$3.16	\$3.34	\$3.53	\$3.72	\$3.92	\$4.14	\$109.61
OGE Energy Corp.	OGE	\$1.40	\$1.48	\$1.58	\$1.67	\$1.78	\$1.85	\$1.92	\$2.00	\$2.08	\$2.17	\$2.25	\$2.38	\$2.51	\$2.64	\$2.79	\$69.23
Otter Tail Corporation	OTTR	\$1.33	\$1.41	\$1.49	\$1.57	\$1.66	\$1.82	\$1.98	\$2.15	\$2.32	\$2.49	\$2.66	\$2.81	\$2.96	\$3.12	\$3.29	\$96.56
Pinnacle West Capital Corporation	PNW	\$2.91	\$3.04	\$3.18	\$3.32	\$3.47	\$3.65	\$3.85	\$4.07	\$4.30	\$4.56	\$4.84	\$5.10	\$5.38	\$5.67	\$5.98	\$159.69
PNM Resources, Inc.	PNM	\$1.07	\$1.12	\$1.17	\$1.21	\$1.26	\$1.40	\$1.55	\$1.72	\$1.89	\$2.08	\$2.29	\$2.41	\$2.54	\$2.68	\$2.83	\$82.74
Portland General Electric Company	POR	\$1.51	\$1.55	\$1.60	\$1.64	\$1.68	\$1.76	\$1.84	\$1.93	\$2.03	\$2.15	\$2.28	\$2.41	\$2.54	\$2.68	\$2.82	\$84.37
Southern Company	SO	\$2.66	\$2.69	\$2.73	\$2.77	\$2.81	\$2.86	\$2.92	\$2.99	\$3.07	\$3.16	\$3.26	\$3.44	\$3.62	\$3.82	\$4.03	\$85.17
WEC Energy Group, Inc.	WEC	\$2.18	\$2.28	\$2.37	\$2.48	\$2.59	\$2.73	\$2.89	\$3.05	\$3.23	\$3.42	\$3.62	\$3.82	\$4.02	\$4.24	\$4.47	\$127.15
Xcel Energy Inc.	XEL	\$1.51	\$1.60	\$1.70	\$1.80	\$1.91	\$2.03	\$2.16	\$2.30	\$2.44	\$2.59	\$2.75	\$2.90	\$3.06	\$3.23	\$3.40	\$92.65

Projected Annual Data

Investor Cash Flows		[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]	[32]	[33]
Company	Ticker	Initial Outflow	6/15/18	12/31/18	6/30/19	6/30/20	6/30/21	6/30/22	6/30/23	6/30/24	6/30/25	6/30/26	6/30/27	6/30/28	6/30/29	6/30/30	6/30/31	6/30/32
ALLETE, Inc.	ALE	(\$75.23)	\$0.00	\$1.17	\$2.21	\$2.38	\$2.51	\$2.64	\$2.80	\$2.97	\$3.14	\$3.33	\$3.53	\$3.74	\$3.94	\$4.15	\$4.38	\$161.77
Alliant Energy Corporation	LNT	(\$40.60)	\$0.00	\$0.74	\$1.39	\$1.52	\$1.61	\$1.70	\$1.81	\$1.92	\$2.04	\$2.17	\$2.29	\$2.43	\$2.56	\$2.70	\$2.85	\$87.94
Ameren Corporation	AEE	(\$57.18)	\$0.00	\$0.97	\$1.83	\$2.01	\$2.13	\$2.27	\$2.46	\$2.66	\$2.88	\$3.10	\$3.33	\$3.57	\$3.77	\$3.97	\$4.19	\$126.51
American Electric Power Company, Inc.	AEP	(\$66.01)	\$0.00	\$1.39	\$2.62	\$2.75	\$2.85	\$2.96	\$3.14	\$3.33	\$3.53	\$3.75	\$3.97	\$4.22	\$4.45	\$4.69	\$4.95	\$142.39
Avangrid, Inc.	AGR	(\$51.90)	\$0.00	\$0.77	\$1.48	\$1.61	\$1.73	\$1.84	\$2.02	\$2.20	\$2.38	\$2.55	\$2.71	\$2.85	\$3.01	\$3.17	\$3.35	\$113.67
Black Hills Corporation	BKH	(\$57.15)	\$0.00	\$1.06	\$1.98	\$2.21	\$2.35	\$2.51	\$2.66	\$2.83	\$3.01	\$3.21	\$3.43	\$3.66	\$3.86	\$4.07	\$4.30	\$125.06
CMS Energy Corporation	CMS	(\$44.60)	\$0.00	\$0.77	\$1.46	\$1.61	\$1.72	\$1.84	\$1.99	\$2.14	\$2.30	\$2.46	\$2.63	\$2.81	\$2.96	\$3.12	\$3.29	\$98.21
DTE Energy Company	DTE	(\$100.10)	\$0.00	\$2.02	\$3.81	\$4.12	\$4.35	\$4.59	\$4.94	\$5.30	\$5.69	\$6.10	\$6.53	\$6.98	\$7.36	\$7.77	\$8.19	\$220.61
Duke Energy Corporation	DUK	(\$75.51)	\$0.00	\$1.83	\$3.44	\$3.79	\$4.02	\$4.27	\$4.34	\$4.42	\$4.50	\$4.58	\$4.66	\$4.74	\$5.00	\$5.27	\$5.55	\$154.33
El Paso Electric	EE	(\$56.46)	\$0.00	\$0.79	\$1.48	\$1.65	\$1.76	\$1.88	\$2.00	\$2.12	\$2.26	\$2.41	\$2.57	\$2.74	\$2.89	\$3.05	\$3.21	\$122.42
Hawaiian Electric Industries, Inc.	HE	(\$33.60)	\$0.00	\$0.63	\$1.19	\$1.24	\$1.28	\$1.33	\$1.44	\$1.56	\$1.68	\$1.81	\$1.95	\$2.09	\$2.20	\$2.32	\$2.45	\$73.75
IDACORP, Inc.	IDA	(\$89.53)	\$0.00	\$1.35	\$2.53	\$2.80	\$2.97	\$3.15	\$3.29	\$3.45	\$3.63	\$3.83	\$4.05	\$4.30	\$4.54	\$4.78	\$5.04	\$191.88
NextEra Energy, Inc.	NEE	(\$159.84)	\$0.00	\$2.12	\$4.07	\$4.96	\$5.59	\$6.29	\$6.86	\$7.45	\$8.04	\$8.63	\$9.21	\$9.77	\$10.31	\$10.87	\$11.46	\$356.55
NorthWestern Corporation	NWE	(\$53.53)	\$0.00	\$1.20	\$2.24	\$2.35	\$2.43	\$2.50	\$2.61	\$2.72	\$2.85	\$2.99	\$3.16	\$3.34	\$3.53	\$3.72	\$3.92	\$113.75
OGE Energy Corp.	OGE	(\$34.04)	\$0.00	\$0.76	\$1.43	\$1.58	\$1.67	\$1.78	\$1.85	\$1.92	\$2.00	\$2.08	\$2.17	\$2.25	\$2.38	\$2.51	\$2.64	\$72.02
Otter Tail Corporation	OTTR	(\$45.22)	\$0.00	\$0.72	\$1.38	\$1.49	\$1.57	\$1.66	\$1.82	\$1.98	\$2.15	\$2.32	\$2.49	\$2.66	\$2.81	\$2.96	\$3.12	\$99.85
Pinnacle West Capital Corporation	PNW	(\$76.97)	\$0.00	\$1.59	\$2.98	\$3.18	\$3.32	\$3.47	\$3.65	\$3.85	\$4.07	\$4.30	\$4.56	\$4.84	\$5.10	\$5.38	\$5.67	\$165.67
PNM Resources, Inc.	PNM	(\$38.00)	\$0.00	\$0.59	\$1.11	\$1.17	\$1.21	\$1.26	\$1.40	\$1.55	\$1.72	\$1.89	\$2.08	\$2.29	\$2.41	\$2.54	\$2.68	\$85.56
Portland General Electric Company	POR	(\$41.01)	\$0.00	\$0.82	\$1.54	\$1.60	\$1.64	\$1.68	\$1.76	\$1.84	\$1.93	\$2.03	\$2.15	\$2.28	\$2.41	\$2.54	\$2.68	\$87.19
Southern Company	SO	(\$44.06)	\$0.00	\$1.45	\$2.70	\$2.73	\$2.77	\$2.81	\$2.86	\$2.92	\$2.99	\$3.07	\$3.16	\$3.26	\$3.44	\$3.62	\$3.82	\$89.20
WEC Energy Group, Inc.	WEC	(\$61.25)	\$0.00	\$1.19	\$2.24	\$2.37	\$2.48	\$2.59	\$2.73	\$2.89	\$3.05	\$3.23	\$3.42	\$3.62	\$3.82	\$4.02	\$4.24	\$131.63
Xcel Energy Inc.	XEL	(\$44.19)	\$0.00	\$0.82	\$1.55	\$1.70	\$1.80	\$1.91	\$2.03	\$2.16	\$2.30	\$2.44	\$2.59	\$2.75	\$2.90	\$3.06	\$3.23	\$96.05

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]			
Company	Ticker	Stock	EPS Growth Rate Estimates				Long-Term	Payout Ratio			Iterative Solution		Terminal	Terminal			
		Price	Zacks	First Call	Value Line	High Growth	Growth	2018	2022	2028	Proof	IRR	P/E Ratio	PEG Ratio			
ALLETE, Inc.	ALE	\$75.23	6.00%	6.00%	5.00%	6.00%	5.45%	65.00%	64.00%	65.57%	\$0.00	8.61%	21.83	4.01			
Alliant Energy Corporation	LNT	\$40.60	5.60%	5.85%	6.50%	6.50%	5.45%	64.00%	64.00%	65.57%	\$0.00	9.30%	17.94	3.29			
Ameren Corporation	AEE	\$57.18	6.50%	6.30%	7.50%	7.50%	5.45%	60.00%	59.00%	65.57%	\$0.00	9.44%	17.30	3.18			
American Electric Power Company, Inc.	AEP	\$66.01	5.70%	5.79%	4.50%	5.79%	5.45%	67.00%	63.00%	65.57%	\$0.00	9.58%	16.74	3.07			
Avangrid, Inc.	AGR	\$51.90	9.10%	10.40%	13.00%	13.00%	5.45%	76.00%	66.00%	65.57%	(\$0.00)	9.30%	17.92	3.29			
Black Hills Corporation	BKH	\$57.15	4.10%	3.86%	5.00%	5.00%	5.45%	55.00%	60.00%	65.57%	\$0.00	9.59%	16.70	3.07			
CMS Energy Corporation	CMS	\$44.60	6.40%	7.05%	7.00%	7.05%	5.45%	61.00%	61.00%	65.57%	\$0.00	9.37%	17.62	3.24			
DTE Energy Company	DTE	\$100.10	5.30%	5.59%	7.00%	7.00%	5.45%	61.00%	60.00%	65.57%	\$0.00	10.03%	15.08	2.77			
Duke Energy Corporation	DUK	\$75.51	4.70%	4.22%	5.50%	5.50%	5.45%	76.00%	80.00%	65.57%	\$0.00	9.80%	15.88	2.92			
El Paso Electric	EE	\$56.46	5.10%	5.20%	4.50%	5.20%	5.45%	57.00%	61.00%	65.57%	\$0.00	8.50%	22.63	4.15			
Hawaiian Electric Industries, Inc.	HE	\$33.60	7.10%	9.10%	3.50%	9.10%	5.45%	66.00%	59.00%	65.57%	(\$0.00)	9.92%	15.45	2.84			
IDACORP, Inc.	IDA	\$89.53	3.90%	3.10%	3.50%	3.90%	5.45%	57.00%	63.00%	65.57%	\$0.00	8.53%	22.39	4.11			
NextEra Energy, Inc.	NEE	\$159.84	8.60%	9.79%	8.50%	9.79%	5.45%	55.00%	63.00%	65.57%	\$0.00	9.34%	17.76	3.26			
NorthWestern Corporation	NWE	\$53.53	3.00%	3.16%	3.50%	3.50%	5.45%	64.00%	64.00%	65.57%	\$0.00	9.50%	17.06	3.13			
OGE Energy Corp.	OGE	\$34.04	6.00%	4.30%	6.00%	6.00%	5.45%	69.00%	71.00%	65.57%	(\$0.00)	9.85%	15.70	2.88			
Otter Tail Corporation	OTTR	\$45.22	NA	9.00%	7.50%	9.00%	5.45%	66.00%	60.00%	65.57%	\$0.00	9.21%	18.36	3.37			
Pinnacle West Capital Corporation	PNW	\$76.97	4.50%	3.78%	5.00%	5.00%	5.45%	63.00%	63.00%	65.57%	\$0.00	9.55%	16.86	3.10			
PNM Resources, Inc.	PNM	\$38.00	5.10%	4.30%	7.50%	7.50%	5.45%	53.00%	50.00%	65.57%	(\$0.00)	9.50%	17.08	3.14			
Portland General Electric Company	POR	\$41.01	2.80%	2.65%	4.00%	4.00%	5.45%	64.00%	63.00%	65.57%	\$0.00	9.18%	18.53	3.40			
Southern Company	SO	\$44.06	4.50%	2.72%	3.00%	4.50%	5.45%	80.00%	74.00%	65.57%	(\$0.00)	10.80%	12.91	2.37			
WEC Energy Group, Inc.	WEC	\$61.25	4.10%	4.43%	7.00%	7.00%	5.45%	66.00%	64.00%	65.57%	(\$0.00)	9.62%	16.57	3.04			
Xcel Energy Inc.	XEL	\$44.19	5.70%	5.89%	5.50%	5.89%	5.45%	62.00%	63.00%	65.57%	(\$0.00)	9.37%	17.64	3.24			
											Mean	9.45%					
											Max	10.80%					
											Min	8.50%					
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	\$3.13	\$3.32	\$3.52	\$3.73	\$3.95	\$4.19	\$4.44	\$4.69	\$4.96	\$5.24	\$5.53	\$5.83	\$6.15	\$6.49	\$6.84	\$7.21
Alliant Energy Corporation	LNT	\$1.99	\$2.12	\$2.26	\$2.40	\$2.56	\$2.73	\$2.90	\$3.08	\$3.26	\$3.45	\$3.64	\$3.84	\$4.05	\$4.27	\$4.51	\$4.75
Ameren Corporation	AEE	\$2.77	\$2.98	\$3.20	\$3.44	\$3.70	\$3.98	\$4.26	\$4.55	\$4.85	\$5.14	\$5.44	\$5.74	\$6.05	\$6.38	\$6.73	\$7.09
American Electric Power Company, Inc.	AEP	\$3.62	\$3.83	\$4.05	\$4.29	\$4.53	\$4.80	\$5.07	\$5.36	\$5.66	\$5.98	\$6.30	\$6.65	\$7.01	\$7.39	\$7.79	\$8.22
Avangrid, Inc.	AGR	\$1.67	\$1.89	\$2.13	\$2.41	\$2.72	\$3.08	\$3.44	\$3.80	\$4.15	\$4.48	\$4.78	\$5.04	\$5.31	\$5.60	\$5.91	\$6.23
Black Hills Corporation	BKH	\$3.38	\$3.55	\$3.73	\$3.91	\$4.11	\$4.31	\$4.53	\$4.77	\$5.02	\$5.28	\$5.56	\$5.87	\$6.19	\$6.52	\$6.88	\$7.25
CMS Energy Corporation	CMS	\$2.17	\$2.32	\$2.49	\$2.66	\$2.85	\$3.05	\$3.26	\$3.47	\$3.69	\$3.91	\$4.13	\$4.36	\$4.59	\$4.84	\$5.11	\$5.38
DTE Energy Company	DTE	\$5.73	\$6.13	\$6.56	\$7.02	\$7.51	\$8.04	\$8.58	\$9.13	\$9.70	\$10.28	\$10.87	\$11.46	\$12.08	\$12.74	\$13.44	\$14.17
Duke Energy Corporation	DUK	\$4.22	\$4.45	\$4.70	\$4.96	\$5.23	\$5.52	\$5.82	\$6.14	\$6.47	\$6.83	\$7.20	\$7.59	\$8.00	\$8.44	\$8.90	\$9.39
El Paso Electric	EE	\$2.42	\$2.55	\$2.68	\$2.82	\$2.96	\$3.12	\$3.28	\$3.45	\$3.64	\$3.83	\$4.04	\$4.26	\$4.49	\$4.74	\$5.00	\$5.27
Hawaiian Electric Industries, Inc.	HE	\$1.64	\$1.79	\$1.95	\$2.13	\$2.32	\$2.53	\$2.75	\$2.97	\$3.18	\$3.39	\$3.60	\$3.80	\$4.00	\$4.22	\$4.45	\$4.69
IDACORP, Inc.	IDA	\$4.21	\$4.37	\$4.54	\$4.72	\$4.91	\$5.10	\$5.31	\$5.54	\$5.80	\$6.09	\$6.41	\$6.75	\$7.12	\$7.51	\$7.92	\$8.35
NextEra Energy, Inc.	NEE	\$6.50	\$7.14	\$7.83	\$8.60	\$9.44	\$10.37	\$11.31	\$12.25	\$13.19	\$14.09	\$14.96	\$15.78	\$16.64	\$17.54	\$18.50	\$19.51
NorthWestern Corporation	NWE	\$3.34	\$3.46	\$3.58	\$3.70	\$3.83	\$3.97	\$4.12	\$4.29	\$4.48	\$4.70	\$4.94	\$5.21	\$5.49	\$5.79	\$6.10	\$6.44
OGE Energy Corp.	OGE	\$1.92	\$2.04	\$2.16	\$2.29	\$2.42	\$2.57	\$2.72	\$2.88	\$3.04	\$3.22	\$3.39	\$3.58	\$3.77	\$3.98	\$4.20	\$4.42
Otter Tail Corporation	OTTR	\$1.86	\$2.03	\$2.21	\$2.41	\$2.63	\$2.86	\$3.10	\$3.34	\$3.59	\$3.82	\$4.06	\$4.28	\$4.51	\$4.75	\$5.01	\$5.29
Pinnacle West Capital Corporation	PNW	\$4.43	\$4.65	\$4.88	\$5.13	\$5.38	\$5.65	\$5.94	\$6.25	\$6.57	\$6.92	\$7.29	\$7.69	\$8.11	\$8.55	\$9.02	\$9.51
PNM Resources, Inc.	PNM	\$1.92	\$2.06	\$2.22	\$2.39	\$2.56	\$2.76	\$2.95	\$3.16	\$3.36	\$3.57	\$3.77	\$3.98	\$4.19	\$4.42	\$4.66	\$4.92
Portland General Electric Company	POR	\$2.29	\$2.38	\$2.48	\$2.58	\$2.68	\$2.79	\$2.90	\$3.03	\$3.18	\$3.34	\$3.51	\$3.70	\$3.90	\$4.11	\$4.34	\$4.57
Southern Company	SO	\$3.21	\$3.35	\$3.51	\$3.66	\$3.83	\$4.00	\$4.19	\$4.39	\$4.61	\$4.84	\$5.10	\$5.38	\$5.67	\$5.98	\$6.30	\$6.65
WEC Energy Group, Inc.	WEC	\$3.14	\$3.36	\$3.59	\$3.85	\$4.12	\$4.40	\$4.70	\$5.01	\$5.32	\$5.63	\$5.96	\$6.28	\$6.62	\$6.98	\$7.36	\$7.76
Xcel Energy Inc.	XEL	\$2.30	\$2.44	\$2.58	\$2.73	\$2.89	\$3.06	\$3.24	\$3.43	\$3.62	\$3.82	\$4.03	\$4.25	\$4.49	\$4.73	\$4.99	\$5.26

Projected Annual Dividend Payout Ratio		[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	65.00%	64.75%	64.50%	64.25%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Ameren Corporation	AEE	60.00%	59.75%	59.50%	59.25%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
American Electric Power Company, Inc.	AEP	67.00%	66.00%	65.00%	64.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Avangrid, Inc.	AGR	76.00%	73.50%	71.00%	68.50%	66.00%	65.93%	65.86%	65.79%	65.71%	65.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Black Hills Corporation	BKH	55.00%	56.25%	57.50%	58.75%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
DTE Energy Company	DTE	61.00%	60.75%	60.50%	60.25%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Duke Energy Corporation	DUK	76.00%	77.00%	78.00%	79.00%	80.00%	77.60%	75.19%	72.79%	70.38%	67.98%	65.57%	65.57%	65.57%	65.57%	65.57%
El Paso Electric	EE	57.00%	58.00%	59.00%	60.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
Hawaiian Electric Industries, Inc.	HE	66.00%	64.25%	62.50%	60.75%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
IDACORP, Inc.	IDA	57.00%	58.50%	60.00%	61.50%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NextEra Energy, Inc.	NEE	55.00%	57.00%	59.00%	61.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NorthWestern Corporation	NWE	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
OGE Energy Corp.	OGE	69.00%	69.50%	70.00%	70.50%	71.00%	70.10%	69.19%	68.29%	67.38%	66.48%	65.57%	65.57%	65.57%	65.57%	65.57%
Otter Tail Corporation	OTTR	66.00%	64.50%	63.00%	61.50%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Pinnacle West Capital Corporation	PNW	63.00%	63.00%	63.00%	63.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
PNM Resources, Inc.	PNM	53.00%	52.25%	51.50%	50.75%	50.00%	52.60%	55.19%	57.79%	60.38%	62.98%	65.57%	65.57%	65.57%	65.57%	65.57%
Portland General Electric Company	POR	64.00%	63.75%	63.50%	63.25%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Southern Company	SO	80.00%	78.50%	77.00%	75.50%	74.00%	72.60%	71.19%	69.79%	68.38%	66.98%	65.57%	65.57%	65.57%	65.57%	65.57%
WEC Energy Group, Inc.	WEC	66.00%	65.50%	65.00%	64.50%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Xcel Energy Inc.	XEL	62.00%	62.25%	62.50%	62.75%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%

Projected Annual Cash Flows		[45]	[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	Terminal Value
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032		
ALLETE, Inc.	ALE	\$2.16	\$2.28	\$2.40	\$2.54	\$2.68	\$2.85	\$3.03	\$3.22	\$3.41	\$3.61	\$3.83	\$4.03	\$4.25	\$4.48	\$4.73	\$157.43	
Alliant Energy Corporation	LNT	\$1.36	\$1.44	\$1.54	\$1.64	\$1.74	\$1.86	\$1.99	\$2.11	\$2.24	\$2.38	\$2.52	\$2.66	\$2.80	\$2.95	\$3.11	\$85.22	
Ameren Corporation	AEE	\$1.79	\$1.91	\$2.05	\$2.19	\$2.35	\$2.56	\$2.79	\$3.02	\$3.26	\$3.51	\$3.76	\$3.97	\$4.18	\$4.41	\$4.65	\$122.73	
American Electric Power Company, Inc.	AEP	\$2.57	\$2.67	\$2.79	\$2.90	\$3.02	\$3.22	\$3.42	\$3.64	\$3.87	\$4.11	\$4.36	\$4.60	\$4.85	\$5.11	\$5.39	\$137.60	
Avangrid, Inc.	AGR	\$1.43	\$1.57	\$1.71	\$1.87	\$2.03	\$2.27	\$2.50	\$2.73	\$2.94	\$3.14	\$3.30	\$3.48	\$3.67	\$3.87	\$4.09	\$111.66	
Black Hills Corporation	BKH	\$1.95	\$2.10	\$2.25	\$2.41	\$2.59	\$2.76	\$2.95	\$3.15	\$3.36	\$3.60	\$3.85	\$4.06	\$4.28	\$4.51	\$4.76	\$121.12	
CMS Energy Corporation	CMS	\$1.42	\$1.52	\$1.62	\$1.74	\$1.86	\$2.01	\$2.17	\$2.33	\$2.50	\$2.68	\$2.86	\$3.01	\$3.18	\$3.35	\$3.53	\$94.89	
DTE Energy Company	DTE	\$3.74	\$3.99	\$4.25	\$4.53	\$4.82	\$5.23	\$5.65	\$6.09	\$6.55	\$7.03	\$7.51	\$7.92	\$8.36	\$8.81	\$9.29	\$213.70	
Duke Energy Corporation	DUK	\$3.38	\$3.62	\$3.87	\$4.13	\$4.41	\$4.51	\$4.61	\$4.71	\$4.80	\$4.89	\$4.98	\$5.25	\$5.53	\$5.84	\$6.15	\$149.01	
El Paso Electric	EE	\$1.45	\$1.55	\$1.66	\$1.78	\$1.90	\$2.03	\$2.16	\$2.30	\$2.46	\$2.62	\$2.79	\$2.95	\$3.11	\$3.28	\$3.45	\$119.20	
Hawaiian Electric Industries, Inc.	HE	\$1.18	\$1.25	\$1.33	\$1.41	\$1.50	\$1.65	\$1.82	\$1.98	\$2.15	\$2.32	\$2.49	\$2.62	\$2.77	\$2.92	\$3.08	\$72.53	
IDACORP, Inc.	IDA	\$2.49	\$2.66	\$2.83	\$3.02	\$3.21	\$3.37	\$3.54	\$3.73	\$3.94	\$4.17	\$4.43	\$4.67	\$4.92	\$5.19	\$5.47	\$186.94	
NextEra Energy, Inc.	NEE	\$3.92	\$4.47	\$5.08	\$5.76	\$6.53	\$7.17	\$7.82	\$8.48	\$9.12	\$9.75	\$10.35	\$10.91	\$11.50	\$12.13	\$12.79	\$346.44	
NorthWestern Corporation	NWE	\$2.21	\$2.29	\$2.37	\$2.45	\$2.54	\$2.65	\$2.77	\$2.90	\$3.05	\$3.22	\$3.41	\$3.60	\$3.80	\$4.00	\$4.22	\$109.80	
OGE Energy Corp.	OGE	\$1.40	\$1.50	\$1.60	\$1.71	\$1.82	\$1.91	\$1.99	\$2.08	\$2.17	\$2.26	\$2.35	\$2.47	\$2.61	\$2.75	\$2.90	\$69.48	
Otter Tail Corporation	OTTR	\$1.34	\$1.43	\$1.52	\$1.61	\$1.72	\$1.89	\$2.07	\$2.25	\$2.44	\$2.62	\$2.80	\$2.96	\$3.12	\$3.29	\$3.47	\$97.04	
Pinnacle West Capital Corporation	PNW	\$2.93	\$3.08	\$3.23	\$3.39	\$3.56	\$3.77	\$3.99	\$4.23	\$4.48	\$4.75	\$5.04	\$5.32	\$5.61	\$5.91	\$6.23	\$160.30	
PNM Resources, Inc.	PNM	\$1.09	\$1.16	\$1.23	\$1.30	\$1.38	\$1.55	\$1.74	\$1.94	\$2.15	\$2.38	\$2.61	\$2.75	\$2.90	\$3.06	\$3.22	\$83.96	
Portland General Electric Company	POR	\$1.52	\$1.58	\$1.64	\$1.69	\$1.76	\$1.84	\$1.94	\$2.04	\$2.16	\$2.29	\$2.43	\$2.56	\$2.70	\$2.84	\$3.00	\$84.79	
Southern Company	SO	\$2.68	\$2.75	\$2.82	\$2.89	\$2.96	\$3.04	\$3.12	\$3.21	\$3.31	\$3.41	\$3.53	\$3.72	\$3.92	\$4.13	\$4.36	\$85.78	
WEC Energy Group, Inc.	WEC	\$2.22	\$2.35	\$2.50	\$2.65	\$2.82	\$3.02	\$3.23	\$3.44	\$3.66	\$3.89	\$4.12	\$4.34	\$4.58	\$4.83	\$5.09	\$128.68	
Xcel Energy Inc.	XEL	\$1.51	\$1.61	\$1.71	\$1.81	\$1.93	\$2.06	\$2.19	\$2.33	\$2.47	\$2.63	\$2.79	\$2.94	\$3.10	\$3.27	\$3.45	\$92.77	

Projected Annual Data

Investor Cash Flows		[61]	[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]
Company	Ticker	Initial Outflow	6/15/18	12/31/18	6/30/19	6/30/20	6/30/21	6/30/22	6/30/23	6/30/24	6/30/25	6/30/26	6/30/27	6/30/28	6/30/29	6/30/30	6/30/31	6/30/32
ALLETE, Inc.	ALE	(\$75.23)	\$0.00	\$1.18	\$2.22	\$2.40	\$2.54	\$2.68	\$2.85	\$3.03	\$3.22	\$3.41	\$3.61	\$3.83	\$4.03	\$4.25	\$4.48	\$162.16
Alliant Energy Corporation	LNT	(\$40.60)	\$0.00	\$0.74	\$1.40	\$1.54	\$1.64	\$1.74	\$1.86	\$1.99	\$2.11	\$2.24	\$2.38	\$2.52	\$2.66	\$2.80	\$2.95	\$88.33
Ameren Corporation	AEE	(\$57.18)	\$0.00	\$0.97	\$1.85	\$2.05	\$2.19	\$2.35	\$2.56	\$2.79	\$3.02	\$3.26	\$3.51	\$3.76	\$3.97	\$4.18	\$4.41	\$127.38
American Electric Power Company, Inc.	AEP	(\$66.01)	\$0.00	\$1.40	\$2.64	\$2.79	\$2.90	\$3.02	\$3.22	\$3.42	\$3.64	\$3.87	\$4.11	\$4.36	\$4.60	\$4.85	\$5.11	\$142.99
Avangrid, Inc.	AGR	(\$51.90)	\$0.00	\$0.78	\$1.53	\$1.71	\$1.87	\$2.03	\$2.27	\$2.50	\$2.73	\$2.94	\$3.14	\$3.30	\$3.48	\$3.67	\$3.87	\$115.75
Black Hills Corporation	BKH	(\$57.15)	\$0.00	\$1.06	\$2.00	\$2.25	\$2.41	\$2.59	\$2.76	\$2.95	\$3.15	\$3.36	\$3.60	\$3.85	\$4.06	\$4.28	\$4.51	\$125.87
CMS Energy Corporation	CMS	(\$44.59)	\$0.00	\$0.77	\$1.47	\$1.62	\$1.74	\$1.86	\$2.01	\$2.17	\$2.33	\$2.50	\$2.68	\$2.86	\$3.01	\$3.18	\$3.35	\$98.42
DTE Energy Company	DTE	(\$100.10)	\$0.00	\$2.04	\$3.87	\$4.25	\$4.53	\$4.82	\$5.23	\$5.65	\$6.09	\$6.55	\$7.03	\$7.51	\$7.92	\$8.36	\$8.81	\$222.99
Duke Energy Corporation	DUK	(\$75.51)	\$0.00	\$1.84	\$3.48	\$3.87	\$4.13	\$4.41	\$4.51	\$4.61	\$4.71	\$4.80	\$4.89	\$4.98	\$5.25	\$5.53	\$5.84	\$155.16
El Paso Electric	EE	(\$56.45)	\$0.00	\$0.79	\$1.49	\$1.66	\$1.78	\$1.90	\$2.03	\$2.16	\$2.30	\$2.46	\$2.62	\$2.79	\$2.95	\$3.11	\$3.28	\$122.65
Hawaiian Electric Industries, Inc.	HE	(\$33.60)	\$0.00	\$0.64	\$1.23	\$1.33	\$1.41	\$1.50	\$1.65	\$1.82	\$1.98	\$2.15	\$2.32	\$2.49	\$2.62	\$2.77	\$2.92	\$75.61
IDACORP, Inc.	IDA	(\$89.53)	\$0.00	\$1.36	\$2.54	\$2.83	\$3.02	\$3.21	\$3.37	\$3.54	\$3.73	\$3.94	\$4.17	\$4.43	\$4.67	\$4.92	\$5.19	\$192.42
NextEra Energy, Inc.	NEE	(\$159.84)	\$0.00	\$2.14	\$4.12	\$5.08	\$5.76	\$6.53	\$7.17	\$7.82	\$8.48	\$9.12	\$9.75	\$10.35	\$10.91	\$11.50	\$12.13	\$359.23
NorthWestern Corporation	NWE	(\$53.53)	\$0.00	\$1.21	\$2.25	\$2.37	\$2.45	\$2.54	\$2.65	\$2.77	\$2.90	\$3.05	\$3.22	\$3.41	\$3.60	\$3.80	\$4.00	\$114.02
OGE Energy Corp.	OGE	(\$34.04)	\$0.00	\$0.77	\$1.45	\$1.60	\$1.71	\$1.82	\$1.91	\$1.99	\$2.08	\$2.17	\$2.26	\$2.35	\$2.47	\$2.61	\$2.75	\$72.38
Otter Tail Corporation	OTTR	(\$45.22)	\$0.00	\$0.73	\$1.40	\$1.52	\$1.61	\$1.72	\$1.89	\$2.07	\$2.25	\$2.44	\$2.62	\$2.80	\$2.96	\$3.12	\$3.29	\$100.51
Pinnacle West Capital Corporation	PNW	(\$76.97)	\$0.00	\$1.60	\$3.00	\$3.23	\$3.39	\$3.56	\$3.77	\$3.99	\$4.23	\$4.48	\$4.75	\$5.04	\$5.32	\$5.61	\$5.91	\$166.53
PNM Resources, Inc.	PNM	(\$38.00)	\$0.00	\$0.60	\$1.13	\$1.23	\$1.30	\$1.38	\$1.55	\$1.74	\$1.94	\$2.15	\$2.38	\$2.61	\$2.75	\$2.90	\$3.06	\$87.18
Portland General Electric Company	POR	(\$41.01)	\$0.00	\$0.83	\$1.55	\$1.64	\$1.69	\$1.76	\$1.84	\$1.94	\$2.04	\$2.16	\$2.29	\$2.43	\$2.56	\$2.70	\$2.84	\$87.79
Southern Company	SO	(\$44.06)	\$0.00	\$1.46	\$2.74	\$2.82	\$2.89	\$2.96	\$3.04	\$3.12	\$3.21	\$3.31	\$3.41	\$3.53	\$3.72	\$3.92	\$4.13	\$90.14
WEC Energy Group, Inc.	WEC	(\$61.25)	\$0.00	\$1.21	\$2.30	\$2.50	\$2.65	\$2.82	\$3.02	\$3.23	\$3.44	\$3.66	\$3.89	\$4.12	\$4.34	\$4.58	\$4.83	\$133.77
Xcel Energy Inc.	XEL	(\$44.19)	\$0.00	\$0.82	\$1.55	\$1.71	\$1.81	\$1.93	\$2.06	\$2.19	\$2.33	\$2.47	\$2.63	\$2.79	\$2.94	\$3.10	\$3.27	\$96.22

Multi-Stage Growth Discounted Cash Flow Model
30 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				
					Value	Low								PEG			
Company	Ticker	Price	Zacks	First Call	Line	Growth	Growth	2018	2022	2028	Proof	IRR	P/E Ratio	Ratio			
ALLETE, Inc.	ALE	\$75.23	6.00%	6.00%	5.00%	5.00%	5.45%	65.00%	64.00%	65.57%	\$0.00	8.41%	23.32	4.28			
Alliant Energy Corporation	LNT	\$40.60	5.60%	5.85%	6.50%	5.60%	5.45%	64.00%	64.00%	65.57%	\$0.00	9.08%	19.01	3.49			
Ameren Corporation	AEE	\$57.18	6.50%	6.30%	7.50%	6.30%	5.45%	60.00%	59.00%	65.57%	\$0.00	9.15%	18.67	3.43			
American Electric Power Company, Inc.	AEP	\$66.01	5.70%	5.79%	4.50%	4.50%	5.45%	67.00%	63.00%	65.57%	(\$0.00)	9.24%	18.20	3.34			
Avangrid, Inc.	AGR	\$51.90	9.10%	10.40%	13.00%	9.10%	5.45%	76.00%	66.00%	65.57%	\$0.00	8.48%	22.83	4.19			
Black Hills Corporation	BKH	\$57.15	4.10%	3.86%	5.00%	3.86%	5.45%	55.00%	60.00%	65.57%	\$0.00	9.29%	17.98	3.30			
CMS Energy Corporation	CMS	\$44.60	6.40%	7.05%	7.00%	6.40%	5.45%	61.00%	61.00%	65.57%	\$0.00	9.21%	18.37	3.37			
DTE Energy Company	DTE	\$100.10	5.30%	5.59%	7.00%	5.30%	5.45%	61.00%	60.00%	65.57%	\$0.00	9.56%	16.79	3.08			
Duke Energy Corporation	DUK	\$75.51	4.70%	4.22%	5.50%	4.22%	5.45%	76.00%	80.00%	65.57%	(\$0.00)	9.45%	17.29	3.17			
El Paso Electric	EE	\$56.46	5.10%	5.20%	4.50%	4.50%	5.45%	57.00%	61.00%	65.57%	\$0.00	8.36%	23.70	4.35			
Hawaiian Electric Industries, Inc.	HE	\$33.60	7.10%	9.10%	3.50%	3.50%	5.45%	60.00%	59.00%	65.57%	\$0.00	8.57%	22.10	4.06			
IDACORP, Inc.	IDA	\$89.53	3.90%	3.10%	3.50%	3.10%	5.45%	57.00%	63.00%	65.57%	(\$0.00)	8.37%	23.63	4.34			
NextEra Energy, Inc.	NEE	\$159.84	8.60%	9.79%	8.50%	8.50%	5.45%	55.00%	63.00%	65.57%	\$0.00	9.04%	19.24	3.53			
NorthWestern Corporation	NWE	\$53.53	3.00%	3.16%	3.50%	3.00%	5.45%	64.00%	64.00%	65.57%	(\$0.00)	9.37%	17.64	3.24			
OGE Energy Corp.	OGE	\$34.04	6.00%	4.30%	6.00%	4.30%	5.45%	69.00%	71.00%	65.57%	(\$0.00)	9.39%	17.55	3.22			
Otter Tail Corporation	OTTR	\$45.22	NA	9.00%	7.50%	7.50%	5.45%	66.00%	60.00%	65.57%	\$0.00	8.87%	20.17	3.70			
Pinnacle West Capital Corporation	PNW	\$76.97	4.50%	3.78%	5.00%	3.78%	5.45%	63.00%	63.00%	65.57%	\$0.00	9.23%	18.26	3.35			
PNM Resources, Inc.	PNM	\$38.00	5.10%	4.30%	7.50%	4.30%	5.45%	53.00%	50.00%	65.57%	\$0.00	8.75%	20.91	3.84			
Portland General Electric Company	POR	\$41.01	2.80%	2.65%	4.00%	2.65%	5.45%	64.00%	63.00%	65.57%	(\$0.00)	8.86%	20.28	3.72			
Southern Company	SO	\$44.06	4.50%	2.72%	3.00%	2.72%	5.45%	80.00%	74.00%	65.57%	\$0.00	10.21%	14.51	2.66			
WEC Energy Group, Inc.	WEC	\$61.25	4.10%	4.43%	7.00%	4.10%	5.45%	66.00%	64.00%	65.57%	\$0.00	8.90%	20.00	3.67			
Xcel Energy Inc.	XEL	\$44.19	5.70%	5.89%	5.50%	5.50%	5.45%	62.00%	63.00%	65.57%	\$0.00	9.27%	18.09	3.32			
											Mean	9.05%					
											Max	10.21%					
											Min	8.36%					
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	\$3.13	\$3.29	\$3.45	\$3.62	\$3.80	\$3.99	\$4.20	\$4.41	\$4.64	\$4.89	\$5.15	\$5.43	\$5.73	\$6.04	\$6.37	\$6.72
Alliant Energy Corporation	LNT	\$1.99	\$2.10	\$2.22	\$2.34	\$2.47	\$2.61	\$2.76	\$2.91	\$3.07	\$3.24	\$3.42	\$3.61	\$3.80	\$4.01	\$4.23	\$4.46
Ameren Corporation	AEE	\$2.77	\$2.94	\$3.13	\$3.33	\$3.54	\$3.76	\$3.99	\$4.23	\$4.48	\$4.74	\$5.00	\$5.27	\$5.56	\$5.86	\$6.18	\$6.52
American Electric Power Company, Inc.	AEP	\$3.62	\$3.78	\$3.95	\$4.13	\$4.32	\$4.51	\$4.72	\$4.95	\$5.19	\$5.46	\$5.75	\$6.06	\$6.39	\$6.74	\$7.11	\$7.50
Avangrid, Inc.	AGR	\$1.67	\$1.82	\$1.99	\$2.17	\$2.37	\$2.58	\$2.80	\$3.02	\$3.24	\$3.46	\$3.67	\$3.87	\$4.08	\$4.30	\$4.53	\$4.78
Black Hills Corporation	BKH	\$3.38	\$3.51	\$3.65	\$3.79	\$3.93	\$4.08	\$4.25	\$4.44	\$4.65	\$4.87	\$5.13	\$5.41	\$5.70	\$6.01	\$6.34	\$6.68
CMS Energy Corporation	CMS	\$2.17	\$2.31	\$2.46	\$2.61	\$2.78	\$2.96	\$3.14	\$3.34	\$3.53	\$3.74	\$3.95	\$4.16	\$4.39	\$4.63	\$4.88	\$5.14
DTE Energy Company	DTE	\$5.73	\$6.03	\$6.35	\$6.69	\$7.04	\$7.42	\$7.81	\$8.23	\$8.67	\$9.14	\$9.64	\$10.16	\$10.72	\$11.30	\$11.91	\$12.56
Duke Energy Corporation	DUK	\$4.22	\$4.40	\$4.58	\$4.78	\$4.98	\$5.19	\$5.42	\$5.67	\$5.94	\$6.24	\$6.57	\$6.93	\$7.30	\$7.70	\$8.12	\$8.56
El Paso Electric	EE	\$2.42	\$2.53	\$2.64	\$2.76	\$2.89	\$3.02	\$3.16	\$3.31	\$3.47	\$3.65	\$3.84	\$4.05	\$4.27	\$4.51	\$4.75	\$5.01
Hawaiian Electric Industries, Inc.	HE	\$1.64	\$1.70	\$1.76	\$1.82	\$1.88	\$1.95	\$2.02	\$2.11	\$2.20	\$2.31	\$2.42	\$2.56	\$2.70	\$2.84	\$3.00	\$3.16
IDACORP, Inc.	IDA	\$4.21	\$4.34	\$4.48	\$4.61	\$4.76	\$4.90	\$5.08	\$5.27	\$5.50	\$5.75	\$6.05	\$6.37	\$6.72	\$7.09	\$7.47	\$7.88
NextEra Energy, Inc.	NEE	\$6.50	\$7.05	\$7.65	\$8.30	\$9.01	\$9.77	\$10.55	\$11.34	\$12.14	\$12.92	\$13.69	\$14.43	\$15.22	\$16.05	\$16.92	\$17.85
NorthWestern Corporation	NWE	\$3.34	\$3.44	\$3.54	\$3.65	\$3.76	\$3.87	\$4.00	\$4.16	\$4.33	\$4.53	\$4.76	\$5.02	\$5.29	\$5.58	\$5.89	\$6.21
OGE Energy Corp.	OGE	\$1.92	\$2.00	\$2.09	\$2.18	\$2.27	\$2.37	\$2.48	\$2.59	\$2.72	\$2.86	\$3.01	\$3.17	\$3.34	\$3.52	\$3.72	\$3.92
Otter Tail Corporation	OTTR	\$1.86	\$2.00	\$2.15	\$2.31	\$2.48	\$2.67	\$2.86	\$3.06	\$3.25	\$3.45	\$3.65	\$3.85	\$4.06	\$4.28	\$4.52	\$4.76
Pinnacle West Capital Corporation	PNW	\$4.43	\$4.60	\$4.77	\$4.95	\$5.14	\$5.33	\$5.55	\$5.79	\$6.06	\$6.35	\$6.68	\$7.05	\$7.43	\$7.83	\$8.26	\$8.71
PNM Resources, Inc.	PNM	\$1.92	\$2.00	\$2.09	\$2.18	\$2.27	\$2.37	\$2.48	\$2.59	\$2.72	\$2.86	\$3.01	\$3.17	\$3.34	\$3.52	\$3.72	\$3.92
Portland General Electric Company	POR	\$2.29	\$2.35	\$2.41	\$2.48	\$2.54	\$2.61	\$2.69	\$2.79	\$2.90	\$3.03	\$3.18	\$3.36	\$3.54	\$3.73	\$3.93	\$4.15
Southern Company	SO	\$3.21	\$3.30	\$3.39	\$3.48	\$3.57	\$3.67	\$3.79	\$3.92	\$4.09	\$4.27	\$4.48	\$4.73	\$4.99	\$5.26	\$5.54	\$5.85
WEC Energy Group, Inc.	WEC	\$3.14	\$3.27	\$3.40	\$3.54	\$3.69	\$3.84	\$4.00	\$4.19	\$4.39	\$4.61	\$4.85	\$5.11	\$5.39	\$5.68	\$5.99	\$6.32
Xcel Energy Inc.	XEL	\$2.30	\$2.43	\$2.56	\$2.70	\$2.85	\$3.01	\$3.17	\$3.34	\$3.53	\$3.72	\$3.92	\$4.14	\$4.36	\$4.60	\$4.85	\$5.12

Projected Annual Dividend Payout Ratio		[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	65.00%	64.75%	64.50%	64.25%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Ameren Corporation	AEE	60.00%	59.75%	59.50%	59.25%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
American Electric Power Company, Inc.	AEP	67.00%	66.00%	65.00%	64.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Avangrid, Inc.	AGR	76.00%	73.50%	71.00%	68.50%	66.00%	65.93%	65.86%	65.79%	65.71%	65.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Black Hills Corporation	BKH	55.00%	56.25%	57.50%	58.75%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
DTE Energy Company	DTE	61.00%	60.75%	60.50%	60.25%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Duke Energy Corporation	DUK	76.00%	77.00%	78.00%	79.00%	80.00%	77.60%	75.19%	72.79%	70.38%	67.98%	65.57%	65.57%	65.57%	65.57%	65.57%
El Paso Electric	EE	57.00%	58.00%	59.00%	60.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
Hawaiian Electric Industries, Inc.	HE	66.00%	64.25%	62.50%	60.75%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
IDACORP, Inc.	IDA	57.00%	58.50%	60.00%	61.50%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NextEra Energy, Inc.	NEE	55.00%	57.00%	59.00%	61.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NorthWestern Corporation	NWE	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
OGE Energy Corp.	OGE	69.00%	69.50%	70.00%	70.50%	71.00%	70.10%	69.19%	68.29%	67.38%	66.48%	65.57%	65.57%	65.57%	65.57%	65.57%
Otter Tail Corporation	OTTR	66.00%	64.50%	63.00%	61.50%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Pinnacle West Capital Corporation	PNW	63.00%	63.00%	63.00%	63.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
PNM Resources, Inc.	PNM	53.00%	52.25%	51.50%	50.75%	50.00%	52.60%	55.19%	57.79%	60.38%	62.98%	65.57%	65.57%	65.57%	65.57%	65.57%
Portland General Electric Company	POR	64.00%	63.75%	63.50%	63.25%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Southern Company	SO	80.00%	78.50%	77.00%	75.50%	74.00%	72.60%	71.19%	69.79%	68.38%	66.98%	65.57%	65.57%	65.57%	65.57%	65.57%
WEC Energy Group, Inc.	WEC	66.00%	65.50%	65.00%	64.50%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Xcel Energy Inc.	XEL	62.00%	62.25%	62.50%	62.75%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%

Projected Annual Cash Flows		[45]	[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.14	\$2.23	\$2.34	\$2.44	\$2.56	\$2.70	\$2.85	\$3.01	\$3.18	\$3.37	\$3.56	\$3.76	\$3.96	\$4.18	\$4.40	\$156.62
Alliant Energy Corporation	LNT	\$1.34	\$1.42	\$1.50	\$1.58	\$1.67	\$1.77	\$1.88	\$1.99	\$2.11	\$2.23	\$2.36	\$2.49	\$2.63	\$2.77	\$2.92	\$84.74
Ameren Corporation	AEE	\$1.77	\$1.87	\$1.98	\$2.10	\$2.22	\$2.40	\$2.59	\$2.79	\$3.00	\$3.22	\$3.46	\$3.65	\$3.84	\$4.05	\$4.27	\$121.70
American Electric Power Company, Inc.	AEP	\$2.53	\$2.61	\$2.69	\$2.76	\$2.84	\$2.99	\$3.16	\$3.34	\$3.53	\$3.75	\$3.98	\$4.19	\$4.42	\$4.66	\$4.92	\$136.45
Avangrid, Inc.	AGR	\$1.38	\$1.46	\$1.54	\$1.62	\$1.70	\$1.85	\$1.99	\$2.13	\$2.27	\$2.41	\$2.53	\$2.67	\$2.82	\$2.97	\$3.13	\$109.09
Black Hills Corporation	BKH	\$1.93	\$2.05	\$2.18	\$2.31	\$2.45	\$2.59	\$2.75	\$2.92	\$3.11	\$3.31	\$3.55	\$3.74	\$3.94	\$4.16	\$4.38	\$120.16
CMS Energy Corporation	CMS	\$1.41	\$1.50	\$1.59	\$1.70	\$1.81	\$1.94	\$2.09	\$2.24	\$2.39	\$2.56	\$2.73	\$2.88	\$3.03	\$3.20	\$3.37	\$94.47
DTE Energy Company	DTE	\$3.68	\$3.86	\$4.05	\$4.24	\$4.45	\$4.76	\$5.09	\$5.45	\$5.82	\$6.23	\$6.66	\$7.03	\$7.41	\$7.81	\$8.24	\$210.95
Duke Energy Corporation	DUK	\$3.34	\$3.53	\$3.73	\$3.93	\$4.15	\$4.20	\$4.26	\$4.33	\$4.39	\$4.47	\$4.54	\$4.79	\$5.05	\$5.33	\$5.62	\$148.05
El Paso Electric	EE	\$1.44	\$1.53	\$1.63	\$1.73	\$1.84	\$1.95	\$2.07	\$2.20	\$2.34	\$2.49	\$2.66	\$2.80	\$2.96	\$3.12	\$3.29	\$118.75
Hawaiian Electric Industries, Inc.	HE	\$1.12	\$1.13	\$1.14	\$1.14	\$1.15	\$1.22	\$1.29	\$1.37	\$1.46	\$1.56	\$1.68	\$1.77	\$1.86	\$1.97	\$2.07	\$69.84
IDACORP, Inc.	IDA	\$2.47	\$2.62	\$2.77	\$2.93	\$3.09	\$3.22	\$3.37	\$3.53	\$3.72	\$3.94	\$4.18	\$4.41	\$4.65	\$4.90	\$5.17	\$186.19
NextEra Energy, Inc.	NEE	\$3.88	\$4.36	\$4.90	\$5.49	\$6.16	\$6.69	\$7.24	\$7.80	\$8.36	\$8.92	\$9.47	\$9.98	\$10.52	\$11.10	\$11.70	\$343.41
NorthWestern Corporation	NWE	\$2.20	\$2.27	\$2.34	\$2.41	\$2.48	\$2.57	\$2.68	\$2.81	\$2.95	\$3.11	\$3.29	\$3.47	\$3.66	\$3.86	\$4.07	\$109.46
OGE Energy Corp.	OGE	\$1.38	\$1.45	\$1.52	\$1.60	\$1.68	\$1.74	\$1.79	\$1.86	\$1.92	\$2.00	\$2.08	\$2.19	\$2.31	\$2.44	\$2.57	\$68.77
Otter Tail Corporation	OTTR	\$1.32	\$1.39	\$1.46	\$1.53	\$1.60	\$1.74	\$1.89	\$2.04	\$2.20	\$2.36	\$2.53	\$2.66	\$2.81	\$2.96	\$3.12	\$96.09
Pinnacle West Capital Corporation	PNW	\$2.90	\$3.01	\$3.12	\$3.24	\$3.36	\$3.52	\$3.70	\$3.89	\$4.11	\$4.35	\$4.62	\$4.87	\$5.14	\$5.42	\$5.71	\$159.04
PNM Resources, Inc.	PNM	\$1.06	\$1.09	\$1.12	\$1.15	\$1.18	\$1.30	\$1.43	\$1.57	\$1.72	\$1.89	\$2.08	\$2.19	\$2.31	\$2.44	\$2.57	\$81.96
Portland General Electric Company	POR	\$1.50	\$1.54	\$1.57	\$1.61	\$1.64	\$1.71	\$1.78	\$1.86	\$1.96	\$2.07	\$2.20	\$2.32	\$2.45	\$2.58	\$2.72	\$84.13
Southern Company	SO	\$2.64	\$2.66	\$2.68	\$2.70	\$2.72	\$2.75	\$2.79	\$2.85	\$2.92	\$3.00	\$3.10	\$3.27	\$3.45	\$3.63	\$3.83	\$84.82
WEC Energy Group, Inc.	WEC	\$2.16	\$2.23	\$2.30	\$2.38	\$2.46	\$2.57	\$2.70	\$2.84	\$3.00	\$3.17	\$3.35	\$3.53	\$3.73	\$3.93	\$4.14	\$126.36
Xcel Energy Inc.	XEL	\$1.50	\$1.59	\$1.69	\$1.79	\$1.89	\$2.01	\$2.14	\$2.27	\$2.41	\$2.56	\$2.71	\$2.86	\$3.02	\$3.18	\$3.35	\$92.53

Projected Annual Data

Investor Cash Flows		[61]	[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]
		Initial																
Company	Ticker	Outflow	6/15/18	12/31/18	6/30/19	6/30/20	6/30/21	6/30/22	6/30/23	6/30/24	6/30/25	6/30/26	6/30/27	6/30/28	6/30/29	6/30/30	6/30/31	6/30/32
ALLETE, Inc.	ALE	(\$75.23)	\$0.00	\$1.16	\$2.19	\$2.34	\$2.44	\$2.56	\$2.70	\$2.85	\$3.01	\$3.18	\$3.37	\$3.56	\$3.76	\$3.96	\$4.18	\$161.03
Alliant Energy Corporation	LNT	(\$40.60)	\$0.00	\$0.73	\$1.38	\$1.50	\$1.58	\$1.67	\$1.77	\$1.88	\$1.99	\$2.11	\$2.23	\$2.36	\$2.49	\$2.63	\$2.77	\$87.66
Ameren Corporation	AEE	(\$57.18)	\$0.00	\$0.96	\$1.82	\$1.98	\$2.10	\$2.22	\$2.40	\$2.59	\$2.79	\$3.00	\$3.22	\$3.46	\$3.65	\$3.84	\$4.05	\$125.98
American Electric Power Company, Inc.	AEP	(\$66.01)	\$0.00	\$1.38	\$2.59	\$2.69	\$2.76	\$2.84	\$2.99	\$3.16	\$3.34	\$3.53	\$3.75	\$3.98	\$4.19	\$4.42	\$4.66	\$141.37
Avangrid, Inc.	AGR	(\$51.90)	\$0.00	\$0.75	\$1.45	\$1.54	\$1.62	\$1.70	\$1.85	\$1.99	\$2.13	\$2.27	\$2.41	\$2.53	\$2.67	\$2.82	\$2.97	\$112.23
Black Hills Corporation	BKH	(\$57.15)	\$0.00	\$1.05	\$1.97	\$2.18	\$2.31	\$2.45	\$2.59	\$2.75	\$2.92	\$3.11	\$3.31	\$3.55	\$3.74	\$3.94	\$4.16	\$124.54
CMS Energy Corporation	CMS	(\$44.59)	\$0.00	\$0.77	\$1.45	\$1.59	\$1.70	\$1.81	\$1.94	\$2.09	\$2.24	\$2.39	\$2.56	\$2.73	\$2.88	\$3.03	\$3.20	\$97.85
DTE Energy Company	DTE	(\$100.10)	\$0.00	\$2.01	\$3.78	\$4.05	\$4.24	\$4.45	\$4.76	\$5.09	\$5.45	\$5.82	\$6.23	\$6.66	\$7.03	\$7.41	\$7.81	\$219.19
Duke Energy Corporation	DUK	(\$75.51)	\$0.00	\$1.82	\$3.41	\$3.73	\$3.93	\$4.15	\$4.20	\$4.26	\$4.33	\$4.39	\$4.47	\$4.54	\$4.79	\$5.05	\$5.33	\$153.67
El Paso Electric	EE	(\$56.45)	\$0.00	\$0.79	\$1.47	\$1.63	\$1.73	\$1.84	\$1.95	\$2.07	\$2.20	\$2.34	\$2.49	\$2.66	\$2.80	\$2.96	\$3.12	\$122.04
Hawaiian Electric Industries, Inc.	HE	(\$33.60)	\$0.00	\$0.61	\$1.14	\$1.14	\$1.14	\$1.15	\$1.22	\$1.29	\$1.37	\$1.46	\$1.56	\$1.68	\$1.77	\$1.86	\$1.97	\$71.92
IDACORP, Inc.	IDA	(\$89.53)	\$0.00	\$1.35	\$2.51	\$2.77	\$2.93	\$3.09	\$3.22	\$3.37	\$3.53	\$3.72	\$3.94	\$4.18	\$4.41	\$4.65	\$4.90	\$191.36
NextEra Energy, Inc.	NEE	(\$159.84)	\$0.00	\$2.11	\$4.04	\$4.90	\$5.49	\$6.16	\$6.69	\$7.24	\$7.80	\$8.36	\$8.92	\$9.47	\$9.98	\$10.52	\$11.10	\$355.11
NorthWestern Corporation	NWE	(\$53.53)	\$0.00	\$1.20	\$2.23	\$2.34	\$2.41	\$2.48	\$2.57	\$2.68	\$2.81	\$2.95	\$3.11	\$3.29	\$3.47	\$3.66	\$3.86	\$113.53
OGE Energy Corp.	OGE	(\$34.04)	\$0.00	\$0.75	\$1.41	\$1.52	\$1.60	\$1.68	\$1.74	\$1.79	\$1.86	\$1.92	\$2.00	\$2.08	\$2.19	\$2.31	\$2.44	\$71.34
Otter Tail Corporation	OTTR	(\$45.22)	\$0.00	\$0.72	\$1.37	\$1.46	\$1.53	\$1.60	\$1.74	\$1.89	\$2.04	\$2.20	\$2.36	\$2.53	\$2.66	\$2.81	\$2.96	\$99.22
Pinnacle West Capital Corporation	PNW	(\$76.97)	\$0.00	\$1.58	\$2.95	\$3.12	\$3.24	\$3.36	\$3.52	\$3.70	\$3.89	\$4.11	\$4.35	\$4.62	\$4.87	\$5.14	\$5.42	\$164.75
PNM Resources, Inc.	PNM	(\$37.99)	\$0.00	\$0.58	\$1.08	\$1.12	\$1.15	\$1.18	\$1.30	\$1.43	\$1.57	\$1.72	\$1.89	\$2.08	\$2.19	\$2.31	\$2.44	\$84.53
Portland General Electric Company	POR	(\$41.01)	\$0.00	\$0.82	\$1.52	\$1.57	\$1.61	\$1.64	\$1.71	\$1.78	\$1.86	\$1.96	\$2.07	\$2.20	\$2.32	\$2.45	\$2.58	\$86.85
Southern Company	SO	(\$44.06)	\$0.00	\$1.44	\$2.67	\$2.68	\$2.70	\$2.72	\$2.75	\$2.79	\$2.85	\$2.92	\$3.00	\$3.10	\$3.27	\$3.45	\$3.63	\$88.65
WEC Energy Group, Inc.	WEC	(\$61.25)	\$0.00	\$1.18	\$2.20	\$2.30	\$2.38	\$2.46	\$2.57	\$2.70	\$2.84	\$3.00	\$3.17	\$3.35	\$3.53	\$3.73	\$3.93	\$130.50
Xcel Energy Inc.	XEL	(\$44.19)	\$0.00	\$0.82	\$1.55	\$1.69	\$1.79	\$1.89	\$2.01	\$2.14	\$2.27	\$2.41	\$2.56	\$2.71	\$2.86	\$3.02	\$3.18	\$95.89

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										PEG				
Company	Ticker	Price	Zacks	First Call	Line	Average	Growth	2018	2022	2028	Proof	IRR	P/E Ratio	Ratio			
ALLETE, Inc.	ALE	\$72.50	6.00%	6.00%	5.00%	5.67%	5.45%	65.00%	64.00%	65.57%	(\$0.00)	8.66%	21.49	3.95			
Alliant Energy Corporation	LNT	\$40.29	5.60%	5.85%	6.50%	5.98%	5.45%	64.00%	64.00%	65.57%	\$0.00	9.20%	18.40	3.38			
Ameren Corporation	AEE	\$56.21	6.50%	6.30%	7.50%	6.77%	5.45%	60.00%	59.00%	65.57%	\$0.00	9.33%	17.82	3.27			
American Electric Power Company, Inc.	AEP	\$66.84	5.70%	5.79%	4.50%	5.33%	5.45%	67.00%	63.00%	65.57%	(\$0.00)	9.41%	17.46	3.21			
Avangrid, Inc.	AGR	\$50.61	9.10%	10.40%	13.00%	10.83%	5.45%	76.00%	66.00%	65.57%	\$0.00	8.91%	19.96	3.66			
Black Hills Corporation	BKH	\$54.56	4.10%	3.86%	5.00%	4.32%	5.45%	55.00%	60.00%	65.57%	\$0.00	9.60%	16.65	3.06			
CMS Energy Corporation	CMS	\$44.34	6.40%	7.05%	7.00%	6.82%	5.45%	61.00%	61.00%	65.57%	\$0.00	9.33%	17.78	3.27			
DTE Energy Company	DTE	\$101.87	5.30%	5.59%	7.00%	5.96%	5.45%	61.00%	60.00%	65.57%	\$0.00	9.67%	16.38	3.01			
Duke Energy Corporation	DUK	\$76.57	4.70%	4.22%	5.50%	4.81%	5.45%	76.00%	80.00%	65.57%	(\$0.00)	9.54%	16.87	3.10			
El Paso Electric	EE	\$52.05	5.10%	5.20%	4.50%	4.93%	5.45%	57.00%	61.00%	65.57%	(\$0.00)	8.70%	21.23	3.90			
Hawaiian Electric Industries, Inc.	HE	\$33.76	7.10%	9.10%	3.50%	6.57%	5.45%	66.00%	59.00%	65.57%	\$0.00	9.25%	18.18	3.34			
IDACORP, Inc.	IDA	\$87.21	3.90%	3.10%	3.50%	3.50%	5.45%	57.00%	63.00%	65.57%	(\$0.00)	8.53%	22.40	4.11			
NextEra Energy, Inc.	NEE	\$158.65	8.60%	9.79%	8.50%	8.96%	5.45%	55.00%	63.00%	65.57%	\$0.00	9.17%	18.56	3.41			
NorthWestern Corporation	NWE	\$52.95	3.00%	3.16%	3.50%	3.22%	5.45%	64.00%	64.00%	65.57%	\$0.00	9.47%	17.19	3.16			
OGE Energy Corp.	OGE	\$32.61	6.00%	4.30%	6.00%	5.43%	5.45%	69.00%	71.00%	65.57%	(\$0.00)	9.88%	15.58	2.86			
Otter Tail Corporation	OTTR	\$43.41	NA	9.00%	7.50%	8.25%	5.45%	66.00%	60.00%	65.57%	\$0.00	9.19%	18.48	3.39			
Pinnacle West Capital Corporation	PNW	\$77.79	4.50%	3.78%	5.00%	4.43%	5.45%	63.00%	63.00%	65.57%	\$0.00	9.35%	17.69	3.25			
PNM Resources, Inc.	PNM	\$37.36	5.10%	4.30%	7.50%	5.63%	5.45%	53.00%	50.00%	65.57%	\$0.00	9.11%	18.88	3.47			
Portland General Electric Company	POR	\$40.54	2.80%	2.65%	4.00%	3.15%	5.45%	64.00%	63.00%	65.57%	(\$0.00)	9.01%	19.38	3.56			
Southern Company	SO	\$44.31	4.50%	2.72%	3.00%	3.41%	5.45%	80.00%	74.00%	65.57%	\$0.00	10.40%	13.95	2.56			
WEC Energy Group, Inc.	WEC	\$61.59	4.10%	4.43%	7.00%	5.18%	5.45%	66.00%	64.00%	65.57%	(\$0.00)	9.14%	18.74	3.44			
Xcel Energy Inc.	XEL	\$44.41	5.70%	5.89%	5.50%	5.70%	5.45%	62.00%	63.00%	65.57%	(\$0.00)	9.30%	17.95	3.30			
											Mean	9.28%					
											Max	10.40%					
											Min	8.53%					
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	\$3.13	\$3.31	\$3.49	\$3.69	\$3.90	\$4.12	\$4.36	\$4.60	\$4.85	\$5.12	\$5.40	\$5.70	\$6.01	\$6.34	\$6.68	\$7.04
Alliant Energy Corporation	LNT	\$1.99	\$2.11	\$2.24	\$2.37	\$2.51	\$2.66	\$2.82	\$2.98	\$3.15	\$3.33	\$3.51	\$3.70	\$3.91	\$4.12	\$4.34	\$4.58
Ameren Corporation	AEE	\$2.77	\$2.96	\$3.16	\$3.37	\$3.60	\$3.84	\$4.09	\$4.35	\$4.62	\$4.89	\$5.17	\$5.45	\$5.75	\$6.06	\$6.39	\$6.74
American Electric Power Company, Inc.	AEP	\$3.62	\$3.81	\$4.02	\$4.23	\$4.46	\$4.69	\$4.94	\$5.21	\$5.49	\$5.79	\$6.10	\$6.43	\$6.78	\$7.15	\$7.54	\$7.95
Avangrid, Inc.	AGR	\$1.67	\$1.85	\$2.05	\$2.27	\$2.52	\$2.79	\$3.07	\$3.35	\$3.62	\$3.88	\$4.13	\$4.35	\$4.59	\$4.84	\$5.10	\$5.38
Black Hills Corporation	BKH	\$3.38	\$3.53	\$3.68	\$3.84	\$4.00	\$4.18	\$4.36	\$4.57	\$4.79	\$5.04	\$5.30	\$5.59	\$5.89	\$6.21	\$6.55	\$6.91
CMS Energy Corporation	CMS	\$2.17	\$2.32	\$2.48	\$2.64	\$2.82	\$3.02	\$3.22	\$3.42	\$3.63	\$3.84	\$4.06	\$4.28	\$4.52	\$4.76	\$5.02	\$5.30
DTE Energy Company	DTE	\$5.73	\$6.07	\$6.43	\$6.82	\$7.22	\$7.65	\$8.10	\$8.57	\$9.06	\$9.57	\$10.10	\$10.65	\$11.23	\$11.84	\$12.49	\$13.17
Duke Energy Corporation	DUK	\$4.22	\$4.42	\$4.64	\$4.86	\$5.09	\$5.34	\$5.60	\$5.88	\$6.18	\$6.50	\$6.85	\$7.23	\$7.62	\$8.03	\$8.47	\$8.93
El Paso Electric	EE	\$2.42	\$2.54	\$2.66	\$2.80	\$2.93	\$3.08	\$3.23	\$3.40	\$3.57	\$3.76	\$3.97	\$4.18	\$4.41	\$4.65	\$4.90	\$5.17
Hawaiian Electric Industries, Inc.	HE	\$1.64	\$1.75	\$1.86	\$1.98	\$2.12	\$2.25	\$2.40	\$2.55	\$2.70	\$2.86	\$3.02	\$3.18	\$3.35	\$3.54	\$3.73	\$3.93
IDACORP, Inc.	IDA	\$4.21	\$4.36	\$4.51	\$4.67	\$4.83	\$5.00	\$5.19	\$5.41	\$5.65	\$5.92	\$6.22	\$6.56	\$6.92	\$7.30	\$7.69	\$8.11
NextEra Energy, Inc.	NEE	\$6.50	\$7.08	\$7.72	\$8.41	\$9.16	\$9.98	\$10.82	\$11.66	\$12.50	\$13.33	\$14.14	\$14.91	\$15.72	\$16.57	\$17.48	\$18.43
NorthWestern Corporation	NWE	\$3.34	\$3.45	\$3.56	\$3.67	\$3.79	\$3.91	\$4.05	\$4.21	\$4.40	\$4.60	\$4.84	\$5.10	\$5.38	\$5.67	\$5.98	\$6.31
OGE Energy Corp.	OGE	\$1.92	\$2.02	\$2.13	\$2.25	\$2.37	\$2.50	\$2.64	\$2.78	\$2.93	\$3.09	\$3.26	\$3.44	\$3.62	\$3.82	\$4.03	\$4.25
Otter Tail Corporation	OTTR	\$1.86	\$2.01	\$2.18	\$2.36	\$2.55	\$2.76	\$2.98	\$3.20	\$3.42	\$3.63	\$3.85	\$4.06	\$4.28	\$4.51	\$4.76	\$5.02
Pinnacle West Capital Corporation	PNW	\$4.43	\$4.63	\$4.83	\$5.04	\$5.27	\$5.50	\$5.75	\$6.03	\$6.33	\$6.65	\$7.00	\$7.38	\$7.78	\$8.21	\$8.65	\$9.13
PNM Resources, Inc.	PNM	\$1.92	\$2.03	\$2.14	\$2.26	\$2.39	\$2.53	\$2.67	\$2.82	\$2.97	\$3.13	\$3.31	\$3.49	\$3.68	\$3.88	\$4.09	\$4.31
Portland General Electric Company	POR	\$2.29	\$2.36	\$2.44	\$2.51	\$2.59	\$2.67	\$2.77	\$2.88	\$3.00	\$3.14	\$3.30	\$3.48	\$3.67	\$3.87	\$4.08	\$4.30
Southern Company	SO	\$3.21	\$3.32	\$3.43	\$3.55	\$3.67	\$3.80	\$3.94	\$4.10	\$4.28	\$4.48	\$4.71	\$4.97	\$5.24	\$5.53	\$5.83	\$6.14
WEC Energy Group, Inc.	WEC	\$3.14	\$3.30	\$3.47	\$3.65	\$3.84	\$4.04	\$4.25	\$4.48	\$4.71	\$4.97	\$5.23	\$5.52	\$5.82	\$6.14	\$6.47	\$6.82
Xcel Energy Inc.	XEL	\$2.30	\$2.43	\$2.57	\$2.72	\$2.87	\$3.03	\$3.21	\$3.39	\$3.57	\$3.77	\$3.98	\$4.20	\$4.42	\$4.67	\$4.92	\$5.19

Projected Annual Dividend Payout Ratio		[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	65.00%	64.75%	64.50%	64.25%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Ameren Corporation	AEE	60.00%	59.75%	59.50%	59.25%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
American Electric Power Company, Inc.	AEP	67.00%	66.00%	65.00%	64.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Avangrid, Inc.	AGR	76.00%	73.50%	71.00%	68.50%	66.00%	65.93%	65.86%	65.79%	65.71%	65.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Black Hills Corporation	BKH	55.00%	56.25%	57.50%	58.75%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
DTE Energy Company	DTE	61.00%	60.75%	60.50%	60.25%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Duke Energy Corporation	DUK	76.00%	77.00%	78.00%	79.00%	80.00%	77.60%	75.19%	72.79%	70.38%	67.98%	65.57%	65.57%	65.57%	65.57%	65.57%
El Paso Electric	EE	57.00%	58.00%	59.00%	60.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
Hawaiian Electric Industries, Inc.	HE	66.00%	64.25%	62.50%	60.75%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
IDACORP, Inc.	IDA	57.00%	58.50%	60.00%	61.50%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NextEra Energy, Inc.	NEE	55.00%	57.00%	59.00%	61.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NorthWestern Corporation	NWE	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
OGE Energy Corp.	OGE	69.00%	69.50%	70.00%	70.50%	71.00%	70.10%	69.19%	68.29%	67.38%	66.48%	65.57%	65.57%	65.57%	65.57%	65.57%
Otter Tail Corporation	OTTR	66.00%	64.50%	63.00%	61.50%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Pinnacle West Capital Corporation	PNW	63.00%	63.00%	63.00%	63.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
PNM Resources, Inc.	PNM	53.00%	52.25%	51.50%	50.75%	50.00%	52.60%	55.19%	57.79%	60.38%	62.98%	65.57%	65.57%	65.57%	65.57%	65.57%
Portland General Electric Company	POR	64.00%	63.75%	63.50%	63.25%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Southern Company	SO	80.00%	78.50%	77.00%	75.50%	74.00%	72.60%	71.19%	69.79%	68.38%	66.98%	65.57%	65.57%	65.57%	65.57%	65.57%
WEC Energy Group, Inc.	WEC	66.00%	65.50%	65.00%	64.50%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Xcel Energy Inc.	XEL	62.00%	62.25%	62.50%	62.75%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%

Projected Annual Cash Flows		[45]	[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.15	\$2.26	\$2.38	\$2.51	\$2.64	\$2.80	\$2.97	\$3.14	\$3.33	\$3.53	\$3.74	\$3.94	\$4.15	\$4.38	\$4.62	\$151.40
Alliant Energy Corporation	LNT	\$1.35	\$1.43	\$1.52	\$1.61	\$1.70	\$1.81	\$1.92	\$2.04	\$2.17	\$2.29	\$2.43	\$2.56	\$2.70	\$2.85	\$3.00	\$84.29
Ameren Corporation	AEE	\$1.77	\$1.89	\$2.01	\$2.13	\$2.27	\$2.46	\$2.66	\$2.88	\$3.10	\$3.33	\$3.57	\$3.77	\$3.97	\$4.19	\$4.42	\$120.03
American Electric Power Company, Inc.	AEP	\$2.55	\$2.65	\$2.75	\$2.85	\$2.96	\$3.14	\$3.33	\$3.53	\$3.75	\$3.97	\$4.22	\$4.45	\$4.69	\$4.95	\$5.22	\$138.91
Avangrid, Inc.	AGR	\$1.41	\$1.51	\$1.61	\$1.73	\$1.84	\$2.02	\$2.20	\$2.38	\$2.55	\$2.71	\$2.85	\$3.01	\$3.17	\$3.35	\$3.53	\$107.42
Black Hills Corporation	BKH	\$1.94	\$2.07	\$2.21	\$2.35	\$2.51	\$2.66	\$2.83	\$3.01	\$3.21	\$3.43	\$3.66	\$3.86	\$4.07	\$4.30	\$4.53	\$115.07
CMS Energy Corporation	CMS	\$1.41	\$1.51	\$1.61	\$1.72	\$1.84	\$1.99	\$2.14	\$2.30	\$2.46	\$2.63	\$2.81	\$2.96	\$3.12	\$3.29	\$3.47	\$94.20
DTE Energy Company	DTE	\$3.70	\$3.91	\$4.12	\$4.35	\$4.59	\$4.94	\$5.30	\$5.69	\$6.10	\$6.53	\$6.98	\$7.36	\$7.77	\$8.19	\$8.64	\$215.73
Duke Energy Corporation	DUK	\$3.36	\$3.57	\$3.79	\$4.02	\$4.27	\$4.34	\$4.42	\$4.50	\$4.58	\$4.66	\$4.74	\$5.00	\$5.27	\$5.55	\$5.86	\$150.70
El Paso Electric	EE	\$1.45	\$1.55	\$1.65	\$1.76	\$1.88	\$2.00	\$2.12	\$2.26	\$2.41	\$2.57	\$2.74	\$2.89	\$3.05	\$3.21	\$3.39	\$109.73
Hawaiian Electric Industries, Inc.	HE	\$1.15	\$1.20	\$1.24	\$1.28	\$1.33	\$1.44	\$1.56	\$1.68	\$1.81	\$1.95	\$2.09	\$2.20	\$2.32	\$2.45	\$2.58	\$71.50
IDACORP, Inc.	IDA	\$2.48	\$2.64	\$2.80	\$2.97	\$3.15	\$3.29	\$3.45	\$3.63	\$3.83	\$4.05	\$4.30	\$4.54	\$4.78	\$5.04	\$5.32	\$181.67
NextEra Energy, Inc.	NEE	\$3.90	\$4.40	\$4.96	\$5.59	\$6.29	\$6.86	\$7.45	\$8.04	\$8.63	\$9.21	\$9.77	\$10.31	\$10.87	\$11.46	\$12.08	\$341.96
NorthWestern Corporation	NWE	\$2.21	\$2.28	\$2.35	\$2.43	\$2.50	\$2.61	\$2.72	\$2.85	\$2.99	\$3.16	\$3.34	\$3.53	\$3.72	\$3.92	\$4.14	\$108.38
OGE Energy Corp.	OGE	\$1.40	\$1.48	\$1.58	\$1.67	\$1.78	\$1.85	\$1.92	\$2.00	\$2.08	\$2.17	\$2.25	\$2.38	\$2.51	\$2.64	\$2.79	\$66.22
Otter Tail Corporation	OTTR	\$1.33	\$1.41	\$1.49	\$1.57	\$1.66	\$1.82	\$1.98	\$2.15	\$2.32	\$2.49	\$2.66	\$2.81	\$2.96	\$3.12	\$3.29	\$92.73
Pinnacle West Capital Corporation	PNW	\$2.91	\$3.04	\$3.18	\$3.32	\$3.47	\$3.65	\$3.85	\$4.07	\$4.30	\$4.56	\$4.84	\$5.10	\$5.38	\$5.67	\$5.98	\$161.41
PNM Resources, Inc.	PNM	\$1.07	\$1.12	\$1.17	\$1.21	\$1.26	\$1.40	\$1.55	\$1.72	\$1.89	\$2.08	\$2.29	\$2.41	\$2.54	\$2.68	\$2.83	\$81.40
Portland General Electric Company	POR	\$1.51	\$1.55	\$1.60	\$1.64	\$1.68	\$1.76	\$1.84	\$1.93	\$2.03	\$2.15	\$2.28	\$2.41	\$2.54	\$2.68	\$2.82	\$83.39
Southern Company	SO	\$2.66	\$2.69	\$2.73	\$2.77	\$2.81	\$2.86	\$2.92	\$2.99	\$3.07	\$3.16	\$3.26	\$3.44	\$3.62	\$3.82	\$4.03	\$85.69
WEC Energy Group, Inc.	WEC	\$2.18	\$2.28	\$2.37	\$2.48	\$2.59	\$2.73	\$2.89	\$3.05	\$3.23	\$3.42	\$3.62	\$3.82	\$4.02	\$4.24	\$4.47	\$127.86
Xcel Energy Inc.	XEL	\$1.51	\$1.60	\$1.70	\$1.80	\$1.91	\$2.03	\$2.16	\$2.30	\$2.44	\$2.59	\$2.75	\$2.90	\$3.06	\$3.23	\$3.40	\$93.13

Projected Annual Data

Investor Cash Flows		[61]	[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]
		Initial																
Company	Ticker	Outflow	6/15/18	12/31/18	6/30/19	6/30/20	6/30/21	6/30/22	6/30/23	6/30/24	6/30/25	6/30/26	6/30/27	6/30/28	6/30/29	6/30/30	6/30/31	6/30/32
ALLETE, Inc.	ALE	(\$72.50)	\$0.00	\$1.17	\$2.21	\$2.38	\$2.51	\$2.64	\$2.80	\$2.97	\$3.14	\$3.33	\$3.53	\$3.74	\$3.94	\$4.15	\$4.38	\$156.02
Alliant Energy Corporation	LNT	(\$40.29)	\$0.00	\$0.74	\$1.39	\$1.52	\$1.61	\$1.70	\$1.81	\$1.92	\$2.04	\$2.17	\$2.29	\$2.43	\$2.56	\$2.70	\$2.85	\$87.29
Ameren Corporation	AEE	(\$56.21)	\$0.00	\$0.97	\$1.83	\$2.01	\$2.13	\$2.27	\$2.46	\$2.66	\$2.88	\$3.10	\$3.33	\$3.57	\$3.77	\$3.97	\$4.19	\$124.45
American Electric Power Company, Inc.	AEP	(\$66.84)	\$0.00	\$1.39	\$2.62	\$2.75	\$2.85	\$2.96	\$3.14	\$3.33	\$3.53	\$3.75	\$3.97	\$4.22	\$4.45	\$4.69	\$4.95	\$144.13
Avangrid, Inc.	AGR	(\$50.61)	\$0.00	\$0.77	\$1.48	\$1.61	\$1.73	\$1.84	\$2.02	\$2.20	\$2.38	\$2.55	\$2.71	\$2.85	\$3.01	\$3.17	\$3.35	\$110.95
Black Hills Corporation	BKH	(\$54.56)	\$0.00	\$1.06	\$1.98	\$2.21	\$2.35	\$2.51	\$2.66	\$2.83	\$3.01	\$3.21	\$3.43	\$3.66	\$3.86	\$4.07	\$4.30	\$119.60
CMS Energy Corporation	CMS	(\$44.34)	\$0.00	\$0.77	\$1.46	\$1.61	\$1.72	\$1.84	\$1.99	\$2.14	\$2.30	\$2.46	\$2.63	\$2.81	\$2.96	\$3.12	\$3.29	\$97.67
DTE Energy Company	DTE	(\$101.87)	\$0.00	\$2.02	\$3.81	\$4.12	\$4.35	\$4.59	\$4.94	\$5.30	\$5.69	\$6.10	\$6.53	\$6.98	\$7.36	\$7.77	\$8.19	\$224.36
Duke Energy Corporation	DUK	(\$76.57)	\$0.00	\$1.83	\$3.44	\$3.79	\$4.02	\$4.27	\$4.34	\$4.42	\$4.50	\$4.58	\$4.66	\$4.74	\$5.00	\$5.27	\$5.55	\$156.56
El Paso Electric	EE	(\$52.05)	\$0.00	\$0.79	\$1.48	\$1.65	\$1.76	\$1.88	\$2.00	\$2.12	\$2.26	\$2.41	\$2.57	\$2.74	\$2.89	\$3.05	\$3.21	\$113.12
Hawaiian Electric Industries, Inc.	HE	(\$33.76)	\$0.00	\$0.63	\$1.19	\$1.24	\$1.28	\$1.33	\$1.44	\$1.56	\$1.68	\$1.81	\$1.95	\$2.09	\$2.20	\$2.32	\$2.45	\$74.08
IDACORP, Inc.	IDA	(\$87.21)	\$0.00	\$1.35	\$2.53	\$2.80	\$2.97	\$3.15	\$3.29	\$3.45	\$3.63	\$3.83	\$4.05	\$4.30	\$4.54	\$4.78	\$5.04	\$186.99
NextEra Energy, Inc.	NEE	(\$158.65)	\$0.00	\$2.12	\$4.07	\$4.96	\$5.59	\$6.29	\$6.86	\$7.45	\$8.04	\$8.63	\$9.21	\$9.77	\$10.31	\$10.87	\$11.46	\$354.04
NorthWestern Corporation	NWE	(\$52.95)	\$0.00	\$1.20	\$2.24	\$2.35	\$2.43	\$2.50	\$2.61	\$2.72	\$2.85	\$2.99	\$3.16	\$3.34	\$3.53	\$3.72	\$3.92	\$112.52
OGE Energy Corp.	OGE	(\$32.61)	\$0.00	\$0.76	\$1.43	\$1.58	\$1.67	\$1.78	\$1.85	\$1.92	\$2.00	\$2.08	\$2.17	\$2.25	\$2.38	\$2.51	\$2.64	\$69.01
Otter Tail Corporation	OTTR	(\$43.41)	\$0.00	\$0.72	\$1.38	\$1.49	\$1.57	\$1.66	\$1.82	\$1.98	\$2.15	\$2.32	\$2.49	\$2.66	\$2.81	\$2.96	\$3.12	\$96.02
Pinnacle West Capital Corporation	PNW	(\$77.79)	\$0.00	\$1.59	\$2.98	\$3.18	\$3.32	\$3.47	\$3.65	\$3.85	\$4.07	\$4.30	\$4.56	\$4.84	\$5.10	\$5.38	\$5.67	\$167.40
PNM Resources, Inc.	PNM	(\$37.36)	\$0.00	\$0.59	\$1.11	\$1.17	\$1.21	\$1.26	\$1.40	\$1.55	\$1.72	\$1.89	\$2.08	\$2.29	\$2.41	\$2.54	\$2.68	\$84.23
Portland General Electric Company	POR	(\$40.54)	\$0.00	\$0.82	\$1.54	\$1.60	\$1.64	\$1.68	\$1.76	\$1.84	\$1.93	\$2.03	\$2.15	\$2.28	\$2.41	\$2.54	\$2.68	\$86.21
Southern Company	SO	(\$44.30)	\$0.00	\$1.45	\$2.70	\$2.73	\$2.77	\$2.81	\$2.86	\$2.92	\$2.99	\$3.07	\$3.16	\$3.26	\$3.44	\$3.62	\$3.82	\$89.71
WEC Energy Group, Inc.	WEC	(\$61.59)	\$0.00	\$1.19	\$2.24	\$2.37	\$2.48	\$2.59	\$2.73	\$2.89	\$3.05	\$3.23	\$3.42	\$3.62	\$3.82	\$4.02	\$4.24	\$132.34
Xcel Energy Inc.	XEL	(\$44.41)	\$0.00	\$0.82	\$1.55	\$1.70	\$1.80	\$1.91	\$2.03	\$2.16	\$2.30	\$2.44	\$2.59	\$2.75	\$2.90	\$3.06	\$3.23	\$96.53

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]			
Company	Ticker	Stock Price	EPS Growth Rate Estimates				Long-Term Growth	Payout Ratio			Iterative Solution		Terminal P/E Ratio	Terminal PEG Ratio			
			Zacks	First Call	Value Line	High Growth		2018	2022	2028	Proof	IRR					
ALLETE, Inc.	ALE	\$72.50	6.00%	6.00%	5.00%	6.00%	5.45%	65.00%	64.00%	65.57%	\$0.00	8.73%	21.03	3.86			
Alliant Energy Corporation	LNT	\$40.29	5.60%	5.85%	6.50%	6.50%	5.45%	64.00%	64.00%	65.57%	\$0.00	9.33%	17.80	3.27			
Ameren Corporation	AEE	\$56.21	6.50%	6.30%	7.50%	7.50%	5.45%	60.00%	59.00%	65.57%	\$0.00	9.51%	17.01	3.12			
American Electric Power Company, Inc.	AEP	\$66.84	5.70%	5.79%	4.50%	5.79%	5.45%	67.00%	63.00%	65.57%	\$0.00	9.52%	16.95	3.11			
Avangrid, Inc.	AGR	\$50.61	9.10%	10.40%	13.00%	13.00%	5.45%	76.00%	66.00%	65.57%	\$0.00	9.40%	17.48	3.21			
Black Hills Corporation	BKH	\$54.56	4.10%	3.86%	5.00%	5.00%	5.45%	55.00%	60.00%	65.57%	(\$0.00)	9.78%	15.94	2.93			
CMS Energy Corporation	CMS	\$44.34	6.40%	7.05%	7.00%	7.05%	5.45%	61.00%	61.00%	65.57%	\$0.00	9.39%	17.52	3.22			
DTE Energy Company	DTE	\$101.87	5.30%	5.59%	7.00%	7.00%	5.45%	61.00%	60.00%	65.57%	\$0.00	9.95%	15.35	2.82			
Duke Energy Corporation	DUK	\$76.57	4.70%	4.22%	5.50%	5.50%	5.45%	76.00%	80.00%	65.57%	\$0.00	9.74%	16.11	2.96			
El Paso Electric	EE	\$52.05	5.10%	5.20%	4.50%	5.20%	5.45%	57.00%	61.00%	65.57%	(\$0.00)	8.76%	20.86	3.83			
Hawaiian Electric Industries, Inc.	HE	\$33.76	7.10%	9.10%	3.50%	9.10%	5.45%	66.00%	59.00%	65.57%	\$0.00	9.90%	15.52	2.85			
IDACORP, Inc.	IDA	\$87.21	3.90%	3.10%	3.50%	3.90%	5.45%	57.00%	63.00%	65.57%	\$0.00	8.62%	21.80	4.00			
NextEra Energy, Inc.	NEE	\$158.65	8.60%	9.79%	8.50%	9.79%	5.45%	55.00%	63.00%	65.57%	\$0.00	9.37%	17.63	3.24			
NorthWestern Corporation	NWE	\$52.95	3.00%	3.16%	3.50%	3.50%	5.45%	64.00%	64.00%	65.57%	\$0.00	9.54%	16.87	3.10			
OGE Energy Corp.	OGE	\$32.61	6.00%	4.30%	6.00%	6.00%	5.45%	69.00%	71.00%	65.57%	\$0.00	10.05%	15.02	2.76			
Otter Tail Corporation	OTTR	\$43.41	NA	9.00%	7.50%	9.00%	5.45%	66.00%	60.00%	65.57%	\$0.00	9.37%	17.63	3.24			
Pinnacle West Capital Corporation	PNW	\$77.79	4.50%	3.78%	5.00%	5.00%	5.45%	63.00%	63.00%	65.57%	\$0.00	9.50%	17.04	3.13			
PNM Resources, Inc.	PNM	\$37.36	5.10%	4.30%	7.50%	7.50%	5.45%	53.00%	50.00%	65.57%	\$0.00	9.56%	16.80	3.09			
Portland General Electric Company	POR	\$40.54	2.80%	2.65%	4.00%	4.00%	5.45%	64.00%	63.00%	65.57%	\$0.00	9.22%	18.32	3.36			
Southern Company	SO	\$44.31	4.50%	2.72%	3.00%	4.50%	5.45%	80.00%	74.00%	65.57%	(\$0.00)	10.77%	12.98	2.38			
WEC Energy Group, Inc.	WEC	\$61.59	4.10%	4.43%	7.00%	7.00%	5.45%	66.00%	64.00%	65.57%	(\$0.00)	9.60%	16.66	3.06			
Xcel Energy Inc.	XEL	\$44.41	5.70%	5.89%	5.50%	5.89%	5.45%	62.00%	63.00%	65.57%	(\$0.00)	9.35%	17.73	3.26			
											Mean	9.50%					
											Max	10.77%					
											Min	8.62%					
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	\$3.13	\$3.32	\$3.52	\$3.73	\$3.95	\$4.19	\$4.44	\$4.69	\$4.96	\$5.24	\$5.53	\$5.83	\$6.15	\$6.49	\$6.84	\$7.21
Alliant Energy Corporation	LNT	\$1.99	\$2.12	\$2.26	\$2.40	\$2.56	\$2.73	\$2.90	\$3.08	\$3.26	\$3.45	\$3.64	\$3.84	\$4.05	\$4.27	\$4.51	\$4.75
Ameren Corporation	AEE	\$2.77	\$2.98	\$3.20	\$3.44	\$3.70	\$3.98	\$4.26	\$4.55	\$4.85	\$5.14	\$5.44	\$5.74	\$6.05	\$6.38	\$6.73	\$7.09
American Electric Power Company, Inc.	AEP	\$3.62	\$3.83	\$4.05	\$4.29	\$4.53	\$4.80	\$5.07	\$5.36	\$5.66	\$5.98	\$6.30	\$6.65	\$7.01	\$7.39	\$7.79	\$8.22
Avangrid, Inc.	AGR	\$1.67	\$1.89	\$2.13	\$2.41	\$2.72	\$3.08	\$3.44	\$3.80	\$4.15	\$4.48	\$4.78	\$5.04	\$5.31	\$5.60	\$5.91	\$6.23
Black Hills Corporation	BKH	\$3.38	\$3.55	\$3.73	\$3.91	\$4.11	\$4.31	\$4.53	\$4.77	\$5.02	\$5.28	\$5.56	\$5.87	\$6.19	\$6.52	\$6.88	\$7.25
CMS Energy Corporation	CMS	\$2.17	\$2.32	\$2.49	\$2.66	\$2.85	\$3.05	\$3.26	\$3.47	\$3.69	\$3.91	\$4.13	\$4.36	\$4.59	\$4.84	\$5.11	\$5.38
DTE Energy Company	DTE	\$5.73	\$6.13	\$6.56	\$7.02	\$7.51	\$8.04	\$8.58	\$9.13	\$9.70	\$10.28	\$10.87	\$11.46	\$12.08	\$12.74	\$13.44	\$14.17
Duke Energy Corporation	DUK	\$4.22	\$4.45	\$4.70	\$4.96	\$5.23	\$5.52	\$5.82	\$6.14	\$6.47	\$6.83	\$7.20	\$7.59	\$8.00	\$8.44	\$8.90	\$9.39
El Paso Electric	EE	\$2.42	\$2.55	\$2.68	\$2.82	\$2.96	\$3.12	\$3.28	\$3.45	\$3.64	\$3.83	\$4.04	\$4.26	\$4.49	\$4.74	\$5.00	\$5.27
Hawaiian Electric Industries, Inc.	HE	\$1.64	\$1.79	\$1.95	\$2.13	\$2.32	\$2.53	\$2.75	\$2.97	\$3.18	\$3.39	\$3.60	\$3.80	\$4.00	\$4.22	\$4.45	\$4.69
IDACORP, Inc.	IDA	\$4.21	\$4.37	\$4.54	\$4.72	\$4.91	\$5.10	\$5.31	\$5.54	\$5.80	\$6.09	\$6.41	\$6.75	\$7.12	\$7.51	\$7.92	\$8.35
NextEra Energy, Inc.	NEE	\$6.50	\$7.14	\$7.83	\$8.60	\$9.44	\$10.37	\$11.31	\$12.25	\$13.19	\$14.09	\$14.96	\$15.78	\$16.64	\$17.54	\$18.50	\$19.51
NorthWestern Corporation	NWE	\$3.34	\$3.46	\$3.58	\$3.70	\$3.83	\$3.97	\$4.12	\$4.29	\$4.48	\$4.70	\$4.94	\$5.21	\$5.49	\$5.79	\$6.10	\$6.44
OGE Energy Corp.	OGE	\$1.92	\$2.04	\$2.16	\$2.29	\$2.42	\$2.57	\$2.72	\$2.88	\$3.04	\$3.22	\$3.39	\$3.58	\$3.77	\$3.98	\$4.20	\$4.42
Otter Tail Corporation	OTTR	\$1.86	\$2.03	\$2.21	\$2.41	\$2.63	\$2.86	\$3.10	\$3.34	\$3.59	\$3.82	\$4.06	\$4.28	\$4.51	\$4.75	\$5.01	\$5.29
Pinnacle West Capital Corporation	PNW	\$4.43	\$4.65	\$4.88	\$5.13	\$5.38	\$5.65	\$5.94	\$6.25	\$6.57	\$6.92	\$7.29	\$7.69	\$8.11	\$8.55	\$9.02	\$9.51
PNM Resources, Inc.	PNM	\$1.92	\$2.06	\$2.22	\$2.39	\$2.56	\$2.76	\$2.95	\$3.16	\$3.36	\$3.57	\$3.77	\$3.98	\$4.19	\$4.42	\$4.66	\$4.92
Portland General Electric Company	POR	\$2.29	\$2.38	\$2.48	\$2.58	\$2.68	\$2.79	\$2.90	\$3.03	\$3.18	\$3.34	\$3.51	\$3.70	\$3.90	\$4.11	\$4.34	\$4.57
Southern Company	SO	\$3.21	\$3.35	\$3.51	\$3.66	\$3.83	\$4.00	\$4.19	\$4.39	\$4.61	\$4.84	\$5.10	\$5.38	\$5.67	\$5.98	\$6.30	\$6.65
WEC Energy Group, Inc.	WEC	\$3.14	\$3.36	\$3.59	\$3.85	\$4.12	\$4.40	\$4.70	\$5.01	\$5.32	\$5.63	\$5.96	\$6.28	\$6.62	\$6.98	\$7.36	\$7.76
Xcel Energy Inc.	XEL	\$2.30	\$2.44	\$2.58	\$2.73	\$2.89	\$3.06	\$3.24	\$3.43	\$3.62	\$3.82	\$4.03	\$4.25	\$4.49	\$4.73	\$4.99	\$5.26

Projected Annual Dividend Payout Ratio		[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	65.00%	64.75%	64.50%	64.25%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Ameren Corporation	AEE	60.00%	59.75%	59.50%	59.25%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
American Electric Power Company, Inc.	AEP	67.00%	66.00%	65.00%	64.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Avangrid, Inc.	AGR	76.00%	73.50%	71.00%	68.50%	66.00%	65.93%	65.86%	65.79%	65.71%	65.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Black Hills Corporation	BKH	55.00%	56.25%	57.50%	58.75%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
DTE Energy Company	DTE	61.00%	60.75%	60.50%	60.25%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Duke Energy Corporation	DUK	76.00%	77.00%	78.00%	79.00%	80.00%	77.60%	75.19%	72.79%	70.38%	67.98%	65.57%	65.57%	65.57%	65.57%	65.57%
El Paso Electric	EE	57.00%	58.00%	59.00%	60.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
Hawaiian Electric Industries, Inc.	HE	66.00%	64.25%	62.50%	60.75%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
IDACORP, Inc.	IDA	57.00%	58.50%	60.00%	61.50%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NextEra Energy, Inc.	NEE	55.00%	57.00%	59.00%	61.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NorthWestern Corporation	NWE	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
OGE Energy Corp.	OGE	69.00%	69.50%	70.00%	70.50%	71.00%	70.10%	69.19%	68.29%	67.38%	66.48%	65.57%	65.57%	65.57%	65.57%	65.57%
Otter Tail Corporation	OTTR	66.00%	64.50%	63.00%	61.50%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Pinnacle West Capital Corporation	PNW	63.00%	63.00%	63.00%	63.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
PNM Resources, Inc.	PNM	53.00%	52.25%	51.50%	50.75%	50.00%	52.60%	55.19%	57.79%	60.38%	62.98%	65.57%	65.57%	65.57%	65.57%	65.57%
Portland General Electric Company	POR	64.00%	63.75%	63.50%	63.25%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Southern Company	SO	80.00%	78.50%	77.00%	75.50%	74.00%	72.60%	71.19%	69.79%	68.38%	66.98%	65.57%	65.57%	65.57%	65.57%	65.57%
WEC Energy Group, Inc.	WEC	66.00%	65.50%	65.00%	64.50%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Xcel Energy Inc.	XEL	62.00%	62.25%	62.50%	62.75%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%

Projected Annual Cash Flows		[45]	[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	Terminal Value
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032		
ALLETE, Inc.	ALE	\$2.16	\$2.28	\$2.40	\$2.54	\$2.68	\$2.85	\$3.03	\$3.22	\$3.41	\$3.61	\$3.83	\$4.03	\$4.25	\$4.48	\$4.73	\$151.68	
Alliant Energy Corporation	LNT	\$1.36	\$1.44	\$1.54	\$1.64	\$1.74	\$1.86	\$1.99	\$2.11	\$2.24	\$2.38	\$2.52	\$2.66	\$2.80	\$2.95	\$3.11	\$84.57	
Ameren Corporation	AEE	\$1.79	\$1.91	\$2.05	\$2.19	\$2.35	\$2.56	\$2.79	\$3.02	\$3.26	\$3.51	\$3.76	\$3.97	\$4.18	\$4.41	\$4.65	\$120.67	
American Electric Power Company, Inc.	AEP	\$2.57	\$2.67	\$2.79	\$2.90	\$3.02	\$3.22	\$3.42	\$3.64	\$3.87	\$4.11	\$4.36	\$4.60	\$4.85	\$5.11	\$5.39	\$139.34	
Avangrid, Inc.	AGR	\$1.43	\$1.57	\$1.71	\$1.87	\$2.03	\$2.27	\$2.50	\$2.73	\$2.94	\$3.14	\$3.30	\$3.48	\$3.67	\$3.87	\$4.09	\$108.94	
Black Hills Corporation	BKH	\$1.95	\$2.10	\$2.25	\$2.41	\$2.59	\$2.76	\$2.95	\$3.15	\$3.36	\$3.60	\$3.85	\$4.06	\$4.28	\$4.51	\$4.76	\$115.65	
CMS Energy Corporation	CMS	\$1.42	\$1.52	\$1.62	\$1.74	\$1.86	\$2.01	\$2.17	\$2.33	\$2.50	\$2.68	\$2.86	\$3.01	\$3.18	\$3.35	\$3.53	\$94.35	
DTE Energy Company	DTE	\$3.74	\$3.99	\$4.25	\$4.53	\$4.82	\$5.23	\$5.65	\$6.09	\$6.55	\$7.03	\$7.51	\$7.92	\$8.36	\$8.81	\$9.29	\$217.45	
Duke Energy Corporation	DUK	\$3.38	\$3.62	\$3.87	\$4.13	\$4.41	\$4.51	\$4.61	\$4.71	\$4.80	\$4.89	\$4.98	\$5.25	\$5.53	\$5.84	\$6.15	\$151.23	
El Paso Electric	EE	\$1.45	\$1.55	\$1.66	\$1.78	\$1.90	\$2.03	\$2.16	\$2.30	\$2.46	\$2.62	\$2.79	\$2.95	\$3.11	\$3.28	\$3.45	\$109.91	
Hawaiian Electric Industries, Inc.	HE	\$1.18	\$1.25	\$1.33	\$1.41	\$1.50	\$1.65	\$1.82	\$1.98	\$2.15	\$2.32	\$2.49	\$2.62	\$2.77	\$2.92	\$3.08	\$72.86	
IDACORP, Inc.	IDA	\$2.49	\$2.66	\$2.83	\$3.02	\$3.21	\$3.37	\$3.54	\$3.73	\$3.94	\$4.17	\$4.43	\$4.67	\$4.92	\$5.19	\$5.47	\$182.06	
NextEra Energy, Inc.	NEE	\$3.92	\$4.47	\$5.08	\$5.76	\$6.53	\$7.17	\$7.82	\$8.48	\$9.12	\$9.75	\$10.35	\$10.91	\$11.50	\$12.13	\$12.79	\$343.93	
NorthWestern Corporation	NWE	\$2.21	\$2.29	\$2.37	\$2.45	\$2.54	\$2.65	\$2.77	\$2.90	\$3.05	\$3.22	\$3.41	\$3.60	\$3.80	\$4.00	\$4.22	\$108.58	
OGE Energy Corp.	OGE	\$1.40	\$1.50	\$1.60	\$1.71	\$1.82	\$1.91	\$1.99	\$2.08	\$2.17	\$2.26	\$2.35	\$2.47	\$2.61	\$2.75	\$2.90	\$66.47	
Otter Tail Corporation	OTTR	\$1.34	\$1.43	\$1.52	\$1.61	\$1.72	\$1.89	\$2.07	\$2.25	\$2.44	\$2.62	\$2.80	\$2.96	\$3.12	\$3.29	\$3.47	\$93.22	
Pinnacle West Capital Corporation	PNW	\$2.93	\$3.08	\$3.23	\$3.39	\$3.56	\$3.77	\$3.99	\$4.23	\$4.48	\$4.75	\$5.04	\$5.32	\$5.61	\$5.91	\$6.23	\$162.02	
PNM Resources, Inc.	PNM	\$1.09	\$1.16	\$1.23	\$1.30	\$1.38	\$1.55	\$1.74	\$1.94	\$2.15	\$2.38	\$2.61	\$2.75	\$2.90	\$3.06	\$3.22	\$82.62	
Portland General Electric Company	POR	\$1.52	\$1.58	\$1.64	\$1.69	\$1.76	\$1.84	\$1.94	\$2.04	\$2.16	\$2.29	\$2.43	\$2.56	\$2.70	\$2.84	\$3.00	\$83.81	
Southern Company	SO	\$2.68	\$2.75	\$2.82	\$2.89	\$2.96	\$3.04	\$3.12	\$3.21	\$3.31	\$3.41	\$3.53	\$3.72	\$3.92	\$4.13	\$4.36	\$86.30	
WEC Energy Group, Inc.	WEC	\$2.22	\$2.35	\$2.50	\$2.65	\$2.82	\$3.02	\$3.23	\$3.44	\$3.66	\$3.89	\$4.12	\$4.34	\$4.58	\$4.83	\$5.09	\$129.39	
Xcel Energy Inc.	XEL	\$1.51	\$1.61	\$1.71	\$1.81	\$1.93	\$2.06	\$2.19	\$2.33	\$2.47	\$2.63	\$2.79	\$2.94	\$3.10	\$3.27	\$3.45	\$93.25	

Projected Annual Data

Investor Cash Flows		[61]	[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]
		Initial																
Company	Ticker	Outflow	6/15/18	12/31/18	6/30/19	6/30/20	6/30/21	6/30/22	6/30/23	6/30/24	6/30/25	6/30/26	6/30/27	6/30/28	6/30/29	6/30/30	6/30/31	6/30/32
ALLETE, Inc.	ALE	(\$72.50)	\$0.00	\$1.18	\$2.22	\$2.40	\$2.54	\$2.68	\$2.85	\$3.03	\$3.22	\$3.41	\$3.61	\$3.83	\$4.03	\$4.25	\$4.48	\$156.41
Alliant Energy Corporation	LNT	(\$40.29)	\$0.00	\$0.74	\$1.40	\$1.54	\$1.64	\$1.74	\$1.86	\$1.99	\$2.11	\$2.24	\$2.38	\$2.52	\$2.66	\$2.80	\$2.95	\$87.68
Ameren Corporation	AEE	(\$56.21)	\$0.00	\$0.97	\$1.85	\$2.05	\$2.19	\$2.35	\$2.56	\$2.79	\$3.02	\$3.26	\$3.51	\$3.76	\$3.97	\$4.18	\$4.41	\$125.32
American Electric Power Company, Inc.	AEP	(\$66.84)	\$0.00	\$1.40	\$2.64	\$2.79	\$2.90	\$3.02	\$3.22	\$3.42	\$3.64	\$3.87	\$4.11	\$4.36	\$4.60	\$4.85	\$5.11	\$144.72
Avangrid, Inc.	AGR	(\$50.61)	\$0.00	\$0.78	\$1.53	\$1.71	\$1.87	\$2.03	\$2.27	\$2.50	\$2.73	\$2.94	\$3.14	\$3.30	\$3.48	\$3.67	\$3.87	\$113.02
Black Hills Corporation	BKH	(\$54.56)	\$0.00	\$1.06	\$2.00	\$2.25	\$2.41	\$2.59	\$2.76	\$2.95	\$3.15	\$3.36	\$3.60	\$3.85	\$4.06	\$4.28	\$4.51	\$120.41
CMS Energy Corporation	CMS	(\$44.34)	\$0.00	\$0.77	\$1.47	\$1.62	\$1.74	\$1.86	\$2.01	\$2.17	\$2.33	\$2.50	\$2.68	\$2.86	\$3.01	\$3.18	\$3.35	\$97.88
DTE Energy Company	DTE	(\$101.87)	\$0.00	\$2.04	\$3.87	\$4.25	\$4.53	\$4.82	\$5.23	\$5.65	\$6.09	\$6.55	\$7.03	\$7.51	\$7.92	\$8.36	\$8.81	\$226.74
Duke Energy Corporation	DUK	(\$76.57)	\$0.00	\$1.84	\$3.48	\$3.87	\$4.13	\$4.41	\$4.51	\$4.61	\$4.71	\$4.80	\$4.89	\$4.98	\$5.25	\$5.53	\$5.84	\$157.39
El Paso Electric	EE	(\$52.05)	\$0.00	\$0.79	\$1.49	\$1.66	\$1.78	\$1.90	\$2.03	\$2.16	\$2.30	\$2.46	\$2.62	\$2.79	\$2.95	\$3.11	\$3.28	\$113.36
Hawaiian Electric Industries, Inc.	HE	(\$33.76)	\$0.00	\$0.64	\$1.23	\$1.33	\$1.41	\$1.50	\$1.65	\$1.82	\$1.98	\$2.15	\$2.32	\$2.49	\$2.62	\$2.77	\$2.92	\$75.94
IDACORP, Inc.	IDA	(\$87.21)	\$0.00	\$1.36	\$2.54	\$2.83	\$3.02	\$3.21	\$3.37	\$3.54	\$3.73	\$3.94	\$4.17	\$4.43	\$4.67	\$4.92	\$5.19	\$187.53
NextEra Energy, Inc.	NEE	(\$158.65)	\$0.00	\$2.14	\$4.12	\$5.08	\$5.76	\$6.53	\$7.17	\$7.82	\$8.48	\$9.12	\$9.75	\$10.35	\$10.91	\$11.50	\$12.13	\$356.72
NorthWestern Corporation	NWE	(\$52.95)	\$0.00	\$1.21	\$2.25	\$2.37	\$2.45	\$2.54	\$2.65	\$2.77	\$2.90	\$3.05	\$3.22	\$3.41	\$3.60	\$3.80	\$4.00	\$112.80
OGE Energy Corp.	OGE	(\$32.61)	\$0.00	\$0.77	\$1.45	\$1.60	\$1.71	\$1.82	\$1.91	\$1.99	\$2.08	\$2.17	\$2.26	\$2.35	\$2.47	\$2.61	\$2.75	\$69.37
Otter Tail Corporation	OTTR	(\$43.41)	\$0.00	\$0.73	\$1.40	\$1.52	\$1.61	\$1.72	\$1.89	\$2.07	\$2.25	\$2.44	\$2.62	\$2.80	\$2.96	\$3.12	\$3.29	\$96.69
Pinnacle West Capital Corporation	PNW	(\$77.79)	\$0.00	\$1.60	\$3.00	\$3.23	\$3.39	\$3.56	\$3.77	\$3.99	\$4.23	\$4.48	\$4.75	\$5.04	\$5.32	\$5.61	\$5.91	\$168.26
PNM Resources, Inc.	PNM	(\$37.36)	\$0.00	\$0.60	\$1.13	\$1.23	\$1.30	\$1.38	\$1.55	\$1.74	\$1.94	\$2.15	\$2.38	\$2.61	\$2.75	\$2.90	\$3.06	\$85.84
Portland General Electric Company	POR	(\$40.54)	\$0.00	\$0.83	\$1.55	\$1.64	\$1.69	\$1.76	\$1.84	\$1.94	\$2.04	\$2.16	\$2.29	\$2.43	\$2.56	\$2.70	\$2.84	\$86.81
Southern Company	SO	(\$44.31)	\$0.00	\$1.46	\$2.74	\$2.82	\$2.89	\$2.96	\$3.04	\$3.12	\$3.21	\$3.31	\$3.41	\$3.53	\$3.72	\$3.92	\$4.13	\$90.66
WEC Energy Group, Inc.	WEC	(\$61.59)	\$0.00	\$1.21	\$2.30	\$2.50	\$2.65	\$2.82	\$3.02	\$3.23	\$3.44	\$3.66	\$3.89	\$4.12	\$4.34	\$4.58	\$4.83	\$134.48
Xcel Energy Inc.	XEL	(\$44.41)	\$0.00	\$0.82	\$1.55	\$1.71	\$1.81	\$1.93	\$2.06	\$2.19	\$2.33	\$2.47	\$2.63	\$2.79	\$2.94	\$3.10	\$3.27	\$96.70

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			
				Value	Low									PEG			
Company	Ticker	Price	Zacks	First Call	Line	Growth	Growth	2018	2022	2028	Proof	IRR	P/E Ratio	Ratio			
ALLETE, Inc.	ALE	\$72.50	6.00%	6.00%	5.00%	5.00%	5.45%	65.00%	64.00%	65.57%	(\$0.00)	8.52%	22.46	4.12			
Alliant Energy Corporation	LNT	\$40.29	5.60%	5.85%	6.50%	5.60%	5.45%	64.00%	64.00%	65.57%	\$0.00	9.11%	18.87	3.46			
Ameren Corporation	AEE	\$56.21	6.50%	6.30%	7.50%	6.30%	5.45%	60.00%	59.00%	65.57%	\$0.00	9.21%	18.35	3.37			
American Electric Power Company, Inc.	AEP	\$66.84	5.70%	5.79%	4.50%	4.50%	5.45%	67.00%	63.00%	65.57%	\$0.00	9.20%	18.43	3.38			
Avangrid, Inc.	AGR	\$50.61	9.10%	10.40%	13.00%	9.10%	5.45%	76.00%	66.00%	65.57%	\$0.00	8.55%	22.26	4.09			
Black Hills Corporation	BKH	\$54.56	4.10%	3.86%	5.00%	3.86%	5.45%	55.00%	60.00%	65.57%	\$0.00	9.48%	17.16	3.15			
CMS Energy Corporation	CMS	\$44.34	6.40%	7.05%	7.00%	6.40%	5.45%	61.00%	61.00%	65.57%	\$0.00	9.23%	18.26	3.35			
DTE Energy Company	DTE	\$101.87	5.30%	5.59%	7.00%	5.30%	5.45%	61.00%	60.00%	65.57%	\$0.00	9.49%	17.09	3.14			
Duke Energy Corporation	DUK	\$76.57	4.70%	4.22%	5.50%	4.22%	5.45%	76.00%	80.00%	65.57%	\$0.00	9.39%	17.55	3.22			
El Paso Electric	EE	\$52.05	5.10%	5.20%	4.50%	4.50%	5.45%	57.00%	61.00%	65.57%	(\$0.00)	8.61%	21.84	4.01			
Hawaiian Electric Industries, Inc.	HE	\$33.76	7.10%	9.10%	3.50%	3.50%	5.45%	60.00%	59.00%	65.57%	\$0.00	8.56%	22.21	4.08			
IDACORP, Inc.	IDA	\$87.21	3.90%	3.10%	3.50%	3.10%	5.45%	57.00%	63.00%	65.57%	\$0.00	8.45%	23.01	4.22			
NextEra Energy, Inc.	NEE	\$158.65	8.60%	9.79%	8.50%	8.50%	5.45%	55.00%	63.00%	65.57%	\$0.00	9.07%	19.10	3.51			
NorthWestern Corporation	NWE	\$52.95	3.00%	3.16%	3.50%	3.00%	5.45%	64.00%	64.00%	65.57%	(\$0.00)	9.41%	17.44	3.20			
OGE Energy Corp.	OGE	\$32.61	6.00%	4.30%	6.00%	4.30%	5.45%	69.00%	71.00%	65.57%	\$0.00	9.57%	16.78	3.08			
Otter Tail Corporation	OTTR	\$43.41	NA	9.00%	7.50%	7.50%	5.45%	66.00%	60.00%	65.57%	\$0.00	9.02%	19.37	3.56			
Pinnacle West Capital Corporation	PNW	\$77.79	4.50%	3.78%	5.00%	3.78%	5.45%	63.00%	63.00%	65.57%	\$0.00	9.19%	18.46	3.39			
PNM Resources, Inc.	PNM	\$37.36	5.10%	4.30%	7.50%	4.30%	5.45%	53.00%	50.00%	65.57%	\$0.00	8.81%	20.57	3.78			
Portland General Electric Company	POR	\$40.54	2.80%	2.65%	4.00%	2.65%	5.45%	64.00%	63.00%	65.57%	\$0.00	8.90%	20.04	3.68			
Southern Company	SO	\$44.31	4.50%	2.72%	3.00%	2.72%	5.45%	80.00%	74.00%	65.57%	\$0.00	10.18%	14.60	2.68			
WEC Energy Group, Inc.	WEC	\$61.59	4.10%	4.43%	7.00%	4.10%	5.45%	66.00%	64.00%	65.57%	\$0.00	8.88%	20.11	3.69			
Xcel Energy Inc.	XEL	\$44.41	5.70%	5.89%	5.50%	5.50%	5.45%	62.00%	63.00%	65.57%	\$0.00	9.25%	18.18	3.34			
											Mean	9.09%					
											Max	10.18%					
											Min	8.45%					
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	\$3.13	\$3.29	\$3.45	\$3.62	\$3.80	\$3.99	\$4.20	\$4.41	\$4.64	\$4.89	\$5.15	\$5.43	\$5.73	\$6.04	\$6.37	\$6.72
Alliant Energy Corporation	LNT	\$1.99	\$2.10	\$2.22	\$2.34	\$2.47	\$2.61	\$2.76	\$2.91	\$3.07	\$3.24	\$3.42	\$3.61	\$3.80	\$4.01	\$4.23	\$4.46
Ameren Corporation	AEE	\$2.77	\$2.94	\$3.13	\$3.33	\$3.54	\$3.76	\$3.99	\$4.23	\$4.48	\$4.74	\$5.00	\$5.27	\$5.56	\$5.86	\$6.18	\$6.52
American Electric Power Company, Inc.	AEP	\$3.62	\$3.78	\$3.95	\$4.13	\$4.32	\$4.51	\$4.72	\$4.95	\$5.19	\$5.46	\$5.75	\$6.06	\$6.39	\$6.74	\$7.11	\$7.50
Avangrid, Inc.	AGR	\$1.67	\$1.82	\$1.99	\$2.17	\$2.37	\$2.58	\$2.80	\$3.02	\$3.24	\$3.46	\$3.67	\$3.87	\$4.08	\$4.30	\$4.53	\$4.78
Black Hills Corporation	BKH	\$3.38	\$3.51	\$3.65	\$3.79	\$3.93	\$4.08	\$4.25	\$4.44	\$4.65	\$4.87	\$5.13	\$5.41	\$5.70	\$6.01	\$6.34	\$6.68
CMS Energy Corporation	CMS	\$2.17	\$2.31	\$2.46	\$2.61	\$2.78	\$2.96	\$3.14	\$3.34	\$3.53	\$3.74	\$3.95	\$4.16	\$4.39	\$4.63	\$4.88	\$5.14
DTE Energy Company	DTE	\$5.73	\$6.03	\$6.35	\$6.69	\$7.04	\$7.42	\$7.81	\$8.23	\$8.67	\$9.14	\$9.64	\$10.16	\$10.72	\$11.30	\$11.91	\$12.56
Duke Energy Corporation	DUK	\$4.22	\$4.40	\$4.58	\$4.78	\$4.98	\$5.19	\$5.42	\$5.67	\$5.94	\$6.24	\$6.57	\$6.93	\$7.30	\$7.70	\$8.12	\$8.56
El Paso Electric	EE	\$2.42	\$2.53	\$2.64	\$2.76	\$2.89	\$3.02	\$3.16	\$3.31	\$3.47	\$3.65	\$3.84	\$4.05	\$4.27	\$4.51	\$4.75	\$5.01
Hawaiian Electric Industries, Inc.	HE	\$1.64	\$1.70	\$1.76	\$1.82	\$1.88	\$1.95	\$2.02	\$2.11	\$2.20	\$2.31	\$2.42	\$2.56	\$2.70	\$2.84	\$3.00	\$3.16
IDACORP, Inc.	IDA	\$4.21	\$4.34	\$4.48	\$4.61	\$4.76	\$4.90	\$5.08	\$5.27	\$5.50	\$5.75	\$6.05	\$6.37	\$6.72	\$7.09	\$7.47	\$7.88
NextEra Energy, Inc.	NEE	\$6.50	\$7.05	\$7.65	\$8.30	\$9.01	\$9.77	\$10.55	\$11.34	\$12.14	\$12.92	\$13.69	\$14.43	\$15.22	\$16.05	\$16.92	\$17.85
NorthWestern Corporation	NWE	\$3.34	\$3.44	\$3.54	\$3.65	\$3.76	\$3.87	\$4.00	\$4.16	\$4.33	\$4.53	\$4.76	\$5.02	\$5.29	\$5.58	\$5.89	\$6.21
OGE Energy Corp.	OGE	\$1.92	\$2.00	\$2.09	\$2.18	\$2.27	\$2.37	\$2.48	\$2.59	\$2.72	\$2.86	\$3.01	\$3.17	\$3.34	\$3.52	\$3.72	\$3.92
Otter Tail Corporation	OTTR	\$1.86	\$2.00	\$2.15	\$2.31	\$2.48	\$2.67	\$2.86	\$3.06	\$3.25	\$3.45	\$3.65	\$3.85	\$4.06	\$4.28	\$4.52	\$4.76
Pinnacle West Capital Corporation	PNW	\$4.43	\$4.60	\$4.77	\$4.95	\$5.14	\$5.33	\$5.55	\$5.79	\$6.06	\$6.35	\$6.68	\$7.05	\$7.43	\$7.83	\$8.26	\$8.71
PNM Resources, Inc.	PNM	\$1.92	\$2.00	\$2.09	\$2.18	\$2.27	\$2.37	\$2.48	\$2.59	\$2.72	\$2.86	\$3.01	\$3.17	\$3.34	\$3.52	\$3.72	\$3.92
Portland General Electric Company	POR	\$2.29	\$2.35	\$2.41	\$2.48	\$2.54	\$2.61	\$2.69	\$2.79	\$2.90	\$3.03	\$3.18	\$3.36	\$3.54	\$3.73	\$3.93	\$4.15
Southern Company	SO	\$3.21	\$3.30	\$3.39	\$3.48	\$3.57	\$3.67	\$3.79	\$3.92	\$4.09	\$4.27	\$4.48	\$4.73	\$4.99	\$5.26	\$5.54	\$5.85
WEC Energy Group, Inc.	WEC	\$3.14	\$3.27	\$3.40	\$3.54	\$3.69	\$3.84	\$4.00	\$4.19	\$4.39	\$4.61	\$4.85	\$5.11	\$5.39	\$5.68	\$5.99	\$6.32
Xcel Energy Inc.	XEL	\$2.30	\$2.43	\$2.56	\$2.70	\$2.85	\$3.01	\$3.17	\$3.34	\$3.53	\$3.72	\$3.92	\$4.14	\$4.36	\$4.60	\$4.85	\$5.12

Projected Annual Dividend Payout Ratio		[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	65.00%	64.75%	64.50%	64.25%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Ameren Corporation	AEE	60.00%	59.75%	59.50%	59.25%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
American Electric Power Company, Inc.	AEP	67.00%	66.00%	65.00%	64.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Avangrid, Inc.	AGR	76.00%	73.50%	71.00%	68.50%	66.00%	65.93%	65.86%	65.79%	65.71%	65.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Black Hills Corporation	BKH	55.00%	56.25%	57.50%	58.75%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
DTE Energy Company	DTE	61.00%	60.75%	60.50%	60.25%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Duke Energy Corporation	DUK	76.00%	77.00%	78.00%	79.00%	80.00%	77.60%	75.19%	72.79%	70.38%	67.98%	65.57%	65.57%	65.57%	65.57%	65.57%
El Paso Electric	EE	57.00%	58.00%	59.00%	60.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
Hawaiian Electric Industries, Inc.	HE	66.00%	64.25%	62.50%	60.75%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
IDACORP, Inc.	IDA	57.00%	58.50%	60.00%	61.50%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NextEra Energy, Inc.	NEE	55.00%	57.00%	59.00%	61.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NorthWestern Corporation	NWE	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
OGE Energy Corp.	OGE	69.00%	69.50%	70.00%	70.50%	71.00%	70.10%	69.19%	68.29%	67.38%	66.48%	65.57%	65.57%	65.57%	65.57%	65.57%
Otter Tail Corporation	OTTR	66.00%	64.50%	63.00%	61.50%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Pinnacle West Capital Corporation	PNW	63.00%	63.00%	63.00%	63.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
PNM Resources, Inc.	PNM	53.00%	52.25%	51.50%	50.75%	50.00%	52.60%	55.19%	57.79%	60.38%	62.98%	65.57%	65.57%	65.57%	65.57%	65.57%
Portland General Electric Company	POR	64.00%	63.75%	63.50%	63.25%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Southern Company	SO	80.00%	78.50%	77.00%	75.50%	74.00%	72.60%	71.19%	69.79%	68.38%	66.98%	65.57%	65.57%	65.57%	65.57%	65.57%
WEC Energy Group, Inc.	WEC	66.00%	65.50%	65.00%	64.50%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Xcel Energy Inc.	XEL	62.00%	62.25%	62.50%	62.75%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%

Projected Annual Cash Flows		[45]	[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.14	\$2.23	\$2.34	\$2.44	\$2.56	\$2.70	\$2.85	\$3.01	\$3.18	\$3.37	\$3.56	\$3.76	\$3.96	\$4.18	\$4.40	\$150.87
Alliant Energy Corporation	LNT	\$1.34	\$1.42	\$1.50	\$1.58	\$1.67	\$1.77	\$1.88	\$1.99	\$2.11	\$2.23	\$2.36	\$2.49	\$2.63	\$2.77	\$2.92	\$84.09
Ameren Corporation	AEE	\$1.77	\$1.87	\$1.98	\$2.10	\$2.22	\$2.40	\$2.59	\$2.79	\$3.00	\$3.22	\$3.46	\$3.65	\$3.84	\$4.05	\$4.27	\$119.65
American Electric Power Company, Inc.	AEP	\$2.53	\$2.61	\$2.69	\$2.76	\$2.84	\$2.99	\$3.16	\$3.34	\$3.53	\$3.75	\$3.98	\$4.19	\$4.42	\$4.66	\$4.92	\$138.18
Avangrid, Inc.	AGR	\$1.38	\$1.46	\$1.54	\$1.62	\$1.70	\$1.85	\$1.99	\$2.13	\$2.27	\$2.41	\$2.53	\$2.67	\$2.82	\$2.97	\$3.13	\$106.37
Black Hills Corporation	BKH	\$1.93	\$2.05	\$2.18	\$2.31	\$2.45	\$2.59	\$2.75	\$2.92	\$3.11	\$3.31	\$3.55	\$3.74	\$3.94	\$4.16	\$4.38	\$114.69
CMS Energy Corporation	CMS	\$1.41	\$1.50	\$1.59	\$1.70	\$1.81	\$1.94	\$2.09	\$2.24	\$2.39	\$2.56	\$2.73	\$2.88	\$3.03	\$3.20	\$3.37	\$93.94
DTE Energy Company	DTE	\$3.68	\$3.86	\$4.05	\$4.24	\$4.45	\$4.76	\$5.09	\$5.45	\$5.82	\$6.23	\$6.66	\$7.03	\$7.41	\$7.81	\$8.24	\$214.69
Duke Energy Corporation	DUK	\$3.34	\$3.53	\$3.73	\$3.93	\$4.15	\$4.20	\$4.26	\$4.33	\$4.39	\$4.47	\$4.54	\$4.79	\$5.05	\$5.33	\$5.62	\$150.28
El Paso Electric	EE	\$1.44	\$1.53	\$1.63	\$1.73	\$1.84	\$1.95	\$2.07	\$2.20	\$2.34	\$2.49	\$2.66	\$2.80	\$2.96	\$3.12	\$3.29	\$109.47
Hawaiian Electric Industries, Inc.	HE	\$1.12	\$1.13	\$1.14	\$1.14	\$1.15	\$1.22	\$1.29	\$1.37	\$1.46	\$1.56	\$1.68	\$1.77	\$1.86	\$1.97	\$2.07	\$70.18
IDACORP, Inc.	IDA	\$2.47	\$2.62	\$2.77	\$2.93	\$3.09	\$3.22	\$3.37	\$3.53	\$3.72	\$3.94	\$4.18	\$4.41	\$4.65	\$4.90	\$5.17	\$181.30
NextEra Energy, Inc.	NEE	\$3.88	\$4.36	\$4.90	\$5.49	\$6.16	\$6.69	\$7.24	\$7.80	\$8.36	\$8.92	\$9.47	\$9.98	\$10.52	\$11.10	\$11.70	\$340.91
NorthWestern Corporation	NWE	\$2.20	\$2.27	\$2.34	\$2.41	\$2.48	\$2.57	\$2.68	\$2.81	\$2.95	\$3.11	\$3.29	\$3.47	\$3.66	\$3.86	\$4.07	\$108.24
OGE Energy Corp.	OGE	\$1.38	\$1.45	\$1.52	\$1.60	\$1.68	\$1.74	\$1.79	\$1.86	\$1.92	\$2.00	\$2.08	\$2.19	\$2.31	\$2.44	\$2.57	\$65.76
Otter Tail Corporation	OTTR	\$1.32	\$1.39	\$1.46	\$1.53	\$1.60	\$1.74	\$1.89	\$2.04	\$2.20	\$2.36	\$2.53	\$2.66	\$2.81	\$2.96	\$3.12	\$92.27
Pinnacle West Capital Corporation	PNW	\$2.90	\$3.01	\$3.12	\$3.24	\$3.36	\$3.52	\$3.70	\$3.89	\$4.11	\$4.35	\$4.62	\$4.87	\$5.14	\$5.42	\$5.71	\$160.76
PNM Resources, Inc.	PNM	\$1.06	\$1.09	\$1.12	\$1.15	\$1.18	\$1.30	\$1.43	\$1.57	\$1.72	\$1.89	\$2.08	\$2.19	\$2.31	\$2.44	\$2.57	\$80.62
Portland General Electric Company	POR	\$1.50	\$1.54	\$1.57	\$1.61	\$1.64	\$1.71	\$1.78	\$1.86	\$1.96	\$2.07	\$2.20	\$2.32	\$2.45	\$2.58	\$2.72	\$83.16
Southern Company	SO	\$2.64	\$2.66	\$2.68	\$2.70	\$2.72	\$2.75	\$2.79	\$2.85	\$2.92	\$3.00	\$3.10	\$3.27	\$3.45	\$3.63	\$3.83	\$85.34
WEC Energy Group, Inc.	WEC	\$2.16	\$2.23	\$2.30	\$2.38	\$2.46	\$2.57	\$2.70	\$2.84	\$3.00	\$3.17	\$3.35	\$3.53	\$3.73	\$3.93	\$4.14	\$127.07
Xcel Energy Inc.	XEL	\$1.50	\$1.59	\$1.69	\$1.79	\$1.89	\$2.01	\$2.14	\$2.27	\$2.41	\$2.56	\$2.71	\$2.86	\$3.02	\$3.18	\$3.35	\$93.01

Projected Annual Data

Investor Cash Flows		[61]	[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]
		Initial																
Company	Ticker	Outflow	6/15/18	12/31/18	6/30/19	6/30/20	6/30/21	6/30/22	6/30/23	6/30/24	6/30/25	6/30/26	6/30/27	6/30/28	6/30/29	6/30/30	6/30/31	6/30/32
ALLETE, Inc.	ALE	(\$72.50)	\$0.00	\$1.16	\$2.19	\$2.34	\$2.44	\$2.56	\$2.70	\$2.85	\$3.01	\$3.18	\$3.37	\$3.56	\$3.76	\$3.96	\$4.18	\$155.28
Alliant Energy Corporation	LNT	(\$40.29)	\$0.00	\$0.73	\$1.38	\$1.50	\$1.58	\$1.67	\$1.77	\$1.88	\$1.99	\$2.11	\$2.23	\$2.36	\$2.49	\$2.63	\$2.77	\$87.01
Ameren Corporation	AEE	(\$56.21)	\$0.00	\$0.96	\$1.82	\$1.98	\$2.10	\$2.22	\$2.40	\$2.59	\$2.79	\$3.00	\$3.22	\$3.46	\$3.65	\$3.84	\$4.05	\$123.92
American Electric Power Company, Inc.	AEP	(\$66.84)	\$0.00	\$1.38	\$2.59	\$2.69	\$2.76	\$2.84	\$2.99	\$3.16	\$3.34	\$3.53	\$3.75	\$3.98	\$4.19	\$4.42	\$4.66	\$143.10
Avangrid, Inc.	AGR	(\$50.61)	\$0.00	\$0.75	\$1.45	\$1.54	\$1.62	\$1.70	\$1.85	\$1.99	\$2.13	\$2.27	\$2.41	\$2.53	\$2.67	\$2.82	\$2.97	\$109.51
Black Hills Corporation	BKH	(\$54.56)	\$0.00	\$1.05	\$1.97	\$2.18	\$2.31	\$2.45	\$2.59	\$2.75	\$2.92	\$3.11	\$3.31	\$3.55	\$3.74	\$3.94	\$4.16	\$119.08
CMS Energy Corporation	CMS	(\$44.34)	\$0.00	\$0.77	\$1.45	\$1.59	\$1.70	\$1.81	\$1.94	\$2.09	\$2.24	\$2.39	\$2.56	\$2.73	\$2.88	\$3.03	\$3.20	\$97.31
DTE Energy Company	DTE	(\$101.87)	\$0.00	\$2.01	\$3.78	\$4.05	\$4.24	\$4.45	\$4.76	\$5.09	\$5.45	\$5.82	\$6.23	\$6.66	\$7.03	\$7.41	\$7.81	\$222.93
Duke Energy Corporation	DUK	(\$76.57)	\$0.00	\$1.82	\$3.41	\$3.73	\$3.93	\$4.15	\$4.20	\$4.26	\$4.33	\$4.39	\$4.47	\$4.54	\$4.79	\$5.05	\$5.33	\$155.89
El Paso Electric	EE	(\$52.05)	\$0.00	\$0.79	\$1.47	\$1.63	\$1.73	\$1.84	\$1.95	\$2.07	\$2.20	\$2.34	\$2.49	\$2.66	\$2.80	\$2.96	\$3.12	\$112.75
Hawaiian Electric Industries, Inc.	HE	(\$33.76)	\$0.00	\$0.61	\$1.14	\$1.14	\$1.14	\$1.15	\$1.22	\$1.29	\$1.37	\$1.46	\$1.56	\$1.68	\$1.77	\$1.86	\$1.97	\$72.25
IDACORP, Inc.	IDA	(\$87.21)	\$0.00	\$1.35	\$2.51	\$2.77	\$2.93	\$3.09	\$3.22	\$3.37	\$3.53	\$3.72	\$3.94	\$4.18	\$4.41	\$4.65	\$4.90	\$186.47
NextEra Energy, Inc.	NEE	(\$158.65)	\$0.00	\$2.11	\$4.04	\$4.90	\$5.49	\$6.16	\$6.69	\$7.24	\$7.80	\$8.36	\$8.92	\$9.47	\$9.98	\$10.52	\$11.10	\$352.61
NorthWestern Corporation	NWE	(\$52.95)	\$0.00	\$1.20	\$2.23	\$2.34	\$2.41	\$2.48	\$2.57	\$2.68	\$2.81	\$2.95	\$3.11	\$3.29	\$3.47	\$3.66	\$3.86	\$112.31
OGE Energy Corp.	OGE	(\$32.61)	\$0.00	\$0.75	\$1.41	\$1.52	\$1.60	\$1.68	\$1.74	\$1.79	\$1.86	\$1.92	\$2.00	\$2.08	\$2.19	\$2.31	\$2.44	\$68.33
Otter Tail Corporation	OTTR	(\$43.41)	\$0.00	\$0.72	\$1.37	\$1.46	\$1.53	\$1.60	\$1.74	\$1.89	\$2.04	\$2.20	\$2.36	\$2.53	\$2.66	\$2.81	\$2.96	\$95.40
Pinnacle West Capital Corporation	PNW	(\$77.79)	\$0.00	\$1.58	\$2.95	\$3.12	\$3.24	\$3.36	\$3.52	\$3.70	\$3.89	\$4.11	\$4.35	\$4.62	\$4.87	\$5.14	\$5.42	\$166.47
PNM Resources, Inc.	PNM	(\$37.36)	\$0.00	\$0.58	\$1.08	\$1.12	\$1.15	\$1.18	\$1.30	\$1.43	\$1.57	\$1.72	\$1.89	\$2.08	\$2.19	\$2.31	\$2.44	\$83.19
Portland General Electric Company	POR	(\$40.54)	\$0.00	\$0.82	\$1.52	\$1.57	\$1.61	\$1.64	\$1.71	\$1.78	\$1.86	\$1.96	\$2.07	\$2.20	\$2.32	\$2.45	\$2.58	\$85.88
Southern Company	SO	(\$44.30)	\$0.00	\$1.44	\$2.67	\$2.68	\$2.70	\$2.72	\$2.75	\$2.79	\$2.85	\$2.92	\$3.00	\$3.10	\$3.27	\$3.45	\$3.63	\$89.17
WEC Energy Group, Inc.	WEC	(\$61.59)	\$0.00	\$1.18	\$2.20	\$2.30	\$2.38	\$2.46	\$2.57	\$2.70	\$2.84	\$3.00	\$3.17	\$3.35	\$3.53	\$3.73	\$3.93	\$131.21
Xcel Energy Inc.	XEL	(\$44.41)	\$0.00	\$0.82	\$1.55	\$1.69	\$1.79	\$1.89	\$2.01	\$2.14	\$2.27	\$2.41	\$2.56	\$2.71	\$2.86	\$3.02	\$3.18	\$96.37

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				
			Value											PEG				
Company	Ticker	Price	Zacks	First Call	Line	Average	Growth	2018	2022	2028	Proof	IRR	P/E Ratio	Ratio				
ALLETE, Inc.	ALE	\$74.39	6.00%	6.00%	5.00%	5.67%	5.45%	65.00%	64.00%	65.57%	\$0.00	8.58%	22.06	4.05				
Alliant Energy Corporation	LNT	\$41.41	5.60%	5.85%	6.50%	5.98%	5.45%	64.00%	64.00%	65.57%	\$0.00	9.10%	18.92	3.47				
Ameren Corporation	AEE	\$58.05	6.50%	6.30%	7.50%	6.77%	5.45%	60.00%	59.00%	65.57%	\$0.00	9.20%	18.39	3.38				
American Electric Power Company, Inc.	AEP	\$69.91	5.70%	5.79%	4.50%	5.33%	5.45%	67.00%	63.00%	65.57%	(\$0.00)	9.23%	18.28	3.36				
Avangrid, Inc.	AGR	\$50.25	9.10%	10.40%	13.00%	10.83%	5.45%	76.00%	66.00%	65.57%	\$0.00	8.94%	19.82	3.64				
Black Hills Corporation	BKH	\$57.41	4.10%	3.86%	5.00%	4.32%	5.45%	55.00%	60.00%	65.57%	\$0.00	9.39%	17.53	3.22				
CMS Energy Corporation	CMS	\$45.84	6.40%	7.05%	7.00%	6.82%	5.45%	61.00%	61.00%	65.57%	\$0.00	9.21%	18.38	3.38				
DTE Energy Company	DTE	\$105.75	5.30%	5.59%	7.00%	5.96%	5.45%	61.00%	60.00%	65.57%	\$0.00	9.51%	17.00	3.12				
Duke Energy Corporation	DUK	\$80.74	4.70%	4.22%	5.50%	4.81%	5.45%	76.00%	80.00%	65.57%	\$0.00	9.32%	17.85	3.28				
EI Paso Electric	EE	\$54.16	5.10%	5.20%	4.50%	4.93%	5.45%	57.00%	61.00%	65.57%	(\$0.00)	8.58%	22.09	4.06				
Hawaiian Electric Industries, Inc.	HE	\$34.70	7.10%	9.10%	3.50%	6.57%	5.45%	66.00%	59.00%	65.57%	\$0.00	9.15%	18.68	3.43				
IDACORP, Inc.	IDA	\$89.13	3.90%	3.10%	3.50%	3.50%	5.45%	57.00%	63.00%	65.57%	\$0.00	8.47%	22.89	4.20				
NextEra Energy, Inc.	NEE	\$156.22	8.60%	9.79%	8.50%	8.96%	5.45%	55.00%	63.00%	65.57%	(\$0.00)	9.23%	18.28	3.36				
NorthWestern Corporation	NWE	\$55.80	3.00%	3.16%	3.50%	3.22%	5.45%	64.00%	64.00%	65.57%	(\$0.00)	9.26%	18.14	3.33				
OGE Energy Corp.	OGE	\$33.47	6.00%	4.30%	6.00%	5.43%	5.45%	69.00%	71.00%	65.57%	(\$0.00)	9.76%	16.01	2.94				
Otter Tail Corporation	OTTR	\$44.07	NA	9.00%	7.50%	8.25%	5.45%	66.00%	60.00%	65.57%	\$0.00	9.13%	18.75	3.44				
Pinnacle West Capital Corporation	PNW	\$81.85	4.50%	3.78%	5.00%	4.43%	5.45%	63.00%	63.00%	65.57%	\$0.00	9.16%	18.63	3.42				
PNM Resources, Inc.	PNM	\$39.36	5.10%	4.30%	7.50%	5.63%	5.45%	53.00%	50.00%	65.57%	\$0.00	8.93%	19.86	3.65				
Portland General Electric Company	POR	\$43.26	2.80%	2.65%	4.00%	3.15%	5.45%	64.00%	63.00%	65.57%	\$0.00	8.78%	20.71	3.80				
Southern Company	SO	\$46.80	4.50%	2.72%	3.00%	3.41%	5.45%	80.00%	74.00%	65.57%	\$0.00	10.12%	14.79	2.72				
WEC Energy Group, Inc.	WEC	\$63.81	4.10%	4.43%	7.00%	5.18%	5.45%	66.00%	64.00%	65.57%	(\$0.00)	9.01%	19.42	3.57				
Xcel Energy Inc.	XEL	\$46.44	5.70%	5.89%	5.50%	5.70%	5.45%	62.00%	63.00%	65.57%	\$0.00	9.13%	18.78	3.45				
											Mean	9.14%						
											Max	10.12%						
											Min	8.47%						
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
ALLETE, Inc.	ALE	\$3.13	\$3.31	\$3.49	\$3.69	\$3.90	\$4.12	\$4.36	\$4.60	\$4.85	\$5.12	\$5.40	\$5.70	\$6.01	\$6.34	\$6.68	\$7.04	
Alliant Energy Corporation	LNT	\$1.99	\$2.11	\$2.24	\$2.37	\$2.51	\$2.66	\$2.82	\$2.98	\$3.15	\$3.33	\$3.51	\$3.70	\$3.91	\$4.12	\$4.34	\$4.58	
Ameren Corporation	AEE	\$2.77	\$2.96	\$3.16	\$3.37	\$3.60	\$3.84	\$4.09	\$4.35	\$4.62	\$4.89	\$5.17	\$5.45	\$5.75	\$6.06	\$6.39	\$6.74	
American Electric Power Company, Inc.	AEP	\$3.62	\$3.81	\$4.02	\$4.23	\$4.46	\$4.69	\$4.94	\$5.21	\$5.49	\$5.79	\$6.10	\$6.43	\$6.78	\$7.15	\$7.54	\$7.95	
Avangrid, Inc.	AGR	\$1.67	\$1.85	\$2.05	\$2.27	\$2.52	\$2.79	\$3.07	\$3.35	\$3.62	\$3.88	\$4.13	\$4.35	\$4.59	\$4.84	\$5.10	\$5.38	
Black Hills Corporation	BKH	\$3.38	\$3.53	\$3.68	\$3.84	\$4.00	\$4.18	\$4.36	\$4.57	\$4.79	\$5.04	\$5.30	\$5.59	\$5.89	\$6.21	\$6.55	\$6.91	
CMS Energy Corporation	CMS	\$2.17	\$2.32	\$2.48	\$2.64	\$2.82	\$3.02	\$3.22	\$3.42	\$3.63	\$3.84	\$4.06	\$4.28	\$4.52	\$4.76	\$5.02	\$5.30	
DTE Energy Company	DTE	\$5.73	\$6.07	\$6.43	\$6.82	\$7.22	\$7.65	\$8.10	\$8.57	\$9.06	\$9.57	\$10.10	\$10.65	\$11.23	\$11.84	\$12.49	\$13.17	
Duke Energy Corporation	DUK	\$4.22	\$4.42	\$4.64	\$4.86	\$5.09	\$5.34	\$5.60	\$5.88	\$6.18	\$6.50	\$6.85	\$7.23	\$7.62	\$8.03	\$8.47	\$8.93	
EI Paso Electric	EE	\$2.42	\$2.54	\$2.66	\$2.80	\$2.93	\$3.08	\$3.23	\$3.40	\$3.57	\$3.76	\$3.97	\$4.18	\$4.41	\$4.65	\$4.90	\$5.17	
Hawaiian Electric Industries, Inc.	HE	\$1.64	\$1.75	\$1.86	\$1.98	\$2.12	\$2.25	\$2.40	\$2.55	\$2.70	\$2.86	\$3.02	\$3.18	\$3.35	\$3.54	\$3.73	\$3.93	
IDACORP, Inc.	IDA	\$4.21	\$4.36	\$4.51	\$4.67	\$4.83	\$5.00	\$5.19	\$5.41	\$5.65	\$5.92	\$6.22	\$6.56	\$6.92	\$7.30	\$7.69	\$8.11	
NextEra Energy, Inc.	NEE	\$6.50	\$7.08	\$7.72	\$8.41	\$9.16	\$9.98	\$10.82	\$11.66	\$12.50	\$13.33	\$14.14	\$14.91	\$15.72	\$16.57	\$17.48	\$18.43	
NorthWestern Corporation	NWE	\$3.34	\$3.45	\$3.56	\$3.67	\$3.79	\$3.91	\$4.05	\$4.21	\$4.40	\$4.60	\$4.84	\$5.10	\$5.38	\$5.67	\$5.98	\$6.31	
OGE Energy Corp.	OGE	\$1.92	\$2.02	\$2.13	\$2.25	\$2.37	\$2.50	\$2.64	\$2.78	\$2.93	\$3.09	\$3.26	\$3.44	\$3.62	\$3.82	\$4.03	\$4.25	
Otter Tail Corporation	OTTR	\$1.86	\$2.01	\$2.18	\$2.36	\$2.55	\$2.76	\$2.98	\$3.20	\$3.42	\$3.63	\$3.85	\$4.06	\$4.28	\$4.51	\$4.76	\$5.02	
Pinnacle West Capital Corporation	PNW	\$4.43	\$4.63	\$4.83	\$5.04	\$5.27	\$5.50	\$5.75	\$6.03	\$6.33	\$6.65	\$7.00	\$7.38	\$7.78	\$8.21	\$8.65	\$9.13	
PNM Resources, Inc.	PNM	\$1.92	\$2.03	\$2.14	\$2.26	\$2.39	\$2.53	\$2.67	\$2.82	\$2.97	\$3.13	\$3.31	\$3.49	\$3.68	\$3.88	\$4.09	\$4.31	
Portland General Electric Company	POR	\$2.29	\$2.36	\$2.44	\$2.51	\$2.59	\$2.67	\$2.77	\$2.88	\$3.00	\$3.14	\$3.30	\$3.48	\$3.67	\$3.87	\$4.08	\$4.30	
Southern Company	SO	\$3.21	\$3.32	\$3.43	\$3.55	\$3.67	\$3.80	\$3.94	\$4.10	\$4.28	\$4.48	\$4.71	\$4.97	\$5.24	\$5.53	\$5.83	\$6.14	
WEC Energy Group, Inc.	WEC	\$3.14	\$3.30	\$3.47	\$3.65	\$3.84	\$4.04	\$4.25	\$4.48	\$4.71	\$4.97	\$5.23	\$5.52	\$5.82	\$6.14	\$6.47	\$6.82	
Xcel Energy Inc.	XEL	\$2.30	\$2.43	\$2.57	\$2.72	\$2.87	\$3.03	\$3.21	\$3.39	\$3.57	\$3.77	\$3.98	\$4.20	\$4.42	\$4.67	\$4.92	\$5.19	

Projected Annual Dividend Payout Ratio		[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	65.00%	64.75%	64.50%	64.25%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Ameren Corporation	AEE	60.00%	59.75%	59.50%	59.25%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
American Electric Power Company, Inc.	AEP	67.00%	66.00%	65.00%	64.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Avangrid, Inc.	AGR	76.00%	73.50%	71.00%	68.50%	66.00%	65.93%	65.86%	65.79%	65.71%	65.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Black Hills Corporation	BKH	55.00%	56.25%	57.50%	58.75%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
DTE Energy Company	DTE	61.00%	60.75%	60.50%	60.25%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Duke Energy Corporation	DUK	76.00%	77.00%	78.00%	79.00%	80.00%	77.60%	75.19%	72.79%	70.38%	67.98%	65.57%	65.57%	65.57%	65.57%	65.57%
El Paso Electric	EE	57.00%	58.00%	59.00%	60.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
Hawaiian Electric Industries, Inc.	HE	66.00%	64.25%	62.50%	60.75%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
IDACORP, Inc.	IDA	57.00%	58.50%	60.00%	61.50%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NextEra Energy, Inc.	NEE	55.00%	57.00%	59.00%	61.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NorthWestern Corporation	NWE	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
OGE Energy Corp.	OGE	69.00%	69.50%	70.00%	70.50%	71.00%	70.10%	69.19%	68.29%	67.38%	66.48%	65.57%	65.57%	65.57%	65.57%	65.57%
Otter Tail Corporation	OTTR	66.00%	64.50%	63.00%	61.50%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Pinnacle West Capital Corporation	PNW	63.00%	63.00%	63.00%	63.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
PNM Resources, Inc.	PNM	53.00%	52.25%	51.50%	50.75%	50.00%	52.60%	55.19%	57.79%	60.38%	62.98%	65.57%	65.57%	65.57%	65.57%	65.57%
Portland General Electric Company	POR	64.00%	63.75%	63.50%	63.25%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Southern Company	SO	80.00%	78.50%	77.00%	75.50%	74.00%	72.60%	71.19%	69.79%	68.38%	66.98%	65.57%	65.57%	65.57%	65.57%	65.57%
WEC Energy Group, Inc.	WEC	66.00%	65.50%	65.00%	64.50%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Xcel Energy Inc.	XEL	62.00%	62.25%	62.50%	62.75%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%

Projected Annual Cash Flows		[45]	[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	Terminal Value
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032		
ALLETE, Inc.	ALE	\$2.15	\$2.26	\$2.38	\$2.51	\$2.64	\$2.80	\$2.97	\$3.14	\$3.33	\$3.53	\$3.74	\$3.94	\$4.15	\$4.38	\$4.62	\$155.38	
Alliant Energy Corporation	LNT	\$1.35	\$1.43	\$1.52	\$1.61	\$1.70	\$1.81	\$1.92	\$2.04	\$2.17	\$2.29	\$2.43	\$2.56	\$2.70	\$2.85	\$3.00	\$86.66	
Ameren Corporation	AEE	\$1.77	\$1.89	\$2.01	\$2.13	\$2.27	\$2.46	\$2.66	\$2.88	\$3.10	\$3.33	\$3.57	\$3.77	\$3.97	\$4.19	\$4.42	\$123.93	
American Electric Power Company, Inc.	AEP	\$2.55	\$2.65	\$2.75	\$2.85	\$2.96	\$3.14	\$3.33	\$3.53	\$3.75	\$3.97	\$4.22	\$4.45	\$4.69	\$4.95	\$5.22	\$145.39	
Avangrid, Inc.	AGR	\$1.41	\$1.51	\$1.61	\$1.73	\$1.84	\$2.02	\$2.20	\$2.38	\$2.55	\$2.71	\$2.85	\$3.01	\$3.17	\$3.35	\$3.53	\$106.66	
Black Hills Corporation	BKH	\$1.94	\$2.07	\$2.21	\$2.35	\$2.51	\$2.66	\$2.83	\$3.01	\$3.21	\$3.43	\$3.66	\$3.86	\$4.07	\$4.30	\$4.53	\$121.10	
CMS Energy Corporation	CMS	\$1.41	\$1.51	\$1.61	\$1.72	\$1.84	\$1.99	\$2.14	\$2.30	\$2.46	\$2.63	\$2.81	\$2.96	\$3.12	\$3.29	\$3.47	\$97.36	
DTE Energy Company	DTE	\$3.70	\$3.91	\$4.12	\$4.35	\$4.59	\$4.94	\$5.30	\$5.69	\$6.10	\$6.53	\$6.98	\$7.36	\$7.77	\$8.19	\$8.64	\$223.91	
Duke Energy Corporation	DUK	\$3.36	\$3.57	\$3.79	\$4.02	\$4.27	\$4.34	\$4.42	\$4.50	\$4.58	\$4.66	\$4.74	\$5.00	\$5.27	\$5.55	\$5.86	\$159.41	
El Paso Electric	EE	\$1.45	\$1.55	\$1.65	\$1.76	\$1.88	\$2.00	\$2.12	\$2.26	\$2.41	\$2.57	\$2.74	\$2.89	\$3.05	\$3.21	\$3.39	\$114.19	
Hawaiian Electric Industries, Inc.	HE	\$1.15	\$1.20	\$1.24	\$1.28	\$1.33	\$1.44	\$1.56	\$1.68	\$1.81	\$1.95	\$2.09	\$2.20	\$2.32	\$2.45	\$2.58	\$73.49	
IDACORP, Inc.	IDA	\$2.48	\$2.64	\$2.80	\$2.97	\$3.15	\$3.29	\$3.45	\$3.63	\$3.83	\$4.05	\$4.30	\$4.54	\$4.78	\$5.04	\$5.32	\$185.72	
NextEra Energy, Inc.	NEE	\$3.90	\$4.40	\$4.96	\$5.59	\$6.29	\$6.86	\$7.45	\$8.04	\$8.63	\$9.21	\$9.77	\$10.31	\$10.87	\$11.46	\$12.08	\$336.82	
NorthWestern Corporation	NWE	\$2.21	\$2.28	\$2.35	\$2.43	\$2.50	\$2.61	\$2.72	\$2.85	\$2.99	\$3.16	\$3.34	\$3.53	\$3.72	\$3.92	\$4.14	\$114.39	
OGE Energy Corp.	OGE	\$1.40	\$1.48	\$1.58	\$1.67	\$1.78	\$1.85	\$1.92	\$2.00	\$2.08	\$2.17	\$2.25	\$2.38	\$2.51	\$2.64	\$2.79	\$68.05	
Otter Tail Corporation	OTTR	\$1.33	\$1.41	\$1.49	\$1.57	\$1.66	\$1.82	\$1.98	\$2.15	\$2.32	\$2.49	\$2.66	\$2.81	\$2.96	\$3.12	\$3.29	\$94.12	
Pinnacle West Capital Corporation	PNW	\$2.91	\$3.04	\$3.18	\$3.32	\$3.47	\$3.65	\$3.85	\$4.07	\$4.30	\$4.56	\$4.84	\$5.10	\$5.38	\$5.67	\$5.98	\$169.98	
PNM Resources, Inc.	PNM	\$1.07	\$1.12	\$1.17	\$1.21	\$1.26	\$1.40	\$1.55	\$1.72	\$1.89	\$2.08	\$2.29	\$2.41	\$2.54	\$2.68	\$2.83	\$85.62	
Portland General Electric Company	POR	\$1.51	\$1.55	\$1.60	\$1.64	\$1.68	\$1.76	\$1.84	\$1.93	\$2.03	\$2.15	\$2.28	\$2.41	\$2.54	\$2.68	\$2.82	\$89.12	
Southern Company	SO	\$2.66	\$2.69	\$2.73	\$2.77	\$2.81	\$2.86	\$2.92	\$2.99	\$3.07	\$3.16	\$3.26	\$3.44	\$3.62	\$3.82	\$4.03	\$90.89	
WEC Energy Group, Inc.	WEC	\$2.18	\$2.28	\$2.37	\$2.48	\$2.59	\$2.73	\$2.89	\$3.05	\$3.23	\$3.42	\$3.62	\$3.82	\$4.02	\$4.24	\$4.47	\$132.55	
Xcel Energy Inc.	XEL	\$1.51	\$1.60	\$1.70	\$1.80	\$1.91	\$2.03	\$2.16	\$2.30	\$2.44	\$2.59	\$2.75	\$2.90	\$3.06	\$3.23	\$3.40	\$97.40	

Projected Annual Data

Investor Cash Flows		[61]	[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]
Company	Ticker	Initial Outflow	6/15/18	12/31/18	6/30/19	6/30/20	6/30/21	6/30/22	6/30/23	6/30/24	6/30/25	6/30/26	6/30/27	6/30/28	6/30/29	6/30/30	6/30/31	6/30/32
ALLETE, Inc.	ALE	(\$74.39)	\$0.00	\$1.17	\$2.21	\$2.38	\$2.51	\$2.64	\$2.80	\$2.97	\$3.14	\$3.33	\$3.53	\$3.74	\$3.94	\$4.15	\$4.38	\$160.00
Alliant Energy Corporation	LNT	(\$41.41)	\$0.00	\$0.74	\$1.39	\$1.52	\$1.61	\$1.70	\$1.81	\$1.92	\$2.04	\$2.17	\$2.29	\$2.43	\$2.56	\$2.70	\$2.85	\$89.66
Ameren Corporation	AEE	(\$58.05)	\$0.00	\$0.97	\$1.83	\$2.01	\$2.13	\$2.27	\$2.46	\$2.66	\$2.88	\$3.10	\$3.33	\$3.57	\$3.77	\$3.97	\$4.19	\$128.35
American Electric Power Company, Inc.	AEP	(\$69.91)	\$0.00	\$1.39	\$2.62	\$2.75	\$2.85	\$2.96	\$3.14	\$3.33	\$3.53	\$3.75	\$3.97	\$4.22	\$4.45	\$4.69	\$4.95	\$150.61
Avangrid, Inc.	AGR	(\$50.25)	\$0.00	\$0.77	\$1.48	\$1.61	\$1.73	\$1.84	\$2.02	\$2.20	\$2.38	\$2.55	\$2.71	\$2.85	\$3.01	\$3.17	\$3.35	\$110.19
Black Hills Corporation	BKH	(\$57.41)	\$0.00	\$1.06	\$1.98	\$2.21	\$2.35	\$2.51	\$2.66	\$2.83	\$3.01	\$3.21	\$3.43	\$3.66	\$3.86	\$4.07	\$4.30	\$125.63
CMS Energy Corporation	CMS	(\$45.84)	\$0.00	\$0.77	\$1.46	\$1.61	\$1.72	\$1.84	\$1.99	\$2.14	\$2.30	\$2.46	\$2.63	\$2.81	\$2.96	\$3.12	\$3.29	\$100.84
DTE Energy Company	DTE	(\$105.75)	\$0.00	\$2.02	\$3.81	\$4.12	\$4.35	\$4.59	\$4.94	\$5.30	\$5.69	\$6.10	\$6.53	\$6.98	\$7.36	\$7.77	\$8.19	\$232.55
Duke Energy Corporation	DUK	(\$80.74)	\$0.00	\$1.83	\$3.44	\$3.79	\$4.02	\$4.27	\$4.34	\$4.42	\$4.50	\$4.58	\$4.66	\$4.74	\$5.00	\$5.27	\$5.55	\$165.27
El Paso Electric	EE	(\$54.16)	\$0.00	\$0.79	\$1.48	\$1.65	\$1.76	\$1.88	\$2.00	\$2.12	\$2.26	\$2.41	\$2.57	\$2.74	\$2.89	\$3.05	\$3.21	\$117.58
Hawaiian Electric Industries, Inc.	HE	(\$34.70)	\$0.00	\$0.63	\$1.19	\$1.24	\$1.28	\$1.33	\$1.44	\$1.56	\$1.68	\$1.81	\$1.95	\$2.09	\$2.20	\$2.32	\$2.45	\$76.07
IDACORP, Inc.	IDA	(\$89.13)	\$0.00	\$1.35	\$2.53	\$2.80	\$2.97	\$3.15	\$3.29	\$3.45	\$3.63	\$3.83	\$4.05	\$4.30	\$4.54	\$4.78	\$5.04	\$191.04
NextEra Energy, Inc.	NEE	(\$156.22)	\$0.00	\$2.12	\$4.07	\$4.96	\$5.59	\$6.29	\$6.86	\$7.45	\$8.04	\$8.63	\$9.21	\$9.77	\$10.31	\$10.87	\$11.46	\$348.91
NorthWestern Corporation	NWE	(\$55.80)	\$0.00	\$1.20	\$2.24	\$2.35	\$2.43	\$2.50	\$2.61	\$2.72	\$2.85	\$2.99	\$3.16	\$3.34	\$3.53	\$3.72	\$3.92	\$118.53
OGE Energy Corp.	OGE	(\$33.47)	\$0.00	\$0.76	\$1.43	\$1.58	\$1.67	\$1.78	\$1.85	\$1.92	\$2.00	\$2.08	\$2.17	\$2.25	\$2.38	\$2.51	\$2.64	\$70.83
Otter Tail Corporation	OTTR	(\$44.07)	\$0.00	\$0.72	\$1.38	\$1.49	\$1.57	\$1.66	\$1.82	\$1.98	\$2.15	\$2.32	\$2.49	\$2.66	\$2.81	\$2.96	\$3.12	\$97.41
Pinnacle West Capital Corporation	PNW	(\$81.85)	\$0.00	\$1.59	\$2.98	\$3.18	\$3.32	\$3.47	\$3.65	\$3.85	\$4.07	\$4.30	\$4.56	\$4.84	\$5.10	\$5.38	\$5.67	\$175.96
PNM Resources, Inc.	PNM	(\$39.36)	\$0.00	\$0.59	\$1.11	\$1.17	\$1.21	\$1.26	\$1.40	\$1.55	\$1.72	\$1.89	\$2.08	\$2.29	\$2.41	\$2.54	\$2.68	\$88.45
Portland General Electric Company	POR	(\$43.26)	\$0.00	\$0.82	\$1.54	\$1.60	\$1.64	\$1.68	\$1.76	\$1.84	\$1.93	\$2.03	\$2.15	\$2.28	\$2.41	\$2.54	\$2.68	\$91.94
Southern Company	SO	(\$46.80)	\$0.00	\$1.45	\$2.70	\$2.73	\$2.77	\$2.81	\$2.86	\$2.92	\$2.99	\$3.07	\$3.16	\$3.26	\$3.44	\$3.62	\$3.82	\$94.92
WEC Energy Group, Inc.	WEC	(\$63.81)	\$0.00	\$1.19	\$2.24	\$2.37	\$2.48	\$2.59	\$2.73	\$2.89	\$3.05	\$3.23	\$3.42	\$3.62	\$3.82	\$4.02	\$4.24	\$137.03
Xcel Energy Inc.	XEL	(\$46.44)	\$0.00	\$0.82	\$1.55	\$1.70	\$1.80	\$1.91	\$2.03	\$2.16	\$2.30	\$2.44	\$2.59	\$2.75	\$2.90	\$3.06	\$3.23	\$100.81

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]			
Company	Ticker	Stock Price	EPS Growth Rate Estimates				Long-Term Growth	Payout Ratio			Iterative Solution		Terminal P/E Ratio	Terminal PEG Ratio			
			Zacks	First Call	Value Line	High Growth		2018	2022	2028	Proof	IRR					
ALLETE, Inc.	ALE	\$74.39	6.00%	6.00%	5.00%	6.00%	5.45%	65.00%	64.00%	65.57%	\$0.00	8.65%	21.58	3.96			
Alliant Energy Corporation	LNT	\$41.41	5.60%	5.85%	6.50%	6.50%	5.45%	64.00%	64.00%	65.57%	\$0.00	9.22%	18.30	3.36			
Ameren Corporation	AEE	\$58.05	6.50%	6.30%	7.50%	7.50%	5.45%	60.00%	59.00%	65.57%	\$0.00	9.38%	17.56	3.22			
American Electric Power Company, Inc.	AEP	\$69.91	5.70%	5.79%	4.50%	5.79%	5.45%	67.00%	63.00%	65.57%	(\$0.00)	9.34%	17.74	3.26			
Avangrid, Inc.	AGR	\$50.25	9.10%	10.40%	13.00%	13.00%	5.45%	76.00%	66.00%	65.57%	\$0.00	9.43%	17.36	3.19			
Black Hills Corporation	BKH	\$57.41	4.10%	3.86%	5.00%	5.00%	5.45%	55.00%	60.00%	65.57%	\$0.00	9.57%	16.77	3.08			
CMS Energy Corporation	CMS	\$45.84	6.40%	7.05%	7.00%	7.05%	5.45%	61.00%	61.00%	65.57%	\$0.00	9.26%	18.11	3.33			
DTE Energy Company	DTE	\$105.75	5.30%	5.59%	7.00%	7.00%	5.45%	61.00%	60.00%	65.57%	(\$0.00)	9.79%	15.93	2.92			
Duke Energy Corporation	DUK	\$80.74	4.70%	4.22%	5.50%	5.50%	5.45%	76.00%	80.00%	65.57%	(\$0.00)	9.50%	17.04	3.13			
El Paso Electric	EE	\$54.16	5.10%	5.20%	4.50%	5.20%	5.45%	57.00%	61.00%	65.57%	(\$0.00)	8.63%	21.71	3.99			
Hawaiian Electric Industries, Inc.	HE	\$34.70	7.10%	9.10%	3.50%	9.10%	5.45%	66.00%	59.00%	65.57%	\$0.00	9.78%	15.95	2.93			
IDACORP, Inc.	IDA	\$89.13	3.90%	3.10%	3.50%	3.90%	5.45%	57.00%	63.00%	65.57%	\$0.00	8.55%	22.29	4.09			
NextEra Energy, Inc.	NEE	\$156.22	8.60%	9.79%	8.50%	9.79%	5.45%	55.00%	63.00%	65.57%	(\$0.00)	9.43%	17.37	3.19			
NorthWestern Corporation	NWE	\$55.80	3.00%	3.16%	3.50%	3.50%	5.45%	64.00%	64.00%	65.57%	(\$0.00)	9.33%	17.80	3.27			
OGE Energy Corp.	OGE	\$33.47	6.00%	4.30%	6.00%	6.00%	5.45%	69.00%	71.00%	65.57%	\$0.00	9.93%	15.44	2.83			
Otter Tail Corporation	OTTR	\$44.07	NA	9.00%	7.50%	9.00%	5.45%	66.00%	60.00%	65.57%	\$0.00	9.31%	17.90	3.29			
Pinnacle West Capital Corporation	PNW	\$81.85	4.50%	3.78%	5.00%	5.00%	5.45%	63.00%	63.00%	65.57%	\$0.00	9.30%	17.94	3.29			
PNM Resources, Inc.	PNM	\$39.36	5.10%	4.30%	7.50%	7.50%	5.45%	53.00%	50.00%	65.57%	\$0.00	9.36%	17.66	3.24			
Portland General Electric Company	POR	\$43.26	2.80%	2.65%	4.00%	4.00%	5.45%	64.00%	63.00%	65.57%	\$0.00	8.98%	19.57	3.59			
Southern Company	SO	\$46.80	4.50%	2.72%	3.00%	4.50%	5.45%	80.00%	74.00%	65.57%	(\$0.00)	10.47%	13.77	2.53			
WEC Energy Group, Inc.	WEC	\$63.81	4.10%	4.43%	7.00%	7.00%	5.45%	66.00%	64.00%	65.57%	\$0.00	9.45%	17.27	3.17			
Xcel Energy Inc.	XEL	\$46.44	5.70%	5.89%	5.50%	5.89%	5.45%	62.00%	63.00%	65.57%	\$0.00	9.17%	18.55	3.41			
											Mean	9.36%					
											Max	10.47%					
											Min	8.55%					
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	\$3.13	\$3.32	\$3.52	\$3.73	\$3.95	\$4.19	\$4.44	\$4.69	\$4.96	\$5.24	\$5.53	\$5.83	\$6.15	\$6.49	\$6.84	\$7.21
Alliant Energy Corporation	LNT	\$1.99	\$2.12	\$2.26	\$2.40	\$2.56	\$2.73	\$2.90	\$3.08	\$3.26	\$3.45	\$3.64	\$3.84	\$4.05	\$4.27	\$4.51	\$4.75
Ameren Corporation	AEE	\$2.77	\$2.98	\$3.20	\$3.44	\$3.70	\$3.98	\$4.26	\$4.55	\$4.85	\$5.14	\$5.44	\$5.74	\$6.05	\$6.38	\$6.73	\$7.09
American Electric Power Company, Inc.	AEP	\$3.62	\$3.83	\$4.05	\$4.29	\$4.53	\$4.80	\$5.07	\$5.36	\$5.66	\$5.98	\$6.30	\$6.65	\$7.01	\$7.39	\$7.79	\$8.22
Avangrid, Inc.	AGR	\$1.67	\$1.89	\$2.13	\$2.41	\$2.72	\$3.08	\$3.44	\$3.80	\$4.15	\$4.48	\$4.78	\$5.04	\$5.31	\$5.60	\$5.91	\$6.23
Black Hills Corporation	BKH	\$3.38	\$3.55	\$3.73	\$3.91	\$4.11	\$4.31	\$4.53	\$4.77	\$5.02	\$5.28	\$5.56	\$5.87	\$6.19	\$6.52	\$6.88	\$7.25
CMS Energy Corporation	CMS	\$2.17	\$2.32	\$2.49	\$2.66	\$2.85	\$3.05	\$3.26	\$3.47	\$3.69	\$3.91	\$4.13	\$4.36	\$4.59	\$4.84	\$5.11	\$5.38
DTE Energy Company	DTE	\$5.73	\$6.13	\$6.56	\$7.02	\$7.51	\$8.04	\$8.58	\$9.13	\$9.70	\$10.28	\$10.87	\$11.46	\$12.08	\$12.74	\$13.44	\$14.17
Duke Energy Corporation	DUK	\$4.22	\$4.45	\$4.70	\$4.96	\$5.23	\$5.52	\$5.82	\$6.14	\$6.47	\$6.83	\$7.20	\$7.59	\$8.00	\$8.44	\$8.90	\$9.39
El Paso Electric	EE	\$2.42	\$2.55	\$2.68	\$2.82	\$2.96	\$3.12	\$3.28	\$3.45	\$3.64	\$3.83	\$4.04	\$4.26	\$4.49	\$4.74	\$5.00	\$5.27
Hawaiian Electric Industries, Inc.	HE	\$1.64	\$1.79	\$1.95	\$2.13	\$2.32	\$2.53	\$2.75	\$2.97	\$3.18	\$3.39	\$3.60	\$3.80	\$4.00	\$4.22	\$4.45	\$4.69
IDACORP, Inc.	IDA	\$4.21	\$4.37	\$4.54	\$4.72	\$4.91	\$5.10	\$5.31	\$5.54	\$5.80	\$6.09	\$6.41	\$6.75	\$7.12	\$7.51	\$7.92	\$8.35
NextEra Energy, Inc.	NEE	\$6.50	\$7.14	\$7.83	\$8.60	\$9.44	\$10.37	\$11.31	\$12.25	\$13.19	\$14.09	\$14.96	\$15.78	\$16.64	\$17.54	\$18.50	\$19.51
NorthWestern Corporation	NWE	\$3.34	\$3.46	\$3.58	\$3.70	\$3.83	\$3.97	\$4.12	\$4.29	\$4.48	\$4.70	\$4.94	\$5.21	\$5.49	\$5.79	\$6.10	\$6.44
OGE Energy Corp.	OGE	\$1.92	\$2.04	\$2.16	\$2.29	\$2.42	\$2.57	\$2.72	\$2.88	\$3.04	\$3.22	\$3.39	\$3.58	\$3.77	\$3.98	\$4.20	\$4.42
Otter Tail Corporation	OTTR	\$1.86	\$2.03	\$2.21	\$2.41	\$2.63	\$2.86	\$3.10	\$3.34	\$3.59	\$3.82	\$4.06	\$4.28	\$4.51	\$4.75	\$5.01	\$5.29
Pinnacle West Capital Corporation	PNW	\$4.43	\$4.65	\$4.88	\$5.13	\$5.38	\$5.65	\$5.94	\$6.25	\$6.57	\$6.92	\$7.29	\$7.69	\$8.11	\$8.55	\$9.02	\$9.51
PNM Resources, Inc.	PNM	\$1.92	\$2.06	\$2.22	\$2.39	\$2.56	\$2.76	\$2.95	\$3.16	\$3.36	\$3.57	\$3.77	\$3.98	\$4.19	\$4.42	\$4.66	\$4.92
Portland General Electric Company	POR	\$2.29	\$2.38	\$2.48	\$2.58	\$2.68	\$2.79	\$2.90	\$3.03	\$3.18	\$3.34	\$3.51	\$3.70	\$3.90	\$4.11	\$4.34	\$4.57
Southern Company	SO	\$3.21	\$3.35	\$3.51	\$3.66	\$3.83	\$4.00	\$4.19	\$4.39	\$4.61	\$4.84	\$5.10	\$5.38	\$5.67	\$5.98	\$6.30	\$6.65
WEC Energy Group, Inc.	WEC	\$3.14	\$3.36	\$3.59	\$3.85	\$4.12	\$4.40	\$4.70	\$5.01	\$5.32	\$5.63	\$5.96	\$6.28	\$6.62	\$6.98	\$7.36	\$7.76
Xcel Energy Inc.	XEL	\$2.30	\$2.44	\$2.58	\$2.73	\$2.89	\$3.06	\$3.24	\$3.43	\$3.62	\$3.82	\$4.03	\$4.25	\$4.49	\$4.73	\$4.99	\$5.26

Projected Annual Dividend Payout Ratio		[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	65.00%	64.75%	64.50%	64.25%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Ameren Corporation	AEE	60.00%	59.75%	59.50%	59.25%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
American Electric Power Company, Inc.	AEP	67.00%	66.00%	65.00%	64.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Avangrid, Inc.	AGR	76.00%	73.50%	71.00%	68.50%	66.00%	65.93%	65.86%	65.79%	65.71%	65.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Black Hills Corporation	BKH	55.00%	56.25%	57.50%	58.75%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
DTE Energy Company	DTE	61.00%	60.75%	60.50%	60.25%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Duke Energy Corporation	DUK	76.00%	77.00%	78.00%	79.00%	80.00%	77.60%	75.19%	72.79%	70.38%	67.98%	65.57%	65.57%	65.57%	65.57%	65.57%
El Paso Electric	EE	57.00%	58.00%	59.00%	60.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
Hawaiian Electric Industries, Inc.	HE	66.00%	64.25%	62.50%	60.75%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
IDACORP, Inc.	IDA	57.00%	58.50%	60.00%	61.50%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NextEra Energy, Inc.	NEE	55.00%	57.00%	59.00%	61.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NorthWestern Corporation	NWE	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
OGE Energy Corp.	OGE	69.00%	69.50%	70.00%	70.50%	71.00%	70.10%	69.19%	68.29%	67.38%	66.48%	65.57%	65.57%	65.57%	65.57%	65.57%
Otter Tail Corporation	OTTR	66.00%	64.50%	63.00%	61.50%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Pinnacle West Capital Corporation	PNW	63.00%	63.00%	63.00%	63.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
PNM Resources, Inc.	PNM	53.00%	52.25%	51.50%	50.75%	50.00%	52.60%	55.19%	57.79%	60.38%	62.98%	65.57%	65.57%	65.57%	65.57%	65.57%
Portland General Electric Company	POR	64.00%	63.75%	63.50%	63.25%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Southern Company	SO	80.00%	78.50%	77.00%	75.50%	74.00%	72.60%	71.19%	69.79%	68.38%	66.98%	65.57%	65.57%	65.57%	65.57%	65.57%
WEC Energy Group, Inc.	WEC	66.00%	65.50%	65.00%	64.50%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Xcel Energy Inc.	XEL	62.00%	62.25%	62.50%	62.75%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%

Projected Annual Cash Flows		[45]	[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	Terminal Value
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032		
ALLETE, Inc.	ALE	\$2.16	\$2.28	\$2.40	\$2.54	\$2.68	\$2.85	\$3.03	\$3.22	\$3.41	\$3.61	\$3.83	\$4.03	\$4.25	\$4.48	\$4.73	\$155.66	
Alliant Energy Corporation	LNT	\$1.36	\$1.44	\$1.54	\$1.64	\$1.74	\$1.86	\$1.99	\$2.11	\$2.24	\$2.38	\$2.52	\$2.66	\$2.80	\$2.95	\$3.11	\$86.94	
Ameren Corporation	AEE	\$1.79	\$1.91	\$2.05	\$2.19	\$2.35	\$2.56	\$2.79	\$3.02	\$3.26	\$3.51	\$3.76	\$3.97	\$4.18	\$4.41	\$4.65	\$124.58	
American Electric Power Company, Inc.	AEP	\$2.57	\$2.67	\$2.79	\$2.90	\$3.02	\$3.22	\$3.42	\$3.64	\$3.87	\$4.11	\$4.36	\$4.60	\$4.85	\$5.11	\$5.39	\$145.82	
Avangrid, Inc.	AGR	\$1.43	\$1.57	\$1.71	\$1.87	\$2.03	\$2.27	\$2.50	\$2.73	\$2.94	\$3.14	\$3.30	\$3.48	\$3.67	\$3.87	\$4.09	\$108.18	
Black Hills Corporation	BKH	\$1.95	\$2.10	\$2.25	\$2.41	\$2.59	\$2.76	\$2.95	\$3.15	\$3.36	\$3.60	\$3.85	\$4.06	\$4.28	\$4.51	\$4.76	\$121.68	
CMS Energy Corporation	CMS	\$1.42	\$1.52	\$1.62	\$1.74	\$1.86	\$2.01	\$2.17	\$2.33	\$2.50	\$2.68	\$2.86	\$3.01	\$3.18	\$3.35	\$3.53	\$97.52	
DTE Energy Company	DTE	\$3.74	\$3.99	\$4.25	\$4.53	\$4.82	\$5.23	\$5.65	\$6.09	\$6.55	\$7.03	\$7.51	\$7.92	\$8.36	\$8.81	\$9.29	\$225.64	
Duke Energy Corporation	DUK	\$3.38	\$3.62	\$3.87	\$4.13	\$4.41	\$4.51	\$4.61	\$4.71	\$4.80	\$4.89	\$4.98	\$5.25	\$5.53	\$5.84	\$6.15	\$159.95	
El Paso Electric	EE	\$1.45	\$1.55	\$1.66	\$1.78	\$1.90	\$2.03	\$2.16	\$2.30	\$2.46	\$2.62	\$2.79	\$2.95	\$3.11	\$3.28	\$3.45	\$114.36	
Hawaiian Electric Industries, Inc.	HE	\$1.18	\$1.25	\$1.33	\$1.41	\$1.50	\$1.65	\$1.82	\$1.98	\$2.15	\$2.32	\$2.49	\$2.62	\$2.77	\$2.92	\$3.08	\$74.85	
IDACORP, Inc.	IDA	\$2.49	\$2.66	\$2.83	\$3.02	\$3.21	\$3.37	\$3.54	\$3.73	\$3.94	\$4.17	\$4.43	\$4.67	\$4.92	\$5.19	\$5.47	\$186.10	
NextEra Energy, Inc.	NEE	\$3.92	\$4.47	\$5.08	\$5.76	\$6.53	\$7.17	\$7.82	\$8.48	\$9.12	\$9.75	\$10.35	\$10.91	\$11.50	\$12.13	\$12.79	\$338.79	
NorthWestern Corporation	NWE	\$2.21	\$2.29	\$2.37	\$2.45	\$2.54	\$2.65	\$2.77	\$2.90	\$3.05	\$3.22	\$3.41	\$3.60	\$3.80	\$4.00	\$4.22	\$114.59	
OGE Energy Corp.	OGE	\$1.40	\$1.50	\$1.60	\$1.71	\$1.82	\$1.91	\$1.99	\$2.08	\$2.17	\$2.26	\$2.35	\$2.47	\$2.61	\$2.75	\$2.90	\$68.29	
Otter Tail Corporation	OTTR	\$1.34	\$1.43	\$1.52	\$1.61	\$1.72	\$1.89	\$2.07	\$2.25	\$2.44	\$2.62	\$2.80	\$2.96	\$3.12	\$3.29	\$3.47	\$94.61	
Pinnacle West Capital Corporation	PNW	\$2.93	\$3.08	\$3.23	\$3.39	\$3.56	\$3.77	\$3.99	\$4.23	\$4.48	\$4.75	\$5.04	\$5.32	\$5.61	\$5.91	\$6.23	\$170.59	
PNM Resources, Inc.	PNM	\$1.09	\$1.16	\$1.23	\$1.30	\$1.38	\$1.55	\$1.74	\$1.94	\$2.15	\$2.38	\$2.61	\$2.75	\$2.90	\$3.06	\$3.22	\$86.85	
Portland General Electric Company	POR	\$1.52	\$1.58	\$1.64	\$1.69	\$1.76	\$1.84	\$1.94	\$2.04	\$2.16	\$2.29	\$2.43	\$2.56	\$2.70	\$2.84	\$3.00	\$89.54	
Southern Company	SO	\$2.68	\$2.75	\$2.82	\$2.89	\$2.96	\$3.04	\$3.12	\$3.21	\$3.31	\$3.41	\$3.53	\$3.72	\$3.92	\$4.13	\$4.36	\$91.50	
WEC Energy Group, Inc.	WEC	\$2.22	\$2.35	\$2.50	\$2.65	\$2.82	\$3.02	\$3.23	\$3.44	\$3.66	\$3.89	\$4.12	\$4.34	\$4.58	\$4.83	\$5.09	\$134.08	
Xcel Energy Inc.	XEL	\$1.51	\$1.61	\$1.71	\$1.81	\$1.93	\$2.06	\$2.19	\$2.33	\$2.47	\$2.63	\$2.79	\$2.94	\$3.10	\$3.27	\$3.45	\$97.52	

Projected Annual Data

Investor Cash Flows		[61]	[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]
		Initial																
Company	Ticker	Outflow	6/15/18	12/31/18	6/30/19	6/30/20	6/30/21	6/30/22	6/30/23	6/30/24	6/30/25	6/30/26	6/30/27	6/30/28	6/30/29	6/30/30	6/30/31	6/30/32
ALLETE, Inc.	ALE	(\$74.39)	\$0.00	\$1.18	\$2.22	\$2.40	\$2.54	\$2.68	\$2.85	\$3.03	\$3.22	\$3.41	\$3.61	\$3.83	\$4.03	\$4.25	\$4.48	\$160.39
Alliant Energy Corporation	LNT	(\$41.41)	\$0.00	\$0.74	\$1.40	\$1.54	\$1.64	\$1.74	\$1.86	\$1.99	\$2.11	\$2.24	\$2.38	\$2.52	\$2.66	\$2.80	\$2.95	\$90.05
Ameren Corporation	AEE	(\$58.05)	\$0.00	\$0.97	\$1.85	\$2.05	\$2.19	\$2.35	\$2.56	\$2.79	\$3.02	\$3.26	\$3.51	\$3.76	\$3.97	\$4.18	\$4.41	\$129.23
American Electric Power Company, Inc.	AEP	(\$69.91)	\$0.00	\$1.40	\$2.64	\$2.79	\$2.90	\$3.02	\$3.22	\$3.42	\$3.64	\$3.87	\$4.11	\$4.36	\$4.60	\$4.85	\$5.11	\$151.21
Avangrid, Inc.	AGR	(\$50.25)	\$0.00	\$0.78	\$1.53	\$1.71	\$1.87	\$2.03	\$2.27	\$2.50	\$2.73	\$2.94	\$3.14	\$3.30	\$3.48	\$3.67	\$3.87	\$112.27
Black Hills Corporation	BKH	(\$57.41)	\$0.00	\$1.06	\$2.00	\$2.25	\$2.41	\$2.59	\$2.76	\$2.95	\$3.15	\$3.36	\$3.60	\$3.85	\$4.06	\$4.28	\$4.51	\$126.44
CMS Energy Corporation	CMS	(\$45.84)	\$0.00	\$0.77	\$1.47	\$1.62	\$1.74	\$1.86	\$2.01	\$2.17	\$2.33	\$2.50	\$2.68	\$2.86	\$3.01	\$3.18	\$3.35	\$101.05
DTE Energy Company	DTE	(\$105.75)	\$0.00	\$2.04	\$3.87	\$4.25	\$4.53	\$4.82	\$5.23	\$5.65	\$6.09	\$6.55	\$7.03	\$7.51	\$7.92	\$8.36	\$8.81	\$234.93
Duke Energy Corporation	DUK	(\$80.74)	\$0.00	\$1.84	\$3.48	\$3.87	\$4.13	\$4.41	\$4.51	\$4.61	\$4.71	\$4.80	\$4.89	\$4.98	\$5.25	\$5.53	\$5.84	\$166.10
El Paso Electric	EE	(\$54.16)	\$0.00	\$0.79	\$1.49	\$1.66	\$1.78	\$1.90	\$2.03	\$2.16	\$2.30	\$2.46	\$2.62	\$2.79	\$2.95	\$3.11	\$3.28	\$117.81
Hawaiian Electric Industries, Inc.	HE	(\$34.70)	\$0.00	\$0.64	\$1.23	\$1.33	\$1.41	\$1.50	\$1.65	\$1.82	\$1.98	\$2.15	\$2.32	\$2.49	\$2.62	\$2.77	\$2.92	\$77.93
IDACORP, Inc.	IDA	(\$89.13)	\$0.00	\$1.36	\$2.54	\$2.83	\$3.02	\$3.21	\$3.37	\$3.54	\$3.73	\$3.94	\$4.17	\$4.43	\$4.67	\$4.92	\$5.19	\$191.58
NextEra Energy, Inc.	NEE	(\$156.22)	\$0.00	\$2.14	\$4.12	\$5.08	\$5.76	\$6.53	\$7.17	\$7.82	\$8.48	\$9.12	\$9.75	\$10.35	\$10.91	\$11.50	\$12.13	\$351.58
NorthWestern Corporation	NWE	(\$55.80)	\$0.00	\$1.21	\$2.25	\$2.37	\$2.45	\$2.54	\$2.65	\$2.77	\$2.90	\$3.05	\$3.22	\$3.41	\$3.60	\$3.80	\$4.00	\$118.81
OGE Energy Corp.	OGE	(\$33.47)	\$0.00	\$0.77	\$1.45	\$1.60	\$1.71	\$1.82	\$1.91	\$1.99	\$2.08	\$2.17	\$2.26	\$2.35	\$2.47	\$2.61	\$2.75	\$71.19
Otter Tail Corporation	OTTR	(\$44.07)	\$0.00	\$0.73	\$1.40	\$1.52	\$1.61	\$1.72	\$1.89	\$2.07	\$2.25	\$2.44	\$2.62	\$2.80	\$2.96	\$3.12	\$3.29	\$98.07
Pinnacle West Capital Corporation	PNW	(\$81.85)	\$0.00	\$1.60	\$3.00	\$3.23	\$3.39	\$3.56	\$3.77	\$3.99	\$4.23	\$4.48	\$4.75	\$5.04	\$5.32	\$5.61	\$5.91	\$176.82
PNM Resources, Inc.	PNM	(\$39.36)	\$0.00	\$0.60	\$1.13	\$1.23	\$1.30	\$1.38	\$1.55	\$1.74	\$1.94	\$2.15	\$2.38	\$2.61	\$2.75	\$2.90	\$3.06	\$90.08
Portland General Electric Company	POR	(\$43.26)	\$0.00	\$0.83	\$1.55	\$1.64	\$1.69	\$1.76	\$1.84	\$1.94	\$2.04	\$2.16	\$2.29	\$2.43	\$2.56	\$2.70	\$2.84	\$92.54
Southern Company	SO	(\$46.80)	\$0.00	\$1.46	\$2.74	\$2.82	\$2.89	\$2.96	\$3.04	\$3.12	\$3.21	\$3.31	\$3.41	\$3.53	\$3.72	\$3.92	\$4.13	\$95.86
WEC Energy Group, Inc.	WEC	(\$63.81)	\$0.00	\$1.21	\$2.30	\$2.50	\$2.65	\$2.82	\$3.02	\$3.23	\$3.44	\$3.66	\$3.89	\$4.12	\$4.34	\$4.58	\$4.83	\$139.17
Xcel Energy Inc.	XEL	(\$46.44)	\$0.00	\$0.82	\$1.55	\$1.71	\$1.81	\$1.93	\$2.06	\$2.19	\$2.33	\$2.47	\$2.63	\$2.79	\$2.94	\$3.10	\$3.27	\$100.97

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				
				Value	Low												
Company	Ticker	Price	Zacks	First Call	Line	Growth	Growth	2018	2022	2028	Proof	IRR	P/E Ratio	Ratio			
ALLETE, Inc.	ALE	\$74.39	6.00%	6.00%	5.00%	5.00%	5.45%	65.00%	64.00%	65.57%	\$0.00	8.45%	23.05	4.23			
Alliant Energy Corporation	LNT	\$41.41	5.60%	5.85%	6.50%	5.60%	5.45%	64.00%	64.00%	65.57%	\$0.00	9.01%	19.40	3.56			
Ameren Corporation	AEE	\$58.05	6.50%	6.30%	7.50%	6.30%	5.45%	60.00%	59.00%	65.57%	\$0.00	9.09%	18.95	3.48			
American Electric Power Company, Inc.	AEP	\$69.91	5.70%	5.79%	4.50%	4.50%	5.45%	67.00%	63.00%	65.57%	\$0.00	9.03%	19.30	3.54			
Avangrid, Inc.	AGR	\$50.25	9.10%	10.40%	13.00%	9.10%	5.45%	76.00%	66.00%	65.57%	\$0.00	8.57%	22.10	4.06			
Black Hills Corporation	BKH	\$57.41	4.10%	3.86%	5.00%	3.86%	5.45%	55.00%	60.00%	65.57%	\$0.00	9.27%	18.06	3.32			
CMS Energy Corporation	CMS	\$45.84	6.40%	7.05%	7.00%	6.40%	5.45%	61.00%	61.00%	65.57%	\$0.00	9.11%	18.88	3.47			
DTE Energy Company	DTE	\$105.75	5.30%	5.59%	7.00%	5.30%	5.45%	61.00%	60.00%	65.57%	(\$0.00)	9.34%	17.74	3.26			
Duke Energy Corporation	DUK	\$80.74	4.70%	4.22%	5.50%	4.22%	5.45%	76.00%	80.00%	65.57%	\$0.00	9.17%	18.56	3.41			
El Paso Electric	EE	\$54.16	5.10%	5.20%	4.50%	4.50%	5.45%	57.00%	61.00%	65.57%	\$0.00	8.49%	22.73	4.17			
Hawaiian Electric Industries, Inc.	HE	\$34.70	7.10%	9.10%	3.50%	3.50%	5.45%	60.00%	59.00%	65.57%	\$0.00	8.47%	22.83	4.19			
IDACORP, Inc.	IDA	\$89.13	3.90%	3.10%	3.50%	3.10%	5.45%	57.00%	63.00%	65.57%	(\$0.00)	8.39%	23.52	4.32			
NextEra Energy, Inc.	NEE	\$156.22	8.60%	9.79%	8.50%	8.50%	5.45%	55.00%	63.00%	65.57%	(\$0.00)	9.12%	18.82	3.45			
NorthWestern Corporation	NWE	\$55.80	3.00%	3.16%	3.50%	3.00%	5.45%	64.00%	64.00%	65.57%	\$0.00	9.20%	18.41	3.38			
OGE Energy Corp.	OGE	\$33.47	6.00%	4.30%	6.00%	4.30%	5.45%	69.00%	71.00%	65.57%	\$0.00	9.46%	17.25	3.17			
Otter Tail Corporation	OTTR	\$44.07	NA	9.00%	7.50%	7.50%	5.45%	66.00%	60.00%	65.57%	\$0.00	8.96%	19.66	3.61			
Pinnacle West Capital Corporation	PNW	\$81.85	4.50%	3.78%	5.00%	3.78%	5.45%	63.00%	63.00%	65.57%	\$0.00	9.00%	19.44	3.57			
PNM Resources, Inc.	PNM	\$39.36	5.10%	4.30%	7.50%	4.30%	5.45%	53.00%	50.00%	65.57%	(\$0.00)	8.64%	21.65	3.98			
Portland General Electric Company	POR	\$43.26	2.80%	2.65%	4.00%	2.65%	5.45%	64.00%	63.00%	65.57%	\$0.00	8.67%	21.42	3.93			
Southern Company	SO	\$46.80	4.50%	2.72%	3.00%	2.72%	5.45%	80.00%	74.00%	65.57%	\$0.00	9.91%	15.49	2.84			
WEC Energy Group, Inc.	WEC	\$63.81	4.10%	4.43%	7.00%	4.10%	5.45%	66.00%	64.00%	65.57%	\$0.00	8.76%	20.85	3.83			
Xcel Energy Inc.	XEL	\$46.44	5.70%	5.89%	5.50%	5.50%	5.45%	62.00%	63.00%	65.57%	\$0.00	9.08%	19.02	3.49			
											Mean	8.96%					
											Max	9.91%					
											Min	8.39%					
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	\$3.13	\$3.29	\$3.45	\$3.62	\$3.80	\$3.99	\$4.20	\$4.41	\$4.64	\$4.89	\$5.15	\$5.43	\$5.73	\$6.04	\$6.37	\$6.72
Alliant Energy Corporation	LNT	\$1.99	\$2.10	\$2.22	\$2.34	\$2.47	\$2.61	\$2.76	\$2.91	\$3.07	\$3.24	\$3.42	\$3.61	\$3.80	\$4.01	\$4.23	\$4.46
Ameren Corporation	AEE	\$2.77	\$2.94	\$3.13	\$3.33	\$3.54	\$3.76	\$3.99	\$4.23	\$4.48	\$4.74	\$5.00	\$5.27	\$5.56	\$5.86	\$6.18	\$6.52
American Electric Power Company, Inc.	AEP	\$3.62	\$3.78	\$3.95	\$4.13	\$4.32	\$4.51	\$4.72	\$4.95	\$5.19	\$5.46	\$5.75	\$6.06	\$6.39	\$6.74	\$7.11	\$7.50
Avangrid, Inc.	AGR	\$1.67	\$1.82	\$1.99	\$2.17	\$2.37	\$2.58	\$2.80	\$3.02	\$3.24	\$3.46	\$3.67	\$3.87	\$4.08	\$4.30	\$4.53	\$4.78
Black Hills Corporation	BKH	\$3.38	\$3.51	\$3.65	\$3.79	\$3.93	\$4.08	\$4.25	\$4.44	\$4.65	\$4.87	\$5.13	\$5.41	\$5.70	\$6.01	\$6.34	\$6.68
CMS Energy Corporation	CMS	\$2.17	\$2.31	\$2.46	\$2.61	\$2.78	\$2.96	\$3.14	\$3.34	\$3.53	\$3.74	\$3.95	\$4.16	\$4.39	\$4.63	\$4.88	\$5.14
DTE Energy Company	DTE	\$5.73	\$6.03	\$6.35	\$6.69	\$7.04	\$7.42	\$7.81	\$8.23	\$8.67	\$9.14	\$9.64	\$10.16	\$10.72	\$11.30	\$11.91	\$12.56
Duke Energy Corporation	DUK	\$4.22	\$4.40	\$4.58	\$4.78	\$4.98	\$5.19	\$5.42	\$5.67	\$5.94	\$6.24	\$6.57	\$6.93	\$7.30	\$7.70	\$8.12	\$8.56
El Paso Electric	EE	\$2.42	\$2.53	\$2.64	\$2.76	\$2.89	\$3.02	\$3.16	\$3.31	\$3.47	\$3.65	\$3.84	\$4.05	\$4.27	\$4.51	\$4.75	\$5.01
Hawaiian Electric Industries, Inc.	HE	\$1.64	\$1.70	\$1.76	\$1.82	\$1.88	\$1.95	\$2.02	\$2.11	\$2.20	\$2.31	\$2.42	\$2.56	\$2.70	\$2.84	\$3.00	\$3.16
IDACORP, Inc.	IDA	\$4.21	\$4.34	\$4.48	\$4.61	\$4.76	\$4.90	\$5.08	\$5.27	\$5.50	\$5.75	\$6.05	\$6.37	\$6.72	\$7.09	\$7.47	\$7.88
NextEra Energy, Inc.	NEE	\$6.50	\$7.05	\$7.65	\$8.30	\$9.01	\$9.77	\$10.55	\$11.34	\$12.14	\$12.92	\$13.69	\$14.43	\$15.22	\$16.05	\$16.92	\$17.85
NorthWestern Corporation	NWE	\$3.34	\$3.44	\$3.54	\$3.65	\$3.76	\$3.87	\$4.00	\$4.16	\$4.33	\$4.53	\$4.76	\$5.02	\$5.29	\$5.58	\$5.89	\$6.21
OGE Energy Corp.	OGE	\$1.92	\$2.00	\$2.09	\$2.18	\$2.27	\$2.37	\$2.48	\$2.59	\$2.72	\$2.86	\$3.01	\$3.17	\$3.34	\$3.52	\$3.72	\$3.92
Otter Tail Corporation	OTTR	\$1.86	\$2.00	\$2.15	\$2.31	\$2.48	\$2.67	\$2.86	\$3.06	\$3.25	\$3.45	\$3.65	\$3.85	\$4.06	\$4.28	\$4.52	\$4.76
Pinnacle West Capital Corporation	PNW	\$4.43	\$4.60	\$4.77	\$4.95	\$5.14	\$5.33	\$5.55	\$5.79	\$6.06	\$6.35	\$6.68	\$7.05	\$7.43	\$7.83	\$8.26	\$8.71
PNM Resources, Inc.	PNM	\$1.92	\$2.00	\$2.09	\$2.18	\$2.27	\$2.37	\$2.48	\$2.59	\$2.72	\$2.86	\$3.01	\$3.17	\$3.34	\$3.52	\$3.72	\$3.92
Portland General Electric Company	POR	\$2.29	\$2.35	\$2.41	\$2.48	\$2.54	\$2.61	\$2.69	\$2.79	\$2.90	\$3.03	\$3.18	\$3.36	\$3.54	\$3.73	\$3.93	\$4.15
Southern Company	SO	\$3.21	\$3.30	\$3.39	\$3.48	\$3.57	\$3.67	\$3.79	\$3.92	\$4.09	\$4.27	\$4.48	\$4.73	\$4.99	\$5.26	\$5.54	\$5.85
WEC Energy Group, Inc.	WEC	\$3.14	\$3.27	\$3.40	\$3.54	\$3.69	\$3.84	\$4.00	\$4.19	\$4.39	\$4.61	\$4.85	\$5.11	\$5.39	\$5.68	\$5.99	\$6.32
Xcel Energy Inc.	XEL	\$2.30	\$2.43	\$2.56	\$2.70	\$2.85	\$3.01	\$3.17	\$3.34	\$3.53	\$3.72	\$3.92	\$4.14	\$4.36	\$4.60	\$4.85	\$5.12

Projected Annual Dividend Payout Ratio		[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	65.00%	64.75%	64.50%	64.25%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Ameren Corporation	AEE	60.00%	59.75%	59.50%	59.25%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
American Electric Power Company, Inc.	AEP	67.00%	66.00%	65.00%	64.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Avangrid, Inc.	AGR	76.00%	73.50%	71.00%	68.50%	66.00%	65.93%	65.86%	65.79%	65.71%	65.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Black Hills Corporation	BKH	55.00%	56.25%	57.50%	58.75%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
DTE Energy Company	DTE	61.00%	60.75%	60.50%	60.25%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Duke Energy Corporation	DUK	76.00%	77.00%	78.00%	79.00%	80.00%	77.60%	75.19%	72.79%	70.38%	67.98%	65.57%	65.57%	65.57%	65.57%	65.57%
El Paso Electric	EE	57.00%	58.00%	59.00%	60.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
Hawaiian Electric Industries, Inc.	HE	66.00%	64.25%	62.50%	60.75%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
IDACORP, Inc.	IDA	57.00%	58.50%	60.00%	61.50%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NextEra Energy, Inc.	NEE	55.00%	57.00%	59.00%	61.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NorthWestern Corporation	NWE	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
OGE Energy Corp.	OGE	69.00%	69.50%	70.00%	70.50%	71.00%	70.10%	69.19%	68.29%	67.38%	66.48%	65.57%	65.57%	65.57%	65.57%	65.57%
Otter Tail Corporation	OTTR	66.00%	64.50%	63.00%	61.50%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Pinnacle West Capital Corporation	PNW	63.00%	63.00%	63.00%	63.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
PNM Resources, Inc.	PNM	53.00%	52.25%	51.50%	50.75%	50.00%	52.60%	55.19%	57.79%	60.38%	62.98%	65.57%	65.57%	65.57%	65.57%	65.57%
Portland General Electric Company	POR	64.00%	63.75%	63.50%	63.25%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Southern Company	SO	80.00%	78.50%	77.00%	75.50%	74.00%	72.60%	71.19%	69.79%	68.38%	66.98%	65.57%	65.57%	65.57%	65.57%	65.57%
WEC Energy Group, Inc.	WEC	66.00%	65.50%	65.00%	64.50%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Xcel Energy Inc.	XEL	62.00%	62.25%	62.50%	62.75%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%

Projected Annual Cash Flows		[45]	[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.14	\$2.23	\$2.34	\$2.44	\$2.56	\$2.70	\$2.85	\$3.01	\$3.18	\$3.37	\$3.56	\$3.76	\$3.96	\$4.18	\$4.40	\$154.85
Alliant Energy Corporation	LNT	\$1.34	\$1.42	\$1.50	\$1.58	\$1.67	\$1.77	\$1.88	\$1.99	\$2.11	\$2.23	\$2.36	\$2.49	\$2.63	\$2.77	\$2.92	\$86.46
Ameren Corporation	AEE	\$1.77	\$1.87	\$1.98	\$2.10	\$2.22	\$2.40	\$2.59	\$2.79	\$3.00	\$3.22	\$3.46	\$3.65	\$3.84	\$4.05	\$4.27	\$123.54
American Electric Power Company, Inc.	AEP	\$2.53	\$2.61	\$2.69	\$2.76	\$2.84	\$2.99	\$3.16	\$3.34	\$3.53	\$3.75	\$3.98	\$4.19	\$4.42	\$4.66	\$4.92	\$144.66
Avangrid, Inc.	AGR	\$1.38	\$1.46	\$1.54	\$1.62	\$1.70	\$1.85	\$1.99	\$2.13	\$2.27	\$2.41	\$2.53	\$2.67	\$2.82	\$2.97	\$3.13	\$105.62
Black Hills Corporation	BKH	\$1.93	\$2.05	\$2.18	\$2.31	\$2.45	\$2.59	\$2.75	\$2.92	\$3.11	\$3.31	\$3.55	\$3.74	\$3.94	\$4.16	\$4.38	\$120.72
CMS Energy Corporation	CMS	\$1.41	\$1.50	\$1.59	\$1.70	\$1.81	\$1.94	\$2.09	\$2.24	\$2.39	\$2.56	\$2.73	\$2.88	\$3.03	\$3.20	\$3.37	\$97.10
DTE Energy Company	DTE	\$3.68	\$3.86	\$4.05	\$4.24	\$4.45	\$4.76	\$5.09	\$5.45	\$5.82	\$6.23	\$6.66	\$7.03	\$7.41	\$7.81	\$8.24	\$222.87
Duke Energy Corporation	DUK	\$3.34	\$3.53	\$3.73	\$3.93	\$4.15	\$4.20	\$4.26	\$4.33	\$4.39	\$4.47	\$4.54	\$4.79	\$5.05	\$5.33	\$5.62	\$158.99
El Paso Electric	EE	\$1.44	\$1.53	\$1.63	\$1.73	\$1.84	\$1.95	\$2.07	\$2.20	\$2.34	\$2.49	\$2.66	\$2.80	\$2.96	\$3.12	\$3.29	\$113.92
Hawaiian Electric Industries, Inc.	HE	\$1.12	\$1.13	\$1.14	\$1.14	\$1.15	\$1.22	\$1.29	\$1.37	\$1.46	\$1.56	\$1.68	\$1.77	\$1.86	\$1.97	\$2.07	\$72.16
IDACORP, Inc.	IDA	\$2.47	\$2.62	\$2.77	\$2.93	\$3.09	\$3.22	\$3.37	\$3.53	\$3.72	\$3.94	\$4.18	\$4.41	\$4.65	\$4.90	\$5.17	\$185.35
NextEra Energy, Inc.	NEE	\$3.88	\$4.36	\$4.90	\$5.49	\$6.16	\$6.69	\$7.24	\$7.80	\$8.36	\$8.92	\$9.47	\$9.98	\$10.52	\$11.10	\$11.70	\$335.77
NorthWestern Corporation	NWE	\$2.20	\$2.27	\$2.34	\$2.41	\$2.48	\$2.57	\$2.68	\$2.81	\$2.95	\$3.11	\$3.29	\$3.47	\$3.66	\$3.86	\$4.07	\$114.24
OGE Energy Corp.	OGE	\$1.38	\$1.45	\$1.52	\$1.60	\$1.68	\$1.74	\$1.79	\$1.86	\$1.92	\$2.00	\$2.08	\$2.19	\$2.31	\$2.44	\$2.57	\$67.59
Otter Tail Corporation	OTTR	\$1.32	\$1.39	\$1.46	\$1.53	\$1.60	\$1.74	\$1.89	\$2.04	\$2.20	\$2.36	\$2.53	\$2.66	\$2.81	\$2.96	\$3.12	\$93.66
Pinnacle West Capital Corporation	PNW	\$2.90	\$3.01	\$3.12	\$3.24	\$3.36	\$3.52	\$3.70	\$3.89	\$4.11	\$4.35	\$4.62	\$4.87	\$5.14	\$5.42	\$5.71	\$169.32
PNM Resources, Inc.	PNM	\$1.06	\$1.09	\$1.12	\$1.15	\$1.18	\$1.30	\$1.43	\$1.57	\$1.72	\$1.89	\$2.08	\$2.19	\$2.31	\$2.44	\$2.57	\$84.84
Portland General Electric Company	POR	\$1.50	\$1.54	\$1.57	\$1.61	\$1.64	\$1.71	\$1.78	\$1.86	\$1.96	\$2.07	\$2.20	\$2.32	\$2.45	\$2.58	\$2.72	\$88.88
Southern Company	SO	\$2.64	\$2.66	\$2.68	\$2.70	\$2.72	\$2.75	\$2.79	\$2.85	\$2.92	\$3.00	\$3.10	\$3.27	\$3.45	\$3.63	\$3.83	\$90.54
WEC Energy Group, Inc.	WEC	\$2.16	\$2.23	\$2.30	\$2.38	\$2.46	\$2.57	\$2.70	\$2.84	\$3.00	\$3.17	\$3.35	\$3.53	\$3.73	\$3.93	\$4.14	\$131.75
Xcel Energy Inc.	XEL	\$1.50	\$1.59	\$1.69	\$1.79	\$1.89	\$2.01	\$2.14	\$2.27	\$2.41	\$2.56	\$2.71	\$2.86	\$3.02	\$3.18	\$3.35	\$97.29

Projected Annual Data

Investor Cash Flows		[61]	[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]
Initial																		
Company	Ticker	Outflow	6/15/18	12/31/18	6/30/19	6/30/20	6/30/21	6/30/22	6/30/23	6/30/24	6/30/25	6/30/26	6/30/27	6/30/28	6/30/29	6/30/30	6/30/31	6/30/32
ALLETE, Inc.	ALE	(\$74.39)	\$0.00	\$1.16	\$2.19	\$2.34	\$2.44	\$2.56	\$2.70	\$2.85	\$3.01	\$3.18	\$3.37	\$3.56	\$3.76	\$3.96	\$4.18	\$159.25
Alliant Energy Corporation	LNT	(\$41.41)	\$0.00	\$0.73	\$1.38	\$1.50	\$1.58	\$1.67	\$1.77	\$1.88	\$1.99	\$2.11	\$2.23	\$2.36	\$2.49	\$2.63	\$2.77	\$89.38
Ameren Corporation	AEE	(\$58.05)	\$0.00	\$0.96	\$1.82	\$1.98	\$2.10	\$2.22	\$2.40	\$2.59	\$2.79	\$3.00	\$3.22	\$3.46	\$3.65	\$3.84	\$4.05	\$127.82
American Electric Power Company, Inc.	AEP	(\$69.91)	\$0.00	\$1.38	\$2.59	\$2.69	\$2.76	\$2.84	\$2.99	\$3.16	\$3.34	\$3.53	\$3.75	\$3.98	\$4.19	\$4.42	\$4.66	\$149.58
Avangrid, Inc.	AGR	(\$50.25)	\$0.00	\$0.75	\$1.45	\$1.54	\$1.62	\$1.70	\$1.85	\$1.99	\$2.13	\$2.27	\$2.41	\$2.53	\$2.67	\$2.82	\$2.97	\$108.75
Black Hills Corporation	BKH	(\$57.41)	\$0.00	\$1.05	\$1.97	\$2.18	\$2.31	\$2.45	\$2.59	\$2.75	\$2.92	\$3.11	\$3.31	\$3.55	\$3.74	\$3.94	\$4.16	\$125.10
CMS Energy Corporation	CMS	(\$45.84)	\$0.00	\$0.77	\$1.45	\$1.59	\$1.70	\$1.81	\$1.94	\$2.09	\$2.24	\$2.39	\$2.56	\$2.73	\$2.88	\$3.03	\$3.20	\$100.47
DTE Energy Company	DTE	(\$105.75)	\$0.00	\$2.01	\$3.78	\$4.05	\$4.24	\$4.45	\$4.76	\$5.09	\$5.45	\$5.82	\$6.23	\$6.66	\$7.03	\$7.41	\$7.81	\$231.11
Duke Energy Corporation	DUK	(\$80.74)	\$0.00	\$1.82	\$3.41	\$3.73	\$3.93	\$4.15	\$4.20	\$4.26	\$4.33	\$4.39	\$4.47	\$4.54	\$4.79	\$5.05	\$5.33	\$164.61
El Paso Electric	EE	(\$54.16)	\$0.00	\$0.79	\$1.47	\$1.63	\$1.73	\$1.84	\$1.95	\$2.07	\$2.20	\$2.34	\$2.49	\$2.66	\$2.80	\$2.96	\$3.12	\$117.20
Hawaiian Electric Industries, Inc.	HE	(\$34.70)	\$0.00	\$0.61	\$1.14	\$1.14	\$1.14	\$1.15	\$1.22	\$1.29	\$1.37	\$1.46	\$1.56	\$1.68	\$1.77	\$1.86	\$1.97	\$74.23
IDACORP, Inc.	IDA	(\$89.13)	\$0.00	\$1.35	\$2.51	\$2.77	\$2.93	\$3.09	\$3.22	\$3.37	\$3.53	\$3.72	\$3.94	\$4.18	\$4.41	\$4.65	\$4.90	\$190.51
NextEra Energy, Inc.	NEE	(\$156.22)	\$0.00	\$2.11	\$4.04	\$4.90	\$5.49	\$6.16	\$6.69	\$7.24	\$7.80	\$8.36	\$8.92	\$9.47	\$9.98	\$10.52	\$11.10	\$347.47
NorthWestern Corporation	NWE	(\$55.80)	\$0.00	\$1.20	\$2.23	\$2.34	\$2.41	\$2.48	\$2.57	\$2.68	\$2.81	\$2.95	\$3.11	\$3.29	\$3.47	\$3.66	\$3.86	\$118.31
OGE Energy Corp.	OGE	(\$33.47)	\$0.00	\$0.75	\$1.41	\$1.52	\$1.60	\$1.68	\$1.74	\$1.79	\$1.86	\$1.92	\$2.00	\$2.08	\$2.19	\$2.31	\$2.44	\$70.16
Otter Tail Corporation	OTTR	(\$44.07)	\$0.00	\$0.72	\$1.37	\$1.46	\$1.53	\$1.60	\$1.74	\$1.89	\$2.04	\$2.20	\$2.36	\$2.53	\$2.66	\$2.81	\$2.96	\$96.78
Pinnacle West Capital Corporation	PNW	(\$81.85)	\$0.00	\$1.58	\$2.95	\$3.12	\$3.24	\$3.36	\$3.52	\$3.70	\$3.89	\$4.11	\$4.35	\$4.62	\$4.87	\$5.14	\$5.42	\$175.03
PNM Resources, Inc.	PNM	(\$39.36)	\$0.00	\$0.58	\$1.08	\$1.12	\$1.15	\$1.18	\$1.30	\$1.43	\$1.57	\$1.72	\$1.89	\$2.08	\$2.19	\$2.31	\$2.44	\$87.41
Portland General Electric Company	POR	(\$43.26)	\$0.00	\$0.82	\$1.52	\$1.57	\$1.61	\$1.64	\$1.71	\$1.78	\$1.86	\$1.96	\$2.07	\$2.20	\$2.32	\$2.45	\$2.58	\$91.60
Southern Company	SO	(\$46.80)	\$0.00	\$1.44	\$2.67	\$2.68	\$2.70	\$2.72	\$2.75	\$2.79	\$2.85	\$2.92	\$3.00	\$3.10	\$3.27	\$3.45	\$3.63	\$94.37
WEC Energy Group, Inc.	WEC	(\$63.81)	\$0.00	\$1.18	\$2.20	\$2.30	\$2.38	\$2.46	\$2.57	\$2.70	\$2.84	\$3.00	\$3.17	\$3.35	\$3.53	\$3.73	\$3.93	\$135.90
Xcel Energy Inc.	XEL	(\$46.44)	\$0.00	\$0.82	\$1.55	\$1.69	\$1.79	\$1.89	\$2.01	\$2.14	\$2.27	\$2.41	\$2.56	\$2.71	\$2.86	\$3.02	\$3.18	\$100.64

Multi-Stage Growth Discounted Cash Flow Model - Terminal P/E
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				
			Value															
Company	Ticker	Price	Zacks	First Call	Line	Average	Growth	2018	2022	2028	Proof	IRR	P/E Ratio	PEG Ratio				
ALLETE, Inc.	ALE	\$75.23	6.00%	6.00%	5.00%	5.67%	5.45%	65.00%	64.00%	65.57%	\$0.00	8.04%	20.54	3.77				
Alliant Energy Corporation	LNT	\$40.60	5.60%	5.85%	6.50%	5.98%	5.45%	64.00%	64.00%	65.57%	\$0.00	9.79%	20.54	3.77				
Ameren Corporation	AEE	\$57.18	6.50%	6.30%	7.50%	6.77%	5.45%	60.00%	59.00%	65.57%	\$0.00	10.02%	20.54	3.77				
American Electric Power Company, Inc.	AEP	\$66.01	5.70%	5.79%	4.50%	5.33%	5.45%	67.00%	63.00%	65.57%	\$0.00	10.50%	20.54	3.77				
Avangrid, Inc.	AGR	\$51.90	9.10%	10.40%	13.00%	10.83%	5.45%	76.00%	66.00%	65.57%	\$0.00	8.85%	20.54	3.77				
Black Hills Corporation	BKH	\$57.15	4.10%	3.86%	5.00%	4.32%	5.45%	55.00%	60.00%	65.57%	\$0.00	10.39%	20.54	3.77				
CMS Energy Corporation	CMS	\$44.60	6.40%	7.05%	7.00%	6.82%	5.45%	61.00%	61.00%	65.57%	\$0.00	10.14%	20.54	3.77				
DTE Energy Company	DTE	\$100.10	5.30%	5.59%	7.00%	5.96%	5.45%	61.00%	60.00%	65.57%	(\$0.00)	11.19%	20.54	3.77				
Duke Energy Corporation	DUK	\$75.51	4.70%	4.22%	5.50%	4.81%	5.45%	76.00%	80.00%	65.57%	\$0.00	10.84%	20.54	3.77				
El Paso Electric	EE	\$56.46	5.10%	5.20%	4.50%	4.93%	5.45%	57.00%	61.00%	65.57%	\$0.00	7.75%	20.54	3.77				
Hawaiian Electric Industries, Inc.	HE	\$33.60	7.10%	9.10%	3.50%	6.57%	5.45%	66.00%	59.00%	65.57%	\$0.00	10.03%	20.54	3.77				
IDACORP, Inc.	IDA	\$89.53	3.90%	3.10%	3.50%	3.50%	5.45%	57.00%	63.00%	65.57%	\$0.00	7.76%	20.54	3.77				
NextEra Energy, Inc.	NEE	\$159.84	8.60%	9.79%	8.50%	8.96%	5.45%	55.00%	63.00%	65.57%	(\$0.00)	9.72%	20.54	3.77				
NorthWestern Corporation	NWE	\$53.53	3.00%	3.16%	3.50%	3.22%	5.45%	64.00%	64.00%	65.57%	\$0.00	10.42%	20.54	3.77				
OGE Energy Corp.	OGE	\$34.04	6.00%	4.30%	6.00%	5.43%	5.45%	69.00%	71.00%	65.57%	(\$0.00)	11.05%	20.54	3.77				
Otter Tail Corporation	OTTR	\$45.22	NA	9.00%	7.50%	8.25%	5.45%	66.00%	60.00%	65.57%	\$0.00	9.44%	20.54	3.77				
Pinnacle West Capital Corporation	PNW	\$76.97	4.50%	3.78%	5.00%	4.43%	5.45%	63.00%	63.00%	65.57%	\$0.00	10.35%	20.54	3.77				
PNM Resources, Inc.	PNM	\$38.00	5.10%	4.30%	7.50%	5.63%	5.45%	53.00%	50.00%	65.57%	\$0.00	9.46%	20.54	3.77				
Portland General Electric Company	POR	\$41.01	2.80%	2.65%	4.00%	3.15%	5.45%	64.00%	63.00%	65.57%	\$0.00	9.25%	20.54	3.77				
Southern Company	SO	\$44.06	4.50%	2.72%	3.00%	3.41%	5.45%	80.00%	74.00%	65.57%	(\$0.00)	12.65%	20.54	3.77				
WEC Energy Group, Inc.	WEC	\$61.25	4.10%	4.43%	7.00%	5.18%	5.45%	66.00%	64.00%	65.57%	\$0.00	9.74%	20.54	3.77				
Xcel Energy Inc.	XEL	\$44.19	5.70%	5.89%	5.50%	5.70%	5.45%	62.00%	63.00%	65.57%	\$0.00	10.15%	20.54	3.77				
											Mean	9.89%						
											Max	12.65%						
											Min	7.75%						
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
ALLETE, Inc.	ALE	\$3.13	\$3.31	\$3.49	\$3.69	\$3.90	\$4.12	\$4.36	\$4.60	\$4.85	\$5.12	\$5.40	\$5.70	\$6.01	\$6.34	\$6.68	\$7.04	
Alliant Energy Corporation	LNT	\$1.99	\$2.11	\$2.24	\$2.37	\$2.51	\$2.66	\$2.82	\$2.98	\$3.15	\$3.33	\$3.51	\$3.70	\$3.91	\$4.12	\$4.34	\$4.58	
Ameren Corporation	AEE	\$2.77	\$2.96	\$3.16	\$3.37	\$3.60	\$3.84	\$4.09	\$4.35	\$4.62	\$4.89	\$5.17	\$5.45	\$5.75	\$6.06	\$6.39	\$6.74	
American Electric Power Company, Inc.	AEP	\$3.62	\$3.81	\$4.02	\$4.23	\$4.46	\$4.69	\$4.94	\$5.21	\$5.49	\$5.79	\$6.10	\$6.43	\$6.78	\$7.15	\$7.54	\$7.95	
Avangrid, Inc.	AGR	\$1.67	\$1.85	\$2.05	\$2.27	\$2.52	\$2.79	\$3.07	\$3.35	\$3.62	\$3.88	\$4.13	\$4.35	\$4.59	\$4.84	\$5.10	\$5.38	
Black Hills Corporation	BKH	\$3.38	\$3.53	\$3.68	\$3.84	\$4.00	\$4.18	\$4.36	\$4.57	\$4.79	\$5.04	\$5.30	\$5.59	\$5.89	\$6.21	\$6.55	\$6.91	
CMS Energy Corporation	CMS	\$2.17	\$2.32	\$2.48	\$2.64	\$2.82	\$3.02	\$3.22	\$3.42	\$3.63	\$3.84	\$4.06	\$4.28	\$4.52	\$4.76	\$5.02	\$5.30	
DTE Energy Company	DTE	\$5.73	\$6.07	\$6.43	\$6.82	\$7.22	\$7.65	\$8.10	\$8.57	\$9.06	\$9.57	\$10.10	\$10.65	\$11.23	\$11.84	\$12.49	\$13.17	
Duke Energy Corporation	DUK	\$4.22	\$4.42	\$4.64	\$4.86	\$5.09	\$5.34	\$5.60	\$5.88	\$6.18	\$6.50	\$6.85	\$7.23	\$7.62	\$8.03	\$8.47	\$8.93	
El Paso Electric	EE	\$2.42	\$2.54	\$2.66	\$2.80	\$2.93	\$3.08	\$3.23	\$3.40	\$3.57	\$3.76	\$3.97	\$4.18	\$4.41	\$4.65	\$4.90	\$5.17	
Hawaiian Electric Industries, Inc.	HE	\$1.64	\$1.75	\$1.86	\$1.98	\$2.12	\$2.25	\$2.40	\$2.55	\$2.70	\$2.86	\$3.02	\$3.18	\$3.35	\$3.54	\$3.73	\$3.93	
IDACORP, Inc.	IDA	\$4.21	\$4.36	\$4.51	\$4.67	\$4.83	\$5.00	\$5.19	\$5.41	\$5.65	\$5.92	\$6.22	\$6.56	\$6.92	\$7.30	\$7.69	\$8.11	
NextEra Energy, Inc.	NEE	\$6.50	\$7.08	\$7.72	\$8.41	\$9.16	\$9.98	\$10.82	\$11.66	\$12.50	\$13.33	\$14.14	\$14.91	\$15.72	\$16.57	\$17.48	\$18.43	
NorthWestern Corporation	NWE	\$3.34	\$3.45	\$3.56	\$3.67	\$3.79	\$3.91	\$4.05	\$4.21	\$4.40	\$4.60	\$4.84	\$5.10	\$5.38	\$5.67	\$5.98	\$6.31	
OGE Energy Corp.	OGE	\$1.92	\$2.02	\$2.13	\$2.25	\$2.37	\$2.50	\$2.64	\$2.78	\$2.93	\$3.09	\$3.26	\$3.44	\$3.62	\$3.82	\$4.03	\$4.25	
Otter Tail Corporation	OTTR	\$1.86	\$2.01	\$2.18	\$2.36	\$2.55	\$2.76	\$2.98	\$3.20	\$3.42	\$3.63	\$3.85	\$4.06	\$4.28	\$4.51	\$4.76	\$5.02	
Pinnacle West Capital Corporation	PNW	\$4.43	\$4.63	\$4.83	\$5.04	\$5.27	\$5.50	\$5.75	\$6.03	\$6.33	\$6.65	\$7.00	\$7.38	\$7.78	\$8.21	\$8.65	\$9.13	
PNM Resources, Inc.	PNM	\$1.92	\$2.03	\$2.14	\$2.26	\$2.39	\$2.53	\$2.67	\$2.82	\$2.97	\$3.13	\$3.31	\$3.49	\$3.68	\$3.88	\$4.09	\$4.31	
Portland General Electric Company	POR	\$2.29	\$2.36	\$2.44	\$2.51	\$2.59	\$2.67	\$2.77	\$2.88	\$3.00	\$3.14	\$3.30	\$3.48	\$3.67	\$3.87	\$4.08	\$4.30	
Southern Company	SO	\$3.21	\$3.32	\$3.43	\$3.55	\$3.67	\$3.80	\$3.94	\$4.10	\$4.28	\$4.48	\$4.71	\$4.97	\$5.24	\$5.53	\$5.83	\$6.14	
WEC Energy Group, Inc.	WEC	\$3.14	\$3.30	\$3.47	\$3.65	\$3.84	\$4.04	\$4.25	\$4.48	\$4.71	\$4.97	\$5.23	\$5.52	\$5.82	\$6.14	\$6.47	\$6.82	
Xcel Energy Inc.	XEL	\$2.30	\$2.43	\$2.57	\$2.72	\$2.87	\$3.03	\$3.21	\$3.39	\$3.57	\$3.77	\$3.98	\$4.20	\$4.42	\$4.67	\$4.92	\$5.19	

Projected Annual Dividend Payout Ratio		[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	65.00%	64.75%	64.50%	64.25%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Ameren Corporation	AEE	60.00%	59.75%	59.50%	59.25%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
American Electric Power Company, Inc.	AEP	67.00%	66.00%	65.00%	64.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Avangrid, Inc.	AGR	76.00%	73.50%	71.00%	68.50%	66.00%	65.93%	65.86%	65.79%	65.71%	65.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Black Hills Corporation	BKH	55.00%	56.25%	57.50%	58.75%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
DTE Energy Company	DTE	61.00%	60.75%	60.50%	60.25%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Duke Energy Corporation	DUK	76.00%	77.00%	78.00%	79.00%	80.00%	77.60%	75.19%	72.79%	70.38%	67.98%	65.57%	65.57%	65.57%	65.57%	65.57%
El Paso Electric	EE	57.00%	58.00%	59.00%	60.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
Hawaiian Electric Industries, Inc.	HE	66.00%	64.25%	62.50%	60.75%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
IDACORP, Inc.	IDA	57.00%	58.50%	60.00%	61.50%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NextEra Energy, Inc.	NEE	55.00%	57.00%	59.00%	61.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NorthWestern Corporation	NWE	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
OGE Energy Corp.	OGE	69.00%	69.50%	70.00%	70.50%	71.00%	70.10%	69.19%	68.29%	67.38%	66.48%	65.57%	65.57%	65.57%	65.57%	65.57%
Otter Tail Corporation	OTTR	66.00%	64.50%	63.00%	61.50%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Pinnacle West Capital Corporation	PNW	63.00%	63.00%	63.00%	63.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
PNM Resources, Inc.	PNM	53.00%	52.25%	51.50%	50.75%	50.00%	52.60%	55.19%	57.79%	60.38%	62.98%	65.57%	65.57%	65.57%	65.57%	65.57%
Portland General Electric Company	POR	64.00%	63.75%	63.50%	63.25%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Southern Company	SO	80.00%	78.50%	77.00%	75.50%	74.00%	72.60%	71.19%	69.79%	68.38%	66.98%	65.57%	65.57%	65.57%	65.57%	65.57%
WEC Energy Group, Inc.	WEC	66.00%	65.50%	65.00%	64.50%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Xcel Energy Inc.	XEL	62.00%	62.25%	62.50%	62.75%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%

Projected Annual Cash Flows		[45]	[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.15	\$2.26	\$2.38	\$2.51	\$2.64	\$2.80	\$2.97	\$3.14	\$3.33	\$3.53	\$3.74	\$3.94	\$4.15	\$4.38	\$4.62	\$144.70
Alliant Energy Corporation	LNT	\$1.35	\$1.43	\$1.52	\$1.61	\$1.70	\$1.81	\$1.92	\$2.04	\$2.17	\$2.29	\$2.43	\$2.56	\$2.70	\$2.85	\$3.00	\$94.09
Ameren Corporation	AEE	\$1.77	\$1.89	\$2.01	\$2.13	\$2.27	\$2.46	\$2.66	\$2.88	\$3.10	\$3.33	\$3.57	\$3.77	\$3.97	\$4.19	\$4.42	\$138.41
American Electric Power Company, Inc.	AEP	\$2.55	\$2.65	\$2.75	\$2.85	\$2.96	\$3.14	\$3.33	\$3.53	\$3.75	\$3.97	\$4.22	\$4.45	\$4.69	\$4.95	\$5.22	\$163.40
Avangrid, Inc.	AGR	\$1.41	\$1.51	\$1.61	\$1.73	\$1.84	\$2.02	\$2.20	\$2.38	\$2.55	\$2.71	\$2.85	\$3.01	\$3.17	\$3.35	\$3.53	\$110.58
Black Hills Corporation	BKH	\$1.94	\$2.07	\$2.21	\$2.35	\$2.51	\$2.66	\$2.83	\$3.01	\$3.21	\$3.43	\$3.66	\$3.86	\$4.07	\$4.30	\$4.53	\$141.94
CMS Energy Corporation	CMS	\$1.41	\$1.51	\$1.61	\$1.72	\$1.84	\$1.99	\$2.14	\$2.30	\$2.46	\$2.63	\$2.81	\$2.96	\$3.12	\$3.29	\$3.47	\$108.81
DTE Energy Company	DTE	\$3.70	\$3.91	\$4.12	\$4.35	\$4.59	\$4.94	\$5.30	\$5.69	\$6.10	\$6.53	\$6.98	\$7.36	\$7.77	\$8.19	\$8.64	\$270.54
Duke Energy Corporation	DUK	\$3.36	\$3.57	\$3.79	\$4.02	\$4.27	\$4.34	\$4.42	\$4.50	\$4.58	\$4.66	\$4.74	\$5.00	\$5.27	\$5.55	\$5.86	\$183.50
El Paso Electric	EE	\$1.45	\$1.55	\$1.65	\$1.76	\$1.88	\$2.00	\$2.12	\$2.26	\$2.41	\$2.57	\$2.74	\$2.89	\$3.05	\$3.21	\$3.39	\$106.19
Hawaiian Electric Industries, Inc.	HE	\$1.15	\$1.20	\$1.24	\$1.28	\$1.33	\$1.44	\$1.56	\$1.68	\$1.81	\$1.95	\$2.09	\$2.20	\$2.32	\$2.45	\$2.58	\$80.80
IDACORP, Inc.	IDA	\$2.48	\$2.64	\$2.80	\$2.97	\$3.15	\$3.29	\$3.45	\$3.63	\$3.83	\$4.05	\$4.30	\$4.54	\$4.78	\$5.04	\$5.32	\$166.65
NextEra Energy, Inc.	NEE	\$3.90	\$4.40	\$4.96	\$5.59	\$6.29	\$6.86	\$7.45	\$8.04	\$8.63	\$9.21	\$9.77	\$10.31	\$10.87	\$11.46	\$12.08	\$378.57
NorthWestern Corporation	NWE	\$2.21	\$2.28	\$2.35	\$2.43	\$2.50	\$2.61	\$2.72	\$2.85	\$2.99	\$3.16	\$3.34	\$3.53	\$3.72	\$3.92	\$4.14	\$129.56
OGE Energy Corp.	OGE	\$1.40	\$1.48	\$1.58	\$1.67	\$1.78	\$1.85	\$1.92	\$2.00	\$2.08	\$2.17	\$2.25	\$2.38	\$2.51	\$2.64	\$2.79	\$87.30
Otter Tail Corporation	OTTR	\$1.33	\$1.41	\$1.49	\$1.57	\$1.66	\$1.82	\$1.98	\$2.15	\$2.32	\$2.49	\$2.66	\$2.81	\$2.96	\$3.12	\$3.29	\$103.10
Pinnacle West Capital Corporation	PNW	\$2.91	\$3.04	\$3.18	\$3.32	\$3.47	\$3.65	\$3.85	\$4.07	\$4.30	\$4.56	\$4.84	\$5.10	\$5.38	\$5.67	\$5.98	\$187.46
PNM Resources, Inc.	PNM	\$1.07	\$1.12	\$1.17	\$1.21	\$1.26	\$1.40	\$1.55	\$1.72	\$1.89	\$2.08	\$2.29	\$2.41	\$2.54	\$2.68	\$2.83	\$88.55
Portland General Electric Company	POR	\$1.51	\$1.55	\$1.60	\$1.64	\$1.68	\$1.76	\$1.84	\$1.93	\$2.03	\$2.15	\$2.28	\$2.41	\$2.54	\$2.68	\$2.82	\$88.38
Southern Company	SO	\$2.66	\$2.69	\$2.73	\$2.77	\$2.81	\$2.86	\$2.92	\$2.99	\$3.07	\$3.16	\$3.26	\$3.44	\$3.62	\$3.82	\$4.03	\$126.21
WEC Energy Group, Inc.	WEC	\$2.18	\$2.28	\$2.37	\$2.48	\$2.59	\$2.73	\$2.89	\$3.05	\$3.23	\$3.42	\$3.62	\$3.82	\$4.02	\$4.24	\$4.47	\$140.19
Xcel Energy Inc.	XEL	\$1.51	\$1.60	\$1.70	\$1.80	\$1.91	\$2.03	\$2.16	\$2.30	\$2.44	\$2.59	\$2.75	\$2.90	\$3.06	\$3.23	\$3.40	\$106.56

Projected Annual Data

Investor Cash Flows		[61]	[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]
		Initial																
Company	Ticker	Outflow	6/15/18	12/31/18	6/30/19	6/30/20	6/30/21	6/30/22	6/30/23	6/30/24	6/30/25	6/30/26	6/30/27	6/30/28	6/30/29	6/30/30	6/30/31	6/30/32
ALLETE, Inc.	ALE	(\$75.23)	\$0.00	\$1.17	\$2.21	\$2.38	\$2.51	\$2.64	\$2.80	\$2.97	\$3.14	\$3.33	\$3.53	\$3.74	\$3.94	\$4.15	\$4.38	\$149.32
Alliant Energy Corporation	LNT	(\$40.60)	\$0.00	\$0.74	\$1.39	\$1.52	\$1.61	\$1.70	\$1.81	\$1.92	\$2.04	\$2.17	\$2.29	\$2.43	\$2.56	\$2.70	\$2.85	\$97.09
Ameren Corporation	AEE	(\$57.18)	\$0.00	\$0.97	\$1.83	\$2.01	\$2.13	\$2.27	\$2.46	\$2.66	\$2.88	\$3.10	\$3.33	\$3.57	\$3.77	\$3.97	\$4.19	\$142.83
American Electric Power Company, Inc.	AEP	(\$66.01)	\$0.00	\$1.39	\$2.62	\$2.75	\$2.85	\$2.96	\$3.14	\$3.33	\$3.53	\$3.75	\$3.97	\$4.22	\$4.45	\$4.69	\$4.95	\$168.61
Avangrid, Inc.	AGR	(\$51.90)	\$0.00	\$0.77	\$1.48	\$1.61	\$1.73	\$1.84	\$2.02	\$2.20	\$2.38	\$2.55	\$2.71	\$2.85	\$3.01	\$3.17	\$3.35	\$114.11
Black Hills Corporation	BKH	(\$57.15)	\$0.00	\$1.06	\$1.98	\$2.21	\$2.35	\$2.51	\$2.66	\$2.83	\$3.01	\$3.21	\$3.43	\$3.66	\$3.86	\$4.07	\$4.30	\$146.47
CMS Energy Corporation	CMS	(\$44.59)	\$0.00	\$0.77	\$1.46	\$1.61	\$1.72	\$1.84	\$1.99	\$2.14	\$2.30	\$2.46	\$2.63	\$2.81	\$2.96	\$3.12	\$3.29	\$112.29
DTE Energy Company	DTE	(\$100.10)	\$0.00	\$2.02	\$3.81	\$4.12	\$4.35	\$4.59	\$4.94	\$5.30	\$5.69	\$6.10	\$6.53	\$6.98	\$7.36	\$7.77	\$8.19	\$279.17
Duke Energy Corporation	DUK	(\$75.51)	\$0.00	\$1.83	\$3.44	\$3.79	\$4.02	\$4.27	\$4.34	\$4.42	\$4.50	\$4.58	\$4.66	\$4.74	\$5.00	\$5.27	\$5.55	\$189.36
El Paso Electric	EE	(\$56.45)	\$0.00	\$0.79	\$1.48	\$1.65	\$1.76	\$1.88	\$2.00	\$2.12	\$2.26	\$2.41	\$2.57	\$2.74	\$2.89	\$3.05	\$3.21	\$109.58
Hawaiian Electric Industries, Inc.	HE	(\$33.60)	\$0.00	\$0.63	\$1.19	\$1.24	\$1.28	\$1.33	\$1.44	\$1.56	\$1.68	\$1.81	\$1.95	\$2.09	\$2.20	\$2.32	\$2.45	\$83.38
IDACORP, Inc.	IDA	(\$89.53)	\$0.00	\$1.35	\$2.53	\$2.80	\$2.97	\$3.15	\$3.29	\$3.45	\$3.63	\$3.83	\$4.05	\$4.30	\$4.54	\$4.78	\$5.04	\$171.97
NextEra Energy, Inc.	NEE	(\$159.84)	\$0.00	\$2.12	\$4.07	\$4.96	\$5.59	\$6.29	\$6.86	\$7.45	\$8.04	\$8.63	\$9.21	\$9.77	\$10.31	\$10.87	\$11.46	\$390.65
NorthWestern Corporation	NWE	(\$53.53)	\$0.00	\$1.20	\$2.24	\$2.35	\$2.43	\$2.50	\$2.61	\$2.72	\$2.85	\$2.99	\$3.16	\$3.34	\$3.53	\$3.72	\$3.92	\$133.70
OGE Energy Corp.	OGE	(\$34.04)	\$0.00	\$0.76	\$1.43	\$1.58	\$1.67	\$1.78	\$1.85	\$1.92	\$2.00	\$2.08	\$2.17	\$2.25	\$2.38	\$2.51	\$2.64	\$90.09
Otter Tail Corporation	OTTR	(\$45.22)	\$0.00	\$0.72	\$1.38	\$1.49	\$1.57	\$1.66	\$1.82	\$1.98	\$2.15	\$2.32	\$2.49	\$2.66	\$2.81	\$2.96	\$3.12	\$106.39
Pinnacle West Capital Corporation	PNW	(\$76.97)	\$0.00	\$1.59	\$2.98	\$3.18	\$3.32	\$3.47	\$3.65	\$3.85	\$4.07	\$4.30	\$4.56	\$4.84	\$5.10	\$5.38	\$5.67	\$193.44
PNM Resources, Inc.	PNM	(\$37.99)	\$0.00	\$0.59	\$1.11	\$1.17	\$1.21	\$1.26	\$1.40	\$1.55	\$1.72	\$1.89	\$2.08	\$2.29	\$2.41	\$2.54	\$2.68	\$91.38
Portland General Electric Company	POR	(\$41.01)	\$0.00	\$0.82	\$1.54	\$1.60	\$1.64	\$1.68	\$1.76	\$1.84	\$1.93	\$2.03	\$2.15	\$2.28	\$2.41	\$2.54	\$2.68	\$91.20
Southern Company	SO	(\$44.06)	\$0.00	\$1.45	\$2.70	\$2.73	\$2.77	\$2.81	\$2.86	\$2.92	\$2.99	\$3.07	\$3.16	\$3.26	\$3.44	\$3.62	\$3.82	\$130.24
WEC Energy Group, Inc.	WEC	(\$61.25)	\$0.00	\$1.19	\$2.24	\$2.37	\$2.48	\$2.59	\$2.73	\$2.89	\$3.05	\$3.23	\$3.42	\$3.62	\$3.82	\$4.02	\$4.24	\$144.67
Xcel Energy Inc.	XEL	(\$44.19)	\$0.00	\$0.82	\$1.55	\$1.70	\$1.80	\$1.91	\$2.03	\$2.16	\$2.30	\$2.44	\$2.59	\$2.75	\$2.90	\$3.06	\$3.23	\$109.96

Multi-Stage Growth Discounted Cash Flow Model - Terminal P/E
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]				
Company	Ticker	Stock Price	EPS Growth Rate Estimates				Long-Term Growth	Payout Ratio			Iterative Solution Proof	IRR	Terminal P/E Ratio	Terminal PEG Ratio				
			Zacks	First Call	Value Line	High Growth		2018	2022	2028								
ALLETE, Inc.	ALE	\$75.23	6.00%	6.00%	5.00%	6.00%	5.45%	65.00%	64.00%	65.57%	\$0.00	8.24%	20.54	3.77				
Alliant Energy Corporation	LNT	\$40.60	5.60%	5.85%	6.50%	6.50%	5.45%	64.00%	64.00%	65.57%	\$0.00	10.11%	20.54	3.77				
Ameren Corporation	AEE	\$57.18	6.50%	6.30%	7.50%	7.50%	5.45%	60.00%	59.00%	65.57%	\$0.00	10.47%	20.54	3.77				
American Electric Power Company, Inc.	AEP	\$66.01	5.70%	5.79%	4.50%	5.79%	5.45%	67.00%	63.00%	65.57%	\$0.00	10.79%	20.54	3.77				
Avangrid, Inc.	AGR	\$51.90	9.10%	10.40%	13.00%	13.00%	5.45%	76.00%	66.00%	65.57%	\$0.00	10.13%	20.54	3.77				
Black Hills Corporation	BKH	\$57.15	4.10%	3.86%	5.00%	5.00%	5.45%	55.00%	60.00%	65.57%	\$0.00	10.82%	20.54	3.77				
CMS Energy Corporation	CMS	\$44.60	6.40%	7.05%	7.00%	7.05%	5.45%	61.00%	61.00%	65.57%	\$0.00	10.29%	20.54	3.77				
DTE Energy Company	DTE	\$100.10	5.30%	5.59%	7.00%	7.00%	5.45%	61.00%	60.00%	65.57%	(\$0.00)	11.85%	20.54	3.77				
Duke Energy Corporation	DUK	\$75.51	4.70%	4.22%	5.50%	5.50%	5.45%	76.00%	80.00%	65.57%	(\$0.00)	11.29%	20.54	3.77				
El Paso Electric	EE	\$56.46	5.10%	5.20%	4.50%	5.20%	5.45%	57.00%	61.00%	65.57%	\$0.00	7.91%	20.54	3.77				
Hawaiian Electric Industries, Inc.	HE	\$33.60	7.10%	9.10%	3.50%	9.10%	5.45%	66.00%	59.00%	65.57%	(\$0.00)	11.60%	20.54	3.77				
IDACORP, Inc.	IDA	\$89.53	3.90%	3.10%	3.50%	3.90%	5.45%	57.00%	63.00%	65.57%	\$0.00	8.01%	20.54	3.77				
NextEra Energy, Inc.	NEE	\$159.84	8.60%	9.79%	8.50%	9.79%	5.45%	55.00%	63.00%	65.57%	(\$0.00)	10.22%	20.54	3.77				
NorthWestern Corporation	NWE	\$53.53	3.00%	3.16%	3.50%	3.50%	5.45%	64.00%	64.00%	65.57%	\$0.00	10.60%	20.54	3.77				
OGE Energy Corp.	OGE	\$34.04	6.00%	4.30%	6.00%	6.00%	5.45%	69.00%	71.00%	65.57%	(\$0.00)	11.41%	20.54	3.77				
Otter Tail Corporation	OTTR	\$45.22	NA	9.00%	7.50%	9.00%	5.45%	66.00%	60.00%	65.57%	\$0.00	9.89%	20.54	3.77				
Pinnacle West Capital Corporation	PNW	\$76.97	4.50%	3.78%	5.00%	5.00%	5.45%	63.00%	63.00%	65.57%	\$0.00	10.72%	20.54	3.77				
PNM Resources, Inc.	PNM	\$38.00	5.10%	4.30%	7.50%	7.50%	5.45%	53.00%	50.00%	65.57%	\$0.00	10.61%	20.54	3.77				
Portland General Electric Company	POR	\$41.01	2.80%	2.65%	4.00%	4.00%	5.45%	64.00%	63.00%	65.57%	\$0.00	9.79%	20.54	3.77				
Southern Company	SO	\$44.06	4.50%	2.72%	3.00%	4.50%	5.45%	80.00%	74.00%	65.57%	(\$0.00)	13.40%	20.54	3.77				
WEC Energy Group, Inc.	WEC	\$61.25	4.10%	4.43%	7.00%	7.00%	5.45%	66.00%	64.00%	65.57%	(\$0.00)	10.89%	20.54	3.77				
Xcel Energy Inc.	XEL	\$44.19	5.70%	5.89%	5.50%	5.89%	5.45%	62.00%	63.00%	65.57%	\$0.00	10.27%	20.54	3.77				
											Mean	10.42%						
											Max	13.40%						
											Min	7.91%						
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
ALLETE, Inc.	ALE	\$3.13	\$3.32	\$3.52	\$3.73	\$3.95	\$4.19	\$4.44	\$4.69	\$4.96	\$5.24	\$5.53	\$5.83	\$6.15	\$6.49	\$6.84	\$7.21	
Alliant Energy Corporation	LNT	\$1.99	\$2.12	\$2.26	\$2.40	\$2.56	\$2.73	\$2.90	\$3.08	\$3.26	\$3.45	\$3.64	\$3.84	\$4.05	\$4.27	\$4.51	\$4.75	
Ameren Corporation	AEE	\$2.77	\$2.98	\$3.20	\$3.44	\$3.70	\$3.98	\$4.26	\$4.55	\$4.85	\$5.14	\$5.44	\$5.74	\$6.05	\$6.38	\$6.73	\$7.09	
American Electric Power Company, Inc.	AEP	\$3.62	\$3.83	\$4.05	\$4.29	\$4.53	\$4.80	\$5.07	\$5.36	\$5.66	\$5.98	\$6.30	\$6.65	\$7.01	\$7.39	\$7.79	\$8.22	
Avangrid, Inc.	AGR	\$1.67	\$1.89	\$2.13	\$2.41	\$2.72	\$3.08	\$3.44	\$3.80	\$4.15	\$4.48	\$4.78	\$5.04	\$5.31	\$5.60	\$5.91	\$6.23	
Black Hills Corporation	BKH	\$3.38	\$3.55	\$3.73	\$3.91	\$4.11	\$4.31	\$4.53	\$4.77	\$5.02	\$5.28	\$5.56	\$5.87	\$6.19	\$6.52	\$6.88	\$7.25	
CMS Energy Corporation	CMS	\$2.17	\$2.32	\$2.49	\$2.66	\$2.85	\$3.05	\$3.26	\$3.47	\$3.69	\$3.91	\$4.13	\$4.36	\$4.59	\$4.84	\$5.11	\$5.38	
DTE Energy Company	DTE	\$5.73	\$6.13	\$6.56	\$7.02	\$7.51	\$8.04	\$8.58	\$9.13	\$9.70	\$10.28	\$10.87	\$11.46	\$12.08	\$12.74	\$13.44	\$14.17	
Duke Energy Corporation	DUK	\$4.22	\$4.45	\$4.70	\$4.96	\$5.23	\$5.52	\$5.82	\$6.14	\$6.47	\$6.83	\$7.20	\$7.59	\$8.00	\$8.44	\$8.90	\$9.39	
El Paso Electric	EE	\$2.42	\$2.55	\$2.68	\$2.82	\$2.96	\$3.12	\$3.28	\$3.45	\$3.64	\$3.83	\$4.04	\$4.26	\$4.49	\$4.74	\$5.00	\$5.27	
Hawaiian Electric Industries, Inc.	HE	\$1.64	\$1.79	\$1.95	\$2.13	\$2.32	\$2.53	\$2.75	\$2.97	\$3.18	\$3.39	\$3.60	\$3.80	\$4.00	\$4.22	\$4.45	\$4.69	
IDACORP, Inc.	IDA	\$4.21	\$4.37	\$4.54	\$4.72	\$4.91	\$5.10	\$5.31	\$5.54	\$5.80	\$6.09	\$6.41	\$6.75	\$7.12	\$7.51	\$7.92	\$8.35	
NextEra Energy, Inc.	NEE	\$6.50	\$7.14	\$7.83	\$8.60	\$9.44	\$10.37	\$11.31	\$12.25	\$13.19	\$14.09	\$14.96	\$15.78	\$16.64	\$17.54	\$18.50	\$19.51	
NorthWestern Corporation	NWE	\$3.34	\$3.46	\$3.58	\$3.70	\$3.83	\$3.97	\$4.12	\$4.29	\$4.48	\$4.70	\$4.94	\$5.21	\$5.49	\$5.79	\$6.10	\$6.44	
OGE Energy Corp.	OGE	\$1.92	\$2.04	\$2.16	\$2.29	\$2.42	\$2.57	\$2.72	\$2.88	\$3.04	\$3.22	\$3.39	\$3.58	\$3.77	\$3.98	\$4.20	\$4.42	
Otter Tail Corporation	OTTR	\$1.86	\$2.03	\$2.21	\$2.41	\$2.63	\$2.86	\$3.10	\$3.34	\$3.59	\$3.82	\$4.06	\$4.28	\$4.51	\$4.75	\$5.01	\$5.29	
Pinnacle West Capital Corporation	PNW	\$4.43	\$4.65	\$4.88	\$5.13	\$5.38	\$5.65	\$5.94	\$6.25	\$6.57	\$6.92	\$7.29	\$7.69	\$8.11	\$8.55	\$9.02	\$9.51	
PNM Resources, Inc.	PNM	\$1.92	\$2.06	\$2.22	\$2.39	\$2.56	\$2.76	\$2.95	\$3.16	\$3.36	\$3.57	\$3.77	\$3.98	\$4.19	\$4.42	\$4.66	\$4.92	
Portland General Electric Company	POR	\$2.29	\$2.38	\$2.48	\$2.58	\$2.68	\$2.79	\$2.90	\$3.03	\$3.18	\$3.34	\$3.51	\$3.70	\$3.90	\$4.11	\$4.34	\$4.57	
Southern Company	SO	\$3.21	\$3.35	\$3.51	\$3.66	\$3.83	\$4.00	\$4.19	\$4.39	\$4.61	\$4.84	\$5.10	\$5.38	\$5.67	\$5.98	\$6.30	\$6.65	
WEC Energy Group, Inc.	WEC	\$3.14	\$3.36	\$3.59	\$3.85	\$4.12	\$4.40	\$4.70	\$5.01	\$5.32	\$5.63	\$5.96	\$6.28	\$6.62	\$6.98	\$7.36	\$7.76	
Xcel Energy Inc.	XEL	\$2.30	\$2.44	\$2.58	\$2.73	\$2.89	\$3.06	\$3.24	\$3.43	\$3.62	\$3.82	\$4.03	\$4.25	\$4.49	\$4.73	\$4.99	\$5.26	

Projected Annual Dividend Payout Ratio		[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	65.00%	64.75%	64.50%	64.25%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Ameren Corporation	AEE	60.00%	59.75%	59.50%	59.25%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
American Electric Power Company, Inc.	AEP	67.00%	66.00%	65.00%	64.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Avangrid, Inc.	AGR	76.00%	73.50%	71.00%	68.50%	66.00%	65.93%	65.86%	65.79%	65.71%	65.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Black Hills Corporation	BKH	55.00%	56.25%	57.50%	58.75%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
DTE Energy Company	DTE	61.00%	60.75%	60.50%	60.25%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Duke Energy Corporation	DUK	76.00%	77.00%	78.00%	79.00%	80.00%	77.60%	75.19%	72.79%	70.38%	67.98%	65.57%	65.57%	65.57%	65.57%	65.57%
El Paso Electric	EE	57.00%	58.00%	59.00%	60.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
Hawaiian Electric Industries, Inc.	HE	66.00%	64.25%	62.50%	60.75%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
IDACORP, Inc.	IDA	57.00%	58.50%	60.00%	61.50%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NextEra Energy, Inc.	NEE	55.00%	57.00%	59.00%	61.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NorthWestern Corporation	NWE	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
OGE Energy Corp.	OGE	69.00%	69.50%	70.00%	70.50%	71.00%	70.10%	69.19%	68.29%	67.38%	66.48%	65.57%	65.57%	65.57%	65.57%	65.57%
Otter Tail Corporation	OTTR	66.00%	64.50%	63.00%	61.50%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Pinnacle West Capital Corporation	PNW	63.00%	63.00%	63.00%	63.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
PNM Resources, Inc.	PNM	53.00%	52.25%	51.50%	50.75%	50.00%	52.60%	55.19%	57.79%	60.38%	62.98%	65.57%	65.57%	65.57%	65.57%	65.57%
Portland General Electric Company	POR	64.00%	63.75%	63.50%	63.25%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Southern Company	SO	80.00%	78.50%	77.00%	75.50%	74.00%	72.60%	71.19%	69.79%	68.38%	66.98%	65.57%	65.57%	65.57%	65.57%	65.57%
WEC Energy Group, Inc.	WEC	66.00%	65.50%	65.00%	64.50%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Xcel Energy Inc.	XEL	62.00%	62.25%	62.50%	62.75%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%

Projected Annual Cash Flows		[45]	[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	Terminal Value
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032		
ALLETE, Inc.	ALE	\$2.16	\$2.28	\$2.40	\$2.54	\$2.68	\$2.85	\$3.03	\$3.22	\$3.41	\$3.61	\$3.83	\$4.03	\$4.25	\$4.48	\$4.73	\$148.16	
Alliant Energy Corporation	LNT	\$1.36	\$1.44	\$1.54	\$1.64	\$1.74	\$1.86	\$1.99	\$2.11	\$2.24	\$2.38	\$2.52	\$2.66	\$2.80	\$2.95	\$3.11	\$97.59	
Ameren Corporation	AEE	\$1.79	\$1.91	\$2.05	\$2.19	\$2.35	\$2.56	\$2.79	\$3.02	\$3.26	\$3.51	\$3.76	\$3.97	\$4.18	\$4.41	\$4.65	\$145.72	
American Electric Power Company, Inc.	AEP	\$2.57	\$2.67	\$2.79	\$2.90	\$3.02	\$3.22	\$3.42	\$3.64	\$3.87	\$4.11	\$4.36	\$4.60	\$4.85	\$5.11	\$5.39	\$168.83	
Avangrid, Inc.	AGR	\$1.43	\$1.57	\$1.71	\$1.87	\$2.03	\$2.27	\$2.50	\$2.73	\$2.94	\$3.14	\$3.30	\$3.48	\$3.67	\$3.87	\$4.09	\$128.00	
Black Hills Corporation	BKH	\$1.95	\$2.10	\$2.25	\$2.41	\$2.59	\$2.76	\$2.95	\$3.15	\$3.36	\$3.60	\$3.85	\$4.06	\$4.28	\$4.51	\$4.76	\$149.02	
CMS Energy Corporation	CMS	\$1.42	\$1.52	\$1.62	\$1.74	\$1.86	\$2.01	\$2.17	\$2.33	\$2.50	\$2.68	\$2.86	\$3.01	\$3.18	\$3.35	\$3.53	\$110.61	
DTE Energy Company	DTE	\$3.74	\$3.99	\$4.25	\$4.53	\$4.82	\$5.23	\$5.65	\$6.09	\$6.55	\$7.03	\$7.51	\$7.92	\$8.36	\$8.81	\$9.29	\$291.06	
Duke Energy Corporation	DUK	\$3.38	\$3.62	\$3.87	\$4.13	\$4.41	\$4.51	\$4.61	\$4.71	\$4.80	\$4.89	\$4.98	\$5.25	\$5.53	\$5.84	\$6.15	\$192.80	
El Paso Electric	EE	\$1.45	\$1.55	\$1.66	\$1.78	\$1.90	\$2.03	\$2.16	\$2.30	\$2.46	\$2.62	\$2.79	\$2.95	\$3.11	\$3.28	\$3.45	\$108.23	
Hawaiian Electric Industries, Inc.	HE	\$1.18	\$1.25	\$1.33	\$1.41	\$1.50	\$1.65	\$1.82	\$1.98	\$2.15	\$2.32	\$2.49	\$2.62	\$2.77	\$2.92	\$3.08	\$96.42	
IDACORP, Inc.	IDA	\$2.49	\$2.66	\$2.83	\$3.02	\$3.21	\$3.37	\$3.54	\$3.73	\$3.94	\$4.17	\$4.43	\$4.67	\$4.92	\$5.19	\$5.47	\$171.53	
NextEra Energy, Inc.	NEE	\$3.92	\$4.47	\$5.08	\$5.76	\$6.53	\$7.17	\$7.82	\$8.48	\$9.12	\$9.75	\$10.35	\$10.91	\$11.50	\$12.13	\$12.79	\$400.75	
NorthWestern Corporation	NWE	\$2.21	\$2.29	\$2.37	\$2.45	\$2.54	\$2.65	\$2.77	\$2.90	\$3.05	\$3.22	\$3.41	\$3.60	\$3.80	\$4.00	\$4.22	\$132.21	
OGE Energy Corp.	OGE	\$1.40	\$1.50	\$1.60	\$1.71	\$1.82	\$1.91	\$1.99	\$2.08	\$2.17	\$2.26	\$2.35	\$2.47	\$2.61	\$2.75	\$2.90	\$90.89	
Otter Tail Corporation	OTTR	\$1.34	\$1.43	\$1.52	\$1.61	\$1.72	\$1.89	\$2.07	\$2.25	\$2.44	\$2.62	\$2.80	\$2.96	\$3.12	\$3.29	\$3.47	\$108.60	
Pinnacle West Capital Corporation	PNW	\$2.93	\$3.08	\$3.23	\$3.39	\$3.56	\$3.77	\$3.99	\$4.23	\$4.48	\$4.75	\$5.04	\$5.32	\$5.61	\$5.91	\$6.23	\$195.31	
PNM Resources, Inc.	PNM	\$1.09	\$1.16	\$1.23	\$1.30	\$1.38	\$1.55	\$1.74	\$1.94	\$2.15	\$2.38	\$2.61	\$2.75	\$2.90	\$3.06	\$3.22	\$101.01	
Portland General Electric Company	POR	\$1.52	\$1.58	\$1.64	\$1.69	\$1.76	\$1.84	\$1.94	\$2.04	\$2.16	\$2.29	\$2.43	\$2.56	\$2.70	\$2.84	\$3.00	\$93.98	
Southern Company	SO	\$2.68	\$2.75	\$2.82	\$2.89	\$2.96	\$3.04	\$3.12	\$3.21	\$3.31	\$3.41	\$3.53	\$3.72	\$3.92	\$4.13	\$4.36	\$136.55	
WEC Energy Group, Inc.	WEC	\$2.22	\$2.35	\$2.50	\$2.65	\$2.82	\$3.02	\$3.23	\$3.44	\$3.66	\$3.89	\$4.12	\$4.34	\$4.58	\$4.83	\$5.09	\$159.50	
Xcel Energy Inc.	XEL	\$1.51	\$1.61	\$1.71	\$1.81	\$1.93	\$2.06	\$2.19	\$2.33	\$2.47	\$2.63	\$2.79	\$2.94	\$3.10	\$3.27	\$3.45	\$108.03	

Projected Annual Data

Investor Cash Flows		[61]	[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]
		Initial																
Company	Ticker	Outflow	6/15/18	12/31/18	6/30/19	6/30/20	6/30/21	6/30/22	6/30/23	6/30/24	6/30/25	6/30/26	6/30/27	6/30/28	6/30/29	6/30/30	6/30/31	6/30/32
ALLETE, Inc.	ALE	(\$75.23)	\$0.00	\$1.18	\$2.22	\$2.40	\$2.54	\$2.68	\$2.85	\$3.03	\$3.22	\$3.41	\$3.61	\$3.83	\$4.03	\$4.25	\$4.48	\$152.89
Alliant Energy Corporation	LNT	(\$40.60)	\$0.00	\$0.74	\$1.40	\$1.54	\$1.64	\$1.74	\$1.86	\$1.99	\$2.11	\$2.24	\$2.38	\$2.52	\$2.66	\$2.80	\$2.95	\$100.70
Ameren Corporation	AEE	(\$57.18)	\$0.00	\$0.97	\$1.85	\$2.05	\$2.19	\$2.35	\$2.56	\$2.79	\$3.02	\$3.26	\$3.51	\$3.76	\$3.97	\$4.18	\$4.41	\$150.37
American Electric Power Company, Inc.	AEP	(\$66.01)	\$0.00	\$1.40	\$2.64	\$2.79	\$2.90	\$3.02	\$3.22	\$3.42	\$3.64	\$3.87	\$4.11	\$4.36	\$4.60	\$4.85	\$5.11	\$174.22
Avangrid, Inc.	AGR	(\$51.89)	\$0.00	\$0.78	\$1.53	\$1.71	\$1.87	\$2.03	\$2.27	\$2.50	\$2.73	\$2.94	\$3.14	\$3.30	\$3.48	\$3.67	\$3.87	\$132.09
Black Hills Corporation	BKH	(\$57.15)	\$0.00	\$1.06	\$2.00	\$2.25	\$2.41	\$2.59	\$2.76	\$2.95	\$3.15	\$3.36	\$3.60	\$3.85	\$4.06	\$4.28	\$4.51	\$153.78
CMS Energy Corporation	CMS	(\$44.59)	\$0.00	\$0.77	\$1.47	\$1.62	\$1.74	\$1.86	\$2.01	\$2.17	\$2.33	\$2.50	\$2.68	\$2.86	\$3.01	\$3.18	\$3.35	\$114.14
DTE Energy Company	DTE	(\$100.10)	\$0.00	\$2.04	\$3.87	\$4.25	\$4.53	\$4.82	\$5.23	\$5.65	\$6.09	\$6.55	\$7.03	\$7.51	\$7.92	\$8.36	\$8.81	\$300.35
Duke Energy Corporation	DUK	(\$75.51)	\$0.00	\$1.84	\$3.48	\$3.87	\$4.13	\$4.41	\$4.51	\$4.61	\$4.71	\$4.80	\$4.89	\$4.98	\$5.25	\$5.53	\$5.84	\$198.95
El Paso Electric	EE	(\$56.45)	\$0.00	\$0.79	\$1.49	\$1.66	\$1.78	\$1.90	\$2.03	\$2.16	\$2.30	\$2.46	\$2.62	\$2.79	\$2.95	\$3.11	\$3.28	\$111.68
Hawaiian Electric Industries, Inc.	HE	(\$33.60)	\$0.00	\$0.64	\$1.23	\$1.33	\$1.41	\$1.50	\$1.65	\$1.82	\$1.98	\$2.15	\$2.32	\$2.49	\$2.62	\$2.77	\$2.92	\$99.50
IDACORP, Inc.	IDA	(\$89.53)	\$0.00	\$1.36	\$2.54	\$2.83	\$3.02	\$3.21	\$3.37	\$3.54	\$3.73	\$3.94	\$4.17	\$4.43	\$4.67	\$4.92	\$5.19	\$177.01
NextEra Energy, Inc.	NEE	(\$159.84)	\$0.00	\$2.14	\$4.12	\$5.08	\$5.76	\$6.53	\$7.17	\$7.82	\$8.48	\$9.12	\$9.75	\$10.35	\$10.91	\$11.50	\$12.13	\$413.55
NorthWestern Corporation	NWE	(\$53.53)	\$0.00	\$1.21	\$2.25	\$2.37	\$2.45	\$2.54	\$2.65	\$2.77	\$2.90	\$3.05	\$3.22	\$3.41	\$3.60	\$3.80	\$4.00	\$136.43
OGE Energy Corp.	OGE	(\$34.04)	\$0.00	\$0.77	\$1.45	\$1.60	\$1.71	\$1.82	\$1.91	\$1.99	\$2.08	\$2.17	\$2.26	\$2.35	\$2.47	\$2.61	\$2.75	\$93.79
Otter Tail Corporation	OTTR	(\$45.22)	\$0.00	\$0.73	\$1.40	\$1.52	\$1.61	\$1.72	\$1.89	\$2.07	\$2.25	\$2.44	\$2.62	\$2.80	\$2.96	\$3.12	\$3.29	\$112.07
Pinnacle West Capital Corporation	PNW	(\$76.97)	\$0.00	\$1.60	\$3.00	\$3.23	\$3.39	\$3.56	\$3.77	\$3.99	\$4.23	\$4.48	\$4.75	\$5.04	\$5.32	\$5.61	\$5.91	\$201.55
PNM Resources, Inc.	PNM	(\$37.99)	\$0.00	\$0.60	\$1.13	\$1.23	\$1.30	\$1.38	\$1.55	\$1.74	\$1.94	\$2.15	\$2.38	\$2.61	\$2.75	\$2.90	\$3.06	\$104.23
Portland General Electric Company	POR	(\$41.01)	\$0.00	\$0.83	\$1.55	\$1.64	\$1.69	\$1.76	\$1.84	\$1.94	\$2.04	\$2.16	\$2.29	\$2.43	\$2.56	\$2.70	\$2.84	\$96.98
Southern Company	SO	(\$44.06)	\$0.00	\$1.46	\$2.74	\$2.82	\$2.89	\$2.96	\$3.04	\$3.12	\$3.21	\$3.31	\$3.41	\$3.53	\$3.72	\$3.92	\$4.13	\$140.91
WEC Energy Group, Inc.	WEC	(\$61.25)	\$0.00	\$1.21	\$2.30	\$2.50	\$2.65	\$2.82	\$3.02	\$3.23	\$3.44	\$3.66	\$3.89	\$4.12	\$4.34	\$4.58	\$4.83	\$164.59
Xcel Energy Inc.	XEL	(\$44.19)	\$0.00	\$0.82	\$1.55	\$1.71	\$1.81	\$1.93	\$2.06	\$2.19	\$2.33	\$2.47	\$2.63	\$2.79	\$2.94	\$3.10	\$3.27	\$111.48

Multi-Stage Growth Discounted Cash Flow Model - Terminal P/E
30 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					
			Value		Low													
Company	Ticker	Price	Zacks	First Call	Line	Growth	Growth	2018	2022	2028	Proof	IRR	P/E Ratio	PEG Ratio				
ALLETE, Inc.	ALE	\$75.23	6.00%	6.00%	5.00%	5.00%	5.45%	65.00%	64.00%	65.57%	\$0.00	7.63%	20.54	3.77				
Alliant Energy Corporation	LNT	\$40.60	5.60%	5.85%	6.50%	5.60%	5.45%	64.00%	64.00%	65.57%	\$0.00	9.55%	20.54	3.77				
Ameren Corporation	AEE	\$57.18	6.50%	6.30%	7.50%	6.30%	5.45%	60.00%	59.00%	65.57%	\$0.00	9.73%	20.54	3.77				
American Electric Power Company, Inc.	AEP	\$66.01	5.70%	5.79%	4.50%	4.50%	5.45%	67.00%	63.00%	65.57%	\$0.00	9.97%	20.54	3.77				
Avangrid, Inc.	AGR	\$51.90	9.10%	10.40%	13.00%	9.10%	5.45%	76.00%	66.00%	65.57%	\$0.00	7.83%	20.54	3.77				
Black Hills Corporation	BKH	\$57.15	4.10%	3.86%	5.00%	3.86%	5.45%	55.00%	60.00%	65.57%	\$0.00	10.09%	20.54	3.77				
CMS Energy Corporation	CMS	\$44.60	6.40%	7.05%	7.00%	6.40%	5.45%	61.00%	61.00%	65.57%	\$0.00	9.88%	20.54	3.77				
DTE Energy Company	DTE	\$100.10	5.30%	5.59%	7.00%	5.30%	5.45%	61.00%	60.00%	65.57%	\$0.00	10.76%	20.54	3.77				
Duke Energy Corporation	DUK	\$75.51	4.70%	4.22%	5.50%	4.22%	5.45%	76.00%	80.00%	65.57%	\$0.00	10.45%	20.54	3.77				
El Paso Electric	EE	\$56.46	5.10%	5.20%	4.50%	4.50%	5.45%	57.00%	61.00%	65.57%	\$0.00	7.48%	20.54	3.77				
Hawaiian Electric Industries, Inc.	HE	\$33.60	7.10%	9.10%	3.50%	3.50%	5.45%	66.00%	59.00%	65.57%	\$0.00	8.13%	20.54	3.77				
IDACORP, Inc.	IDA	\$89.53	3.90%	3.10%	3.50%	3.10%	5.45%	57.00%	63.00%	65.57%	\$0.00	7.51%	20.54	3.77				
NextEra Energy, Inc.	NEE	\$159.84	8.60%	9.79%	8.50%	8.50%	5.45%	55.00%	63.00%	65.57%	(\$0.00)	9.44%	20.54	3.77				
NorthWestern Corporation	NWE	\$53.53	3.00%	3.16%	3.50%	3.00%	5.45%	64.00%	64.00%	65.57%	\$0.00	10.27%	20.54	3.77				
OGE Energy Corp.	OGE	\$34.04	6.00%	4.30%	6.00%	4.30%	5.45%	69.00%	71.00%	65.57%	\$0.00	10.32%	20.54	3.77				
Otter Tail Corporation	OTTR	\$45.22	NA	9.00%	7.50%	7.50%	5.45%	66.00%	60.00%	65.57%	\$0.00	8.98%	20.54	3.77				
Pinnacle West Capital Corporation	PNW	\$76.97	4.50%	3.78%	5.00%	3.78%	5.45%	63.00%	63.00%	65.57%	(\$0.00)	9.94%	20.54	3.77				
PNM Resources, Inc.	PNM	\$38.00	5.10%	4.30%	7.50%	4.30%	5.45%	53.00%	50.00%	65.57%	\$0.00	8.64%	20.54	3.77				
Portland General Electric Company	POR	\$41.01	2.80%	2.65%	4.00%	2.65%	5.45%	64.00%	63.00%	65.57%	\$0.00	8.93%	20.54	3.77				
Southern Company	SO	\$44.06	4.50%	2.72%	3.00%	2.72%	5.45%	80.00%	74.00%	65.57%	(\$0.00)	12.19%	20.54	3.77				
WEC Energy Group, Inc.	WEC	\$61.25	4.10%	4.43%	7.00%	4.10%	5.45%	66.00%	64.00%	65.57%	\$0.00	9.06%	20.54	3.77				
Xcel Energy Inc.	XEL	\$44.19	5.70%	5.89%	5.50%	5.50%	5.45%	62.00%	63.00%	65.57%	\$0.00	10.03%	20.54	3.77				
											Mean	9.40%						
											Max	12.19%						
											Min	7.48%						
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
ALLETE, Inc.	ALE	\$3.13	\$3.29	\$3.45	\$3.62	\$3.80	\$3.99	\$4.20	\$4.41	\$4.64	\$4.89	\$5.15	\$5.43	\$5.73	\$6.04	\$6.37	\$6.72	
Alliant Energy Corporation	LNT	\$1.99	\$2.10	\$2.22	\$2.34	\$2.47	\$2.61	\$2.76	\$2.91	\$3.07	\$3.24	\$3.42	\$3.61	\$3.80	\$4.01	\$4.23	\$4.46	
Ameren Corporation	AEE	\$2.77	\$2.94	\$3.13	\$3.33	\$3.54	\$3.76	\$3.99	\$4.23	\$4.48	\$4.74	\$5.00	\$5.27	\$5.56	\$5.86	\$6.18	\$6.52	
American Electric Power Company, Inc.	AEP	\$3.62	\$3.78	\$3.95	\$4.13	\$4.32	\$4.51	\$4.72	\$4.95	\$5.19	\$5.46	\$5.75	\$6.06	\$6.39	\$6.74	\$7.11	\$7.50	
Avangrid, Inc.	AGR	\$1.67	\$1.82	\$1.99	\$2.17	\$2.37	\$2.58	\$2.80	\$3.02	\$3.24	\$3.46	\$3.67	\$3.87	\$4.08	\$4.30	\$4.53	\$4.78	
Black Hills Corporation	BKH	\$3.38	\$3.51	\$3.65	\$3.79	\$3.93	\$4.08	\$4.25	\$4.44	\$4.65	\$4.87	\$5.13	\$5.41	\$5.70	\$6.01	\$6.34	\$6.68	
CMS Energy Corporation	CMS	\$2.17	\$2.31	\$2.46	\$2.61	\$2.78	\$2.96	\$3.14	\$3.34	\$3.53	\$3.74	\$3.95	\$4.16	\$4.39	\$4.63	\$4.88	\$5.14	
DTE Energy Company	DTE	\$5.73	\$6.03	\$6.35	\$6.69	\$7.04	\$7.42	\$7.81	\$8.23	\$8.67	\$9.14	\$9.64	\$10.16	\$10.72	\$11.30	\$11.91	\$12.56	
Duke Energy Corporation	DUK	\$4.22	\$4.40	\$4.58	\$4.78	\$4.98	\$5.19	\$5.42	\$5.67	\$5.94	\$6.24	\$6.57	\$6.93	\$7.30	\$7.70	\$8.12	\$8.56	
El Paso Electric	EE	\$2.42	\$2.53	\$2.64	\$2.76	\$2.89	\$3.02	\$3.16	\$3.31	\$3.47	\$3.65	\$3.84	\$4.05	\$4.27	\$4.51	\$4.75	\$5.01	
Hawaiian Electric Industries, Inc.	HE	\$1.64	\$1.70	\$1.76	\$1.82	\$1.88	\$1.95	\$2.02	\$2.11	\$2.20	\$2.31	\$2.42	\$2.56	\$2.70	\$2.84	\$3.00	\$3.16	
IDACORP, Inc.	IDA	\$4.21	\$4.34	\$4.48	\$4.61	\$4.76	\$4.90	\$5.08	\$5.27	\$5.50	\$5.75	\$6.05	\$6.37	\$6.72	\$7.09	\$7.47	\$7.88	
NextEra Energy, Inc.	NEE	\$6.50	\$7.05	\$7.65	\$8.30	\$9.01	\$9.77	\$10.55	\$11.34	\$12.14	\$12.92	\$13.69	\$14.43	\$15.22	\$16.05	\$16.92	\$17.85	
NorthWestern Corporation	NWE	\$3.34	\$3.44	\$3.54	\$3.65	\$3.76	\$3.87	\$4.00	\$4.16	\$4.33	\$4.53	\$4.76	\$5.02	\$5.29	\$5.58	\$5.89	\$6.21	
OGE Energy Corp.	OGE	\$1.92	\$2.00	\$2.09	\$2.18	\$2.27	\$2.37	\$2.48	\$2.59	\$2.72	\$2.86	\$3.01	\$3.17	\$3.34	\$3.52	\$3.72	\$3.92	
Otter Tail Corporation	OTTR	\$1.86	\$2.00	\$2.15	\$2.31	\$2.48	\$2.67	\$2.86	\$3.06	\$3.25	\$3.45	\$3.65	\$3.85	\$4.06	\$4.28	\$4.52	\$4.76	
Pinnacle West Capital Corporation	PNW	\$4.43	\$4.60	\$4.77	\$4.95	\$5.14	\$5.33	\$5.55	\$5.79	\$6.06	\$6.35	\$6.68	\$7.05	\$7.43	\$7.83	\$8.26	\$8.71	
PNM Resources, Inc.	PNM	\$1.92	\$2.00	\$2.09	\$2.18	\$2.27	\$2.37	\$2.48	\$2.59	\$2.72	\$2.86	\$3.01	\$3.17	\$3.34	\$3.52	\$3.72	\$3.92	
Portland General Electric Company	POR	\$2.29	\$2.35	\$2.41	\$2.48	\$2.54	\$2.61	\$2.69	\$2.79	\$2.90	\$3.03	\$3.18	\$3.36	\$3.54	\$3.73	\$3.93	\$4.15	
Southern Company	SO	\$3.21	\$3.30	\$3.39	\$3.48	\$3.57	\$3.67	\$3.79	\$3.92	\$4.09	\$4.27	\$4.48	\$4.73	\$4.99	\$5.26	\$5.54	\$5.85	
WEC Energy Group, Inc.	WEC	\$3.14	\$3.27	\$3.40	\$3.54	\$3.69	\$3.84	\$4.00	\$4.19	\$4.39	\$4.61	\$4.85	\$5.11	\$5.39	\$5.68	\$5.99	\$6.32	
Xcel Energy Inc.	XEL	\$2.30	\$2.43	\$2.56	\$2.70	\$2.85	\$3.01	\$3.17	\$3.34	\$3.53	\$3.72	\$3.92	\$4.14	\$4.36	\$4.60	\$4.85	\$5.12	

Projected Annual Dividend Payout Ratio		[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	65.00%	64.75%	64.50%	64.25%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Ameren Corporation	AEE	60.00%	59.75%	59.50%	59.25%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
American Electric Power Company, Inc.	AEP	67.00%	66.00%	65.00%	64.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Avangrid, Inc.	AGR	76.00%	73.50%	71.00%	68.50%	66.00%	65.93%	65.86%	65.79%	65.71%	65.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Black Hills Corporation	BKH	55.00%	56.25%	57.50%	58.75%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
DTE Energy Company	DTE	61.00%	60.75%	60.50%	60.25%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Duke Energy Corporation	DUK	76.00%	77.00%	78.00%	79.00%	80.00%	77.60%	75.19%	72.79%	70.38%	67.98%	65.57%	65.57%	65.57%	65.57%	65.57%
El Paso Electric	EE	57.00%	58.00%	59.00%	60.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
Hawaiian Electric Industries, Inc.	HE	66.00%	64.25%	62.50%	60.75%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
IDACORP, Inc.	IDA	57.00%	58.50%	60.00%	61.50%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NextEra Energy, Inc.	NEE	55.00%	57.00%	59.00%	61.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NorthWestern Corporation	NWE	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
OGE Energy Corp.	OGE	69.00%	69.50%	70.00%	70.50%	71.00%	70.10%	69.19%	68.29%	67.38%	66.48%	65.57%	65.57%	65.57%	65.57%	65.57%
Otter Tail Corporation	OTTR	66.00%	64.50%	63.00%	61.50%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Pinnacle West Capital Corporation	PNW	63.00%	63.00%	63.00%	63.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
PNM Resources, Inc.	PNM	53.00%	52.25%	51.50%	50.75%	50.00%	52.60%	55.19%	57.79%	60.38%	62.98%	65.57%	65.57%	65.57%	65.57%	65.57%
Portland General Electric Company	POR	64.00%	63.75%	63.50%	63.25%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Southern Company	SO	80.00%	78.50%	77.00%	75.50%	74.00%	72.60%	71.19%	69.79%	68.38%	66.98%	65.57%	65.57%	65.57%	65.57%	65.57%
WEC Energy Group, Inc.	WEC	66.00%	65.50%	65.00%	64.50%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Xcel Energy Inc.	XEL	62.00%	62.25%	62.50%	62.75%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%

Projected Annual Cash Flows		[45]	[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.14	\$2.23	\$2.34	\$2.44	\$2.56	\$2.70	\$2.85	\$3.01	\$3.18	\$3.37	\$3.56	\$3.76	\$3.96	\$4.18	\$4.40	\$138.00
Alliant Energy Corporation	LNT	\$1.34	\$1.42	\$1.50	\$1.58	\$1.67	\$1.77	\$1.88	\$1.99	\$2.11	\$2.23	\$2.36	\$2.49	\$2.63	\$2.77	\$2.92	\$91.57
Ameren Corporation	AEE	\$1.77	\$1.87	\$1.98	\$2.10	\$2.22	\$2.40	\$2.59	\$2.79	\$3.00	\$3.22	\$3.46	\$3.65	\$3.84	\$4.05	\$4.27	\$133.93
American Electric Power Company, Inc.	AEP	\$2.53	\$2.61	\$2.69	\$2.76	\$2.84	\$2.99	\$3.16	\$3.34	\$3.53	\$3.75	\$3.98	\$4.19	\$4.42	\$4.66	\$4.92	\$153.99
Avangrid, Inc.	AGR	\$1.38	\$1.46	\$1.54	\$1.62	\$1.70	\$1.85	\$1.99	\$2.13	\$2.27	\$2.41	\$2.53	\$2.67	\$2.82	\$2.97	\$3.13	\$98.19
Black Hills Corporation	BKH	\$1.93	\$2.05	\$2.18	\$2.31	\$2.45	\$2.59	\$2.75	\$2.92	\$3.11	\$3.31	\$3.55	\$3.74	\$3.94	\$4.16	\$4.38	\$137.32
CMS Energy Corporation	CMS	\$1.41	\$1.50	\$1.59	\$1.70	\$1.81	\$1.94	\$2.09	\$2.24	\$2.39	\$2.56	\$2.73	\$2.88	\$3.03	\$3.20	\$3.37	\$105.67
DTE Energy Company	DTE	\$3.68	\$3.86	\$4.05	\$4.24	\$4.45	\$4.76	\$5.09	\$5.45	\$5.82	\$6.23	\$6.66	\$7.03	\$7.41	\$7.81	\$8.24	\$258.09
Duke Energy Corporation	DUK	\$3.34	\$3.53	\$3.73	\$3.93	\$4.15	\$4.20	\$4.26	\$4.33	\$4.39	\$4.47	\$4.54	\$4.79	\$5.05	\$5.33	\$5.62	\$175.94
El Paso Electric	EE	\$1.44	\$1.53	\$1.63	\$1.73	\$1.84	\$1.95	\$2.07	\$2.20	\$2.34	\$2.49	\$2.66	\$2.80	\$2.96	\$3.12	\$3.29	\$102.94
Hawaiian Electric Industries, Inc.	HE	\$1.12	\$1.13	\$1.14	\$1.14	\$1.15	\$1.22	\$1.29	\$1.37	\$1.46	\$1.56	\$1.68	\$1.77	\$1.86	\$1.97	\$2.07	\$64.92
IDACORP, Inc.	IDA	\$2.47	\$2.62	\$2.77	\$2.93	\$3.09	\$3.22	\$3.37	\$3.53	\$3.72	\$3.94	\$4.18	\$4.41	\$4.65	\$4.90	\$5.17	\$161.89
NextEra Energy, Inc.	NEE	\$3.88	\$4.36	\$4.90	\$5.49	\$6.16	\$6.69	\$7.24	\$7.80	\$8.36	\$8.92	\$9.47	\$9.98	\$10.52	\$11.10	\$11.70	\$366.61
NorthWestern Corporation	NWE	\$2.20	\$2.27	\$2.34	\$2.41	\$2.48	\$2.57	\$2.68	\$2.81	\$2.95	\$3.11	\$3.29	\$3.47	\$3.66	\$3.86	\$4.07	\$127.51
OGE Energy Corp.	OGE	\$1.38	\$1.45	\$1.52	\$1.60	\$1.68	\$1.74	\$1.79	\$1.86	\$1.92	\$2.00	\$2.08	\$2.19	\$2.31	\$2.44	\$2.57	\$80.51
Otter Tail Corporation	OTTR	\$1.32	\$1.39	\$1.46	\$1.53	\$1.60	\$1.74	\$1.89	\$2.04	\$2.20	\$2.36	\$2.53	\$2.66	\$2.81	\$2.96	\$3.12	\$97.85
Pinnacle West Capital Corporation	PNW	\$2.90	\$3.01	\$3.12	\$3.24	\$3.36	\$3.52	\$3.70	\$3.89	\$4.11	\$4.35	\$4.62	\$4.87	\$5.14	\$5.42	\$5.71	\$178.94
PNM Resources, Inc.	PNM	\$1.06	\$1.09	\$1.12	\$1.15	\$1.18	\$1.30	\$1.43	\$1.57	\$1.72	\$1.89	\$2.08	\$2.19	\$2.31	\$2.44	\$2.57	\$80.51
Portland General Electric Company	POR	\$1.50	\$1.54	\$1.57	\$1.61	\$1.64	\$1.71	\$1.78	\$1.86	\$1.96	\$2.07	\$2.20	\$2.32	\$2.45	\$2.58	\$2.72	\$85.23
Southern Company	SO	\$2.64	\$2.66	\$2.68	\$2.70	\$2.72	\$2.75	\$2.79	\$2.85	\$2.92	\$3.00	\$3.10	\$3.27	\$3.45	\$3.63	\$3.83	\$120.08
WEC Energy Group, Inc.	WEC	\$2.16	\$2.23	\$2.30	\$2.38	\$2.46	\$2.57	\$2.70	\$2.84	\$3.00	\$3.17	\$3.35	\$3.53	\$3.73	\$3.93	\$4.14	\$129.79
Xcel Energy Inc.	XEL	\$1.50	\$1.59	\$1.69	\$1.79	\$1.89	\$2.01	\$2.14	\$2.27	\$2.41	\$2.56	\$2.71	\$2.86	\$3.02	\$3.18	\$3.35	\$105.08

Projected Annual Data

Investor Cash Flows		[61]	[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]
		Initial																
Company	Ticker	Outflow	6/15/18	12/31/18	6/30/19	6/30/20	6/30/21	6/30/22	6/30/23	6/30/24	6/30/25	6/30/26	6/30/27	6/30/28	6/30/29	6/30/30	6/30/31	6/30/32
ALLETE, Inc.	ALE	(\$75.23)	\$0.00	\$1.16	\$2.19	\$2.34	\$2.44	\$2.56	\$2.70	\$2.85	\$3.01	\$3.18	\$3.37	\$3.56	\$3.76	\$3.96	\$4.18	\$142.40
Alliant Energy Corporation	LNT	(\$40.60)	\$0.00	\$0.73	\$1.38	\$1.50	\$1.58	\$1.67	\$1.77	\$1.88	\$1.99	\$2.11	\$2.23	\$2.36	\$2.49	\$2.63	\$2.77	\$94.49
Ameren Corporation	AEE	(\$57.18)	\$0.00	\$0.96	\$1.82	\$1.98	\$2.10	\$2.22	\$2.40	\$2.59	\$2.79	\$3.00	\$3.22	\$3.46	\$3.65	\$3.84	\$4.05	\$138.21
American Electric Power Company, Inc.	AEP	(\$66.01)	\$0.00	\$1.38	\$2.59	\$2.69	\$2.76	\$2.84	\$2.99	\$3.16	\$3.34	\$3.53	\$3.75	\$3.98	\$4.19	\$4.42	\$4.66	\$158.91
Avangrid, Inc.	AGR	(\$51.89)	\$0.00	\$0.75	\$1.45	\$1.54	\$1.62	\$1.70	\$1.85	\$1.99	\$2.13	\$2.27	\$2.41	\$2.53	\$2.67	\$2.82	\$2.97	\$101.32
Black Hills Corporation	BKH	(\$57.15)	\$0.00	\$1.05	\$1.97	\$2.18	\$2.31	\$2.45	\$2.59	\$2.75	\$2.92	\$3.11	\$3.31	\$3.55	\$3.74	\$3.94	\$4.16	\$141.70
CMS Energy Corporation	CMS	(\$44.59)	\$0.00	\$0.77	\$1.45	\$1.59	\$1.70	\$1.81	\$1.94	\$2.09	\$2.24	\$2.39	\$2.56	\$2.73	\$2.88	\$3.03	\$3.20	\$109.04
DTE Energy Company	DTE	(\$100.10)	\$0.00	\$2.01	\$3.78	\$4.05	\$4.24	\$4.45	\$4.76	\$5.09	\$5.45	\$5.82	\$6.23	\$6.66	\$7.03	\$7.41	\$7.81	\$266.33
Duke Energy Corporation	DUK	(\$75.50)	\$0.00	\$1.82	\$3.41	\$3.73	\$3.93	\$4.15	\$4.20	\$4.26	\$4.33	\$4.39	\$4.47	\$4.54	\$4.79	\$5.05	\$5.33	\$181.56
El Paso Electric	EE	(\$56.45)	\$0.00	\$0.79	\$1.47	\$1.63	\$1.73	\$1.84	\$1.95	\$2.07	\$2.20	\$2.34	\$2.49	\$2.66	\$2.80	\$2.96	\$3.12	\$106.23
Hawaiian Electric Industries, Inc.	HE	(\$33.60)	\$0.00	\$0.61	\$1.14	\$1.14	\$1.14	\$1.15	\$1.22	\$1.29	\$1.37	\$1.46	\$1.56	\$1.68	\$1.77	\$1.86	\$1.97	\$66.99
IDACORP, Inc.	IDA	(\$89.53)	\$0.00	\$1.35	\$2.51	\$2.77	\$2.93	\$3.09	\$3.22	\$3.37	\$3.53	\$3.72	\$3.94	\$4.18	\$4.41	\$4.65	\$4.90	\$167.06
NextEra Energy, Inc.	NEE	(\$159.84)	\$0.00	\$2.11	\$4.04	\$4.90	\$5.49	\$6.16	\$6.69	\$7.24	\$7.80	\$8.36	\$8.92	\$9.47	\$9.98	\$10.52	\$11.10	\$378.32
NorthWestern Corporation	NWE	(\$53.53)	\$0.00	\$1.20	\$2.23	\$2.34	\$2.41	\$2.48	\$2.57	\$2.68	\$2.81	\$2.95	\$3.11	\$3.29	\$3.47	\$3.66	\$3.86	\$131.58
OGE Energy Corp.	OGE	(\$34.04)	\$0.00	\$0.75	\$1.41	\$1.52	\$1.60	\$1.68	\$1.74	\$1.79	\$1.86	\$1.92	\$2.00	\$2.08	\$2.19	\$2.31	\$2.44	\$83.08
Otter Tail Corporation	OTTR	(\$45.22)	\$0.00	\$0.72	\$1.37	\$1.46	\$1.53	\$1.60	\$1.74	\$1.89	\$2.04	\$2.20	\$2.36	\$2.53	\$2.66	\$2.81	\$2.96	\$100.97
Pinnacle West Capital Corporation	PNW	(\$76.97)	\$0.00	\$1.58	\$2.95	\$3.12	\$3.24	\$3.36	\$3.52	\$3.70	\$3.89	\$4.11	\$4.35	\$4.62	\$4.87	\$5.14	\$5.42	\$184.65
PNM Resources, Inc.	PNM	(\$37.99)	\$0.00	\$0.58	\$1.08	\$1.12	\$1.15	\$1.18	\$1.30	\$1.43	\$1.57	\$1.72	\$1.89	\$2.08	\$2.19	\$2.31	\$2.44	\$83.08
Portland General Electric Company	POR	(\$41.01)	\$0.00	\$0.82	\$1.52	\$1.57	\$1.61	\$1.64	\$1.71	\$1.78	\$1.86	\$1.96	\$2.07	\$2.20	\$2.32	\$2.45	\$2.58	\$87.95
Southern Company	SO	(\$44.06)	\$0.00	\$1.44	\$2.67	\$2.68	\$2.70	\$2.72	\$2.75	\$2.79	\$2.85	\$2.92	\$3.00	\$3.10	\$3.27	\$3.45	\$3.63	\$123.91
WEC Energy Group, Inc.	WEC	(\$61.25)	\$0.00	\$1.18	\$2.20	\$2.30	\$2.38	\$2.46	\$2.57	\$2.70	\$2.84	\$3.00	\$3.17	\$3.35	\$3.53	\$3.73	\$3.93	\$133.93
Xcel Energy Inc.	XEL	(\$44.19)	\$0.00	\$0.82	\$1.55	\$1.69	\$1.79	\$1.89	\$2.01	\$2.14	\$2.27	\$2.41	\$2.56	\$2.71	\$2.86	\$3.02	\$3.18	\$108.43

Multi-Stage Growth Discounted Cash Flow Model - Terminal P/E
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	2018	2022	2028	Proof	IRR	P/E Ratio	PEG Ratio					
ALLETE, Inc.	ALE	\$72.50	6.00%	6.00%	5.00%	5.67%	5.45%	65.00%	64.00%	65.57%	\$0.00	8.39%	20.54	3.77					
Alliant Energy Corporation	LNT	\$40.29	5.60%	5.85%	6.50%	5.98%	5.45%	64.00%	64.00%	65.57%	\$0.00	9.86%	20.54	3.77					
Ameren Corporation	AEE	\$56.21	6.50%	6.30%	7.50%	6.77%	5.45%	60.00%	59.00%	65.57%	\$0.00	10.18%	20.54	3.77					
American Electric Power Company, Inc.	AEP	\$66.84	5.70%	5.79%	4.50%	5.33%	5.45%	67.00%	63.00%	65.57%	\$0.00	10.37%	20.54	3.77					
Avangrid, Inc.	AGR	\$50.61	9.10%	10.40%	13.00%	10.83%	5.45%	76.00%	66.00%	65.57%	\$0.00	9.09%	20.54	3.77					
Black Hills Corporation	BKH	\$54.56	4.10%	3.86%	5.00%	4.32%	5.45%	55.00%	60.00%	65.57%	\$0.00	10.84%	20.54	3.77					
CMS Energy Corporation	CMS	\$44.34	6.40%	7.05%	7.00%	6.82%	5.45%	61.00%	61.00%	65.57%	\$0.00	10.20%	20.54	3.77					
DTE Energy Company	DTE	\$101.87	5.30%	5.59%	7.00%	5.96%	5.45%	61.00%	60.00%	65.57%	(\$0.00)	11.01%	20.54	3.77					
Duke Energy Corporation	DUK	\$76.57	4.70%	4.22%	5.50%	4.81%	5.45%	76.00%	80.00%	65.57%	\$0.00	10.69%	20.54	3.77					
El Paso Electric	EE	\$52.05	5.10%	5.20%	4.50%	4.93%	5.45%	57.00%	61.00%	65.57%	\$0.00	8.50%	20.54	3.77					
Hawaiian Electric Industries, Inc.	HE	\$33.76	7.10%	9.10%	3.50%	6.57%	5.45%	66.00%	59.00%	65.57%	\$0.00	9.99%	20.54	3.77					
IDACORP, Inc.	IDA	\$87.21	3.90%	3.10%	3.50%	3.50%	5.45%	57.00%	63.00%	65.57%	\$0.00	8.01%	20.54	3.77					
NextEra Energy, Inc.	NEE	\$158.65	8.60%	9.79%	8.50%	8.96%	5.45%	55.00%	63.00%	65.57%	(\$0.00)	9.79%	20.54	3.77					
NorthWestern Corporation	NWE	\$52.95	3.00%	3.16%	3.50%	3.22%	5.45%	64.00%	64.00%	65.57%	\$0.00	10.53%	20.54	3.77					
OGE Energy Corp.	OGE	\$32.61	6.00%	4.30%	6.00%	5.43%	5.45%	69.00%	71.00%	65.57%	(\$0.00)	11.49%	20.54	3.77					
Otter Tail Corporation	OTTR	\$43.41	NA	9.00%	7.50%	8.25%	5.45%	66.00%	60.00%	65.57%	\$0.00	9.83%	20.54	3.77					
Pinnacle West Capital Corporation	PNW	\$77.79	4.50%	3.78%	5.00%	4.43%	5.45%	63.00%	63.00%	65.57%	\$0.00	10.25%	20.54	3.77					
PNM Resources, Inc.	PNM	\$37.36	5.10%	4.30%	7.50%	5.63%	5.45%	53.00%	50.00%	65.57%	\$0.00	9.62%	20.54	3.77					
Portland General Electric Company	POR	\$40.54	2.80%	2.65%	4.00%	3.15%	5.45%	64.00%	63.00%	65.57%	\$0.00	9.36%	20.54	3.77					
Southern Company	SO	\$44.31	4.50%	2.72%	3.00%	3.41%	5.45%	80.00%	74.00%	65.57%	(\$0.00)	12.59%	20.54	3.77					
WEC Energy Group, Inc.	WEC	\$61.59	4.10%	4.43%	7.00%	5.18%	5.45%	66.00%	64.00%	65.57%	\$0.00	9.69%	20.54	3.77					
Xcel Energy Inc.	XEL	\$44.41	5.70%	5.89%	5.50%	5.70%	5.45%	62.00%	63.00%	65.57%	\$0.00	10.10%	20.54	3.77					
											Mean	10.02%							
											Max	12.59%							
											Min	8.01%							
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]		
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032		
ALLETE, Inc.	ALE	\$3.13	\$3.31	\$3.49	\$3.69	\$3.90	\$4.12	\$4.36	\$4.60	\$4.85	\$5.12	\$5.40	\$5.70	\$6.01	\$6.34	\$6.68	\$7.04		
Alliant Energy Corporation	LNT	\$1.99	\$2.11	\$2.24	\$2.37	\$2.51	\$2.66	\$2.82	\$2.98	\$3.15	\$3.33	\$3.51	\$3.70	\$3.91	\$4.12	\$4.34	\$4.58		
Ameren Corporation	AEE	\$2.77	\$2.96	\$3.16	\$3.37	\$3.60	\$3.84	\$4.09	\$4.35	\$4.62	\$4.89	\$5.17	\$5.45	\$5.75	\$6.06	\$6.39	\$6.74		
American Electric Power Company, Inc.	AEP	\$3.62	\$3.81	\$4.02	\$4.23	\$4.46	\$4.69	\$4.94	\$5.21	\$5.49	\$5.79	\$6.10	\$6.43	\$6.78	\$7.15	\$7.54	\$7.95		
Avangrid, Inc.	AGR	\$1.67	\$1.85	\$2.05	\$2.27	\$2.52	\$2.79	\$3.07	\$3.35	\$3.62	\$3.88	\$4.13	\$4.35	\$4.59	\$4.84	\$5.10	\$5.38		
Black Hills Corporation	BKH	\$3.38	\$3.53	\$3.68	\$3.84	\$4.00	\$4.18	\$4.36	\$4.57	\$4.79	\$5.04	\$5.30	\$5.59	\$5.89	\$6.21	\$6.55	\$6.91		
CMS Energy Corporation	CMS	\$2.17	\$2.32	\$2.48	\$2.64	\$2.82	\$3.02	\$3.22	\$3.42	\$3.63	\$3.84	\$4.06	\$4.28	\$4.52	\$4.76	\$5.02	\$5.30		
DTE Energy Company	DTE	\$5.73	\$6.07	\$6.43	\$6.82	\$7.22	\$7.65	\$8.10	\$8.57	\$9.06	\$9.57	\$10.10	\$10.65	\$11.23	\$11.84	\$12.49	\$13.17		
Duke Energy Corporation	DUK	\$4.22	\$4.42	\$4.64	\$4.86	\$5.09	\$5.34	\$5.60	\$5.88	\$6.18	\$6.50	\$6.85	\$7.23	\$7.62	\$8.03	\$8.47	\$8.93		
El Paso Electric	EE	\$2.42	\$2.54	\$2.66	\$2.80	\$2.93	\$3.08	\$3.23	\$3.40	\$3.57	\$3.76	\$3.97	\$4.18	\$4.41	\$4.65	\$4.90	\$5.17		
Hawaiian Electric Industries, Inc.	HE	\$1.64	\$1.75	\$1.86	\$1.98	\$2.12	\$2.25	\$2.40	\$2.55	\$2.70	\$2.86	\$3.02	\$3.18	\$3.35	\$3.54	\$3.73	\$3.93		
IDACORP, Inc.	IDA	\$4.21	\$4.36	\$4.51	\$4.67	\$4.83	\$5.00	\$5.19	\$5.41	\$5.65	\$5.92	\$6.22	\$6.56	\$6.92	\$7.30	\$7.69	\$8.11		
NextEra Energy, Inc.	NEE	\$6.50	\$7.08	\$7.72	\$8.41	\$9.16	\$9.98	\$10.82	\$11.66	\$12.50	\$13.33	\$14.14	\$14.91	\$15.72	\$16.57	\$17.48	\$18.43		
NorthWestern Corporation	NWE	\$3.34	\$3.45	\$3.56	\$3.67	\$3.79	\$3.91	\$4.05	\$4.21	\$4.40	\$4.60	\$4.84	\$5.10	\$5.38	\$5.67	\$5.98	\$6.31		
OGE Energy Corp.	OGE	\$1.92	\$2.02	\$2.13	\$2.25	\$2.37	\$2.50	\$2.64	\$2.78	\$2.93	\$3.09	\$3.26	\$3.44	\$3.62	\$3.82	\$4.03	\$4.25		
Otter Tail Corporation	OTTR	\$1.86	\$2.01	\$2.18	\$2.36	\$2.55	\$2.76	\$2.98	\$3.20	\$3.42	\$3.63	\$3.85	\$4.06	\$4.28	\$4.51	\$4.76	\$5.02		
Pinnacle West Capital Corporation	PNW	\$4.43	\$4.63	\$4.83	\$5.04	\$5.27	\$5.50	\$5.75	\$6.03	\$6.33	\$6.65	\$7.00	\$7.38	\$7.78	\$8.21	\$8.65	\$9.13		
PNM Resources, Inc.	PNM	\$1.92	\$2.03	\$2.14	\$2.26	\$2.39	\$2.53	\$2.67	\$2.82	\$2.97	\$3.13	\$3.31	\$3.49	\$3.68	\$3.88	\$4.09	\$4.31		
Portland General Electric Company	POR	\$2.29	\$2.36	\$2.44	\$2.51	\$2.59	\$2.67	\$2.77	\$2.88	\$3.00	\$3.14	\$3.30	\$3.48	\$3.67	\$3.87	\$4.08	\$4.30		
Southern Company	SO	\$3.21	\$3.32	\$3.43	\$3.55	\$3.67	\$3.80	\$3.94	\$4.10	\$4.28	\$4.48	\$4.71	\$4.97	\$5.24	\$5.53	\$5.83	\$6.14		
WEC Energy Group, Inc.	WEC	\$3.14	\$3.30	\$3.47	\$3.65	\$3.84	\$4.04	\$4.25	\$4.48	\$4.71	\$4.97	\$5.23	\$5.52	\$5.82	\$6.14	\$6.47	\$6.82		
Xcel Energy Inc.	XEL	\$2.30	\$2.43	\$2.57	\$2.72	\$2.87	\$3.03	\$3.21	\$3.39	\$3.57	\$3.77	\$3.98	\$4.20	\$4.42	\$4.67	\$4.92	\$5.19		

Projected Annual Dividend Payout Ratio		[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	65.00%	64.75%	64.50%	64.25%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Ameren Corporation	AEE	60.00%	59.75%	59.50%	59.25%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
American Electric Power Company, Inc.	AEP	67.00%	66.00%	65.00%	64.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Avangrid, Inc.	AGR	76.00%	73.50%	71.00%	68.50%	66.00%	65.93%	65.86%	65.79%	65.71%	65.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Black Hills Corporation	BKH	55.00%	56.25%	57.50%	58.75%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
DTE Energy Company	DTE	61.00%	60.75%	60.50%	60.25%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Duke Energy Corporation	DUK	76.00%	77.00%	78.00%	79.00%	80.00%	77.60%	75.19%	72.79%	70.38%	67.98%	65.57%	65.57%	65.57%	65.57%	65.57%
El Paso Electric	EE	57.00%	58.00%	59.00%	60.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
Hawaiian Electric Industries, Inc.	HE	66.00%	64.25%	62.50%	60.75%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
IDACORP, Inc.	IDA	57.00%	58.50%	60.00%	61.50%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NextEra Energy, Inc.	NEE	55.00%	57.00%	59.00%	61.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NorthWestern Corporation	NWE	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
OGE Energy Corp.	OGE	69.00%	69.50%	70.00%	70.50%	71.00%	70.10%	69.19%	68.29%	67.38%	66.48%	65.57%	65.57%	65.57%	65.57%	65.57%
Otter Tail Corporation	OTTR	66.00%	64.50%	63.00%	61.50%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Pinnacle West Capital Corporation	PNW	63.00%	63.00%	63.00%	63.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
PNM Resources, Inc.	PNM	53.00%	52.25%	51.50%	50.75%	50.00%	52.60%	55.19%	57.79%	60.38%	62.98%	65.57%	65.57%	65.57%	65.57%	65.57%
Portland General Electric Company	POR	64.00%	63.75%	63.50%	63.25%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Southern Company	SO	80.00%	78.50%	77.00%	75.50%	74.00%	72.60%	71.19%	69.79%	68.38%	66.98%	65.57%	65.57%	65.57%	65.57%	65.57%
WEC Energy Group, Inc.	WEC	66.00%	65.50%	65.00%	64.50%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Xcel Energy Inc.	XEL	62.00%	62.25%	62.50%	62.75%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%

Projected Annual Cash Flows		[45]	[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	Terminal Value
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032		
ALLETE, Inc.	ALE	\$2.15	\$2.26	\$2.38	\$2.51	\$2.64	\$2.80	\$2.97	\$3.14	\$3.33	\$3.53	\$3.74	\$3.94	\$4.15	\$4.38	\$4.62	\$144.70	
Alliant Energy Corporation	LNT	\$1.35	\$1.43	\$1.52	\$1.61	\$1.70	\$1.81	\$1.92	\$2.04	\$2.17	\$2.29	\$2.43	\$2.56	\$2.70	\$2.85	\$3.00	\$94.09	
Ameren Corporation	AEE	\$1.77	\$1.89	\$2.01	\$2.13	\$2.27	\$2.46	\$2.66	\$2.88	\$3.10	\$3.33	\$3.57	\$3.77	\$3.97	\$4.19	\$4.42	\$138.41	
American Electric Power Company, Inc.	AEP	\$2.55	\$2.65	\$2.75	\$2.85	\$2.96	\$3.14	\$3.33	\$3.53	\$3.75	\$3.97	\$4.22	\$4.45	\$4.69	\$4.95	\$5.22	\$163.40	
Avangrid, Inc.	AGR	\$1.41	\$1.51	\$1.61	\$1.73	\$1.84	\$2.02	\$2.20	\$2.38	\$2.55	\$2.71	\$2.85	\$3.01	\$3.17	\$3.35	\$3.53	\$110.58	
Black Hills Corporation	BKH	\$1.94	\$2.07	\$2.21	\$2.35	\$2.51	\$2.66	\$2.83	\$3.01	\$3.21	\$3.43	\$3.66	\$3.86	\$4.07	\$4.30	\$4.53	\$141.94	
CMS Energy Corporation	CMS	\$1.41	\$1.51	\$1.61	\$1.72	\$1.84	\$1.99	\$2.14	\$2.30	\$2.46	\$2.63	\$2.81	\$2.96	\$3.12	\$3.29	\$3.47	\$108.81	
DTE Energy Company	DTE	\$3.70	\$3.91	\$4.12	\$4.35	\$4.59	\$4.94	\$5.30	\$5.69	\$6.10	\$6.53	\$6.98	\$7.36	\$7.77	\$8.19	\$8.64	\$270.54	
Duke Energy Corporation	DUK	\$3.36	\$3.57	\$3.79	\$4.02	\$4.27	\$4.34	\$4.42	\$4.50	\$4.58	\$4.66	\$4.74	\$5.00	\$5.27	\$5.55	\$5.86	\$183.50	
El Paso Electric	EE	\$1.45	\$1.55	\$1.65	\$1.76	\$1.88	\$2.00	\$2.12	\$2.26	\$2.41	\$2.57	\$2.74	\$2.89	\$3.05	\$3.21	\$3.39	\$106.19	
Hawaiian Electric Industries, Inc.	HE	\$1.15	\$1.20	\$1.24	\$1.28	\$1.33	\$1.44	\$1.56	\$1.68	\$1.81	\$1.95	\$2.09	\$2.20	\$2.32	\$2.45	\$2.58	\$80.80	
IDACORP, Inc.	IDA	\$2.48	\$2.64	\$2.80	\$2.97	\$3.15	\$3.29	\$3.45	\$3.63	\$3.83	\$4.05	\$4.30	\$4.54	\$4.78	\$5.04	\$5.32	\$166.65	
NextEra Energy, Inc.	NEE	\$3.90	\$4.40	\$4.96	\$5.59	\$6.29	\$6.86	\$7.45	\$8.04	\$8.63	\$9.21	\$9.77	\$10.31	\$10.87	\$11.46	\$12.08	\$378.57	
NorthWestern Corporation	NWE	\$2.21	\$2.28	\$2.35	\$2.43	\$2.50	\$2.61	\$2.72	\$2.85	\$2.99	\$3.16	\$3.34	\$3.53	\$3.72	\$3.92	\$4.14	\$129.56	
OGE Energy Corp.	OGE	\$1.40	\$1.48	\$1.58	\$1.67	\$1.78	\$1.85	\$1.92	\$2.00	\$2.08	\$2.17	\$2.25	\$2.38	\$2.51	\$2.64	\$2.79	\$87.30	
Otter Tail Corporation	OTTR	\$1.33	\$1.41	\$1.49	\$1.57	\$1.66	\$1.82	\$1.98	\$2.15	\$2.32	\$2.49	\$2.66	\$2.81	\$2.96	\$3.12	\$3.29	\$103.10	
Pinnacle West Capital Corporation	PNW	\$2.91	\$3.04	\$3.18	\$3.32	\$3.47	\$3.65	\$3.85	\$4.07	\$4.30	\$4.56	\$4.84	\$5.10	\$5.38	\$5.67	\$5.98	\$187.46	
PNM Resources, Inc.	PNM	\$1.07	\$1.12	\$1.17	\$1.21	\$1.26	\$1.40	\$1.55	\$1.72	\$1.89	\$2.08	\$2.29	\$2.41	\$2.54	\$2.68	\$2.83	\$88.55	
Portland General Electric Company	POR	\$1.51	\$1.55	\$1.60	\$1.64	\$1.68	\$1.76	\$1.84	\$1.93	\$2.03	\$2.15	\$2.28	\$2.41	\$2.54	\$2.68	\$2.82	\$88.38	
Southern Company	SO	\$2.66	\$2.69	\$2.73	\$2.77	\$2.81	\$2.86	\$2.92	\$2.99	\$3.07	\$3.16	\$3.26	\$3.44	\$3.62	\$3.82	\$4.03	\$126.21	
WEC Energy Group, Inc.	WEC	\$2.18	\$2.28	\$2.37	\$2.48	\$2.59	\$2.73	\$2.89	\$3.05	\$3.23	\$3.42	\$3.62	\$3.82	\$4.02	\$4.24	\$4.47	\$140.19	
Xcel Energy Inc.	XEL	\$1.51	\$1.60	\$1.70	\$1.80	\$1.91	\$2.03	\$2.16	\$2.30	\$2.44	\$2.59	\$2.75	\$2.90	\$3.06	\$3.23	\$3.40	\$106.56	

Projected Annual Data

Investor Cash Flows		[61]	[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]
		Initial																
Company	Ticker	Outflow	6/15/18	12/31/18	6/30/19	6/30/20	6/30/21	6/30/22	6/30/23	6/30/24	6/30/25	6/30/26	6/30/27	6/30/28	6/30/29	6/30/30	6/30/31	6/30/32
ALLETE, Inc.	ALE	(\$72.50)	\$0.00	\$1.17	\$2.21	\$2.38	\$2.51	\$2.64	\$2.80	\$2.97	\$3.14	\$3.33	\$3.53	\$3.74	\$3.94	\$4.15	\$4.38	\$149.32
Alliant Energy Corporation	LNT	(\$40.29)	\$0.00	\$0.74	\$1.39	\$1.52	\$1.61	\$1.70	\$1.81	\$1.92	\$2.04	\$2.17	\$2.29	\$2.43	\$2.56	\$2.70	\$2.85	\$97.09
Ameren Corporation	AEE	(\$56.21)	\$0.00	\$0.97	\$1.83	\$2.01	\$2.13	\$2.27	\$2.46	\$2.66	\$2.88	\$3.10	\$3.33	\$3.57	\$3.77	\$3.97	\$4.19	\$142.83
American Electric Power Company, Inc.	AEP	(\$66.84)	\$0.00	\$1.39	\$2.62	\$2.75	\$2.85	\$2.96	\$3.14	\$3.33	\$3.53	\$3.75	\$3.97	\$4.22	\$4.45	\$4.69	\$4.95	\$168.61
Avangrid, Inc.	AGR	(\$50.61)	\$0.00	\$0.77	\$1.48	\$1.61	\$1.73	\$1.84	\$2.02	\$2.20	\$2.38	\$2.55	\$2.71	\$2.85	\$3.01	\$3.17	\$3.35	\$114.11
Black Hills Corporation	BKH	(\$54.56)	\$0.00	\$1.06	\$1.98	\$2.21	\$2.35	\$2.51	\$2.66	\$2.83	\$3.01	\$3.21	\$3.43	\$3.66	\$3.86	\$4.07	\$4.30	\$146.47
CMS Energy Corporation	CMS	(\$44.34)	\$0.00	\$0.77	\$1.46	\$1.61	\$1.72	\$1.84	\$1.99	\$2.14	\$2.30	\$2.46	\$2.63	\$2.81	\$2.96	\$3.12	\$3.29	\$112.29
DTE Energy Company	DTE	(\$101.87)	\$0.00	\$2.02	\$3.81	\$4.12	\$4.35	\$4.59	\$4.94	\$5.30	\$5.69	\$6.10	\$6.53	\$6.98	\$7.36	\$7.77	\$8.19	\$279.17
Duke Energy Corporation	DUK	(\$76.57)	\$0.00	\$1.83	\$3.44	\$3.79	\$4.02	\$4.27	\$4.34	\$4.42	\$4.50	\$4.58	\$4.66	\$4.74	\$5.00	\$5.27	\$5.55	\$189.36
El Paso Electric	EE	(\$52.05)	\$0.00	\$0.79	\$1.48	\$1.65	\$1.76	\$1.88	\$2.00	\$2.12	\$2.26	\$2.41	\$2.57	\$2.74	\$2.89	\$3.05	\$3.21	\$109.58
Hawaiian Electric Industries, Inc.	HE	(\$33.76)	\$0.00	\$0.63	\$1.19	\$1.24	\$1.28	\$1.33	\$1.44	\$1.56	\$1.68	\$1.81	\$1.95	\$2.09	\$2.20	\$2.32	\$2.45	\$83.38
IDACORP, Inc.	IDA	(\$87.21)	\$0.00	\$1.35	\$2.53	\$2.80	\$2.97	\$3.15	\$3.29	\$3.45	\$3.63	\$3.83	\$4.05	\$4.30	\$4.54	\$4.78	\$5.04	\$171.97
NextEra Energy, Inc.	NEE	(\$158.65)	\$0.00	\$2.12	\$4.07	\$4.96	\$5.59	\$6.29	\$6.86	\$7.45	\$8.04	\$8.63	\$9.21	\$9.77	\$10.31	\$10.87	\$11.46	\$390.65
NorthWestern Corporation	NWE	(\$52.95)	\$0.00	\$1.20	\$2.24	\$2.35	\$2.43	\$2.50	\$2.61	\$2.72	\$2.85	\$2.99	\$3.16	\$3.34	\$3.53	\$3.72	\$3.92	\$133.70
OGE Energy Corp.	OGE	(\$32.61)	\$0.00	\$0.76	\$1.43	\$1.58	\$1.67	\$1.78	\$1.85	\$1.92	\$2.00	\$2.08	\$2.17	\$2.25	\$2.38	\$2.51	\$2.64	\$90.09
Otter Tail Corporation	OTTR	(\$43.41)	\$0.00	\$0.72	\$1.38	\$1.49	\$1.57	\$1.66	\$1.82	\$1.98	\$2.15	\$2.32	\$2.49	\$2.66	\$2.81	\$2.96	\$3.12	\$106.39
Pinnacle West Capital Corporation	PNW	(\$77.78)	\$0.00	\$1.59	\$2.98	\$3.18	\$3.32	\$3.47	\$3.65	\$3.85	\$4.07	\$4.30	\$4.56	\$4.84	\$5.10	\$5.38	\$5.67	\$193.44
PNM Resources, Inc.	PNM	(\$37.36)	\$0.00	\$0.59	\$1.11	\$1.17	\$1.21	\$1.26	\$1.40	\$1.55	\$1.72	\$1.89	\$2.08	\$2.29	\$2.41	\$2.54	\$2.68	\$91.38
Portland General Electric Company	POR	(\$40.54)	\$0.00	\$0.82	\$1.54	\$1.60	\$1.64	\$1.68	\$1.76	\$1.84	\$1.93	\$2.03	\$2.15	\$2.28	\$2.41	\$2.54	\$2.68	\$91.20
Southern Company	SO	(\$44.31)	\$0.00	\$1.45	\$2.70	\$2.73	\$2.77	\$2.81	\$2.86	\$2.92	\$2.99	\$3.07	\$3.16	\$3.26	\$3.44	\$3.62	\$3.82	\$130.24
WEC Energy Group, Inc.	WEC	(\$61.59)	\$0.00	\$1.19	\$2.24	\$2.37	\$2.48	\$2.59	\$2.73	\$2.89	\$3.05	\$3.23	\$3.42	\$3.62	\$3.82	\$4.02	\$4.24	\$144.67
Xcel Energy Inc.	XEL	(\$44.41)	\$0.00	\$0.82	\$1.55	\$1.70	\$1.80	\$1.91	\$2.03	\$2.16	\$2.30	\$2.44	\$2.59	\$2.75	\$2.90	\$3.06	\$3.23	\$109.96

Multi-Stage Growth Discounted Cash Flow Model - Terminal P/E
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]				
Company	Ticker	Stock Price	EPS Growth Rate Estimates				Long-Term Growth	Payout Ratio			Iterative Solution Proof	IRR	Terminal P/E Ratio	Terminal PEG Ratio				
			Zacks	First Call	Value Line	High Growth		2018	2022	2028								
ALLETE, Inc.	ALE	\$72.50	6.00%	6.00%	5.00%	6.00%	5.45%	65.00%	64.00%	65.57%	\$0.00	8.59%	20.54	3.77				
Alliant Energy Corporation	LNT	\$40.29	5.60%	5.85%	6.50%	6.50%	5.45%	64.00%	64.00%	65.57%	\$0.00	10.19%	20.54	3.77				
Ameren Corporation	AEE	\$56.21	6.50%	6.30%	7.50%	7.50%	5.45%	60.00%	59.00%	65.57%	\$0.00	10.64%	20.54	3.77				
American Electric Power Company, Inc.	AEP	\$66.84	5.70%	5.79%	4.50%	5.79%	5.45%	67.00%	63.00%	65.57%	\$0.00	10.66%	20.54	3.77				
Avangrid, Inc.	AGR	\$50.61	9.10%	10.40%	13.00%	13.00%	5.45%	76.00%	66.00%	65.57%	\$0.00	10.37%	20.54	3.77				
Black Hills Corporation	BKH	\$54.56	4.10%	3.86%	5.00%	5.00%	5.45%	55.00%	60.00%	65.57%	(\$0.00)	11.28%	20.54	3.77				
CMS Energy Corporation	CMS	\$44.34	6.40%	7.05%	7.00%	7.05%	5.45%	61.00%	61.00%	65.57%	\$0.00	10.34%	20.54	3.77				
DTE Energy Company	DTE	\$101.87	5.30%	5.59%	7.00%	7.00%	5.45%	61.00%	60.00%	65.57%	(\$0.00)	11.67%	20.54	3.77				
Duke Energy Corporation	DUK	\$76.57	4.70%	4.22%	5.50%	5.50%	5.45%	76.00%	80.00%	65.57%	(\$0.00)	11.14%	20.54	3.77				
El Paso Electric	EE	\$52.05	5.10%	5.20%	4.50%	5.20%	5.45%	57.00%	61.00%	65.57%	\$0.00	8.67%	20.54	3.77				
Hawaiian Electric Industries, Inc.	HE	\$33.76	7.10%	9.10%	3.50%	9.10%	5.45%	66.00%	59.00%	65.57%	(\$0.00)	11.56%	20.54	3.77				
IDACORP, Inc.	IDA	\$87.21	3.90%	3.10%	3.50%	3.90%	5.45%	57.00%	63.00%	65.57%	\$0.00	8.25%	20.54	3.77				
NextEra Energy, Inc.	NEE	\$158.65	8.60%	9.79%	8.50%	9.79%	5.45%	55.00%	63.00%	65.57%	(\$0.00)	10.29%	20.54	3.77				
NorthWestern Corporation	NWE	\$52.95	3.00%	3.16%	3.50%	3.50%	5.45%	64.00%	64.00%	65.57%	\$0.00	10.71%	20.54	3.77				
OGE Energy Corp.	OGE	\$32.61	6.00%	4.30%	6.00%	6.00%	5.45%	69.00%	71.00%	65.57%	(\$0.00)	11.86%	20.54	3.77				
Otter Tail Corporation	OTTR	\$43.41	NA	9.00%	7.50%	9.00%	5.45%	66.00%	60.00%	65.57%	\$0.00	10.29%	20.54	3.77				
Pinnacle West Capital Corporation	PNW	\$77.79	4.50%	3.78%	5.00%	5.00%	5.45%	63.00%	63.00%	65.57%	\$0.00	10.61%	20.54	3.77				
PNM Resources, Inc.	PNM	\$37.36	5.10%	4.30%	7.50%	7.50%	5.45%	53.00%	50.00%	65.57%	\$0.00	10.77%	20.54	3.77				
Portland General Electric Company	POR	\$40.54	2.80%	2.65%	4.00%	4.00%	5.45%	64.00%	63.00%	65.57%	\$0.00	9.90%	20.54	3.77				
Southern Company	SO	\$44.31	4.50%	2.72%	3.00%	4.50%	5.45%	80.00%	74.00%	65.57%	(\$0.00)	13.34%	20.54	3.77				
WEC Energy Group, Inc.	WEC	\$61.59	4.10%	4.43%	7.00%	7.00%	5.45%	66.00%	64.00%	65.57%	\$0.00	10.84%	20.54	3.77				
Xcel Energy Inc.	XEL	\$44.41	5.70%	5.89%	5.50%	5.89%	5.45%	62.00%	63.00%	65.57%	\$0.00	10.22%	20.54	3.77				
											Mean	10.55%						
											Max	13.34%						
											Min	8.25%						
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
ALLETE, Inc.	ALE	\$3.13	\$3.32	\$3.52	\$3.73	\$3.95	\$4.19	\$4.44	\$4.69	\$4.96	\$5.24	\$5.53	\$5.83	\$6.15	\$6.49	\$6.84	\$7.21	
Alliant Energy Corporation	LNT	\$1.99	\$2.12	\$2.26	\$2.40	\$2.56	\$2.73	\$2.90	\$3.08	\$3.26	\$3.45	\$3.64	\$3.84	\$4.05	\$4.27	\$4.51	\$4.75	
Ameren Corporation	AEE	\$2.77	\$2.98	\$3.20	\$3.44	\$3.70	\$3.98	\$4.26	\$4.55	\$4.85	\$5.14	\$5.44	\$5.74	\$6.05	\$6.38	\$6.73	\$7.09	
American Electric Power Company, Inc.	AEP	\$3.62	\$3.83	\$4.05	\$4.29	\$4.53	\$4.80	\$5.07	\$5.36	\$5.66	\$5.98	\$6.30	\$6.65	\$7.01	\$7.39	\$7.79	\$8.22	
Avangrid, Inc.	AGR	\$1.67	\$1.89	\$2.13	\$2.41	\$2.72	\$3.08	\$3.44	\$3.80	\$4.15	\$4.48	\$4.78	\$5.04	\$5.31	\$5.60	\$5.91	\$6.23	
Black Hills Corporation	BKH	\$3.38	\$3.55	\$3.73	\$3.91	\$4.11	\$4.31	\$4.53	\$4.77	\$5.02	\$5.28	\$5.56	\$5.87	\$6.19	\$6.52	\$6.88	\$7.25	
CMS Energy Corporation	CMS	\$2.17	\$2.32	\$2.49	\$2.66	\$2.85	\$3.05	\$3.26	\$3.47	\$3.69	\$3.91	\$4.13	\$4.36	\$4.59	\$4.84	\$5.11	\$5.38	
DTE Energy Company	DTE	\$5.73	\$6.13	\$6.56	\$7.02	\$7.51	\$8.04	\$8.58	\$9.13	\$9.70	\$10.28	\$10.87	\$11.46	\$12.08	\$12.74	\$13.44	\$14.17	
Duke Energy Corporation	DUK	\$4.22	\$4.45	\$4.70	\$4.96	\$5.23	\$5.52	\$5.82	\$6.14	\$6.47	\$6.83	\$7.20	\$7.59	\$8.00	\$8.44	\$8.90	\$9.39	
El Paso Electric	EE	\$2.42	\$2.55	\$2.68	\$2.82	\$2.96	\$3.12	\$3.28	\$3.45	\$3.64	\$3.83	\$4.04	\$4.26	\$4.49	\$4.74	\$5.00	\$5.27	
Hawaiian Electric Industries, Inc.	HE	\$1.64	\$1.79	\$1.95	\$2.13	\$2.32	\$2.53	\$2.75	\$2.97	\$3.18	\$3.39	\$3.60	\$3.80	\$4.00	\$4.22	\$4.45	\$4.69	
IDACORP, Inc.	IDA	\$4.21	\$4.37	\$4.54	\$4.72	\$4.91	\$5.10	\$5.31	\$5.54	\$5.80	\$6.09	\$6.41	\$6.75	\$7.12	\$7.51	\$7.92	\$8.35	
NextEra Energy, Inc.	NEE	\$6.50	\$7.14	\$7.83	\$8.60	\$9.44	\$10.37	\$11.31	\$12.25	\$13.19	\$14.09	\$14.96	\$15.78	\$16.64	\$17.54	\$18.50	\$19.51	
NorthWestern Corporation	NWE	\$3.34	\$3.46	\$3.58	\$3.70	\$3.83	\$3.97	\$4.12	\$4.29	\$4.48	\$4.70	\$4.94	\$5.21	\$5.49	\$5.79	\$6.10	\$6.44	
OGE Energy Corp.	OGE	\$1.92	\$2.04	\$2.16	\$2.29	\$2.42	\$2.57	\$2.72	\$2.88	\$3.04	\$3.22	\$3.39	\$3.58	\$3.77	\$3.98	\$4.20	\$4.42	
Otter Tail Corporation	OTTR	\$1.86	\$2.03	\$2.21	\$2.41	\$2.63	\$2.86	\$3.10	\$3.34	\$3.59	\$3.82	\$4.06	\$4.28	\$4.51	\$4.75	\$5.01	\$5.29	
Pinnacle West Capital Corporation	PNW	\$4.43	\$4.65	\$4.88	\$5.13	\$5.38	\$5.65	\$5.94	\$6.25	\$6.57	\$6.92	\$7.29	\$7.69	\$8.11	\$8.55	\$9.02	\$9.51	
PNM Resources, Inc.	PNM	\$1.92	\$2.06	\$2.22	\$2.39	\$2.56	\$2.76	\$2.95	\$3.16	\$3.36	\$3.57	\$3.77	\$3.98	\$4.19	\$4.42	\$4.66	\$4.92	
Portland General Electric Company	POR	\$2.29	\$2.38	\$2.48	\$2.58	\$2.68	\$2.79	\$2.90	\$3.03	\$3.18	\$3.34	\$3.51	\$3.70	\$3.90	\$4.11	\$4.34	\$4.57	
Southern Company	SO	\$3.21	\$3.35	\$3.51	\$3.66	\$3.83	\$4.00	\$4.19	\$4.39	\$4.61	\$4.84	\$5.10	\$5.38	\$5.67	\$5.98	\$6.30	\$6.65	
WEC Energy Group, Inc.	WEC	\$3.14	\$3.36	\$3.59	\$3.85	\$4.12	\$4.40	\$4.70	\$5.01	\$5.32	\$5.63	\$5.96	\$6.28	\$6.62	\$6.98	\$7.36	\$7.76	
Xcel Energy Inc.	XEL	\$2.30	\$2.44	\$2.58	\$2.73	\$2.89	\$3.06	\$3.24	\$3.43	\$3.62	\$3.82	\$4.03	\$4.25	\$4.49	\$4.73	\$4.99	\$5.26	

Projected Annual Dividend Payout Ratio		[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	65.00%	64.75%	64.50%	64.25%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Ameren Corporation	AEE	60.00%	59.75%	59.50%	59.25%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
American Electric Power Company, Inc.	AEP	67.00%	66.00%	65.00%	64.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Avangrid, Inc.	AGR	76.00%	73.50%	71.00%	68.50%	66.00%	65.93%	65.86%	65.79%	65.71%	65.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Black Hills Corporation	BKH	55.00%	56.25%	57.50%	58.75%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
DTE Energy Company	DTE	61.00%	60.75%	60.50%	60.25%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Duke Energy Corporation	DUK	76.00%	77.00%	78.00%	79.00%	80.00%	77.60%	75.19%	72.79%	70.38%	67.98%	65.57%	65.57%	65.57%	65.57%	65.57%
El Paso Electric	EE	57.00%	58.00%	59.00%	60.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
Hawaiian Electric Industries, Inc.	HE	66.00%	64.25%	62.50%	60.75%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
IDACORP, Inc.	IDA	57.00%	58.50%	60.00%	61.50%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NextEra Energy, Inc.	NEE	55.00%	57.00%	59.00%	61.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NorthWestern Corporation	NWE	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
OGE Energy Corp.	OGE	69.00%	69.50%	70.00%	70.50%	71.00%	70.10%	69.19%	68.29%	67.38%	66.48%	65.57%	65.57%	65.57%	65.57%	65.57%
Otter Tail Corporation	OTTR	66.00%	64.50%	63.00%	61.50%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Pinnacle West Capital Corporation	PNW	63.00%	63.00%	63.00%	63.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
PNM Resources, Inc.	PNM	53.00%	52.25%	51.50%	50.75%	50.00%	52.60%	55.19%	57.79%	60.38%	62.98%	65.57%	65.57%	65.57%	65.57%	65.57%
Portland General Electric Company	POR	64.00%	63.75%	63.50%	63.25%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Southern Company	SO	80.00%	78.50%	77.00%	75.50%	74.00%	72.60%	71.19%	69.79%	68.38%	66.98%	65.57%	65.57%	65.57%	65.57%	65.57%
WEC Energy Group, Inc.	WEC	66.00%	65.50%	65.00%	64.50%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Xcel Energy Inc.	XEL	62.00%	62.25%	62.50%	62.75%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%

Projected Annual Cash Flows		[45]	[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.16	\$2.28	\$2.40	\$2.54	\$2.68	\$2.85	\$3.03	\$3.22	\$3.41	\$3.61	\$3.83	\$4.03	\$4.25	\$4.48	\$4.73	\$148.16
Alliant Energy Corporation	LNT	\$1.36	\$1.44	\$1.54	\$1.64	\$1.74	\$1.86	\$1.99	\$2.11	\$2.24	\$2.38	\$2.52	\$2.66	\$2.80	\$2.95	\$3.11	\$97.59
Ameren Corporation	AEE	\$1.79	\$1.91	\$2.05	\$2.19	\$2.35	\$2.56	\$2.79	\$3.02	\$3.26	\$3.51	\$3.76	\$3.97	\$4.18	\$4.41	\$4.65	\$145.72
American Electric Power Company, Inc.	AEP	\$2.57	\$2.67	\$2.79	\$2.90	\$3.02	\$3.22	\$3.42	\$3.64	\$3.87	\$4.11	\$4.36	\$4.60	\$4.85	\$5.11	\$5.39	\$168.83
Avangrid, Inc.	AGR	\$1.43	\$1.57	\$1.71	\$1.87	\$2.03	\$2.27	\$2.50	\$2.73	\$2.94	\$3.14	\$3.30	\$3.48	\$3.67	\$3.87	\$4.09	\$128.00
Black Hills Corporation	BKH	\$1.95	\$2.10	\$2.25	\$2.41	\$2.59	\$2.76	\$2.95	\$3.15	\$3.36	\$3.60	\$3.85	\$4.06	\$4.28	\$4.51	\$4.76	\$149.02
CMS Energy Corporation	CMS	\$1.42	\$1.52	\$1.62	\$1.74	\$1.86	\$2.01	\$2.17	\$2.33	\$2.50	\$2.68	\$2.86	\$3.01	\$3.18	\$3.35	\$3.53	\$110.61
DTE Energy Company	DTE	\$3.74	\$3.99	\$4.25	\$4.53	\$4.82	\$5.23	\$5.65	\$6.09	\$6.55	\$7.03	\$7.51	\$7.92	\$8.36	\$8.81	\$9.29	\$291.06
Duke Energy Corporation	DUK	\$3.38	\$3.62	\$3.87	\$4.13	\$4.41	\$4.51	\$4.61	\$4.71	\$4.80	\$4.89	\$4.98	\$5.25	\$5.53	\$5.84	\$6.15	\$192.80
El Paso Electric	EE	\$1.45	\$1.55	\$1.66	\$1.78	\$1.90	\$2.03	\$2.16	\$2.30	\$2.46	\$2.62	\$2.79	\$2.95	\$3.11	\$3.28	\$3.45	\$108.23
Hawaiian Electric Industries, Inc.	HE	\$1.18	\$1.25	\$1.33	\$1.41	\$1.50	\$1.65	\$1.82	\$1.98	\$2.15	\$2.32	\$2.49	\$2.62	\$2.77	\$2.92	\$3.08	\$96.42
IDACORP, Inc.	IDA	\$2.49	\$2.66	\$2.83	\$3.02	\$3.21	\$3.37	\$3.54	\$3.73	\$3.94	\$4.17	\$4.43	\$4.67	\$4.92	\$5.19	\$5.47	\$171.53
NextEra Energy, Inc.	NEE	\$3.92	\$4.47	\$5.08	\$5.76	\$6.53	\$7.17	\$7.82	\$8.48	\$9.12	\$9.75	\$10.35	\$10.91	\$11.50	\$12.13	\$12.79	\$400.75
NorthWestern Corporation	NWE	\$2.21	\$2.29	\$2.37	\$2.45	\$2.54	\$2.65	\$2.77	\$2.90	\$3.05	\$3.22	\$3.41	\$3.60	\$3.80	\$4.00	\$4.22	\$132.21
OGE Energy Corp.	OGE	\$1.40	\$1.50	\$1.60	\$1.71	\$1.82	\$1.91	\$1.99	\$2.08	\$2.17	\$2.26	\$2.35	\$2.47	\$2.61	\$2.75	\$2.90	\$90.89
Otter Tail Corporation	OTTR	\$1.34	\$1.43	\$1.52	\$1.61	\$1.72	\$1.89	\$2.07	\$2.25	\$2.44	\$2.62	\$2.80	\$2.96	\$3.12	\$3.29	\$3.47	\$108.60
Pinnacle West Capital Corporation	PNW	\$2.93	\$3.08	\$3.23	\$3.39	\$3.56	\$3.77	\$3.99	\$4.23	\$4.48	\$4.75	\$5.04	\$5.32	\$5.61	\$5.91	\$6.23	\$195.31
PNM Resources, Inc.	PNM	\$1.09	\$1.16	\$1.23	\$1.30	\$1.38	\$1.55	\$1.74	\$1.94	\$2.15	\$2.38	\$2.61	\$2.75	\$2.90	\$3.06	\$3.22	\$101.01
Portland General Electric Company	POR	\$1.52	\$1.58	\$1.64	\$1.69	\$1.76	\$1.84	\$1.94	\$2.04	\$2.16	\$2.29	\$2.43	\$2.56	\$2.70	\$2.84	\$3.00	\$93.98
Southern Company	SO	\$2.68	\$2.75	\$2.82	\$2.89	\$2.96	\$3.04	\$3.12	\$3.21	\$3.31	\$3.41	\$3.53	\$3.72	\$3.92	\$4.13	\$4.36	\$136.55
WEC Energy Group, Inc.	WEC	\$2.22	\$2.35	\$2.50	\$2.65	\$2.82	\$3.02	\$3.23	\$3.44	\$3.66	\$3.89	\$4.12	\$4.34	\$4.58	\$4.83	\$5.09	\$159.50
Xcel Energy Inc.	XEL	\$1.51	\$1.61	\$1.71	\$1.81	\$1.93	\$2.06	\$2.19	\$2.33	\$2.47	\$2.63	\$2.79	\$2.94	\$3.10	\$3.27	\$3.45	\$108.03

Projected Annual Data

Investor Cash Flows		[61]	[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]
		Initial																
Company	Ticker	Outflow	6/15/18	12/31/18	6/30/19	6/30/20	6/30/21	6/30/22	6/30/23	6/30/24	6/30/25	6/30/26	6/30/27	6/30/28	6/30/29	6/30/30	6/30/31	6/30/32
ALLETE, Inc.	ALE	(\$72.50)	\$0.00	\$1.18	\$2.22	\$2.40	\$2.54	\$2.68	\$2.85	\$3.03	\$3.22	\$3.41	\$3.61	\$3.83	\$4.03	\$4.25	\$4.48	\$152.89
Alliant Energy Corporation	LNT	(\$40.29)	\$0.00	\$0.74	\$1.40	\$1.54	\$1.64	\$1.74	\$1.86	\$1.99	\$2.11	\$2.24	\$2.38	\$2.52	\$2.66	\$2.80	\$2.95	\$100.70
Ameren Corporation	AEE	(\$56.21)	\$0.00	\$0.97	\$1.85	\$2.05	\$2.19	\$2.35	\$2.56	\$2.79	\$3.02	\$3.26	\$3.51	\$3.76	\$3.97	\$4.18	\$4.41	\$150.37
American Electric Power Company, Inc.	AEP	(\$66.84)	\$0.00	\$1.40	\$2.64	\$2.79	\$2.90	\$3.02	\$3.22	\$3.42	\$3.64	\$3.87	\$4.11	\$4.36	\$4.60	\$4.85	\$5.11	\$174.22
Avangrid, Inc.	AGR	(\$50.61)	\$0.00	\$0.78	\$1.53	\$1.71	\$1.87	\$2.03	\$2.27	\$2.50	\$2.73	\$2.94	\$3.14	\$3.30	\$3.48	\$3.67	\$3.87	\$132.09
Black Hills Corporation	BKH	(\$54.56)	\$0.00	\$1.06	\$2.00	\$2.25	\$2.41	\$2.59	\$2.76	\$2.95	\$3.15	\$3.36	\$3.60	\$3.85	\$4.06	\$4.28	\$4.51	\$153.78
CMS Energy Corporation	CMS	(\$44.34)	\$0.00	\$0.77	\$1.47	\$1.62	\$1.74	\$1.86	\$2.01	\$2.17	\$2.33	\$2.50	\$2.68	\$2.86	\$3.01	\$3.18	\$3.35	\$114.14
DTE Energy Company	DTE	(\$101.87)	\$0.00	\$2.04	\$3.87	\$4.25	\$4.53	\$4.82	\$5.23	\$5.65	\$6.09	\$6.55	\$7.03	\$7.51	\$7.92	\$8.36	\$8.81	\$300.35
Duke Energy Corporation	DUK	(\$76.57)	\$0.00	\$1.84	\$3.48	\$3.87	\$4.13	\$4.41	\$4.51	\$4.61	\$4.71	\$4.80	\$4.89	\$4.98	\$5.25	\$5.53	\$5.84	\$198.95
El Paso Electric	EE	(\$52.05)	\$0.00	\$0.79	\$1.49	\$1.66	\$1.78	\$1.90	\$2.03	\$2.16	\$2.30	\$2.46	\$2.62	\$2.79	\$2.95	\$3.11	\$3.28	\$111.68
Hawaiian Electric Industries, Inc.	HE	(\$33.76)	\$0.00	\$0.64	\$1.23	\$1.33	\$1.41	\$1.50	\$1.65	\$1.82	\$1.98	\$2.15	\$2.32	\$2.49	\$2.62	\$2.77	\$2.92	\$99.50
IDACORP, Inc.	IDA	(\$87.21)	\$0.00	\$1.36	\$2.54	\$2.83	\$3.02	\$3.21	\$3.37	\$3.54	\$3.73	\$3.94	\$4.17	\$4.43	\$4.67	\$4.92	\$5.19	\$177.01
NextEra Energy, Inc.	NEE	(\$158.65)	\$0.00	\$2.14	\$4.12	\$5.08	\$5.76	\$6.53	\$7.17	\$7.82	\$8.48	\$9.12	\$9.75	\$10.35	\$10.91	\$11.50	\$12.13	\$413.55
NorthWestern Corporation	NWE	(\$52.95)	\$0.00	\$1.21	\$2.25	\$2.37	\$2.45	\$2.54	\$2.65	\$2.77	\$2.90	\$3.05	\$3.22	\$3.41	\$3.60	\$3.80	\$4.00	\$136.43
OGE Energy Corp.	OGE	(\$32.61)	\$0.00	\$0.77	\$1.45	\$1.60	\$1.71	\$1.82	\$1.91	\$1.99	\$2.08	\$2.17	\$2.26	\$2.35	\$2.47	\$2.61	\$2.75	\$93.79
Otter Tail Corporation	OTTR	(\$43.41)	\$0.00	\$0.73	\$1.40	\$1.52	\$1.61	\$1.72	\$1.89	\$2.07	\$2.25	\$2.44	\$2.62	\$2.80	\$2.96	\$3.12	\$3.29	\$112.07
Pinnacle West Capital Corporation	PNW	(\$77.79)	\$0.00	\$1.60	\$3.00	\$3.23	\$3.39	\$3.56	\$3.77	\$3.99	\$4.23	\$4.48	\$4.75	\$5.04	\$5.32	\$5.61	\$5.91	\$201.55
PNM Resources, Inc.	PNM	(\$37.36)	\$0.00	\$0.60	\$1.13	\$1.23	\$1.30	\$1.38	\$1.55	\$1.74	\$1.94	\$2.15	\$2.38	\$2.61	\$2.75	\$2.90	\$3.06	\$104.23
Portland General Electric Company	POR	(\$40.54)	\$0.00	\$0.83	\$1.55	\$1.64	\$1.69	\$1.76	\$1.84	\$1.94	\$2.04	\$2.16	\$2.29	\$2.43	\$2.56	\$2.70	\$2.84	\$96.98
Southern Company	SO	(\$44.31)	\$0.00	\$1.46	\$2.74	\$2.82	\$2.89	\$2.96	\$3.04	\$3.12	\$3.21	\$3.31	\$3.41	\$3.53	\$3.72	\$3.92	\$4.13	\$140.91
WEC Energy Group, Inc.	WEC	(\$61.59)	\$0.00	\$1.21	\$2.30	\$2.50	\$2.65	\$2.82	\$3.02	\$3.23	\$3.44	\$3.66	\$3.89	\$4.12	\$4.34	\$4.58	\$4.83	\$164.59
Xcel Energy Inc.	XEL	(\$44.41)	\$0.00	\$0.82	\$1.55	\$1.71	\$1.81	\$1.93	\$2.06	\$2.19	\$2.33	\$2.47	\$2.63	\$2.79	\$2.94	\$3.10	\$3.27	\$111.48

Multi-Stage Growth Discounted Cash Flow Model - Terminal P/E
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]				
Company	Ticker	Stock Price	EPS Growth Rate Estimates				Long-Term Growth	Payout Ratio			Iterative Solution		Terminal P/E Ratio	Terminal PEG Ratio				
			Zacks	First Call	Value Line	Low Growth		2018	2022	2028	Proof	IRR						
ALLETE, Inc.	ALE	\$72.50	6.00%	6.00%	5.00%	5.00%	5.45%	65.00%	64.00%	65.57%	\$0.00	7.98%	20.54	3.77				
Alliant Energy Corporation	LNT	\$40.29	5.60%	5.85%	6.50%	5.60%	5.45%	64.00%	64.00%	65.57%	\$0.00	9.62%	20.54	3.77				
Ameren Corporation	AEE	\$56.21	6.50%	6.30%	7.50%	6.30%	5.45%	60.00%	59.00%	65.57%	\$0.00	9.89%	20.54	3.77				
American Electric Power Company, Inc.	AEP	\$66.84	5.70%	5.79%	4.50%	4.50%	5.45%	67.00%	63.00%	65.57%	(\$0.00)	9.85%	20.54	3.77				
Avangrid, Inc.	AGR	\$50.61	9.10%	10.40%	13.00%	9.10%	5.45%	76.00%	66.00%	65.57%	\$0.00	8.06%	20.54	3.77				
Black Hills Corporation	BKH	\$54.56	4.10%	3.86%	5.00%	3.86%	5.45%	55.00%	60.00%	65.57%	\$0.00	10.55%	20.54	3.77				
CMS Energy Corporation	CMS	\$44.34	6.40%	7.05%	7.00%	6.40%	5.45%	61.00%	61.00%	65.57%	\$0.00	9.94%	20.54	3.77				
DTE Energy Company	DTE	\$101.87	5.30%	5.59%	7.00%	5.30%	5.45%	61.00%	60.00%	65.57%	\$0.00	10.59%	20.54	3.77				
Duke Energy Corporation	DUK	\$76.57	4.70%	4.22%	5.50%	4.22%	5.45%	76.00%	80.00%	65.57%	\$0.00	10.31%	20.54	3.77				
El Paso Electric	EE	\$52.05	5.10%	5.20%	4.50%	4.50%	5.45%	57.00%	61.00%	65.57%	\$0.00	8.24%	20.54	3.77				
Hawaiian Electric Industries, Inc.	HE	\$33.76	7.10%	9.10%	3.50%	3.50%	5.45%	66.00%	59.00%	65.57%	\$0.00	8.08%	20.54	3.77				
IDACORP, Inc.	IDA	\$87.21	3.90%	3.10%	3.50%	3.10%	5.45%	57.00%	63.00%	65.57%	\$0.00	7.76%	20.54	3.77				
NextEra Energy, Inc.	NEE	\$158.65	8.60%	9.79%	8.50%	8.50%	5.45%	55.00%	63.00%	65.57%	(\$0.00)	9.51%	20.54	3.77				
NorthWestern Corporation	NWE	\$52.95	3.00%	3.16%	3.50%	3.00%	5.45%	64.00%	64.00%	65.57%	\$0.00	10.38%	20.54	3.77				
OGE Energy Corp.	OGE	\$32.61	6.00%	4.30%	6.00%	4.30%	5.45%	69.00%	71.00%	65.57%	\$0.00	10.75%	20.54	3.77				
Otter Tail Corporation	OTTR	\$43.41	NA	9.00%	7.50%	7.50%	5.45%	66.00%	60.00%	65.57%	\$0.00	9.37%	20.54	3.77				
Pinnacle West Capital Corporation	PNW	\$77.79	4.50%	3.78%	5.00%	3.78%	5.45%	63.00%	63.00%	65.57%	(\$0.00)	9.83%	20.54	3.77				
PNM Resources, Inc.	PNM	\$37.36	5.10%	4.30%	7.50%	4.30%	5.45%	53.00%	50.00%	65.57%	\$0.00	8.80%	20.54	3.77				
Portland General Electric Company	POR	\$40.54	2.80%	2.65%	4.00%	2.65%	5.45%	64.00%	63.00%	65.57%	\$0.00	9.04%	20.54	3.77				
Southern Company	SO	\$44.31	4.50%	2.72%	3.00%	2.72%	5.45%	80.00%	74.00%	65.57%	(\$0.00)	12.13%	20.54	3.77				
WEC Energy Group, Inc.	WEC	\$61.59	4.10%	4.43%	7.00%	4.10%	5.45%	66.00%	64.00%	65.57%	\$0.00	9.01%	20.54	3.77				
Xcel Energy Inc.	XEL	\$44.41	5.70%	5.89%	5.50%	5.50%	5.45%	62.00%	63.00%	65.57%	\$0.00	9.98%	20.54	3.77				
											Mean	9.53%						
											Max	12.13%						
											Min	7.76%						
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
ALLETE, Inc.	ALE	\$3.13	\$3.29	\$3.45	\$3.62	\$3.80	\$3.99	\$4.20	\$4.41	\$4.64	\$4.89	\$5.15	\$5.43	\$5.73	\$6.04	\$6.37	\$6.72	
Alliant Energy Corporation	LNT	\$1.99	\$2.10	\$2.22	\$2.34	\$2.47	\$2.61	\$2.76	\$2.91	\$3.07	\$3.24	\$3.42	\$3.61	\$3.80	\$4.01	\$4.23	\$4.46	
Ameren Corporation	AEE	\$2.77	\$2.94	\$3.13	\$3.33	\$3.54	\$3.76	\$3.99	\$4.23	\$4.48	\$4.74	\$5.00	\$5.27	\$5.56	\$5.86	\$6.18	\$6.52	
American Electric Power Company, Inc.	AEP	\$3.62	\$3.78	\$3.95	\$4.13	\$4.32	\$4.51	\$4.72	\$4.95	\$5.19	\$5.46	\$5.75	\$6.06	\$6.39	\$6.74	\$7.11	\$7.50	
Avangrid, Inc.	AGR	\$1.67	\$1.82	\$1.99	\$2.17	\$2.37	\$2.58	\$2.80	\$3.02	\$3.24	\$3.46	\$3.67	\$3.87	\$4.08	\$4.30	\$4.53	\$4.78	
Black Hills Corporation	BKH	\$3.38	\$3.51	\$3.65	\$3.79	\$3.93	\$4.08	\$4.25	\$4.44	\$4.65	\$4.87	\$5.13	\$5.41	\$5.70	\$6.01	\$6.34	\$6.68	
CMS Energy Corporation	CMS	\$2.17	\$2.31	\$2.46	\$2.61	\$2.78	\$2.96	\$3.14	\$3.34	\$3.53	\$3.74	\$3.95	\$4.16	\$4.39	\$4.63	\$4.88	\$5.14	
DTE Energy Company	DTE	\$5.73	\$6.03	\$6.35	\$6.69	\$7.04	\$7.42	\$7.81	\$8.23	\$8.67	\$9.14	\$9.64	\$10.16	\$10.72	\$11.30	\$11.91	\$12.56	
Duke Energy Corporation	DUK	\$4.22	\$4.40	\$4.58	\$4.78	\$4.98	\$5.19	\$5.42	\$5.67	\$5.94	\$6.24	\$6.57	\$6.93	\$7.30	\$7.70	\$8.12	\$8.56	
El Paso Electric	EE	\$2.42	\$2.53	\$2.64	\$2.76	\$2.89	\$3.02	\$3.16	\$3.31	\$3.47	\$3.65	\$3.84	\$4.05	\$4.27	\$4.51	\$4.75	\$5.01	
Hawaiian Electric Industries, Inc.	HE	\$1.64	\$1.70	\$1.76	\$1.82	\$1.88	\$1.95	\$2.02	\$2.11	\$2.20	\$2.31	\$2.42	\$2.56	\$2.70	\$2.84	\$3.00	\$3.16	
IDACORP, Inc.	IDA	\$4.21	\$4.34	\$4.48	\$4.61	\$4.76	\$4.90	\$5.08	\$5.27	\$5.50	\$5.75	\$6.05	\$6.37	\$6.72	\$7.09	\$7.47	\$7.88	
NextEra Energy, Inc.	NEE	\$6.50	\$7.05	\$7.65	\$8.30	\$9.01	\$9.77	\$10.55	\$11.34	\$12.14	\$12.92	\$13.69	\$14.43	\$15.22	\$16.05	\$16.92	\$17.85	
NorthWestern Corporation	NWE	\$3.34	\$3.44	\$3.54	\$3.65	\$3.76	\$3.87	\$4.00	\$4.16	\$4.33	\$4.53	\$4.76	\$5.02	\$5.29	\$5.58	\$5.89	\$6.21	
OGE Energy Corp.	OGE	\$1.92	\$2.00	\$2.09	\$2.18	\$2.27	\$2.37	\$2.48	\$2.59	\$2.72	\$2.86	\$3.01	\$3.17	\$3.34	\$3.52	\$3.72	\$3.92	
Otter Tail Corporation	OTTR	\$1.86	\$2.00	\$2.15	\$2.31	\$2.48	\$2.67	\$2.86	\$3.06	\$3.25	\$3.45	\$3.65	\$3.85	\$4.06	\$4.28	\$4.52	\$4.76	
Pinnacle West Capital Corporation	PNW	\$4.43	\$4.60	\$4.77	\$4.95	\$5.14	\$5.33	\$5.55	\$5.79	\$6.06	\$6.35	\$6.68	\$7.05	\$7.43	\$7.83	\$8.26	\$8.71	
PNM Resources, Inc.	PNM	\$1.92	\$2.00	\$2.09	\$2.18	\$2.27	\$2.37	\$2.48	\$2.59	\$2.72	\$2.86	\$3.01	\$3.17	\$3.34	\$3.52	\$3.72	\$3.92	
Portland General Electric Company	POR	\$2.29	\$2.35	\$2.41	\$2.48	\$2.54	\$2.61	\$2.69	\$2.79	\$2.90	\$3.03	\$3.18	\$3.36	\$3.54	\$3.73	\$3.93	\$4.15	
Southern Company	SO	\$3.21	\$3.30	\$3.39	\$3.48	\$3.57	\$3.67	\$3.79	\$3.92	\$4.09	\$4.27	\$4.48	\$4.73	\$4.99	\$5.26	\$5.54	\$5.85	
WEC Energy Group, Inc.	WEC	\$3.14	\$3.27	\$3.40	\$3.54	\$3.69	\$3.84	\$4.00	\$4.19	\$4.39	\$4.61	\$4.85	\$5.11	\$5.39	\$5.68	\$5.99	\$6.32	
Xcel Energy Inc.	XEL	\$2.30	\$2.43	\$2.56	\$2.70	\$2.85	\$3.01	\$3.17	\$3.34	\$3.53	\$3.72	\$3.92	\$4.14	\$4.36	\$4.60	\$4.85	\$5.12	

Projected Annual Dividend Payout Ratio		[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	65.00%	64.75%	64.50%	64.25%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Ameren Corporation	AEE	60.00%	59.75%	59.50%	59.25%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
American Electric Power Company, Inc.	AEP	67.00%	66.00%	65.00%	64.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Avangrid, Inc.	AGR	76.00%	73.50%	71.00%	68.50%	66.00%	65.93%	65.86%	65.79%	65.71%	65.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Black Hills Corporation	BKH	55.00%	56.25%	57.50%	58.75%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
DTE Energy Company	DTE	61.00%	60.75%	60.50%	60.25%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Duke Energy Corporation	DUK	76.00%	77.00%	78.00%	79.00%	80.00%	77.60%	75.19%	72.79%	70.38%	67.98%	65.57%	65.57%	65.57%	65.57%	65.57%
El Paso Electric	EE	57.00%	58.00%	59.00%	60.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
Hawaiian Electric Industries, Inc.	HE	66.00%	64.25%	62.50%	60.75%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
IDACORP, Inc.	IDA	57.00%	58.50%	60.00%	61.50%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NextEra Energy, Inc.	NEE	55.00%	57.00%	59.00%	61.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NorthWestern Corporation	NWE	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
OGE Energy Corp.	OGE	69.00%	69.50%	70.00%	70.50%	71.00%	70.10%	69.19%	68.29%	67.38%	66.48%	65.57%	65.57%	65.57%	65.57%	65.57%
Otter Tail Corporation	OTTR	66.00%	64.50%	63.00%	61.50%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Pinnacle West Capital Corporation	PNW	63.00%	63.00%	63.00%	63.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
PNM Resources, Inc.	PNM	53.00%	52.25%	51.50%	50.75%	50.00%	52.60%	55.19%	57.79%	60.38%	62.98%	65.57%	65.57%	65.57%	65.57%	65.57%
Portland General Electric Company	POR	64.00%	63.75%	63.50%	63.25%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Southern Company	SO	80.00%	78.50%	77.00%	75.50%	74.00%	72.60%	71.19%	69.79%	68.38%	66.98%	65.57%	65.57%	65.57%	65.57%	65.57%
WEC Energy Group, Inc.	WEC	66.00%	65.50%	65.00%	64.50%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Xcel Energy Inc.	XEL	62.00%	62.25%	62.50%	62.75%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%

Projected Annual Cash Flows		[45]	[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.14	\$2.23	\$2.34	\$2.44	\$2.56	\$2.70	\$2.85	\$3.01	\$3.18	\$3.37	\$3.56	\$3.76	\$3.96	\$4.18	\$4.40	\$138.00
Alliant Energy Corporation	LNT	\$1.34	\$1.42	\$1.50	\$1.58	\$1.67	\$1.77	\$1.88	\$1.99	\$2.11	\$2.23	\$2.36	\$2.49	\$2.63	\$2.77	\$2.92	\$91.57
Ameren Corporation	AEE	\$1.77	\$1.87	\$1.98	\$2.10	\$2.22	\$2.40	\$2.59	\$2.79	\$3.00	\$3.22	\$3.46	\$3.65	\$3.84	\$4.05	\$4.27	\$133.93
American Electric Power Company, Inc.	AEP	\$2.53	\$2.61	\$2.69	\$2.76	\$2.84	\$2.99	\$3.16	\$3.34	\$3.53	\$3.75	\$3.98	\$4.19	\$4.42	\$4.66	\$4.92	\$153.99
Avangrid, Inc.	AGR	\$1.38	\$1.46	\$1.54	\$1.62	\$1.70	\$1.85	\$1.99	\$2.13	\$2.27	\$2.41	\$2.53	\$2.67	\$2.82	\$2.97	\$3.13	\$98.19
Black Hills Corporation	BKH	\$1.93	\$2.05	\$2.18	\$2.31	\$2.45	\$2.59	\$2.75	\$2.92	\$3.11	\$3.31	\$3.55	\$3.74	\$3.94	\$4.16	\$4.38	\$137.32
CMS Energy Corporation	CMS	\$1.41	\$1.50	\$1.59	\$1.70	\$1.81	\$1.94	\$2.09	\$2.24	\$2.39	\$2.56	\$2.73	\$2.88	\$3.03	\$3.20	\$3.37	\$105.67
DTE Energy Company	DTE	\$3.68	\$3.86	\$4.05	\$4.24	\$4.45	\$4.76	\$5.09	\$5.45	\$5.82	\$6.23	\$6.66	\$7.03	\$7.41	\$7.81	\$8.24	\$258.09
Duke Energy Corporation	DUK	\$3.34	\$3.53	\$3.73	\$3.93	\$4.15	\$4.20	\$4.26	\$4.33	\$4.39	\$4.47	\$4.54	\$4.79	\$5.05	\$5.33	\$5.62	\$175.94
El Paso Electric	EE	\$1.44	\$1.53	\$1.63	\$1.73	\$1.84	\$1.95	\$2.07	\$2.20	\$2.34	\$2.49	\$2.66	\$2.80	\$2.96	\$3.12	\$3.29	\$102.94
Hawaiian Electric Industries, Inc.	HE	\$1.12	\$1.13	\$1.14	\$1.14	\$1.15	\$1.22	\$1.29	\$1.37	\$1.46	\$1.56	\$1.68	\$1.77	\$1.86	\$1.97	\$2.07	\$64.92
IDACORP, Inc.	IDA	\$2.47	\$2.62	\$2.77	\$2.93	\$3.09	\$3.22	\$3.37	\$3.53	\$3.72	\$3.94	\$4.18	\$4.41	\$4.65	\$4.90	\$5.17	\$161.89
NextEra Energy, Inc.	NEE	\$3.88	\$4.36	\$4.90	\$5.49	\$6.16	\$6.69	\$7.24	\$7.80	\$8.36	\$8.92	\$9.47	\$9.98	\$10.52	\$11.10	\$11.70	\$366.61
NorthWestern Corporation	NWE	\$2.20	\$2.27	\$2.34	\$2.41	\$2.48	\$2.57	\$2.68	\$2.81	\$2.95	\$3.11	\$3.29	\$3.47	\$3.66	\$3.86	\$4.07	\$127.51
OGE Energy Corp.	OGE	\$1.38	\$1.45	\$1.52	\$1.60	\$1.68	\$1.74	\$1.79	\$1.86	\$1.92	\$2.00	\$2.08	\$2.19	\$2.31	\$2.44	\$2.57	\$80.51
Otter Tail Corporation	OTTR	\$1.32	\$1.39	\$1.46	\$1.53	\$1.60	\$1.74	\$1.89	\$2.04	\$2.20	\$2.36	\$2.53	\$2.66	\$2.81	\$2.96	\$3.12	\$97.85
Pinnacle West Capital Corporation	PNW	\$2.90	\$3.01	\$3.12	\$3.24	\$3.36	\$3.52	\$3.70	\$3.89	\$4.11	\$4.35	\$4.62	\$4.87	\$5.14	\$5.42	\$5.71	\$178.94
PNM Resources, Inc.	PNM	\$1.06	\$1.09	\$1.12	\$1.15	\$1.18	\$1.30	\$1.43	\$1.57	\$1.72	\$1.89	\$2.08	\$2.19	\$2.31	\$2.44	\$2.57	\$80.51
Portland General Electric Company	POR	\$1.50	\$1.54	\$1.57	\$1.61	\$1.64	\$1.71	\$1.78	\$1.86	\$1.96	\$2.07	\$2.20	\$2.32	\$2.45	\$2.58	\$2.72	\$85.23
Southern Company	SO	\$2.64	\$2.66	\$2.68	\$2.70	\$2.72	\$2.75	\$2.79	\$2.85	\$2.92	\$3.00	\$3.10	\$3.27	\$3.45	\$3.63	\$3.83	\$120.08
WEC Energy Group, Inc.	WEC	\$2.16	\$2.23	\$2.30	\$2.38	\$2.46	\$2.57	\$2.70	\$2.84	\$3.00	\$3.17	\$3.35	\$3.53	\$3.73	\$3.93	\$4.14	\$129.79
Xcel Energy Inc.	XEL	\$1.50	\$1.59	\$1.69	\$1.79	\$1.89	\$2.01	\$2.14	\$2.27	\$2.41	\$2.56	\$2.71	\$2.86	\$3.02	\$3.18	\$3.35	\$105.08

Projected Annual Data

Investor Cash Flows		[61]	[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]
		Initial																
Company	Ticker	Outflow	6/15/18	12/31/18	6/30/19	6/30/20	6/30/21	6/30/22	6/30/23	6/30/24	6/30/25	6/30/26	6/30/27	6/30/28	6/30/29	6/30/30	6/30/31	6/30/32
ALLETE, Inc.	ALE	(\$72.50)	\$0.00	\$1.16	\$2.19	\$2.34	\$2.44	\$2.56	\$2.70	\$2.85	\$3.01	\$3.18	\$3.37	\$3.56	\$3.76	\$3.96	\$4.18	\$142.40
Alliant Energy Corporation	LNT	(\$40.29)	\$0.00	\$0.73	\$1.38	\$1.50	\$1.58	\$1.67	\$1.77	\$1.88	\$1.99	\$2.11	\$2.23	\$2.36	\$2.49	\$2.63	\$2.77	\$94.49
Ameren Corporation	AEE	(\$56.21)	\$0.00	\$0.96	\$1.82	\$1.98	\$2.10	\$2.22	\$2.40	\$2.59	\$2.79	\$3.00	\$3.22	\$3.46	\$3.65	\$3.84	\$4.05	\$138.21
American Electric Power Company, Inc.	AEP	(\$66.84)	\$0.00	\$1.38	\$2.59	\$2.69	\$2.76	\$2.84	\$2.99	\$3.16	\$3.34	\$3.53	\$3.75	\$3.98	\$4.19	\$4.42	\$4.66	\$158.91
Avangrid, Inc.	AGR	(\$50.61)	\$0.00	\$0.75	\$1.45	\$1.54	\$1.62	\$1.70	\$1.85	\$1.99	\$2.13	\$2.27	\$2.41	\$2.53	\$2.67	\$2.82	\$2.97	\$101.32
Black Hills Corporation	BKH	(\$54.56)	\$0.00	\$1.05	\$1.97	\$2.18	\$2.31	\$2.45	\$2.59	\$2.75	\$2.92	\$3.11	\$3.31	\$3.55	\$3.74	\$3.94	\$4.16	\$141.70
CMS Energy Corporation	CMS	(\$44.34)	\$0.00	\$0.77	\$1.45	\$1.59	\$1.70	\$1.81	\$1.94	\$2.09	\$2.24	\$2.39	\$2.56	\$2.73	\$2.88	\$3.03	\$3.20	\$109.04
DTE Energy Company	DTE	(\$101.87)	\$0.00	\$2.01	\$3.78	\$4.05	\$4.24	\$4.45	\$4.76	\$5.09	\$5.45	\$5.82	\$6.23	\$6.66	\$7.03	\$7.41	\$7.81	\$266.33
Duke Energy Corporation	DUK	(\$76.57)	\$0.00	\$1.82	\$3.41	\$3.73	\$3.93	\$4.15	\$4.20	\$4.26	\$4.33	\$4.39	\$4.47	\$4.54	\$4.79	\$5.05	\$5.33	\$181.56
El Paso Electric	EE	(\$52.05)	\$0.00	\$0.79	\$1.47	\$1.63	\$1.73	\$1.84	\$1.95	\$2.07	\$2.20	\$2.34	\$2.49	\$2.66	\$2.80	\$2.96	\$3.12	\$106.23
Hawaiian Electric Industries, Inc.	HE	(\$33.76)	\$0.00	\$0.61	\$1.14	\$1.14	\$1.14	\$1.15	\$1.22	\$1.29	\$1.37	\$1.46	\$1.56	\$1.68	\$1.77	\$1.86	\$1.97	\$66.99
IDACORP, Inc.	IDA	(\$87.21)	\$0.00	\$1.35	\$2.51	\$2.77	\$2.93	\$3.09	\$3.22	\$3.37	\$3.53	\$3.72	\$3.94	\$4.18	\$4.41	\$4.65	\$4.90	\$167.06
NextEra Energy, Inc.	NEE	(\$158.65)	\$0.00	\$2.11	\$4.04	\$4.90	\$5.49	\$6.16	\$6.69	\$7.24	\$7.80	\$8.36	\$8.92	\$9.47	\$9.98	\$10.52	\$11.10	\$378.32
NorthWestern Corporation	NWE	(\$52.95)	\$0.00	\$1.20	\$2.23	\$2.34	\$2.41	\$2.48	\$2.57	\$2.68	\$2.81	\$2.95	\$3.11	\$3.29	\$3.47	\$3.66	\$3.86	\$131.58
OGE Energy Corp.	OGE	(\$32.60)	\$0.00	\$0.75	\$1.41	\$1.52	\$1.60	\$1.68	\$1.74	\$1.79	\$1.86	\$1.92	\$2.00	\$2.08	\$2.19	\$2.31	\$2.44	\$83.08
Otter Tail Corporation	OTTR	(\$43.41)	\$0.00	\$0.72	\$1.37	\$1.46	\$1.53	\$1.60	\$1.74	\$1.89	\$2.04	\$2.20	\$2.36	\$2.53	\$2.66	\$2.81	\$2.96	\$100.97
Pinnacle West Capital Corporation	PNW	(\$77.79)	\$0.00	\$1.58	\$2.95	\$3.12	\$3.24	\$3.36	\$3.52	\$3.70	\$3.89	\$4.11	\$4.35	\$4.62	\$4.87	\$5.14	\$5.42	\$184.65
PNM Resources, Inc.	PNM	(\$37.36)	\$0.00	\$0.58	\$1.08	\$1.12	\$1.15	\$1.18	\$1.30	\$1.43	\$1.57	\$1.72	\$1.89	\$2.08	\$2.19	\$2.31	\$2.44	\$83.08
Portland General Electric Company	POR	(\$40.54)	\$0.00	\$0.82	\$1.52	\$1.57	\$1.61	\$1.64	\$1.71	\$1.78	\$1.86	\$1.96	\$2.07	\$2.20	\$2.32	\$2.45	\$2.58	\$87.95
Southern Company	SO	(\$44.31)	\$0.00	\$1.44	\$2.67	\$2.68	\$2.70	\$2.72	\$2.75	\$2.79	\$2.85	\$2.92	\$3.00	\$3.10	\$3.27	\$3.45	\$3.63	\$123.91
WEC Energy Group, Inc.	WEC	(\$61.59)	\$0.00	\$1.18	\$2.20	\$2.30	\$2.38	\$2.46	\$2.57	\$2.70	\$2.84	\$3.00	\$3.17	\$3.35	\$3.53	\$3.73	\$3.93	\$133.93
Xcel Energy Inc.	XEL	(\$44.41)	\$0.00	\$0.82	\$1.55	\$1.69	\$1.79	\$1.89	\$2.01	\$2.14	\$2.27	\$2.41	\$2.56	\$2.71	\$2.86	\$3.02	\$3.18	\$108.43

Multi-Stage Growth Discounted Cash Flow Model - Terminal P/E
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	2018	2022	2028	Proof	IRR	P/E Ratio	PEG Ratio				
Company	Ticker																	
ALLETE, Inc.	ALE	\$74.39	6.00%	6.00%	5.00%	5.67%	5.45%	65.00%	64.00%	65.57%	\$0.00	8.15%	20.54	3.77				
Alliant Energy Corporation	LNT	\$41.41	5.60%	5.85%	6.50%	5.98%	5.45%	64.00%	64.00%	65.57%	\$0.00	9.60%	20.54	3.77				
Ameren Corporation	AEE	\$58.05	6.50%	6.30%	7.50%	6.77%	5.45%	60.00%	59.00%	65.57%	\$0.00	9.87%	20.54	3.77				
American Electric Power Company, Inc.	AEP	\$69.91	5.70%	5.79%	4.50%	5.33%	5.45%	67.00%	63.00%	65.57%	(\$0.00)	9.93%	20.54	3.77				
Avangrid, Inc.	AGR	\$50.25	9.10%	10.40%	13.00%	10.83%	5.45%	76.00%	66.00%	65.57%	\$0.00	9.15%	20.54	3.77				
Black Hills Corporation	BKH	\$57.41	4.10%	3.86%	5.00%	4.32%	5.45%	55.00%	60.00%	65.57%	\$0.00	10.34%	20.54	3.77				
CMS Energy Corporation	CMS	\$45.84	6.40%	7.05%	7.00%	6.82%	5.45%	61.00%	61.00%	65.57%	\$0.00	9.88%	20.54	3.77				
DTE Energy Company	DTE	\$105.75	5.30%	5.59%	7.00%	5.96%	5.45%	61.00%	60.00%	65.57%	\$0.00	10.64%	20.54	3.77				
Duke Energy Corporation	DUK	\$80.74	4.70%	4.22%	5.50%	4.81%	5.45%	76.00%	80.00%	65.57%	(\$0.00)	10.15%	20.54	3.77				
El Paso Electric	EE	\$54.16	5.10%	5.20%	4.50%	4.93%	5.45%	57.00%	61.00%	65.57%	\$0.00	8.13%	20.54	3.77				
Hawaiian Electric Industries, Inc.	HE	\$34.70	7.10%	9.10%	3.50%	6.57%	5.45%	66.00%	59.00%	65.57%	\$0.00	9.72%	20.54	3.77				
IDACORP, Inc.	IDA	\$89.13	3.90%	3.10%	3.50%	3.50%	5.45%	57.00%	63.00%	65.57%	\$0.00	7.80%	20.54	3.77				
NextEra Energy, Inc.	NEE	\$156.22	8.60%	9.79%	8.50%	8.96%	5.45%	55.00%	63.00%	65.57%	(\$0.00)	9.93%	20.54	3.77				
NorthWestern Corporation	NWE	\$55.80	3.00%	3.16%	3.50%	3.22%	5.45%	64.00%	64.00%	65.57%	\$0.00	10.00%	20.54	3.77				
OGE Energy Corp.	OGE	\$33.47	6.00%	4.30%	6.00%	5.43%	5.45%	69.00%	71.00%	65.57%	(\$0.00)	11.22%	20.54	3.77				
Otter Tail Corporation	OTTR	\$44.07	NA	9.00%	7.50%	8.25%	5.45%	66.00%	60.00%	65.57%	\$0.00	9.68%	20.54	3.77				
Pinnacle West Capital Corporation	PNW	\$81.85	4.50%	3.78%	5.00%	4.43%	5.45%	63.00%	63.00%	65.57%	(\$0.00)	9.75%	20.54	3.77				
PNM Resources, Inc.	PNM	\$39.36	5.10%	4.30%	7.50%	5.63%	5.45%	53.00%	50.00%	65.57%	\$0.00	9.13%	20.54	3.77				
Portland General Electric Company	POR	\$43.26	2.80%	2.65%	4.00%	3.15%	5.45%	64.00%	63.00%	65.57%	\$0.00	8.73%	20.54	3.77				
Southern Company	SO	\$46.80	4.50%	2.72%	3.00%	3.41%	5.45%	80.00%	74.00%	65.57%	(\$0.00)	11.99%	20.54	3.77				
WEC Energy Group, Inc.	WEC	\$63.81	4.10%	4.43%	7.00%	5.18%	5.45%	66.00%	64.00%	65.57%	\$0.00	9.34%	20.54	3.77				
Xcel Energy Inc.	XEL	\$46.44	5.70%	5.89%	5.50%	5.70%	5.45%	62.00%	63.00%	65.57%	\$0.00	9.67%	20.54	3.77				
											Mean	9.67%						
											Max	11.99%						
											Min	7.80%						
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
ALLETE, Inc.	ALE	\$3.13	\$3.31	\$3.49	\$3.69	\$3.90	\$4.12	\$4.36	\$4.60	\$4.85	\$5.12	\$5.40	\$5.70	\$6.01	\$6.34	\$6.68	\$7.04	
Alliant Energy Corporation	LNT	\$1.99	\$2.11	\$2.24	\$2.37	\$2.51	\$2.66	\$2.82	\$2.98	\$3.15	\$3.33	\$3.51	\$3.70	\$3.91	\$4.12	\$4.34	\$4.58	
Ameren Corporation	AEE	\$2.77	\$2.96	\$3.16	\$3.37	\$3.60	\$3.84	\$4.09	\$4.35	\$4.62	\$4.89	\$5.17	\$5.45	\$5.75	\$6.06	\$6.39	\$6.74	
American Electric Power Company, Inc.	AEP	\$3.62	\$3.81	\$4.02	\$4.23	\$4.46	\$4.69	\$4.94	\$5.21	\$5.49	\$5.79	\$6.10	\$6.43	\$6.78	\$7.15	\$7.54	\$7.95	
Avangrid, Inc.	AGR	\$1.67	\$1.85	\$2.05	\$2.27	\$2.52	\$2.79	\$3.07	\$3.35	\$3.62	\$3.88	\$4.13	\$4.35	\$4.59	\$4.84	\$5.10	\$5.38	
Black Hills Corporation	BKH	\$3.38	\$3.53	\$3.68	\$3.84	\$4.00	\$4.18	\$4.36	\$4.57	\$4.79	\$5.04	\$5.30	\$5.59	\$5.89	\$6.21	\$6.55	\$6.91	
CMS Energy Corporation	CMS	\$2.17	\$2.32	\$2.48	\$2.64	\$2.82	\$3.02	\$3.22	\$3.42	\$3.63	\$3.84	\$4.06	\$4.28	\$4.52	\$4.76	\$5.02	\$5.30	
DTE Energy Company	DTE	\$5.73	\$6.07	\$6.43	\$6.82	\$7.22	\$7.65	\$8.10	\$8.57	\$9.06	\$9.57	\$10.10	\$10.65	\$11.23	\$11.84	\$12.49	\$13.17	
Duke Energy Corporation	DUK	\$4.22	\$4.42	\$4.64	\$4.86	\$5.09	\$5.34	\$5.60	\$5.88	\$6.18	\$6.50	\$6.85	\$7.23	\$7.62	\$8.03	\$8.47	\$8.93	
El Paso Electric	EE	\$2.42	\$2.54	\$2.66	\$2.80	\$2.93	\$3.08	\$3.23	\$3.40	\$3.57	\$3.76	\$3.97	\$4.18	\$4.41	\$4.65	\$4.90	\$5.17	
Hawaiian Electric Industries, Inc.	HE	\$1.64	\$1.75	\$1.86	\$1.98	\$2.12	\$2.25	\$2.40	\$2.55	\$2.70	\$2.86	\$3.02	\$3.18	\$3.35	\$3.54	\$3.73	\$3.93	
IDACORP, Inc.	IDA	\$4.21	\$4.36	\$4.51	\$4.67	\$4.83	\$5.00	\$5.19	\$5.41	\$5.65	\$5.92	\$6.22	\$6.56	\$6.92	\$7.30	\$7.69	\$8.11	
NextEra Energy, Inc.	NEE	\$6.50	\$7.08	\$7.72	\$8.41	\$9.16	\$9.98	\$10.82	\$11.66	\$12.50	\$13.33	\$14.14	\$14.91	\$15.72	\$16.57	\$17.48	\$18.43	
NorthWestern Corporation	NWE	\$3.34	\$3.45	\$3.56	\$3.67	\$3.79	\$3.91	\$4.05	\$4.21	\$4.40	\$4.60	\$4.84	\$5.10	\$5.38	\$5.67	\$5.98	\$6.31	
OGE Energy Corp.	OGE	\$1.92	\$2.02	\$2.13	\$2.25	\$2.37	\$2.50	\$2.64	\$2.78	\$2.93	\$3.09	\$3.26	\$3.44	\$3.62	\$3.82	\$4.03	\$4.25	
Otter Tail Corporation	OTTR	\$1.86	\$2.01	\$2.18	\$2.36	\$2.55	\$2.76	\$2.98	\$3.20	\$3.42	\$3.63	\$3.85	\$4.06	\$4.28	\$4.51	\$4.76	\$5.02	
Pinnacle West Capital Corporation	PNW	\$4.43	\$4.63	\$4.83	\$5.04	\$5.27	\$5.50	\$5.75	\$6.03	\$6.33	\$6.65	\$7.00	\$7.38	\$7.78	\$8.21	\$8.65	\$9.13	
PNM Resources, Inc.	PNM	\$1.92	\$2.03	\$2.14	\$2.26	\$2.39	\$2.53	\$2.67	\$2.82	\$2.97	\$3.13	\$3.31	\$3.49	\$3.68	\$3.88	\$4.09	\$4.31	
Portland General Electric Company	POR	\$2.29	\$2.36	\$2.44	\$2.51	\$2.59	\$2.67	\$2.77	\$2.88	\$3.00	\$3.14	\$3.30	\$3.48	\$3.67	\$3.87	\$4.08	\$4.30	
Southern Company	SO	\$3.21	\$3.32	\$3.43	\$3.55	\$3.67	\$3.80	\$3.94	\$4.10	\$4.28	\$4.48	\$4.71	\$4.97	\$5.24	\$5.53	\$5.83	\$6.14	
WEC Energy Group, Inc.	WEC	\$3.14	\$3.30	\$3.47	\$3.65	\$3.84	\$4.04	\$4.25	\$4.48	\$4.71	\$4.97	\$5.23	\$5.52	\$5.82	\$6.14	\$6.47	\$6.82	
Xcel Energy Inc.	XEL	\$2.30	\$2.43	\$2.57	\$2.72	\$2.87	\$3.03	\$3.21	\$3.39	\$3.57	\$3.77	\$3.98	\$4.20	\$4.42	\$4.67	\$4.92	\$5.19	

Projected Annual Dividend Payout Ratio		[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	65.00%	64.75%	64.50%	64.25%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Ameren Corporation	AEE	60.00%	59.75%	59.50%	59.25%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
American Electric Power Company, Inc.	AEP	67.00%	66.00%	65.00%	64.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Avangrid, Inc.	AGR	76.00%	73.50%	71.00%	68.50%	66.00%	65.93%	65.86%	65.79%	65.71%	65.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Black Hills Corporation	BKH	55.00%	56.25%	57.50%	58.75%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
DTE Energy Company	DTE	61.00%	60.75%	60.50%	60.25%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Duke Energy Corporation	DUK	76.00%	77.00%	78.00%	79.00%	80.00%	77.60%	75.19%	72.79%	70.38%	67.98%	65.57%	65.57%	65.57%	65.57%	65.57%
El Paso Electric	EE	57.00%	58.00%	59.00%	60.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
Hawaiian Electric Industries, Inc.	HE	66.00%	64.25%	62.50%	60.75%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
IDACORP, Inc.	IDA	57.00%	58.50%	60.00%	61.50%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NextEra Energy, Inc.	NEE	55.00%	57.00%	59.00%	61.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NorthWestern Corporation	NWE	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
OGE Energy Corp.	OGE	69.00%	69.50%	70.00%	70.50%	71.00%	70.10%	69.19%	68.29%	67.38%	66.48%	65.57%	65.57%	65.57%	65.57%	65.57%
Otter Tail Corporation	OTTR	66.00%	64.50%	63.00%	61.50%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Pinnacle West Capital Corporation	PNW	63.00%	63.00%	63.00%	63.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
PNM Resources, Inc.	PNM	53.00%	52.25%	51.50%	50.75%	50.00%	52.60%	55.19%	57.79%	60.38%	62.98%	65.57%	65.57%	65.57%	65.57%	65.57%
Portland General Electric Company	POR	64.00%	63.75%	63.50%	63.25%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Southern Company	SO	80.00%	78.50%	77.00%	75.50%	74.00%	72.60%	71.19%	69.79%	68.38%	66.98%	65.57%	65.57%	65.57%	65.57%	65.57%
WEC Energy Group, Inc.	WEC	66.00%	65.50%	65.00%	64.50%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Xcel Energy Inc.	XEL	62.00%	62.25%	62.50%	62.75%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%

Projected Annual Cash Flows		[45]	[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.15	\$2.26	\$2.38	\$2.51	\$2.64	\$2.80	\$2.97	\$3.14	\$3.33	\$3.53	\$3.74	\$3.94	\$4.15	\$4.38	\$4.62	\$144.70
Alliant Energy Corporation	LNT	\$1.35	\$1.43	\$1.52	\$1.61	\$1.70	\$1.81	\$1.92	\$2.04	\$2.17	\$2.29	\$2.43	\$2.56	\$2.70	\$2.85	\$3.00	\$94.09
Ameren Corporation	AEE	\$1.77	\$1.89	\$2.01	\$2.13	\$2.27	\$2.46	\$2.66	\$2.88	\$3.10	\$3.33	\$3.57	\$3.77	\$3.97	\$4.19	\$4.42	\$138.41
American Electric Power Company, Inc.	AEP	\$2.55	\$2.65	\$2.75	\$2.85	\$2.96	\$3.14	\$3.33	\$3.53	\$3.75	\$3.97	\$4.22	\$4.45	\$4.69	\$4.95	\$5.22	\$163.40
Avangrid, Inc.	AGR	\$1.41	\$1.51	\$1.61	\$1.73	\$1.84	\$2.02	\$2.20	\$2.38	\$2.55	\$2.71	\$2.85	\$3.01	\$3.17	\$3.35	\$3.53	\$110.58
Black Hills Corporation	BKH	\$1.94	\$2.07	\$2.21	\$2.35	\$2.51	\$2.66	\$2.83	\$3.01	\$3.21	\$3.43	\$3.66	\$3.86	\$4.07	\$4.30	\$4.53	\$141.94
CMS Energy Corporation	CMS	\$1.41	\$1.51	\$1.61	\$1.72	\$1.84	\$1.99	\$2.14	\$2.30	\$2.46	\$2.63	\$2.81	\$2.96	\$3.12	\$3.29	\$3.47	\$108.81
DTE Energy Company	DTE	\$3.70	\$3.91	\$4.12	\$4.35	\$4.59	\$4.94	\$5.30	\$5.69	\$6.10	\$6.53	\$6.98	\$7.36	\$7.77	\$8.19	\$8.64	\$270.54
Duke Energy Corporation	DUK	\$3.36	\$3.57	\$3.79	\$4.02	\$4.27	\$4.34	\$4.42	\$4.50	\$4.58	\$4.66	\$4.74	\$5.00	\$5.27	\$5.55	\$5.86	\$183.50
El Paso Electric	EE	\$1.45	\$1.55	\$1.65	\$1.76	\$1.88	\$2.00	\$2.12	\$2.26	\$2.41	\$2.57	\$2.74	\$2.89	\$3.05	\$3.21	\$3.39	\$106.19
Hawaiian Electric Industries, Inc.	HE	\$1.15	\$1.20	\$1.24	\$1.28	\$1.33	\$1.44	\$1.56	\$1.68	\$1.81	\$1.95	\$2.09	\$2.20	\$2.32	\$2.45	\$2.58	\$80.80
IDACORP, Inc.	IDA	\$2.48	\$2.64	\$2.80	\$2.97	\$3.15	\$3.29	\$3.45	\$3.63	\$3.83	\$4.05	\$4.30	\$4.54	\$4.78	\$5.04	\$5.32	\$166.65
NextEra Energy, Inc.	NEE	\$3.90	\$4.40	\$4.96	\$5.59	\$6.29	\$6.86	\$7.45	\$8.04	\$8.63	\$9.21	\$9.77	\$10.31	\$10.87	\$11.46	\$12.08	\$378.57
NorthWestern Corporation	NWE	\$2.21	\$2.28	\$2.35	\$2.43	\$2.50	\$2.61	\$2.72	\$2.85	\$2.99	\$3.16	\$3.34	\$3.53	\$3.72	\$3.92	\$4.14	\$129.56
OGE Energy Corp.	OGE	\$1.40	\$1.48	\$1.58	\$1.67	\$1.78	\$1.85	\$1.92	\$2.00	\$2.08	\$2.17	\$2.25	\$2.38	\$2.51	\$2.64	\$2.79	\$87.30
Otter Tail Corporation	OTTR	\$1.33	\$1.41	\$1.49	\$1.57	\$1.66	\$1.82	\$1.98	\$2.15	\$2.32	\$2.49	\$2.66	\$2.81	\$2.96	\$3.12	\$3.29	\$103.10
Pinnacle West Capital Corporation	PNW	\$2.91	\$3.04	\$3.18	\$3.32	\$3.47	\$3.65	\$3.85	\$4.07	\$4.30	\$4.56	\$4.84	\$5.10	\$5.38	\$5.67	\$5.98	\$187.46
PNM Resources, Inc.	PNM	\$1.07	\$1.12	\$1.17	\$1.21	\$1.26	\$1.40	\$1.55	\$1.72	\$1.89	\$2.08	\$2.29	\$2.41	\$2.54	\$2.68	\$2.83	\$88.55
Portland General Electric Company	POR	\$1.51	\$1.55	\$1.60	\$1.64	\$1.68	\$1.76	\$1.84	\$1.93	\$2.03	\$2.15	\$2.28	\$2.41	\$2.54	\$2.68	\$2.82	\$88.38
Southern Company	SO	\$2.66	\$2.69	\$2.73	\$2.77	\$2.81	\$2.86	\$2.92	\$2.99	\$3.07	\$3.16	\$3.26	\$3.44	\$3.62	\$3.82	\$4.03	\$126.21
WEC Energy Group, Inc.	WEC	\$2.18	\$2.28	\$2.37	\$2.48	\$2.59	\$2.73	\$2.89	\$3.05	\$3.23	\$3.42	\$3.62	\$3.82	\$4.02	\$4.24	\$4.47	\$140.19
Xcel Energy Inc.	XEL	\$1.51	\$1.60	\$1.70	\$1.80	\$1.91	\$2.03	\$2.16	\$2.30	\$2.44	\$2.59	\$2.75	\$2.90	\$3.06	\$3.23	\$3.40	\$106.56

Projected Annual Data

Investor Cash Flows		[61]	[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]
		Initial																
Company	Ticker	Outflow	6/15/18	12/31/18	6/30/19	6/30/20	6/30/21	6/30/22	6/30/23	6/30/24	6/30/25	6/30/26	6/30/27	6/30/28	6/30/29	6/30/30	6/30/31	6/30/32
ALLETE, Inc.	ALE	(\$74.39)	\$0.00	\$1.17	\$2.21	\$2.38	\$2.51	\$2.64	\$2.80	\$2.97	\$3.14	\$3.33	\$3.53	\$3.74	\$3.94	\$4.15	\$4.38	\$149.32
Alliant Energy Corporation	LNT	(\$41.41)	\$0.00	\$0.74	\$1.39	\$1.52	\$1.61	\$1.70	\$1.81	\$1.92	\$2.04	\$2.17	\$2.29	\$2.43	\$2.56	\$2.70	\$2.85	\$97.09
Ameren Corporation	AEE	(\$58.05)	\$0.00	\$0.97	\$1.83	\$2.01	\$2.13	\$2.27	\$2.46	\$2.66	\$2.88	\$3.10	\$3.33	\$3.57	\$3.77	\$3.97	\$4.19	\$142.83
American Electric Power Company, Inc.	AEP	(\$69.91)	\$0.00	\$1.39	\$2.62	\$2.75	\$2.85	\$2.96	\$3.14	\$3.33	\$3.53	\$3.75	\$3.97	\$4.22	\$4.45	\$4.69	\$4.95	\$168.61
Avangrid, Inc.	AGR	(\$50.25)	\$0.00	\$0.77	\$1.48	\$1.61	\$1.73	\$1.84	\$2.02	\$2.20	\$2.38	\$2.55	\$2.71	\$2.85	\$3.01	\$3.17	\$3.35	\$114.11
Black Hills Corporation	BKH	(\$57.41)	\$0.00	\$1.06	\$1.98	\$2.21	\$2.35	\$2.51	\$2.66	\$2.83	\$3.01	\$3.21	\$3.43	\$3.66	\$3.86	\$4.07	\$4.30	\$146.47
CMS Energy Corporation	CMS	(\$45.84)	\$0.00	\$0.77	\$1.46	\$1.61	\$1.72	\$1.84	\$1.99	\$2.14	\$2.30	\$2.46	\$2.63	\$2.81	\$2.96	\$3.12	\$3.29	\$112.29
DTE Energy Company	DTE	(\$105.75)	\$0.00	\$2.02	\$3.81	\$4.12	\$4.35	\$4.59	\$4.94	\$5.30	\$5.69	\$6.10	\$6.53	\$6.98	\$7.36	\$7.77	\$8.19	\$279.17
Duke Energy Corporation	DUK	(\$80.74)	\$0.00	\$1.83	\$3.44	\$3.79	\$4.02	\$4.27	\$4.34	\$4.42	\$4.50	\$4.58	\$4.66	\$4.74	\$5.00	\$5.27	\$5.55	\$189.36
El Paso Electric	EE	(\$54.16)	\$0.00	\$0.79	\$1.48	\$1.65	\$1.76	\$1.88	\$2.00	\$2.12	\$2.26	\$2.41	\$2.57	\$2.74	\$2.89	\$3.05	\$3.21	\$109.58
Hawaiian Electric Industries, Inc.	HE	(\$34.70)	\$0.00	\$0.63	\$1.19	\$1.24	\$1.28	\$1.33	\$1.44	\$1.56	\$1.68	\$1.81	\$1.95	\$2.09	\$2.20	\$2.32	\$2.45	\$83.38
IDACORP, Inc.	IDA	(\$89.13)	\$0.00	\$1.35	\$2.53	\$2.80	\$2.97	\$3.15	\$3.29	\$3.45	\$3.63	\$3.83	\$4.05	\$4.30	\$4.54	\$4.78	\$5.04	\$171.97
NextEra Energy, Inc.	NEE	(\$156.22)	\$0.00	\$2.12	\$4.07	\$4.96	\$5.59	\$6.29	\$6.86	\$7.45	\$8.04	\$8.63	\$9.21	\$9.77	\$10.31	\$10.87	\$11.46	\$390.65
NorthWestern Corporation	NWE	(\$55.80)	\$0.00	\$1.20	\$2.24	\$2.35	\$2.43	\$2.50	\$2.61	\$2.72	\$2.85	\$2.99	\$3.16	\$3.34	\$3.53	\$3.72	\$3.92	\$133.70
OGE Energy Corp.	OGE	(\$33.47)	\$0.00	\$0.76	\$1.43	\$1.58	\$1.67	\$1.78	\$1.85	\$1.92	\$2.00	\$2.08	\$2.17	\$2.25	\$2.38	\$2.51	\$2.64	\$90.09
Otter Tail Corporation	OTTR	(\$44.07)	\$0.00	\$0.72	\$1.38	\$1.49	\$1.57	\$1.66	\$1.82	\$1.98	\$2.15	\$2.32	\$2.49	\$2.66	\$2.81	\$2.96	\$3.12	\$106.39
Pinnacle West Capital Corporation	PNW	(\$81.85)	\$0.00	\$1.59	\$2.98	\$3.18	\$3.32	\$3.47	\$3.65	\$3.85	\$4.07	\$4.30	\$4.56	\$4.84	\$5.10	\$5.38	\$5.67	\$193.44
PNM Resources, Inc.	PNM	(\$39.36)	\$0.00	\$0.59	\$1.11	\$1.17	\$1.21	\$1.26	\$1.40	\$1.55	\$1.72	\$1.89	\$2.08	\$2.29	\$2.41	\$2.54	\$2.68	\$91.38
Portland General Electric Company	POR	(\$43.26)	\$0.00	\$0.82	\$1.54	\$1.60	\$1.64	\$1.68	\$1.76	\$1.84	\$1.93	\$2.03	\$2.15	\$2.28	\$2.41	\$2.54	\$2.68	\$91.20
Southern Company	SO	(\$46.80)	\$0.00	\$1.45	\$2.70	\$2.73	\$2.77	\$2.81	\$2.86	\$2.92	\$2.99	\$3.07	\$3.16	\$3.26	\$3.44	\$3.62	\$3.82	\$130.24
WEC Energy Group, Inc.	WEC	(\$63.81)	\$0.00	\$1.19	\$2.24	\$2.37	\$2.48	\$2.59	\$2.73	\$2.89	\$3.05	\$3.23	\$3.42	\$3.62	\$3.82	\$4.02	\$4.24	\$144.67
Xcel Energy Inc.	XEL	(\$46.44)	\$0.00	\$0.82	\$1.55	\$1.70	\$1.80	\$1.91	\$2.03	\$2.16	\$2.30	\$2.44	\$2.59	\$2.75	\$2.90	\$3.06	\$3.23	\$109.96

Multi-Stage Growth Discounted Cash Flow Model - Terminal P/E
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	2018	2022	2028	Proof	IRR	P/E Ratio	PEG Ratio				
ALLETE, Inc.	ALE	\$74.39	6.00%	6.00%	5.00%	6.00%	5.45%	65.00%	64.00%	65.57%	\$0.00	8.35%	20.54	3.77				
Alliant Energy Corporation	LNT	\$41.41	5.60%	5.85%	6.50%	6.50%	5.45%	64.00%	64.00%	65.57%	\$0.00	9.92%	20.54	3.77				
Ameren Corporation	AEE	\$58.05	6.50%	6.30%	7.50%	7.50%	5.45%	60.00%	59.00%	65.57%	\$0.00	10.32%	20.54	3.77				
American Electric Power Company, Inc.	AEP	\$69.91	5.70%	5.79%	4.50%	5.79%	5.45%	67.00%	63.00%	65.57%	\$0.00	10.22%	20.54	3.77				
Avangrid, Inc.	AGR	\$50.25	9.10%	10.40%	13.00%	13.00%	5.45%	76.00%	66.00%	65.57%	\$0.00	10.44%	20.54	3.77				
Black Hills Corporation	BKH	\$57.41	4.10%	3.86%	5.00%	5.00%	5.45%	55.00%	60.00%	65.57%	\$0.00	10.77%	20.54	3.77				
CMS Energy Corporation	CMS	\$45.84	6.40%	7.05%	7.00%	7.05%	5.45%	61.00%	61.00%	65.57%	\$0.00	10.02%	20.54	3.77				
DTE Energy Company	DTE	\$105.75	5.30%	5.59%	7.00%	7.00%	5.45%	61.00%	60.00%	65.57%	(\$0.00)	11.29%	20.54	3.77				
Duke Energy Corporation	DUK	\$80.74	4.70%	4.22%	5.50%	5.50%	5.45%	76.00%	80.00%	65.57%	\$0.00	10.59%	20.54	3.77				
El Paso Electric	EE	\$54.16	5.10%	5.20%	4.50%	5.20%	5.45%	57.00%	61.00%	65.57%	\$0.00	8.29%	20.54	3.77				
Hawaiian Electric Industries, Inc.	HE	\$34.70	7.10%	9.10%	3.50%	9.10%	5.45%	66.00%	59.00%	65.57%	(\$0.00)	11.29%	20.54	3.77				
IDACORP, Inc.	IDA	\$89.13	3.90%	3.10%	3.50%	3.90%	5.45%	57.00%	63.00%	65.57%	\$0.00	8.05%	20.54	3.77				
NextEra Energy, Inc.	NEE	\$156.22	8.60%	9.79%	8.50%	9.79%	5.45%	55.00%	63.00%	65.57%	(\$0.00)	10.43%	20.54	3.77				
NorthWestern Corporation	NWE	\$55.80	3.00%	3.16%	3.50%	3.50%	5.45%	64.00%	64.00%	65.57%	\$0.00	10.18%	20.54	3.77				
OGE Energy Corp.	OGE	\$33.47	6.00%	4.30%	6.00%	6.00%	5.45%	69.00%	71.00%	65.57%	(\$0.00)	11.59%	20.54	3.77				
Otter Tail Corporation	OTTR	\$44.07	NA	9.00%	7.50%	9.00%	5.45%	66.00%	60.00%	65.57%	\$0.00	10.14%	20.54	3.77				
Pinnacle West Capital Corporation	PNW	\$81.85	4.50%	3.78%	5.00%	5.00%	5.45%	63.00%	63.00%	65.57%	(\$0.00)	10.11%	20.54	3.77				
PNM Resources, Inc.	PNM	\$39.36	5.10%	4.30%	7.50%	7.50%	5.45%	53.00%	50.00%	65.57%	\$0.00	10.28%	20.54	3.77				
Portland General Electric Company	POR	\$43.26	2.80%	2.65%	4.00%	4.00%	5.45%	64.00%	63.00%	65.57%	\$0.00	9.27%	20.54	3.77				
Southern Company	SO	\$46.80	4.50%	2.72%	3.00%	4.50%	5.45%	80.00%	74.00%	65.57%	(\$0.00)	12.73%	20.54	3.77				
WEC Energy Group, Inc.	WEC	\$63.81	4.10%	4.43%	7.00%	7.00%	5.45%	66.00%	64.00%	65.57%	\$0.00	10.48%	20.54	3.77				
Xcel Energy Inc.	XEL	\$46.44	5.70%	5.89%	5.50%	5.89%	5.45%	62.00%	63.00%	65.57%	\$0.00	9.79%	20.54	3.77				
											Mean	10.21%						
											Max	12.73%						
											Min	8.05%						
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
ALLETE, Inc.	ALE	\$3.13	\$3.32	\$3.52	\$3.73	\$3.95	\$4.19	\$4.44	\$4.69	\$4.96	\$5.24	\$5.53	\$5.83	\$6.15	\$6.49	\$6.84	\$7.21	
Alliant Energy Corporation	LNT	\$1.99	\$2.12	\$2.26	\$2.40	\$2.56	\$2.73	\$2.90	\$3.08	\$3.26	\$3.45	\$3.64	\$3.84	\$4.05	\$4.27	\$4.51	\$4.75	
Ameren Corporation	AEE	\$2.77	\$2.98	\$3.20	\$3.44	\$3.70	\$3.98	\$4.26	\$4.55	\$4.85	\$5.14	\$5.44	\$5.74	\$6.05	\$6.38	\$6.73	\$7.09	
American Electric Power Company, Inc.	AEP	\$3.62	\$3.83	\$4.05	\$4.29	\$4.53	\$4.80	\$5.07	\$5.36	\$5.66	\$5.98	\$6.30	\$6.65	\$7.01	\$7.39	\$7.79	\$8.22	
Avangrid, Inc.	AGR	\$1.67	\$1.89	\$2.13	\$2.41	\$2.72	\$3.08	\$3.44	\$3.80	\$4.15	\$4.48	\$4.78	\$5.04	\$5.31	\$5.60	\$5.91	\$6.23	
Black Hills Corporation	BKH	\$3.38	\$3.55	\$3.73	\$3.91	\$4.11	\$4.31	\$4.53	\$4.77	\$5.02	\$5.28	\$5.56	\$5.87	\$6.19	\$6.52	\$6.88	\$7.25	
CMS Energy Corporation	CMS	\$2.17	\$2.32	\$2.49	\$2.66	\$2.85	\$3.05	\$3.26	\$3.47	\$3.69	\$3.91	\$4.13	\$4.36	\$4.59	\$4.84	\$5.11	\$5.38	
DTE Energy Company	DTE	\$5.73	\$6.13	\$6.56	\$7.02	\$7.51	\$8.04	\$8.58	\$9.13	\$9.70	\$10.28	\$10.87	\$11.46	\$12.08	\$12.74	\$13.44	\$14.17	
Duke Energy Corporation	DUK	\$4.22	\$4.45	\$4.70	\$4.96	\$5.23	\$5.52	\$5.82	\$6.14	\$6.47	\$6.83	\$7.20	\$7.59	\$8.00	\$8.44	\$8.90	\$9.39	
El Paso Electric	EE	\$2.42	\$2.55	\$2.68	\$2.82	\$2.96	\$3.12	\$3.28	\$3.45	\$3.64	\$3.83	\$4.04	\$4.26	\$4.49	\$4.74	\$5.00	\$5.27	
Hawaiian Electric Industries, Inc.	HE	\$1.64	\$1.79	\$1.95	\$2.13	\$2.32	\$2.53	\$2.75	\$2.97	\$3.18	\$3.39	\$3.60	\$3.80	\$4.00	\$4.22	\$4.45	\$4.69	
IDACORP, Inc.	IDA	\$4.21	\$4.37	\$4.54	\$4.72	\$4.91	\$5.10	\$5.31	\$5.54	\$5.80	\$6.09	\$6.41	\$6.75	\$7.12	\$7.51	\$7.92	\$8.35	
NextEra Energy, Inc.	NEE	\$6.50	\$7.14	\$7.83	\$8.60	\$9.44	\$10.37	\$11.31	\$12.25	\$13.19	\$14.09	\$14.96	\$15.78	\$16.64	\$17.54	\$18.50	\$19.51	
NorthWestern Corporation	NWE	\$3.34	\$3.46	\$3.58	\$3.70	\$3.83	\$3.97	\$4.12	\$4.29	\$4.48	\$4.70	\$4.94	\$5.21	\$5.49	\$5.79	\$6.10	\$6.44	
OGE Energy Corp.	OGE	\$1.92	\$2.04	\$2.16	\$2.29	\$2.42	\$2.57	\$2.72	\$2.88	\$3.04	\$3.22	\$3.39	\$3.58	\$3.77	\$3.98	\$4.20	\$4.42	
Otter Tail Corporation	OTTR	\$1.86	\$2.03	\$2.21	\$2.41	\$2.63	\$2.86	\$3.10	\$3.34	\$3.59	\$3.82	\$4.06	\$4.28	\$4.51	\$4.75	\$5.01	\$5.29	
Pinnacle West Capital Corporation	PNW	\$4.43	\$4.65	\$4.88	\$5.13	\$5.38	\$5.65	\$5.94	\$6.25	\$6.57	\$6.92	\$7.29	\$7.69	\$8.11	\$8.55	\$9.02	\$9.51	
PNM Resources, Inc.	PNM	\$1.92	\$2.06	\$2.22	\$2.39	\$2.56	\$2.76	\$2.95	\$3.16	\$3.36	\$3.57	\$3.77	\$3.98	\$4.19	\$4.42	\$4.66	\$4.92	
Portland General Electric Company	POR	\$2.29	\$2.38	\$2.48	\$2.58	\$2.68	\$2.79	\$2.90	\$3.03	\$3.18	\$3.34	\$3.51	\$3.70	\$3.90	\$4.11	\$4.34	\$4.57	
Southern Company	SO	\$3.21	\$3.35	\$3.51	\$3.66	\$3.83	\$4.00	\$4.19	\$4.39	\$4.61	\$4.84	\$5.10	\$5.38	\$5.67	\$5.98	\$6.30	\$6.65	
WEC Energy Group, Inc.	WEC	\$3.14	\$3.36	\$3.59	\$3.85	\$4.12	\$4.40	\$4.70	\$5.01	\$5.32	\$5.63	\$5.96	\$6.28	\$6.62	\$6.98	\$7.36	\$7.76	
Xcel Energy Inc.	XEL	\$2.30	\$2.44	\$2.58	\$2.73	\$2.89	\$3.06	\$3.24	\$3.43	\$3.62	\$3.82	\$4.03	\$4.25	\$4.49	\$4.73	\$4.99	\$5.26	

Projected Annual Dividend Payout Ratio		[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	65.00%	64.75%	64.50%	64.25%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Ameren Corporation	AEE	60.00%	59.75%	59.50%	59.25%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
American Electric Power Company, Inc.	AEP	67.00%	66.00%	65.00%	64.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Avangrid, Inc.	AGR	76.00%	73.50%	71.00%	68.50%	66.00%	65.93%	65.86%	65.79%	65.71%	65.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Black Hills Corporation	BKH	55.00%	56.25%	57.50%	58.75%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
DTE Energy Company	DTE	61.00%	60.75%	60.50%	60.25%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Duke Energy Corporation	DUK	76.00%	77.00%	78.00%	79.00%	80.00%	77.60%	75.19%	72.79%	70.38%	67.98%	65.57%	65.57%	65.57%	65.57%	65.57%
El Paso Electric	EE	57.00%	58.00%	59.00%	60.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
Hawaiian Electric Industries, Inc.	HE	66.00%	64.25%	62.50%	60.75%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
IDACORP, Inc.	IDA	57.00%	58.50%	60.00%	61.50%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NextEra Energy, Inc.	NEE	55.00%	57.00%	59.00%	61.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NorthWestern Corporation	NWE	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
OGE Energy Corp.	OGE	69.00%	69.50%	70.00%	70.50%	71.00%	70.10%	69.19%	68.29%	67.38%	66.48%	65.57%	65.57%	65.57%	65.57%	65.57%
Otter Tail Corporation	OTTR	66.00%	64.50%	63.00%	61.50%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Pinnacle West Capital Corporation	PNW	63.00%	63.00%	63.00%	63.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
PNM Resources, Inc.	PNM	53.00%	52.25%	51.50%	50.75%	50.00%	52.60%	55.19%	57.79%	60.38%	62.98%	65.57%	65.57%	65.57%	65.57%	65.57%
Portland General Electric Company	POR	64.00%	63.75%	63.50%	63.25%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Southern Company	SO	80.00%	78.50%	77.00%	75.50%	74.00%	72.60%	71.19%	69.79%	68.38%	66.98%	65.57%	65.57%	65.57%	65.57%	65.57%
WEC Energy Group, Inc.	WEC	66.00%	65.50%	65.00%	64.50%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Xcel Energy Inc.	XEL	62.00%	62.25%	62.50%	62.75%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%

Projected Annual Cash Flows		[45]	[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.16	\$2.28	\$2.40	\$2.54	\$2.68	\$2.85	\$3.03	\$3.22	\$3.41	\$3.61	\$3.83	\$4.03	\$4.25	\$4.48	\$4.73	\$148.16
Alliant Energy Corporation	LNT	\$1.36	\$1.44	\$1.54	\$1.64	\$1.74	\$1.86	\$1.99	\$2.11	\$2.24	\$2.38	\$2.52	\$2.66	\$2.80	\$2.95	\$3.11	\$97.59
Ameren Corporation	AEE	\$1.79	\$1.91	\$2.05	\$2.19	\$2.35	\$2.56	\$2.79	\$3.02	\$3.26	\$3.51	\$3.76	\$3.97	\$4.18	\$4.41	\$4.65	\$145.72
American Electric Power Company, Inc.	AEP	\$2.57	\$2.67	\$2.79	\$2.90	\$3.02	\$3.22	\$3.42	\$3.64	\$3.87	\$4.11	\$4.36	\$4.60	\$4.85	\$5.11	\$5.39	\$168.83
Avangrid, Inc.	AGR	\$1.43	\$1.57	\$1.71	\$1.87	\$2.03	\$2.27	\$2.50	\$2.73	\$2.94	\$3.14	\$3.30	\$3.48	\$3.67	\$3.87	\$4.09	\$128.00
Black Hills Corporation	BKH	\$1.95	\$2.10	\$2.25	\$2.41	\$2.59	\$2.76	\$2.95	\$3.15	\$3.36	\$3.60	\$3.85	\$4.06	\$4.28	\$4.51	\$4.76	\$149.02
CMS Energy Corporation	CMS	\$1.42	\$1.52	\$1.62	\$1.74	\$1.86	\$2.01	\$2.17	\$2.33	\$2.50	\$2.68	\$2.86	\$3.01	\$3.18	\$3.35	\$3.53	\$110.61
DTE Energy Company	DTE	\$3.74	\$3.99	\$4.25	\$4.53	\$4.82	\$5.23	\$5.65	\$6.09	\$6.55	\$7.03	\$7.51	\$7.92	\$8.36	\$8.81	\$9.29	\$291.06
Duke Energy Corporation	DUK	\$3.38	\$3.62	\$3.87	\$4.13	\$4.41	\$4.51	\$4.61	\$4.71	\$4.80	\$4.89	\$4.98	\$5.25	\$5.53	\$5.84	\$6.15	\$192.80
El Paso Electric	EE	\$1.45	\$1.55	\$1.66	\$1.78	\$1.90	\$2.03	\$2.16	\$2.30	\$2.46	\$2.62	\$2.79	\$2.95	\$3.11	\$3.28	\$3.45	\$108.23
Hawaiian Electric Industries, Inc.	HE	\$1.18	\$1.25	\$1.33	\$1.41	\$1.50	\$1.65	\$1.82	\$1.98	\$2.15	\$2.32	\$2.49	\$2.62	\$2.77	\$2.92	\$3.08	\$96.42
IDACORP, Inc.	IDA	\$2.49	\$2.66	\$2.83	\$3.02	\$3.21	\$3.37	\$3.54	\$3.73	\$3.94	\$4.17	\$4.43	\$4.67	\$4.92	\$5.19	\$5.47	\$171.53
NextEra Energy, Inc.	NEE	\$3.92	\$4.47	\$5.08	\$5.76	\$6.53	\$7.17	\$7.82	\$8.48	\$9.12	\$9.75	\$10.35	\$10.91	\$11.50	\$12.13	\$12.79	\$400.75
NorthWestern Corporation	NWE	\$2.21	\$2.29	\$2.37	\$2.45	\$2.54	\$2.65	\$2.77	\$2.90	\$3.05	\$3.22	\$3.41	\$3.60	\$3.80	\$4.00	\$4.22	\$132.21
OGE Energy Corp.	OGE	\$1.40	\$1.50	\$1.60	\$1.71	\$1.82	\$1.91	\$1.99	\$2.08	\$2.17	\$2.26	\$2.35	\$2.47	\$2.61	\$2.75	\$2.90	\$90.89
Otter Tail Corporation	OTTR	\$1.34	\$1.43	\$1.52	\$1.61	\$1.72	\$1.89	\$2.07	\$2.25	\$2.44	\$2.62	\$2.80	\$2.96	\$3.12	\$3.29	\$3.47	\$108.60
Pinnacle West Capital Corporation	PNW	\$2.93	\$3.08	\$3.23	\$3.39	\$3.56	\$3.77	\$3.99	\$4.23	\$4.48	\$4.75	\$5.04	\$5.32	\$5.61	\$5.91	\$6.23	\$195.31
PNM Resources, Inc.	PNM	\$1.09	\$1.16	\$1.23	\$1.30	\$1.38	\$1.55	\$1.74	\$1.94	\$2.15	\$2.38	\$2.61	\$2.75	\$2.90	\$3.06	\$3.22	\$101.01
Portland General Electric Company	POR	\$1.52	\$1.58	\$1.64	\$1.69	\$1.76	\$1.84	\$1.94	\$2.04	\$2.16	\$2.29	\$2.43	\$2.56	\$2.70	\$2.84	\$3.00	\$93.98
Southern Company	SO	\$2.68	\$2.75	\$2.82	\$2.89	\$2.96	\$3.04	\$3.12	\$3.21	\$3.31	\$3.41	\$3.53	\$3.72	\$3.92	\$4.13	\$4.36	\$136.55
WEC Energy Group, Inc.	WEC	\$2.22	\$2.35	\$2.50	\$2.65	\$2.82	\$3.02	\$3.23	\$3.44	\$3.66	\$3.89	\$4.12	\$4.34	\$4.58	\$4.83	\$5.09	\$159.50
Xcel Energy Inc.	XEL	\$1.51	\$1.61	\$1.71	\$1.81	\$1.93	\$2.06	\$2.19	\$2.33	\$2.47	\$2.63	\$2.79	\$2.94	\$3.10	\$3.27	\$3.45	\$108.03

Projected Annual Data

Investor Cash Flows		[61]	[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]
		Initial																
Company	Ticker	Outflow	6/15/18	12/31/18	6/30/19	6/30/20	6/30/21	6/30/22	6/30/23	6/30/24	6/30/25	6/30/26	6/30/27	6/30/28	6/30/29	6/30/30	6/30/31	6/30/32
ALLETE, Inc.	ALE	(\$74.39)	\$0.00	\$1.18	\$2.22	\$2.40	\$2.54	\$2.68	\$2.85	\$3.03	\$3.22	\$3.41	\$3.61	\$3.83	\$4.03	\$4.25	\$4.48	\$152.89
Alliant Energy Corporation	LNT	(\$41.41)	\$0.00	\$0.74	\$1.40	\$1.54	\$1.64	\$1.74	\$1.86	\$1.99	\$2.11	\$2.24	\$2.38	\$2.52	\$2.66	\$2.80	\$2.95	\$100.70
Ameren Corporation	AEE	(\$58.05)	\$0.00	\$0.97	\$1.85	\$2.05	\$2.19	\$2.35	\$2.56	\$2.79	\$3.02	\$3.26	\$3.51	\$3.76	\$3.97	\$4.18	\$4.41	\$150.37
American Electric Power Company, Inc.	AEP	(\$69.91)	\$0.00	\$1.40	\$2.64	\$2.79	\$2.90	\$3.02	\$3.22	\$3.42	\$3.64	\$3.87	\$4.11	\$4.36	\$4.60	\$4.85	\$5.11	\$174.22
Avangrid, Inc.	AGR	(\$50.25)	\$0.00	\$0.78	\$1.53	\$1.71	\$1.87	\$2.03	\$2.27	\$2.50	\$2.73	\$2.94	\$3.14	\$3.30	\$3.48	\$3.67	\$3.87	\$132.09
Black Hills Corporation	BKH	(\$57.41)	\$0.00	\$1.06	\$2.00	\$2.25	\$2.41	\$2.59	\$2.76	\$2.95	\$3.15	\$3.36	\$3.60	\$3.85	\$4.06	\$4.28	\$4.51	\$153.78
CMS Energy Corporation	CMS	(\$45.84)	\$0.00	\$0.77	\$1.47	\$1.62	\$1.74	\$1.86	\$2.01	\$2.17	\$2.33	\$2.50	\$2.68	\$2.86	\$3.01	\$3.18	\$3.35	\$114.14
DTE Energy Company	DTE	(\$105.75)	\$0.00	\$2.04	\$3.87	\$4.25	\$4.53	\$4.82	\$5.23	\$5.65	\$6.09	\$6.55	\$7.03	\$7.51	\$7.92	\$8.36	\$8.81	\$300.35
Duke Energy Corporation	DUK	(\$80.74)	\$0.00	\$1.84	\$3.48	\$3.87	\$4.13	\$4.41	\$4.51	\$4.61	\$4.71	\$4.80	\$4.89	\$4.98	\$5.25	\$5.53	\$5.84	\$198.95
El Paso Electric	EE	(\$54.16)	\$0.00	\$0.79	\$1.49	\$1.66	\$1.78	\$1.90	\$2.03	\$2.16	\$2.30	\$2.46	\$2.62	\$2.79	\$2.95	\$3.11	\$3.28	\$111.68
Hawaiian Electric Industries, Inc.	HE	(\$34.70)	\$0.00	\$0.64	\$1.23	\$1.33	\$1.41	\$1.50	\$1.65	\$1.82	\$1.98	\$2.15	\$2.32	\$2.49	\$2.62	\$2.77	\$2.92	\$99.50
IDACORP, Inc.	IDA	(\$89.13)	\$0.00	\$1.36	\$2.54	\$2.83	\$3.02	\$3.21	\$3.37	\$3.54	\$3.73	\$3.94	\$4.17	\$4.43	\$4.67	\$4.92	\$5.19	\$177.01
NextEra Energy, Inc.	NEE	(\$156.22)	\$0.00	\$2.14	\$4.12	\$5.08	\$5.76	\$6.53	\$7.17	\$7.82	\$8.48	\$9.12	\$9.75	\$10.35	\$10.91	\$11.50	\$12.13	\$413.55
NorthWestern Corporation	NWE	(\$55.80)	\$0.00	\$1.21	\$2.25	\$2.37	\$2.45	\$2.54	\$2.65	\$2.77	\$2.90	\$3.05	\$3.22	\$3.41	\$3.60	\$3.80	\$4.00	\$136.43
OGE Energy Corp.	OGE	(\$33.47)	\$0.00	\$0.77	\$1.45	\$1.60	\$1.71	\$1.82	\$1.91	\$1.99	\$2.08	\$2.17	\$2.26	\$2.35	\$2.47	\$2.61	\$2.75	\$93.79
Otter Tail Corporation	OTTR	(\$44.07)	\$0.00	\$0.73	\$1.40	\$1.52	\$1.61	\$1.72	\$1.89	\$2.07	\$2.25	\$2.44	\$2.62	\$2.80	\$2.96	\$3.12	\$3.29	\$112.07
Pinnacle West Capital Corporation	PNW	(\$81.85)	\$0.00	\$1.60	\$3.00	\$3.23	\$3.39	\$3.56	\$3.77	\$3.99	\$4.23	\$4.48	\$4.75	\$5.04	\$5.32	\$5.61	\$5.91	\$201.55
PNM Resources, Inc.	PNM	(\$39.36)	\$0.00	\$0.60	\$1.13	\$1.23	\$1.30	\$1.38	\$1.55	\$1.74	\$1.94	\$2.15	\$2.38	\$2.61	\$2.75	\$2.90	\$3.06	\$104.23
Portland General Electric Company	POR	(\$43.26)	\$0.00	\$0.83	\$1.55	\$1.64	\$1.69	\$1.76	\$1.84	\$1.94	\$2.04	\$2.16	\$2.29	\$2.43	\$2.56	\$2.70	\$2.84	\$96.98
Southern Company	SO	(\$46.80)	\$0.00	\$1.46	\$2.74	\$2.82	\$2.89	\$2.96	\$3.04	\$3.12	\$3.21	\$3.31	\$3.41	\$3.53	\$3.72	\$3.92	\$4.13	\$140.91
WEC Energy Group, Inc.	WEC	(\$63.81)	\$0.00	\$1.21	\$2.30	\$2.50	\$2.65	\$2.82	\$3.02	\$3.23	\$3.44	\$3.66	\$3.89	\$4.12	\$4.34	\$4.58	\$4.83	\$164.59
Xcel Energy Inc.	XEL	(\$46.44)	\$0.00	\$0.82	\$1.55	\$1.71	\$1.81	\$1.93	\$2.06	\$2.19	\$2.33	\$2.47	\$2.63	\$2.79	\$2.94	\$3.10	\$3.27	\$111.48

Multi-Stage Growth Discounted Cash Flow Model - Terminal P/E
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					
			Value		Low													
Company	Ticker	Price	Zacks	First Call	Line	Growth	Growth	2018	2022	2028	Proof	IRR	P/E Ratio	PEG Ratio				
ALLETE, Inc.	ALE	\$74.39	6.00%	6.00%	5.00%	5.00%	5.45%	65.00%	64.00%	65.57%	\$0.00	7.74%	20.54	3.77				
Alliant Energy Corporation	LNT	\$41.41	5.60%	5.85%	6.50%	5.60%	5.45%	64.00%	64.00%	65.57%	\$0.00	9.36%	20.54	3.77				
Ameren Corporation	AEE	\$58.05	6.50%	6.30%	7.50%	6.30%	5.45%	60.00%	59.00%	65.57%	\$0.00	9.58%	20.54	3.77				
American Electric Power Company, Inc.	AEP	\$69.91	5.70%	5.79%	4.50%	4.50%	5.45%	67.00%	63.00%	65.57%	\$0.00	9.41%	20.54	3.77				
Avangrid, Inc.	AGR	\$50.25	9.10%	10.40%	13.00%	9.10%	5.45%	76.00%	66.00%	65.57%	\$0.00	8.13%	20.54	3.77				
Black Hills Corporation	BKH	\$57.41	4.10%	3.86%	5.00%	3.86%	5.45%	55.00%	60.00%	65.57%	\$0.00	10.05%	20.54	3.77				
CMS Energy Corporation	CMS	\$45.84	6.40%	7.05%	7.00%	6.40%	5.45%	61.00%	61.00%	65.57%	\$0.00	9.62%	20.54	3.77				
DTE Energy Company	DTE	\$105.75	5.30%	5.59%	7.00%	5.30%	5.45%	61.00%	60.00%	65.57%	(\$0.00)	10.22%	20.54	3.77				
Duke Energy Corporation	DUK	\$80.74	4.70%	4.22%	5.50%	4.22%	5.45%	76.00%	80.00%	65.57%	(\$0.00)	9.77%	20.54	3.77				
El Paso Electric	EE	\$54.16	5.10%	5.20%	4.50%	4.50%	5.45%	57.00%	61.00%	65.57%	\$0.00	7.87%	20.54	3.77				
Hawaiian Electric Industries, Inc.	HE	\$34.70	7.10%	9.10%	3.50%	3.50%	5.45%	66.00%	59.00%	65.57%	\$0.00	7.82%	20.54	3.77				
IDACORP, Inc.	IDA	\$89.13	3.90%	3.10%	3.50%	3.10%	5.45%	57.00%	63.00%	65.57%	\$0.00	7.55%	20.54	3.77				
NextEra Energy, Inc.	NEE	\$156.22	8.60%	9.79%	8.50%	8.50%	5.45%	55.00%	63.00%	65.57%	(\$0.00)	9.65%	20.54	3.77				
NorthWestern Corporation	NWE	\$55.80	3.00%	3.16%	3.50%	3.00%	5.45%	64.00%	64.00%	65.57%	\$0.00	9.86%	20.54	3.77				
OGE Energy Corp.	OGE	\$33.47	6.00%	4.30%	6.00%	4.30%	5.45%	69.00%	71.00%	65.57%	\$0.00	10.49%	20.54	3.77				
Otter Tail Corporation	OTTR	\$44.07	NA	9.00%	7.50%	7.50%	5.45%	66.00%	60.00%	65.57%	\$0.00	9.23%	20.54	3.77				
Pinnacle West Capital Corporation	PNW	\$81.85	4.50%	3.78%	5.00%	3.78%	5.45%	63.00%	63.00%	65.57%	\$0.00	9.34%	20.54	3.77				
PNM Resources, Inc.	PNM	\$39.36	5.10%	4.30%	7.50%	4.30%	5.45%	53.00%	50.00%	65.57%	\$0.00	8.32%	20.54	3.77				
Portland General Electric Company	POR	\$43.26	2.80%	2.65%	4.00%	2.65%	5.45%	64.00%	63.00%	65.57%	\$0.00	8.42%	20.54	3.77				
Southern Company	SO	\$46.80	4.50%	2.72%	3.00%	2.72%	5.45%	80.00%	74.00%	65.57%	(\$0.00)	11.53%	20.54	3.77				
WEC Energy Group, Inc.	WEC	\$63.81	4.10%	4.43%	7.00%	4.10%	5.45%	66.00%	64.00%	65.57%	\$0.00	8.67%	20.54	3.77				
Xcel Energy Inc.	XEL	\$46.44	5.70%	5.89%	5.50%	5.50%	5.45%	62.00%	63.00%	65.57%	\$0.00	9.55%	20.54	3.77				
											Mean	9.19%						
											Max	11.53%						
											Min	7.55%						
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
ALLETE, Inc.	ALE	\$3.13	\$3.29	\$3.45	\$3.62	\$3.80	\$3.99	\$4.20	\$4.41	\$4.64	\$4.89	\$5.15	\$5.43	\$5.73	\$6.04	\$6.37	\$6.72	
Alliant Energy Corporation	LNT	\$1.99	\$2.10	\$2.22	\$2.34	\$2.47	\$2.61	\$2.76	\$2.91	\$3.07	\$3.24	\$3.42	\$3.61	\$3.80	\$4.01	\$4.23	\$4.46	
Ameren Corporation	AEE	\$2.77	\$2.94	\$3.13	\$3.33	\$3.54	\$3.76	\$3.99	\$4.23	\$4.48	\$4.74	\$5.00	\$5.27	\$5.56	\$5.86	\$6.18	\$6.52	
American Electric Power Company, Inc.	AEP	\$3.62	\$3.78	\$3.95	\$4.13	\$4.32	\$4.51	\$4.72	\$4.95	\$5.19	\$5.46	\$5.75	\$6.06	\$6.39	\$6.74	\$7.11	\$7.50	
Avangrid, Inc.	AGR	\$1.67	\$1.82	\$1.99	\$2.17	\$2.37	\$2.58	\$2.80	\$3.02	\$3.24	\$3.46	\$3.67	\$3.87	\$4.08	\$4.30	\$4.53	\$4.78	
Black Hills Corporation	BKH	\$3.38	\$3.51	\$3.65	\$3.79	\$3.93	\$4.08	\$4.25	\$4.44	\$4.65	\$4.87	\$5.13	\$5.41	\$5.70	\$6.01	\$6.34	\$6.68	
CMS Energy Corporation	CMS	\$2.17	\$2.31	\$2.46	\$2.61	\$2.78	\$2.96	\$3.14	\$3.34	\$3.53	\$3.74	\$3.95	\$4.16	\$4.39	\$4.63	\$4.88	\$5.14	
DTE Energy Company	DTE	\$5.73	\$6.03	\$6.35	\$6.69	\$7.04	\$7.42	\$7.81	\$8.23	\$8.67	\$9.14	\$9.64	\$10.16	\$10.72	\$11.30	\$11.91	\$12.56	
Duke Energy Corporation	DUK	\$4.22	\$4.40	\$4.58	\$4.78	\$4.98	\$5.19	\$5.42	\$5.67	\$5.94	\$6.24	\$6.57	\$6.93	\$7.30	\$7.70	\$8.12	\$8.56	
El Paso Electric	EE	\$2.42	\$2.53	\$2.64	\$2.76	\$2.89	\$3.02	\$3.16	\$3.31	\$3.47	\$3.65	\$3.84	\$4.05	\$4.27	\$4.51	\$4.75	\$5.01	
Hawaiian Electric Industries, Inc.	HE	\$1.64	\$1.70	\$1.76	\$1.82	\$1.88	\$1.95	\$2.02	\$2.11	\$2.20	\$2.31	\$2.42	\$2.56	\$2.70	\$2.84	\$3.00	\$3.16	
IDACORP, Inc.	IDA	\$4.21	\$4.34	\$4.48	\$4.61	\$4.76	\$4.90	\$5.08	\$5.27	\$5.50	\$5.75	\$6.05	\$6.37	\$6.72	\$7.09	\$7.47	\$7.88	
NextEra Energy, Inc.	NEE	\$6.50	\$7.05	\$7.65	\$8.30	\$9.01	\$9.77	\$10.55	\$11.34	\$12.14	\$12.92	\$13.69	\$14.43	\$15.22	\$16.05	\$16.92	\$17.85	
NorthWestern Corporation	NWE	\$3.34	\$3.44	\$3.54	\$3.65	\$3.76	\$3.87	\$4.00	\$4.16	\$4.33	\$4.53	\$4.76	\$5.02	\$5.29	\$5.58	\$5.89	\$6.21	
OGE Energy Corp.	OGE	\$1.92	\$2.00	\$2.09	\$2.18	\$2.27	\$2.37	\$2.48	\$2.59	\$2.72	\$2.86	\$3.01	\$3.17	\$3.34	\$3.52	\$3.72	\$3.92	
Otter Tail Corporation	OTTR	\$1.86	\$2.00	\$2.15	\$2.31	\$2.48	\$2.67	\$2.86	\$3.06	\$3.25	\$3.45	\$3.65	\$3.85	\$4.06	\$4.28	\$4.52	\$4.76	
Pinnacle West Capital Corporation	PNW	\$4.43	\$4.60	\$4.77	\$4.95	\$5.14	\$5.33	\$5.55	\$5.79	\$6.06	\$6.35	\$6.68	\$7.05	\$7.43	\$7.83	\$8.26	\$8.71	
PNM Resources, Inc.	PNM	\$1.92	\$2.00	\$2.09	\$2.18	\$2.27	\$2.37	\$2.48	\$2.59	\$2.72	\$2.86	\$3.01	\$3.17	\$3.34	\$3.52	\$3.72	\$3.92	
Portland General Electric Company	POR	\$2.29	\$2.35	\$2.41	\$2.48	\$2.54	\$2.61	\$2.69	\$2.79	\$2.90	\$3.03	\$3.18	\$3.36	\$3.54	\$3.73	\$3.93	\$4.15	
Southern Company	SO	\$3.21	\$3.30	\$3.39	\$3.48	\$3.57	\$3.67	\$3.79	\$3.92	\$4.09	\$4.27	\$4.48	\$4.73	\$4.99	\$5.26	\$5.54	\$5.85	
WEC Energy Group, Inc.	WEC	\$3.14	\$3.27	\$3.40	\$3.54	\$3.69	\$3.84	\$4.00	\$4.19	\$4.39	\$4.61	\$4.85	\$5.11	\$5.39	\$5.68	\$5.99	\$6.32	
Xcel Energy Inc.	XEL	\$2.30	\$2.43	\$2.56	\$2.70	\$2.85	\$3.01	\$3.17	\$3.34	\$3.53	\$3.72	\$3.92	\$4.14	\$4.36	\$4.60	\$4.85	\$5.12	

Projected Annual Dividend Payout Ratio		[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	65.00%	64.75%	64.50%	64.25%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Ameren Corporation	AEE	60.00%	59.75%	59.50%	59.25%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
American Electric Power Company, Inc.	AEP	67.00%	66.00%	65.00%	64.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Avangrid, Inc.	AGR	76.00%	73.50%	71.00%	68.50%	66.00%	65.93%	65.86%	65.79%	65.71%	65.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Black Hills Corporation	BKH	55.00%	56.25%	57.50%	58.75%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
DTE Energy Company	DTE	61.00%	60.75%	60.50%	60.25%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Duke Energy Corporation	DUK	76.00%	77.00%	78.00%	79.00%	80.00%	77.60%	75.19%	72.79%	70.38%	67.98%	65.57%	65.57%	65.57%	65.57%	65.57%
El Paso Electric	EE	57.00%	58.00%	59.00%	60.00%	61.00%	61.76%	62.52%	63.29%	64.05%	64.81%	65.57%	65.57%	65.57%	65.57%	65.57%
Hawaiian Electric Industries, Inc.	HE	66.00%	64.25%	62.50%	60.75%	59.00%	60.10%	61.19%	62.29%	63.38%	64.48%	65.57%	65.57%	65.57%	65.57%	65.57%
IDACORP, Inc.	IDA	57.00%	58.50%	60.00%	61.50%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NextEra Energy, Inc.	NEE	55.00%	57.00%	59.00%	61.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
NorthWestern Corporation	NWE	64.00%	64.00%	64.00%	64.00%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
OGE Energy Corp.	OGE	69.00%	69.50%	70.00%	70.50%	71.00%	70.10%	69.19%	68.29%	67.38%	66.48%	65.57%	65.57%	65.57%	65.57%	65.57%
Otter Tail Corporation	OTTR	66.00%	64.50%	63.00%	61.50%	60.00%	60.93%	61.86%	62.79%	63.71%	64.64%	65.57%	65.57%	65.57%	65.57%	65.57%
Pinnacle West Capital Corporation	PNW	63.00%	63.00%	63.00%	63.00%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
PNM Resources, Inc.	PNM	53.00%	52.25%	51.50%	50.75%	50.00%	52.60%	55.19%	57.79%	60.38%	62.98%	65.57%	65.57%	65.57%	65.57%	65.57%
Portland General Electric Company	POR	64.00%	63.75%	63.50%	63.25%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%
Southern Company	SO	80.00%	78.50%	77.00%	75.50%	74.00%	72.60%	71.19%	69.79%	68.38%	66.98%	65.57%	65.57%	65.57%	65.57%	65.57%
WEC Energy Group, Inc.	WEC	66.00%	65.50%	65.00%	64.50%	64.00%	64.26%	64.52%	64.79%	65.05%	65.31%	65.57%	65.57%	65.57%	65.57%	65.57%
Xcel Energy Inc.	XEL	62.00%	62.25%	62.50%	62.75%	63.00%	63.43%	63.86%	64.29%	64.71%	65.14%	65.57%	65.57%	65.57%	65.57%	65.57%

Projected Annual Cash Flows		[45]	[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.14	\$2.23	\$2.34	\$2.44	\$2.56	\$2.70	\$2.85	\$3.01	\$3.18	\$3.37	\$3.56	\$3.76	\$3.96	\$4.18	\$4.40	\$138.00
Alliant Energy Corporation	LNT	\$1.34	\$1.42	\$1.50	\$1.58	\$1.67	\$1.77	\$1.88	\$1.99	\$2.11	\$2.23	\$2.36	\$2.49	\$2.63	\$2.77	\$2.92	\$91.57
Ameren Corporation	AEE	\$1.77	\$1.87	\$1.98	\$2.10	\$2.22	\$2.40	\$2.59	\$2.79	\$3.00	\$3.22	\$3.46	\$3.65	\$3.84	\$4.05	\$4.27	\$133.93
American Electric Power Company, Inc.	AEP	\$2.53	\$2.61	\$2.69	\$2.76	\$2.84	\$2.99	\$3.16	\$3.34	\$3.53	\$3.75	\$3.98	\$4.19	\$4.42	\$4.66	\$4.92	\$153.99
Avangrid, Inc.	AGR	\$1.38	\$1.46	\$1.54	\$1.62	\$1.70	\$1.85	\$1.99	\$2.13	\$2.27	\$2.41	\$2.53	\$2.67	\$2.82	\$2.97	\$3.13	\$98.19
Black Hills Corporation	BKH	\$1.93	\$2.05	\$2.18	\$2.31	\$2.45	\$2.59	\$2.75	\$2.92	\$3.11	\$3.31	\$3.55	\$3.74	\$3.94	\$4.16	\$4.38	\$137.32
CMS Energy Corporation	CMS	\$1.41	\$1.50	\$1.59	\$1.70	\$1.81	\$1.94	\$2.09	\$2.24	\$2.39	\$2.56	\$2.73	\$2.88	\$3.03	\$3.20	\$3.37	\$105.67
DTE Energy Company	DTE	\$3.68	\$3.86	\$4.05	\$4.24	\$4.45	\$4.76	\$5.09	\$5.45	\$5.82	\$6.23	\$6.66	\$7.03	\$7.41	\$7.81	\$8.24	\$258.09
Duke Energy Corporation	DUK	\$3.34	\$3.53	\$3.73	\$3.93	\$4.15	\$4.20	\$4.26	\$4.33	\$4.39	\$4.47	\$4.54	\$4.79	\$5.05	\$5.33	\$5.62	\$175.94
El Paso Electric	EE	\$1.44	\$1.53	\$1.63	\$1.73	\$1.84	\$1.95	\$2.07	\$2.20	\$2.34	\$2.49	\$2.66	\$2.80	\$2.96	\$3.12	\$3.29	\$102.94
Hawaiian Electric Industries, Inc.	HE	\$1.12	\$1.13	\$1.14	\$1.14	\$1.15	\$1.22	\$1.29	\$1.37	\$1.46	\$1.56	\$1.68	\$1.77	\$1.86	\$1.97	\$2.07	\$64.92
IDACORP, Inc.	IDA	\$2.47	\$2.62	\$2.77	\$2.93	\$3.09	\$3.22	\$3.37	\$3.53	\$3.72	\$3.94	\$4.18	\$4.41	\$4.65	\$4.90	\$5.17	\$161.89
NextEra Energy, Inc.	NEE	\$3.88	\$4.36	\$4.90	\$5.49	\$6.16	\$6.69	\$7.24	\$7.80	\$8.36	\$8.92	\$9.47	\$9.98	\$10.52	\$11.10	\$11.70	\$366.61
NorthWestern Corporation	NWE	\$2.20	\$2.27	\$2.34	\$2.41	\$2.48	\$2.57	\$2.68	\$2.81	\$2.95	\$3.11	\$3.29	\$3.47	\$3.66	\$3.86	\$4.07	\$127.51
OGE Energy Corp.	OGE	\$1.38	\$1.45	\$1.52	\$1.60	\$1.68	\$1.74	\$1.79	\$1.86	\$1.92	\$2.00	\$2.08	\$2.19	\$2.31	\$2.44	\$2.57	\$80.51
Otter Tail Corporation	OTTR	\$1.32	\$1.39	\$1.46	\$1.53	\$1.60	\$1.74	\$1.89	\$2.04	\$2.20	\$2.36	\$2.53	\$2.66	\$2.81	\$2.96	\$3.12	\$97.85
Pinnacle West Capital Corporation	PNW	\$2.90	\$3.01	\$3.12	\$3.24	\$3.36	\$3.52	\$3.70	\$3.89	\$4.11	\$4.35	\$4.62	\$4.87	\$5.14	\$5.42	\$5.71	\$178.94
PNM Resources, Inc.	PNM	\$1.06	\$1.09	\$1.12	\$1.15	\$1.18	\$1.30	\$1.43	\$1.57	\$1.72	\$1.89	\$2.08	\$2.19	\$2.31	\$2.44	\$2.57	\$80.51
Portland General Electric Company	POR	\$1.50	\$1.54	\$1.57	\$1.61	\$1.64	\$1.71	\$1.78	\$1.86	\$1.96	\$2.07	\$2.20	\$2.32	\$2.45	\$2.58	\$2.72	\$85.23
Southern Company	SO	\$2.64	\$2.66	\$2.68	\$2.70	\$2.72	\$2.75	\$2.79	\$2.85	\$2.92	\$3.00	\$3.10	\$3.27	\$3.45	\$3.63	\$3.83	\$120.08
WEC Energy Group, Inc.	WEC	\$2.16	\$2.23	\$2.30	\$2.38	\$2.46	\$2.57	\$2.70	\$2.84	\$3.00	\$3.17	\$3.35	\$3.53	\$3.73	\$3.93	\$4.14	\$129.79
Xcel Energy Inc.	XEL	\$1.50	\$1.59	\$1.69	\$1.79	\$1.89	\$2.01	\$2.14	\$2.27	\$2.41	\$2.56	\$2.71	\$2.86	\$3.02	\$3.18	\$3.35	\$105.08

Projected Annual Data

Investor Cash Flows		[61]	[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]
		Initial																
Company	Ticker	Outflow	6/15/18	12/31/18	6/30/19	6/30/20	6/30/21	6/30/22	6/30/23	6/30/24	6/30/25	6/30/26	6/30/27	6/30/28	6/30/29	6/30/30	6/30/31	6/30/32
ALLETE, Inc.	ALE	(\$74.39)	\$0.00	\$1.16	\$2.19	\$2.34	\$2.44	\$2.56	\$2.70	\$2.85	\$3.01	\$3.18	\$3.37	\$3.56	\$3.76	\$3.96	\$4.18	\$142.40
Alliant Energy Corporation	LNT	(\$41.41)	\$0.00	\$0.73	\$1.38	\$1.50	\$1.58	\$1.67	\$1.77	\$1.88	\$1.99	\$2.11	\$2.23	\$2.36	\$2.49	\$2.63	\$2.77	\$94.49
Ameren Corporation	AEE	(\$58.05)	\$0.00	\$0.96	\$1.82	\$1.98	\$2.10	\$2.22	\$2.40	\$2.59	\$2.79	\$3.00	\$3.22	\$3.46	\$3.65	\$3.84	\$4.05	\$138.21
American Electric Power Company, Inc.	AEP	(\$69.91)	\$0.00	\$1.38	\$2.59	\$2.69	\$2.76	\$2.84	\$2.99	\$3.16	\$3.34	\$3.53	\$3.75	\$3.98	\$4.19	\$4.42	\$4.66	\$158.91
Avangrid, Inc.	AGR	(\$50.25)	\$0.00	\$0.75	\$1.45	\$1.54	\$1.62	\$1.70	\$1.85	\$1.99	\$2.13	\$2.27	\$2.41	\$2.53	\$2.67	\$2.82	\$2.97	\$101.32
Black Hills Corporation	BKH	(\$57.41)	\$0.00	\$1.05	\$1.97	\$2.18	\$2.31	\$2.45	\$2.59	\$2.75	\$2.92	\$3.11	\$3.31	\$3.55	\$3.74	\$3.94	\$4.16	\$141.70
CMS Energy Corporation	CMS	(\$45.84)	\$0.00	\$0.77	\$1.45	\$1.59	\$1.70	\$1.81	\$1.94	\$2.09	\$2.24	\$2.39	\$2.56	\$2.73	\$2.88	\$3.03	\$3.20	\$109.04
DTE Energy Company	DTE	(\$105.75)	\$0.00	\$2.01	\$3.78	\$4.05	\$4.24	\$4.45	\$4.76	\$5.09	\$5.45	\$5.82	\$6.23	\$6.66	\$7.03	\$7.41	\$7.81	\$266.33
Duke Energy Corporation	DUK	(\$80.74)	\$0.00	\$1.82	\$3.41	\$3.73	\$3.93	\$4.15	\$4.20	\$4.26	\$4.33	\$4.39	\$4.47	\$4.54	\$4.79	\$5.05	\$5.33	\$181.56
El Paso Electric	EE	(\$54.16)	\$0.00	\$0.79	\$1.47	\$1.63	\$1.73	\$1.84	\$1.95	\$2.07	\$2.20	\$2.34	\$2.49	\$2.66	\$2.80	\$2.96	\$3.12	\$106.23
Hawaiian Electric Industries, Inc.	HE	(\$34.70)	\$0.00	\$0.61	\$1.14	\$1.14	\$1.14	\$1.15	\$1.22	\$1.29	\$1.37	\$1.46	\$1.56	\$1.68	\$1.77	\$1.86	\$1.97	\$66.99
IDACORP, Inc.	IDA	(\$89.13)	\$0.00	\$1.35	\$2.51	\$2.77	\$2.93	\$3.09	\$3.22	\$3.37	\$3.53	\$3.72	\$3.94	\$4.18	\$4.41	\$4.65	\$4.90	\$167.06
NextEra Energy, Inc.	NEE	(\$156.22)	\$0.00	\$2.11	\$4.04	\$4.90	\$5.49	\$6.16	\$6.69	\$7.24	\$7.80	\$8.36	\$8.92	\$9.47	\$9.98	\$10.52	\$11.10	\$378.32
NorthWestern Corporation	NWE	(\$55.80)	\$0.00	\$1.20	\$2.23	\$2.34	\$2.41	\$2.48	\$2.57	\$2.68	\$2.81	\$2.95	\$3.11	\$3.29	\$3.47	\$3.66	\$3.86	\$131.58
OGE Energy Corp.	OGE	(\$33.47)	\$0.00	\$0.75	\$1.41	\$1.52	\$1.60	\$1.68	\$1.74	\$1.79	\$1.86	\$1.92	\$2.00	\$2.08	\$2.19	\$2.31	\$2.44	\$83.08
Otter Tail Corporation	OTTR	(\$44.07)	\$0.00	\$0.72	\$1.37	\$1.46	\$1.53	\$1.60	\$1.74	\$1.89	\$2.04	\$2.20	\$2.36	\$2.53	\$2.66	\$2.81	\$2.96	\$100.97
Pinnacle West Capital Corporation	PNW	(\$81.85)	\$0.00	\$1.58	\$2.95	\$3.12	\$3.24	\$3.36	\$3.52	\$3.70	\$3.89	\$4.11	\$4.35	\$4.62	\$4.87	\$5.14	\$5.42	\$184.65
PNM Resources, Inc.	PNM	(\$39.36)	\$0.00	\$0.58	\$1.08	\$1.12	\$1.15	\$1.18	\$1.30	\$1.43	\$1.57	\$1.72	\$1.89	\$2.08	\$2.19	\$2.31	\$2.44	\$83.08
Portland General Electric Company	POR	(\$43.26)	\$0.00	\$0.82	\$1.52	\$1.57	\$1.61	\$1.64	\$1.71	\$1.78	\$1.86	\$1.96	\$2.07	\$2.20	\$2.32	\$2.45	\$2.58	\$87.95
Southern Company	SO	(\$46.80)	\$0.00	\$1.44	\$2.67	\$2.68	\$2.70	\$2.72	\$2.75	\$2.79	\$2.85	\$2.92	\$3.00	\$3.10	\$3.27	\$3.45	\$3.63	\$123.91
WEC Energy Group, Inc.	WEC	(\$63.81)	\$0.00	\$1.18	\$2.20	\$2.30	\$2.38	\$2.46	\$2.57	\$2.70	\$2.84	\$3.00	\$3.17	\$3.35	\$3.53	\$3.73	\$3.93	\$133.93
Xcel Energy Inc.	XEL	(\$46.44)	\$0.00	\$0.82	\$1.55	\$1.69	\$1.79	\$1.89	\$2.01	\$2.14	\$2.27	\$2.41	\$2.56	\$2.71	\$2.86	\$3.02	\$3.18	\$108.43

Multi-Stage DCF Notes:

-
- [1] Source: Bloomberg; based on 30-, 90-, and 180-day historical average as of June 15, 2018
 - [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, Blue Chip Financial Forecast
 - [7] Source: Value Line
 - [8] Source: Value Line
 - [9] Source: Bloomberg Professional
 - [10] Equals Column [1] + Column [61]
 - [11] Equals result of Excel Solver function; goal: Column [10] equals \$0.00
 - [12] Equals Column [60] / Column [29] or Proxy Group 30-day average PE ratio. Source: S&P Global Market Intelligence
 - [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]) / (2028 - 2023 + 1)) x (2023 - 2022)))) x Column [19]
 - [21] Equals (1 + (Column [5] + (((Column [6] - Column [5]) / (2028 - 2023 + 1)) x (2024 - 2022)))) x Column [20]
 - [22] Equals (1 + (Column [5] + (((Column [6] - Column [5]) / (2028 - 2023 + 1)) x (2025 - 2022)))) x Column [21]
 - [23] Equals (1 + (Column [5] + (((Column [6] - Column [5]) / (2028 - 2023 + 1)) x (2026 - 2022)))) x Column [22]
 - [24] Equals (1 + (Column [5] + (((Column [6] - Column [5]) / (2028 - 2023 + 1)) x (2027 - 2022)))) 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 [7]
 - [31] Equals Column [30] + ((Column [34] - Column [30]) / 4)
 - [32] Equals Column [31] + ((Column [34] - Column [30]) / 4)
 - [33] Equals Column [32] + ((Column [34] - Column [30]) / 4)
 - [34] Equals Column [8]
 - [35] Equals Column [34] + ((Column [40] - Column [34]) / 6)
 - [36] Equals Column [35] + ((Column [40] - Column [34]) / 6)
 - [37] Equals Column [36] + ((Column [40] - Column [34]) / 6)
 - [38] Equals Column [37] + ((Column [40] - Column [34]) / 6)
 - [39] Equals Column [38] + ((Column [40] - Column [34]) / 6)
 - [40] Equals Column [9]
 - [41] Equals Column [9]
 - [42] Equals Column [9]
 - [43] Equals Column [9]
 - [44] Equals Column [9]
 - [45] Equals Column [15] x Column [30]
 - [46] Equals Column [16] x Column [31]
 - [47] Equals Column [17] x Column [32]
 - [48] Equals Column [18] x Column [33]
 - [49] Equals Column [19] x Column [34]
 - [50] Equals Column [20] x Column [35]
 - [51] Equals Column [21] x Column [36]
 - [52] Equals Column [22] x Column [37]
 - [53] Equals Column [23] x Column [38]
 - [54] Equals Column [24] x Column [39]
 - [55] Equals Column [25] x Column [40]
 - [56] Equals Column [26] x Column [41]
 - [57] Equals Column [27] x Column [42]
 - [58] Equals Column [28] x Column [43]
 - [59] Equals Column [29] x Column [44]
 - [60] Equals (Column [60] x (1 + Column [6])) / (Column [11] - Column [6]), or Column [12] x Column [29]
 - [61] Equals negative net present value; discount rate equals Column [11], cash flows equal Column [63] through Column [77]
 - [62] Equals \$0.00
 - [63] Equals Column [45] x (12/31/2018 - 6/15/2018) / 365
 - [64] Equals Column [45] x (1 + (0.5 x Column [5]))
 - [65] Equals Column [47]
 - [66] Equals Column [48]
 - [67] Equals Column [49]
 - [68] Equals Column [50]
 - [69] Equals Column [51]
 - [70] Equals Column [52]
 - [71] Equals Column [53]
 - [72] Equals Column [54]
 - [73] Equals Column [55]
 - [74] Equals Column [56]
 - [75] Equals Column [57]
 - [76] Equals Column [58]
 - [77] Equals Column [59] + [60]

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

[1]	[2]	[3]
S&P 500	Current 30-Year	
Est. Required	Treasury (30-day	Implied Market
Market Return	average)	Risk Premium
15.73%	3.11%	12.62%

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	\$ 21,158.43	0.08%	0.91%	-0.45%	0.46%	0.0004%
AMERICAN AIRLINES GROUP INC	AAL	\$ 20,022.89	0.08%	0.99%	17.10%	18.18%	0.0146%
ADVANCE AUTO PARTS INC	AAP	\$ 10,154.13	0.04%	0.18%	16.64%	16.84%	0.0069%
APPLE INC	AAPL	\$ 928,174.66	3.73%	1.45%	11.21%	12.74%	0.4746%
ABBVIE INC	ABBV	\$ 158,005.59	0.63%	3.86%	13.63%	17.75%	0.1126%
AMERISOURCEBERGEN CORP	ABC	\$ 20,848.42	0.08%	1.59%	9.92%	11.59%	0.0097%
ABIOMED INC	ABMD	\$ 19,729.48	0.08%	0.00%	37.00%	37.00%	0.0293%
ABBOTT LABORATORIES	ABT	\$ 110,293.04	0.44%	1.78%	12.67%	14.56%	0.0645%
ACCENTURE PLC-CL A	ACN	\$ 105,289.11	0.42%	1.63%	11.10%	12.82%	0.0542%
ADOBE SYSTEMS INC	ADBE	\$ 124,013.88	0.50%	0.00%	18.66%	18.66%	0.0929%
ANALOG DEVICES INC	ADI	\$ 37,646.08	0.15%	1.86%	9.60%	11.55%	0.0175%
ARCHER-DANIELS-MIDLAND CO	ADM	\$ 25,739.25	N/A	2.83%	N/A	N/A	N/A
AUTOMATIC DATA PROCESSING	ADP	\$ 61,483.70	0.25%	1.77%	13.50%	15.39%	0.0380%
ALLIANCE DATA SYSTEMS CORP	ADS	\$ 12,871.02	0.05%	0.95%	12.40%	13.41%	0.0069%
AUTODESK INC	ADSK	\$ 30,239.83	0.12%	0.00%	34.00%	34.00%	0.0413%
AMEREN CORPORATION	AEE	\$ 13,820.92	0.06%	3.28%	8.97%	12.40%	0.0069%
AMERICAN ELECTRIC POWER	AEP	\$ 32,038.65	0.13%	3.86%	5.64%	9.61%	0.0124%
AES CORP	AES	\$ 8,644.49	0.03%	4.00%	8.23%	12.39%	0.0043%
AETNA INC	AET	\$ 61,985.45	0.25%	1.06%	11.08%	12.19%	0.0303%
AFLAC INC	AFL	\$ 35,418.14	0.14%	2.28%	6.52%	8.87%	0.0126%
ALLERGAN PLC	AGN	\$ 58,719.04	0.24%	1.70%	9.24%	11.01%	0.0260%
AMERICAN INTERNATIONAL GROUP	AIG	\$ 49,561.10	0.20%	2.37%	11.00%	13.50%	0.0269%
APARTMENT INVT & MGMT CO -A	AIV	\$ 6,492.27	0.03%	3.69%	6.02%	9.82%	0.0026%
ASSURANT INC	AIZ	\$ 6,024.46	N/A	2.38%	N/A	N/A	N/A
ARTHUR J GALLAGHER & CO	AJG	\$ 11,995.39	0.05%	2.47%	10.32%	12.91%	0.0062%
AKAMAI TECHNOLOGIES INC	AKAM	\$ 13,986.57	0.06%	0.00%	11.71%	11.71%	0.0066%
ALBEMARLE CORP	ALB	\$ 10,337.53	0.04%	1.43%	12.90%	14.43%	0.0060%
ALIGN TECHNOLOGY INC	ALGN	\$ 29,067.07	0.12%	0.00%	31.45%	31.45%	0.0367%
ALASKA AIR GROUP INC	ALK	\$ 7,769.93	0.03%	2.03%	15.52%	17.71%	0.0055%
ALLSTATE CORP	ALL	\$ 32,973.17	0.13%	1.88%	9.00%	10.96%	0.0145%
ALLEGION PLC	ALLE	\$ 7,793.32	0.03%	0.93%	12.06%	13.04%	0.0041%
ALEXION PHARMACEUTICALS INC	ALXN	\$ 27,038.28	0.11%	0.00%	18.87%	18.87%	0.0205%
APPLIED MATERIALS INC	AMAT	\$ 49,706.84	0.20%	1.21%	14.46%	15.76%	0.0314%
ADVANCED MICRO DEVICES	AMD	\$ 15,839.08	0.06%	0.00%	23.60%	23.60%	0.0150%
AMETEK INC	AME	\$ 17,389.27	0.07%	0.75%	10.58%	11.36%	0.0079%
AFFILIATED MANAGERS GROUP	AMG	\$ 8,462.84	0.03%	0.73%	12.85%	13.63%	0.0046%
AMGEN INC	AMGN	\$ 122,422.23	0.49%	2.83%	5.11%	8.01%	0.0394%
AMERIPRISE FINANCIAL INC	AMP	\$ 21,305.80	N/A	2.40%	N/A	N/A	N/A
AMERICAN TOWER CORP	AMT	\$ 61,196.40	0.25%	2.25%	15.02%	17.44%	0.0428%
AMAZON.COM INC	AMZN	\$ 832,634.81	3.34%	0.00%	41.51%	41.51%	1.3876%
ANDEAVOR	ANDV	\$ 20,552.66	0.08%	1.80%	7.95%	9.82%	0.0081%
ANSYS INC	ANSS	\$ 14,936.52	0.06%	0.00%	13.17%	13.17%	0.0079%
ANTHEM INC	ANTM	\$ 62,564.65	0.25%	1.24%	10.09%	11.39%	0.0286%
AON PLC	AON	\$ 34,116.83	0.14%	1.11%	11.42%	12.60%	0.0173%
SMITH (A.O.) CORP	AOS	\$ 10,761.42	0.04%	1.15%	11.50%	12.71%	0.0055%
APACHE CORP	APA	\$ 15,901.44	0.06%	2.40%	-17.09%	-14.89%	-0.0095%
ANADARKO PETROLEUM CORP	APC	\$ 35,278.39	0.14%	1.07%	19.23%	20.40%	0.0289%
AIR PRODUCTS & CHEMICALS INC	APD	\$ 35,987.21	0.14%	2.59%	11.42%	14.15%	0.0204%
AMPHENOL CORP-CL A	APH	\$ 27,527.12	0.11%	0.93%	10.86%	11.84%	0.0131%
APTIV PLC	APTIV	\$ 27,199.73	0.11%	0.86%	10.59%	11.50%	0.0126%
ALEXANDRIA REAL ESTATE EQUIT	ARE	\$ 13,165.30	0.05%	2.86%	6.78%	9.73%	0.0051%
ARCONIC INC	ARNC	\$ 8,464.05	0.03%	1.39%	15.95%	17.45%	0.0059%
ACTIVISION BLIZZARD INC	ATVI	\$ 58,924.87	0.24%	0.44%	15.55%	16.02%	0.0379%
AVALONBAY COMMUNITIES INC	AVB	\$ 23,318.59	0.09%	3.47%	6.41%	9.98%	0.0093%
BROADCOM INC	AVGO	\$ 116,653.12	0.47%	2.59%	13.01%	15.77%	0.0739%
AVERY DENNISON CORP	AVY	\$ 9,325.99	0.04%	1.74%	9.83%	11.66%	0.0044%
AMERICAN WATER WORKS CO INC	AWK	\$ 14,430.78	0.06%	2.22%	8.00%	10.31%	0.0060%
AMERICAN EXPRESS CO	AXP	\$ 84,762.88	0.34%	1.48%	17.30%	18.90%	0.0643%
ACUITY BRANDS INC	AYI	\$ 5,010.54	0.02%	0.43%	10.00%	10.45%	0.0021%
AUTOZONE INC	AZO	\$ 18,330.00	0.07%	0.00%	13.58%	13.58%	0.0100%
BOEING CO/THE	BA	\$ 208,494.08	0.84%	1.95%	15.33%	17.43%	0.1459%
BANK OF AMERICA CORP	BAC	\$ 296,880.30	1.19%	2.06%	13.40%	15.59%	0.1858%
BAXTER INTERNATIONAL INC	BAX	\$ 40,453.85	0.16%	0.96%	13.06%	14.09%	0.0229%
BB&T CORP	BBT	\$ 40,796.62	0.16%	3.02%	14.32%	17.56%	0.0288%
BEST BUY CO INC	BBY	\$ 20,901.31	0.08%	2.41%	11.22%	13.76%	0.0115%
BECTON DICKINSON AND CO	BDX	\$ 62,033.58	0.25%	1.32%	13.91%	15.33%	0.0382%
FRANKLIN RESOURCES INC	BEN	\$ 18,345.47	0.07%	10.06%	10.00%	20.56%	0.0151%
BROWN-FORMAN CORP-CLASS B	BF/B	\$ 25,338.31	0.10%	1.26%	13.62%	14.97%	0.0152%
BRIGHTHOUSE FINANCIAL INC	BHF	\$ 5,395.78	0.02%	0.00%	8.00%	8.00%	0.0017%
BAKER HUGHES A GE CO	BHGE	\$ 36,246.24	0.15%	2.01%	66.45%	69.13%	0.1006%
BIOGEN INC	BIIB	\$ 64,363.75	0.26%	0.00%	5.41%	5.41%	0.0140%
BANK OF NEW YORK MELLON CORP	BK	\$ 57,537.79	0.23%	1.85%	8.10%	10.02%	0.0231%
BOOKING HOLDINGS INC	BKNG	\$ 103,164.28	0.41%	0.00%	14.12%	14.12%	0.0585%
BLACKROCK INC	BLK	\$ 84,519.21	0.34%	2.22%	11.38%	13.72%	0.0466%
BALL CORP	BLL	\$ 12,799.67	0.05%	1.02%	5.50%	6.55%	0.0034%
BRISTOL-MYERS SQUIBB CO	BMY	\$ 89,572.71	0.36%	2.93%	9.23%	12.29%	0.0442%
BERKSHIRE HATHAWAY INC-CL B	BRK/B	\$ 473,175.06	1.90%	0.00%	6.70%	6.70%	0.1273%
BOSTON SCIENTIFIC CORP	BSX	\$ 45,478.55	0.18%	0.00%	21.34%	21.34%	0.0390%
BORGWARNER INC	BWA	\$ 10,133.21	0.04%	1.39%	4.83%	6.25%	0.0025%
BOSTON PROPERTIES INC	BXP	\$ 18,536.02	0.07%	2.70%	5.91%	8.69%	0.0065%
CITIGROUP INC	C	\$ 169,162.59	0.68%	2.21%	13.86%	16.22%	0.1102%
CA INC	CA	\$ 15,527.32	0.06%	2.76%	3.08%	5.87%	0.0037%
CONAGRA BRANDS INC	CAG	\$ 15,150.51	0.06%	2.19%	10.35%	12.65%	0.0077%
CARDINAL HEALTH INC	CAH	\$ 17,010.01	0.07%	3.38%	9.96%	13.51%	0.0092%
CATERPILLAR INC	CAT	\$ 89,704.42	0.36%	2.13%	25.67%	28.07%	0.1011%

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
CHUBB LTD	CB	\$ 60,964.18	0.24%	2.23%	10.00%	12.35%	0.0302%
CBOE GLOBAL MARKETS INC	CBOE	\$ 11,566.25	0.05%	1.12%	18.64%	19.86%	0.0092%
CBRE GROUP INC - A	CBRE	\$ 16,524.94	0.07%	0.00%	10.75%	10.75%	0.0071%
CBS CORP-CLASS B NON VOTING	CBS	\$ 21,294.67	0.09%	1.38%	15.32%	16.80%	0.0144%
CROWN CASTLE INTL CORP	CCI	\$ 41,934.45	0.17%	4.23%	12.77%	17.27%	0.0291%
CARNIVAL CORP	CCL	\$ 46,254.07	0.19%	2.93%	14.40%	17.54%	0.0326%
CADENCE DESIGN SYS INC	CDNS	\$ 12,691.41	0.05%	0.00%	12.00%	12.00%	0.0061%
CELGENE CORP	CELG	\$ 56,594.50	0.23%	0.00%	19.05%	19.05%	0.0433%
CERNER CORP	CERN	\$ 20,529.35	0.08%	0.00%	11.94%	11.94%	0.0098%
CF INDUSTRIES HOLDINGS INC	CF	\$ 10,403.17	0.04%	2.69%	11.75%	14.60%	0.0061%
CITIZENS FINANCIAL GROUP	CFG	\$ 20,213.10	0.08%	2.36%	20.98%	23.58%	0.0191%
CHURCH & DWIGHT CO INC	CHD	\$ 12,298.73	0.05%	1.74%	10.24%	12.07%	0.0060%
C.H. ROBINSON WORLDWIDE INC	CHRW	\$ 12,544.01	0.05%	2.08%	9.58%	11.76%	0.0059%
CHARTER COMMUNICATIONS INC-A	CHTR	\$ 78,244.80	0.31%	0.00%	29.32%	29.32%	0.0921%
CIGNA CORP	CI	\$ 42,584.10	0.17%	0.02%	11.84%	11.87%	0.0203%
CINCINNATI FINANCIAL CORP	CINF	\$ 11,324.43	N/A	3.07%	N/A	N/A	N/A
COLGATE-PALMOLIVE CO	CL	\$ 56,465.32	0.23%	2.57%	8.43%	11.10%	0.0252%
CLOROX COMPANY	CLX	\$ 16,687.10	0.07%	2.68%	8.53%	11.32%	0.0076%
COMERICA INC	CMA	\$ 16,259.73	0.07%	1.55%	26.85%	28.60%	0.0187%
COMCAST CORP-CLASS A	CMCSA	\$ 155,903.56	0.63%	2.22%	15.40%	17.79%	0.1114%
CME GROUP INC	CME	\$ 57,838.26	0.23%	3.79%	15.00%	19.07%	0.0443%
CHIPOTLE MEXICAN GRILL INC	CMG	\$ 12,840.81	0.05%	0.00%	18.94%	18.94%	0.0098%
CUMMINS INC	CMI	\$ 23,583.95	0.09%	3.09%	9.06%	12.29%	0.0116%
CMS ENERGY CORP	CMS	\$ 12,453.76	0.05%	3.24%	6.29%	9.62%	0.0048%
CENTENE CORP	CNC	\$ 25,394.98	0.10%	0.00%	15.49%	15.49%	0.0158%
CENTERPOINT ENERGY INC	CNP	\$ 11,170.84	0.04%	4.32%	5.54%	9.98%	0.0045%
CAPITAL ONE FINANCIAL CORP	COF	\$ 47,310.58	0.19%	1.73%	16.36%	18.23%	0.0346%
CABOT OIL & GAS CORP	COG	\$ 10,609.96	0.04%	1.01%	39.25%	40.46%	0.0172%
ROCKWELL COLLINS INC	COL	\$ 22,599.77	0.09%	1.08%	11.60%	12.75%	0.0116%
COOPER COS INC/THE	COO	\$ 11,639.15	0.05%	0.03%	10.73%	10.76%	0.0050%
CONOCOPHILLIPS	COP	\$ 76,475.53	0.31%	1.75%	6.00%	7.80%	0.0240%
COSTCO WHOLESALE CORP	COST	\$ 90,918.43	0.36%	1.03%	10.89%	11.98%	0.0437%
COTY INC-CL A	COTY	\$ 10,882.79	0.04%	3.45%	15.63%	19.35%	0.0085%
CAMPBELL SOUP CO	CPB	\$ 11,153.95	0.04%	3.87%	3.40%	7.34%	0.0033%
SALESFORCE.COM INC	CRM	\$ 102,820.51	0.41%	0.00%	26.30%	26.30%	0.1086%
CISCO SYSTEMS INC	CSCO	\$ 208,102.55	0.84%	2.82%	6.24%	9.14%	0.0764%
CSX CORP	CSX	\$ 58,342.31	0.23%	1.32%	15.16%	16.58%	0.0388%
CINTAS CORP	CTAS	\$ 20,331.40	0.08%	0.85%	11.60%	12.50%	0.0102%
CENTURYLINK INC	CTL	\$ 19,440.81	0.08%	11.99%	-15.40%	-4.34%	-0.0034%
COGNIZANT TECH SOLUTIONS-A	CTSH	\$ 47,282.04	0.19%	0.19%	15.03%	16.03%	0.0304%
CITRIX SYSTEMS INC	CTXS	\$ 14,493.08	0.06%	0.00%	11.00%	11.00%	0.0064%
CVS HEALTH CORP	CVS	\$ 71,256.74	0.29%	3.01%	11.23%	14.41%	0.0412%
CHEVRON CORP	CVX	\$ 237,035.48	0.95%	3.61%	54.01%	58.59%	0.5575%
CONCHO RESOURCES INC	CXO	\$ 18,743.97	0.08%	0.00%	32.85%	32.85%	0.0247%
DOMINION ENERGY INC	D	\$ 43,287.17	0.17%	5.04%	5.55%	10.72%	0.0186%
DELTA AIR LINES INC	DAL	\$ 38,707.50	0.16%	2.40%	16.18%	18.77%	0.0292%
DEERE & CO	DE	\$ 48,237.33	0.19%	1.68%	7.67%	9.41%	0.0182%
DISCOVER FINANCIAL SERVICES	DFS	\$ 26,023.23	0.10%	1.98%	8.89%	10.96%	0.0114%
DOLLAR GENERAL CORP	DG	\$ 26,041.37	0.10%	1.19%	15.95%	17.23%	0.0180%
QUEST DIAGNOSTICS INC	DGX	\$ 15,117.81	0.06%	1.72%	9.95%	11.76%	0.0071%
DR HORTON INC	DHI	\$ 16,168.46	0.06%	1.13%	20.52%	21.77%	0.0141%
DANAHER CORP	DHR	\$ 71,470.98	0.29%	0.58%	8.15%	8.76%	0.0251%
WALT DISNEY CO/THE	DIS	\$ 161,832.80	0.65%	1.55%	5.00%	6.59%	0.0428%
DISCOVERY INC - A	DISCA	\$ 18,493.49	N/A	0.00%	N/A	N/A	N/A
DISH NETWORK CORP-A	DISH	\$ 16,176.03	0.06%	0.00%	-11.61%	-11.61%	-0.0075%
DIGITAL REALTY TRUST INC	DLR	\$ 22,806.44	0.09%	3.80%	7.28%	11.21%	0.0103%
DOLLAR TREE INC	DLTR	\$ 20,929.01	0.08%	0.00%	13.37%	13.37%	0.0112%
DOVER CORP	DOV	\$ 11,882.35	0.05%	2.51%	12.63%	15.30%	0.0073%
DR PEPPER SNAPPLE GROUP INC	DPS	\$ 21,898.33	0.09%	2.02%	11.00%	13.14%	0.0115%
DUKE REALTY CORP	DRE	\$ 10,153.94	0.04%	2.84%	-4.09%	-1.31%	-0.0005%
DARDEN RESTAURANTS INC	DRI	\$ 11,648.59	0.05%	2.69%	10.72%	13.56%	0.0063%
DTE ENERGY COMPANY	DTE	\$ 17,614.76	0.07%	3.69%	5.30%	9.09%	0.0064%
DUKE ENERGY CORP	DUK	\$ 52,084.30	0.21%	4.92%	4.45%	9.47%	0.0198%
DAVITA INC	DVA	\$ 12,820.52	0.05%	0.00%	20.25%	20.25%	0.0104%
DEVON ENERGY CORP	DVN	\$ 21,066.85	0.08%	0.74%	10.58%	11.35%	0.0096%
DOWDUPONT INC	DWDP	\$ 157,233.30	0.63%	2.28%	8.23%	10.61%	0.0670%
DXC TECHNOLOGY CO	DXC	\$ 23,882.69	0.10%	0.91%	6.15%	7.09%	0.0068%
ELECTRONIC ARTS INC	EA	\$ 44,891.32	0.18%	0.00%	13.50%	13.50%	0.0243%
EBAY INC	EBAY	\$ 38,655.81	0.16%	0.00%	10.04%	10.04%	0.0156%
ECOLAB INC	ECL	\$ 42,288.45	0.17%	1.10%	13.30%	14.47%	0.0246%
CONSOLIDATED EDISON INC	ED	\$ 22,910.16	0.09%	3.89%	3.00%	6.95%	0.0064%
EQUIFAX INC	EFX	\$ 14,916.47	0.06%	1.26%	8.00%	9.31%	0.0056%
EDISON INTERNATIONAL	EIX	\$ 19,692.03	0.08%	4.02%	5.26%	9.39%	0.0074%
ESTEE LAUDER COMPANIES-CL A	EL	\$ 58,003.16	0.23%	0.93%	19.60%	20.62%	0.0480%
EASTMAN CHEMICAL CO	EMN	\$ 15,549.28	0.06%	2.09%	7.65%	9.82%	0.0061%
EMERSON ELECTRIC CO	EMR	\$ 45,542.91	0.18%	2.69%	11.79%	14.64%	0.0268%
EOG RESOURCES INC	EOG	\$ 66,094.38	0.27%	0.60%	8.00%	8.62%	0.0229%
EQUINIX INC	EQIX	\$ 31,684.58	0.13%	2.29%	18.75%	21.26%	0.0270%
EQUITY RESIDENTIAL	EQR	\$ 23,374.21	0.09%	3.40%	5.31%	8.80%	0.0083%
EQT CORP	EQT	\$ 14,724.18	0.06%	0.22%	17.50%	17.74%	0.0105%
EVERSOURCE ENERGY	ES	\$ 17,311.47	0.07%	3.70%	6.27%	10.09%	0.0070%
EXPRESS SCRIPTS HOLDING CO	ESRX	\$ 45,905.17	0.18%	0.00%	6.73%	6.73%	0.0124%
ESSEX PROPERTY TRUST INC	ESS	\$ 15,487.18	0.06%	3.15%	6.48%	9.74%	0.0061%
E*TRADE FINANCIAL CORP	ETFC	\$ 16,972.04	0.07%	0.00%	28.18%	28.18%	0.0192%
EATON CORP PLC	ETN	\$ 34,656.03	0.14%	3.30%	9.04%	12.49%	0.0174%
ENTERGY CORP	ETR	\$ 15,335.55	0.06%	4.62%	0.91%	5.56%	0.0034%
ENVISION HEALTHCARE CORP	EVHC	\$ 5,416.45	0.02%	0.00%	14.96%	14.96%	0.0033%
EVERGY INC	EVRG	\$ 14,319.24	0.06%	3.07%	9.40%	12.61%	0.0072%
EDWARDS LIFESCIENCES CORP	EW	\$ 32,145.92	0.13%	0.00%	15.33%	15.33%	0.0198%
EXELON CORP	EXC	\$ 40,037.31	0.16%	3.33%	5.31%	8.73%	0.0140%
EXPEDITORS INTL WASH INC	EXPD	\$ 13,431.15	0.05%	1.17%	10.83%	12.06%	0.0065%
EXPEDIA GROUP INC	EXPE	\$ 18,636.34	0.07%	0.98%	16.76%	17.82%	0.0133%
EXTRA SPACE STORAGE INC	EXR	\$ 12,196.03	0.05%	3.39%	6.04%	9.54%	0.0047%
FORD MOTOR CO	F	\$ 47,341.25	0.19%	5.05%	-7.42%	-2.56%	-0.0049%
FASTENAL CO	FAST	\$ 15,156.15	0.06%	2.81%	17.50%	20.55%	0.0125%
FACEBOOK INC-A	FB	\$ 567,125.83	2.28%	0.00%	21.49%	21.49%	0.4892%

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	\$ 8,298.63	0.03%	1.41%	12.68%	14.18%	0.0047%
FREEMPORT-MCMORAN INC	FCX	\$ 24,470.13	0.10%	1.16%	-1.41%	-0.26%	-0.0003%
FEDEX CORP	FDX	\$ 70,694.46	0.28%	0.76%	14.60%	15.41%	0.0437%
FIRSTENERGY CORP	FE	\$ 16,548.75	0.07%	4.15%	-0.12%	4.03%	0.0027%
F5 NETWORKS INC	FFIV	\$ 11,153.41	0.04%	0.00%	10.31%	10.31%	0.0046%
FIDELITY NATIONAL INFO SERV	FIS	\$ 35,564.19	0.14%	1.20%	4.40%	5.62%	0.0080%
FISERV INC	FISV	\$ 31,317.82	0.13%	0.00%	11.00%	11.00%	0.0138%
FIFTH THIRD BANCORP	FITB	\$ 21,024.15	0.08%	2.42%	6.00%	8.49%	0.0072%
FOOT LOCKER INC	FL	\$ 6,648.62	0.03%	2.43%	6.58%	9.09%	0.0024%
FLIR SYSTEMS INC	FLIR	\$ 7,527.58	N/A	1.15%	N/A	N/A	N/A
FLUOR CORP	FLR	\$ 6,843.78	0.03%	1.77%	27.68%	29.69%	0.0082%
FLOWERVE CORP	FLS	\$ 5,339.32	0.02%	1.89%	19.47%	21.54%	0.0046%
FMC CORP	FMC	\$ 12,088.80	0.05%	0.89%	14.17%	15.12%	0.0073%
TWENTY-FIRST CENTURY FOX-A	FOXA	\$ 82,655.19	0.33%	0.83%	10.60%	11.48%	0.0381%
FEDERAL REALTY INVS TRUST	FRT	\$ 8,761.68	0.04%	3.40%	4.20%	7.67%	0.0027%
TECHNIPFMC PLC	FTI	\$ 14,331.85	0.06%	1.69%	8.47%	10.23%	0.0059%
FORTIVE CORP	FTV	\$ 28,257.82	0.11%	0.36%	13.04%	13.42%	0.0152%
GENERAL DYNAMICS CORP	GD	\$ 58,159.15	0.23%	1.87%	11.45%	13.42%	0.0313%
GENERAL ELECTRIC CO	GE	\$ 115,515.00	0.46%	3.73%	4.03%	7.84%	0.0363%
GGP INC	GGP	\$ 19,800.38	0.08%	4.52%	1.10%	5.64%	0.0045%
GILEAD SCIENCES INC	GILD	\$ 91,317.32	0.37%	3.22%	-5.21%	-2.07%	-0.0076%
GENERAL MILLS INC	GIS	\$ 26,934.99	0.11%	4.33%	7.33%	11.82%	0.0128%
CORNING INC	GLW	\$ 24,154.85	0.10%	2.48%	4.96%	7.50%	0.0073%
GENERAL MOTORS CO	GM	\$ 61,888.59	0.25%	3.47%	11.05%	14.71%	0.0365%
ALPHABET INC-CL A	GOOGL	\$ 802,558.86	3.22%	0.00%	18.96%	18.96%	0.6107%
GENUINE PARTS CO	GPC	\$ 13,950.36	0.06%	3.01%	-2.49%	0.48%	0.0003%
GLOBAL PAYMENTS INC	GPN	\$ 18,746.52	0.08%	0.03%	22.03%	22.07%	0.0166%
GAP INC/THE	GPS	\$ 12,255.66	0.05%	3.07%	9.25%	12.46%	0.0061%
GARMIN LTD	GRMN	\$ 11,545.09	0.05%	3.43%	5.90%	9.43%	0.0044%
GOLDMAN SACHS GROUP INC	GS	\$ 90,986.74	0.37%	1.38%	16.05%	17.54%	0.0641%
GOODYEAR TIRE & RUBBER CO	GT	\$ 6,012.51	N/A	2.15%	N/A	N/A	N/A
WW GRAINGER INC	GWW	\$ 17,904.22	0.07%	1.71%	14.70%	16.53%	0.0119%
HALLIBURTON CO	HAL	\$ 40,820.50	0.16%	1.57%	67.55%	69.65%	0.1141%
HASBRO INC	HAS	\$ 11,684.93	0.05%	2.75%	8.17%	11.03%	0.0052%
HUNTINGTON BANCSHARES INC	HBAN	\$ 16,890.53	0.07%	3.05%	13.77%	17.03%	0.0115%
HANESBRANDS INC	HBI	\$ 7,315.52	0.03%	2.96%	5.87%	8.91%	0.0026%
HCA HEALTHCARE INC	HCA	\$ 37,203.86	0.15%	1.31%	12.58%	13.97%	0.0209%
HCP INC	HCP	\$ 11,284.48	0.05%	6.19%	-0.37%	5.81%	0.0026%
HOME DEPOT INC	HD	\$ 231,331.64	0.93%	2.03%	13.25%	15.41%	0.1431%
HESS CORP	HES	\$ 18,018.78	0.07%	1.72%	-7.90%	-6.25%	-0.0045%
HARTFORD FINANCIAL SVCS GRP	HIG	\$ 19,253.56	0.08%	1.93%	9.50%	11.53%	0.0089%
HUNTINGTON INGALLS INDUSTRIE	HII	\$ 9,813.25	0.04%	1.29%	27.50%	28.97%	0.0114%
HILTON WORLDWIDE HOLDINGS IN	HLT	\$ 25,186.95	0.10%	0.72%	11.23%	12.00%	0.0121%
HARLEY-DAVIDSON INC	HOG	\$ 7,646.10	0.03%	3.23%	8.95%	12.32%	0.0038%
HOLOGIC INC	HOLX	\$ 11,037.83	0.04%	0.00%	9.51%	9.51%	0.0042%
HONEYWELL INTERNATIONAL INC	HON	\$ 112,211.27	0.45%	2.03%	10.68%	12.82%	0.0578%
HELMERICH & PAYNE	HP	\$ 6,882.41	0.03%	4.43%	122.99%	130.15%	0.0360%
HEWLETT PACKARD ENTERPRISE	HPE	\$ 24,147.68	0.10%	2.37%	-4.05%	-1.73%	-0.0017%
HP INC	HPQ	\$ 37,991.99	0.15%	2.37%	7.75%	10.21%	0.0156%
H&R BLOCK INC	HRB	\$ 4,950.98	0.02%	4.27%	11.00%	15.50%	0.0031%
HORMEL FOODS CORP	HRL	\$ 19,331.67	0.08%	2.05%	8.05%	10.19%	0.0079%
HARRIS CORP	HRS	\$ 17,717.92	N/A	1.53%	N/A	N/A	N/A
HENRY SCHEIN INC	HSIC	\$ 11,288.49	0.05%	0.00%	8.34%	8.34%	0.0038%
HOST HOTELS & RESORTS INC	HST	\$ 15,783.06	0.06%	3.90%	3.98%	7.95%	0.0050%
HERSHEY CO/THE	HSY	\$ 19,671.09	0.08%	2.91%	8.10%	11.13%	0.0088%
HUMANA INC	HUM	\$ 42,261.54	0.17%	0.65%	13.13%	13.83%	0.0235%
INTL BUSINESS MACHINES CORP	IBM	\$ 133,463.41	0.54%	4.26%	1.97%	6.26%	0.0336%
INTERCONTINENTAL EXCHANGE IN	ICE	\$ 43,071.40	0.17%	1.29%	10.43%	11.79%	0.0204%
IDEXX LABORATORIES INC	IDXX	\$ 19,796.13	0.08%	0.00%	16.91%	16.91%	0.0134%
INTL FLAVORS & FRAGRANCES	IFF	\$ 9,962.21	0.04%	2.21%	6.20%	8.48%	0.0034%
ILLUMINA INC	ILMN	\$ 42,446.25	0.17%	0.00%	16.22%	16.22%	0.0276%
INCYTE CORP	INCY	\$ 15,677.24	0.06%	0.00%	58.81%	58.81%	0.0370%
IHS MARKIT LTD	INFO	\$ 20,315.11	0.08%	0.00%	12.33%	12.33%	0.0101%
INTEL CORP	INTC	\$ 256,812.60	1.03%	2.05%	8.98%	11.12%	0.1146%
INTUIT INC	INTU	\$ 53,616.69	0.22%	0.74%	16.29%	17.09%	0.0368%
INTERNATIONAL PAPER CO	IP	\$ 22,953.09	0.09%	3.51%	8.67%	12.33%	0.0114%
INTERPUBLIC GROUP OF COS INC	IPG	\$ 9,086.70	0.04%	3.59%	4.96%	8.63%	0.0031%
IPG PHOTONICS CORP	IPGP	\$ 12,939.30	0.05%	0.00%	12.00%	12.00%	0.0062%
IQVIA HOLDINGS INC	IQV	\$ 20,895.00	0.08%	0.00%	15.73%	15.73%	0.0132%
INGERSOLL-RAND PLC	IR	\$ 22,847.51	0.09%	2.00%	10.92%	13.02%	0.0119%
IRON MOUNTAIN INC	IRM	\$ 9,509.83	0.04%	6.83%	9.00%	16.14%	0.0062%
INTUITIVE SURGICAL INC	ISRG	\$ 55,570.11	0.22%	0.00%	11.75%	11.75%	0.0262%
GARTNER INC	IT	\$ 12,585.67	0.05%	0.00%	15.00%	15.00%	0.0076%
ILLINOIS TOOL WORKS	ITW	\$ 50,357.06	0.20%	2.36%	10.16%	12.64%	0.0255%
INVESCO LTD	IVZ	\$ 11,300.08	0.05%	4.35%	8.97%	13.52%	0.0061%
HUNT (JB) TRANSPRT SVCS INC	JBHT	\$ 14,294.57	0.06%	0.72%	12.72%	13.48%	0.0077%
JOHNSON CONTROLS INTERNATION	JCI	\$ 32,454.20	0.13%	3.03%	10.47%	13.66%	0.0178%
JACOBS ENGINEERING GROUP INC	JEC	\$ 9,152.67	0.04%	0.92%	19.36%	20.36%	0.0075%
JEFFERIES FINANCIAL GROUP IN	JEF	\$ 7,655.70	0.03%	1.80%	18.00%	19.96%	0.0061%
JOHNSON & JOHNSON	JNJ	\$ 328,858.41	1.32%	2.96%	7.39%	10.46%	0.1381%
JUNIPER NETWORKS INC	JNPR	\$ 9,528.37	0.04%	2.43%	8.68%	11.21%	0.0043%
JPMORGAN CHASE & CO	JPM	\$ 367,375.43	1.47%	2.28%	9.80%	12.19%	0.1798%
NORDSTROM INC	JWN	\$ 8,451.44	0.03%	2.98%	8.55%	11.66%	0.0040%
KELLOGG CO	K	\$ 23,259.65	0.09%	3.31%	8.07%	11.51%	0.0107%
KEYCORP	KEY	\$ 21,647.32	0.09%	2.54%	16.47%	19.22%	0.0167%
KRAFT HEINZ CO/THE	KHC	\$ 75,113.20	0.30%	4.13%	6.90%	11.17%	0.0337%
KIMCO REALTY CORP	KIM	\$ 7,006.56	0.03%	6.86%	2.94%	9.90%	0.0028%
KLA-TENCOR CORP	KLAC	\$ 17,558.47	0.07%	2.22%	11.16%	13.50%	0.0095%
KIMBERLY-CLARK CORP	KMB	\$ 36,134.60	0.15%	3.87%	14.07%	18.21%	0.0264%
KINDER MORGAN INC	KMI	\$ 36,995.82	0.15%	4.71%	88.15%	94.94%	0.1410%
CARMAX INC	KMX	\$ 12,890.48	0.05%	0.00%	12.90%	12.90%	0.0067%
COCA-COLA CO/THE	KO	\$ 187,742.19	0.75%	3.47%	8.39%	12.01%	0.0905%
MICHAEL KORS HOLDINGS LTD	KORS	\$ 10,120.71	0.04%	0.00%	7.83%	7.83%	0.0032%
KROGER CO	KR	\$ 20,807.26	0.08%	2.06%	5.57%	7.69%	0.0064%
KOHL'S CORP	KSS	\$ 12,365.13	0.05%	3.38%	6.73%	10.23%	0.0051%
KANSAS CITY SOUTHERN	KSU	\$ 11,296.32	0.05%	1.34%	8.70%	10.10%	0.0046%

		[4]	[5]	[6]	[7]	[8]	[9]
Company	Ticker	Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
LOEWS CORP	L	\$ 15,930.99	N/A	0.50%	N/A	N/A	N/A
L BRANDS INC	LB	\$ 10,087.46	0.04%	6.60%	9.95%	16.88%	0.0068%
LEGGETT & PLATT INC	LEG	\$ 5,817.86	0.02%	3.32%	10.00%	13.48%	0.0031%
LENNAR CORP-A	LEN	\$ 16,805.13	0.07%	0.30%	20.99%	21.32%	0.0144%
LABORATORY CRP OF AMER HLDGS	LH	\$ 19,376.64	0.08%	0.00%	9.15%	9.15%	0.0071%
LKQ CORP	LKQ	\$ 10,359.82	0.04%	0.00%	13.15%	13.15%	0.0055%
L3 TECHNOLOGIES INC	LLL	\$ 15,498.10	0.06%	1.66%	11.07%	12.82%	0.0080%
ELI LILLY & CO	LLY	\$ 94,758.42	0.38%	2.62%	10.57%	13.33%	0.0507%
LOCKHEED MARTIN CORP	LMT	\$ 88,554.11	0.36%	2.65%	22.09%	25.04%	0.0890%
LINCOLN NATIONAL CORP	LNC	\$ 14,694.92	0.06%	1.99%	8.00%	10.07%	0.0059%
ALLIANT ENERGY CORP	LNT	\$ 9,250.01	0.04%	3.35%	5.92%	9.37%	0.0035%
LOWE'S COS INC	LOW	\$ 80,946.15	0.32%	1.84%	15.34%	17.32%	0.0563%
LAM RESEARCH CORP	LRCX	\$ 29,267.31	0.12%	1.37%	11.95%	13.40%	0.0157%
SOUTHWEST AIRLINES CO	LUV	\$ 30,254.13	0.12%	1.11%	11.62%	12.80%	0.0155%
LYONDELLBASELL INDU-CL A	LYB	\$ 45,213.43	0.18%	3.48%	7.73%	11.34%	0.0206%
MACY'S INC	M	\$ 11,724.81	0.05%	4.20%	-0.07%	4.14%	0.0019%
MASTERCARD INC - A	MA	\$ 208,303.54	0.84%	0.50%	21.41%	21.97%	0.1837%
MID-AMERICA APARTMENT COMM	MAA	\$ 10,980.87	0.04%	3.85%	7.00%	10.99%	0.0048%
MACERICH CO/THE	MAC	\$ 7,884.30	0.03%	5.35%	4.95%	10.43%	0.0033%
MARRIOTT INTERNATIONAL -CL A	MAR	\$ 49,056.33	0.20%	1.10%	17.58%	18.78%	0.0370%
MASCO CORP	MAS	\$ 11,873.17	0.05%	1.12%	15.84%	17.04%	0.0081%
MATTEL INC	MAT	\$ 6,082.21	0.02%	0.00%	9.73%	9.73%	0.0024%
MCDONALD'S CORP	MCD	\$ 130,700.63	0.52%	2.47%	8.77%	11.35%	0.0595%
MICROCHIP TECHNOLOGY INC	MCHP	\$ 23,969.04	0.10%	1.43%	11.79%	13.30%	0.0128%
MCKESSON CORP	MCK	\$ 30,266.38	0.12%	0.87%	6.35%	7.24%	0.0088%
MOODY'S CORP	MCO	\$ 33,927.92	0.14%	1.01%	8.00%	9.05%	0.0123%
MONDELEZ INTERNATIONAL INC-A	MDLZ	\$ 60,212.28	0.24%	2.28%	10.73%	13.14%	0.0318%
MEDTRONIC PLC	MDT	\$ 117,519.05	0.47%	2.22%	7.07%	9.37%	0.0442%
METLIFE INC	MET	\$ 47,075.54	0.19%	3.62%	11.42%	15.25%	0.0288%
MGM RESORTS INTERNATIONAL	MGM	\$ 17,388.43	0.07%	1.54%	8.64%	10.24%	0.0072%
MOHAWK INDUSTRIES INC	MHK	\$ 15,890.27	0.06%	0.00%	8.58%	8.58%	0.0055%
MCCORMICK & CO-NON VGT SHRS	MKC	\$ 13,953.61	0.06%	1.97%	8.30%	10.35%	0.0058%
MARTIN MARIETTA MATERIALS	MLM	\$ 14,402.09	0.06%	0.78%	13.36%	14.19%	0.0082%
MARSH & MCLENNAN COS	MMC	\$ 41,853.99	0.17%	1.92%	12.77%	14.81%	0.0249%
3M CO	MMM	\$ 121,689.11	0.49%	2.65%	8.70%	11.47%	0.0560%
MONSTER BEVERAGE CORP	MNST	\$ 31,752.14	0.13%	0.00%	16.30%	16.30%	0.0208%
ALTRIA GROUP INC	MO	\$ 109,376.15	0.44%	5.10%	4.87%	10.09%	0.0443%
MOSAIC CO/THE	MOS	\$ 11,169.37	0.04%	0.35%	7.00%	7.36%	0.0033%
MARATHON PETROLEUM CORP	MPC	\$ 33,975.80	0.14%	2.51%	6.87%	9.46%	0.0129%
MERCK & CO. INC.	MRK	\$ 166,879.55	0.67%	3.12%	7.14%	10.37%	0.0695%
MARATHON OIL CORP	MRO	\$ 17,055.35	0.07%	1.01%	5.00%	6.03%	0.0041%
MORGAN STANLEY	MS	\$ 90,566.52	0.36%	2.17%	14.35%	16.67%	0.0606%
MSCI INC	MSCI	\$ 15,526.24	0.06%	0.97%	10.00%	11.02%	0.0069%
MICROSOFT CORP	MSFT	\$ 769,318.57	3.09%	1.68%	11.41%	13.19%	0.4072%
MOTOROLA SOLUTIONS INC	MSI	\$ 18,567.73	0.07%	1.83%	4.07%	5.94%	0.0044%
M & T BANK CORP	MTB	\$ 25,378.47	0.10%	1.92%	13.84%	15.90%	0.0162%
METTLER-TOLEDO INTERNATIONAL	MTD	\$ 14,956.40	0.06%	0.00%	11.95%	11.95%	0.0072%
MICRON TECHNOLOGY INC	MU	\$ 67,533.09	0.27%	0.00%	7.50%	7.50%	0.0203%
MYLAN NV	MYL	\$ 20,103.33	0.08%	0.00%	6.37%	6.37%	0.0051%
NOBLE ENERGY INC	NBL	\$ 16,393.47	0.07%	1.22%	12.50%	13.80%	0.0091%
NORWEGIAN CRUISE LINE HOLDIN	NCLH	\$ 12,346.69	0.05%	0.24%	19.90%	20.16%	0.0100%
NASDAQ INC	NDAQ	\$ 15,848.39	0.06%	1.82%	10.79%	12.70%	0.0081%
NEXTERA ENERGY INC	NEE	\$ 75,212.98	0.30%	2.79%	8.57%	11.47%	0.0346%
NEWMONT MINING CORP	NEM	\$ 20,485.88	0.08%	1.46%	-3.00%	-1.56%	-0.0013%
NETFLIX INC	NFLX	\$ 170,390.79	0.68%	0.00%	47.27%	47.27%	0.3233%
NEWFIELD EXPLORATION CO	NFX	\$ 5,568.37	0.02%	0.00%	13.72%	13.72%	0.0031%
NISOURCE INC	NI	\$ 8,800.53	0.04%	3.19%	5.86%	9.14%	0.0032%
NIKE INC -CL B	NKE	\$ 122,235.83	0.49%	1.02%	12.18%	13.26%	0.0651%
NEKTAR THERAPEUTICS	NKTR	\$ 9,917.35	N/A	0.00%	N/A	N/A	N/A
NIELSEN HOLDINGS PLC	NLSN	\$ 11,181.92	0.04%	4.47%	12.00%	16.74%	0.0075%
NORTHROP GRUMMAN CORP	NOC	\$ 56,068.00	0.23%	1.45%	14.77%	16.33%	0.0367%
NATIONAL OILWELL VARCO INC	NOV	\$ 15,846.30	0.06%	0.48%	77.95%	78.62%	0.0500%
NRG ENERGY INC	NRG	\$ 10,510.90	0.04%	0.36%	19.82%	20.22%	0.0085%
NORFOLK SOUTHERN CORP	NSC	\$ 43,697.93	0.18%	1.86%	14.38%	16.37%	0.0287%
NETAPP INC	NTAP	\$ 20,817.59	0.08%	1.97%	10.17%	12.24%	0.0102%
NORTHERN TRUST CORP	NTRS	\$ 24,049.29	0.10%	1.72%	13.84%	15.69%	0.0151%
NUCOR CORP	NUE	\$ 21,264.76	0.09%	2.27%	6.45%	8.80%	0.0075%
NVIDIA CORP	NVDA	\$ 161,012.82	0.65%	0.23%	10.40%	10.64%	0.0688%
NEWELL BRANDS INC	NWL	\$ 12,652.49	0.05%	3.53%	5.30%	8.93%	0.0045%
NEWS CORP - CLASS A	NWSA	\$ 9,368.61	0.04%	1.44%	12.95%	14.48%	0.0054%
REALTY INCOME CORP	O	\$ 15,063.99	0.06%	4.94%	4.39%	9.43%	0.0057%
ONEOK INC	OKE	\$ 27,862.74	0.11%	4.76%	25.16%	30.51%	0.0341%
OMNICOM GROUP	OMC	\$ 17,142.18	0.07%	3.23%	5.67%	8.99%	0.0062%
ORACLE CORP	ORCL	\$ 188,929.45	0.76%	1.63%	8.50%	10.20%	0.0773%
O'REILLY AUTOMOTIVE INC	ORLY	\$ 23,175.29	0.09%	0.00%	14.72%	14.72%	0.0137%
OCCIDENTAL PETROLEUM CORP	OXY	\$ 63,811.63	0.26%	3.71%	11.55%	15.48%	0.0396%
PAYCHEX INC	PAYX	\$ 25,071.95	0.10%	2.85%	8.50%	11.47%	0.0115%
PEOPLE'S UNITED FINANCIAL	PBCT	\$ 6,515.75	0.03%	3.71%	2.00%	5.74%	0.0015%
PACCAR INC	PCAR	\$ 22,515.96	0.09%	3.78%	6.80%	10.71%	0.0097%
P G & E CORP	PCG	\$ 20,760.39	0.08%	4.51%	5.25%	9.88%	0.0082%
PUBLIC SERVICE ENTERPRISE GP	PEG	\$ 26,539.07	0.11%	3.43%	6.62%	10.15%	0.0108%
PEPSICO INC	PEP	\$ 152,574.71	0.61%	3.37%	6.92%	10.40%	0.0637%
PFIZER INC	PFE	\$ 212,690.40	0.85%	3.74%	7.37%	11.25%	0.0960%
PRINCIPAL FINANCIAL GROUP	PFG	\$ 16,152.18	0.06%	3.72%	9.39%	13.28%	0.0086%
PROCTER & GAMBLE CO/THE	PG	\$ 194,579.71	0.78%	3.64%	7.30%	11.07%	0.0865%
PROGRESSIVE CORP	PGR	\$ 36,324.70	0.15%	2.10%	8.00%	10.18%	0.0148%
PARKER HANNIFIN CORP	PH	\$ 22,725.43	0.09%	1.60%	9.59%	11.27%	0.0103%
PULTEGROUP INC	PHM	\$ 8,671.39	0.03%	1.21%	21.25%	22.58%	0.0079%
PACKAGING CORP OF AMERICA	PKG	\$ 11,230.09	0.05%	2.28%	8.00%	10.38%	0.0047%
PERKINELMER INC	PKI	\$ 8,611.78	0.03%	0.36%	15.34%	15.73%	0.0054%
PROLOGIS INC	PLD	\$ 34,033.29	0.14%	2.98%	6.47%	9.54%	0.0130%
PHILIP MORRIS INTERNATIONAL	PM	\$ 127,280.31	0.51%	5.37%	10.87%	16.52%	0.0844%
PNC FINANCIAL SERVICES GROUP	PNC	\$ 67,593.74	0.27%	2.37%	11.11%	13.62%	0.0369%
PENTAIR PLC	PNR	\$ 7,824.03	0.03%	1.91%	10.55%	12.56%	0.0039%
PINNACLE WEST CAPITAL	PNW	\$ 8,519.23	0.03%	3.70%	4.49%	8.27%	0.0028%
PPG INDUSTRIES INC	PPG	\$ 26,273.63	0.11%	1.74%	8.73%	10.55%	0.0111%

Company	Ticker	[4]	[5]	[6]	[7]	[8]	[9]
		Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
PPL CORP	PPL	\$ 18,930.42	0.08%	6.05%	5.40%	11.62%	0.0088%
PERRIGO CO PLC	PRGO	\$ 10,399.89	0.04%	0.93%	6.52%	7.48%	0.0031%
PRUDENTIAL FINANCIAL INC	PRU	\$ 41,395.20	0.17%	3.65%	8.50%	12.31%	0.0205%
PUBLIC STORAGE	PSA	\$ 37,288.57	0.15%	3.79%	5.46%	9.35%	0.0140%
PHILLIPS 66	PSX	\$ 53,245.16	0.21%	2.62%	10.00%	12.75%	0.0273%
PVH CORP	PVH	\$ 12,442.41	0.05%	0.09%	10.56%	10.66%	0.0053%
QUANTA SERVICES INC	PWR	\$ 5,343.39	N/A	0.00%	N/A	N/A	N/A
PRAXAIR INC	PX	\$ 46,053.83	0.18%	2.07%	13.97%	16.18%	0.0299%
PIONEER NATURAL RESOURCES CO	PXD	\$ 31,392.74	0.13%	0.14%	15.00%	15.15%	0.0191%
PAYPAL HOLDINGS INC	PYPL	\$ 101,295.97	0.41%	0.00%	18.63%	18.63%	0.0758%
QUALCOMM INC	QCOM	\$ 88,749.77	0.36%	3.97%	5.67%	9.76%	0.0348%
QORVO INC	QRVO	\$ 10,766.88	0.04%	0.00%	12.39%	12.39%	0.0054%
ROYAL CARIBBEAN CRUISES LTD	RCL	\$ 24,247.12	0.10%	2.13%	15.52%	17.82%	0.0173%
EVEREST RE GROUP LTD	RE	\$ 9,286.18	0.04%	2.32%	10.00%	12.43%	0.0046%
REGENCY CENTERS CORP	REG	\$ 10,125.40	0.04%	3.74%	8.48%	12.39%	0.0050%
REGENERON PHARMACEUTICALS	REGN	\$ 34,008.63	0.14%	0.00%	14.66%	14.66%	0.0200%
REGIONS FINANCIAL CORP	RF	\$ 20,879.34	0.08%	2.33%	16.09%	18.61%	0.0156%
ROBERT HALF INTL INC	RHI	\$ 8,641.97	0.03%	1.54%	16.20%	17.87%	0.0062%
RED HAT INC	RHT	\$ 31,090.99	0.12%	0.00%	17.36%	17.36%	0.0217%
RAYMOND JAMES FINANCIAL INC	RJF	\$ 14,240.49	0.06%	1.06%	17.00%	18.15%	0.0104%
RALPH LAUREN CORP	RL	\$ 11,394.00	0.05%	1.69%	5.45%	7.18%	0.0033%
RESMED INC	RMD	\$ 15,101.72	0.06%	1.31%	16.10%	17.51%	0.0106%
ROCKWELL AUTOMATION INC	ROK	\$ 22,310.61	0.09%	1.91%	11.49%	13.51%	0.0121%
ROPER TECHNOLOGIES INC	ROP	\$ 29,297.54	0.12%	0.57%	13.27%	13.87%	0.0163%
ROSS STORES INC	ROST	\$ 32,058.66	0.13%	1.02%	13.12%	14.21%	0.0183%
RANGE RESOURCES CORP	RRC	\$ 3,982.81	0.02%	0.50%	22.54%	23.09%	0.0037%
REPUBLIC SERVICES INC	RSG	\$ 22,912.42	0.09%	1.99%	12.32%	14.43%	0.0133%
RAYTHEON COMPANY	RTN	\$ 57,889.49	0.23%	1.70%	14.97%	16.80%	0.0390%
SBA COMMUNICATIONS CORP	SBAC	\$ 17,988.59	0.07%	0.00%	27.15%	27.15%	0.0196%
STARBUCKS CORP	SBUX	\$ 78,811.80	0.32%	2.15%	14.43%	16.73%	0.0529%
SCANA CORP	SCG	\$ 5,332.23	0.02%	4.53%	-2.10%	2.39%	0.0005%
SCHWAB (CHARLES) CORP	SCHW	\$ 75,675.79	0.30%	0.71%	23.37%	24.16%	0.0734%
SEALED AIR CORP	SEE	\$ 7,252.15	0.03%	1.45%	11.28%	12.81%	0.0037%
SHERWIN-WILLIAMS CO/THE	SHW	\$ 37,615.66	0.15%	0.85%	12.25%	13.16%	0.0199%
SVB FINANCIAL GROUP	SIVB	\$ 16,730.22	0.07%	0.00%	10.75%	10.75%	0.0072%
JM SMUCKER CO/THE	SJM	\$ 12,010.84	0.05%	3.16%	5.70%	8.95%	0.0043%
SCHLUMBERGER LTD	SLB	\$ 92,568.45	0.37%	2.99%	39.63%	43.21%	0.1606%
SL GREEN REALTY CORP	SLG	\$ 8,927.99	0.04%	3.29%	3.62%	6.97%	0.0025%
SNAP-ON INC	SNA	\$ 9,121.45	0.04%	2.14%	9.70%	11.95%	0.0044%
SYNOPSYS INC	SNPS	\$ 13,495.92	N/A	0.00%	N/A	N/A	N/A
SOUTHERN CO/THE	SO	\$ 44,987.50	0.18%	5.37%	4.38%	9.87%	0.0178%
SIMON PROPERTY GROUP INC	SPG	\$ 50,939.11	0.20%	4.79%	6.21%	11.16%	0.0228%
S&P GLOBAL INC	SPGI	\$ 52,441.28	0.21%	0.94%	11.70%	12.69%	0.0267%
STERICYCLE INC	SRCL	\$ 5,484.60	0.02%	0.08%	8.87%	8.95%	0.0020%
SEMPRA ENERGY	SRE	\$ 29,533.48	0.12%	3.20%	16.96%	20.43%	0.0242%
SUNTRUST BANKS INC	STI	\$ 31,984.72	0.13%	2.54%	13.31%	16.02%	0.0206%
STATE STREET CORP	STT	\$ 35,934.23	0.14%	1.85%	17.73%	19.74%	0.0285%
SEAGATE TECHNOLOGY	STX	\$ 16,773.04	0.07%	4.32%	3.15%	7.54%	0.0051%
CONSTELLATION BRANDS INC-A	STZ	\$ 44,399.73	0.18%	1.27%	11.41%	12.75%	0.0227%
STANLEY BLACK & DECKER INC	SWK	\$ 21,904.26	0.09%	1.79%	11.50%	13.40%	0.0118%
SKYWORKS SOLUTIONS INC	SWKS	\$ 18,699.07	0.08%	1.26%	11.41%	12.74%	0.0096%
SYNCHRONY FINANCIAL	SYF	\$ 26,582.53	0.11%	1.93%	10.60%	12.63%	0.0135%
STRYKER CORP	SYK	\$ 62,925.45	0.25%	1.07%	8.89%	10.01%	0.0253%
SYMANTEC CORP	SYMC	\$ 13,213.91	0.05%	1.41%	8.52%	9.99%	0.0053%
SYSCO CORP	SYO	\$ 34,848.91	0.14%	2.07%	11.85%	14.04%	0.0196%
AT&T INC	T	\$ 242,856.90	0.97%	6.06%	5.00%	11.21%	0.1093%
MOLSON COORS BREWING CO -B	TAP	\$ 14,668.88	0.06%	2.46%	5.32%	7.84%	0.0046%
TRANSDIGM GROUP INC	TDG	\$ 17,821.62	0.07%	0.00%	11.80%	11.80%	0.0084%
TE CONNECTIVITY LTD	TEL	\$ 34,663.76	0.14%	1.66%	8.99%	10.72%	0.0149%
TARGET CORP	TGT	\$ 41,184.67	0.17%	3.42%	5.17%	8.68%	0.0143%
TIFFANY & CO	TIF	\$ 16,930.36	0.07%	1.53%	12.34%	13.97%	0.0095%
TJX COMPANIES INC	TJX	\$ 59,500.54	0.24%	1.67%	12.53%	14.29%	0.0341%
TORCHMARK CORP	TMK	\$ 9,593.30	0.04%	0.76%	10.45%	11.24%	0.0043%
THERMO FISHER SCIENTIFIC INC	TMO	\$ 86,821.37	0.35%	0.30%	11.50%	11.82%	0.0412%
TAPESTRY INC	TPR	\$ 13,357.62	0.05%	2.94%	11.31%	14.42%	0.0077%
TRIPADVISOR INC	TRIP	\$ 8,043.61	0.03%	0.00%	14.41%	14.41%	0.0047%
T ROWE PRICE GROUP INC	TROW	\$ 30,192.12	0.12%	2.14%	12.57%	14.84%	0.0180%
TRAVELERS COS INC/THE	TRV	\$ 34,963.70	0.14%	2.37%	16.58%	19.15%	0.0269%
TRACTOR SUPPLY COMPANY	TSCO	\$ 9,080.54	0.04%	1.62%	13.29%	15.02%	0.0055%
TYSON FOODS INC-CL A	TSN	\$ 28,688.86	0.12%	1.63%	8.50%	10.20%	0.0118%
TOTAL SYSTEM SERVICES INC	TSS	\$ 15,760.37	0.06%	0.60%	14.57%	15.21%	0.0096%
TAKE-TWO INTERACTIVE SOFTWARE	TTWO	\$ 13,898.27	0.06%	0.00%	10.00%	10.00%	0.0056%
TWITTER INC	TWTR	\$ 34,472.13	0.14%	0.00%	30.68%	30.68%	0.0424%
TIME WARNER INC	TWX	\$ 77,269.69	0.31%	1.64%	5.10%	6.78%	0.0210%
TEXAS INSTRUMENTS INC	TXN	\$ 113,446.82	0.46%	2.19%	10.46%	12.76%	0.0581%
TEXTRON INC	TXT	\$ 17,259.54	0.07%	0.12%	13.51%	13.64%	0.0095%
UNDER ARMOUR INC-CLASS A	UA	\$ 9,801.25	0.04%	0.00%	25.39%	25.39%	0.0100%
UNITED CONTINENTAL HOLDINGS	UAL	\$ 20,487.15	0.08%	0.00%	20.48%	20.48%	0.0168%
UDR INC	UDR	\$ 9,890.51	0.04%	3.49%	5.36%	8.95%	0.0036%
UNIVERSAL HEALTH SERVICES-B	UHS	\$ 10,902.08	0.04%	0.23%	9.44%	9.67%	0.0042%
ULTA BEAUTY INC	ULTA	\$ 14,917.41	0.06%	0.00%	18.50%	18.50%	0.0111%
UNITEDHEALTH GROUP INC	UNH	\$ 245,991.98	0.99%	1.23%	13.05%	14.36%	0.1418%
UNUM GROUP	UNM	\$ 8,657.56	0.03%	2.47%	7.00%	9.56%	0.0033%
UNION PACIFIC CORP	UNP	\$ 113,241.55	0.45%	1.98%	14.20%	16.32%	0.0742%
UNITED PARCEL SERVICE-CL B	UPS	\$ 100,619.33	0.40%	3.07%	8.73%	11.93%	0.0482%
UNITED RENTALS INC	URI	\$ 13,446.52	0.05%	0.00%	17.76%	17.76%	0.0096%
US BANCORP	USB	\$ 84,389.59	0.34%	2.56%	8.03%	10.69%	0.0362%
UNITED TECHNOLOGIES CORP	UTX	\$ 101,535.55	0.41%	2.24%	10.59%	12.95%	0.0528%
VISA INC-CLASS A SHARES	V	\$ 276,132.85	1.11%	0.61%	17.35%	18.01%	0.1997%
VARIAN MEDICAL SYSTEMS INC	VAR	\$ 11,179.13	0.04%	0.00%	16.00%	16.00%	0.0072%
VFC CORP	VFC	\$ 33,473.45	0.13%	2.24%	8.06%	10.38%	0.0140%
VIACOM INC-CLASS B	VIAB	\$ 12,058.09	0.05%	2.74%	4.17%	6.96%	0.0034%
VALERO ENERGY CORP	VLO	\$ 49,645.28	0.20%	2.78%	26.80%	29.95%	0.0597%
VULCAN MATERIALS CO	VMC	\$ 17,460.37	0.07%	0.82%	21.09%	22.00%	0.0154%
VORNADO REALTY TRUST	VNO	\$ 13,695.98	0.05%	3.48%	7.45%	11.06%	0.0061%
VERISK ANALYTICS INC	VRSK	\$ 18,161.99	0.07%	0.00%	12.84%	12.84%	0.0094%

		[4]	[5]	[6]	[7]	[8]	[9]
Company	Ticker	Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
VERISIGN INC	VRSN	\$ 17,511.36	0.07%	0.00%	10.40%	10.40%	0.0073%
VERTEX PHARMACEUTICALS INC	VRTX	\$ 39,503.78	0.16%	0.00%	62.50%	62.50%	0.0991%
VENTAS INC	VTR	\$ 19,322.82	0.08%	5.84%	1.83%	7.73%	0.0060%
VERIZON COMMUNICATIONS INC	VZ	\$ 198,578.95	0.80%	4.97%	2.31%	7.34%	0.0585%
WATERS CORP	WAT	\$ 15,766.49	0.06%	0.00%	10.11%	10.11%	0.0064%
WALGREENS BOOTS ALLIANCE INC	WBA	\$ 65,251.59	0.26%	2.46%	10.73%	13.32%	0.0349%
WESTERN DIGITAL CORP	WDC	\$ 24,118.91	0.10%	2.51%	14.08%	16.77%	0.0162%
WEC ENERGY GROUP INC	WEC	\$ 19,121.65	0.08%	3.64%	3.00%	6.69%	0.0051%
WELLTOWER INC	WELL	\$ 21,388.94	0.09%	6.06%	5.82%	12.05%	0.0103%
WELLS FARGO & CO	WFC	\$ 267,910.60	1.08%	2.98%	10.66%	13.79%	0.1484%
WHIRLPOOL CORP	WHR	\$ 10,763.61	0.04%	3.01%	9.98%	13.14%	0.0057%
WILLIS TOWERS WATSON PLC	WLTW	\$ 20,419.37	0.08%	1.53%	10.00%	11.61%	0.0095%
WASTE MANAGEMENT INC	WM	\$ 36,462.48	0.15%	2.19%	11.71%	14.03%	0.0205%
WILLIAMS COS INC	WMB	\$ 22,074.33	0.09%	5.11%	-12.20%	-7.40%	-0.0066%
WALMART INC	WMT	\$ 246,985.68	0.99%	2.51%	6.21%	8.79%	0.0872%
WESTROCK CO	WRK	\$ 15,338.39	0.06%	2.88%	8.00%	10.99%	0.0068%
WESTERN UNION CO	WU	\$ 9,532.45	0.04%	3.64%	4.26%	7.97%	0.0031%
WEYERHAEUSER CO	WY	\$ 27,971.67	0.11%	3.51%	9.25%	12.92%	0.0145%
WYNN RESORTS LTD	WYNN	\$ 18,819.22	0.08%	1.69%	18.70%	20.55%	0.0155%
CIMAREX ENERGY CO	XEC	\$ 8,117.28	0.03%	0.58%	74.20%	74.99%	0.0244%
XCEL ENERGY INC	XEL	\$ 22,048.77	0.09%	3.51%	5.88%	9.50%	0.0084%
XL GROUP LTD	XL	\$ 14,510.57	N/A	1.64%	N/A	N/A	N/A
XILINX INC	XLNX	\$ 17,794.03	0.07%	2.06%	10.20%	12.36%	0.0088%
EXXON MOBIL CORP	XOM	\$ 341,501.09	1.37%	3.99%	13.05%	17.29%	0.2371%
DENTSPLY SIRONA INC	XRAY	\$ 10,221.09	0.04%	0.80%	8.95%	9.78%	0.0040%
XEROX CORP	XRX	\$ 6,980.76	N/A	3.61%	N/A	N/A	N/A
XYLEM INC	XYL	\$ 12,837.39	N/A	1.18%	N/A	N/A	N/A
YUM! BRANDS INC	YUM	\$ 26,704.20	0.11%	1.74%	12.40%	14.25%	0.0153%
ZIMMER BIOMET HOLDINGS INC	ZBH	\$ 23,046.90	0.09%	0.87%	5.54%	6.43%	0.0060%
ZIONS BANCORPORATION	ZION	\$ 10,896.52	0.04%	1.77%	10.23%	12.09%	0.0053%
ZOETIS INC	ZTS	\$ 43,160.80	0.17%	0.56%	14.89%	15.49%	0.0268%
Total Market Capitalization:		\$ 24,910,989.71					15.73%

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 $([6] \times (1 + (0.5 \times [7]))) + [7]$
- [9] Equals Col. [5] x Col. [8]

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

[1]	[2]	[3]
S&P 500	Current 30-Year	
Est. Required	Treasury (30-day	Implied Market
Market Return	average)	Risk Premium
16.10%	3.11%	12.99%

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	\$ 21,004.06	0.09%	0.92%	12.00%	12.98%	0.0122%
AMERICAN AIRLINES GROUP INC	AAL	\$ 20,490.38	0.09%	0.91%	3.50%	4.43%	0.0041%
ADVANCE AUTO PARTS INC	AAP	\$ 9,627.73	0.04%	0.19%	13.00%	13.20%	0.0057%
APPLE INC	AAPL	\$ 956,327.30	4.29%	1.53%	13.00%	14.63%	0.6277%
ABBVIE INC	ABBV	\$ 157,598.00	0.71%	3.87%	15.00%	19.16%	0.1355%
AMERISOURCEBERGEN CORP	ABC	\$ 19,029.83	0.09%	1.76%	7.00%	8.82%	0.0075%
ABIOMED INC	ABMD	\$ 17,957.61	0.08%	0.00%	23.00%	23.00%	0.0185%
ABBOTT LABORATORIES	ABT	\$ 110,766.40	0.50%	1.77%	9.50%	11.35%	0.0564%
ACCENTURE PLC-CL A	ACN	\$ 102,385.70	0.46%	1.81%	9.50%	11.40%	0.0523%
ADOBE SYSTEMS INC	ADBE	\$ 121,992.70	0.55%	0.00%	25.50%	25.50%	0.1396%
ANALOG DEVICES INC	ADI	\$ 37,816.66	0.17%	1.88%	13.00%	15.00%	0.0255%
ARCHER-DANIELS-MIDLAND CO	ADM	\$ 24,981.71	0.11%	3.00%	6.00%	9.09%	0.0102%
AUTOMATIC DATA PROCESSING	ADP	\$ 59,443.98	0.27%	2.10%	11.00%	13.22%	0.0352%
ALLIANCE DATA SYSTEMS CORP	ADS	\$ 12,241.63	0.05%	1.03%	13.00%	14.10%	0.0077%
AUTODESK INC	ADSK	\$ 29,282.77	N/A	0.00%	N/A	N/A	N/A
AMEREN CORPORATION	AEE	\$ 13,860.84	0.06%	3.30%	7.50%	10.92%	0.0068%
AMERICAN ELECTRIC POWER	AEP	\$ 31,594.64	0.14%	4.01%	4.50%	8.60%	0.0122%
AES CORP	AES	\$ 8,412.55	N/A	4.09%	N/A	N/A	N/A
AETNA INC	AET	\$ 58,792.95	0.26%	1.11%	10.00%	11.17%	0.0295%
AFLAC INC	AFL	\$ 35,436.58	0.16%	2.32%	6.50%	8.90%	0.0141%
ALLERGAN PLC	AGN	\$ 55,348.53	0.25%	1.76%	5.00%	6.80%	0.0169%
AMERICAN INTERNATIONAL GROUP	AIG	\$ 48,358.13	0.22%	2.38%	52.00%	55.00%	0.1193%
APARTMENT INVT & MGMT CO -A	AIV	\$ -	0.00%	3.67%	4.50%	8.25%	0.0000%
ASSURANT INC	AIZ	\$ 5,125.58	0.02%	2.30%	5.50%	7.86%	0.0018%
ARTHUR J GALLAGHER & CO	AJG	\$ 12,244.41	0.05%	2.44%	17.00%	19.65%	0.0108%
AKAMAI TECHNOLOGIES INC	AKAM	\$ 13,350.50	0.06%	0.00%	17.00%	17.00%	0.0102%
ALBEMARLE CORP	ALB	\$ 10,546.19	0.05%	1.41%	10.00%	11.48%	0.0054%
ALIGN TECHNOLOGY INC	ALGN	\$ 27,194.46	0.12%	0.00%	27.50%	27.50%	0.0336%
ALASKA AIR GROUP INC	ALK	\$ 7,668.67	0.03%	2.06%	4.50%	6.61%	0.0023%
ALLSTATE CORP	ALL	\$ 32,806.40	0.15%	1.97%	12.00%	14.09%	0.0207%
ALLEGION PLC	ALLE	\$ 7,616.18	0.03%	1.05%	9.50%	10.60%	0.0036%
ALEXION PHARMACEUTICALS INC	ALXN	\$ 26,390.72	0.12%	0.00%	18.00%	18.00%	0.0213%
APPLIED MATERIALS INC	AMAT	\$ 51,662.46	0.23%	1.56%	21.00%	22.72%	0.0527%
ADVANCED MICRO DEVICES	AMD	\$ 14,428.41	N/A	0.00%	N/A	N/A	N/A
AMETEK INC	AME	\$ 17,549.06	0.08%	0.74%	10.50%	11.28%	0.0089%
AFFILIATED MANAGERS GROUP	AMG	\$ 8,968.73	0.04%	0.85%	6.50%	7.38%	0.0030%
AMGEN INC	AMGN	\$ 122,151.10	0.55%	2.91%	8.00%	11.03%	0.0604%
AMERIPRISE FINANCIAL INC	AMP	\$ 20,602.71	0.09%	2.53%	16.00%	18.73%	0.0173%
AMERICAN TOWER CORP	AMT	\$ 61,019.73	0.27%	2.37%	11.50%	14.01%	0.0383%
AMAZON.COM INC	AMZN	\$ 819,310.50	3.68%	0.00%	48.00%	48.00%	1.7644%
ANDEAVOR	ANDV	\$ 21,880.87	0.10%	1.63%	5.50%	7.17%	0.0070%
ANSYS INC	ANSS	\$ 14,341.80	0.06%	0.00%	10.50%	10.50%	0.0068%
ANTHEM INC	ANTM	\$ 58,670.57	0.26%	1.31%	15.50%	16.91%	0.0445%
AON PLC	AON	\$ 34,828.21	0.16%	1.13%	9.50%	10.68%	0.0167%
SMITH (A.O.) CORP	AOS	\$ 10,910.30	0.05%	1.13%	13.00%	14.20%	0.0070%
APACHE CORP	APA	\$ 15,954.64	N/A	2.40%	N/A	N/A	N/A
ANADARKO PETROLEUM CORP	APC	\$ 36,104.43	N/A	1.40%	N/A	N/A	N/A
AIR PRODUCTS & CHEMICALS INC	APD	\$ 36,763.22	0.16%	2.62%	8.00%	10.72%	0.0177%
AMPHENOL CORP-CL A	APH	\$ 27,433.70	0.12%	1.01%	9.00%	10.06%	0.0124%
APTIV PLC	APTIV	\$ 26,650.84	0.12%	0.87%	11.00%	11.92%	0.0142%
ALEXANDRIA REAL ESTATE EQUIT	ARE	N/A	N/A	0.00%	N/A	N/A	N/A
ARCONIC INC	ARNC	\$ 8,666.84	N/A	1.34%	N/A	N/A	N/A
ACTIVISION BLIZZARD INC	ATVI	\$ 56,266.19	0.25%	0.46%	13.50%	13.99%	0.0353%
AVALONBAY COMMUNITIES INC	AVB	\$ -	0.00%	3.58%	7.00%	10.71%	0.0000%
BROADCOM INC	AVGO	\$ 108,514.60	0.49%	2.65%	38.00%	41.15%	0.2004%
AVERY DENNISON CORP	AVY	\$ 9,356.00	0.04%	1.99%	12.50%	14.61%	0.0061%
AMERICAN WATER WORKS CO INC	AWK	\$ 14,113.23	0.06%	2.32%	8.50%	10.92%	0.0069%
AMERICAN EXPRESS CO	AXP	\$ 87,272.80	0.39%	1.47%	8.50%	10.03%	0.0393%
ACUIITY BRANDS INC	AYI	\$ 4,951.98	0.02%	0.43%	13.00%	13.46%	0.0030%
AUTOZONE INC	AZO	\$ 18,116.74	0.08%	0.00%	12.50%	12.50%	0.0102%
BOEING CO/THE	BA	\$ 215,303.30	0.97%	2.01%	18.00%	20.19%	0.1950%
BANK OF AMERICA CORP	BAC	\$ 306,193.10	1.37%	1.80%	13.00%	14.92%	0.2049%
BAXTER INTERNATIONAL INC	BAX	\$ 39,888.93	0.18%	1.02%	13.50%	14.59%	0.0261%
BB&T CORP	BBT	\$ 42,434.10	0.19%	2.87%	9.00%	12.00%	0.0228%
BEST BUY CO INC	BBY	\$ 21,211.36	0.10%	2.51%	10.50%	13.14%	0.0125%
BECTON DICKINSON AND CO	BDX	\$ 61,400.35	0.28%	1.32%	10.00%	11.39%	0.0314%
FRANKLIN RESOURCES INC	BEN	\$ 18,569.34	0.08%	2.86%	7.50%	10.47%	0.0087%
BROWN-FORMAN CORP-CLASS B	BF/B	\$ 24,640.75	0.11%	1.37%	14.00%	15.47%	0.0171%
BRIGHTHOUSE FINANCIAL INC	BHF	N/A	N/A	0.00%	N/A	N/A	N/A
BAKER HUGHES A GE CO	BHGE	\$ 14,639.18	N/A	2.08%	N/A	N/A	N/A
BIOGEN INC	BIIB	\$ 64,435.51	0.29%	0.00%	7.50%	7.50%	0.0217%
BANK OF NEW YORK MELLON CORP	BK	\$ 58,265.47	0.26%	1.67%	9.00%	10.75%	0.0281%
BOOKING HOLDINGS INC	BKNG	\$ 102,863.80	0.46%	0.00%	14.00%	14.00%	0.0646%
BLACKROCK INC	BLK	\$ 88,031.54	0.39%	2.10%	12.00%	14.23%	0.0562%
BALL CORP	BLL	\$ 13,033.43	0.06%	1.07%	21.00%	22.18%	0.0130%
BRISTOL-MYERS SQUIBB CO	BMY	\$ 86,009.39	0.39%	3.04%	15.00%	18.27%	0.0705%
BERKSHIRE HATHAWAY INC-CL B	BRK/B	\$ -	N/A	0.00%	N/A	N/A	N/A
BOSTON SCIENTIFIC CORP	BSX	\$ 42,809.67	0.19%	0.00%	16.00%	16.00%	0.0307%
BORGWARNER INC	BWA	\$ 10,547.12	0.05%	1.36%	9.00%	10.42%	0.0049%
BOSTON PROPERTIES INC	BXP	\$ -	0.00%	2.62%	3.50%	6.17%	0.0000%
CITIGROUP INC	C	\$ 174,542.90	0.78%	1.94%	11.00%	13.05%	0.1022%
CA INC	CA	\$ 14,975.08	0.07%	2.86%	7.00%	9.96%	0.0067%
CONAGRA BRANDS INC	CAG	\$ 14,631.04	0.07%	2.34%	6.50%	8.92%	0.0059%
CARDINAL HEALTH INC	CAH	\$ 16,467.45	0.07%	3.61%	11.00%	14.81%	0.0109%
CATERPILLAR INC	CAT	\$ 93,446.58	0.42%	2.00%	17.50%	19.68%	0.0825%

Company	Ticker	[4]	[5]	[6]	[7]	[8]	[9]
		Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
CHUBB LTD	CB	\$ 61,596.84	0.28%	2.21%	9.50%	11.81%	0.0327%
CBOE GLOBAL MARKETS INC	CBOE	\$ 11,582.83	0.05%	1.05%	15.50%	16.63%	0.0086%
CBRE GROUP INC - A	CBRE	\$ 16,246.22	0.07%	0.00%	11.50%	11.50%	0.0084%
CBS CORP-CLASS B NON VOTING	CBS	\$ 19,434.81	0.09%	1.41%	10.50%	11.98%	0.0104%
CROWN CASTLE INTL CORP	CCI	\$ 42,529.20	0.19%	4.39%	12.00%	16.65%	0.0318%
CARNIVAL CORP	CCL	\$ 45,487.85	0.20%	3.26%	12.50%	15.96%	0.0326%
CADENCE DESIGN SYS INC	CDNS	\$ 12,426.42	0.06%	0.00%	10.50%	10.50%	0.0059%
CELGENE CORP	CELG	\$ 57,682.15	0.26%	0.00%	19.50%	19.50%	0.0505%
CERNER CORP	CERN	\$ 19,987.21	0.09%	0.00%	9.00%	9.00%	0.0081%
CF INDUSTRIES HOLDINGS INC	CF	\$ 10,008.77	0.04%	3.03%	47.00%	50.74%	0.0228%
CITIZENS FINANCIAL GROUP	CFG	\$ 20,433.26	0.09%	2.15%	15.50%	17.82%	0.0163%
CHURCH & DWIGHT CO INC	CHD	\$ 11,588.78	0.05%	1.84%	9.00%	10.92%	0.0057%
C.H. ROBINSON WORLDWIDE INC	CHRW	\$ 12,261.67	0.06%	2.09%	10.50%	12.70%	0.0070%
CHARTER COMMUNICATIONS INC-A	CHTR	\$ 66,059.84	0.30%	0.00%	19.50%	19.50%	0.0578%
CIGNA CORP	CI	\$ 43,085.19	0.19%	0.02%	12.50%	12.52%	0.0242%
CINCINNATI FINANCIAL CORP	CINF	\$ 11,613.36	0.05%	3.00%	7.00%	10.11%	0.0053%
COLGATE-PALMOLIVE CO	CL	\$ 54,746.87	0.25%	2.68%	11.00%	13.83%	0.0340%
CLOROX COMPANY	CLX	\$ 16,127.86	0.07%	3.08%	8.00%	11.20%	0.0081%
COMERICA INC	CMA	\$ 16,681.69	0.07%	1.41%	16.50%	18.03%	0.0135%
COMCAST CORP-CLASS A	CMCSA	\$ 147,747.70	0.66%	2.38%	12.50%	15.03%	0.0996%
CME GROUP INC	CME	\$ 58,295.08	0.26%	1.63%	4.50%	6.17%	0.0161%
CHIPOTLE MEXICAN GRILL INC	CMG	\$ 12,473.84	0.06%	0.00%	18.00%	18.00%	0.0101%
CUMMINS INC	CMI	\$ 23,704.24	0.11%	3.00%	8.50%	11.63%	0.0124%
CMS ENERGY CORP	CMS	\$ 12,254.85	0.05%	3.41%	7.00%	10.53%	0.0058%
CENTENE CORP	CNC	\$ 21,070.43	0.09%	0.00%	11.50%	11.50%	0.0109%
CENTERPOINT ENERGY INC	CNP	\$ 10,963.68	0.05%	4.45%	8.50%	13.14%	0.0065%
CAPITAL ONE FINANCIAL CORP	COF	\$ 47,013.65	0.21%	1.65%	5.50%	7.20%	0.0152%
CABOT OIL & GAS CORP	COG	\$ 10,591.41	N/A	1.03%	N/A	N/A	N/A
ROCKWELL COLLINS INC	COL	\$ 22,833.65	0.10%	0.95%	12.50%	13.51%	0.0138%
COOPER COS INC/THE	COO	\$ 11,098.50	0.05%	0.03%	16.50%	16.53%	0.0082%
CONOCOPHILLIPS	COP	\$ 81,296.18	N/A	1.64%	N/A	N/A	N/A
COSTCO WHOLESALE CORP	COST	\$ 88,847.61	0.40%	1.13%	9.00%	10.18%	0.0406%
COTY INC-CL A	COTY	\$ 10,064.21	0.05%	3.73%	7.00%	10.86%	0.0049%
CAMPBELL SOUP CO	CPB	\$ 10,080.49	0.05%	4.18%	4.50%	8.77%	0.0040%
SALESFORCE.COM INC	CRM	\$ 96,000.90	N/A	0.00%	N/A	N/A	N/A
CISCO SYSTEMS INC	CSCO	\$ 206,639.10	0.93%	3.02%	7.50%	10.63%	0.0986%
CSX CORP	CSX	\$ 57,554.53	0.26%	1.34%	17.50%	18.96%	0.0489%
CINTAS CORP	CTAS	\$ 19,927.98	0.09%	0.95%	14.50%	15.52%	0.0139%
CENTURYLINK INC	CTL	\$ 19,005.49	0.09%	12.26%	2.50%	14.91%	0.0127%
COGNIZANT TECH SOLUTIONS-A	CTSH	\$ 44,957.92	0.20%	1.04%	11.50%	12.60%	0.0254%
CITRIX SYSTEMS INC	CTXS	\$ 14,845.84	0.07%	0.00%	6.50%	6.50%	0.0043%
CVS HEALTH CORP	CVS	\$ 66,060.32	0.30%	3.08%	9.00%	12.22%	0.0362%
CHEVRON CORP	CVX	\$ 242,615.10	1.09%	3.53%	31.00%	35.08%	0.3818%
CONCHO RESOURCES INC	CXO	\$ 19,429.91	0.09%	0.00%	33.00%	33.00%	0.0288%
DOMINION ENERGY INC	D	\$ 40,740.67	0.18%	5.63%	6.50%	12.31%	0.0225%
DELTA AIR LINES INC	DAL	\$ 37,554.47	0.17%	2.69%	10.50%	13.33%	0.0225%
DEERE & CO	DE	\$ 51,447.81	0.23%	1.74%	15.50%	17.37%	0.0401%
DISCOVER FINANCIAL SERVICES	DFS	\$ 26,545.96	0.12%	1.85%	8.00%	9.92%	0.0118%
DOLLAR GENERAL CORP	DG	\$ 25,102.29	0.11%	1.24%	12.50%	13.82%	0.0156%
QUEST DIAGNOSTICS INC	DGX	\$ 14,633.60	0.07%	1.86%	9.50%	11.45%	0.0075%
DR HORTON INC	DHI	\$ 16,017.28	0.07%	1.18%	12.00%	13.25%	0.0095%
DANAHER CORP	DHR	\$ 71,596.25	0.32%	0.62%	10.50%	11.15%	0.0358%
WALT DISNEY CO/THE	DIS	\$ 153,705.00	0.69%	1.64%	9.00%	10.71%	0.0739%
DISCOVERY INC - A	DISCA	\$ 11,889.20	0.05%	0.00%	15.00%	15.00%	0.0080%
DISH NETWORK CORP-A	DISH	\$ 14,937.57	0.07%	0.00%	1.00%	1.00%	0.0007%
DIGITAL REALTY TRUST INC	DLR	\$ -	0.00%	3.82%	6.50%	10.44%	0.0000%
DOLLAR TREE INC	DLTR	\$ 19,490.09	0.09%	0.00%	19.50%	19.50%	0.0171%
DOVER CORP	DOV	\$ 12,208.73	0.05%	2.38%	10.50%	13.00%	0.0071%
DR PEPPER SNAPPLE GROUP INC	DPS	\$ 21,664.13	0.10%	2.00%	7.00%	9.07%	0.0088%
DUKE REALTY CORP	DRE	\$ -	0.00%	2.88%	1.00%	3.89%	0.0000%
DARDEN RESTAURANTS INC	DRI	\$ 11,314.41	0.05%	2.78%	13.00%	15.96%	0.0081%
DTE ENERGY COMPANY	DTE	\$ 17,611.11	0.08%	3.83%	7.00%	10.96%	0.0087%
DUKE ENERGY CORP	DUK	\$ 51,509.48	0.23%	5.01%	5.50%	10.65%	0.0246%
DAVITA INC	DVA	\$ 12,303.24	0.06%	0.00%	11.00%	11.00%	0.0061%
DEVON ENERGY CORP	DVN	\$ 22,048.92	0.10%	0.76%	29.00%	29.87%	0.0295%
DOWDUPONT INC	DWDP	\$ 161,093.00	N/A	2.31%	N/A	N/A	N/A
DXC TECHNOLOGY CO	DXC	\$ 24,100.67	0.11%	0.90%	17.00%	17.98%	0.0194%
ELECTRONIC ARTS INC	EA	\$ 42,031.37	0.19%	0.00%	12.00%	12.00%	0.0226%
EBAY INC	EBAY	\$ 40,733.15	0.18%	0.00%	12.50%	12.50%	0.0228%
ECOLAB INC	ECL	\$ 42,083.49	0.19%	1.12%	9.00%	10.17%	0.0192%
CONSOLIDATED EDISON INC	ED	\$ 22,637.69	0.10%	4.00%	3.00%	7.06%	0.0072%
EQUIFAX INC	EFX	\$ 15,216.75	0.07%	1.23%	8.00%	9.28%	0.0063%
EDISON INTERNATIONAL	EIX	\$ 19,457.43	0.09%	4.15%	4.50%	8.74%	0.0076%
ESTEE LAUDER COMPANIES-CL A	EL	\$ 55,649.78	0.25%	1.08%	13.50%	14.65%	0.0366%
EASTMAN CHEMICAL CO	EMN	\$ 15,447.37	0.07%	2.07%	8.50%	10.66%	0.0074%
EMERSON ELECTRIC CO	EMR	\$ 46,335.72	0.21%	2.66%	11.50%	14.31%	0.0298%
EOG RESOURCES INC	EOG	\$ 68,259.41	N/A	0.64%	N/A	N/A	N/A
EQUINIX INC	EQIX	\$ 31,578.20	0.14%	2.30%	26.00%	28.60%	0.0405%
EQUITY RESIDENTIAL	EQR	\$ -	0.00%	3.37%	-13.00%	-9.85%	0.0000%
EQT CORP	EQT	\$ 14,084.75	0.06%	0.23%	40.50%	40.78%	0.0258%
EVERSOURCE ENERGY	ES	\$ 17,895.86	0.08%	3.83%	5.00%	8.93%	0.0072%
EXPRESS SCRIPTS HOLDING CO	ESRX	\$ 43,896.85	0.20%	0.00%	14.50%	14.50%	0.0286%
ESSEX PROPERTY TRUST INC	ESS	\$ -	0.00%	3.11%	5.00%	8.19%	0.0000%
E*TRADE FINANCIAL CORP	ETFC	\$ 17,200.89	0.08%	0.00%	17.00%	17.00%	0.0131%
EATON CORP PLC	ETN	\$ 35,132.68	0.16%	3.29%	9.00%	12.44%	0.0196%
ENTERGY CORP	ETR	\$ 13,854.63	0.06%	4.72%	2.00%	6.77%	0.0042%
ENVISION HEALTHCARE CORP	EVHC	\$ 5,203.88	N/A	0.00%	N/A	N/A	N/A
EVERGY INC	EVRG	N/A	N/A	0.00%	N/A	N/A	N/A
EDWARDS LIFESCIENCES CORP	EW	\$ 29,779.50	0.13%	0.00%	15.00%	15.00%	0.0200%
EXELON CORP	EXC	\$ 38,654.82	0.17%	3.61%	8.00%	11.75%	0.0204%
EXPEDITORS INTL WASH INC	EXPD	\$ 13,263.09	0.06%	1.18%	9.00%	10.23%	0.0061%
EXPEDIA GROUP INC	EXPE	\$ 18,148.36	0.08%	1.00%	21.00%	22.11%	0.0180%
EXTRA SPACE STORAGE INC	EXR	\$ -	0.00%	3.52%	9.00%	12.68%	0.0000%
FORD MOTOR CO	F	\$ 47,939.00	0.22%	4.99%	2.50%	7.55%	0.0162%
FASTENAL CO	FAST	\$ 15,230.15	0.07%	2.80%	7.50%	10.41%	0.0071%
FACEBOOK INC-A	FB	\$ 546,098.30	2.45%	0.00%	28.50%	28.50%	0.6983%

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	\$ 8,411.00	0.04%	1.39%	14.00%	15.49%	0.0058%
FREEMPORT-MCMORAN INC	FCX	\$ 25,980.57	N/A	1.12%	N/A	N/A	N/A
FEDEX CORP	FDX	\$ 68,741.06	0.31%	0.86%	11.00%	11.91%	0.0367%
FIRSTENERGY CORP	FE	\$ 15,900.14	0.07%	4.32%	3.00%	7.38%	0.0053%
F5 NETWORKS INC	FFIV	\$ 10,812.47	0.05%	0.00%	10.50%	10.50%	0.0051%
FIDELITY NATIONAL INFO SERV	FIS	\$ 34,805.10	0.16%	1.21%	16.00%	17.31%	0.0270%
FISERV INC	FISV	\$ 30,853.77	0.14%	0.00%	10.00%	10.00%	0.0138%
FIFTH THIRD BANCORP	FITB	\$ 21,657.87	0.10%	2.28%	6.50%	8.85%	0.0086%
FOOT LOCKER INC	FL	\$ 6,760.10	0.03%	2.39%	7.50%	9.98%	0.0030%
FLIR SYSTEMS INC	FLIR	\$ 7,565.45	0.03%	1.18%	11.50%	12.75%	0.0043%
FLUOR CORP	FLR	\$ 6,983.50	0.03%	1.69%	4.00%	5.72%	0.0018%
FLOWERVE CORP	FLS	\$ 5,496.20	0.02%	1.81%	2.00%	3.83%	0.0009%
FMC CORP	FMC	\$ 11,943.50	0.05%	0.83%	19.00%	19.91%	0.0107%
TWENTY-FIRST CENTURY FOX-A	FOXA	\$ 73,453.05	0.33%	0.91%	13.00%	13.97%	0.0460%
FEDERAL REALTY INVS TRUST	FRT	\$ -	0.00%	3.34%	4.00%	7.41%	0.0000%
TECHNIPFMC PLC	FTI	N/A	N/A	0.00%	N/A	N/A	N/A
FORTIVE CORP	FTV	\$ 27,176.03	N/A	0.36%	N/A	N/A	N/A
GENERAL DYNAMICS CORP	GD	\$ 60,253.14	0.27%	1.83%	9.00%	10.91%	0.0295%
GENERAL ELECTRIC CO	GE	\$ 119,684.00	0.54%	3.48%	9.50%	13.15%	0.0706%
GGP INC	GGP	\$ -	0.00%	4.66%	-0.50%	4.15%	0.0000%
GILEAD SCIENCES INC	GILD	\$ 93,469.99	0.42%	3.17%	-1.00%	2.15%	0.0090%
GENERAL MILLS INC	GIS	\$ 24,069.62	0.11%	4.64%	4.00%	8.73%	0.0094%
CORNING INC	GLW	\$ 23,969.92	0.11%	2.50%	13.00%	15.66%	0.0168%
GENERAL MOTORS CO	GM	\$ 62,020.35	0.28%	3.55%	3.50%	7.11%	0.0198%
ALPHABET INC-CL A	GOOGL	N/A	N/A	0.00%	N/A	N/A	N/A
GENUINE PARTS CO	GPC	\$ 13,855.00	0.06%	3.05%	9.00%	12.19%	0.0076%
GLOBAL PAYMENTS INC	GPN	\$ 18,660.57	0.08%	0.03%	11.00%	11.03%	0.0092%
GAP INC/THE	GPS	\$ 12,205.98	0.05%	3.08%	6.50%	9.68%	0.0053%
GARMIN LTD	GRMN	\$ 11,580.84	0.05%	3.45%	7.00%	10.57%	0.0055%
GOLDMAN SACHS GROUP INC	GS	\$ 88,175.47	0.40%	1.37%	9.00%	10.43%	0.0413%
GOODYEAR TIRE & RUBBER CO	GT	\$ 6,069.60	0.03%	2.57%	12.50%	15.23%	0.0041%
WW GRAINGER INC	GWW	\$ 17,497.47	0.08%	1.74%	8.50%	10.31%	0.0081%
HALLIBURTON CO	HAL	\$ 42,813.75	N/A	1.47%	N/A	N/A	N/A
HASBRO INC	HAS	\$ 11,100.18	0.05%	2.84%	9.50%	12.47%	0.0062%
HUNTINGTON BANCSHARES INC	HBAN	\$ 17,143.95	0.08%	2.96%	11.00%	14.12%	0.0109%
HANESBRANDS INC	HBI	\$ 7,138.81	0.03%	3.43%	6.00%	9.53%	0.0031%
HCA HEALTHCARE INC	HCA	\$ 36,966.06	0.17%	1.33%	12.50%	13.91%	0.0231%
HCP INC	HCP	\$ -	0.00%	6.14%	8.00%	14.39%	0.0000%
HOME DEPOT INC	HD	\$ 226,380.20	1.02%	2.10%	12.00%	14.23%	0.1445%
HESS CORP	HES	\$ 19,201.07	N/A	1.60%	N/A	N/A	N/A
HARTFORD FINANCIAL SVCS GRP	HIG	\$ 18,826.62	0.08%	1.90%	13.00%	15.02%	0.0127%
HUNTINGTON INGALLS INDUSTRIE	HII	\$ 9,925.73	0.04%	1.29%	12.50%	13.87%	0.0062%
HILTON WORLDWIDE HOLDINGS IN	HLT	\$ 26,673.89	0.12%	0.71%	8.50%	9.24%	0.0111%
HARLEY-DAVIDSON INC	HOG	\$ 7,081.90	0.03%	3.48%	9.00%	12.64%	0.0040%
HOLOGIC INC	HOLX	\$ 10,443.15	0.05%	0.00%	22.00%	22.00%	0.0103%
HONEYWELL INTERNATIONAL INC	HON	\$ 113,600.60	0.51%	1.96%	9.50%	11.55%	0.0589%
HELMERICH & PAYNE	HP	\$ 7,252.30	0.03%	4.26%	56.50%	61.96%	0.0202%
HEWLETT PACKARD ENTERPRISE	HPE	\$ 24,309.84	0.11%	2.83%	-0.50%	2.32%	0.0025%
HP INC	HPQ	\$ 37,939.05	0.17%	2.46%	5.50%	8.03%	0.0137%
H&R BLOCK INC	HRB	\$ 6,051.90	0.03%	3.39%	10.50%	14.07%	0.0038%
HORMEL FOODS CORP	HRL	\$ 19,063.67	0.09%	2.11%	9.50%	11.71%	0.0100%
HARRIS CORP	HRS	\$ 18,136.24	0.08%	1.55%	11.50%	13.14%	0.0107%
HENRY SCHEIN INC	HSIC	\$ 10,965.04	0.05%	0.00%	9.00%	9.00%	0.0044%
HOST HOTELS & RESORTS INC	HST	\$ -	0.00%	3.62%	-1.00%	2.60%	0.0000%
HERSHEY CO/THE	HSY	\$ 19,066.96	0.09%	2.88%	7.50%	10.49%	0.0090%
HUMANA INC	HUM	\$ 40,811.62	0.18%	0.68%	13.00%	13.72%	0.0251%
INTL BUSINESS MACHINES CORP	IBM	\$ 133,435.80	0.60%	4.33%	1.00%	5.35%	0.0320%
INTERCONTINENTAL EXCHANGE IN	ICE	\$ 43,859.69	0.20%	1.27%	11.50%	12.84%	0.0253%
IDEXX LABORATORIES INC	IDXX	\$ 18,968.83	0.09%	0.00%	17.00%	17.00%	0.0145%
INTL FLAVORS & FRAGRANCES	IFF	\$ 9,961.28	0.04%	2.31%	8.50%	10.91%	0.0049%
ILLUMINA INC	ILMN	\$ 41,264.37	0.19%	0.00%	16.00%	16.00%	0.0296%
INCYTE CORP	INCY	\$ 14,624.51	N/A	0.00%	N/A	N/A	N/A
IHS MARKIT LTD	INFO	\$ 20,453.77	0.09%	0.00%	18.50%	18.50%	0.0170%
INTEL CORP	INTC	\$ 260,400.80	1.17%	2.15%	13.00%	15.29%	0.1786%
INTUIT INC	INTU	\$ 52,920.96	0.24%	0.76%	14.50%	15.32%	0.0364%
INTERNATIONAL PAPER CO	IP	\$ 24,269.87	0.11%	3.24%	15.50%	18.99%	0.0207%
INTERPUBLIC GROUP OF COS INC	IPG	\$ 8,863.11	0.04%	3.65%	9.50%	13.32%	0.0053%
IPG PHOTONICS CORP	IPGP	\$ 13,354.06	0.06%	0.00%	13.50%	13.50%	0.0081%
IQVIA HOLDINGS INC	IQV	\$ 21,428.41	0.10%	0.00%	14.50%	14.50%	0.0139%
INGERSOLL-RAND PLC	IR	\$ 22,468.80	0.10%	1.99%	9.00%	11.08%	0.0112%
IRON MOUNTAIN INC	IRM	\$ 9,950.12	0.04%	6.78%	12.50%	19.70%	0.0088%
INTUITIVE SURGICAL INC	ISRG	\$ 54,989.02	0.25%	0.00%	17.50%	17.50%	0.0432%
GARTNER INC	IT	\$ 12,529.66	0.06%	0.00%	13.50%	13.50%	0.0076%
ILLINOIS TOOL WORKS	ITW	\$ 50,216.94	0.23%	2.11%	11.50%	13.73%	0.0309%
INVESCO LTD	IVZ	\$ 11,402.78	0.05%	4.32%	7.50%	11.98%	0.0061%
HUNT (JB) TRANSPRT SVCS INC	JBHT	\$ 13,968.26	0.06%	0.76%	13.00%	13.81%	0.0087%
JOHNSON CONTROLS INTERNATION	JCI	\$ 32,361.57	0.15%	2.98%	3.00%	6.02%	0.0087%
JACOBS ENGINEERING GROUP INC	JEC	\$ 9,360.28	0.04%	0.91%	11.00%	11.96%	0.0050%
JEFFERIES FINANCIAL GROUP IN	JEF	\$ 8,215.97	0.04%	1.74%	24.00%	25.95%	0.0096%
JOHNSON & JOHNSON	JNJ	\$ 330,794.40	1.48%	2.92%	9.00%	12.05%	0.1789%
JUNIPER NETWORKS INC	JNPR	\$ 9,573.07	0.04%	2.63%	4.50%	7.19%	0.0031%
JPMORGAN CHASE & CO	JPM	\$ 377,249.30	1.69%	2.13%	9.50%	11.73%	0.1985%
NORDSTROM INC	JWN	\$ 8,757.48	0.04%	2.84%	5.50%	8.42%	0.0033%
KELLOGG CO	K	\$ 21,604.22	0.10%	3.57%	7.00%	10.69%	0.0104%
KEYCORP	KEY	\$ 21,756.70	0.10%	2.35%	12.50%	15.00%	0.0146%
KRAFT HEINZ CO/THE	KHC	\$ 70,472.73	0.32%	4.47%	9.50%	14.18%	0.0448%
KIMCO REALTY CORP	KIM	\$ -	0.00%	7.00%	-0.50%	6.48%	0.0000%
KLA-TENCOR CORP	KLAC	\$ 18,070.24	0.08%	2.59%	15.50%	18.29%	0.0148%
KIMBERLY-CLARK CORP	KMB	\$ 35,568.68	0.16%	3.93%	9.50%	13.62%	0.0217%
KINDER MORGAN INC	KMI	\$ 37,599.66	0.17%	4.69%	57.00%	63.03%	0.1063%
CARMAX INC	KMX	\$ 13,263.22	0.06%	0.00%	11.50%	11.50%	0.0068%
COCA-COLA CO/THE	KO	\$ 185,011.00	0.83%	3.59%	6.50%	10.21%	0.0847%
MICHAEL KORS HOLDINGS LTD	KORS	\$ 9,651.95	0.04%	0.00%	5.00%	5.00%	0.0022%
KROGER CO	KR	\$ 21,732.60	0.10%	2.40%	5.00%	7.46%	0.0073%
KOHL'S CORP	KSS	\$ 13,073.76	0.06%	3.14%	7.50%	10.76%	0.0063%
KANSAS CITY SOUTHERN	KSU	\$ 11,067.57	0.05%	1.34%	12.50%	13.92%	0.0069%

Company	Ticker	[4]	[5]	[6]	[7]	[8]	[9]
		Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
LOEWS CORP	L	\$ 16,161.71	0.07%	0.50%	16.50%	17.04%	0.0124%
L BRANDS INC	LB	\$ 10,438.90	0.05%	6.53%	0.50%	7.05%	0.0033%
LEGETT & PLATT INC	LEG	\$ 5,648.55	0.03%	3.53%	9.00%	12.69%	0.0032%
LENNAR CORP-A	LEN	\$ 17,078.87	0.08%	0.32%	12.00%	12.34%	0.0095%
LABORATORY CRP OF AMER HLDGS	LH	\$ 18,782.31	0.08%	0.00%	9.50%	9.50%	0.0080%
LKQ CORP	LKQ	\$ 10,084.68	0.05%	0.00%	11.00%	11.00%	0.0050%
L3 TECHNOLOGIES INC	LLL	\$ 15,858.68	0.07%	1.58%	11.00%	12.67%	0.0090%
ELI LILLY & CO	LLY	\$ 93,216.73	0.42%	2.62%	11.50%	14.27%	0.0597%
LOCKHEED MARTIN CORP	LMT	\$ 91,926.06	0.41%	2.61%	13.00%	15.78%	0.0651%
LINCOLN NATIONAL CORP	LNC	\$ 14,995.92	0.07%	1.98%	7.50%	9.55%	0.0064%
ALLIANT ENERGY CORP	LNT	\$ 9,071.78	0.04%	3.42%	6.50%	10.03%	0.0041%
LOWE'S COS INC	LOW	\$ 81,599.95	0.37%	1.93%	13.50%	15.56%	0.0570%
LAM RESEARCH CORP	LRCX	\$ 30,987.00	0.14%	2.33%	19.50%	22.06%	0.0307%
SOUTHWEST AIRLINES CO	LUV	\$ 29,361.22	0.13%	1.26%	11.50%	12.83%	0.0169%
LYONDELLBASELL INDU-CL A	LYB	\$ 46,643.36	0.21%	3.37%	7.50%	11.00%	0.0230%
MACY'S INC	M	\$ 12,319.18	0.06%	3.76%	5.00%	8.85%	0.0049%
MASTERCARD INC - A	MA	\$ 209,117.90	0.94%	0.50%	15.00%	15.54%	0.1458%
MID-AMERICA APARTMENT COMM	MAA	\$ -	0.00%	3.87%	-2.50%	1.32%	0.0000%
MACERICH CO/THE	MAC	\$ -	0.00%	5.32%	8.00%	13.53%	0.0000%
MARRIOTT INTERNATIONAL -CL A	MAR	\$ 49,473.31	0.22%	1.18%	12.50%	13.75%	0.0305%
MASCO CORP	MAS	\$ 11,861.08	0.05%	1.09%	16.00%	17.18%	0.0091%
MATTEL INC	MAT	\$ 5,662.24	0.03%	0.00%	26.50%	26.50%	0.0067%
MCDONALD'S CORP	MCD	\$ 133,075.70	0.60%	2.42%	10.00%	12.54%	0.0749%
MICROCHIP TECHNOLOGY INC	MCHP	\$ 23,954.34	0.11%	1.43%	13.50%	15.03%	0.0161%
MCKESSON CORP	MCK	\$ 30,049.15	0.13%	0.93%	9.50%	10.47%	0.0141%
MOODY'S CORP	MCO	\$ 34,115.88	0.15%	0.99%	13.00%	14.05%	0.0215%
MONDELEZ INTERNATIONAL INC-A	MDLZ	\$ 58,513.51	0.26%	2.47%	9.50%	12.09%	0.0317%
MEDTRONIC PLC	MDT	\$ 117,406.30	0.53%	2.22%	7.50%	9.80%	0.0516%
METLIFE INC	MET	\$ 48,225.66	0.22%	3.57%	6.00%	9.68%	0.0209%
MGM RESORTS INTERNATIONAL	MGM	\$ 17,454.71	0.08%	1.53%	25.00%	26.72%	0.0209%
MOHAWK INDUSTRIES INC	MHK	\$ 15,500.63	0.07%	0.00%	10.00%	10.00%	0.0070%
MCCORMICK & CO-NON VTG SHRS	MKC	\$ 13,263.42	0.06%	2.08%	9.50%	11.68%	0.0069%
MARTIN MARIETTA MATERIALS	MLM	\$ 14,450.40	0.06%	0.77%	12.00%	12.82%	0.0083%
MARSH & MCLENNAN COS	MMC	\$ 41,811.04	0.19%	2.02%	9.00%	11.11%	0.0208%
3M CO	MMM	\$ 121,748.40	0.55%	2.65%	9.50%	12.28%	0.0671%
MONSTER BEVERAGE CORP	MNST	\$ 29,722.42	0.13%	0.00%	14.50%	14.50%	0.0193%
ALTRIA GROUP INC	MO	\$ 107,361.00	0.48%	4.94%	10.50%	15.70%	0.0756%
MOSAIC CO/THE	MOS	\$ 11,292.69	0.05%	0.34%	10.00%	10.36%	0.0052%
MARATHON PETROLEUM CORP	MPC	\$ 36,963.05	0.17%	2.53%	13.00%	15.69%	0.0260%
MERCK & CO. INC.	MRK	\$ 166,906.90	0.75%	3.10%	5.50%	8.69%	0.0650%
MARATHON OIL CORP	MRO	\$ 17,998.30	N/A	0.95%	N/A	N/A	N/A
MORGAN STANLEY	MS	\$ 92,492.92	0.41%	1.92%	11.00%	13.03%	0.0541%
MSCI INC	MSCI	\$ 14,846.67	0.07%	1.09%	22.00%	23.21%	0.0155%
MICROSOFT CORP	MSFT	\$ 775,767.30	3.48%	1.67%	12.00%	13.77%	0.4793%
MOTOROLA SOLUTIONS INC	MSI	\$ 18,190.86	0.08%	1.99%	12.00%	14.11%	0.0115%
M & T BANK CORP	MTB	\$ 26,081.78	0.12%	1.80%	12.00%	13.91%	0.0163%
METTLER-TOLEDO INTERNATIONAL	MTD	\$ 14,997.61	0.07%	0.00%	11.00%	11.00%	0.0074%
MICRON TECHNOLOGY INC	MU	\$ 69,051.54	0.31%	0.00%	24.00%	24.00%	0.0744%
MYLAN NV	MYL	\$ 21,135.37	0.09%	0.00%	8.50%	8.50%	0.0081%
NOBLE ENERGY INC	NBL	\$ 17,041.65	N/A	1.26%	N/A	N/A	N/A
NORWEGIAN CRUISE LINE HOLDIN	NCLH	\$ 11,671.87	0.05%	0.00%	16.50%	16.50%	0.0086%
NASDAQ INC	NDAQ	\$ 15,898.36	0.07%	1.85%	9.00%	10.93%	0.0078%
NEXTERA ENERGY INC	NEE	\$ 73,654.98	0.33%	2.93%	8.50%	11.55%	0.0382%
NEWMONT MINING CORP	NEM	\$ 20,581.89	0.09%	1.45%	8.50%	10.01%	0.0092%
NETFLIX INC	NFLX	\$ 157,085.00	0.70%	0.00%	47.00%	47.00%	0.3312%
NEWFIELD EXPLORATION CO	NFX	\$ 5,766.09	0.03%	0.00%	21.00%	21.00%	0.0054%
NISOURCE INC	NI	\$ 7,953.81	0.04%	3.31%	18.00%	21.61%	0.0077%
NIKE INC -CL B	NKE	\$ 121,036.40	0.54%	1.07%	14.00%	15.14%	0.0822%
NEKTAR THERAPEUTICS	NKTR	\$ 8,601.22	N/A	0.00%	N/A	N/A	N/A
NIELSEN HOLDINGS PLC	NLSN	\$ 11,025.16	0.05%	4.52%	7.50%	12.19%	0.0060%
NORTHROP GRUMMAN CORP	NOC	\$ 58,953.32	0.26%	1.42%	8.50%	9.98%	0.0264%
NATIONAL OILWELL VARCO INC	NOV	\$ 16,295.06	0.07%	0.47%	41.50%	42.07%	0.0308%
NRG ENERGY INC	NRG	\$ 10,548.68	N/A	0.36%	N/A	N/A	N/A
NORFOLK SOUTHERN CORP	NSC	\$ 43,002.89	0.19%	1.89%	13.50%	15.52%	0.0299%
NETAPP INC	NTAP	\$ 19,832.00	0.09%	1.08%	14.00%	15.16%	0.0135%
NORTHERN TRUST CORP	NTRS	\$ 24,096.54	0.11%	1.57%	11.00%	12.66%	0.0137%
NUCOR CORP	NUE	\$ 21,124.82	0.09%	2.29%	19.50%	22.01%	0.0209%
NVIDIA CORP	NVDA	\$ 159,580.30	0.72%	0.23%	24.00%	24.26%	0.1737%
NEWELL BRANDS INC	NWL	\$ 11,885.08	0.05%	3.76%	9.00%	12.93%	0.0069%
NEWS CORP - CLASS A	NWSA	\$ 9,128.03	N/A	1.28%	N/A	N/A	N/A
REALTY INCOME CORP	O	\$ -	0.00%	5.01%	4.00%	9.11%	0.0000%
ONEOK INC	OKE	\$ 28,179.12	0.13%	4.74%	20.50%	25.73%	0.0325%
OMNICOM GROUP	OMC	\$ 16,705.81	0.07%	3.27%	7.00%	10.38%	0.0078%
ORACLE CORP	ORCL	\$ 195,154.20	0.88%	1.59%	8.00%	9.65%	0.0845%
O'REILLY AUTOMOTIVE INC	ORLY	\$ 23,262.10	0.10%	0.00%	11.50%	11.50%	0.0120%
OCCIDENTAL PETROLEUM CORP	OXY	\$ 66,223.79	N/A	3.63%	N/A	N/A	N/A
PAYCHEX INC	PAYX	\$ 24,299.46	0.11%	3.31%	10.50%	13.98%	0.0152%
PEOPLE'S UNITED FINANCIAL	PBCT	\$ 6,640.73	0.03%	3.66%	10.50%	14.35%	0.0043%
PACCAR INC	PCAR	\$ 22,859.96	0.10%	3.52%	6.50%	10.13%	0.0104%
P G & E CORP	PCG	\$ 21,501.89	0.10%	0.00%	7.50%	7.50%	0.0072%
PUBLIC SERVICE ENTERPRISE GP	PEG	\$ 25,613.28	0.11%	3.58%	4.00%	7.65%	0.0088%
PEPSICO INC	PEP	\$ 143,546.00	0.64%	3.67%	7.50%	11.31%	0.0728%
PFIZER INC	PFI	\$ 213,450.80	0.96%	3.73%	13.00%	16.97%	0.1625%
PRINCIPAL FINANCIAL GROUP	PFG	\$ 16,295.33	0.07%	3.67%	5.00%	8.76%	0.0064%
PROCTER & GAMBLE CO/THE	PG	\$ 190,506.00	0.85%	3.79%	9.00%	12.96%	0.1108%
PROGRESSIVE CORP	PGR	\$ 36,464.06	0.16%	1.79%	15.50%	17.43%	0.0285%
PARKER HANNIFIN CORP	PH	\$ 23,331.65	0.10%	1.73%	14.00%	15.85%	0.0166%
PULTEGROUP INC	PHM	\$ 8,962.28	0.04%	1.18%	15.50%	16.77%	0.0067%
PACKAGING CORP OF AMERICA	PKG	\$ 11,599.84	0.05%	2.57%	10.00%	12.70%	0.0066%
PERKINELMER INC	PKI	\$ 8,638.32	0.04%	0.36%	12.50%	12.88%	0.0050%
PROLOGIS INC	PLD	\$ -	0.00%	2.94%	1.00%	3.95%	0.0000%
PHILIP MORRIS INTERNATIONAL	PM	\$ 120,300.10	0.54%	5.53%	8.50%	14.27%	0.0770%
PNC FINANCIAL SERVICES GROUP	PNC	\$ 69,564.70	0.31%	2.03%	9.50%	11.63%	0.0363%
PENTAIR PLC	PNR	\$ 7,998.83	0.04%	1.56%	12.00%	13.65%	0.0049%
PINNACLE WEST CAPITAL	PNW	\$ 8,336.77	0.04%	3.84%	5.00%	8.94%	0.0033%
PPG INDUSTRIES INC	PPG	\$ 25,893.53	0.12%	1.75%	7.50%	9.32%	0.0108%

Company	Ticker	[4]	[5]	[6]	[7]	[8]	[9]
		Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
PPL CORP	PPL	\$ 17,859.98	0.08%	6.48%	2.00%	8.54%	0.0068%
PERRIGO CO PLC	PRGO	\$ 10,227.44	0.05%	1.08%	3.50%	4.60%	0.0021%
PRUDENTIAL FINANCIAL INC	PRU	\$ 41,992.74	0.19%	3.61%	6.00%	9.72%	0.0183%
PUBLIC STORAGE	PSA	\$ -	0.00%	3.90%	7.00%	11.04%	0.0000%
PHILLIPS 66	PSX	\$ 54,707.90	0.25%	2.78%	8.00%	10.89%	0.0267%
PVH CORP	PVH	\$ 12,742.86	0.06%	0.09%	11.00%	11.09%	0.0063%
QUANTA SERVICES INC	PWR	\$ 5,556.14	0.02%	0.00%	17.50%	17.50%	0.0044%
PRAXAIR INC	PX	\$ 45,912.94	0.21%	2.17%	10.00%	12.28%	0.0253%
PIONEER NATURAL RESOURCES CO	PXD	\$ 33,303.28	0.15%	0.16%	72.00%	72.22%	0.1079%
PAYPAL HOLDINGS INC	PYPL	\$ 98,508.41	0.44%	0.00%	16.50%	16.50%	0.0729%
QUALCOMM INC	QCOM	\$ 89,868.48	0.40%	4.09%	4.50%	8.68%	0.0350%
QORVO INC	QRVO	\$ 10,249.37	0.05%	0.00%	21.00%	21.00%	0.0097%
ROYAL CARIBBEAN CRUISES LTD	RCL	\$ 22,104.61	0.10%	2.30%	11.00%	13.43%	0.0133%
EVEREST RE GROUP LTD	RE	\$ 9,428.45	0.04%	2.30%	5.50%	7.86%	0.0033%
REGENCY CENTERS CORP	REG	\$ -	0.00%	3.75%	12.50%	16.48%	0.0000%
REGENERON PHARMACEUTICALS	REGN	\$ 33,295.76	0.15%	0.00%	14.50%	14.50%	0.0217%
REGIONS FINANCIAL CORP	RF	\$ 21,453.14	0.10%	2.10%	13.00%	15.24%	0.0147%
ROBERT HALF INTL INC	RHI	\$ 8,408.46	0.04%	1.68%	6.50%	8.23%	0.0031%
RED HAT INC	RHT	\$ 29,936.52	0.13%	0.00%	20.50%	20.50%	0.0275%
RAYMOND JAMES FINANCIAL INC	RJF	\$ 14,494.07	0.07%	1.21%	14.00%	15.29%	0.0099%
RALPH LAUREN CORP	RL	\$ 11,208.02	0.05%	1.81%	3.00%	4.84%	0.0024%
RESMED INC	RMD	\$ 15,115.90	0.07%	1.36%	11.00%	12.43%	0.0084%
ROCKWELL AUTOMATION INC	ROK	\$ 22,434.87	0.10%	2.06%	8.50%	10.65%	0.0107%
ROPER TECHNOLOGIES INC	ROP	\$ 29,329.42	0.13%	0.58%	10.00%	10.61%	0.0140%
ROSS STORES INC	ROST	\$ 32,301.69	0.14%	1.06%	11.50%	12.62%	0.0183%
RANGE RESOURCES CORP	RRC	\$ 4,049.86	0.02%	0.49%	38.00%	38.58%	0.0070%
REPUBLIC SERVICES INC	RSG	\$ 22,384.23	0.10%	2.14%	13.50%	15.78%	0.0159%
RAYTHEON COMPANY	RTN	\$ 61,033.42	0.27%	1.63%	11.00%	12.72%	0.0348%
SBA COMMUNICATIONS CORP	SBAC	\$ 18,351.33	0.08%	0.00%	45.50%	45.50%	0.0375%
STARBUCKS CORP	SBUX	\$ 78,990.34	0.35%	2.36%	15.00%	17.54%	0.0621%
SCANA CORP	SCG	\$ 5,135.13	N/A	0.00%	N/A	N/A	N/A
SCHWAB (CHARLES) CORP	SCHW	\$ 77,306.76	0.35%	0.70%	15.50%	16.25%	0.0564%
SEALED AIR CORP	SEE	\$ 7,004.48	0.03%	1.48%	19.00%	20.62%	0.0065%
SHERWIN-WILLIAMS CO/THE	SHW	\$ 36,958.16	0.17%	0.87%	12.00%	12.92%	0.0214%
SVB FINANCIAL GROUP	SIVB	\$ 17,062.05	0.08%	0.00%	17.00%	17.00%	0.0130%
JM SMUCKER CO/THE	SJM	\$ 11,450.88	0.05%	3.16%	7.50%	10.78%	0.0055%
SCHLUMBERGER LTD	SLB	\$ 96,405.27	0.43%	2.87%	28.00%	31.27%	0.1353%
SL GREEN REALTY CORP	SLG	\$ -	0.00%	3.37%	0.50%	3.88%	0.0000%
SNAP-ON INC	SNA	\$ 8,850.89	0.04%	2.10%	8.50%	10.69%	0.0042%
SYNOPSYS INC	SNPS	\$ 13,424.37	0.06%	0.00%	10.50%	10.50%	0.0063%
SOUTHERN CO/THE	SO	\$ 43,681.97	0.20%	5.60%	3.00%	8.68%	0.0170%
SIMON PROPERTY GROUP INC	SPG	\$ -	0.00%	4.89%	4.00%	8.99%	0.0000%
S&P GLOBAL INC	SPGI	\$ 51,204.31	0.23%	1.02%	14.50%	15.59%	0.0358%
STERICYCLE INC	SRCL	\$ 5,492.95	0.02%	0.00%	8.00%	8.00%	0.0020%
SEMPRA ENERGY	SRE	\$ 26,600.64	0.12%	3.62%	8.50%	12.27%	0.0146%
SUNTRUST BANKS INC	STI	\$ 33,034.57	0.15%	2.35%	9.50%	11.96%	0.0177%
STATE STREET CORP	STT	\$ 36,851.30	0.17%	1.79%	10.00%	11.88%	0.0196%
SEAGATE TECHNOLOGY	STX	\$ 15,852.45	0.07%	4.56%	5.00%	9.67%	0.0069%
CONSTELLATION BRANDS INC-A	STZ	\$ 43,522.18	0.20%	1.43%	12.50%	14.02%	0.0274%
STANLEY BLACK & DECKER INC	SWK	\$ 22,344.09	0.10%	1.74%	10.00%	11.83%	0.0119%
SKYWORKS SOLUTIONS INC	SWKS	\$ 18,663.43	0.08%	1.25%	14.50%	15.84%	0.0133%
SYNCHRONY FINANCIAL	SYF	\$ 27,027.92	0.12%	1.69%	10.50%	12.28%	0.0149%
STRYKER CORP	SYK	\$ 66,576.61	0.30%	1.06%	14.50%	15.64%	0.0467%
SYMANTEC CORP	SYMC	\$ 13,234.78	0.06%	1.41%	7.50%	8.96%	0.0053%
SYSCO CORP	SYO	\$ 34,244.91	0.15%	2.19%	14.50%	16.85%	0.0259%
AT&T INC	T	\$ 207,848.30	0.93%	5.98%	5.50%	11.64%	0.1086%
MOLSON COORS BREWING CO -B	TAP	\$ 13,513.40	0.06%	2.95%	11.50%	14.62%	0.0089%
TRANSDIGM GROUP INC	TDG	\$ 17,805.78	0.08%	0.00%	11.00%	11.00%	0.0088%
TE CONNECTIVITY LTD	TEL	\$ 34,189.54	0.15%	1.81%	10.50%	12.41%	0.0190%
TARGET CORP	TGT	\$ 41,754.05	0.19%	3.17%	6.50%	9.77%	0.0183%
TIFFANY & CO	TIF	\$ 16,393.16	0.07%	1.67%	12.00%	13.77%	0.0101%
TJX COMPANIES INC	TJX	\$ 59,081.68	0.27%	1.65%	12.50%	14.25%	0.0378%
TORCHMARK CORP	TMK	\$ 9,749.99	0.04%	0.75%	10.00%	10.79%	0.0047%
THERMO FISHER SCIENTIFIC INC	TMO	\$ 87,086.84	0.39%	0.31%	9.50%	9.82%	0.0384%
TAPESTRY INC	TPR	\$ 13,189.88	0.06%	2.95%	13.50%	16.65%	0.0099%
TRIPADVISOR INC	TRIP	\$ 7,736.40	0.03%	0.00%	7.00%	7.00%	0.0024%
T ROWE PRICE GROUP INC	TROW	\$ 30,463.77	0.14%	2.26%	11.50%	13.89%	0.0190%
TRAVELERS COS INC/THE	TRV	\$ 35,063.85	0.16%	2.37%	5.50%	7.94%	0.0125%
TRACTOR SUPPLY COMPANY	TSCO	\$ 9,448.47	0.04%	1.62%	10.50%	12.21%	0.0052%
TYSON FOODS INC-CL A	TSN	\$ 25,653.28	0.12%	1.79%	10.50%	12.38%	0.0143%
TOTAL SYSTEM SERVICES INC	TSS	\$ 15,844.13	0.07%	0.60%	10.50%	11.13%	0.0079%
TAKE-TWO INTERACTIVE SOFTWARE	TTWO	\$ 12,966.74	N/A	0.00%	N/A	N/A	N/A
TWITTER INC	TWTR	\$ 29,855.87	N/A	0.00%	N/A	N/A	N/A
TIME WARNER INC	TWX	\$ 74,579.34	0.33%	1.69%	9.00%	10.77%	0.0360%
TEXAS INSTRUMENTS INC	TXN	\$ 115,096.60	0.52%	2.12%	9.50%	11.72%	0.0605%
TEXTRON INC	TXT	\$ 17,577.01	0.08%	0.12%	15.00%	15.13%	0.0119%
UNDER ARMOUR INC-CLASS A	UA	\$ 10,466.05	0.05%	0.00%	3.00%	3.00%	0.0014%
UNITED CONTINENTAL HOLDINGS	UAL	\$ 19,430.17	0.09%	0.00%	2.50%	2.50%	0.0022%
UDR INC	UDR	\$ -	0.00%	3.47%	-2.00%	1.44%	0.0000%
UNIVERSAL HEALTH SERVICES-B	UHS	\$ 11,002.19	0.05%	0.34%	11.00%	11.36%	0.0056%
ULTA BEAUTY INC	ULTA	\$ 15,506.66	0.07%	0.00%	21.00%	21.00%	0.0146%
UNITEDHEALTH GROUP INC	UNH	\$ 239,518.80	1.07%	1.21%	14.50%	15.80%	0.1698%
UNUM GROUP	UNM	\$ 8,680.88	0.04%	2.65%	12.00%	14.81%	0.0058%
UNION PACIFIC CORP	UNP	\$ 109,851.90	0.49%	2.05%	13.00%	15.18%	0.0748%
UNITED PARCEL SERVICE-CL B	UPS	\$ 100,155.80	0.45%	3.13%	8.50%	11.76%	0.0529%
UNITED RENTALS INC	URI	\$ 13,949.18	0.06%	0.00%	14.00%	14.00%	0.0088%
US BANCORP	USB	\$ 85,466.53	0.38%	2.47%	8.50%	11.07%	0.0425%
UNITED TECHNOLOGIES CORP	UTX	\$ 101,953.00	0.46%	2.20%	9.00%	11.30%	0.0517%
VISA INC-CLASS A SHARES	V	\$ 273,970.50	1.23%	0.67%	15.00%	15.72%	0.1932%
VARIAN MEDICAL SYSTEMS INC	VAR	\$ 11,166.31	0.05%	0.00%	10.00%	10.00%	0.0050%
VF CORP	VFC	\$ 32,925.14	0.15%	2.25%	7.50%	9.83%	0.0145%
VIACOM INC-CLASS B	VIAB	\$ 11,176.17	0.05%	2.88%	2.00%	4.91%	0.0025%
VALERO ENERGY CORP	VLO	\$ 52,353.45	0.23%	2.68%	10.00%	12.81%	0.0301%
VULCAN MATERIALS CO	VMC	\$ 17,270.46	0.08%	0.86%	18.00%	18.94%	0.0147%
VORNADO REALTY TRUST	VNO	\$ 13,600.89	0.06%	3.52%	-5.50%	-2.08%	-0.0013%
VERISK ANALYTICS INC	VRSK	\$ 18,014.06	0.08%	0.00%	9.50%	9.50%	0.0077%

		[4]	[5]	[6]	[7]	[8]	[9]
Company	Ticker	Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
VERISIGN INC	VRSN	\$ 13,245.06	0.06%	0.00%	12.00%	12.00%	0.0071%
VERTEX PHARMACEUTICALS INC	VRTX	\$ 36,911.63	N/A	0.00%	N/A	N/A	N/A
VENTAS INC	VTR	\$ -	0.00%	5.85%	5.50%	11.51%	0.0000%
VERIZON COMMUNICATIONS INC	VZ	\$ 202,504.30	0.91%	4.82%	4.50%	9.43%	0.0857%
WATERS CORP	WAT	\$ 15,897.97	0.07%	0.00%	10.50%	10.50%	0.0075%
WALGREENS BOOTS ALLIANCE INC	WBA	\$ 63,069.96	0.28%	2.52%	11.00%	13.66%	0.0386%
WESTERN DIGITAL CORP	WDC	\$ 24,697.40	0.11%	2.42%	10.50%	13.05%	0.0145%
WEC ENERGY GROUP INC	WEC	\$ 18,736.71	0.08%	3.84%	7.00%	10.97%	0.0092%
WELLTOWER INC	WELL	\$ -	0.00%	6.10%	7.00%	13.31%	0.0000%
WELLS FARGO & CO	WFC	\$ 271,134.00	1.22%	2.89%	5.00%	7.96%	0.0969%
WHIRLPOOL CORP	WHR	\$ 10,534.27	0.05%	3.10%	7.50%	10.72%	0.0051%
WILLIS TOWERS WATSON PLC	WLTW	\$ 20,642.49	N/A	1.54%	N/A	N/A	N/A
WASTE MANAGEMENT INC	WM	\$ 35,975.16	0.16%	2.23%	9.50%	11.84%	0.0191%
WILLIAMS COS INC	WMB	\$ 21,841.07	0.10%	5.15%	22.50%	28.23%	0.0277%
WALMART INC	WMT	\$ 250,687.40	1.12%	2.45%	5.50%	8.02%	0.0902%
WESTROCK CO	WRK	\$ 15,527.58	0.07%	2.84%	9.00%	11.97%	0.0083%
WESTERN UNION CO	WU	\$ 9,571.27	0.04%	3.66%	7.00%	10.79%	0.0046%
WEYERHAEUSER CO	WY	\$ 28,845.41	0.13%	3.36%	21.50%	25.22%	0.0326%
WYNN RESORTS LTD	WYNN	\$ 18,189.35	0.08%	1.70%	27.00%	28.93%	0.0236%
CIMAREX ENERGY CO	XEC	\$ 8,169.07	0.04%	0.75%	38.50%	39.39%	0.0144%
XCEL ENERGY INC	XEL	\$ 21,730.04	0.10%	3.61%	5.50%	9.21%	0.0090%
XL GROUP LTD	XL	\$ 14,414.71	0.06%	1.56%	42.00%	43.89%	0.0284%
XILINX INC	XLNX	\$ 18,012.87	0.08%	2.04%	7.50%	9.62%	0.0078%
EXXON MOBIL CORP	XOM	\$ 351,162.60	1.58%	3.98%	18.00%	22.34%	0.3519%
DENTSPLY SIRONA INC	XRAY	\$ 9,803.21	0.04%	0.81%	8.50%	9.34%	0.0041%
XEROX CORP	XRX	\$ 6,998.58	0.03%	3.64%	4.50%	8.22%	0.0026%
XYLEM INC	XYL	\$ 13,159.80	0.06%	1.15%	15.50%	16.74%	0.0099%
YUM! BRANDS INC	YUM	\$ 27,530.13	0.12%	1.82%	9.50%	11.41%	0.0141%
ZIMMER BIOMET HOLDINGS INC	ZBH	\$ 23,109.11	0.10%	0.88%	5.00%	5.90%	0.0061%
ZIONS BANCORPORATION	ZION	\$ 11,223.97	0.05%	1.69%	15.00%	16.82%	0.0085%
ZOETIS INC	ZTS	\$ 41,521.46	0.19%	0.58%	14.00%	14.62%	0.0272%
		Total Market Capitalization: \$ 22,289,621.15					16.10%

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 $([6] \times (1 + (0.5 \times [7]))) + [7]$

[9] Equals Col. [5] x Col. [8]

Bloomberg and Value Line Beta Coefficients

Company	Ticker	[1] Bloomberg	[2] Value Line
ALLETE, Inc.	ALE	0.582	0.750
Alliant Energy Corporation	LNT	0.517	0.700
Ameren Corporation	AEE	0.469	0.650
American Electric Power Company, Inc.	AEP	0.565	0.650
Avangrid, Inc.	AGR	0.596	0.400
Black Hills Corporation	BKH	0.639	0.900
CMS Energy Corporation	CMS	0.529	0.650
DTE Energy Company	DTE	0.540	0.650
Duke Energy Corporation	DUK	0.539	0.600
El Paso Electric	EE	0.598	0.750
Hawaiian Electric Industries, Inc.	HE	0.527	0.650
IDACORP, Inc.	IDA	0.590	0.700
NextEra Energy, Inc.	NEE	0.524	0.650
NorthWestern Corporation	NWE	0.513	0.650
OGE Energy Corp.	OGE	0.672	0.950
Otter Tail Corporation	OTTR	0.730	0.850
Pinnacle West Capital Corporation	PNW	0.557	0.650
PNM Resources, Inc.	PNM	0.617	0.700
Portland General Electric Company	POR	0.501	0.650
Southern Company	SO	0.405	0.550
WEC Energy Group, Inc.	WEC	0.527	0.600
Xcel Energy Inc.	XEL	0.503	0.600
Mean		0.556	0.677

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	Ex-Ante Bloomberg Market DCF Derived	Market Risk Premium Value Line Market DCF Derived	CAPM Result	
					Bloomberg Market DCF Derived	Value Line Market DCF Derived
PROXY GROUP AVERAGE BLOOMBERG BETA COEFFICIENT						
Current 30-Year Treasury (30-day average) [7]	3.11%	0.556	12.62%	12.99%	10.13%	10.34%
Near-Term Projected 30-Year Treasury [8]	3.48%	0.556	12.62%	12.99%	10.50%	10.71%
Mean					10.32%	10.52%

	[1]	[2]	[3]	[4]	[5]	[6]
	Risk-Free Rate	Average Beta Coefficient	Ex-Ante Bloomberg Market DCF Derived	Market Risk Premium Value Line Market DCF Derived	CAPM Result	
					Bloomberg Market DCF Derived	Value Line Market DCF Derived
PROXY GROUP AVERAGE VALUE LINE AVERAGE BETA COEFFICIENT						
Current 30-Year Treasury (30-day average) [7]	3.11%	0.677	12.62%	12.99%	11.66%	11.91%
Near-Term Projected 30-Year Treasury [8]	3.48%	0.677	12.62%	12.99%	12.03%	12.28%
Mean					11.85%	12.09%

Notes:

[1] See Notes [7], [8] and [9]

[2] Source: RBH-R-4.

[3] Source: RBH-R-3.

[4] Source: RBH-R-3.

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

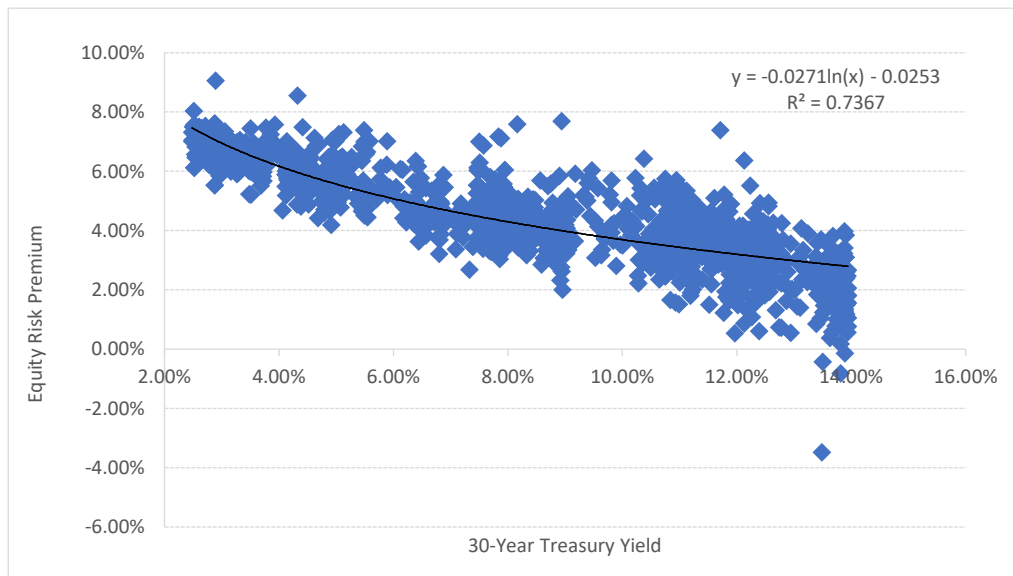
[6] Equals Col. [1] + (Col. [2] x Col. [4])

[7] Bloomberg Professional

[8] Source: Blue Chip Financial Forecasts, Vol. 37, No. 6, June 1, 2018, at 2.

Bond Yield Plus Risk Premium

[1]	[2]	[3]	[4]	[5]	
Constant	Slope	30-Year Treasury Yield	Risk Premium	Return on Equity	
-2.53%	-2.71%				
		Current 30-Year Treasury	3.11%	6.85%	9.96%
		Near-Term Projected 30-Year Treasury	3.48%	6.55%	10.03%
		Long-Term Projected 30-Year Treasury	4.30%	5.98%	10.28%



Notes:

[1] Constant of regression equation

[2] Slope of regression equation

[3] Source: Current = Bloomberg Professional,

Near Term Projected = Blue Chip Financial Forecasts, Vol. 37, No. 6, June 1, 2018, at 2.

Long Term Projected = Blue Chip Financial Forecasts, Vol. 37, No. 6, June 1, 2018, at 14.

[4] Equals [1] + ln([3]) x [2]

[5] Equals [3] + [4]

[6] Source: S&P Global Market Intelligence

[7] Source: S&P Global Market Intelligence

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

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
9/26/1980	13.75%	10.94%	2.81%
9/30/1980	14.10%	10.96%	3.14%
9/30/1980	14.20%	10.96%	3.24%
10/1/1980	13.90%	10.97%	2.93%
10/3/1980	15.50%	10.98%	4.52%
10/7/1980	12.50%	10.99%	1.51%
10/9/1980	13.25%	11.00%	2.25%
10/9/1980	14.50%	11.00%	3.50%
10/9/1980	14.50%	11.00%	3.50%
10/16/1980	16.10%	11.02%	5.08%
10/17/1980	14.50%	11.03%	3.47%
10/31/1980	13.75%	11.11%	2.64%
10/31/1980	14.25%	11.11%	3.14%
11/4/1980	15.00%	11.12%	3.88%
11/5/1980	13.75%	11.12%	2.63%
11/5/1980	14.00%	11.12%	2.88%
11/8/1980	13.75%	11.14%	2.61%
11/10/1980	14.85%	11.15%	3.70%
11/17/1980	14.00%	11.18%	2.82%
11/18/1980	14.00%	11.19%	2.81%
11/19/1980	13.00%	11.19%	1.81%
11/24/1980	14.00%	11.21%	2.79%
11/26/1980	14.00%	11.21%	2.79%
12/8/1980	14.15%	11.22%	2.93%
12/8/1980	15.10%	11.22%	3.88%
12/9/1980	15.35%	11.22%	4.13%
12/12/1980	15.45%	11.23%	4.22%
12/17/1980	13.25%	11.23%	2.02%
12/18/1980	15.80%	11.23%	4.57%
12/19/1980	14.50%	11.23%	3.27%
12/19/1980	14.64%	11.23%	3.41%
12/22/1980	13.45%	11.23%	2.22%
12/22/1980	15.00%	11.23%	3.77%
12/30/1980	14.50%	11.22%	3.28%
12/30/1980	14.95%	11.22%	3.73%
12/31/1980	13.39%	11.22%	2.17%
1/2/1981	15.25%	11.22%	4.03%
1/7/1981	14.30%	11.21%	3.09%
1/19/1981	15.25%	11.20%	4.05%
1/23/1981	13.10%	11.20%	1.90%
1/23/1981	14.40%	11.20%	3.20%
1/26/1981	15.25%	11.20%	4.05%
1/27/1981	15.00%	11.21%	3.79%
1/31/1981	13.47%	11.22%	2.25%
2/3/1981	15.25%	11.23%	4.02%
2/5/1981	15.75%	11.25%	4.50%
2/11/1981	15.60%	11.28%	4.32%
2/20/1981	15.25%	11.33%	3.92%
3/11/1981	15.40%	11.49%	3.91%
3/12/1981	14.51%	11.50%	3.01%
3/12/1981	16.00%	11.50%	4.50%
3/13/1981	13.02%	11.52%	1.50%
3/18/1981	16.19%	11.55%	4.64%
3/19/1981	13.75%	11.56%	2.19%
3/23/1981	14.30%	11.58%	2.72%
3/25/1981	15.30%	11.60%	3.70%
4/1/1981	14.53%	11.68%	2.85%
4/3/1981	19.10%	11.71%	7.39%
4/9/1981	15.00%	11.78%	3.22%
4/9/1981	15.30%	11.78%	3.52%
4/9/1981	16.50%	11.78%	4.72%
4/9/1981	17.00%	11.78%	5.22%
4/10/1981	13.75%	11.80%	1.95%
4/13/1981	13.57%	11.82%	1.75%
4/15/1981	15.30%	11.85%	3.45%
4/16/1981	13.50%	11.87%	1.63%
4/17/1981	14.10%	11.87%	2.23%
4/21/1981	14.00%	11.90%	2.10%
4/21/1981	16.80%	11.90%	4.90%

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
4/24/1981	16.00%	11.95%	4.05%
4/27/1981	12.50%	11.97%	0.53%
4/27/1981	13.61%	11.97%	1.64%
4/29/1981	13.65%	12.00%	1.65%
4/30/1981	13.50%	12.02%	1.48%
5/4/1981	16.22%	12.05%	4.17%
5/5/1981	14.40%	12.07%	2.33%
5/7/1981	16.25%	12.11%	4.14%
5/7/1981	16.27%	12.11%	4.16%
5/8/1981	13.00%	12.13%	0.87%
5/8/1981	16.00%	12.13%	3.87%
5/12/1981	13.50%	12.16%	1.34%
5/15/1981	15.75%	12.22%	3.53%
5/18/1981	14.88%	12.23%	2.65%
5/20/1981	16.00%	12.26%	3.74%
5/21/1981	14.00%	12.27%	1.73%
5/26/1981	14.90%	12.30%	2.60%
5/27/1981	15.00%	12.31%	2.69%
5/29/1981	15.50%	12.34%	3.16%
6/1/1981	16.50%	12.35%	4.15%
6/3/1981	14.67%	12.37%	2.30%
6/5/1981	13.00%	12.39%	0.61%
6/10/1981	16.75%	12.42%	4.33%
6/17/1981	14.40%	12.46%	1.94%
6/18/1981	16.33%	12.47%	3.86%
6/25/1981	14.75%	12.51%	2.24%
6/26/1981	16.00%	12.52%	3.48%
6/30/1981	15.25%	12.54%	2.71%
7/1/1981	15.50%	12.56%	2.94%
7/1/1981	17.50%	12.56%	4.94%
7/10/1981	16.00%	12.62%	3.38%
7/14/1981	16.90%	12.64%	4.26%
7/15/1981	16.00%	12.65%	3.35%
7/17/1981	15.00%	12.67%	2.33%
7/20/1981	15.00%	12.68%	2.32%
7/21/1981	14.00%	12.69%	1.31%
7/28/1981	13.48%	12.74%	0.74%
7/31/1981	13.50%	12.78%	0.72%
7/31/1981	15.00%	12.78%	2.22%
7/31/1981	16.00%	12.78%	3.22%
8/5/1981	15.71%	12.83%	2.88%
8/10/1981	14.50%	12.87%	1.63%
8/11/1981	15.00%	12.88%	2.12%
8/20/1981	13.50%	12.95%	0.55%
8/20/1981	16.50%	12.95%	3.55%
8/24/1981	15.00%	12.97%	2.03%
8/28/1981	15.00%	13.01%	1.99%
9/3/1981	14.50%	13.05%	1.45%
9/10/1981	14.50%	13.11%	1.39%
9/11/1981	16.00%	13.12%	2.88%
9/16/1981	16.00%	13.15%	2.85%
9/17/1981	16.50%	13.16%	3.34%
9/23/1981	15.85%	13.20%	2.65%
9/28/1981	15.50%	13.23%	2.27%
10/9/1981	15.75%	13.33%	2.42%
10/15/1981	16.25%	13.37%	2.88%
10/16/1981	15.50%	13.38%	2.12%
10/16/1981	16.50%	13.38%	3.12%
10/19/1981	14.25%	13.39%	0.86%
10/20/1981	15.25%	13.41%	1.84%
10/20/1981	17.00%	13.41%	3.59%
10/23/1981	16.00%	13.45%	2.55%
10/27/1981	10.00%	13.48%	-3.48%
10/29/1981	14.75%	13.51%	1.24%
10/29/1981	16.50%	13.51%	2.99%
11/3/1981	15.17%	13.53%	1.64%
11/5/1981	16.60%	13.55%	3.05%
11/6/1981	15.17%	13.56%	1.61%
11/24/1981	15.50%	13.61%	1.89%

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
11/25/1981	15.25%	13.61%	1.64%
11/25/1981	15.35%	13.61%	1.74%
11/25/1981	16.10%	13.61%	2.49%
11/25/1981	16.10%	13.61%	2.49%
12/1/1981	15.70%	13.61%	2.09%
12/1/1981	16.00%	13.61%	2.39%
12/1/1981	16.49%	13.61%	2.88%
12/1/1981	16.50%	13.61%	2.89%
12/4/1981	16.00%	13.61%	2.39%
12/11/1981	16.25%	13.63%	2.62%
12/14/1981	14.00%	13.63%	0.37%
12/15/1981	15.81%	13.63%	2.18%
12/15/1981	16.00%	13.63%	2.37%
12/16/1981	15.25%	13.63%	1.62%
12/17/1981	16.50%	13.63%	2.87%
12/18/1981	15.45%	13.63%	1.82%
12/30/1981	14.25%	13.67%	0.58%
12/30/1981	16.00%	13.67%	2.33%
12/30/1981	16.25%	13.67%	2.58%
12/31/1981	16.15%	13.67%	2.48%
1/4/1982	15.50%	13.67%	1.83%
1/11/1982	14.50%	13.72%	0.78%
1/11/1982	17.00%	13.72%	3.28%
1/13/1982	14.75%	13.74%	1.01%
1/14/1982	15.75%	13.75%	2.00%
1/15/1982	15.00%	13.76%	1.24%
1/15/1982	16.50%	13.76%	2.74%
1/22/1982	16.25%	13.79%	2.46%
1/27/1982	16.84%	13.81%	3.03%
1/28/1982	13.00%	13.81%	-0.81%
1/29/1982	15.50%	13.82%	1.68%
2/1/1982	15.85%	13.82%	2.03%
2/3/1982	16.44%	13.84%	2.60%
2/8/1982	15.50%	13.86%	1.64%
2/11/1982	16.00%	13.88%	2.12%
2/11/1982	16.20%	13.88%	2.32%
2/17/1982	15.00%	13.89%	1.11%
2/19/1982	15.17%	13.89%	1.28%
2/26/1982	15.25%	13.89%	1.36%
3/1/1982	15.03%	13.89%	1.14%
3/1/1982	16.00%	13.89%	2.11%
3/3/1982	15.00%	13.88%	1.12%
3/8/1982	17.10%	13.88%	3.22%
3/12/1982	16.25%	13.88%	2.37%
3/17/1982	17.30%	13.88%	3.42%
3/22/1982	15.10%	13.89%	1.21%
3/27/1982	15.40%	13.89%	1.51%
3/30/1982	15.50%	13.90%	1.60%
3/31/1982	17.00%	13.91%	3.09%
4/1/1982	14.70%	13.91%	0.79%
4/1/1982	16.50%	13.91%	2.59%
4/2/1982	15.50%	13.91%	1.59%
4/5/1982	15.50%	13.92%	1.58%
4/8/1982	16.40%	13.93%	2.47%
4/13/1982	14.50%	13.94%	0.56%
4/23/1982	15.75%	13.94%	1.81%
4/27/1982	15.00%	13.94%	1.06%
4/28/1982	15.75%	13.94%	1.81%
4/30/1982	14.70%	13.94%	0.76%
4/30/1982	15.50%	13.94%	1.56%
5/3/1982	16.60%	13.94%	2.66%
5/4/1982	16.00%	13.94%	2.06%
5/14/1982	15.50%	13.92%	1.58%
5/18/1982	15.42%	13.92%	1.50%
5/19/1982	14.69%	13.92%	0.77%
5/20/1982	15.00%	13.91%	1.09%
5/20/1982	15.10%	13.91%	1.19%
5/20/1982	15.50%	13.91%	1.59%
5/20/1982	16.30%	13.91%	2.39%

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

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
12/29/1982	16.25%	12.48%	3.77%
12/30/1982	16.00%	12.47%	3.53%
12/30/1982	16.35%	12.47%	3.88%
12/30/1982	16.77%	12.47%	4.30%
1/5/1983	17.33%	12.40%	4.93%
1/11/1983	15.90%	12.34%	3.56%
1/12/1983	14.63%	12.33%	2.30%
1/12/1983	15.50%	12.33%	3.17%
1/20/1983	17.75%	12.24%	5.51%
1/21/1983	15.00%	12.22%	2.78%
1/24/1983	14.50%	12.21%	2.29%
1/24/1983	15.50%	12.21%	3.29%
1/25/1983	15.85%	12.19%	3.66%
1/27/1983	16.14%	12.17%	3.97%
2/1/1983	18.50%	12.13%	6.37%
2/4/1983	14.00%	12.10%	1.90%
2/10/1983	15.00%	12.06%	2.94%
2/21/1983	15.50%	11.98%	3.52%
2/22/1983	15.50%	11.97%	3.53%
2/23/1983	15.10%	11.96%	3.14%
2/23/1983	16.00%	11.96%	4.04%
3/2/1983	15.25%	11.89%	3.36%
3/9/1983	15.20%	11.82%	3.38%
3/15/1983	13.00%	11.77%	1.23%
3/18/1983	15.25%	11.73%	3.52%
3/23/1983	15.40%	11.69%	3.71%
3/24/1983	15.00%	11.67%	3.33%
3/29/1983	15.50%	11.63%	3.87%
3/30/1983	16.71%	11.61%	5.10%
3/31/1983	15.00%	11.59%	3.41%
4/4/1983	15.20%	11.58%	3.62%
4/8/1983	15.50%	11.51%	3.99%
4/11/1983	14.81%	11.49%	3.32%
4/19/1983	14.50%	11.38%	3.12%
4/20/1983	16.00%	11.36%	4.64%
4/29/1983	16.00%	11.24%	4.76%
5/1/1983	14.50%	11.24%	3.26%
5/9/1983	15.50%	11.15%	4.35%
5/11/1983	16.46%	11.12%	5.34%
5/12/1983	14.14%	11.11%	3.03%
5/18/1983	15.00%	11.05%	3.95%
5/23/1983	14.90%	11.01%	3.89%
5/23/1983	15.50%	11.01%	4.49%
5/25/1983	15.50%	10.98%	4.52%
5/27/1983	15.00%	10.96%	4.04%
5/31/1983	14.00%	10.95%	3.05%
5/31/1983	15.50%	10.95%	4.55%
6/2/1983	14.50%	10.93%	3.57%
6/17/1983	15.03%	10.84%	4.19%
7/1/1983	14.80%	10.78%	4.02%
7/1/1983	14.90%	10.78%	4.12%
7/8/1983	16.25%	10.76%	5.49%
7/13/1983	13.20%	10.75%	2.45%
7/19/1983	15.00%	10.74%	4.26%
7/19/1983	15.10%	10.74%	4.36%
7/25/1983	16.25%	10.73%	5.52%
7/28/1983	15.90%	10.74%	5.16%
8/3/1983	16.34%	10.75%	5.59%
8/3/1983	16.50%	10.75%	5.75%
8/19/1983	15.00%	10.80%	4.20%
8/22/1983	15.50%	10.80%	4.70%
8/22/1983	16.40%	10.80%	5.60%
8/31/1983	14.75%	10.84%	3.91%
9/7/1983	15.00%	10.86%	4.14%
9/14/1983	15.78%	10.89%	4.89%
9/16/1983	15.00%	10.90%	4.10%
9/19/1983	14.50%	10.91%	3.59%
9/20/1983	16.50%	10.91%	5.59%
9/28/1983	14.50%	10.94%	3.56%

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
9/29/1983	15.50%	10.95%	4.55%
9/30/1983	15.25%	10.95%	4.30%
9/30/1983	16.15%	10.95%	5.20%
10/4/1983	14.80%	10.96%	3.84%
10/7/1983	16.00%	10.97%	5.03%
10/13/1983	15.52%	10.99%	4.53%
10/17/1983	15.50%	11.00%	4.50%
10/18/1983	14.50%	11.00%	3.50%
10/19/1983	16.25%	11.01%	5.24%
10/19/1983	16.50%	11.01%	5.49%
10/26/1983	15.00%	11.04%	3.96%
10/27/1983	15.20%	11.04%	4.16%
11/1/1983	16.00%	11.06%	4.94%
11/9/1983	14.90%	11.09%	3.81%
11/10/1983	14.35%	11.10%	3.25%
11/23/1983	16.00%	11.13%	4.87%
11/23/1983	16.15%	11.13%	5.02%
11/30/1983	15.00%	11.14%	3.86%
12/5/1983	15.25%	11.15%	4.10%
12/6/1983	15.07%	11.15%	3.92%
12/8/1983	15.90%	11.16%	4.74%
12/9/1983	14.75%	11.17%	3.58%
12/12/1983	14.50%	11.17%	3.33%
12/15/1983	15.56%	11.19%	4.37%
12/19/1983	14.80%	11.21%	3.59%
12/20/1983	14.69%	11.22%	3.47%
12/20/1983	16.00%	11.22%	4.78%
12/20/1983	16.25%	11.22%	5.03%
12/22/1983	14.75%	11.23%	3.52%
12/22/1983	15.75%	11.23%	4.52%
1/3/1984	14.75%	11.27%	3.48%
1/10/1984	15.90%	11.30%	4.60%
1/12/1984	15.60%	11.31%	4.29%
1/18/1984	13.75%	11.33%	2.42%
1/19/1984	15.90%	11.33%	4.57%
1/30/1984	16.10%	11.37%	4.73%
1/31/1984	15.25%	11.37%	3.88%
2/1/1984	14.80%	11.38%	3.42%
2/6/1984	13.75%	11.40%	2.35%
2/6/1984	14.75%	11.40%	3.35%
2/9/1984	15.25%	11.42%	3.83%
2/15/1984	15.70%	11.44%	4.26%
2/20/1984	15.00%	11.46%	3.54%
2/20/1984	15.00%	11.46%	3.54%
2/22/1984	14.75%	11.47%	3.28%
2/28/1984	14.50%	11.51%	2.99%
3/2/1984	14.25%	11.54%	2.71%
3/20/1984	16.00%	11.64%	4.36%
3/23/1984	15.50%	11.67%	3.83%
3/26/1984	14.71%	11.68%	3.03%
4/2/1984	15.50%	11.71%	3.79%
4/6/1984	14.74%	11.75%	2.99%
4/11/1984	15.72%	11.78%	3.94%
4/17/1984	15.00%	11.81%	3.19%
4/18/1984	16.20%	11.82%	4.38%
4/25/1984	14.64%	11.85%	2.79%
4/30/1984	14.40%	11.87%	2.53%
5/16/1984	14.69%	11.98%	2.71%
5/16/1984	15.00%	11.98%	3.02%
5/22/1984	14.40%	12.02%	2.38%
5/29/1984	15.10%	12.06%	3.04%
6/13/1984	15.25%	12.15%	3.10%
6/15/1984	15.60%	12.17%	3.43%
6/22/1984	16.25%	12.21%	4.04%
6/29/1984	15.25%	12.26%	2.99%
7/2/1984	13.35%	12.27%	1.08%
7/10/1984	16.00%	12.31%	3.69%
7/12/1984	16.50%	12.32%	4.18%
7/13/1984	16.25%	12.33%	3.92%

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
7/17/1984	14.14%	12.35%	1.79%
7/18/1984	15.30%	12.36%	2.94%
7/18/1984	15.50%	12.36%	3.14%
7/19/1984	14.30%	12.37%	1.93%
7/24/1984	16.79%	12.39%	4.40%
7/31/1984	16.00%	12.43%	3.57%
8/3/1984	14.25%	12.44%	1.81%
8/17/1984	14.30%	12.49%	1.81%
8/20/1984	15.00%	12.49%	2.51%
8/27/1984	16.30%	12.51%	3.79%
8/31/1984	15.55%	12.52%	3.03%
9/6/1984	16.00%	12.53%	3.47%
9/10/1984	14.75%	12.54%	2.21%
9/13/1984	15.00%	12.55%	2.45%
9/17/1984	17.38%	12.56%	4.82%
9/26/1984	14.50%	12.57%	1.93%
9/28/1984	15.00%	12.57%	2.43%
9/28/1984	16.25%	12.57%	3.68%
10/9/1984	14.75%	12.58%	2.17%
10/12/1984	15.60%	12.59%	3.01%
10/22/1984	15.00%	12.59%	2.41%
10/26/1984	16.40%	12.58%	3.82%
10/31/1984	16.25%	12.58%	3.67%
11/7/1984	15.60%	12.58%	3.02%
11/9/1984	16.00%	12.58%	3.42%
11/14/1984	15.75%	12.58%	3.17%
11/20/1984	15.25%	12.58%	2.67%
11/20/1984	15.92%	12.58%	3.34%
11/23/1984	15.00%	12.58%	2.42%
11/28/1984	16.15%	12.57%	3.58%
12/3/1984	15.80%	12.56%	3.24%
12/4/1984	16.50%	12.56%	3.94%
12/18/1984	16.40%	12.53%	3.87%
12/19/1984	14.75%	12.53%	2.22%
12/19/1984	15.00%	12.53%	2.47%
12/20/1984	16.00%	12.53%	3.47%
12/28/1984	16.00%	12.50%	3.50%
1/3/1985	14.75%	12.49%	2.26%
1/10/1985	15.75%	12.47%	3.28%
1/11/1985	16.30%	12.46%	3.84%
1/23/1985	15.80%	12.43%	3.37%
1/24/1985	15.82%	12.43%	3.39%
1/25/1985	16.75%	12.42%	4.33%
1/30/1985	14.90%	12.40%	2.50%
1/31/1985	14.75%	12.39%	2.36%
2/8/1985	14.47%	12.35%	2.12%
3/1/1985	13.84%	12.31%	1.53%
3/8/1985	16.85%	12.28%	4.57%
3/14/1985	15.50%	12.25%	3.25%
3/15/1985	15.62%	12.25%	3.37%
3/29/1985	15.62%	12.17%	3.45%
4/3/1985	14.60%	12.14%	2.46%
4/9/1985	15.50%	12.11%	3.39%
4/16/1985	15.70%	12.06%	3.64%
4/22/1985	14.00%	12.02%	1.98%
4/26/1985	15.50%	11.98%	3.52%
4/29/1985	15.00%	11.97%	3.03%
5/2/1985	14.68%	11.94%	2.74%
5/8/1985	15.62%	11.89%	3.73%
5/10/1985	16.50%	11.87%	4.63%
5/29/1985	14.61%	11.73%	2.88%
5/31/1985	16.00%	11.71%	4.29%
6/14/1985	15.50%	11.61%	3.89%
7/9/1985	15.00%	11.45%	3.55%
7/16/1985	14.50%	11.39%	3.11%
7/26/1985	14.50%	11.33%	3.17%
8/2/1985	14.80%	11.29%	3.51%
8/7/1985	15.00%	11.27%	3.73%
8/28/1985	14.25%	11.15%	3.10%

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
8/28/1985	15.50%	11.15%	4.35%
8/29/1985	14.50%	11.15%	3.35%
9/9/1985	14.60%	11.11%	3.49%
9/9/1985	14.90%	11.11%	3.79%
9/17/1985	14.90%	11.08%	3.82%
9/23/1985	15.00%	11.06%	3.94%
9/27/1985	15.50%	11.05%	4.45%
9/27/1985	15.80%	11.05%	4.75%
10/2/1985	14.00%	11.03%	2.97%
10/2/1985	14.75%	11.03%	3.72%
10/3/1985	15.25%	11.03%	4.22%
10/24/1985	15.40%	10.96%	4.44%
10/24/1985	15.82%	10.96%	4.86%
10/24/1985	15.85%	10.96%	4.89%
10/28/1985	16.00%	10.95%	5.05%
10/29/1985	16.65%	10.94%	5.71%
10/31/1985	15.06%	10.93%	4.13%
11/4/1985	14.50%	10.92%	3.58%
11/7/1985	15.50%	10.90%	4.60%
11/8/1985	14.30%	10.89%	3.41%
12/12/1985	14.75%	10.73%	4.02%
12/18/1985	15.00%	10.69%	4.31%
12/20/1985	14.50%	10.67%	3.83%
12/20/1985	14.50%	10.67%	3.83%
12/20/1985	15.00%	10.67%	4.33%
1/24/1986	15.40%	10.41%	4.99%
1/31/1986	15.00%	10.35%	4.65%
2/5/1986	15.00%	10.32%	4.68%
2/5/1986	15.75%	10.32%	5.43%
2/10/1986	13.30%	10.29%	3.01%
2/11/1986	12.50%	10.28%	2.22%
2/14/1986	14.40%	10.24%	4.16%
2/18/1986	16.00%	10.23%	5.77%
2/24/1986	14.50%	10.18%	4.32%
2/26/1986	14.00%	10.15%	3.85%
3/5/1986	14.90%	10.08%	4.82%
3/11/1986	14.50%	10.02%	4.48%
3/12/1986	13.50%	10.00%	3.50%
3/27/1986	14.10%	9.86%	4.24%
3/31/1986	13.50%	9.84%	3.66%
4/1/1986	14.00%	9.83%	4.17%
4/2/1986	15.50%	9.81%	5.69%
4/4/1986	15.00%	9.78%	5.22%
4/14/1986	13.40%	9.69%	3.71%
4/23/1986	15.00%	9.57%	5.43%
5/16/1986	14.50%	9.32%	5.18%
5/16/1986	14.50%	9.32%	5.18%
5/29/1986	13.90%	9.19%	4.71%
5/30/1986	15.10%	9.18%	5.92%
6/2/1986	12.81%	9.17%	3.64%
6/11/1986	14.00%	9.07%	4.93%
6/24/1986	16.63%	8.94%	7.69%
6/26/1986	12.00%	8.91%	3.09%
6/26/1986	14.75%	8.91%	5.84%
6/30/1986	13.00%	8.87%	4.13%
7/10/1986	14.34%	8.75%	5.59%
7/11/1986	12.75%	8.73%	4.02%
7/14/1986	12.60%	8.71%	3.89%
7/17/1986	12.40%	8.66%	3.74%
7/25/1986	14.25%	8.57%	5.68%
8/6/1986	13.50%	8.44%	5.06%
8/14/1986	13.50%	8.35%	5.15%
9/16/1986	12.75%	8.06%	4.69%
9/19/1986	13.25%	8.03%	5.22%
10/1/1986	14.00%	7.95%	6.05%
10/3/1986	13.40%	7.93%	5.47%
10/31/1986	13.50%	7.77%	5.73%
11/5/1986	13.00%	7.75%	5.25%
12/3/1986	12.90%	7.58%	5.32%

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
12/4/1986	14.44%	7.58%	6.86%
12/16/1986	13.60%	7.52%	6.08%
12/22/1986	13.80%	7.51%	6.29%
12/30/1986	13.00%	7.49%	5.51%
1/2/1987	13.00%	7.49%	5.51%
1/12/1987	12.40%	7.47%	4.93%
1/27/1987	12.71%	7.46%	5.25%
3/2/1987	12.47%	7.47%	5.00%
3/3/1987	13.60%	7.47%	6.13%
3/4/1987	12.38%	7.47%	4.91%
3/10/1987	13.50%	7.47%	6.03%
3/13/1987	13.00%	7.47%	5.53%
3/31/1987	13.00%	7.46%	5.54%
4/6/1987	13.00%	7.47%	5.53%
4/14/1987	12.50%	7.49%	5.01%
4/16/1987	14.50%	7.50%	7.00%
4/27/1987	12.00%	7.54%	4.46%
5/5/1987	12.85%	7.58%	5.27%
5/12/1987	12.65%	7.62%	5.03%
5/28/1987	13.50%	7.70%	5.80%
6/15/1987	13.20%	7.78%	5.42%
6/29/1987	15.00%	7.83%	7.17%
6/30/1987	12.50%	7.84%	4.66%
7/8/1987	12.00%	7.86%	4.14%
7/10/1987	12.90%	7.86%	5.04%
7/15/1987	13.50%	7.88%	5.62%
7/16/1987	13.50%	7.88%	5.62%
7/16/1987	15.00%	7.88%	7.12%
7/27/1987	13.00%	7.92%	5.08%
7/27/1987	13.40%	7.92%	5.48%
7/27/1987	13.50%	7.92%	5.58%
7/31/1987	12.98%	7.95%	5.03%
8/26/1987	12.63%	8.06%	4.57%
8/26/1987	12.75%	8.06%	4.69%
8/27/1987	13.25%	8.06%	5.19%
9/9/1987	13.00%	8.14%	4.86%
9/30/1987	12.75%	8.31%	4.44%
9/30/1987	13.00%	8.31%	4.69%
10/2/1987	11.50%	8.33%	3.17%
10/15/1987	13.00%	8.43%	4.57%
11/2/1987	13.00%	8.55%	4.45%
11/19/1987	13.00%	8.64%	4.36%
11/30/1987	12.00%	8.68%	3.32%
12/3/1987	14.20%	8.70%	5.50%
12/15/1987	13.25%	8.77%	4.48%
12/16/1987	13.50%	8.78%	4.72%
12/16/1987	13.72%	8.78%	4.94%
12/17/1987	11.75%	8.79%	2.96%
12/18/1987	13.50%	8.80%	4.70%
12/21/1987	12.01%	8.81%	3.20%
12/22/1987	12.00%	8.81%	3.19%
12/22/1987	12.00%	8.81%	3.19%
12/22/1987	12.75%	8.81%	3.94%
12/22/1987	13.00%	8.81%	4.19%
1/20/1988	13.80%	8.94%	4.86%
1/26/1988	13.90%	8.95%	4.95%
1/29/1988	13.20%	8.96%	4.24%
2/4/1988	12.60%	8.96%	3.64%
3/1/1988	11.56%	8.94%	2.62%
3/23/1988	12.87%	8.92%	3.95%
3/24/1988	11.24%	8.92%	2.32%
3/30/1988	12.72%	8.92%	3.80%
4/1/1988	12.50%	8.92%	3.58%
4/7/1988	13.25%	8.93%	4.32%
4/25/1988	10.96%	8.96%	2.00%
5/3/1988	12.91%	8.97%	3.94%
5/11/1988	13.50%	8.99%	4.51%
5/16/1988	13.00%	8.99%	4.01%
6/30/1988	12.75%	9.00%	3.75%

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
7/1/1988	12.75%	8.99%	3.76%
7/20/1988	13.40%	8.96%	4.44%
8/5/1988	12.75%	8.92%	3.83%
8/23/1988	11.70%	8.93%	2.77%
8/29/1988	12.75%	8.94%	3.81%
8/30/1988	13.50%	8.94%	4.56%
9/8/1988	12.60%	8.95%	3.65%
10/13/1988	13.10%	8.93%	4.17%
12/19/1988	13.00%	9.02%	3.98%
12/20/1988	12.25%	9.02%	3.23%
12/20/1988	13.00%	9.02%	3.98%
12/21/1988	12.90%	9.02%	3.88%
12/27/1988	13.00%	9.03%	3.97%
12/28/1988	13.10%	9.03%	4.07%
12/30/1988	13.40%	9.04%	4.36%
1/27/1989	13.00%	9.05%	3.95%
1/31/1989	13.00%	9.05%	3.95%
2/17/1989	13.00%	9.05%	3.95%
2/20/1989	12.40%	9.05%	3.35%
3/1/1989	12.76%	9.05%	3.71%
3/8/1989	13.00%	9.05%	3.95%
3/30/1989	14.00%	9.05%	4.95%
4/5/1989	14.20%	9.05%	5.15%
4/18/1989	13.00%	9.05%	3.95%
5/5/1989	12.40%	9.05%	3.35%
6/2/1989	13.20%	9.00%	4.20%
6/8/1989	13.50%	8.98%	4.52%
6/27/1989	13.25%	8.91%	4.34%
6/30/1989	13.00%	8.90%	4.10%
8/14/1989	12.50%	8.77%	3.73%
9/28/1989	12.25%	8.63%	3.62%
10/24/1989	12.50%	8.54%	3.96%
11/9/1989	13.00%	8.49%	4.51%
12/15/1989	13.00%	8.34%	4.66%
12/20/1989	12.90%	8.32%	4.58%
12/21/1989	12.90%	8.31%	4.59%
12/27/1989	12.50%	8.29%	4.21%
12/27/1989	13.00%	8.29%	4.71%
1/10/1990	12.80%	8.24%	4.56%
1/11/1990	12.90%	8.24%	4.66%
1/17/1990	12.80%	8.22%	4.58%
1/26/1990	12.00%	8.20%	3.80%
2/9/1990	12.10%	8.17%	3.93%
2/24/1990	12.86%	8.15%	4.71%
3/30/1990	12.90%	8.16%	4.74%
4/4/1990	15.76%	8.17%	7.59%
4/12/1990	12.52%	8.18%	4.34%
4/19/1990	12.75%	8.20%	4.55%
5/21/1990	12.10%	8.28%	3.82%
5/29/1990	12.40%	8.30%	4.10%
5/31/1990	12.00%	8.30%	3.70%
6/4/1990	12.90%	8.30%	4.60%
6/6/1990	12.25%	8.31%	3.94%
6/15/1990	13.20%	8.32%	4.88%
6/20/1990	12.92%	8.32%	4.60%
6/27/1990	12.90%	8.33%	4.57%
6/29/1990	12.50%	8.33%	4.17%
7/6/1990	12.10%	8.34%	3.76%
7/6/1990	12.35%	8.34%	4.01%
8/10/1990	12.55%	8.41%	4.14%
8/16/1990	13.21%	8.43%	4.78%
8/22/1990	13.10%	8.45%	4.65%
8/24/1990	13.00%	8.46%	4.54%
9/26/1990	11.45%	8.59%	2.86%
10/2/1990	13.00%	8.61%	4.39%
10/5/1990	12.84%	8.62%	4.22%
10/19/1990	13.00%	8.67%	4.33%
10/25/1990	12.30%	8.68%	3.62%
11/21/1990	12.70%	8.69%	4.01%

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
12/13/1990	12.30%	8.67%	3.63%
12/17/1990	12.87%	8.67%	4.20%
12/18/1990	13.10%	8.67%	4.43%
12/19/1990	12.00%	8.66%	3.34%
12/20/1990	12.75%	8.66%	4.09%
12/21/1990	12.50%	8.66%	3.84%
12/27/1990	12.79%	8.66%	4.13%
1/2/1991	13.10%	8.65%	4.45%
1/4/1991	12.50%	8.65%	3.85%
1/15/1991	12.75%	8.64%	4.11%
1/25/1991	11.70%	8.63%	3.07%
2/4/1991	12.50%	8.60%	3.90%
2/7/1991	12.50%	8.59%	3.91%
2/12/1991	13.00%	8.58%	4.43%
2/14/1991	12.72%	8.57%	4.15%
2/22/1991	12.80%	8.55%	4.25%
3/6/1991	13.10%	8.53%	4.57%
3/8/1991	12.30%	8.52%	3.78%
3/8/1991	13.00%	8.52%	4.48%
4/22/1991	13.00%	8.49%	4.51%
5/7/1991	13.50%	8.47%	5.03%
5/13/1991	13.25%	8.47%	4.78%
5/30/1991	12.75%	8.44%	4.31%
6/12/1991	12.00%	8.41%	3.59%
6/25/1991	11.70%	8.39%	3.31%
6/28/1991	12.50%	8.38%	4.12%
7/1/1991	12.00%	8.38%	3.62%
7/3/1991	12.50%	8.37%	4.13%
7/19/1991	12.10%	8.34%	3.76%
8/1/1991	12.90%	8.32%	4.58%
8/16/1991	13.20%	8.29%	4.91%
9/27/1991	12.50%	8.23%	4.27%
9/30/1991	12.25%	8.23%	4.02%
10/17/1991	13.00%	8.20%	4.80%
10/23/1991	12.50%	8.20%	4.30%
10/23/1991	12.55%	8.20%	4.35%
10/31/1991	11.80%	8.19%	3.61%
11/1/1991	12.00%	8.19%	3.81%
11/5/1991	12.25%	8.19%	4.06%
11/12/1991	12.50%	8.18%	4.32%
11/12/1991	13.25%	8.18%	5.07%
11/25/1991	12.40%	8.18%	4.22%
11/26/1991	11.60%	8.18%	3.42%
11/26/1991	12.50%	8.18%	4.32%
11/27/1991	12.10%	8.18%	3.92%
12/18/1991	12.25%	8.15%	4.10%
12/19/1991	12.60%	8.15%	4.45%
12/19/1991	12.80%	8.15%	4.65%
12/20/1991	12.65%	8.14%	4.51%
1/9/1992	12.80%	8.09%	4.71%
1/16/1992	12.75%	8.07%	4.68%
1/21/1992	12.00%	8.06%	3.94%
1/22/1992	13.00%	8.06%	4.94%
1/27/1992	12.65%	8.05%	4.60%
1/31/1992	12.00%	8.04%	3.96%
2/11/1992	12.40%	8.03%	4.37%
2/25/1992	12.50%	8.01%	4.49%
3/16/1992	11.43%	7.98%	3.45%
3/18/1992	12.28%	7.98%	4.30%
4/2/1992	12.10%	7.95%	4.15%
4/9/1992	11.45%	7.94%	3.51%
4/10/1992	11.50%	7.93%	3.57%
4/14/1992	11.50%	7.93%	3.57%
5/5/1992	11.50%	7.89%	3.61%
5/12/1992	11.87%	7.88%	3.99%
5/12/1992	12.46%	7.88%	4.58%
6/1/1992	12.30%	7.87%	4.43%
6/12/1992	10.90%	7.86%	3.04%
6/26/1992	12.35%	7.85%	4.50%

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
6/29/1992	11.00%	7.85%	3.15%
6/30/1992	13.00%	7.85%	5.15%
7/13/1992	11.90%	7.84%	4.06%
7/13/1992	13.50%	7.84%	5.66%
7/22/1992	11.20%	7.83%	3.37%
8/3/1992	12.00%	7.81%	4.19%
8/6/1992	12.50%	7.80%	4.70%
9/22/1992	12.00%	7.71%	4.29%
9/28/1992	11.40%	7.71%	3.69%
9/30/1992	11.75%	7.70%	4.05%
10/2/1992	13.00%	7.70%	5.30%
10/12/1992	12.20%	7.70%	4.50%
10/16/1992	13.16%	7.70%	5.46%
10/30/1992	11.75%	7.71%	4.04%
11/3/1992	12.00%	7.71%	4.29%
12/3/1992	11.85%	7.68%	4.17%
12/15/1992	11.00%	7.66%	3.34%
12/16/1992	11.90%	7.66%	4.24%
12/16/1992	12.40%	7.66%	4.74%
12/17/1992	12.00%	7.66%	4.34%
12/22/1992	12.30%	7.65%	4.65%
12/22/1992	12.40%	7.65%	4.75%
12/29/1992	12.25%	7.63%	4.62%
12/30/1992	12.00%	7.63%	4.37%
12/31/1992	11.90%	7.63%	4.27%
1/12/1993	12.00%	7.61%	4.39%
1/21/1993	11.25%	7.59%	3.66%
2/2/1993	11.40%	7.56%	3.84%
2/15/1993	12.30%	7.52%	4.78%
2/24/1993	11.90%	7.49%	4.41%
2/26/1993	11.80%	7.48%	4.32%
2/26/1993	12.20%	7.48%	4.72%
4/23/1993	11.75%	7.29%	4.46%
5/11/1993	11.75%	7.25%	4.50%
5/14/1993	11.50%	7.24%	4.26%
5/25/1993	11.50%	7.23%	4.27%
5/28/1993	11.00%	7.22%	3.78%
6/3/1993	12.00%	7.21%	4.79%
6/16/1993	11.50%	7.19%	4.31%
6/18/1993	12.10%	7.18%	4.92%
6/25/1993	11.67%	7.17%	4.50%
7/21/1993	11.38%	7.10%	4.28%
7/23/1993	10.46%	7.09%	3.37%
8/24/1993	11.50%	6.96%	4.54%
9/21/1993	10.50%	6.81%	3.69%
9/29/1993	11.47%	6.77%	4.70%
9/30/1993	11.60%	6.76%	4.84%
11/2/1993	10.80%	6.60%	4.20%
11/12/1993	12.00%	6.57%	5.43%
11/26/1993	11.00%	6.52%	4.48%
12/14/1993	10.55%	6.48%	4.07%
12/16/1993	10.60%	6.48%	4.12%
12/21/1993	11.30%	6.47%	4.83%
1/4/1994	10.07%	6.44%	3.63%
1/13/1994	11.00%	6.42%	4.58%
1/21/1994	11.00%	6.40%	4.60%
1/28/1994	11.35%	6.39%	4.96%
2/3/1994	11.40%	6.38%	5.02%
2/17/1994	10.60%	6.36%	4.24%
2/25/1994	11.25%	6.35%	4.90%
2/25/1994	12.00%	6.35%	5.65%
3/1/1994	11.00%	6.35%	4.65%
3/4/1994	11.00%	6.35%	4.65%
4/25/1994	11.00%	6.41%	4.59%
5/10/1994	11.75%	6.45%	5.30%
5/13/1994	10.50%	6.46%	4.04%
6/3/1994	11.00%	6.54%	4.46%
6/27/1994	11.40%	6.65%	4.75%
8/5/1994	12.75%	6.88%	5.87%

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
10/31/1994	10.00%	7.33%	2.67%
11/9/1994	10.85%	7.39%	3.46%
11/9/1994	10.85%	7.39%	3.46%
11/18/1994	11.20%	7.45%	3.75%
11/22/1994	11.60%	7.47%	4.13%
11/28/1994	11.06%	7.49%	3.57%
12/8/1994	11.50%	7.54%	3.96%
12/8/1994	11.70%	7.54%	4.16%
12/14/1994	10.95%	7.56%	3.39%
12/15/1994	11.50%	7.57%	3.93%
12/19/1994	11.50%	7.58%	3.92%
12/28/1994	12.15%	7.61%	4.54%
1/9/1995	12.28%	7.64%	4.64%
1/31/1995	11.00%	7.69%	3.31%
2/10/1995	12.60%	7.70%	4.90%
2/17/1995	11.90%	7.70%	4.20%
3/9/1995	11.50%	7.71%	3.79%
3/20/1995	12.00%	7.72%	4.28%
3/23/1995	12.81%	7.72%	5.09%
3/29/1995	11.60%	7.72%	3.88%
4/6/1995	11.10%	7.71%	3.39%
4/7/1995	11.00%	7.71%	3.29%
4/19/1995	11.00%	7.70%	3.30%
5/12/1995	11.63%	7.68%	3.95%
5/25/1995	11.20%	7.65%	3.55%
6/9/1995	11.25%	7.60%	3.65%
6/21/1995	12.25%	7.56%	4.69%
6/30/1995	11.10%	7.52%	3.58%
9/11/1995	11.30%	7.20%	4.10%
9/27/1995	11.30%	7.12%	4.18%
9/27/1995	11.50%	7.12%	4.38%
9/27/1995	11.75%	7.12%	4.63%
9/29/1995	11.00%	7.11%	3.89%
11/9/1995	11.38%	6.90%	4.48%
11/9/1995	12.36%	6.90%	5.46%
11/17/1995	11.00%	6.86%	4.14%
12/4/1995	11.35%	6.78%	4.57%
12/11/1995	11.40%	6.74%	4.66%
12/20/1995	11.60%	6.70%	4.90%
12/27/1995	12.00%	6.66%	5.34%
2/5/1996	12.25%	6.48%	5.77%
3/29/1996	10.67%	6.42%	4.25%
4/8/1996	11.00%	6.42%	4.58%
4/11/1996	12.59%	6.43%	6.16%
4/11/1996	12.59%	6.43%	6.16%
4/24/1996	11.25%	6.43%	4.82%
4/30/1996	11.00%	6.43%	4.57%
5/13/1996	11.00%	6.44%	4.56%
5/23/1996	11.25%	6.43%	4.82%
6/25/1996	11.25%	6.48%	4.77%
6/27/1996	11.20%	6.48%	4.72%
8/12/1996	10.40%	6.57%	3.83%
9/27/1996	11.00%	6.71%	4.29%
10/16/1996	12.25%	6.76%	5.49%
11/5/1996	11.00%	6.81%	4.19%
11/26/1996	11.30%	6.83%	4.47%
12/18/1996	11.75%	6.83%	4.92%
12/31/1996	11.50%	6.83%	4.67%
1/3/1997	10.70%	6.83%	3.87%
2/13/1997	11.80%	6.82%	4.98%
2/20/1997	11.80%	6.82%	4.98%
3/31/1997	10.02%	6.80%	3.22%
4/2/1997	11.65%	6.80%	4.85%
4/28/1997	11.50%	6.81%	4.69%
4/29/1997	11.70%	6.81%	4.89%
7/17/1997	12.00%	6.77%	5.23%
12/12/1997	11.00%	6.60%	4.40%
12/23/1997	11.12%	6.57%	4.55%
2/2/1998	12.75%	6.39%	6.36%

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
3/2/1998	11.25%	6.29%	4.96%
3/6/1998	10.75%	6.27%	4.48%
3/20/1998	10.50%	6.22%	4.28%
4/30/1998	12.20%	6.12%	6.08%
7/10/1998	11.40%	5.94%	5.46%
9/15/1998	11.90%	5.78%	6.12%
11/30/1998	12.60%	5.58%	7.02%
12/10/1998	12.20%	5.54%	6.66%
12/17/1998	12.10%	5.52%	6.58%
2/5/1999	10.30%	5.38%	4.92%
3/4/1999	10.50%	5.34%	5.16%
4/6/1999	10.94%	5.32%	5.62%
7/29/1999	10.75%	5.52%	5.23%
9/23/1999	10.75%	5.70%	5.05%
11/17/1999	11.10%	5.90%	5.20%
1/7/2000	11.50%	6.05%	5.45%
1/7/2000	11.50%	6.05%	5.45%
2/17/2000	10.60%	6.17%	4.43%
3/28/2000	11.25%	6.20%	5.05%
5/24/2000	11.00%	6.18%	4.82%
7/18/2000	12.20%	6.16%	6.04%
9/29/2000	11.16%	6.03%	5.13%
11/28/2000	12.90%	5.89%	7.01%
11/30/2000	12.10%	5.88%	6.22%
1/23/2001	11.25%	5.79%	5.46%
2/8/2001	11.50%	5.77%	5.73%
5/8/2001	10.75%	5.62%	5.13%
6/26/2001	11.00%	5.62%	5.38%
7/25/2001	11.02%	5.60%	5.42%
7/25/2001	11.02%	5.60%	5.42%
7/31/2001	11.00%	5.59%	5.41%
8/31/2001	10.50%	5.56%	4.94%
9/7/2001	10.75%	5.55%	5.20%
9/10/2001	11.00%	5.55%	5.45%
9/20/2001	10.00%	5.55%	4.45%
10/24/2001	10.30%	5.54%	4.76%
11/28/2001	10.60%	5.49%	5.11%
12/3/2001	12.88%	5.49%	7.39%
12/20/2001	12.50%	5.50%	7.00%
1/22/2002	10.00%	5.50%	4.50%
3/27/2002	10.10%	5.45%	4.65%
4/22/2002	11.80%	5.45%	6.35%
5/28/2002	10.17%	5.46%	4.71%
6/10/2002	12.00%	5.47%	6.53%
6/18/2002	11.16%	5.48%	5.68%
6/20/2002	11.00%	5.48%	5.52%
6/20/2002	12.30%	5.48%	6.82%
7/15/2002	11.00%	5.48%	5.52%
9/12/2002	12.30%	5.45%	6.85%
9/26/2002	10.45%	5.41%	5.04%
12/4/2002	11.55%	5.29%	6.26%
12/13/2002	11.75%	5.27%	6.48%
12/20/2002	11.40%	5.25%	6.15%
1/8/2003	11.10%	5.19%	5.91%
1/31/2003	12.45%	5.13%	7.32%
2/28/2003	12.30%	5.05%	7.25%
3/6/2003	10.75%	5.03%	5.72%
3/7/2003	9.96%	5.02%	4.94%
3/20/2003	12.00%	4.98%	7.02%
4/3/2003	12.00%	4.96%	7.04%
4/15/2003	11.15%	4.94%	6.21%
6/25/2003	10.75%	4.79%	5.96%
6/26/2003	10.75%	4.79%	5.96%
7/9/2003	9.75%	4.79%	4.96%
7/16/2003	9.75%	4.79%	4.96%
7/25/2003	9.50%	4.80%	4.70%
8/26/2003	10.50%	4.83%	5.67%
12/17/2003	9.85%	4.94%	4.91%
12/17/2003	10.70%	4.94%	5.76%

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
12/18/2003	11.50%	4.94%	6.56%
12/19/2003	12.00%	4.94%	7.06%
12/19/2003	12.00%	4.94%	7.06%
12/23/2003	10.50%	4.94%	5.56%
1/13/2004	12.00%	4.95%	7.05%
3/2/2004	10.75%	4.99%	5.76%
3/26/2004	10.25%	5.02%	5.23%
4/5/2004	11.25%	5.03%	6.22%
5/18/2004	10.50%	5.07%	5.43%
5/25/2004	10.25%	5.08%	5.17%
5/27/2004	10.25%	5.08%	5.17%
6/2/2004	11.22%	5.08%	6.14%
6/30/2004	10.50%	5.10%	5.40%
6/30/2004	10.50%	5.10%	5.40%
7/16/2004	11.60%	5.11%	6.49%
8/25/2004	10.25%	5.10%	5.15%
9/9/2004	10.40%	5.10%	5.30%
11/9/2004	10.50%	5.07%	5.43%
11/23/2004	11.00%	5.06%	5.94%
12/14/2004	10.97%	5.07%	5.90%
12/21/2004	11.25%	5.07%	6.18%
12/21/2004	11.50%	5.07%	6.43%
12/22/2004	10.70%	5.07%	5.63%
12/22/2004	11.50%	5.07%	6.43%
12/29/2004	9.85%	5.07%	4.78%
1/6/2005	10.70%	5.08%	5.62%
2/18/2005	10.30%	4.98%	5.32%
2/25/2005	10.50%	4.96%	5.54%
3/10/2005	11.00%	4.93%	6.07%
3/24/2005	10.30%	4.90%	5.40%
4/4/2005	10.00%	4.88%	5.12%
4/7/2005	10.25%	4.87%	5.38%
5/18/2005	10.25%	4.78%	5.47%
5/25/2005	10.75%	4.76%	5.99%
5/26/2005	9.75%	4.76%	4.99%
6/1/2005	9.75%	4.75%	5.00%
7/19/2005	11.50%	4.64%	6.86%
8/5/2005	11.75%	4.62%	7.13%
8/15/2005	10.13%	4.61%	5.52%
9/28/2005	10.00%	4.54%	5.46%
10/4/2005	10.75%	4.54%	6.21%
12/12/2005	11.00%	4.55%	6.45%
12/13/2005	10.75%	4.55%	6.20%
12/21/2005	10.29%	4.54%	5.75%
12/21/2005	10.40%	4.54%	5.86%
12/22/2005	11.00%	4.54%	6.46%
12/22/2005	11.15%	4.54%	6.61%
12/28/2005	10.00%	4.54%	5.46%
12/28/2005	10.00%	4.54%	5.46%
1/5/2006	11.00%	4.53%	6.47%
1/27/2006	9.75%	4.52%	5.23%
3/3/2006	10.39%	4.53%	5.86%
4/17/2006	10.20%	4.61%	5.59%
4/26/2006	10.60%	4.64%	5.96%
5/17/2006	11.60%	4.69%	6.91%
6/6/2006	10.00%	4.74%	5.26%
6/27/2006	10.75%	4.80%	5.95%
7/6/2006	10.20%	4.83%	5.37%
7/24/2006	9.60%	4.86%	4.74%
7/26/2006	10.50%	4.86%	5.64%
7/28/2006	10.05%	4.86%	5.19%
8/23/2006	9.55%	4.89%	4.66%
9/1/2006	10.54%	4.90%	5.64%
9/14/2006	10.00%	4.91%	5.09%
10/6/2006	9.67%	4.92%	4.75%
11/21/2006	10.08%	4.95%	5.13%
11/21/2006	10.08%	4.95%	5.13%
11/21/2006	10.12%	4.95%	5.17%
12/1/2006	10.25%	4.95%	5.30%

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
12/1/2006	10.50%	4.95%	5.55%
12/7/2006	10.75%	4.95%	5.80%
12/21/2006	10.90%	4.95%	5.95%
12/21/2006	11.25%	4.95%	6.30%
12/22/2006	10.25%	4.95%	5.30%
1/5/2007	10.00%	4.95%	5.05%
1/11/2007	10.10%	4.95%	5.15%
1/11/2007	10.10%	4.95%	5.15%
1/11/2007	10.90%	4.95%	5.95%
1/12/2007	10.10%	4.95%	5.15%
1/13/2007	10.40%	4.95%	5.45%
1/19/2007	10.80%	4.94%	5.86%
3/21/2007	11.35%	4.87%	6.48%
3/22/2007	9.75%	4.86%	4.89%
5/15/2007	10.00%	4.81%	5.19%
5/17/2007	10.25%	4.81%	5.44%
5/17/2007	10.25%	4.81%	5.44%
5/22/2007	10.20%	4.80%	5.40%
5/22/2007	10.50%	4.80%	5.70%
5/23/2007	10.70%	4.80%	5.90%
5/25/2007	9.67%	4.80%	4.87%
6/15/2007	9.90%	4.82%	5.08%
6/21/2007	10.20%	4.83%	5.37%
6/22/2007	10.50%	4.83%	5.67%
6/28/2007	10.75%	4.84%	5.91%
7/12/2007	9.67%	4.86%	4.81%
7/19/2007	10.00%	4.87%	5.13%
7/19/2007	10.00%	4.87%	5.13%
8/15/2007	10.40%	4.88%	5.52%
10/9/2007	10.00%	4.91%	5.09%
10/17/2007	9.10%	4.91%	4.19%
10/31/2007	9.96%	4.90%	5.06%
11/29/2007	10.90%	4.87%	6.03%
12/6/2007	10.75%	4.86%	5.89%
12/13/2007	9.96%	4.86%	5.10%
12/14/2007	10.70%	4.86%	5.84%
12/14/2007	10.80%	4.86%	5.94%
12/19/2007	10.20%	4.86%	5.34%
12/20/2007	10.20%	4.85%	5.35%
12/20/2007	11.00%	4.85%	6.15%
12/28/2007	10.25%	4.85%	5.40%
12/31/2007	11.25%	4.85%	6.40%
1/8/2008	10.75%	4.83%	5.92%
1/17/2008	10.75%	4.81%	5.94%
1/28/2008	9.40%	4.80%	4.60%
1/30/2008	10.00%	4.79%	5.21%
1/31/2008	10.71%	4.79%	5.92%
2/29/2008	10.25%	4.75%	5.50%
3/12/2008	10.25%	4.73%	5.52%
3/25/2008	9.10%	4.68%	4.42%
4/22/2008	10.25%	4.60%	5.65%
4/24/2008	10.10%	4.60%	5.50%
5/1/2008	10.70%	4.59%	6.11%
5/19/2008	11.00%	4.56%	6.44%
5/27/2008	10.00%	4.55%	5.45%
6/10/2008	10.70%	4.54%	6.16%
6/27/2008	10.50%	4.54%	5.96%
6/27/2008	11.04%	4.54%	6.50%
7/10/2008	10.43%	4.52%	5.91%
7/16/2008	9.40%	4.52%	4.88%
7/30/2008	10.80%	4.51%	6.29%
7/31/2008	10.70%	4.51%	6.19%
8/11/2008	10.25%	4.51%	5.74%
8/26/2008	10.18%	4.50%	5.68%
9/10/2008	10.30%	4.50%	5.80%
9/24/2008	10.65%	4.48%	6.17%
9/24/2008	10.65%	4.48%	6.17%
9/24/2008	10.65%	4.48%	6.17%
9/30/2008	10.20%	4.48%	5.72%

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
10/8/2008	10.15%	4.46%	5.69%
11/13/2008	10.55%	4.45%	6.10%
11/17/2008	10.20%	4.44%	5.76%
12/1/2008	10.25%	4.40%	5.85%
12/23/2008	11.00%	4.27%	6.73%
12/29/2008	10.00%	4.24%	5.76%
12/29/2008	10.20%	4.24%	5.96%
12/31/2008	10.75%	4.22%	6.53%
1/14/2009	10.50%	4.15%	6.35%
1/21/2009	10.50%	4.12%	6.38%
1/21/2009	10.50%	4.12%	6.38%
1/21/2009	10.50%	4.12%	6.38%
1/27/2009	10.76%	4.09%	6.67%
1/30/2009	10.50%	4.08%	6.42%
2/4/2009	8.75%	4.06%	4.69%
3/4/2009	10.50%	3.96%	6.54%
3/12/2009	11.50%	3.93%	7.57%
4/2/2009	11.10%	3.85%	7.25%
4/21/2009	10.61%	3.80%	6.81%
4/24/2009	10.00%	3.79%	6.21%
4/30/2009	11.25%	3.78%	7.47%
5/4/2009	10.74%	3.77%	6.97%
5/20/2009	10.25%	3.74%	6.51%
5/28/2009	10.50%	3.74%	6.76%
6/22/2009	10.00%	3.76%	6.24%
6/24/2009	10.80%	3.77%	7.03%
7/8/2009	10.63%	3.77%	6.86%
7/17/2009	10.50%	3.78%	6.72%
8/31/2009	10.25%	3.82%	6.43%
10/14/2009	10.70%	4.01%	6.69%
10/23/2009	10.88%	4.06%	6.82%
11/2/2009	10.70%	4.09%	6.61%
11/3/2009	10.70%	4.10%	6.60%
11/24/2009	10.25%	4.15%	6.10%
11/25/2009	10.75%	4.16%	6.59%
11/30/2009	10.35%	4.17%	6.18%
12/3/2009	10.50%	4.18%	6.32%
12/7/2009	10.70%	4.18%	6.52%
12/16/2009	10.90%	4.21%	6.69%
12/16/2009	11.00%	4.21%	6.79%
12/18/2009	10.40%	4.22%	6.18%
12/18/2009	10.40%	4.22%	6.18%
12/22/2009	10.20%	4.23%	5.97%
12/22/2009	10.40%	4.23%	6.17%
12/22/2009	10.40%	4.23%	6.17%
12/30/2009	10.00%	4.26%	5.74%
1/4/2010	10.80%	4.28%	6.52%
1/11/2010	11.00%	4.30%	6.70%
1/26/2010	10.13%	4.35%	5.78%
1/27/2010	10.40%	4.35%	6.05%
1/27/2010	10.40%	4.35%	6.05%
1/27/2010	10.70%	4.35%	6.35%
2/9/2010	9.80%	4.38%	5.42%
2/18/2010	10.60%	4.40%	6.20%
2/24/2010	10.18%	4.41%	5.77%
3/2/2010	9.63%	4.41%	5.22%
3/4/2010	10.50%	4.41%	6.09%
3/5/2010	10.50%	4.41%	6.09%
3/11/2010	11.90%	4.42%	7.48%
3/17/2010	10.00%	4.41%	5.59%
3/25/2010	10.15%	4.42%	5.73%
4/2/2010	10.10%	4.43%	5.67%
4/27/2010	10.00%	4.46%	5.54%
4/29/2010	9.90%	4.46%	5.44%
4/29/2010	10.06%	4.46%	5.60%
4/29/2010	10.26%	4.46%	5.80%
5/12/2010	10.30%	4.45%	5.85%
5/12/2010	10.30%	4.45%	5.85%
5/28/2010	10.10%	4.44%	5.66%

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
5/28/2010	10.20%	4.44%	5.76%
6/7/2010	10.30%	4.44%	5.86%
6/16/2010	10.00%	4.44%	5.56%
6/28/2010	9.67%	4.43%	5.24%
6/28/2010	10.50%	4.43%	6.07%
6/30/2010	9.40%	4.43%	4.97%
7/1/2010	10.25%	4.43%	5.82%
7/15/2010	10.53%	4.43%	6.10%
7/15/2010	10.70%	4.43%	6.27%
7/30/2010	10.70%	4.41%	6.29%
8/4/2010	10.50%	4.41%	6.09%
8/6/2010	9.83%	4.41%	5.42%
8/25/2010	9.90%	4.37%	5.53%
9/3/2010	10.60%	4.35%	6.25%
9/14/2010	10.70%	4.33%	6.37%
9/16/2010	10.00%	4.33%	5.67%
9/16/2010	10.00%	4.33%	5.67%
9/30/2010	9.75%	4.29%	5.46%
10/14/2010	10.35%	4.24%	6.11%
10/28/2010	10.70%	4.21%	6.49%
11/2/2010	10.38%	4.20%	6.18%
11/4/2010	10.70%	4.20%	6.50%
11/19/2010	10.20%	4.18%	6.02%
11/22/2010	10.00%	4.18%	5.82%
12/1/2010	10.13%	4.16%	5.97%
12/6/2010	9.86%	4.15%	5.71%
12/9/2010	10.25%	4.15%	6.10%
12/13/2010	10.70%	4.15%	6.55%
12/14/2010	10.13%	4.15%	5.98%
12/15/2010	10.44%	4.15%	6.29%
12/17/2010	10.00%	4.15%	5.85%
12/20/2010	10.60%	4.15%	6.45%
12/21/2010	10.30%	4.14%	6.16%
12/27/2010	9.90%	4.14%	5.76%
12/29/2010	11.15%	4.14%	7.01%
1/5/2011	10.15%	4.13%	6.02%
1/12/2011	10.30%	4.12%	6.18%
1/13/2011	10.30%	4.12%	6.18%
1/18/2011	10.00%	4.12%	5.88%
1/20/2011	9.30%	4.12%	5.18%
1/20/2011	10.13%	4.12%	6.01%
1/31/2011	9.60%	4.12%	5.48%
2/3/2011	10.00%	4.12%	5.88%
2/25/2011	10.00%	4.14%	5.86%
3/25/2011	9.80%	4.18%	5.62%
3/30/2011	10.00%	4.18%	5.82%
4/12/2011	10.00%	4.21%	5.79%
4/25/2011	10.74%	4.23%	6.51%
4/26/2011	9.67%	4.23%	5.44%
4/27/2011	10.40%	4.24%	6.16%
5/4/2011	10.00%	4.24%	5.76%
5/4/2011	10.00%	4.24%	5.76%
5/24/2011	10.50%	4.27%	6.23%
6/8/2011	10.75%	4.30%	6.45%
6/16/2011	9.20%	4.32%	4.88%
6/17/2011	9.95%	4.32%	5.63%
7/13/2011	10.20%	4.36%	5.84%
8/1/2011	9.20%	4.39%	4.81%
8/8/2011	10.00%	4.38%	5.62%
8/11/2011	10.00%	4.38%	5.62%
8/12/2011	10.35%	4.37%	5.98%
8/19/2011	10.25%	4.36%	5.89%
9/2/2011	12.88%	4.32%	8.56%
9/22/2011	10.00%	4.24%	5.76%
10/12/2011	10.30%	4.14%	6.16%
10/20/2011	10.50%	4.10%	6.40%
11/30/2011	10.90%	3.87%	7.03%
11/30/2011	10.90%	3.87%	7.03%

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

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

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
8/29/2014	9.80%	3.54%	6.26%
9/11/2014	9.60%	3.51%	6.09%
9/15/2014	10.25%	3.51%	6.74%
10/9/2014	9.80%	3.45%	6.35%
11/6/2014	9.56%	3.37%	6.19%
11/6/2014	10.20%	3.37%	6.83%
11/14/2014	10.20%	3.35%	6.85%
11/26/2014	9.70%	3.33%	6.37%
11/26/2014	10.20%	3.33%	6.87%
12/4/2014	9.68%	3.31%	6.37%
12/10/2014	9.25%	3.29%	5.96%
12/10/2014	9.25%	3.29%	5.96%
12/11/2014	10.07%	3.29%	6.78%
12/12/2014	10.20%	3.28%	6.92%
12/17/2014	9.17%	3.27%	5.90%
12/18/2014	9.83%	3.26%	6.57%
1/23/2015	9.50%	3.14%	6.36%
2/24/2015	9.83%	3.04%	6.79%
3/18/2015	9.75%	2.98%	6.77%
3/25/2015	9.50%	2.96%	6.54%
3/26/2015	9.72%	2.95%	6.77%
4/23/2015	10.20%	2.87%	7.33%
4/29/2015	9.53%	2.86%	6.67%
5/1/2015	9.60%	2.85%	6.75%
5/26/2015	9.75%	2.83%	6.92%
6/17/2015	9.00%	2.82%	6.18%
6/17/2015	9.00%	2.82%	6.18%
9/2/2015	9.50%	2.79%	6.71%
9/10/2015	9.30%	2.79%	6.51%
10/15/2015	9.00%	2.81%	6.19%
11/19/2015	10.00%	2.88%	7.12%
11/19/2015	10.30%	2.88%	7.42%
12/3/2015	10.00%	2.90%	7.10%
12/9/2015	9.14%	2.90%	6.24%
12/9/2015	9.14%	2.90%	6.24%
12/11/2015	10.30%	2.90%	7.40%
12/15/2015	9.60%	2.91%	6.69%
12/17/2015	9.70%	2.91%	6.79%
12/18/2015	9.50%	2.91%	6.59%
12/30/2015	9.50%	2.93%	6.57%
1/6/2016	9.50%	2.94%	6.56%
2/23/2016	9.75%	2.94%	6.81%
3/16/2016	9.85%	2.91%	6.94%
4/29/2016	9.80%	2.83%	6.97%
6/3/2016	9.75%	2.80%	6.95%
6/8/2016	9.48%	2.80%	6.68%
6/15/2016	9.00%	2.78%	6.22%
6/15/2016	9.00%	2.78%	6.22%
7/18/2016	9.98%	2.71%	7.27%
8/9/2016	9.85%	2.66%	7.19%
8/18/2016	9.50%	2.63%	6.87%
8/24/2016	9.75%	2.62%	7.13%
9/1/2016	9.50%	2.59%	6.91%
9/8/2016	10.00%	2.58%	7.42%
9/28/2016	9.58%	2.54%	7.04%
9/30/2016	9.90%	2.53%	7.37%
11/9/2016	9.80%	2.48%	7.32%
11/10/2016	9.50%	2.48%	7.02%
11/15/2016	9.55%	2.49%	7.06%

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
11/18/2016	10.00%	2.50%	7.50%
11/29/2016	10.55%	2.51%	8.04%
12/1/2016	10.00%	2.51%	7.49%
12/6/2016	8.64%	2.52%	6.12%
12/6/2016	8.64%	2.52%	6.12%
12/7/2016	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	9.00%	2.54%	6.46%
12/19/2016	9.37%	2.54%	6.83%
12/22/2016	9.60%	2.55%	7.05%
12/22/2016	9.90%	2.55%	7.35%
12/28/2016	9.50%	2.55%	6.95%
1/18/2017	9.45%	2.58%	6.87%
1/24/2017	9.00%	2.59%	6.41%
1/31/2017	10.10%	2.60%	7.50%
2/15/2017	9.60%	2.62%	6.98%
2/22/2017	9.60%	2.64%	6.96%
2/24/2017	9.75%	2.64%	7.11%
2/28/2017	10.10%	2.64%	7.46%
3/2/2017	9.41%	2.65%	6.76%
3/20/2017	9.50%	2.68%	6.82%
4/4/2017	10.25%	2.71%	7.54%
4/12/2017	9.40%	2.74%	6.66%
4/20/2017	9.50%	2.76%	6.74%
5/3/2017	9.50%	2.79%	6.71%
5/11/2017	9.20%	2.81%	6.39%
5/18/2017	9.50%	2.83%	6.67%
5/23/2017	9.70%	2.84%	6.86%
6/16/2017	9.65%	2.89%	6.76%
6/22/2017	9.70%	2.90%	6.80%
6/22/2017	9.70%	2.90%	6.80%
7/24/2017	9.50%	2.95%	6.55%
8/15/2017	10.00%	2.97%	7.03%
9/22/2017	9.60%	2.93%	6.67%
9/28/2017	9.80%	2.92%	6.88%
10/20/2017	9.50%	2.91%	6.59%
10/26/2017	10.20%	2.91%	7.29%
10/26/2017	10.25%	2.91%	7.34%
10/26/2017	10.30%	2.91%	7.39%
11/6/2017	10.25%	2.90%	7.35%
11/15/2017	11.95%	2.89%	9.06%
11/30/2017	10.00%	2.88%	7.12%
11/30/2017	10.00%	2.88%	7.12%
12/5/2017	9.50%	2.88%	6.62%
12/6/2017	8.40%	2.87%	5.53%
12/6/2017	8.40%	2.87%	5.53%
12/7/2017	9.80%	2.87%	6.93%
12/14/2017	9.60%	2.86%	6.74%
12/14/2017	9.65%	2.86%	6.79%
12/18/2017	9.50%	2.86%	6.64%
12/20/2017	9.58%	2.86%	6.72%
12/21/2017	9.10%	2.85%	6.25%
12/28/2017	9.50%	2.85%	6.65%
12/29/2017	9.51%	2.85%	6.66%
1/18/2018	9.70%	2.84%	6.86%
1/31/2018	9.30%	2.84%	6.46%
2/2/2018	9.98%	2.84%	7.14%
2/23/2018	9.90%	2.85%	7.05%
3/12/2018	9.25%	2.86%	6.39%
3/15/2018	9.00%	2.87%	6.13%
3/29/2018	10.00%	2.88%	7.12%
4/12/2018	9.90%	2.89%	7.01%
4/13/2018	9.73%	2.89%	6.84%
4/18/2018	9.25%	2.89%	6.36%

[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
4/18/2018	10.00%	2.89%	7.11%
4/26/2018	9.50%	2.90%	6.60%
5/30/2018	9.95%	2.94%	7.01%
5/31/2018	9.50%	2.94%	6.56%
6/14/2018	8.80%	2.96%	5.84%
Average:			4.63%
Number of Cases:			1,556

Kansas City Power & Light Company
Capitalization
June 30, 2018

(\$ in 000's)

CAPITAL COMPONENT	AMOUNT	PERCENT	REQUIRED RETURN	WEIGHTED RETURN	AFTER-TAX 21.00% WEIGHTED RETURN
KCP&L Long-Term Debt [1]	\$2,549,380	50.91%	4.93%	2.5075%	1.9809%
KCP&L Common Equity	2,458,112	49.09%	9.85%	4.8352%	4.8352%
Total KCP&L Capital	<u>\$5,007,492</u>	<u>100.00%</u>		<u>7.3427%</u>	<u>6.8161%</u>

[1] Excludes unamortized debt expenses and discounts. Includes current maturities of long-term debt.

Kansas City Power & Light Company
Weighted Average Cost of Long-Term Debt Capital
June 30, 2018

Line	[a] Issue	[b] Date of Offering	[c] Date of Maturity	[d] Price to Public	[e] Coupon	[f] Issuance Expense Amortization	[g] Issuance Discount Amortization	[h] Long-term Debt Capital Outstanding	[i] Annual Cost of Long-term Debt Capital	
Pledged General Mortgage Bonds										
1	MATES Series 1993-A	\$40,000,000	12/7/1993	12/1/2023	\$40,000,000	2.95%	\$34,080	\$0	\$40,000,000	\$1,214,080
2	MATES Series 1993-B	\$39,480,000	12/7/1993	12/1/2023	\$39,480,000	2.95%	\$34,297	\$0	\$39,480,000	\$1,198,957
3	EIRR La Cygne 2005 Series - 4.65% Coupon	\$21,940,000	2/23/1994	9/1/2035	\$21,940,000	4.65%	\$0	\$0	\$21,940,000	\$1,020,210
4	Mortgage Bonds Series 2009A - 7.15%	\$400,000,000	3/24/2009	4/1/2019	\$400,000,000	7.15%	\$401,853	\$43,026	\$400,000,000	\$29,044,879
Unsecured Notes										
5	Senior Notes Due 2047 - 4.20% Coupon (1)	\$300,000,000	6/15/2017	6/15/2047	\$300,000,000	4.20%	\$99,806	\$27,025	\$300,000,000	\$12,726,831
6	Senior Notes Due 2035 - 6.05% Coupon (2)	\$250,000,000	11/17/2005	11/15/2035	\$250,000,000	6.05%	\$81,364	\$50,071	\$250,000,000	\$15,256,435
7	Senior Notes Due 2048 - 4.20% Coupon (2)	\$300,000,000	3/1/2018	3/15/2048	\$300,000,000	4.20%	\$101,577	\$8,676	\$300,000,000	\$12,710,253
8	Senior Notes Due 2041 - 5.30% Coupon (2)	\$400,000,000	9/20/2011	10/1/2041	\$400,000,000	5.30%	\$129,595	\$85,471	\$400,000,000	\$21,415,066
9	Senior Notes Due 2023 - 3.15% Coupon (1)	\$300,000,000	3/14/2013	3/15/2023	\$300,000,000	3.15%	\$232,246	\$27,944	\$300,000,000	\$9,710,189
10	Senior Notes Due 2023 - 3.65% Coupon (1)	\$350,000,000	8/13/2015	8/15/2025	\$350,000,000	3.65%	\$292,838	\$124,135	\$350,000,000	\$13,191,973
Environmental Improvement Revenue Refunding Bonds										
11	2005 Series Due 2035 - 4.65% Coupon	\$50,000,000	9/1/2005	9/1/2035	\$50,000,000	4.65%	\$0	\$0	\$50,000,000	\$2,325,000
12	2007 Series A Due 2035	\$73,250,000	9/19/2007	9/1/2035	\$73,250,000	2.03%	\$6,651	\$0	\$73,250,000	\$1,495,091
13	2007 Series B Due 2035	\$73,250,000	9/19/2007	9/1/2035	\$73,250,000	2.03%	\$6,651	\$0	\$73,250,000	\$1,495,091
14	2008 Series Due 2038	\$23,400,000	5/28/2008	5/1/2038	\$23,400,000	2.88%	\$8,593	\$0	\$23,400,000	\$681,343
Other Long-Term Debt										
15	Unamortized Discount on Senior Notes								(\$4,955,737)	
16	Unamortized Debt Expense								(\$14,623,727)	
17	Reacquired Bond Cost Amortizations									\$500,771
18	Interest Rate Hedging Expense Amortizations									\$4,922,884
19	Tax-exempt Debt Repurchased								(71,940,000)	(\$3,345,210)
20	Total KCP&L Long-Term Debt Capital								\$2,549,380,000	\$125,563,844
21	KCP&L Weighted Avg. Cost of Long-Term Debt Capital								4.93%	

Notes:

- (1) Expenses associated with the Senior Notes are being amortized over a 10 year period.
(2) Expenses associated with the Senior Notes are being amortized over a 30 year period.

KCP&L Greater Missouri Operations
Capitalization
June 30, 2018

(\$ in 000's)

CAPITAL COMPONENT	AMOUNT	PERCENT	REQUIRED RETURN	WEIGHTED RETURN	AFTER-TAX 21.00% WEIGHTED RETURN
GMO Long-Term Debt [1]	\$1,079,114	48.25%	5.06%	2.4404%	1.9279%
GMO Common Equity	1,157,324	51.75%	9.85%	5.0972%	5.0972%
Total GMO Capital	<u>\$2,236,438</u>	<u>100.00%</u>		<u>7.5376%</u>	<u>7.0251%</u>

[1] Excludes unamortized debt expenses and discounts. Includes current maturities of long-term debt.

KCP&L Greater Missouri Operations
Weighted Average Cost of Long-Term Debt Capital
June 30, 2018

Line	[a] Issue	[b] Initial Offering	[c] Date of Offering	[d] Date of Maturity	[e] Price to Public	[e] Coupon	[f] Issuance Expense Amortization	[g] Issuance Discount Amortization	[h] Net Proceeds to Company	[i] Long-term Debt Capital Outstanding	[j] Annual Cost of Long-term Debt Capital
Pledged General Mortgage Bonds											
1	SJLP First Mortgage Bonds - 9.44%	\$3,375,000	2/1/1991	2/1/2021	\$3,375,000	9.44%	\$3,903	\$0	\$3,371,097	\$3,375,000	\$322,503
Unsecured Notes											
2	Senior Notes Due 2021 - 8.27% Coupon	\$80,850,000	3/31/1999	11/15/2021	\$80,850,000	8.27%	\$97,798	\$0	\$80,752,202	\$80,850,000	\$6,784,093
3	Medium Term Notes Due 2023 - 7.33% Coupon	\$3,000,000	11/30/1993	11/30/2023	\$3,000,000	7.33%	\$1,129	\$0	\$2,998,871	\$3,000,000	\$221,029
4	Medium Term Notes Due 2023 - 7.17% Coupon	\$7,000,000	12/6/1993	12/1/2023	\$7,000,000	7.17%	\$2,636	\$0	\$6,997,364	\$7,000,000	\$504,536
5	Senior Notes Series A Due 2025 - 3.49% Coupon	\$125,000,000	8/16/2013	5/15/2025	\$125,000,000	3.49%	\$65,148	\$0	\$124,934,852	\$125,000,000	\$4,427,648
6	Senior Notes Series B Due 2033 - 4.06% Coupon	\$75,000,000	8/16/2013	8/15/2033	\$75,000,000	4.06%	\$23,346	\$0	\$74,976,654	\$75,000,000	\$3,068,346
7	Senior Notes Series C Due 2043 - 4.74% Coupon	\$150,000,000	8/16/2013	52458	\$150,000,000	4.74%	\$31,293	\$0	\$149,968,707	\$150,000,000	\$7,141,293
Other Long-Term Debt											
8	Intercompany Debt - GPE Senior Notes due 2021	\$347,389,000	5/16/2011	6/1/2021	\$347,389,000	4.97%	\$0	\$0	\$347,389,000	\$347,389,000	\$17,265,233
9	Intercompany Debt - GPE Senior Notes due 2022	\$287,500,000	6/15/2012	6/15/2022	\$287,500,000	5.15%	\$0	\$0	\$287,500,000	\$287,500,000	\$14,806,250
10	Loss/(Gain) on Reacquired Debt										\$36,121
11	Total GMO Long-Term Debt Capital									\$1,079,114,000	\$54,577,052
12	GMO Weighted Avg. Cost of Long-Term Debt Capital									5.06%	

Proxy Group Capital Structure

Company	Ticker	% Common Equity								
		2018Q1	2017Q4	2017Q3	2017Q2	2017Q1	2016Q4	2016Q3	2016Q2	Average
ALLETE, Inc.	ALE	63.09%	62.51%	61.03%	60.62%	60.28%	59.02%	59.28%	59.08%	60.61%
Alliant Energy Corporation	LNT	49.74%	49.77%	52.09%	51.23%	50.84%	50.73%	50.68%	51.22%	50.79%
Ameren Corporation	AEE	53.04%	52.65%	53.56%	53.11%	52.77%	52.62%	53.99%	53.11%	53.11%
American Electric Power Company, Inc.	AEP	48.83%	49.38%	49.16%	49.40%	49.71%	49.90%	49.81%	49.66%	49.48%
Avangrid, Inc.	AGR	57.78%	56.82%	54.96%	55.10%	56.54%	55.86%	58.18%	57.32%	56.57%
Black Hills Corporation	BKH	53.79%	54.40%	54.75%	53.84%	53.20%	52.81%	52.73%	52.55%	53.51%
CMS Energy Corporation	CMS	53.13%	52.25%	53.25%	52.97%	52.10%	51.24%	51.30%	52.32%	52.32%
DTE Energy Company	DTE	51.12%	51.02%	50.50%	50.63%	50.50%	50.50%	50.13%	49.35%	50.47%
Duke Energy Corporation	DUK	54.46%	54.30%	53.78%	54.62%	54.37%	54.66%	54.58%	54.85%	54.45%
El Paso Electric	EE	49.46%	49.95%	49.81%	48.01%	47.48%	47.73%	47.73%	46.22%	48.30%
Hawaiian Electric Industries, Inc.	HE	58.34%	58.32%	58.11%	57.76%	57.71%	57.70%	58.00%	57.67%	57.95%
IDACORP, Inc.	IDA	51.37%	54.22%	54.22%	53.48%	53.22%	53.15%	53.15%	52.46%	53.16%
NextEra Energy, Inc.	NEE	61.23%	59.93%	63.00%	62.78%	62.05%	62.65%	61.61%	61.32%	61.82%
NorthWestern Corporation	NWE	47.48%	49.89%	48.86%	48.61%	48.61%	48.13%	47.72%	47.66%	48.37%
OGE Energy Corp.	OGE	53.59%	53.36%	53.05%	52.75%	53.46%	56.09%	56.23%	55.50%	54.26%
Otter Tail Corporation	OTTR	52.67%	57.34%	57.24%	55.31%	55.31%	55.06%	54.80%	54.15%	55.23%
Pinnacle West Capital Corporation	PNW	53.18%	53.14%	53.05%	53.32%	53.20%	54.59%	54.70%	53.13%	53.54%
PNM Resources, Inc.	PNM	46.20%	46.06%	47.58%	46.89%	46.38%	46.01%	46.07%	44.88%	46.26%
Portland General Electric Company	POR	50.14%	49.80%	50.17%	50.32%	50.28%	49.82%	49.72%	49.64%	49.99%
Southern Company	SO	49.98%	47.67%	50.14%	49.99%	51.41%	51.10%	49.85%	49.21%	49.92%
WEC Energy Group, Inc.	WEC	61.62%	54.62%	55.82%	55.48%	54.80%	56.26%	56.21%	55.88%	56.34%
Xcel Energy Inc.	XEL	54.15%	53.95%	53.93%	54.37%	54.94%	54.37%	53.45%	54.17%	54.16%
Mean		53.38%	53.24%	53.55%	53.21%	53.14%	53.18%	53.18%	52.79%	53.21%

Operating Company Capital Structure

Operating Company	Parent	% Common Equity								
		2018Q1	2017Q4	2017Q3	2017Q2	2017Q1	2016Q4	2016Q3	2016Q2	Average
ALLETE (Minnesota Power)	ALE	60.38%	60.04%	59.73%	59.16%	58.71%	56.92%	56.90%	56.63%	58.56%
Superior Water, Light and Power Company	ALE	65.80%	64.99%	62.33%	62.08%	61.85%	61.12%	61.65%	61.52%	62.67%
Interstate Power and Light Company	LNT	49.92%	50.31%	51.79%	50.89%	50.23%	50.24%	48.99%	50.54%	50.36%
Wisconsin Power and Light Company	LNT	49.57%	49.23%	52.39%	51.56%	51.45%	51.22%	52.38%	51.89%	51.21%
Ameren Illinois Company	AEE	54.24%	53.38%	54.98%	54.55%	54.09%	53.44%	55.82%	55.11%	54.45%
Union Electric Company	AEE	51.84%	51.92%	52.14%	51.68%	51.45%	51.80%	52.15%	51.10%	51.76%
AEP Texas Central Company	AEP	NA	NA	NA	NA	NA	46.01%	45.44%	45.01%	45.49%
AEP Texas North Company	AEP	NA	NA	NA	NA	NA	43.29%	43.17%	42.84%	43.10%
Appalachian Power Company	AEP	49.35%	48.72%	48.30%	47.85%	48.17%	46.89%	46.68%	46.41%	47.80%
Indiana Michigan Power Company	AEP	46.64%	46.33%	46.65%	46.27%	49.54%	49.11%	49.03%	48.50%	47.76%
Kentucky Power Company	AEP	44.40%	43.52%	43.22%	43.30%	43.57%	43.45%	43.52%	43.50%	43.56%
Kingsport Power Company	AEP	47.28%	46.53%	45.88%	50.58%	48.98%	65.24%	65.24%	64.34%	54.26%
Ohio Power Company	AEP	52.91%	58.63%	57.64%	56.72%	56.75%	56.51%	56.08%	54.87%	56.26%
Public Service Company of Oklahoma	AEP	48.10%	48.50%	48.85%	48.26%	48.20%	48.47%	48.52%	47.42%	48.29%
Southwestern Electric Power Company	AEP	47.72%	48.52%	48.66%	48.14%	48.33%	45.95%	46.12%	49.66%	47.89%
Wheeling Power Company	AEP	54.27%	54.26%	54.13%	54.10%	54.10%	54.12%	54.31%	54.08%	54.17%
Avangrid, Inc.	AGR	57.78%	56.82%	54.96%	55.10%	56.54%	55.86%	58.18%	57.32%	56.57%
Black Hills Colorado Electric Utility Company, LP	BKH	54.68%	55.69%	54.96%	55.01%	53.08%	52.20%	51.85%	51.39%	53.61%
Black Hills Power, Inc.	BKH	53.22%	53.49%	56.14%	53.26%	53.24%	52.88%	53.13%	53.13%	53.56%
Cheyenne Light, Fuel and Power Company	BKH	53.46%	54.01%	53.16%	53.27%	53.29%	53.35%	53.22%	53.14%	53.36%
Consumers Energy Company	CMS	53.13%	52.25%	53.25%	52.97%	52.10%	51.24%	51.30%	52.32%	52.32%
DTE Electric Company	DTE	51.12%	51.02%	50.50%	50.63%	50.50%	50.50%	50.13%	49.35%	50.47%
Duke Energy Carolinas, LLC	DUK	51.70%	52.98%	53.98%	53.49%	53.32%	52.81%	53.59%	53.84%	53.21%
Duke Energy Florida, LLC	DUK	49.92%	49.25%	49.46%	47.74%	46.95%	50.83%	50.52%	53.43%	49.76%
Duke Energy Indiana, LLC	DUK	52.54%	51.94%	51.71%	51.89%	52.15%	51.59%	51.14%	49.35%	51.54%
Duke Energy Kentucky, Inc.	DUK	53.72%	53.11%	50.69%	55.74%	55.43%	54.74%	54.87%	54.14%	54.06%
Duke Energy Ohio, Inc.	DUK	66.06%	66.24%	65.79%	65.38%	65.36%	66.39%	65.96%	65.21%	65.80%
Duke Energy Progress, LLC	DUK	52.82%	52.27%	51.06%	53.51%	52.99%	51.58%	51.37%	53.15%	52.35%
El Paso Electric Company	EE	49.46%	49.95%	49.81%	48.01%	47.48%	47.73%	47.73%	46.22%	48.30%
Hawaii Electric Light Company, Inc.	HE	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hawaiian Electric Company, Inc.	HE	58.34%	58.32%	58.11%	57.76%	57.71%	57.70%	58.00%	57.67%	57.95%
Maui Electric Company, Limited	HE	NA	NA	NA	NA	NA	NA	NA	NA	NA
Idaho Power Co.	IDA	51.37%	54.22%	54.22%	53.48%	53.22%	53.15%	53.15%	52.46%	53.16%
Florida Power & Light Company	NEE	61.23%	59.93%	63.00%	62.78%	62.05%	62.65%	61.61%	61.32%	61.82%
NorthWestern Corporation	NWE	47.48%	49.89%	48.86%	48.61%	48.61%	48.13%	47.72%	47.66%	48.37%
Otter Tail Power Company	OTTR	52.67%	57.34%	57.24%	55.31%	55.31%	55.06%	54.80%	54.15%	55.23%
Oklahoma Gas and Electric Company	OGE	53.59%	53.36%	53.05%	52.75%	53.46%	56.09%	56.23%	55.50%	54.26%
Arizona Public Service Company	PNW	53.18%	53.14%	53.05%	53.32%	53.20%	54.59%	54.70%	53.13%	53.54%
Public Service Company of New Mexico	PNM	46.20%	46.06%	47.58%	46.89%	46.38%	46.01%	46.07%	44.88%	46.26%
Portland General Electric Company	POR	50.14%	49.80%	50.17%	50.32%	50.28%	49.82%	49.72%	49.64%	49.99%
Alabama Power Company	SO	48.86%	47.07%	47.93%	47.25%	47.00%	46.97%	47.29%	46.58%	47.37%
Georgia Power Company	SO	53.81%	50.06%	50.35%	51.55%	50.36%	51.63%	51.71%	50.48%	51.24%
Gulf Power Company	SO	54.27%	54.19%	54.97%	54.41%	58.80%	56.16%	53.63%	53.29%	54.97%
Mississippi Power Company	SO	43.00%	39.34%	47.32%	46.76%	49.50%	49.62%	46.78%	46.51%	46.10%
Upper Michigan Energy Resources Corporation	WEC	70.04%	49.85%	NA	NA	NA	NA	NA	NA	59.95%
Wisconsin Electric Power Company	WEC	56.47%	55.94%	55.97%	55.76%	55.58%	56.74%	57.27%	57.15%	56.36%
Wisconsin Public Service Corporation	WEC	58.35%	58.06%	55.68%	55.21%	54.02%	55.78%	55.15%	54.61%	55.86%
Northern States Power Company - MN	XEL	52.59%	52.38%	52.22%	52.78%	52.62%	52.31%	52.08%	51.86%	52.35%
Northern States Power Company - WI	XEL	53.79%	53.36%	55.57%	55.22%	55.66%	54.93%	54.89%	54.57%	54.75%
Public Service Company of Colorado	XEL	56.67%	56.50%	55.64%	54.88%	57.00%	56.32%	56.37%	55.93%	56.16%
Southwestern Public Service Company	XEL	53.54%	53.55%	52.29%	54.61%	54.48%	53.93%	50.45%	54.30%	53.39%
Mean		53.14%	52.69%	52.94%	52.84%	52.89%	52.77%	52.64%	52.44%	52.68%

Source: S&P Global Market Intelligence

Proxy Group Capital Structure

Company	Ticker	% Long-Term Debt								
		2018Q1	2017Q4	2017Q3	2017Q2	2017Q1	2016Q4	2016Q3	2016Q2	Average
ALLETE, Inc.	ALE	36.91%	37.49%	38.97%	39.38%	39.72%	40.98%	40.72%	40.92%	39.39%
Alliant Energy Corporation	LNT	50.26%	50.23%	47.91%	48.77%	49.16%	49.27%	49.32%	48.78%	49.21%
Ameren Corporation	AEE	46.96%	47.35%	46.44%	46.89%	47.23%	47.38%	46.01%	46.89%	46.89%
American Electric Power Company, Inc.	AEP	51.17%	50.62%	50.84%	50.60%	50.29%	50.10%	50.19%	50.34%	50.52%
Avangrid, Inc.	AGR	42.22%	43.18%	45.04%	44.90%	43.46%	44.14%	41.82%	42.68%	43.43%
Black Hills Corporation	BKH	46.21%	45.60%	45.25%	46.16%	46.80%	47.19%	47.27%	47.45%	46.49%
CMS Energy Corporation	CMS	46.87%	47.75%	46.75%	47.03%	47.90%	48.76%	48.70%	47.68%	47.68%
DTE Energy Company	DTE	48.88%	48.98%	49.50%	49.37%	49.50%	49.50%	49.87%	50.65%	49.53%
Duke Energy Corporation	DUK	45.54%	45.70%	46.22%	45.38%	45.63%	45.34%	45.42%	45.15%	45.55%
El Paso Electric	EE	50.54%	50.05%	50.19%	51.99%	52.52%	52.27%	52.27%	53.78%	51.70%
Hawaiian Electric Industries, Inc.	HE	41.66%	41.68%	41.89%	42.24%	42.29%	42.30%	42.00%	42.33%	42.05%
IDACORP, Inc.	IDA	48.63%	45.78%	45.78%	46.52%	46.78%	46.85%	46.85%	47.54%	46.84%
NextEra Energy, Inc.	NEE	38.77%	40.07%	37.00%	37.22%	37.95%	37.35%	38.39%	38.68%	38.18%
NorthWestern Corporation	NWE	52.52%	50.11%	51.14%	51.39%	51.39%	51.87%	52.28%	52.34%	51.63%
OGE Energy Corp.	OGE	46.41%	46.64%	46.95%	47.25%	46.54%	43.91%	43.77%	44.50%	45.74%
Otter Tail Corporation	OTTR	47.33%	42.66%	42.76%	44.69%	44.69%	44.94%	45.20%	45.85%	44.77%
Pinnacle West Capital Corporation	PNW	46.82%	46.86%	46.95%	46.68%	46.80%	45.41%	45.30%	46.87%	46.46%
PNM Resources, Inc.	PNM	53.80%	53.94%	52.42%	53.11%	53.62%	53.99%	53.93%	55.12%	53.74%
Portland General Electric Company	POR	49.86%	50.20%	49.83%	49.68%	49.72%	50.18%	50.28%	50.36%	50.01%
Southern Company	SO	50.02%	52.33%	49.86%	50.01%	48.59%	48.90%	50.15%	50.79%	50.08%
WEC Energy Group, Inc.	WEC	38.38%	45.38%	44.18%	44.52%	45.20%	43.74%	43.79%	44.12%	43.66%
Xcel Energy Inc.	XEL	45.85%	46.05%	46.07%	45.63%	45.06%	45.63%	46.55%	45.83%	45.84%
Mean		46.62%	46.76%	46.45%	46.79%	46.86%	46.82%	46.82%	47.21%	46.79%

Operating Company Capital Structure

Operating Company	Parent	% Long Term Debt								
		2018Q1	2017Q4	2017Q3	2017Q2	2017Q1	2016Q4	2016Q3	2016Q2	Average
ALLETE (Minnesota Power)	ALE	39.62%	39.96%	40.27%	40.84%	41.29%	43.08%	43.10%	43.37%	41.44%
Superior Water, Light and Power Company	ALE	34.20%	35.01%	37.67%	37.92%	38.15%	38.88%	38.35%	38.48%	37.33%
Interstate Power and Light Company	LNT	50.08%	49.69%	48.21%	49.11%	49.77%	49.76%	51.01%	49.46%	49.64%
Wisconsin Power and Light Company	LNT	50.43%	50.77%	47.61%	48.44%	48.55%	48.78%	47.62%	48.11%	48.79%
Ameren Illinois Company	AEE	45.76%	46.62%	45.02%	45.45%	45.91%	46.56%	44.18%	44.89%	45.55%
Union Electric Company	AEE	48.16%	48.08%	47.86%	48.32%	48.55%	48.20%	47.85%	48.90%	48.24%
AEP Texas Central Company	AEP	NA	NA	NA	NA	NA	53.99%	54.56%	54.99%	54.51%
AEP Texas North Company	AEP	NA	NA	NA	NA	NA	56.71%	56.83%	57.16%	56.90%
Appalachian Power Company	AEP	50.65%	51.28%	51.70%	52.15%	51.83%	53.11%	53.32%	53.59%	52.20%
Indiana Michigan Power Company	AEP	53.36%	53.67%	53.35%	53.73%	50.46%	50.89%	50.97%	51.50%	52.24%
Kentucky Power Company	AEP	55.60%	56.48%	56.78%	56.70%	56.43%	56.55%	56.48%	56.50%	56.44%
Kingsport Power Company	AEP	52.72%	53.47%	54.12%	49.42%	51.02%	34.76%	34.76%	35.66%	45.74%
Ohio Power Company	AEP	47.09%	41.37%	42.36%	43.28%	43.25%	43.49%	43.92%	45.13%	43.74%
Public Service Company of Oklahoma	AEP	51.90%	51.50%	51.15%	51.74%	51.80%	51.53%	51.48%	52.58%	51.71%
Southwestern Electric Power Company	AEP	52.28%	51.48%	51.34%	51.86%	51.67%	54.05%	53.88%	50.34%	52.11%
Wheeling Power Company	AEP	45.73%	45.74%	45.87%	45.90%	45.90%	45.88%	45.69%	45.92%	45.83%
Avangrid, Inc.	AGR	42.22%	43.18%	45.04%	44.90%	43.46%	44.14%	41.82%	42.68%	43.43%
Black Hills Colorado Electric Utility Company, LP	BKH	45.32%	44.31%	45.04%	44.99%	46.92%	47.80%	48.15%	48.61%	46.39%
Black Hills Power, Inc.	BKH	46.78%	46.51%	43.86%	46.74%	46.76%	47.12%	46.87%	46.87%	46.44%
Cheyenne Light, Fuel and Power Company	BKH	46.54%	45.99%	46.84%	46.73%	46.71%	46.65%	46.78%	46.86%	46.64%
Consumers Energy Company	CMS	46.87%	47.75%	46.75%	47.03%	47.90%	48.76%	48.70%	47.68%	47.68%
DTE Electric Company	DTE	48.88%	48.98%	49.50%	49.37%	49.50%	49.50%	49.87%	50.65%	49.53%
Duke Energy Carolinas, LLC	DUK	48.30%	47.02%	46.02%	46.51%	46.68%	47.19%	46.41%	46.16%	46.79%
Duke Energy Florida, LLC	DUK	50.08%	50.75%	50.54%	52.26%	53.05%	49.17%	49.48%	46.57%	50.24%
Duke Energy Indiana, LLC	DUK	47.46%	48.06%	48.29%	48.11%	47.85%	48.41%	48.86%	50.65%	48.46%
Duke Energy Kentucky, Inc.	DUK	46.28%	46.89%	49.31%	44.26%	44.57%	45.26%	45.13%	45.86%	45.94%
Duke Energy Ohio, Inc.	DUK	33.94%	33.76%	34.21%	34.62%	34.64%	33.61%	34.04%	34.79%	34.20%
Duke Energy Progress, LLC	DUK	47.18%	47.73%	48.94%	46.49%	47.01%	48.42%	48.63%	46.85%	47.65%
El Paso Electric Company	EE	50.54%	50.05%	50.19%	51.99%	52.52%	52.27%	52.27%	53.78%	51.70%
Hawaii Electric Light Company, Inc.	HE	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hawaiian Electric Company, Inc.	HE	41.66%	41.68%	41.89%	42.24%	42.29%	42.30%	42.00%	42.33%	42.05%
Maui Electric Company, Limited	HE	NA	NA	NA	NA	NA	NA	NA	NA	NA
Idaho Power Co.	IDA	48.63%	45.78%	45.78%	46.52%	46.78%	46.85%	46.85%	47.54%	46.84%
Florida Power & Light Company	NEE	38.77%	40.07%	37.00%	37.22%	37.95%	37.35%	38.39%	38.68%	38.18%
NorthWestern Corporation	NWE	52.52%	50.11%	51.14%	51.39%	51.39%	51.87%	52.28%	52.34%	51.63%
Otter Tail Power Company	OTTR	47.33%	42.66%	42.76%	44.69%	44.69%	44.94%	45.20%	45.85%	44.77%
Oklahoma Gas and Electric Company	OGE	46.41%	46.64%	46.95%	47.25%	46.54%	43.91%	43.77%	44.50%	45.74%
Arizona Public Service Company	PNW	46.82%	46.86%	46.95%	46.68%	46.80%	45.41%	45.30%	46.87%	46.46%
Public Service Company of New Mexico	PNM	53.80%	53.94%	52.42%	53.11%	53.62%	53.99%	53.93%	55.12%	53.74%
Portland General Electric Company	POR	49.86%	50.20%	49.83%	49.68%	49.72%	50.18%	50.28%	50.36%	50.01%
Alabama Power Company	SO	51.14%	52.93%	52.07%	52.75%	53.00%	53.03%	52.71%	53.42%	52.63%
Georgia Power Company	SO	46.19%	49.94%	49.65%	48.45%	49.64%	48.37%	48.29%	49.52%	48.76%
Gulf Power Company	SO	45.73%	45.81%	45.03%	45.59%	41.20%	43.84%	46.37%	46.71%	45.03%
Mississippi Power Company	SO	57.00%	60.66%	52.68%	53.24%	50.50%	50.38%	53.22%	53.49%	53.90%
Upper Michigan Energy Resources Corporation	WEC	29.96%	50.15%	NA	NA	NA	NA	NA	NA	40.05%
Wisconsin Electric Power Company	WEC	43.53%	44.06%	44.03%	44.24%	44.42%	43.26%	42.73%	42.85%	43.64%
Wisconsin Public Service Corporation	WEC	41.65%	41.94%	44.32%	44.79%	45.98%	44.22%	44.85%	45.39%	44.14%
Northern States Power Company - MN	XEL	47.41%	47.62%	47.78%	47.22%	47.38%	47.69%	47.92%	48.14%	47.65%
Northern States Power Company - WI	XEL	46.21%	46.64%	44.43%	44.78%	44.34%	45.07%	45.11%	45.43%	45.25%
Public Service Company of Colorado	XEL	43.33%	43.50%	44.36%	45.12%	43.00%	43.68%	43.63%	44.07%	43.84%
Southwestern Public Service Company	XEL	46.46%	46.45%	47.71%	45.39%	45.52%	46.07%	49.55%	45.70%	46.61%
Mean		46.86%	47.31%	47.06%	47.16%	47.11%	47.23%	47.36%	47.56%	47.32%

Moody's Utility Baa Bond Yield Plus Risk Premium

	[1]	[2]	[3]	[4]	[5]
	Constant	Slope	Bond Yield	Risk Premium	Return on Equity
Moody's Utility Baa Yield	-0.057	-0.035	4.45%	5.26%	9.71%

Notes:

[1] Constant of regression equation

[2] Slope of regression equation

[3] Source: Detailed Direct Testimony of Jeffrey Smith, at 16.

[4] Equals [1] + [2] x ln([3])

[5] Equals [3] + [4]

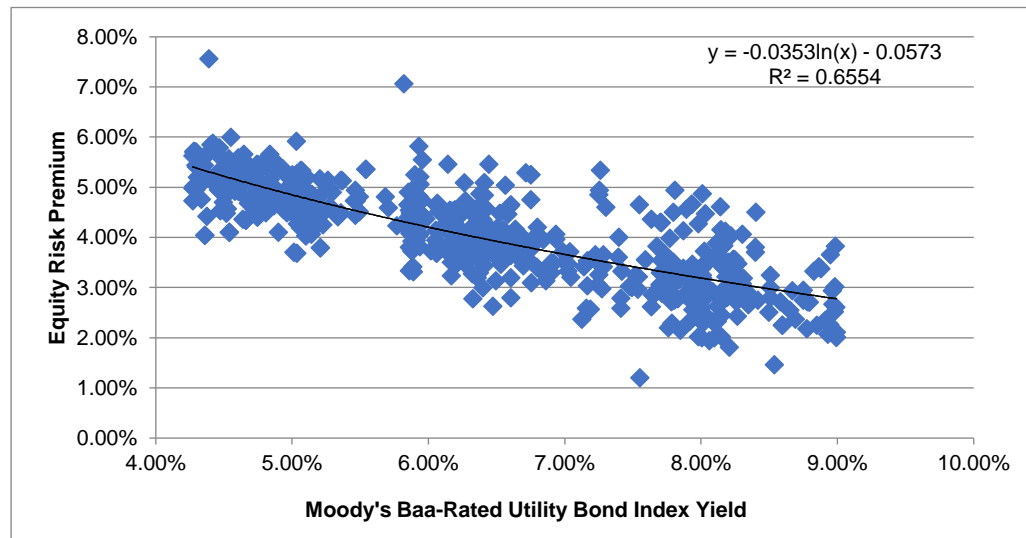
[6] Source: S&P Global Market Intelligence

[7] Source: S&P Global Market Intelligence

[8] Source: Bloomberg Professional; Note, Moody's Baa Index Yield data is only available back to 1992

Equals 200-trading day average (i.e. lag period) as of June 15, 2018

[9] Equals [7] - [8]



[6] Date of Electric Rate Case	[7] Return on Equity	[8] Moody's Utility Baa Yield	[9] Risk Premium
11/2/1993	10.80%	7.90%	2.90%
11/12/1993	12.00%	7.87%	4.13%
11/26/1993	11.00%	7.84%	3.16%
12/14/1993	10.55%	7.80%	2.75%
12/16/1993	10.60%	7.80%	2.80%
12/21/1993	11.30%	7.80%	3.50%
1/4/1994	10.07%	7.78%	2.29%
1/13/1994	11.00%	7.77%	3.23%
1/21/1994	11.00%	7.75%	3.25%
1/28/1994	11.35%	7.74%	3.61%
2/3/1994	11.40%	7.73%	3.67%
2/17/1994	10.60%	7.71%	2.89%
2/25/1994	11.25%	7.71%	3.54%
2/25/1994	12.00%	7.71%	4.29%
3/1/1994	11.00%	7.70%	3.30%
3/4/1994	11.00%	7.70%	3.30%
4/25/1994	11.00%	7.74%	3.26%
5/10/1994	11.75%	7.77%	3.98%
5/13/1994	10.50%	7.78%	2.72%
6/3/1994	11.00%	7.84%	3.16%
6/27/1994	11.40%	7.94%	3.46%
8/5/1994	12.75%	8.14%	4.61%
10/31/1994	10.00%	8.53%	1.47%
11/9/1994	10.85%	8.60%	2.25%
11/9/1994	10.85%	8.60%	2.25%
11/18/1994	11.20%	8.65%	2.55%
11/22/1994	11.60%	8.67%	2.93%
11/28/1994	11.06%	8.69%	2.37%
12/8/1994	11.50%	8.75%	2.75%
12/8/1994	11.70%	8.75%	2.95%
12/14/1994	10.95%	8.77%	2.18%
12/15/1994	11.50%	8.78%	2.72%
12/19/1994	11.50%	8.79%	2.71%
12/28/1994	12.15%	8.82%	3.33%
1/9/1995	12.28%	8.86%	3.42%
1/31/1995	11.00%	8.93%	2.07%
2/10/1995	12.60%	8.95%	3.65%
2/17/1995	11.90%	8.96%	2.94%
3/9/1995	11.50%	8.98%	2.52%
3/20/1995	12.00%	8.98%	3.02%
3/23/1995	12.81%	8.98%	3.83%
3/29/1995	11.60%	8.99%	2.61%
4/6/1995	11.10%	8.99%	2.11%
4/7/1995	11.00%	8.99%	2.01%
4/19/1995	11.00%	8.99%	2.01%
5/12/1995	11.63%	8.96%	2.67%
5/25/1995	11.20%	8.94%	2.26%
6/9/1995	11.25%	8.91%	2.34%
6/21/1995	12.25%	8.88%	3.37%
6/30/1995	11.10%	8.85%	2.25%
9/11/1995	11.30%	8.58%	2.72%
9/27/1995	11.30%	8.51%	2.79%
9/27/1995	11.50%	8.51%	2.99%
9/27/1995	11.75%	8.51%	3.24%
9/29/1995	11.00%	8.49%	2.51%
11/9/1995	11.38%	8.30%	3.08%
11/9/1995	12.36%	8.30%	4.06%
11/17/1995	11.00%	8.26%	2.74%
12/4/1995	11.35%	8.21%	3.14%
12/11/1995	11.40%	8.18%	3.22%
12/20/1995	11.60%	8.14%	3.46%
12/27/1995	12.00%	8.11%	3.89%
2/5/1996	12.25%	7.98%	4.27%
3/29/1996	10.67%	7.92%	2.75%
4/8/1996	11.00%	7.92%	3.08%
4/11/1996	12.59%	7.93%	4.66%
4/11/1996	12.59%	7.93%	4.66%
4/24/1996	11.25%	7.95%	3.30%
4/30/1996	11.00%	7.95%	3.05%
5/13/1996	11.00%	7.97%	3.03%
5/23/1996	11.25%	7.98%	3.27%
6/25/1996	11.25%	8.01%	3.24%
6/27/1996	11.20%	8.01%	3.19%
8/12/1996	10.40%	8.09%	2.31%
9/27/1996	11.00%	8.18%	2.82%
10/16/1996	12.25%	8.22%	4.03%
11/5/1996	11.00%	8.25%	2.75%
11/26/1996	11.30%	8.26%	3.04%
12/18/1996	11.75%	8.27%	3.48%
12/31/1996	11.50%	8.27%	3.23%
1/3/1997	10.70%	8.27%	2.43%
2/13/1997	11.80%	8.24%	3.56%
2/20/1997	11.80%	8.24%	3.56%

[6] Date of Electric Rate Case	[7] Return on Equity	[8] Moody's Utility Baa Yield	[9] Risk Premium
11/2/1993	10.80%	7.90%	2.90%
3/31/1997	10.02%	8.21%	1.81%
4/2/1997	11.65%	8.21%	3.44%
4/28/1997	11.50%	8.20%	3.30%
4/29/1997	11.70%	8.20%	3.50%
7/17/1997	12.00%	8.14%	3.86%
12/12/1997	11.00%	7.96%	3.04%
12/23/1997	11.12%	7.94%	3.18%
2/2/1998	12.75%	7.81%	4.94%
3/2/1998	11.25%	7.71%	3.54%
3/6/1998	10.75%	7.70%	3.05%
3/20/1998	10.50%	7.65%	2.85%
4/30/1998	12.20%	7.55%	4.65%
7/10/1998	11.40%	7.40%	4.00%
9/15/1998	11.90%	7.30%	4.60%
11/30/1998	12.60%	7.26%	5.34%
12/10/1998	12.20%	7.25%	4.95%
12/17/1998	12.10%	7.25%	4.85%
2/5/1999	10.30%	7.24%	3.06%
3/4/1999	10.50%	7.25%	3.25%
4/6/1999	10.94%	7.28%	3.66%
7/29/1999	10.75%	7.54%	3.21%
9/23/1999	10.75%	7.72%	3.03%
11/17/1999	11.10%	7.90%	3.20%
1/7/2000	11.50%	8.03%	3.47%
1/7/2000	11.50%	8.03%	3.47%
2/17/2000	10.60%	8.15%	2.45%
3/28/2000	11.25%	8.23%	3.02%
5/24/2000	11.00%	8.34%	2.66%
7/18/2000	12.20%	8.40%	3.80%
9/29/2000	11.16%	8.42%	2.74%
11/28/2000	12.90%	8.40%	4.50%
11/30/2000	12.10%	8.40%	3.70%
1/23/2001	11.25%	8.33%	2.92%
2/8/2001	11.50%	8.31%	3.19%
5/8/2001	10.75%	8.12%	2.63%
6/26/2001	11.00%	8.09%	2.91%
7/25/2001	11.02%	8.06%	2.96%
7/25/2001	11.02%	8.06%	2.96%
7/31/2001	11.00%	8.05%	2.95%
8/31/2001	10.50%	8.01%	2.49%
9/7/2001	10.75%	8.01%	2.74%
9/10/2001	11.00%	8.01%	2.99%
9/20/2001	10.00%	8.00%	2.00%
10/24/2001	10.30%	8.01%	2.29%
11/28/2001	10.60%	8.01%	2.59%
12/3/2001	12.88%	8.01%	4.87%
12/20/2001	12.50%	8.03%	4.47%
1/22/2002	10.00%	8.06%	1.94%
3/27/2002	10.10%	8.09%	2.01%
4/22/2002	11.80%	8.12%	3.68%
5/28/2002	10.17%	8.15%	2.02%
6/10/2002	12.00%	8.16%	3.84%
6/18/2002	11.16%	8.17%	2.99%
6/20/2002	11.00%	8.18%	2.82%
6/20/2002	12.30%	8.18%	4.12%
7/15/2002	11.00%	8.19%	2.81%
9/12/2002	12.30%	8.14%	4.16%
9/26/2002	10.45%	8.12%	2.33%
12/4/2002	11.55%	8.04%	3.51%
12/13/2002	11.75%	8.02%	3.73%
12/20/2002	11.40%	8.01%	3.39%
1/8/2003	11.10%	7.96%	3.14%
1/31/2003	12.45%	7.89%	4.56%
2/28/2003	12.30%	7.79%	4.51%
3/6/2003	10.75%	7.77%	2.98%
3/7/2003	9.96%	7.76%	2.20%
3/20/2003	12.00%	7.70%	4.30%
4/3/2003	12.00%	7.64%	4.36%
4/15/2003	11.15%	7.59%	3.56%
6/25/2003	10.75%	7.24%	3.51%
6/26/2003	10.75%	7.23%	3.52%
7/9/2003	9.75%	7.19%	2.56%
7/16/2003	9.75%	7.16%	2.59%
7/25/2003	9.50%	7.13%	2.37%
8/26/2003	10.50%	7.02%	3.48%
12/17/2003	9.85%	6.75%	3.10%
12/17/2003	10.70%	6.75%	3.95%
12/18/2003	11.50%	6.75%	4.75%
12/19/2003	12.00%	6.75%	5.25%
12/19/2003	12.00%	6.75%	5.25%
12/23/2003	10.50%	6.75%	3.75%
1/13/2004	12.00%	6.71%	5.29%

[6] Date of Electric Rate Case	[7] Return on Equity	[8] Moody's Utility Baa Yield	[9] Risk Premium
11/2/1993	10.80%	7.90%	2.90%
3/2/2004	10.75%	6.62%	4.13%
3/26/2004	10.25%	6.60%	3.65%
4/5/2004	11.25%	6.60%	4.65%
5/18/2004	10.50%	6.61%	3.89%
5/25/2004	10.25%	6.60%	3.65%
5/27/2004	10.25%	6.60%	3.65%
6/2/2004	11.22%	6.60%	4.62%
6/30/2004	10.50%	6.57%	3.93%
6/30/2004	10.50%	6.57%	3.93%
7/16/2004	11.60%	6.56%	5.04%
8/25/2004	10.25%	6.53%	3.72%
9/9/2004	10.40%	6.51%	3.89%
11/9/2004	10.50%	6.43%	4.07%
11/23/2004	11.00%	6.42%	4.58%
12/14/2004	10.97%	6.41%	4.56%
12/21/2004	11.25%	6.41%	4.84%
12/21/2004	11.50%	6.41%	5.09%
12/22/2004	10.70%	6.41%	4.29%
12/22/2004	11.50%	6.41%	5.09%
12/29/2004	9.85%	6.41%	3.44%
1/6/2005	10.70%	6.41%	4.29%
2/18/2005	10.30%	6.33%	3.97%
2/25/2005	10.50%	6.31%	4.19%
3/10/2005	11.00%	6.27%	4.73%
3/24/2005	10.30%	6.23%	4.07%
4/4/2005	10.00%	6.21%	3.79%
4/7/2005	10.25%	6.20%	4.05%
5/18/2005	10.25%	6.08%	4.17%
5/25/2005	10.75%	6.07%	4.68%
5/26/2005	9.75%	6.06%	3.69%
6/1/2005	9.75%	6.05%	3.70%
7/19/2005	11.50%	5.95%	5.55%
8/5/2005	11.75%	5.93%	5.82%
8/15/2005	10.13%	5.92%	4.21%
9/28/2005	10.00%	5.87%	4.13%
10/4/2005	10.75%	5.87%	4.88%
12/12/2005	11.00%	5.93%	5.07%
12/13/2005	10.75%	5.93%	4.82%
12/21/2005	10.29%	5.93%	4.36%
12/21/2005	10.40%	5.93%	4.47%
12/22/2005	11.00%	5.94%	5.06%
12/22/2005	11.15%	5.94%	5.21%
12/28/2005	10.00%	5.94%	4.06%
12/28/2005	10.00%	5.94%	4.06%
1/5/2006	11.00%	5.94%	5.06%
1/27/2006	9.75%	5.94%	3.81%
3/3/2006	10.39%	5.96%	4.43%
4/17/2006	10.20%	6.05%	4.15%
4/26/2006	10.60%	6.08%	4.52%
5/17/2006	11.60%	6.14%	5.46%
6/6/2006	10.00%	6.19%	3.81%
6/27/2006	10.75%	6.25%	4.50%
7/6/2006	10.20%	6.28%	3.92%
7/24/2006	9.60%	6.32%	3.28%
7/26/2006	10.50%	6.33%	4.17%
7/28/2006	10.05%	6.33%	3.72%
8/23/2006	9.55%	6.36%	3.19%
9/1/2006	10.54%	6.36%	4.18%
9/14/2006	10.00%	6.37%	3.63%
10/6/2006	9.67%	6.37%	3.30%
11/21/2006	10.08%	6.39%	3.69%
11/21/2006	10.08%	6.39%	3.69%
11/21/2006	10.12%	6.39%	3.73%
12/1/2006	10.25%	6.38%	3.87%
12/1/2006	10.50%	6.38%	4.12%
12/7/2006	10.75%	6.38%	4.37%
12/21/2006	10.90%	6.38%	4.52%
12/21/2006	11.25%	6.38%	4.87%
12/22/2006	10.25%	6.37%	3.88%
1/5/2007	10.00%	6.37%	3.63%
1/11/2007	10.10%	6.37%	3.73%
1/11/2007	10.10%	6.37%	3.73%
1/11/2007	10.90%	6.37%	4.53%
1/12/2007	10.10%	6.37%	3.73%
1/13/2007	10.40%	6.37%	4.03%
1/19/2007	10.80%	6.36%	4.44%
3/21/2007	11.35%	6.26%	5.09%
3/22/2007	9.75%	6.26%	3.49%
5/15/2007	10.00%	6.19%	3.81%
5/17/2007	10.25%	6.18%	4.07%
5/17/2007	10.25%	6.18%	4.07%
5/22/2007	10.20%	6.18%	4.02%

[6] Date of Electric Rate Case	[7] Return on Equity	[8] Moody's Utility Baa Yield	[9] Risk Premium
11/2/1993	10.80%	7.90%	2.90%
5/22/2007	10.50%	6.18%	4.32%
5/23/2007	10.70%	6.18%	4.52%
5/25/2007	9.67%	6.18%	3.49%
6/15/2007	9.90%	6.18%	3.72%
6/21/2007	10.20%	6.19%	4.01%
6/22/2007	10.50%	6.19%	4.31%
6/28/2007	10.75%	6.19%	4.56%
7/12/2007	9.67%	6.21%	3.46%
7/19/2007	10.00%	6.21%	3.79%
7/19/2007	10.00%	6.21%	3.79%
8/15/2007	10.40%	6.23%	4.17%
10/9/2007	10.00%	6.31%	3.69%
10/17/2007	9.10%	6.32%	2.78%
10/31/2007	9.96%	6.33%	3.63%
11/29/2007	10.90%	6.34%	4.56%
12/6/2007	10.75%	6.35%	4.40%
12/13/2007	9.96%	6.36%	3.60%
12/14/2007	10.70%	6.36%	4.34%
12/14/2007	10.80%	6.36%	4.44%
12/19/2007	10.20%	6.37%	3.83%
12/20/2007	10.20%	6.37%	3.83%
12/20/2007	11.00%	6.37%	4.63%
12/28/2007	10.25%	6.39%	3.86%
12/31/2007	11.25%	6.39%	4.86%
1/8/2008	10.75%	6.39%	4.36%
1/17/2008	10.75%	6.40%	4.35%
1/28/2008	9.40%	6.40%	3.00%
1/30/2008	10.00%	6.40%	3.60%
1/31/2008	10.71%	6.40%	4.31%
2/29/2008	10.25%	6.44%	3.81%
3/12/2008	10.25%	6.46%	3.79%
3/25/2008	9.10%	6.47%	2.63%
4/22/2008	10.25%	6.49%	3.76%
4/24/2008	10.10%	6.50%	3.60%
5/1/2008	10.70%	6.50%	4.20%
5/19/2008	11.00%	6.52%	4.48%
5/27/2008	10.00%	6.53%	3.47%
6/10/2008	10.70%	6.55%	4.15%
6/27/2008	10.50%	6.58%	3.92%
6/27/2008	11.04%	6.58%	4.46%
7/10/2008	10.43%	6.60%	3.83%
7/16/2008	9.40%	6.60%	2.80%
7/30/2008	10.80%	6.64%	4.16%
7/31/2008	10.70%	6.64%	4.06%
8/11/2008	10.25%	6.66%	3.59%
8/26/2008	10.18%	6.70%	3.48%
9/10/2008	10.30%	6.73%	3.57%
9/24/2008	10.65%	6.77%	3.88%
9/24/2008	10.65%	6.77%	3.88%
9/24/2008	10.65%	6.77%	3.88%
9/30/2008	10.20%	6.79%	3.41%
10/8/2008	10.15%	6.83%	3.32%
11/13/2008	10.55%	7.14%	3.41%
11/17/2008	10.20%	7.16%	3.04%
12/1/2008	10.25%	7.27%	2.98%
12/23/2008	11.00%	7.39%	3.61%
12/29/2008	10.00%	7.41%	2.59%
12/29/2008	10.20%	7.41%	2.79%
12/31/2008	10.75%	7.42%	3.33%
1/14/2009	10.50%	7.47%	3.03%
1/21/2009	10.50%	7.49%	3.01%
1/21/2009	10.50%	7.49%	3.01%
1/21/2009	10.50%	7.49%	3.01%
1/27/2009	10.76%	7.52%	3.24%
1/30/2009	10.50%	7.53%	2.97%
2/4/2009	8.75%	7.55%	1.20%
3/4/2009	10.50%	7.64%	2.86%
3/12/2009	11.50%	7.67%	3.83%
4/2/2009	11.10%	7.76%	3.34%
4/21/2009	10.61%	7.83%	2.78%
4/24/2009	10.00%	7.85%	2.15%
4/30/2009	11.25%	7.87%	3.38%
5/4/2009	10.74%	7.88%	2.86%
5/20/2009	10.25%	7.92%	2.33%
5/28/2009	10.50%	7.94%	2.56%
6/22/2009	10.00%	7.98%	2.02%
6/24/2009	10.80%	7.98%	2.82%
7/8/2009	10.63%	7.98%	2.65%
7/17/2009	10.50%	7.96%	2.54%
8/31/2009	10.25%	7.63%	2.62%
10/14/2009	10.70%	7.28%	3.42%
10/23/2009	10.88%	7.22%	3.66%

[6] Date of Electric Rate Case	[7] Return on Equity	[8] Moody's Utility Baa Yield	[9] Risk Premium
11/2/1993	10.80%	7.90%	2.90%
11/2/2009	10.70%	7.17%	3.53%
11/3/2009	10.70%	7.17%	3.53%
11/24/2009	10.25%	7.05%	3.20%
11/25/2009	10.75%	7.04%	3.71%
11/30/2009	10.35%	7.02%	3.33%
12/3/2009	10.50%	7.00%	3.50%
12/7/2009	10.70%	6.98%	3.72%
12/16/2009	10.90%	6.93%	3.97%
12/16/2009	11.00%	6.93%	4.07%
12/18/2009	10.40%	6.92%	3.48%
12/18/2009	10.40%	6.92%	3.48%
12/22/2009	10.20%	6.90%	3.30%
12/22/2009	10.40%	6.90%	3.50%
12/22/2009	10.40%	6.90%	3.50%
12/30/2009	10.00%	6.86%	3.14%
1/4/2010	10.80%	6.84%	3.96%
1/11/2010	11.00%	6.80%	4.20%
1/26/2010	10.13%	6.70%	3.43%
1/27/2010	10.40%	6.69%	3.71%
1/27/2010	10.40%	6.69%	3.71%
1/27/2010	10.70%	6.69%	4.01%
2/9/2010	9.80%	6.60%	3.20%
2/18/2010	10.60%	6.55%	4.05%
2/24/2010	10.18%	6.52%	3.66%
3/2/2010	9.63%	6.49%	3.14%
3/4/2010	10.50%	6.48%	4.02%
3/5/2010	10.50%	6.47%	4.03%
3/11/2010	11.90%	6.44%	5.46%
3/17/2010	10.00%	6.41%	3.59%
3/25/2010	10.15%	6.37%	3.78%
4/2/2010	10.10%	6.33%	3.77%
4/27/2010	10.00%	6.26%	3.74%
4/29/2010	9.90%	6.25%	3.65%
4/29/2010	10.06%	6.25%	3.81%
4/29/2010	10.26%	6.25%	4.01%
5/12/2010	10.30%	6.21%	4.09%
5/12/2010	10.30%	6.21%	4.09%
5/28/2010	10.10%	6.17%	3.93%
5/28/2010	10.20%	6.17%	4.03%
6/7/2010	10.30%	6.17%	4.13%
6/16/2010	10.00%	6.17%	3.83%
6/28/2010	9.67%	6.17%	3.50%
6/28/2010	10.50%	6.17%	4.33%
6/30/2010	9.40%	6.17%	3.23%
7/1/2010	10.25%	6.17%	4.08%
7/15/2010	10.53%	6.16%	4.37%
7/15/2010	10.70%	6.16%	4.54%
7/30/2010	10.70%	6.16%	4.54%
8/4/2010	10.50%	6.15%	4.35%
8/6/2010	9.83%	6.15%	3.68%
8/25/2010	9.90%	6.10%	3.80%
9/3/2010	10.60%	6.07%	4.53%
9/14/2010	10.70%	6.06%	4.64%
9/16/2010	10.00%	6.05%	3.95%
9/16/2010	10.00%	6.05%	3.95%
9/30/2010	9.75%	6.02%	3.73%
10/14/2010	10.35%	5.98%	4.37%
10/28/2010	10.70%	5.95%	4.75%
11/2/2010	10.38%	5.95%	4.43%
11/4/2010	10.70%	5.94%	4.76%
11/19/2010	10.20%	5.93%	4.27%
11/22/2010	10.00%	5.93%	4.07%
12/1/2010	10.13%	5.92%	4.21%
12/6/2010	9.86%	5.91%	3.95%
12/9/2010	10.25%	5.91%	4.34%
12/13/2010	10.70%	5.91%	4.79%
12/14/2010	10.13%	5.91%	4.22%
12/15/2010	10.44%	5.91%	4.53%
12/17/2010	10.00%	5.91%	4.09%
12/20/2010	10.60%	5.91%	4.69%
12/21/2010	10.30%	5.90%	4.40%
12/27/2010	9.90%	5.90%	4.00%
12/29/2010	11.15%	5.90%	5.25%
1/5/2011	10.15%	5.90%	4.25%
1/12/2011	10.30%	5.89%	4.41%
1/13/2011	10.30%	5.89%	4.41%
1/18/2011	10.00%	5.89%	4.11%
1/20/2011	9.30%	5.88%	3.42%
1/20/2011	10.13%	5.88%	4.25%
1/31/2011	9.60%	5.88%	3.72%
2/3/2011	10.00%	5.88%	4.12%
2/25/2011	10.00%	5.89%	4.11%

[6] Date of Electric Rate Case	[7] Return on Equity	[8] Moody's Utility Baa Yield	[9] Risk Premium
11/2/1993	10.80%	7.90%	2.90%
3/25/2011	9.80%	5.88%	3.92%
3/30/2011	10.00%	5.87%	4.13%
4/12/2011	10.00%	5.86%	4.14%
4/25/2011	10.74%	5.86%	4.88%
4/26/2011	9.67%	5.86%	3.81%
4/27/2011	10.40%	5.86%	4.54%
5/4/2011	10.00%	5.85%	4.15%
5/4/2011	10.00%	5.85%	4.15%
5/24/2011	10.50%	5.85%	4.65%
6/8/2011	10.75%	5.85%	4.90%
6/16/2011	9.20%	5.86%	3.34%
6/17/2011	9.95%	5.86%	4.09%
7/13/2011	10.20%	5.88%	4.32%
8/1/2011	9.20%	5.89%	3.31%
8/8/2011	10.00%	5.88%	4.12%
8/11/2011	10.00%	5.87%	4.13%
8/12/2011	10.35%	5.87%	4.48%
8/19/2011	10.25%	5.85%	4.40%
9/2/2011	12.88%	5.82%	7.06%
9/22/2011	10.00%	5.77%	4.23%
10/12/2011	10.30%	5.71%	4.59%
10/20/2011	10.50%	5.68%	4.82%
11/30/2011	10.90%	5.54%	5.36%
11/30/2011	10.90%	5.54%	5.36%
12/14/2011	10.00%	5.49%	4.51%
12/14/2011	10.30%	5.49%	4.81%
12/20/2011	10.20%	5.47%	4.73%
12/21/2011	10.20%	5.47%	4.73%
12/22/2011	9.90%	5.46%	4.44%
12/22/2011	10.40%	5.46%	4.94%
12/23/2011	10.19%	5.46%	4.73%
1/25/2012	10.50%	5.37%	5.13%
1/27/2012	10.50%	5.36%	5.14%
2/15/2012	10.20%	5.30%	4.90%
2/23/2012	9.90%	5.28%	4.62%
2/27/2012	10.25%	5.27%	4.98%
2/29/2012	10.40%	5.26%	5.14%
3/29/2012	10.37%	5.20%	5.17%
4/4/2012	10.00%	5.19%	4.81%
4/26/2012	10.00%	5.14%	4.86%
5/2/2012	10.00%	5.13%	4.87%
5/7/2012	9.80%	5.12%	4.68%
5/15/2012	10.00%	5.10%	4.90%
5/29/2012	10.05%	5.08%	4.97%
6/7/2012	10.30%	5.07%	5.23%
6/14/2012	9.40%	5.07%	4.33%
6/15/2012	10.40%	5.06%	5.34%
6/18/2012	9.60%	5.06%	4.54%
6/19/2012	9.25%	5.06%	4.19%
6/26/2012	10.10%	5.06%	5.04%
6/29/2012	10.00%	5.05%	4.95%
7/9/2012	10.20%	5.05%	5.15%
7/16/2012	9.80%	5.04%	4.76%
7/20/2012	9.31%	5.04%	4.27%
7/20/2012	9.81%	5.04%	4.77%
9/13/2012	9.80%	4.99%	4.81%
9/19/2012	9.80%	4.99%	4.81%
9/19/2012	10.05%	4.99%	5.06%
9/26/2012	9.50%	4.98%	4.52%
10/12/2012	9.60%	4.96%	4.64%
10/23/2012	9.75%	4.94%	4.82%
10/24/2012	10.30%	4.93%	5.37%
11/9/2012	10.30%	4.90%	5.40%
11/28/2012	10.40%	4.86%	5.54%
11/29/2012	9.75%	4.86%	4.89%
11/29/2012	9.88%	4.86%	5.02%
12/5/2012	9.71%	4.85%	4.86%
12/5/2012	10.40%	4.85%	5.55%
12/12/2012	9.80%	4.84%	4.96%
12/13/2012	9.50%	4.84%	4.66%
12/13/2012	10.50%	4.84%	5.66%
12/14/2012	10.40%	4.83%	5.57%
12/19/2012	9.71%	4.83%	4.88%
12/19/2012	10.25%	4.83%	5.42%
12/20/2012	9.50%	4.83%	4.67%
12/20/2012	9.80%	4.83%	4.97%
12/20/2012	10.25%	4.83%	5.42%
12/20/2012	10.25%	4.83%	5.42%
12/20/2012	10.30%	4.83%	5.47%
12/20/2012	10.40%	4.83%	5.57%
12/20/2012	10.45%	4.83%	5.62%
12/21/2012	10.20%	4.82%	5.38%

[6] Date of Electric Rate Case	[7] Return on Equity	[8] Moody's Utility Baa Yield	[9] Risk Premium
11/2/1993	10.80%	7.90%	2.90%
12/26/2012	9.80%	4.82%	4.98%
1/9/2013	9.70%	4.79%	4.91%
1/9/2013	9.70%	4.79%	4.91%
1/9/2013	9.70%	4.79%	4.91%
1/16/2013	9.60%	4.78%	4.82%
1/16/2013	9.60%	4.78%	4.82%
2/13/2013	10.20%	4.74%	5.46%
2/22/2013	9.75%	4.73%	5.02%
2/27/2013	10.00%	4.73%	5.27%
3/14/2013	9.30%	4.72%	4.58%
3/27/2013	9.80%	4.71%	5.09%
5/1/2013	9.84%	4.66%	5.18%
5/15/2013	10.30%	4.64%	5.66%
5/30/2013	10.20%	4.64%	5.56%
5/31/2013	9.00%	4.64%	4.36%
6/11/2013	10.00%	4.64%	5.36%
6/21/2013	9.75%	4.65%	5.10%
6/25/2013	9.80%	4.65%	5.15%
7/12/2013	9.36%	4.68%	4.68%
8/8/2013	9.83%	4.73%	5.10%
8/14/2013	9.15%	4.75%	4.40%
9/11/2013	10.20%	4.83%	5.37%
9/11/2013	10.25%	4.83%	5.42%
9/24/2013	10.20%	4.87%	5.33%
10/3/2013	9.65%	4.89%	4.76%
11/6/2013	10.20%	4.96%	5.24%
11/21/2013	10.00%	4.98%	5.02%
11/26/2013	10.00%	4.99%	5.01%
12/3/2013	10.25%	5.00%	5.25%
12/4/2013	9.50%	5.00%	4.50%
12/5/2013	10.20%	5.01%	5.19%
12/9/2013	8.72%	5.01%	3.71%
12/9/2013	9.75%	5.01%	4.74%
12/13/2013	9.75%	5.02%	4.73%
12/16/2013	9.95%	5.03%	4.92%
12/16/2013	9.95%	5.03%	4.92%
12/16/2013	10.12%	5.03%	5.09%
12/17/2013	9.50%	5.03%	4.47%
12/17/2013	10.95%	5.03%	5.92%
12/18/2013	8.72%	5.03%	3.69%
12/18/2013	9.80%	5.03%	4.77%
12/19/2013	10.15%	5.04%	5.11%
12/30/2013	9.50%	5.05%	4.45%
2/20/2014	9.20%	5.14%	4.06%
2/26/2014	9.75%	5.15%	4.60%
3/17/2014	9.55%	5.17%	4.38%
3/26/2014	9.40%	5.17%	4.23%
3/26/2014	9.96%	5.17%	4.79%
4/2/2014	9.70%	5.17%	4.53%
5/16/2014	9.80%	5.11%	4.69%
5/30/2014	9.70%	5.08%	4.62%
6/6/2014	10.40%	5.07%	5.33%
6/30/2014	9.55%	5.02%	4.53%
7/2/2014	9.62%	5.02%	4.60%
7/10/2014	9.95%	5.00%	4.95%
7/23/2014	9.75%	4.97%	4.78%
7/29/2014	9.45%	4.96%	4.49%
7/31/2014	9.90%	4.95%	4.95%
8/20/2014	9.75%	4.92%	4.83%
8/25/2014	9.60%	4.91%	4.69%
8/29/2014	9.80%	4.90%	4.90%
9/11/2014	9.60%	4.88%	4.72%
9/15/2014	10.25%	4.88%	5.37%
10/9/2014	9.80%	4.83%	4.97%
11/6/2014	9.56%	4.79%	4.78%
11/6/2014	10.20%	4.79%	5.42%
11/14/2014	10.20%	4.78%	5.42%
11/26/2014	9.70%	4.77%	4.93%
11/26/2014	10.20%	4.77%	5.43%
12/4/2014	9.68%	4.76%	4.92%
12/10/2014	9.25%	4.75%	4.50%
12/10/2014	9.25%	4.75%	4.50%
12/11/2014	10.07%	4.75%	5.32%
12/12/2014	10.20%	4.75%	5.45%
12/17/2014	9.17%	4.75%	4.42%
12/18/2014	9.83%	4.75%	5.08%
1/23/2015	9.50%	4.69%	4.81%
2/24/2015	9.83%	4.65%	5.18%
3/18/2015	9.75%	4.64%	5.11%
3/25/2015	9.50%	4.63%	4.87%
3/26/2015	9.72%	4.63%	5.09%
4/23/2015	10.20%	4.61%	5.59%

[6] Date of Electric Rate Case	[7] Return on Equity	[8] Moody's Utility Baa Yield	[9] Risk Premium
11/2/1993	10.80%	7.90%	2.90%
4/29/2015	9.53%	4.60%	4.93%
5/1/2015	9.60%	4.60%	5.00%
5/26/2015	9.75%	4.63%	5.12%
6/17/2015	9.00%	4.66%	4.34%
6/17/2015	9.00%	4.66%	4.34%
9/2/2015	9.50%	4.79%	4.71%
9/10/2015	9.30%	4.81%	4.49%
10/15/2015	9.00%	4.90%	4.10%
11/19/2015	10.00%	5.03%	4.97%
11/19/2015	10.30%	5.03%	5.27%
12/3/2015	10.00%	5.08%	4.92%
12/9/2015	9.14%	5.10%	4.04%
12/9/2015	9.14%	5.10%	4.04%
12/11/2015	10.30%	5.11%	5.19%
12/15/2015	9.60%	5.12%	4.48%
12/17/2015	9.70%	5.13%	4.57%
12/18/2015	9.50%	5.14%	4.36%
12/30/2015	9.50%	5.17%	4.33%
1/6/2016	9.50%	5.20%	4.30%
2/23/2016	9.75%	5.33%	4.42%
3/16/2016	9.85%	5.36%	4.49%
4/29/2016	9.80%	5.31%	4.49%
6/3/2016	9.75%	5.24%	4.51%
6/8/2016	9.48%	5.23%	4.25%
6/15/2016	9.00%	5.20%	3.80%
6/15/2016	9.00%	5.20%	3.80%
7/18/2016	9.98%	5.08%	4.90%
8/9/2016	9.85%	4.98%	4.87%
8/18/2016	9.50%	4.94%	4.56%
8/24/2016	9.75%	4.91%	4.84%
9/1/2016	9.50%	4.87%	4.63%
9/8/2016	10.00%	4.84%	5.16%
9/28/2016	9.58%	4.75%	4.83%
9/30/2016	9.90%	4.74%	5.16%
11/9/2016	9.80%	4.58%	5.22%
11/10/2016	9.50%	4.58%	4.92%
11/15/2016	9.55%	4.57%	4.98%
11/18/2016	10.00%	4.56%	5.44%
11/29/2016	10.55%	4.55%	6.00%
12/1/2016	10.00%	4.55%	5.45%
12/6/2016	8.64%	4.54%	4.10%
12/6/2016	8.64%	4.54%	4.10%
12/7/2016	10.10%	4.53%	5.57%
12/12/2016	9.60%	4.53%	5.07%
12/14/2016	9.10%	4.52%	4.58%
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12/19/2016	9.37%	4.52%	4.85%
12/22/2016	9.60%	4.51%	5.09%
12/22/2016	9.90%	4.51%	5.39%
12/28/2016	9.50%	4.50%	5.00%
1/18/2017	9.45%	4.48%	4.97%
1/24/2017	9.00%	4.47%	4.53%
1/31/2017	10.10%	4.47%	5.63%
2/15/2017	9.60%	4.46%	5.14%
2/22/2017	9.60%	4.46%	5.14%
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2/28/2017	10.10%	4.46%	5.64%
3/2/2017	9.41%	4.46%	4.95%
3/20/2017	9.50%	4.46%	5.04%
4/4/2017	10.25%	4.46%	5.79%
4/12/2017	9.40%	4.47%	4.93%
4/20/2017	9.50%	4.47%	5.03%
5/3/2017	9.50%	4.48%	5.02%
5/11/2017	9.20%	4.50%	4.70%
5/18/2017	9.50%	4.50%	5.00%
5/23/2017	9.70%	4.51%	5.19%
6/16/2017	9.65%	4.52%	5.13%
6/22/2017	9.70%	4.52%	5.18%
6/22/2017	9.70%	4.52%	5.18%
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9/28/2017	9.80%	4.47%	5.33%
10/20/2017	9.50%	4.42%	5.08%
10/26/2017	10.20%	4.42%	5.78%
10/26/2017	10.25%	4.42%	5.83%
10/26/2017	10.30%	4.42%	5.88%
11/6/2017	10.25%	4.40%	5.85%
11/15/2017	11.95%	4.39%	7.56%
11/30/2017	10.00%	4.37%	5.63%
11/30/2017	10.00%	4.37%	5.63%
12/5/2017	9.50%	4.36%	5.14%

[6] Date of Electric Rate Case	[7] Return on Equity	[8] Moody's Utility Baa Yield	[9] Risk Premium
11/2/1993	10.80%	7.90%	2.90%
12/6/2017	8.40%	4.36%	4.04%
12/6/2017	8.40%	4.36%	4.04%
12/7/2017	9.80%	4.36%	5.44%
12/14/2017	9.60%	4.35%	5.25%
12/14/2017	9.65%	4.35%	5.30%
12/18/2017	9.50%	4.34%	5.16%
12/20/2017	9.58%	4.34%	5.24%
12/21/2017	9.10%	4.33%	4.77%
12/28/2017	9.50%	4.32%	5.18%
12/29/2017	9.51%	4.32%	5.19%
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3/12/2018	9.25%	4.27%	4.98%
3/15/2018	9.00%	4.27%	4.73%
3/29/2018	10.00%	4.28%	5.72%
4/12/2018	9.90%	4.29%	5.61%
4/13/2018	9.73%	4.29%	5.44%
4/18/2018	9.25%	4.29%	4.96%
4/18/2018	10.00%	4.29%	5.71%
4/26/2018	9.50%	4.30%	5.20%
5/30/2018	9.95%	4.35%	5.60%
5/31/2018	9.50%	4.35%	5.15%
6/14/2018	8.80%	4.37%	4.43%
Average:			4.15%
Number of Cases:			682

Monthly Historical Market Risk Premium Regression Analysis

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.130952
R Square	0.017148
Adjusted R Square	0.015345
Standard Error	0.212591
Observations	1093

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	2	0.859516	0.429758	9.508973	0.000081
Residual	1090	49.262561	0.045195		
Total	1092	50.122077			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	0.135738	0.019582	6.931733	0.000000	0.097315	0.174161
Risk Free Rate (Rf)	-0.921500	0.257667	-3.576325	0.000364	-1.427079	-0.415921
Time	-0.000001	0.000001	-0.872613	0.383066	-0.000002	0.000001

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.128304
R Square	0.016462
Adjusted R Square	0.015560
Standard Error	0.212568
Observations	1093

Risk-free rate 3.80% Source: Schedule MPG-20.
 Implied MRP 8.50%
 Market Return 12.30%
 Beta Coefficient 0.70 Source: Schedule MPG-19.
 Implied CAPM Result 9.75%

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	0.825102	0.825102	18.260485	0.000021
Residual	1091	49.296975	0.045185		
Total	1092	50.122077			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	0.123396	0.013542	9.112211	0.000000	0.096825	0.149967
Risk Free Rate (Rf)	-1.010669	0.236512	-4.273229	0.000021	-1.474739	-0.546600

Source: Duff & Phelps, 2018 SBBI, Appendix A-1 and A-7.

Ibbotson Historical MRP and Risk-Free rate

Month	MRP	Risk Free Rate (Rf)	Time
Dec-26	0.0801	0.0360	9832
Jan-27	0.0585	0.0360	9863
Feb-27	0.1671	0.0324	9894
Mar-27	0.2489	0.0348	9922
Apr-27	0.2448	0.0324	9953
May-27	0.2973	0.0336	9983
Jun-27	0.2318	0.0324	10014
Jul-27	0.2549	0.0324	10044
Aug-27	0.2860	0.0348	10075
Sep-27	0.3139	0.0324	10106
Oct-27	0.2825	0.0336	10136
Nov-27	0.3313	0.0324	10167
Dec-27	0.3424	0.0324	10197
Jan-28	0.3638	0.0324	10228
Feb-28	0.2785	0.0300	10259
Mar-28	0.4077	0.0324	10288
Apr-28	0.4292	0.0312	10319
May-28	0.3715	0.0324	10349
Jun-28	0.3266	0.0324	10380
Jul-28	0.2592	0.0324	10410
Aug-28	0.2922	0.0348	10441
Sep-28	0.2703	0.0324	10472
Oct-28	0.3586	0.0360	10502
Nov-28	0.4365	0.0324	10533
Dec-28	0.4013	0.0348	10563
Jan-29	0.4911	0.0348	10594
Feb-29	0.5099	0.0324	10625
Mar-29	0.3540	0.0336	10653
Apr-29	0.3242	0.0408	10684
May-29	0.2541	0.0360	10714
Jun-29	0.4600	0.0348	10745
Jul-29	0.5050	0.0384	10775
Aug-29	0.5395	0.0360	10806
Sep-29	0.4243	0.0384	10837
Oct-29	0.1175	0.0372	10867
Nov-29	-0.1360	0.0312	10898
Dec-29	-0.1213	0.0372	10928
Jan-30	-0.1140	0.0348	10959
Feb-30	-0.0848	0.0312	10990
Mar-30	-0.0103	0.0348	11018
Apr-30	-0.0337	0.0324	11049
May-30	-0.0061	0.0324	11079
Jun-30	-0.2633	0.0348	11110
Jul-30	-0.2683	0.0336	11140
Aug-30	-0.3275	0.0312	11171
Sep-30	-0.3906	0.0348	11202
Oct-30	-0.2985	0.0324	11232
Nov-30	-0.2003	0.0312	11263
Dec-30	-0.2826	0.0336	11293
Jan-31	-0.2922	0.0336	11324
Feb-31	-0.2223	0.0312	11355
Mar-31	-0.3372	0.0348	11383
Apr-31	-0.3949	0.0324	11414
May-31	-0.4698	0.0312	11444
Jun-31	-0.2681	0.0336	11475
Jul-31	-0.3485	0.0324	11505
Aug-31	-0.3458	0.0324	11536
Sep-31	-0.4790	0.0324	11567
Oct-31	-0.3754	0.0348	11597
Nov-31	-0.4250	0.0372	11628
Dec-31	-0.4719	0.0384	11658
Jan-32	-0.5136	0.0384	11689
Feb-32	-0.5428	0.0384	11720

Ibbotson Historical MRP and Risk-Free rate

Month	MRP	Risk Free Rate (Rf)	Time
Mar-32	-0.5673	0.0372	11749
Apr-32	-0.6211	0.0360	11780
May-32	-0.6623	0.0336	11810
Jun-32	-0.7093	0.0336	11841
Jul-32	-0.5506	0.0336	11871
Aug-32	-0.3758	0.0336	11902
Sep-32	-0.1274	0.0312	11933
Oct-32	-0.3148	0.0324	11963
Nov-32	-0.2839	0.0312	11994
Dec-32	-0.1144	0.0324	12024
Jan-33	-0.0806	0.0324	12055
Feb-33	-0.2867	0.0276	12086
Mar-33	-0.1649	0.0324	12114
Apr-33	0.5153	0.0300	12145
May-33	1.2798	0.0336	12175
Jun-33	1.5988	0.0300	12206
Jul-33	0.7076	0.0312	12236
Aug-33	0.3737	0.0312	12267
Sep-33	0.2626	0.0300	12298
Oct-33	0.3352	0.0312	12328
Nov-33	0.5566	0.0300	12359
Dec-33	0.5061	0.0336	12389
Jan-34	0.6548	0.0348	12420
Feb-34	0.9585	0.0288	12451
Mar-34	0.8872	0.0324	12479
Apr-34	0.2827	0.0300	12510
May-34	0.0109	0.0300	12540
Jun-34	-0.0897	0.0288	12571
Jul-34	-0.1174	0.0288	12601
Aug-34	-0.1658	0.0288	12632
Sep-34	-0.0592	0.0276	12663
Oct-34	-0.0038	0.0324	12693
Nov-34	-0.0185	0.0300	12724
Dec-34	-0.0444	0.0300	12754
Jan-35	-0.1762	0.0300	12785
Feb-35	-0.1731	0.0252	12816
Mar-35	-0.1986	0.0264	12844
Apr-35	-0.0953	0.0276	12875
May-35	0.0199	0.0276	12905
Jun-35	0.0692	0.0264	12936
Jul-35	0.3117	0.0288	12966
Aug-35	0.2711	0.0276	12997
Sep-35	0.3087	0.0276	13028
Oct-35	0.4550	0.0276	13058
Nov-35	0.3904	0.0288	13089
Dec-35	0.4478	0.0288	13119
Jan-36	0.6142	0.0288	13150
Feb-36	0.7115	0.0276	13181
Mar-36	0.8095	0.0288	13210
Apr-36	0.5221	0.0264	13241
May-36	0.5423	0.0264	13271
Jun-36	0.4863	0.0288	13302
Jul-36	0.4667	0.0276	13332
Aug-36	0.4479	0.0276	13363
Sep-36	0.4179	0.0252	13394
Oct-36	0.4153	0.0276	13424
Nov-36	0.3696	0.0264	13455
Dec-36	0.3128	0.0264	13485
Jan-37	0.2789	0.0252	13516
Feb-37	0.2759	0.0240	13547
Mar-37	0.2298	0.0264	13575
Apr-37	0.2207	0.0276	13606
May-37	0.1546	0.0264	13636

Ibbotson Historical MRP and Risk-Free rate

Month	MRP	Risk Free Rate (Rf)	Time
Jun-37	0.0553	0.0300	13667
Jul-37	0.0914	0.0288	13697
Aug-37	0.0226	0.0276	13728
Sep-37	-0.1275	0.0276	13759
Oct-37	-0.2742	0.0276	13789
Nov-37	-0.3497	0.0288	13820
Dec-37	-0.3778	0.0276	13850
Jan-38	-0.3927	0.0276	13881
Feb-38	-0.3602	0.0252	13912
Mar-38	-0.5241	0.0276	13940
Apr-38	-0.3993	0.0264	13971
May-38	-0.4186	0.0264	14001
Jun-38	-0.2249	0.0252	14032
Jul-38	-0.2467	0.0252	14062
Aug-38	-0.2269	0.0264	14093
Sep-38	-0.0798	0.0252	14124
Oct-38	0.1032	0.0264	14154
Nov-38	0.1777	0.0252	14185
Dec-38	0.2850	0.0264	14215
Jan-39	0.1795	0.0252	14246
Feb-39	0.1498	0.0228	14277
Mar-39	0.3266	0.0252	14305
Apr-39	0.1549	0.0228	14336
May-39	0.2832	0.0240	14366
Jun-39	-0.0401	0.0216	14397
Jul-39	-0.0083	0.0228	14427
Aug-39	-0.0509	0.0216	14458
Sep-39	0.0918	0.0228	14489
Oct-39	-0.0060	0.0276	14519
Nov-39	-0.0155	0.0240	14550
Dec-39	-0.0270	0.0228	14580
Jan-40	0.0079	0.0240	14611
Feb-40	-0.0153	0.0216	14642
Mar-40	0.1535	0.0228	14671
Apr-40	0.1551	0.0216	14702
May-40	-0.1774	0.0228	14732
Jun-40	-0.0495	0.0228	14763
Jul-40	-0.1176	0.0240	14793
Aug-40	-0.0197	0.0228	14824
Sep-40	-0.1517	0.0216	14855
Oct-40	-0.1037	0.0216	14885
Nov-40	-0.0959	0.0216	14916
Dec-40	-0.1182	0.0204	14946
Jan-41	-0.1288	0.0192	14977
Feb-41	-0.1458	0.0192	15008
Mar-41	-0.1528	0.0216	15036
Apr-41	-0.2028	0.0204	15067
May-41	0.0593	0.0204	15097
Jun-41	0.0375	0.0192	15128
Jul-41	0.0618	0.0192	15158
Aug-41	0.0263	0.0192	15189
Sep-41	0.0065	0.0192	15220
Oct-41	-0.0997	0.0192	15250
Nov-41	-0.0942	0.0168	15281
Dec-41	-0.1350	0.0192	15311
Jan-42	-0.0831	0.0252	15342
Feb-42	-0.0901	0.0228	15373
Mar-42	-0.1595	0.0252	15401
Apr-42	-0.1386	0.0240	15432
May-42	-0.0841	0.0228	15462
Jun-42	-0.1182	0.0252	15493
Jul-42	-0.1389	0.0252	15523
Aug-42	-0.1253	0.0252	15554

Ibbotson Historical MRP and Risk-Free rate

Month	MRP	Risk Free Rate (Rf)	Time
Sep-42	-0.0917	0.0240	15585
Oct-42	0.0403	0.0252	15615
Nov-42	0.0704	0.0240	15646
Dec-42	0.1783	0.0252	15676
Jan-43	0.2477	0.0240	15707
Feb-43	0.3448	0.0228	15738
Mar-43	0.5175	0.0252	15766
Apr-43	0.5884	0.0240	15797
May-43	0.5532	0.0228	15827
Jun-43	0.5511	0.0252	15858
Jul-43	0.4195	0.0252	15888
Aug-43	0.4205	0.0252	15919
Sep-43	0.4179	0.0240	15950
Oct-43	0.3117	0.0240	15980
Nov-43	0.2258	0.0252	16011
Dec-43	0.2339	0.0252	16041
Jan-44	0.1675	0.0252	16072
Feb-44	0.1077	0.0240	16103
Mar-44	0.0690	0.0252	16132
Apr-44	0.0554	0.0240	16163
May-44	0.0482	0.0264	16193
Jun-44	0.0843	0.0240	16224
Jul-44	0.1220	0.0252	16254
Aug-44	0.1205	0.0252	16285
Sep-44	0.0914	0.0240	16316
Oct-44	0.1050	0.0252	16346
Nov-44	0.2013	0.0240	16377
Dec-44	0.1733	0.0240	16407
Jan-45	0.1706	0.0252	16438
Feb-45	0.2505	0.0216	16469
Mar-45	0.1687	0.0240	16497
Apr-45	0.2907	0.0228	16528
May-45	0.2519	0.0228	16558
Jun-45	0.1854	0.0228	16589
Jul-45	0.1882	0.0216	16619
Aug-45	0.2447	0.0228	16650
Sep-45	0.3024	0.0216	16681
Oct-45	0.3407	0.0228	16711
Nov-45	0.3773	0.0216	16742
Dec-45	0.3425	0.0216	16772
Jan-46	0.4184	0.0204	16803
Feb-46	0.2425	0.0180	16834
Mar-46	0.3627	0.0192	16862
Apr-46	0.2970	0.0204	16893
May-46	0.3078	0.0216	16923
Jun-46	0.2619	0.0192	16954
Jul-46	0.2506	0.0228	16984
Aug-46	0.0957	0.0204	17015
Sep-46	-0.0590	0.0216	17046
Oct-46	-0.0958	0.0228	17076
Nov-46	-0.1323	0.0216	17107
Dec-46	-0.1035	0.0228	17137
Jan-47	-0.1417	0.0216	17168
Feb-47	-0.0863	0.0192	17199
Mar-47	-0.1447	0.0216	17227
Apr-47	-0.2073	0.0204	17258
May-47	-0.2289	0.0204	17288
Jun-47	-0.1554	0.0228	17319
Jul-47	-0.0991	0.0216	17349
Aug-47	-0.0513	0.0204	17380
Sep-47	0.0429	0.0216	17411
Oct-47	0.0748	0.0216	17441
Nov-47	0.0597	0.0204	17472

Ibbotson Historical MRP and Risk-Free rate

Month	MRP	Risk Free Rate (Rf)	Time
Dec-47	0.0318	0.0252	17502
Jan-48	-0.0324	0.0240	17533
Feb-48	-0.0623	0.0228	17564
Mar-48	0.0260	0.0264	17593
Apr-48	0.0999	0.0240	17624
May-48	0.1994	0.0216	17654
Jun-48	0.1380	0.0252	17685
Jul-48	0.0407	0.0228	17715
Aug-48	0.0775	0.0252	17746
Sep-48	0.0603	0.0240	17777
Oct-48	0.1115	0.0228	17807
Nov-48	0.0184	0.0252	17838
Dec-48	0.0311	0.0240	17868
Jan-49	0.0769	0.0240	17899
Feb-49	0.0899	0.0216	17930
Mar-49	0.0408	0.0228	17958
Apr-49	-0.0067	0.0216	17989
May-49	-0.1151	0.0240	18019
Jun-49	-0.1176	0.0228	18050
Jul-49	-0.0047	0.0204	18080
Aug-49	-0.0010	0.0228	18111
Sep-49	0.0580	0.0204	18142
Oct-49	0.0196	0.0216	18172
Nov-49	0.1516	0.0204	18203
Dec-49	0.1675	0.0204	18233
Jan-50	0.1850	0.0216	18264
Feb-50	0.2489	0.0192	18295
Mar-50	0.2148	0.0216	18323
Apr-50	0.3009	0.0192	18354
May-50	0.4013	0.0228	18384
Jun-50	0.3238	0.0204	18415
Jul-50	0.2555	0.0216	18445
Aug-50	0.2835	0.0216	18476
Sep-50	0.3266	0.0204	18507
Oct-50	0.2920	0.0228	18537
Nov-50	0.2924	0.0216	18568
Dec-50	0.2958	0.0216	18598
Jan-51	0.3503	0.0240	18629
Feb-51	0.3482	0.0204	18660
Mar-51	0.3151	0.0228	18688
Apr-51	0.3168	0.0240	18719
May-51	0.2125	0.0252	18749
Jun-51	0.2556	0.0240	18780
Jul-51	0.3269	0.0276	18810
Aug-51	0.3338	0.0252	18841
Sep-51	0.2619	0.0228	18872
Oct-51	0.2322	0.0276	18902
Nov-51	0.2255	0.0252	18933
Dec-51	0.2138	0.0264	18963
Jan-52	0.1594	0.0276	18994
Feb-52	0.1105	0.0252	19025
Mar-52	0.1841	0.0276	19054
Apr-52	0.0803	0.0264	19085
May-52	0.1559	0.0240	19115
Jun-52	0.2402	0.0264	19146
Jul-52	0.1793	0.0264	19176
Aug-52	0.1173	0.0252	19207
Sep-52	0.0934	0.0276	19238
Oct-52	0.1073	0.0276	19268
Nov-52	0.1631	0.0252	19299
Dec-52	0.1547	0.0288	19329
Jan-53	0.1292	0.0276	19360
Feb-53	0.1525	0.0252	19391

Ibbotson Historical MRP and Risk-Free rate

Month	MRP	Risk Free Rate (Rf)	Time
Mar-53	0.0675	0.0300	19419
Apr-53	0.0876	0.0288	19450
May-53	0.0589	0.0288	19480
Jun-53	-0.0094	0.0324	19511
Jul-53	0.0007	0.0300	19541
Aug-53	-0.0439	0.0300	19572
Sep-53	-0.0228	0.0300	19603
Oct-53	0.0318	0.0276	19633
Nov-53	-0.0061	0.0288	19664
Dec-53	-0.0386	0.0288	19694
Jan-54	0.0208	0.0276	19725
Feb-54	0.0450	0.0264	19756
Mar-54	0.1001	0.0300	19784
Apr-54	0.1909	0.0264	19815
May-54	0.2345	0.0240	19845
Jun-54	0.2495	0.0300	19876
Jul-54	0.2925	0.0264	19906
Aug-54	0.3227	0.0276	19937
Sep-54	0.4338	0.0264	19968
Oct-54	0.3371	0.0252	19998
Nov-54	0.4288	0.0276	20029
Dec-54	0.4986	0.0276	20059
Jan-55	0.4507	0.0264	20090
Feb-55	0.4488	0.0264	20121
Mar-55	0.3957	0.0288	20149
Apr-55	0.3818	0.0264	20180
May-55	0.3292	0.0300	20210
Jun-55	0.4413	0.0276	20241
Jul-55	0.4459	0.0276	20271
Aug-55	0.4790	0.0324	20302
Sep-55	0.3822	0.0288	20333
Oct-55	0.3642	0.0300	20363
Nov-55	0.3549	0.0288	20394
Dec-55	0.2867	0.0288	20424
Jan-56	0.2153	0.0300	20455
Feb-56	0.2566	0.0276	20486
Mar-56	0.3519	0.0276	20515
Apr-56	0.2952	0.0312	20546
May-56	0.2097	0.0312	20576
Jun-56	0.1639	0.0276	20607
Jul-56	0.1500	0.0312	20637
Aug-56	0.1141	0.0312	20668
Sep-56	0.0508	0.0300	20699
Oct-56	0.0850	0.0348	20729
Nov-56	-0.0033	0.0324	20760
Dec-56	0.0320	0.0336	20790
Jan-57	0.0248	0.0348	20821
Feb-57	-0.0393	0.0300	20852
Mar-57	-0.0863	0.0312	20880
Apr-57	-0.0528	0.0348	20911
May-57	0.0547	0.0348	20941
Jun-57	0.0171	0.0300	20972
Jul-57	-0.0322	0.0396	21002
Aug-57	-0.0470	0.0360	21033
Sep-57	-0.0650	0.0372	21064
Oct-57	-0.1005	0.0372	21094
Nov-57	-0.0717	0.0348	21125
Dec-57	-0.1427	0.0348	21155
Jan-58	-0.0617	0.0324	21186
Feb-58	-0.0470	0.0300	21217
Mar-58	-0.0386	0.0324	21245
Apr-58	-0.0422	0.0312	21276
May-58	-0.0612	0.0288	21306

Ibbotson Historical MRP and Risk-Free rate

Month	MRP	Risk Free Rate (Rf)	Time
Jun-58	-0.0382	0.0324	21337
Jul-58	-0.0069	0.0324	21367
Aug-58	0.0666	0.0324	21398
Sep-58	0.1896	0.0384	21429
Oct-58	0.2620	0.0384	21459
Nov-58	0.2736	0.0336	21490
Dec-58	0.3941	0.0396	21520
Jan-59	0.3427	0.0372	21551
Feb-59	0.3693	0.0372	21582
Mar-59	0.3226	0.0420	21610
Apr-59	0.3335	0.0396	21641
May-59	0.3373	0.0396	21671
Jun-59	0.2934	0.0432	21702
Jul-59	0.2836	0.0420	21732
Aug-59	0.2474	0.0420	21763
Sep-59	0.1327	0.0408	21794
Oct-59	0.1152	0.0420	21824
Nov-59	0.1042	0.0420	21855
Dec-59	0.0766	0.0432	21885
Jan-60	-0.0061	0.0420	21916
Feb-60	0.0016	0.0444	21947
Mar-60	-0.0121	0.0432	21976
Apr-60	-0.0631	0.0384	22007
May-60	-0.0609	0.0444	22037
Jun-60	-0.0344	0.0408	22068
Jul-60	-0.0900	0.0384	22098
Aug-60	-0.0522	0.0408	22129
Sep-60	-0.0650	0.0384	22160
Oct-60	-0.0792	0.0396	22190
Nov-60	-0.0517	0.0384	22221
Dec-60	-0.0350	0.0396	22251
Jan-61	0.1103	0.0396	22282
Feb-61	0.1334	0.0360	22313
Mar-61	0.1788	0.0372	22341
Apr-61	0.2050	0.0372	22372
May-61	0.1909	0.0408	22402
Jun-61	0.1347	0.0384	22433
Jul-61	0.2027	0.0396	22463
Aug-61	0.1938	0.0396	22494
Sep-61	0.2482	0.0384	22525
Oct-61	0.2850	0.0408	22555
Nov-61	0.2852	0.0384	22586
Dec-61	0.2317	0.0372	22616
Jan-62	0.1040	0.0444	22647
Feb-62	0.0977	0.0384	22678
Mar-62	0.0616	0.0396	22706
Apr-62	-0.0105	0.0396	22737
May-62	-0.1149	0.0384	22767
Jun-62	-0.1626	0.0360	22798
Jul-62	-0.1412	0.0408	22828
Aug-62	-0.1443	0.0408	22859
Sep-62	-0.1652	0.0360	22890
Oct-62	-0.1910	0.0420	22920
Nov-62	-0.1341	0.0372	22951
Dec-62	-0.1257	0.0384	22981
Jan-63	-0.0431	0.0384	23012
Feb-63	-0.0831	0.0348	23043
Mar-63	-0.0458	0.0372	23071
Apr-63	0.0675	0.0408	23102
May-63	0.1898	0.0396	23132
Jun-63	0.2756	0.0360	23163
Jul-63	0.1854	0.0432	23193
Aug-63	0.2283	0.0396	23224

Ibbotson Historical MRP and Risk-Free rate

Month	MRP	Risk Free Rate (Rf)	Time
Sep-63	0.2761	0.0408	23255
Oct-63	0.3121	0.0408	23285
Nov-63	0.1763	0.0384	23316
Dec-63	0.1846	0.0432	23346
Jan-64	0.1597	0.0420	23377
Feb-64	0.2108	0.0384	23408
Mar-64	0.1801	0.0444	23437
Apr-64	0.1330	0.0420	23468
May-64	0.1330	0.0384	23498
Jun-64	0.1695	0.0456	23529
Jul-64	0.1995	0.0420	23559
Aug-64	0.1226	0.0420	23590
Sep-64	0.1706	0.0408	23621
Oct-64	0.1421	0.0408	23651
Nov-64	0.1469	0.0420	23682
Dec-64	0.1231	0.0420	23712
Jan-65	0.1325	0.0396	23743
Feb-65	0.1203	0.0384	23774
Mar-65	0.0791	0.0456	23802
Apr-65	0.1165	0.0396	23833
May-65	0.0947	0.0396	23863
Jun-65	0.0161	0.0456	23894
Jul-65	0.0159	0.0408	23924
Aug-65	0.0540	0.0444	23955
Sep-65	0.0599	0.0420	23986
Oct-65	0.0822	0.0408	24016
Nov-65	0.0746	0.0444	24047
Dec-65	0.0801	0.0444	24077
Jan-66	0.0482	0.0456	24108
Feb-66	0.0353	0.0408	24139
Mar-66	0.0202	0.0480	24167
Apr-66	0.0110	0.0432	24198
May-66	-0.0438	0.0492	24228
Jun-66	-0.0069	0.0468	24259
Jul-66	-0.0331	0.0456	24289
Aug-66	-0.1374	0.0516	24320
Sep-66	-0.1692	0.0492	24351
Oct-66	-0.1505	0.0480	24381
Nov-66	-0.1367	0.0456	24412
Dec-66	-0.1473	0.0468	24442
Jan-67	-0.0827	0.0480	24473
Feb-67	-0.0556	0.0408	24504
Mar-67	0.0001	0.0468	24532
Apr-67	0.0272	0.0420	24563
May-67	0.0192	0.0516	24593
Jun-67	0.0606	0.0468	24624
Jul-67	0.1217	0.0516	24654
Aug-67	0.2057	0.0504	24685
Sep-67	0.2580	0.0480	24716
Oct-67	0.1562	0.0540	24746
Nov-67	0.1526	0.0540	24777
Dec-67	0.1871	0.0528	24807
Jan-68	0.0394	0.0600	24838
Feb-68	0.0127	0.0504	24869
Mar-68	-0.0190	0.0516	24898
Apr-68	0.0130	0.0588	24929
May-68	0.0884	0.0552	24959
Jun-68	0.0837	0.0504	24990
Jul-68	0.0072	0.0576	25020
Aug-68	0.0395	0.0504	25051
Sep-68	0.0432	0.0528	25082
Oct-68	0.0829	0.0540	25112
Nov-68	0.1379	0.0516	25143

Ibbotson Historical MRP and Risk-Free rate

Month	MRP	Risk Free Rate (Rf)	Time
Dec-68	0.0520	0.0588	25173
Jan-69	0.0922	0.0600	25204
Feb-69	0.0775	0.0552	25235
Mar-69	0.1042	0.0564	25263
Apr-69	0.0298	0.0660	25294
May-69	0.0248	0.0564	25324
Jun-69	-0.0540	0.0660	25355
Jul-69	-0.0931	0.0624	25385
Aug-69	-0.0607	0.0576	25416
Sep-69	-0.1300	0.0660	25447
Oct-69	-0.0979	0.0684	25477
Nov-69	-0.1646	0.0588	25508
Dec-69	-0.1569	0.0720	25538
Jan-70	-0.2143	0.0672	25569
Feb-70	-0.1193	0.0624	25600
Mar-70	-0.1541	0.0672	25628
Apr-70	-0.2515	0.0648	25659
May-70	-0.2991	0.0660	25689
Jun-70	-0.3051	0.0768	25720
Jul-70	-0.1893	0.0708	25750
Aug-70	-0.1823	0.0684	25781
Sep-70	-0.1281	0.0672	25812
Oct-70	-0.1769	0.0660	25842
Nov-70	-0.1041	0.0696	25873
Dec-70	-0.0233	0.0636	25903
Jan-71	0.1096	0.0612	25934
Feb-71	0.0664	0.0552	25965
Mar-71	0.0938	0.0672	25993
Apr-71	0.2647	0.0576	26024
May-71	0.2911	0.0564	26054
Jun-71	0.3515	0.0672	26085
Jul-71	0.2044	0.0624	26115
Aug-71	0.1891	0.0660	26146
Sep-71	0.1474	0.0588	26177
Oct-71	0.1125	0.0564	26207
Nov-71	0.0512	0.0612	26238
Dec-71	0.0832	0.0600	26268
Jan-72	0.0585	0.0600	26299
Feb-72	0.0795	0.0564	26330
Mar-72	0.0432	0.0588	26359
Apr-72	0.0104	0.0576	26390
May-72	0.0670	0.0660	26420
Jun-72	0.0486	0.0588	26451
Jul-72	0.0964	0.0612	26481
Aug-72	0.0965	0.0588	26512
Sep-72	0.1012	0.0564	26543
Oct-72	0.1568	0.0624	26573
Nov-72	0.2198	0.0576	26604
Dec-72	0.1358	0.0540	26634
Jan-73	0.0838	0.0648	26665
Feb-73	0.0169	0.0612	26696
Mar-73	0.0030	0.0672	26724
Apr-73	-0.0463	0.0684	26755
May-73	-0.0833	0.0696	26785
Jun-73	-0.0642	0.0660	26816
Jul-73	-0.0357	0.0732	26846
Aug-73	-0.1077	0.0744	26877
Sep-73	-0.0555	0.0660	26908
Oct-73	-0.0755	0.0756	26938
Nov-73	-0.2182	0.0672	26969
Dec-73	-0.2187	0.0720	26999
Jan-74	-0.2134	0.0732	27030
Feb-74	-0.1749	0.0660	27061

Ibbotson Historical MRP and Risk-Free rate

Month	MRP	Risk Free Rate (Rf)	Time
Mar-74	-0.1977	0.0696	27089
Apr-74	-0.2077	0.0816	27120
May-74	-0.2195	0.0816	27150
Jun-74	-0.2178	0.0732	27181
Jul-74	-0.3259	0.0864	27211
Aug-74	-0.3575	0.0780	27242
Sep-74	-0.4744	0.0852	27273
Oct-74	-0.3722	0.0840	27303
Nov-74	-0.3120	0.0744	27334
Dec-74	-0.3449	0.0804	27364
Jan-75	-0.2470	0.0816	27395
Feb-75	-0.1828	0.0720	27426
Mar-75	-0.1488	0.0792	27454
Apr-75	-0.0663	0.0804	27485
May-75	0.0151	0.0804	27515
Jun-75	0.0770	0.0840	27546
Jul-75	0.0920	0.0816	27576
Aug-75	0.1831	0.0780	27607
Sep-75	0.2937	0.0876	27638
Oct-75	0.1741	0.0864	27668
Nov-75	0.2877	0.0732	27699
Dec-75	0.2833	0.0888	27729
Jan-76	0.2878	0.0780	27760
Feb-76	0.2001	0.0720	27791
Mar-76	0.1980	0.0852	27820
Apr-76	0.1340	0.0768	27851
May-76	0.0729	0.0708	27881
Jun-76	0.0523	0.0876	27912
Jul-76	0.1340	0.0780	27942
Aug-76	0.1487	0.0828	27973
Sep-76	0.2279	0.0768	28004
Oct-76	0.1281	0.0732	28034
Nov-76	0.0846	0.0792	28065
Dec-76	0.1629	0.0756	28095
Jan-77	-0.0190	0.0708	28126
Feb-77	-0.0264	0.0684	28157
Mar-77	-0.0809	0.0780	28185
Apr-77	-0.0647	0.0732	28216
May-77	-0.0798	0.0804	28246
Jun-77	-0.0692	0.0744	28277
Jul-77	-0.0740	0.0708	28307
Aug-77	-0.0982	0.0804	28338
Sep-77	-0.1147	0.0732	28369
Oct-77	-0.1375	0.0756	28399
Nov-77	-0.1019	0.0756	28430
Dec-77	-0.1462	0.0744	28460
Jan-78	-0.1650	0.0828	28491
Feb-78	-0.1552	0.0720	28522
Mar-78	-0.1293	0.0828	28550
Apr-78	-0.0406	0.0756	28581
May-78	-0.0250	0.0900	28611
Jun-78	-0.0815	0.0828	28642
Jul-78	-0.0140	0.0876	28672
Aug-78	0.0410	0.0840	28703
Sep-78	0.0416	0.0780	28734
Oct-78	-0.0236	0.0876	28764
Nov-78	-0.0325	0.0852	28795
Dec-78	-0.0159	0.0816	28825
Jan-79	0.0862	0.0948	28856
Feb-79	0.0882	0.0780	28887
Mar-79	0.1114	0.0888	28915
Apr-79	0.0169	0.0912	28946
May-79	-0.0176	0.0924	28976

Ibbotson Historical MRP and Risk-Free rate

Month	MRP	Risk Free Rate (Rf)	Time
Jun-79	0.0510	0.0852	29007
Jul-79	-0.0034	0.0912	29037
Aug-79	0.0287	0.0876	29068
Sep-79	0.0429	0.0816	29099
Oct-79	0.0551	0.0984	29129
Nov-79	0.0824	0.0996	29160
Dec-79	0.0848	0.0996	29190
Jan-80	0.1062	0.0996	29221
Feb-80	0.1441	0.1008	29252
Mar-80	-0.0578	0.1188	29281
Apr-80	-0.0174	0.1200	29312
May-80	0.0801	0.1044	29342
Jun-80	0.0683	0.1032	29373
Jul-80	0.1363	0.1008	29403
Aug-80	0.0839	0.0972	29434
Sep-80	0.0949	0.1164	29465
Oct-80	0.2042	0.1164	29495
Nov-80	0.2843	0.1092	29526
Dec-80	0.1946	0.1296	29556
Jan-81	0.0806	0.1128	29587
Feb-81	0.1089	0.1056	29618
Mar-81	0.2655	0.1332	29646
Apr-81	0.1914	0.1212	29677
May-81	0.1256	0.1248	29707
Jun-81	0.0740	0.1308	29738
Jul-81	-0.0015	0.1308	29768
Aug-81	-0.0791	0.1320	29799
Sep-81	-0.1641	0.1368	29830
Oct-81	-0.1351	0.1404	29860
Nov-81	-0.1896	0.1356	29891
Dec-81	-0.1691	0.1200	29921
Jan-82	-0.1513	0.1296	29952
Feb-82	-0.2143	0.1236	29983
Mar-82	-0.2781	0.1488	30011
Apr-82	-0.2079	0.1344	30042
May-82	-0.2269	0.1212	30072
Jun-82	-0.2582	0.1440	30103
Jul-82	-0.2707	0.1368	30133
Aug-82	-0.1013	0.1344	30164
Sep-82	-0.0203	0.1200	30195
Oct-82	0.0530	0.1092	30225
Nov-82	0.0490	0.1128	30256
Dec-82	0.1025	0.1116	30286
Jan-83	0.1728	0.1044	30317
Feb-83	0.2839	0.0972	30348
Mar-83	0.3333	0.1068	30376
Apr-83	0.3857	0.1020	30407
May-83	0.4147	0.1092	30437
Jun-83	0.5021	0.1080	30468
Jul-83	0.4884	0.1056	30498
Aug-83	0.3152	0.1236	30529
Sep-83	0.3273	0.1152	30560
Oct-83	0.1651	0.1140	30590
Nov-83	0.1412	0.1128	30621
Dec-83	0.1123	0.1128	30651
Jan-84	0.0526	0.1236	30682
Feb-84	-0.0016	0.1104	30713
Mar-84	-0.0295	0.1176	30742
Apr-84	-0.1064	0.1248	30773
May-84	-0.1546	0.1236	30803
Jun-84	-0.1732	0.1272	30834
Jul-84	-0.1684	0.1392	30864
Aug-84	-0.0653	0.1272	30895

Ibbotson Historical MRP and Risk-Free rate

Month	MRP	Risk Free Rate (Rf)	Time
Sep-84	-0.0649	0.1128	30926
Oct-84	-0.0647	0.1296	30956
Nov-84	-0.0791	0.1092	30987
Dec-84	-0.0549	0.1176	31017
Jan-85	0.0366	0.1152	31048
Feb-85	0.1087	0.0984	31079
Mar-85	0.0762	0.1128	31107
Apr-85	0.0547	0.1224	31138
May-85	0.2035	0.1164	31168
Jun-85	0.2159	0.0960	31199
Jul-85	0.2147	0.1128	31229
Aug-85	0.0840	0.1020	31260
Sep-85	0.0421	0.1056	31291
Oct-85	0.0891	0.1068	31321
Nov-85	0.1974	0.0972	31352
Dec-85	0.2184	0.1032	31382
Jan-86	0.1379	0.0948	31413
Feb-86	0.2210	0.0876	31444
Mar-86	0.2934	0.0852	31472
Apr-86	0.2903	0.0756	31503
May-86	0.2830	0.0744	31533
Jun-86	0.2743	0.0840	31564
Jul-86	0.2052	0.0792	31594
Aug-86	0.3133	0.0756	31625
Sep-86	0.2390	0.0780	31656
Oct-86	0.2480	0.0828	31686
Nov-86	0.2029	0.0708	31717
Dec-86	0.1007	0.0840	31747
Jan-87	0.2611	0.0768	31778
Feb-87	0.2239	0.0708	31809
Mar-87	0.1809	0.0792	31837
Apr-87	0.1867	0.0780	31868
May-87	0.1320	0.0792	31898
Jun-87	0.1609	0.0900	31929
Jul-87	0.3048	0.0876	31959
Aug-87	0.2554	0.0900	31990
Sep-87	0.3436	0.0900	32021
Oct-87	-0.0290	0.0948	32051
Nov-87	-0.1359	0.0900	32082
Dec-87	-0.0413	0.0936	32112
Jan-88	-0.1191	0.0864	32143
Feb-88	-0.1126	0.0852	32174
Mar-88	-0.1681	0.0864	32203
Apr-88	-0.1476	0.0840	32234
May-88	-0.1595	0.0936	32264
Jun-88	-0.1602	0.0912	32295
Jul-88	-0.2019	0.0852	32325
Aug-88	-0.2772	0.0996	32356
Sep-88	-0.2147	0.0912	32387
Oct-88	0.0562	0.0912	32417
Nov-88	0.1480	0.0840	32448
Dec-88	0.0781	0.0900	32478
Jan-89	0.1053	0.0960	32509
Feb-89	0.0360	0.0828	32540
Mar-89	0.0860	0.0948	32568
Apr-89	0.1445	0.0840	32599
May-89	0.1720	0.0960	32629
Jun-89	0.1212	0.0840	32660
Jul-89	0.2371	0.0816	32690
Aug-89	0.3110	0.0792	32721
Sep-89	0.2504	0.0780	32752
Oct-89	0.1766	0.0864	32782
Nov-89	0.2310	0.0768	32813

Ibbotson Historical MRP and Risk-Free rate

Month	MRP	Risk Free Rate (Rf)	Time
Dec-89	0.2381	0.0768	32843
Jan-90	0.0564	0.0876	32874
Feb-90	0.1091	0.0792	32905
Mar-90	0.1062	0.0852	32933
Apr-90	0.0150	0.0900	32964
May-90	0.0759	0.0900	32994
Jun-90	0.0824	0.0816	33025
Jul-90	-0.0241	0.0888	33055
Aug-90	-0.1350	0.0852	33086
Sep-90	-0.1758	0.0828	33117
Oct-90	-0.1720	0.0972	33147
Nov-90	-0.1205	0.0852	33178
Dec-90	-0.1181	0.0864	33208
Jan-91	-0.0014	0.0852	33239
Feb-91	0.0698	0.0768	33270
Mar-91	0.0670	0.0768	33298
Apr-91	0.0849	0.0912	33329
May-91	0.0358	0.0816	33359
Jun-91	-0.0017	0.0756	33390
Jul-91	0.0366	0.0912	33420
Aug-91	0.1872	0.0816	33451
Sep-91	0.2310	0.0816	33482
Oct-91	0.2571	0.0780	33512
Nov-91	0.1317	0.0720	33543
Dec-91	0.2239	0.0816	33573
Jan-92	0.1538	0.0732	33604
Feb-92	0.0889	0.0708	33635
Mar-92	0.0301	0.0804	33664
Apr-92	0.0616	0.0780	33695
May-92	0.0255	0.0732	33725
Jun-92	0.0543	0.0804	33756
Jul-92	0.0520	0.0756	33786
Aug-92	0.0075	0.0720	33817
Sep-92	0.0405	0.0696	33848
Oct-92	0.0310	0.0684	33878
Nov-92	0.1111	0.0732	33909
Dec-92	0.0011	0.0756	33939
Jan-93	0.0343	0.0708	33970
Feb-93	0.0399	0.0660	34001
Mar-93	0.0766	0.0756	34029
Apr-93	0.0238	0.0684	34060
May-93	0.0533	0.0624	34090
Jun-93	0.0614	0.0744	34121
Jul-93	0.0219	0.0648	34151
Aug-93	0.0842	0.0672	34182
Sep-93	0.0699	0.0600	34213
Oct-93	0.0899	0.0588	34243
Nov-93	0.0372	0.0636	34274
Dec-93	0.0339	0.0660	34304
Jan-94	0.0625	0.0660	34335
Feb-94	0.0246	0.0588	34366
Mar-94	-0.0551	0.0696	34394
Apr-94	-0.0149	0.0684	34425
May-94	-0.0331	0.0756	34455
Jun-94	-0.0598	0.0732	34486
Jul-94	-0.0201	0.0720	34516
Aug-94	-0.0247	0.0792	34547
Sep-94	-0.0364	0.0732	34578
Oct-94	-0.0398	0.0792	34608
Nov-94	-0.0660	0.0768	34639
Dec-94	-0.0661	0.0792	34669
Jan-95	-0.0783	0.0840	34700
Feb-95	0.0029	0.0708	34731

Ibbotson Historical MRP and Risk-Free rate

Month	MRP	Risk Free Rate (Rf)	Time
Mar-95	0.0790	0.0768	34759
Apr-95	0.1046	0.0696	34790
May-95	0.1230	0.0780	34820
Jun-95	0.1955	0.0648	34851
Jul-95	0.1934	0.0672	34881
Aug-95	0.1461	0.0684	34912
Sep-95	0.2343	0.0624	34943
Oct-95	0.1948	0.0684	34973
Nov-95	0.3078	0.0612	35004
Dec-95	0.3155	0.0588	35034
Jan-96	0.3207	0.0648	35065
Feb-96	0.2890	0.0576	35096
Mar-96	0.2580	0.0624	35125
Apr-96	0.2312	0.0708	35156
May-96	0.2152	0.0696	35186
Jun-96	0.1957	0.0648	35217
Jul-96	0.0912	0.0744	35247
Aug-96	0.1187	0.0684	35278
Sep-96	0.1313	0.0720	35309
Oct-96	0.1711	0.0696	35339
Nov-96	0.2162	0.0624	35370
Dec-96	0.1635	0.0672	35400
Jan-97	0.1965	0.0672	35431
Feb-97	0.2006	0.0612	35462
Mar-97	0.1270	0.0708	35490
Apr-97	0.1802	0.0708	35521
May-97	0.2248	0.0696	35551
Jun-97	0.2758	0.0708	35582
Jul-97	0.4516	0.0696	35612
Aug-97	0.3480	0.0588	35643
Sep-97	0.3353	0.0696	35674
Oct-97	0.2570	0.0648	35704
Nov-97	0.2290	0.0564	35735
Dec-97	0.2689	0.0648	35765
Jan-98	0.2120	0.0576	35796
Feb-98	0.2974	0.0528	35827
Mar-98	0.4186	0.0624	35855
Apr-98	0.3528	0.0588	35886
May-98	0.2495	0.0576	35916
Jun-98	0.2397	0.0624	35947
Jul-98	0.1347	0.0588	35977
Aug-98	0.0235	0.0576	36008
Sep-98	0.0378	0.0528	36039
Oct-98	0.1696	0.0504	36069
Nov-98	0.1827	0.0540	36100
Dec-98	0.2318	0.0540	36130
Jan-99	0.2744	0.0504	36161
Feb-99	0.1493	0.0480	36192
Mar-99	0.1209	0.0636	36220
Apr-99	0.1605	0.0576	36251
May-99	0.1562	0.0540	36281
Jun-99	0.1615	0.0660	36312
Jul-99	0.1407	0.0612	36342
Aug-99	0.3333	0.0648	36373
Sep-99	0.2155	0.0624	36404
Oct-99	0.1966	0.0600	36434
Nov-99	0.1416	0.0672	36465
Dec-99	0.1443	0.0660	36495
Jan-00	0.0350	0.0684	36526
Feb-00	0.0561	0.0612	36557
Mar-00	0.1146	0.0648	36586
Apr-00	0.0449	0.0564	36617
May-00	0.0376	0.0672	36647

Ibbotson Historical MRP and Risk-Free rate

Month	MRP	Risk Free Rate (Rf)	Time
Jun-00	0.0101	0.0624	36678
Jul-00	0.0273	0.0624	36708
Aug-00	0.1032	0.0600	36739
Sep-00	0.0776	0.0552	36770
Oct-00	-0.0027	0.0636	36800
Nov-00	-0.0997	0.0576	36831
Dec-00	-0.1450	0.0540	36861
Jan-01	-0.0677	0.0588	36892
Feb-01	-0.1324	0.0504	36923
Mar-01	-0.2708	0.0540	36951
Apr-01	-0.1861	0.0564	36982
May-01	-0.1656	0.0600	37012
Jun-01	-0.2046	0.0564	37043
Jul-01	-0.2056	0.0624	37073
Aug-01	-0.2990	0.0552	37104
Sep-01	-0.3154	0.0492	37135
Oct-01	-0.3066	0.0576	37165
Nov-01	-0.1714	0.0492	37196
Dec-01	-0.1740	0.0552	37226
Jan-02	-0.2191	0.0576	37257
Feb-02	-0.1467	0.0516	37288
Mar-02	-0.0491	0.0516	37316
Apr-02	-0.1910	0.0648	37347
May-02	-0.1972	0.0588	37377
Jun-02	-0.2326	0.0528	37408
Jul-02	-0.2975	0.0612	37438
Aug-02	-0.2328	0.0528	37469
Sep-02	-0.2552	0.0504	37500
Oct-02	-0.1991	0.0480	37530
Nov-02	-0.2131	0.0480	37561
Dec-02	-0.2751	0.0540	37591
Jan-03	-0.2794	0.0492	37622
Feb-03	-0.2725	0.0456	37653
Mar-03	-0.2956	0.0480	37681
Apr-03	-0.1811	0.0480	37712
May-03	-0.1274	0.0468	37742
Jun-03	-0.0407	0.0432	37773
Jul-03	0.0609	0.0456	37803
Aug-03	0.0702	0.0504	37834
Sep-03	0.1888	0.0552	37865
Oct-03	0.1589	0.0492	37895
Nov-03	0.1041	0.0468	37926
Dec-03	0.2305	0.0564	37956
Jan-04	0.2954	0.0504	37987
Feb-04	0.3397	0.0456	38018
Mar-04	0.2997	0.0516	38047
Apr-04	0.1820	0.0468	38078
May-04	0.1353	0.0480	38108
Jun-04	0.1334	0.0576	38139
Jul-04	0.0801	0.0516	38169
Aug-04	0.0605	0.0540	38200
Sep-04	0.0906	0.0480	38231
Oct-04	0.0485	0.0456	38261
Nov-04	0.0793	0.0492	38292
Dec-04	0.0571	0.0516	38322
Jan-05	0.0129	0.0492	38353
Feb-05	0.0276	0.0420	38384
Mar-05	0.0175	0.0492	38412
Apr-05	0.0164	0.0468	38443
May-05	0.0342	0.0480	38473
Jun-05	0.0198	0.0432	38504
Jul-05	0.0995	0.0408	38534
Aug-05	0.0775	0.0480	38565

Ibbotson Historical MRP and Risk-Free rate

Month	MRP	Risk Free Rate (Rf)	Time
Sep-05	0.0804	0.0420	38596
Oct-05	0.0403	0.0468	38626
Nov-05	0.0375	0.0468	38657
Dec-05	0.0021	0.0468	38687
Jan-06	0.0556	0.0480	38718
Feb-06	0.0407	0.0432	38749
Mar-06	0.0703	0.0468	38777
Apr-06	0.1072	0.0468	38808
May-06	0.0286	0.0576	38838
Jun-06	0.0334	0.0528	38869
Jul-06	-0.0003	0.0540	38899
Aug-06	0.0371	0.0516	38930
Sep-06	0.0610	0.0468	38961
Oct-06	0.1130	0.0504	38991
Nov-06	0.0955	0.0468	39022
Dec-06	0.1147	0.0432	39052
Jan-07	0.0935	0.0516	39083
Feb-07	0.0740	0.0456	39114
Mar-07	0.0715	0.0468	39142
Apr-07	0.1020	0.0504	39173
May-07	0.1788	0.0492	39203
Jun-07	0.1579	0.0480	39234
Jul-07	0.1061	0.0552	39264
Aug-07	0.1009	0.0504	39295
Sep-07	0.1201	0.0444	39326
Oct-07	0.0940	0.0516	39356
Nov-07	0.0305	0.0468	39387
Dec-07	0.0107	0.0444	39417
Jan-08	-0.0710	0.0480	39448
Feb-08	-0.0793	0.0408	39479
Mar-08	-0.0977	0.0444	39508
Apr-08	-0.0913	0.0420	39539
May-08	-0.1138	0.0444	39569
Jun-08	-0.1815	0.0480	39600
Jul-08	-0.1601	0.0468	39630
Aug-08	-0.1569	0.0432	39661
Sep-08	-0.2686	0.0468	39692
Oct-08	-0.4070	0.0444	39722
Nov-08	-0.4258	0.0432	39753
Dec-08	-0.4113	0.0396	39783
Jan-09	-0.4167	0.0288	39814
Feb-09	-0.4692	0.0360	39845
Mar-09	-0.4229	0.0420	39873
Apr-09	-0.3879	0.0348	39904
May-09	-0.3653	0.0396	39934
Jun-09	-0.3078	0.0456	39965
Jul-09	-0.2429	0.0432	39995
Aug-09	-0.2258	0.0432	40026
Sep-09	-0.1100	0.0408	40057
Oct-09	0.0582	0.0396	40087
Nov-09	0.2117	0.0420	40118
Dec-09	0.2237	0.0408	40148
Jan-10	0.2880	0.0432	40179
Feb-10	0.4964	0.0396	40210
Mar-10	0.4495	0.0480	40238
Apr-10	0.3427	0.0456	40269
May-10	0.1689	0.0408	40299
Jun-10	0.0998	0.0444	40330
Jul-10	0.1018	0.0372	40360
Aug-10	0.0113	0.0384	40391
Sep-10	0.0710	0.0312	40422
Oct-10	0.1334	0.0324	40452
Nov-10	0.0615	0.0384	40483

Ibbotson Historical MRP and Risk-Free rate

Month	MRP	Risk Free Rate (Rf)	Time
Dec-10	0.1128	0.0384	40513
Jan-11	0.1805	0.0420	40544
Feb-11	0.1880	0.0384	40575
Mar-11	0.1139	0.0432	40603
Apr-11	0.1320	0.0408	40634
May-11	0.2170	0.0432	40664
Jun-11	0.2692	0.0384	40695
Jul-11	0.1580	0.0384	40725
Aug-11	0.1453	0.0396	40756
Sep-11	-0.0186	0.0300	40787
Oct-11	0.0545	0.0264	40817
Nov-11	0.0508	0.0276	40848
Dec-11	-0.0052	0.0264	40878
Jan-12	0.0170	0.0252	40909
Feb-12	0.0284	0.0228	40940
Mar-12	0.0589	0.0264	40969
Apr-12	0.0175	0.0300	41000
May-12	-0.0306	0.0264	41030
Jun-12	0.0340	0.0204	41061
Jul-12	0.0672	0.0240	41091
Aug-12	0.1595	0.0204	41122
Sep-12	0.2826	0.0192	41153
Oct-12	0.1278	0.0240	41183
Nov-12	0.1383	0.0228	41214
Dec-12	0.1382	0.0216	41244
Jan-13	0.1412	0.0264	41275
Feb-13	0.1081	0.0264	41306
Mar-13	0.1143	0.0252	41334
Apr-13	0.1377	0.0312	41365
May-13	0.2463	0.0264	41395
Jun-13	0.1784	0.0276	41426
Jul-13	0.2140	0.0360	41456
Aug-13	0.1546	0.0324	41487
Sep-13	0.1587	0.0348	41518
Oct-13	0.2371	0.0348	41548
Nov-13	0.2720	0.0312	41579
Dec-13	0.2869	0.0372	41609
Jan-14	0.1781	0.0372	41640
Feb-14	0.2238	0.0300	41671
Mar-14	0.1838	0.0348	41699
Apr-14	0.1720	0.0324	41730
May-14	0.1709	0.0336	41760
Jun-14	0.2162	0.0300	41791
Jul-14	0.1382	0.0312	41821
Aug-14	0.2225	0.0300	41852
Sep-14	0.1698	0.0276	41883
Oct-14	0.1427	0.0300	41913
Nov-14	0.1410	0.0276	41944
Dec-14	0.1105	0.0264	41974
Jan-15	0.1183	0.0240	42005
Feb-15	0.1372	0.0180	42036
Mar-15	0.1023	0.0252	42064
Apr-15	0.1071	0.0228	42095
May-15	0.0942	0.0240	42125
Jun-15	0.0467	0.0276	42156
Jul-15	0.0834	0.0288	42186
Aug-15	-0.0214	0.0264	42217
Sep-15	-0.0312	0.0252	42248
Oct-15	0.0271	0.0252	42278
Nov-15	0.0014	0.0264	42309
Dec-15	-0.0123	0.0264	42339
Jan-16	-0.0316	0.0252	42370
Feb-16	-0.0857	0.0240	42401

Ibbotson Historical MRP and Risk-Free rate

Month	MRP	Risk Free Rate (Rf)	Time
Mar-16	-0.0036	0.0216	42430
Apr-16	-0.0081	0.0204	42461
May-16	-0.0066	0.0240	42491
Jun-16	0.0186	0.0216	42522
Jul-16	0.0396	0.0168	42552
Aug-16	0.1066	0.0192	42583
Sep-16	0.1365	0.0180	42614
Oct-16	0.0261	0.0192	42644
Nov-16	0.0591	0.0216	42675
Dec-16	0.0934	0.0264	42705
Jan-17	0.1718	0.0288	42736
Feb-17	0.2247	0.0252	42767
Mar-17	0.1444	0.0276	42795
Apr-17	0.1542	0.0252	42826
May-17	0.1461	0.0288	42856
Jun-17	0.1539	0.0252	42887
Jul-17	0.1342	0.0264	42917
Aug-17	0.1362	0.0264	42948
Sep-17	0.1635	0.0228	42979
Oct-17	0.2100	0.0264	43009
Nov-17	0.2037	0.0252	43040
Dec-17	0.1944	0.0240	43070

Analysis Using Mr. Gorman's Rolling Average Equity Risk Premium Data

Year	Authorized Electric Returns	30-Year 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%	-46.45%			-48.43%
1991	12.55%	8.14%	4.41%	8.55%	4.25%				
1992	12.09%	7.67%	4.42%	8.37%	4.25%				
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%		6.74%	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%	5.12%	5.79%		5.63%	5.49%	
2006	10.34%	4.90%	5.44%	5.00%	5.75%		5.45%	5.56%	
2007	10.31%	4.83%	5.48%	4.88%	5.70%		5.27%	5.63%	
2008	10.37%	4.28%	6.09%	4.74%	5.72%		5.14%	5.63%	
2009	10.52%	4.07%	6.45%	4.55%	5.87%		4.96%	5.79%	
2010	10.29%	4.25%	6.04%	4.47%	5.90%		4.79%	5.84%	
2011	10.19%	3.91%	6.28%	4.27%	6.07%		4.63%	5.91%	
2012	10.01%	2.92%	7.09%	3.89%	6.39%		4.38%	6.05%	
2013	9.81%	3.45%	6.36%	3.72%	6.44%		4.23%	6.08%	
2014	9.75%	3.34%	6.41%	3.57%	6.44%		4.06%	6.15%	
2015	9.60%	2.84%	6.76%	3.29%	6.58%		3.88%	6.24%	
2016	9.60%	2.60%	7.00%	3.03%	6.72%		3.65%	6.40%	
2017	9.68%	2.90%	6.78%	3.03%	6.66%		3.46%	6.53%	
2018	9.59%	3.03%	6.56%	2.94%	6.70%		3.33%	6.57%	
Average	11.08%	5.54%	5.54%	5.53%	5.50%		5.49%	5.50%	
Minimum				2.94%	4.25%		3.33%	4.38%	
Maximum			6.78%	8.55%	6.72%		7.91%	6.57%	

Source: Schedule MPG-15.

Analysis Using Mr. Gorman's Rolling Average Equity Risk Premium Data

Year	Authorized Electric Returns	Utility Bond Yield	Indicated Risk Premium	Rolling 5-Year Average Utility Bond	Rolling 5-Year Average Risk Premium	Slope	Rolling 10-Year Average Utility Bond	Rolling 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%	-46.60%			-46.95%
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%	3.62%		7.72%	3.60%	
2003	10.97%	6.58%	4.39%	7.51%	3.57%		7.62%	3.66%	
2004	10.75%	6.16%	4.59%	7.22%	3.86%		7.40%	3.82%	
2005	10.54%	5.65%	4.89%	6.70%	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%	4.05%	
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%	5.47%	4.82%	6.04%	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%	4.83%		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%		5.38%	4.84%	
2015	9.60%	4.12%	5.48%	4.41%	5.46%		5.22%	4.90%	
2016	9.60%	3.93%	5.67%	4.19%	5.57%		5.01%	5.04%	
2017	9.68%	4.00%	5.68%	4.16%	5.53%		4.80%	5.18%	
2018	9.59%	4.03%	5.56%	4.07%	5.57%		4.55%	5.35%	
Average	11.08%	6.90%	4.18%	6.89%	4.14%		6.89%	4.10%	
Minimum				4.07%	2.88%		4.55%	3.20%	
Maximum				9.96%	5.57%		9.16%	5.35%	

Source: Schedule MPG-16.

Analysis Using Mr. Gorman's Rolling Average Equity Risk Premium Data

SUMMARY OUTPUT

<i>Regression Statistics</i>						
Multiple R	0.982611172					
R Square	0.965524716	MRP:	6.30%	Rf:	3.80%	
Adjusted R Square	0.964247853		ROE:	10.10%		
Standard Error	0.001556441					
Observations	29					

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	0.001831827	0.001831827	756.1697564	2.79048E-21
Residual	27	6.54077E-05	2.42251E-06		
Total	28	0.001897234			

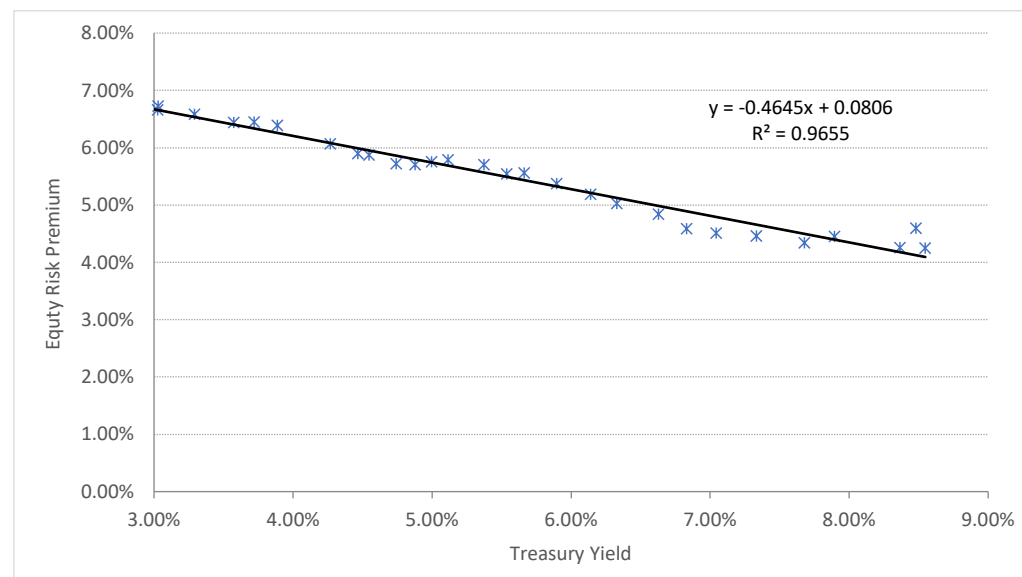
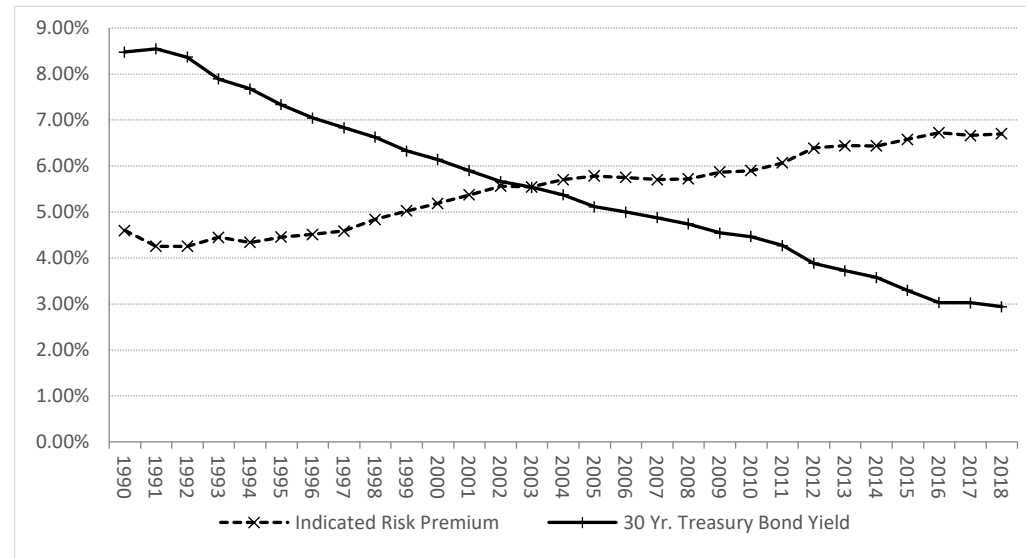
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	0.080637455	0.000976979	82.53757267	5.41579E-34	0.07863286	0.08264205
Five Year Avg Treasury	-0.464485282	0.01689127	-27.49854099	2.79048E-21	-0.499143305	-0.429827259

SUMMARY OUTPUT

<i>Regression Statistics</i>						
Multiple R	0.982647388					
R Square	0.965595889	MRP:	5.39%	Rf:	4.19%	
Adjusted R Square	0.964321663		ROE:	9.58%		
Standard Error	0.001564231					
Observations	29					

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	0.001854174	0.001854174	757.7899385	2.71361E-21
Residual	27	6.60641E-05	2.44682E-06		
Total	28	0.001920238			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	0.073453251	0.001201457	61.13679604	1.71685E-30	0.070988065	0.075918438
Five Year Avg. Utility Bond	-0.466027205	0.016929216	-27.52798464	2.71361E-21	-0.500763088	-0.431291323



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
1986	13.93%	9.58%	7.80%	1.78%	6.13%	4.35%
1987	12.99%	10.10%	8.58%	1.52%	4.41%	2.89%
1988	12.79%	10.49%	8.96%	1.53%	3.83%	2.30%
1989	12.97%	9.77%	8.45%	1.32%	4.52%	3.20%
1990	12.70%	9.86%	8.61%	1.25%	4.09%	2.84%
1991	12.55%	9.36%	8.14%	1.22%	4.41%	3.19%
1992	12.09%	8.69%	7.67%	1.02%	4.42%	3.40%
1993	11.41%	7.59%	6.60%	0.99%	4.81%	3.82%
1994	11.34%	8.31%	7.37%	0.94%	3.97%	3.03%
1995	11.55%	7.89%	6.88%	1.01%	4.67%	3.66%
1996	11.39%	7.75%	6.70%	1.05%	4.69%	3.64%
1997	11.40%	7.60%	6.61%	0.99%	4.79%	3.80%
1998	11.66%	7.04%	5.58%	1.46%	6.08%	4.62%
1999	10.77%	7.62%	5.87%	1.75%	4.90%	3.15%
2000	11.43%	8.24%	5.94%	2.30%	5.49%	3.19%
2001	11.09%	7.76%	5.49%	2.27%	5.60%	3.33%
2002	11.16%	7.37%	5.43%	1.94%	5.73%	3.79%
2003	10.97%	6.58%	4.96%	1.62%	6.01%	4.39%
2004	10.75%	6.16%	5.05%	1.11%	5.70%	4.59%
2005	10.54%	5.65%	4.65%	1.00%	5.89%	4.89%
2006	10.34%	6.07%	4.90%	1.17%	5.44%	4.27%
2007	10.31%	6.07%	4.83%	1.24%	5.48%	4.24%
2008	10.37%	6.53%	4.28%	2.25%	6.09%	3.84%
2009	10.52%	6.04%	4.07%	1.97%	6.45%	4.48%
2010	10.29%	5.47%	4.25%	1.22%	6.04%	4.82%
2011	10.19%	5.04%	3.91%	1.13%	6.28%	5.15%
2012	10.01%	4.13%	2.92%	1.21%	7.09%	5.88%
2013	9.81%	4.48%	3.45%	1.03%	6.36%	5.33%
2014	9.75%	4.28%	3.34%	0.94%	6.41%	5.47%
2015	9.60%	4.12%	2.84%	1.28%	6.76%	5.48%
2016	9.60%	3.93%	2.60%	1.33%	7.00%	5.67%
2017	9.68%	4.00%	2.90%	1.10%	6.78%	5.68%
2018	9.59%	4.03%	3.03%	1.00%	6.56%	5.56%

Source: Schedules MPG-15 and MPG-16.

SUMMARY OUTPUT

Regression Statistics					
Multiple R		0.910359164			
R Square		0.828753807			
Adjusted R Square		0.823229736			
Standard Error		0.003957148			
Observations		33			

ANOVA					
	df	SS	MS	F	Significance F
Regression	1	0.002349259	0.002349259	150.0259217	2.05111E-13
Residual	31	0.00048543	1.5659E-05		
Total	32	0.002834689			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	0.079918656	0.002115572	37.77637706	1.71692E-27	0.075603918	0.08423339
Treasury Bond Yield	-0.442634216	0.03613781	-12.24850692	2.05111E-13	-0.516337766	-0.36893067

RESIDUAL OUTPUT

Observation	Predicted Treasury Equity Risk Premium	Residuals	$(e_t - e_{(t-1)})^2$	$(e_t)^2$
1	0.04539319	0.01590681		0.00025
2	0.04194064	0.00215936	0.00019	0.00000
3	0.04025863	-0.00195863	0.00002	0.00000
4	0.04251607	0.00268393	0.00002	0.00001
5	0.04180785	-0.00090785	0.00001	0.00000
6	0.04388823	0.00021177	0.00000	0.00000
7	0.04596861	-0.00176861	0.00000	0.00000
8	0.05070480	-0.00260480	0.00000	0.00001
9	0.04729651	-0.00759651	0.00002	0.00006
10	0.04946542	-0.00276542	0.00002	0.00001
11	0.05026216	-0.00336216	0.00000	0.00001
12	0.05066053	-0.00276053	0.00000	0.00001
13	0.05521967	0.00558033	0.00007	0.00003
14	0.05393603	-0.00493603	0.00011	0.00002
15	0.05362618	0.00127382	0.00004	0.00000
16	0.05561804	0.00038196	0.00000	0.00000
17	0.05588362	0.00141638	0.00000	0.00000
18	0.05796400	0.00213600	0.00000	0.00000
19	0.05756563	-0.00056563	0.00001	0.00000
20	0.05933617	-0.00043617	0.00000	0.00000
21	0.05822958	-0.00382958	0.00001	0.00001
22	0.05853942	-0.00373942	0.00000	0.00001
23	0.06097391	-0.00007391	0.00001	0.00000
24	0.06190344	0.00259656	0.00001	0.00001
25	0.06110670	-0.00070670	0.00001	0.00000
26	0.06261166	0.00018834	0.00000	0.00000
27	0.06699374	0.00390626	0.00001	0.00002
28	0.06464778	-0.00104778	0.00002	0.00000
29	0.06513467	-0.00103467	0.00000	0.00000
30	0.06734784	0.00025216	0.00000	0.00000
31	0.06841017	0.00158983	0.00000	0.00000
32	0.06708226	0.00071774	0.00000	0.00000
33	0.06650684	-0.00090684	0.00000	0.00000
			0.00061	0.00049

Durbin-Watson	1.26		
dL	1.17	4-dL	4-dU
dU	1.29	2.83	2.71
DW>dU	FALSE		
DW>dL	TRUE	Inconclusive	
DW<4-dL?	TRUE		

SUMMARY OUTPUT

Regression Statistics						
Multiple R		0.92773869				
R Square		0.860699076				
Adjusted R Square		0.856205498				
Standard Error		0.003736203				
Observations		33				

ANOVA					
	df	SS	MS	F	Significance F
Regression	1	0.002673744	0.002673744	191.539801760	0.000000000
Residual	31	0.000432736	0.000013959		
Total	32	0.003106480			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	0.07331255	0.002368020	30.959425330	0.000000000	0.068482941	0.07814216
Utility "A" Bond Yield	-0.456904283	0.033013815	-13.839790524	0.000000000	-0.524236402	-0.38957216

RESIDUAL OUTPUT

Observation	Predicted Utility Bond Equity Risk Premium	Residuals	$(e_t - e_{(t-1)})^2$	$(e_t)^2$
1	0.02954112	0.01395888		0.00019
2	0.027165217	0.001734783	0.00015	0.00000
3	0.025383291	-0.002383291	0.00002	0.00001
4	0.028673001	0.003326999	0.00003	0.00001
5	0.028261788	0.000138212	0.00001	0.00000
6	0.030546309	0.001353691	0.00000	0.00000
7	0.033607568	0.000392432	0.00000	0.00000
8	0.038633515	-0.000433515	0.00000	0.00000
9	0.035343804	-0.005043804	0.00002	0.00003
10	0.037262802	-0.000662802	0.00002	0.00000
11	0.037902468	-0.001502468	0.00000	0.00000
12	0.038587824	-0.000587824	0.00000	0.00000
13	0.041146488	0.005053512	0.00003	0.00003
14	0.038496444	-0.006996444	0.00015	0.00005
15	0.035663637	-0.003763637	0.00001	0.00001
16	0.037856778	-0.004556778	0.00000	0.00002
17	0.039638704	-0.001738704	0.00001	0.00000
18	0.043248248	0.000651752	0.00001	0.00000
19	0.045167246	0.000732754	0.00000	0.00000
20	0.047497458	0.001402542	0.00000	0.00000
21	0.04557846	-0.00287846	0.00002	0.00001
22	0.04557846	-0.00317846	0.00000	0.00001
23	0.0434767	-0.0050767	0.00000	0.00003
24	0.045715531	-0.000915531	0.00002	0.00000
25	0.048319886	-0.000119886	0.00000	0.00000
26	0.050284574	0.001215426	0.00000	0.00000
27	0.054442403	0.004357597	0.00001	0.00002
28	0.052843238	0.000456762	0.00002	0.00000
29	0.053757047	0.000942953	0.00000	0.00000
30	0.054488093	0.000311907	0.00000	0.00000
31	0.055356212	0.001343788	0.00000	0.00000
32	0.055036379	0.001763621	0.00000	0.00000
33	0.054899307	0.000700693	0.00000	0.00000
			0.00053	0.00043

Durbin-Watson	1.22		
dL	1.17	4-dL	4-dU
dU	1.29	2.83	2.71
DW>dU	FALSE		
DW>dL	TRUE	Inconclusive	
DW<4-dL?	TRUE		

SUMMARY OUTPUT

<i>Regression Statistics</i>					
Multiple R	0.923892061				
R Square	0.85357654				
Adjusted R Square	0.843814976				
Standard Error	0.00371961				
Observations	33				

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	2	0.002419624	0.00120981	87.44260064	0.00000000
Residual	30	0.00041506	0.00001384		
Total	32	0.00283469			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	0.07519695	0.00288758	26.04151162	0.00000000	0.06929972	0.08109417
Treasury Bond Yield	-0.44696802	0.03402286	-13.13728582	0.00000000	-0.51645196	-0.37748407
Credit Spread	0.36433567	0.16155544	2.25517423	0.03157607	0.03439544	0.69427589

RESIDUAL OUTPUT

<i>Observation</i>	<i>Predicted Treasury Equity Risk Premium</i>	<i>Residuals</i>	$(e_t - e_{(t-1)})^2$	$(e_t)^2$
1	0.046818619	0.014481381		0.00021
2	0.042384996	0.001715004	0.00016	0.00000
3	0.040722951	-0.002422951	0.00002	0.00001
4	0.042237383	0.002962617	0.00003	0.00001
5	0.041267199	-0.000367199	0.00001	0.00000
6	0.043258648	0.000841352	0.00000	0.00000
7	0.044630726	-0.000430726	0.00000	0.00000
8	0.049303983	-0.001203983	0.00000	0.00000
9	0.045680162	-0.005980162	0.00002	0.00004
10	0.04812534	-0.00142534	0.00002	0.00000
11	0.049075617	-0.002175617	0.00000	0.00000
12	0.049259287	-0.001359287	0.00000	0.00000
13	0.055575435	0.005224565	0.00004	0.00003
14	0.055335801	-0.006335801	0.00013	0.00004
15	0.05702677	-0.00212677	0.00002	0.00000
16	0.058928825	-0.002928825	0.00000	0.00001
17	0.057994698	-0.000694698	0.00000	0.00000
18	0.058929574	0.001170426	0.00000	0.00000
19	0.05666919	0.00033081	0.00000	0.00000
20	0.058056293	0.000843707	0.00000	0.00000
21	0.057558244	-0.003158244	0.00002	0.00001
22	0.058126156	-0.003326156	0.00000	0.00001
23	0.064264271	-0.003364271	0.00000	0.00001
24	0.064182764	0.000317236	0.00001	0.00000
25	0.060645704	-0.000245704	0.00000	0.00000
26	0.061837493	0.000962507	0.00000	0.00000
27	0.066553945	0.004346055	0.00001	0.00002
28	0.06352921	7.07898E-05	0.00002	0.00000
29	0.063692973	0.000407027	0.00000	0.00000
30	0.067166554	0.000433446	0.00000	0.00000
31	0.068421445	0.001578555	0.00000	0.00000
32	0.066242569	0.001557431	0.00000	0.00000
33	0.065297175	0.000302825	0.00000	0.00000

		0.00054	0.00042	
	Durbin-Watson	1.30		
	dL	1.11	4-dL	4-dU
	dU	1.36	2.89	2.64
	DW>dU	FALSE		
	DW>dL	TRUE	Inconclusive	
	DW<4-dL?	TRUE		

Mr. Gorman's Financial Integrity Analysis (Schedule MPG-21)

Description	Retail	S&P Benchmark (Medial Volatility)			Reference
	Cost of Service	Intermediate	Significant	Aggressive	
	Amount (1)	(2)	(3)	(4)	
Rate Base	\$ 2,626,773,107				Schedule RAK-2 (KCPL-MO).
Weighted Common Return	4.65%				Page 2, Line 1, Col. 3.
Pre-Tax Rate of Return	8.77%				Page 2, Line 3, Col. 4.
Income to Common	\$ 122,144,949				Line 1 x Line 2.
EBIT	\$ 230,368,001				Line 1 x Line 3.
Depreciation & Amortization	\$ 150,142,762				Schedule RAK-3 (KCPL-MO).
Imputed Amortization	\$ 3,652,581				Page 2, Line 3, Col. 3.
Capitalized Interest	\$ (3,213,035)				Page 2, Line 7, Col. 3.
Deferred Income Taxes & ITC	\$ 2,449,517				Schedule RAK-3 (KCPL-MO).
Funds from Operations (FFO)	\$ 275,176,774				Sum of Line 4 and Lines 6 through 9.
Imputed Interest Expense + Cap. Interest	\$ 4,880,923				Page 2, Line 6, Col. 3.
EBITDA	\$ 389,044,267				Sum of Lines 5 through 7 and Line 10.
Total Adjusted Debt Ratio	51%				Page 4, Line 3, Col. 2.
Debt to EBITDA	3.46x	2.5x - 3.5x	3.5x - 4.5x	4.5x - 5.5x	(Line 1 x Line 12) / Line 11.
FFO to Total Debt	20.46%	23% - 35%	13% - 23%	9% - 13%	Line 9 / (Line 1 x Line 12).

Mr. Gorman's Financial Integrity Analysis, ROE of 4.20%

<u>Description</u>	Retail	<u>S&P Benchmark (Medial Volatility)</u>			<u>Reference</u>
	<u>Cost of Service</u>	<u>Intermediate</u>	<u>Significant</u>	<u>Aggressive</u>	
	<u>Amount</u>	(2)	(3)	(4)	
	(1)				(5)
Rate Base	\$ 2,626,773,107				Schedule RAK-2 (KCPL-MO).
Weighted Common Return	2.10%				Page 2, Line 1, Col. 3.
Pre-Tax Rate of Return	5.35%				Page 2, Line 3, Col. 4.
Income to Common	\$ 55,162,235				Line 1 x Line 2.
EBIT	\$ 140,451,982				Line 1 x Line 3.
Depreciation & Amortization	\$ 150,142,762				Schedule RAK-3 (KCPL-MO).
Imputed Amortization	\$ 3,652,581				Page 2, Line 3, Col. 3.
Capitalized Interest	\$ (3,213,035)				Page 2, Line 7, Col. 3.
Deferred Income Taxes & ITC	\$ 2,449,517				Schedule RAK-3 (KCPL-MO).
Funds from Operations (FFO)	\$ 208,194,060				Sum of Line 4 and Lines 6 through 9.
Imputed Interest Expense + Cap. Interest	\$ 4,880,923				Page 2, Line 6, Col. 3.
EBITDA	\$ 299,128,248				Sum of Lines 5 through 7 and Line 10.
Total Adjusted Debt Ratio	51%				Page 4, Line 3, Col. 2.
Debt to EBITDA	4.50x	2.5x - 3.5x	3.5x - 4.5x	4.5x - 5.5x	(Line 1 x Line 12) / Line 11.
FFO to Total Debt	15.48%	23% - 35%	13% - 23%	9% - 13%	Line 9 / (Line 1 x Line 12).

Mr. Gorman's Financial Integrity Analysis, ROE of 9.85%

<u>Description</u>	Retail	<u>S&P Benchmark (Medial Volatility)</u>			<u>Reference</u>
	<u>Cost of Service</u> <u>Amount</u> (1)	<u>Intermediate</u> (2)	<u>Significant</u> (3)	<u>Aggressive</u> (4)	
Rate Base	\$ 2,626,773,107				Schedule RAK-2 (KCPL-MO).
Weighted Common Return	4.93%				Page 2, Line 1, Col. 3.
Pre-Tax Rate of Return	9.14%				Page 2, Line 3, Col. 4.
Income to Common	\$ 129,368,576				Line 1 x Line 2.
EBIT	\$ 239,992,367				Line 1 x Line 3.
Depreciation & Amortization	\$ 150,142,762				Schedule RAK-3 (KCPL-MO).
Imputed Amortization	\$ 3,652,581				Page 2, Line 3, Col. 3.
Capitalized Interest	\$ (3,213,035)				Page 2, Line 7, Col. 3.
Deferred Income Taxes & ITC	\$ 2,449,517				Schedule RAK-3 (KCPL-MO).
Funds from Operations (FFO)	\$ 282,400,401				Sum of Line 4 and Lines 6 through 9.
Imputed Interest Expense + Cap. Interest	\$ 4,880,923				Page 2, Line 6, Col. 3.
EBITDA	\$ 398,668,633				Sum of Lines 5 through 7 and Line 10.
Total Adjusted Debt Ratio	51%				Page 4, Line 3, Col. 2.
Debt to EBITDA	3.37x	2.5x - 3.5x	3.5x - 4.5x	4.5x - 5.5x	(Line 1 x Line 12) / Line 11.
FFO to Total Debt	21.00%	23% - 35%	13% - 23%	9% - 13%	Line 9 / (Line 1 x Line 12).

Source:

Schedule MPG-21, at 1 (differences due to rounding).